

**Acid Deposition Monitoring Network
in East Asia (EANET)**

Data Report 2019

December 2020

Network Center for EANET

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CHAPTER 1

Introduction

1. Introduction

The Acid Deposition Monitoring Network in East Asia (EANET) was established as an initiative for regional cooperation among the participating countries, creation of a common understanding on the state of acid deposition problems and for providing useful inputs to policy makers at various levels.

Monitoring activities started during the preparatory phase activities of EANET from March 1998 to December 2000. Regular monitoring of acid deposition started from January 2001 with the participation of 10 countries, namely China, Indonesia, Japan, Malaysia, Mongolia, Philippines, Republic of Korea, Russia, Thailand, and Vietnam. Cambodia, Lao PDR and Myanmar joined EANET in 2001, 2002 and 2005, respectively. There are currently 13 countries participating in EANET activities.

Acid deposition monitoring of EANET covers five environmental items – wet deposition, dry deposition (air concentration), soil and vegetation, inland aquatic environment, and catchment-scale monitoring. Monitoring of wet and dry deposition was implemented in order to measure atmospheric concentrations and to evaluate fluxes of acidic substances to the land surface, while monitoring for soil and vegetation, inland aquatic environment and catchment-scale has been carried out to assess adverse impacts on terrestrial and aquatic ecosystems. These monitoring data were used to evaluate the state of acid deposition as well as impacts on ecosystems.

The participating countries are required to submit the data and related information obtained from the monitoring activities conducted at the EANET sites to the Network Center for EANET (NC) by the end of June of each calendar year based on the guidelines of EANET. The NC had prepared and presented a draft Data Report 2019 which contains the monitoring data from the participating countries at the Twentieth Session of Scientific Advisory Committee (SAC20), held in September 2020. The draft Data Report was considered at SAC20 by the experts from the participating countries. Following the comments and guidance at the SAC20, the NC has elaborated and finalized the report.

The Data Report 2019 contains the data obtained from monitoring activities carried out in 2019.

CHAPTER 2

Network Description

2. Network Description

2.1 Classification of Monitoring Sites

EANET monitoring sites are classified into two basic categories, namely acid deposition monitoring sites and ecological survey sites. Acid deposition monitoring sites are sites for the collection of fundamental data on the temporal and spatial distribution of acid deposition, and they are further classified into 3 sub-categories: remote sites, rural sites, and urban sites for specific objectives of the monitoring. Ecological survey sites are those that provide basic data for assessing the effects of acidification on terrestrial ecosystems, and they are further classified into 2 sub-categories: basic survey sites and ecosystem analysis sites. Their classification of the monitoring sites is shown in Table 2.1.

Table 2.1 Classification of Monitoring Sites

Site Category	Site Classification	Main Purpose and Siting Criteria
Acid Deposition Monitoring Site for wet deposition and dry deposition monitoring	Urban site	- Assessment of the state of acid deposition in urban areas - Urbanized and industrial areas, and the areas immediately outside the urban area - Data can be used for evaluation of acid deposition effect on buildings and historical monuments or human health
	Rural site	- Assessment of the state of acid deposition in rural areas and/or hinterlands - Data can be used for the evaluation of acid deposition on agricultural crops, forests etc. - More than 20km apart from large pollution sources like cities, power plants and highways
	Remote site	- Assessment of the state of acid deposition in background areas - Data can be used for evaluation of long-range transport and deposition models - More than 50km apart from large pollution sources like cities, power plants and highways - More than 500m apart from main roads (less than 500 vehicles per day)
Ecological Survey Site for soil and vegetation, Inland aquatic environment, and catchment-scale monitoring	Basic survey site	- Accumulation of basic data on soil, forest, and inland aquatic environment and disclose trends in their properties - In the vicinity of the acid deposition monitoring site
	Ecosystem analysis site	- Assessment of acid deposition impacts on whole ecosystem through application of terrestrial ecosystem analysis and/or catchment analysis - Sensitive areas to changes in atmospheric acidity and ecologically conserved area

2.2 Monitoring activities in 2019

Thirteen EANET countries, namely, Cambodia, China, Indonesia, Japan, Lao PDR, Malaysia, Mongolia, Myanmar, Philippines, Republic of Korea, Russia, Thailand, and Vietnam participated in acid deposition monitoring in 2019. A total of 66 sites are nominated for the monitoring, including 26 urban, 19 rural, and 21 remote sites. The map showing the locations of these sites with the classification information is provided in Figure 2.1. The details on the locations of the acid deposition monitoring sites are presented in Table 2.2.



Figure 2.1 Locations of acid deposition monitoring sites in 2019

Table 2.2 Locations of acid deposition monitoring sites

Country	Site	Code* ¹	Classification	Latitude* ²	Longitude* ²	Altitude /m
Cambodia	Phnom Penh	<i>KHA001</i>	Urban	11°33'18"N	104°56'20"E	12
China	Chongqing - Haifu	<i>CNA003</i>	Urban	29°37'30"N	106°30'34"E	317
	- Jinyunshan	<i>CNA004</i>	Rural	29°49'42"N	106°22'43"E	871
	Xi'an - Shizhan	<i>CNA005</i>	Urban	34°14'33"N	108°57'10"E	415
	- Jiwozi	<i>CNA007</i>	Remote	33°51'06"N	108°48'52"E	1,837
	Xiamen - Hongwen	<i>CNA008</i>	Urban	24°28'47"N	118°09'47"E	39
	- Xiaoping	<i>CNA009</i>	Remote	24°51'23"N	118°02'55"E	530
	Zhuhai - Xiang Zhou	<i>CNA010</i>	Urban	22°16'22"N	113°31'46"E	29
	- Zhuxiandong* ³	<i>CNA011</i>	Urban	22°12'24"N	113°31'00"E	18
	- Haibin-Park	<i>CNA012</i>	Urban	22°15'40"N	113°34'25"E	10
	Wuzhishan - Wuzhishan* ⁴	<i>CNA013</i>	Remote	18°50'11"N	109°29'26"E	958
	Lijiang - Lijiang* ⁴	<i>CNA014</i>	Remote	27°13'38"N	100°14'48"E	3410
Indonesia	Jakarta	<i>IDA001</i>	Urban	06°09'22"S	106°50'32"E	7
	Serpong	<i>IDA002</i>	Rural	06°21'02"S	106°40'04"E	64
	Kototabang	<i>IDA003</i>	Remote	00°12'08"S	100°19'05"E	845
	Bandung	<i>IDA004</i>	Urban	06°53'41"S	107°35'11"E	753
	Maros	<i>IDA005</i>	Rural	04°59'50"S	119°34'17"E	1
	Jembrana* ⁴	<i>IDA006</i>	Rural	08°20'27"S	114°37'02"E	24
	Lombok* ⁴	<i>IDA007</i>	Rural	08°38'10"S	116°10'15"E	52
Japan	Rishiri	<i>JPA001</i>	Remote	45°07'30"N	141°14'30"E	40
	Ochiishi	<i>JPA002</i>	Remote	43°09'43"N	145°29'50"E	49
	Sado-seki	<i>JPA004</i>	Remote	38°15'02"N	138°24'01"E	129
	Happo	<i>JPA005</i>	Remote	36°41'48"N	137°47'53"E	1,850
	Ijira	<i>JPA006</i>	Rural	35°34'14"N	136°41'51"E	140
	Oki	<i>JPA007</i>	Remote	36°17'19"N	133°11'06"E	90
	Yusuhara	<i>JPA009</i>	Remote	33°22'46"N	132°56'06"E	790
	Hedo	<i>JPA010</i>	Remote	26°51'58"N	128°14'55"E	60
	Ogasawara	<i>JPA011</i>	Remote	27°05'32"N	142°13'02"E	212
	Tokyo	<i>JPA012</i>	Urban	35°41'30"N	139°45'10"E	26
	Niigata-maki* ⁴	<i>JPA013</i>	Rural	37°48'33"N	138°51'09"E	47
	Tsushima* ⁴	<i>JPA014</i>	Remote	34°14'48"N	129°17'17"E	390
Lao PDR	Vientiane* ³	<i>LAA001</i>	Urban	17°59'53"N	102°34'56"E	175
Malaysia	Petaling Jaya	<i>MYA001</i>	Urban	03°06'07"N	101°38'42"E	51
	Tanah Rata	<i>MYA002</i>	Rural	04°29'03"N	101°22'17"E	1,545
	Danum Valley	<i>MYA003</i>	Remote	04°58'53"N	117°50'37"E	438
	Kuching	<i>MYA004</i>	Urban	01°29'25"N	110°21'09"E	20
Mongolia	Ulaanbaatar	<i>MNA001</i>	Urban	47°55'13"N	106°54'43"E	1,275
	Terelj	<i>MNA002</i>	Remote	47°59'00"N	107°27'04"E	1,550
Myanmar	Yangon	<i>MMA001</i>	Urban	16°51'53"N	96°09'13"E	21
	Mandalay	<i>MMA002</i>	Urban	21°54'46"N	96°03'51"E	70
Philippines	Metro Manila	<i>PHA001</i>	Urban	14°38'09"N	121°04'43"E	55
	Los Baños	<i>PHA002</i>	Rural	14°09'53"N	121°15'00"E	25
	Mt. Sto. Tomas	<i>PHA003</i>	Remote	16°25' N	120°36' E	1,500

Table 2.2 Locations of acid deposition monitoring sites (continued)

Country	Site	Code* ¹	Classification	Latitude* ²	Longitude* ²	Altitude /m
Republic of Korea	Kanghwa	<i>KRA001</i>	Rural	37°42'32"N	126°16'26"E	60
	Cheju (Kosan)	<i>KRA002</i>	Remote	33°17'32"N	126°09'43"E	37
	Imsil	<i>KRA003</i>	Rural	35°36'09"N	127°10'53"E	217
Russia	Mondy	<i>RUA001</i>	Remote	51°37'18"N	100°55'10"E	1,996
	Listvyanka	<i>RUA002</i>	Rural	51°50'47"N	104°53'34"E	646
	Irkutsk	<i>RUA003</i>	Urban	52°14'53"N	104°15'33"E	495
	Primorskaya	<i>RUA004</i>	Rural	43°37'45"N	132°14'13"E	85
Thailand	Bangkok	<i>THA001</i>	Urban	13°47'04"N	100°32'22"E	5
	Samutprakarn	<i>THA002</i>	Urban	13°39'58"N	100°36'21"E	4
	Pathumthani	<i>THA003</i>	Rural	14°02'46"N	100°42'43"E	6
	Khanchanaburi (Vajiralongkorn Dam)	<i>THA004</i>	Remote	14°47'05"N	98°36'05"E	130
	Chiang Mai					
	- Mae Hia	<i>THA005</i>	Rural	18°45'40"N	98°55'54"E	349
	- Chang Phueak	<i>THA006</i>	Urban	18°50'26"N	98°58'11"E	329
	- Si Phum	<i>THA007</i>	Urban	18°47'27"N	98°59'24"E	313
	Nakhon Ratchasima					
Vietnam	- Sakaerat	<i>THA008</i>	Rural	14°28'04"N	101°54'05"E	409
	- Nai Mueang	<i>THA009</i>	Urban	14°58'46"N	102°05'53"E	184
	Hanoi	<i>VNA001</i>	Urban	21°03'24"N	105°43'36"E	6
	Hoa Binh	<i>VNA002</i>	Rural	20°50'12"N	105°20'32"E	23
	Cuc Phuong	<i>VNA003</i>	Remote	20°18'01"N	105°41'38"E	155
	Da Nang	<i>VNA004</i>	Urban	16°02'35"N	108°12'24"E	5
	Can Tho	<i>VNA005</i>	Rural	10°05'18"N	105°41'45"E	2
	Ho Chi Minh	<i>VNA006</i>	Urban	10°47'04"N	106°42'00"E	5
	Yen Bai	<i>VNA007</i>	Rural	21°42'28"N	104°52'29"E	56

*1 Each code of acid deposition monitoring sites is assigned in accordance with the following rules.

e.g.) *KH A 0 01*

(a) (b) (c) (d)

(a): country code (2 digits) (b): item code ("A" : acid deposition monitoring)

(c): sub-serial number for ecological monitoring

(d): serial number for each country (2 digits)

*2 The latitude and longitude are shown according to the World Geodetic System.

*3 The latitude of Vientiane and the longitude of Zhuxiandong, and Vientiane were revised.

*4 Tappi and Banryu were closed in 2018, and Wuzhishan, Lijiang, Jembrana, Lombok, Niigata-maki, Tsushima started EANET monitoring in 2019.

The current situation on basic survey sites for ecological monitoring and their nearest acid deposition monitoring sites are shown in Table 2.3. Soil and vegetation monitoring and inland aquatic environment monitoring are conducted at 31 plots in 10 countries and 19 lakes/ rivers in 11 countries, respectively. Most of the ecological monitoring sites are corresponded to the acid deposition monitoring sites. Moreover, both soil and vegetation monitoring and inland aquatic environment monitoring are conducted in the vicinity of 4 acid deposition monitoring sites in China, 2 sites in Japan, 1 site in Malaysia, 1 site in Mongolia, 2 sites in Philippines, 2 sites in Russia, 1 site in Thailand, and 1 site in Vietnam. It is expected that the acid deposition monitoring data collected in their nearest monitoring sites will be used for interpretation of the data on ecological monitoring in these sites.

Table 2.3 Basic survey sites for ecological monitoring and their nearest acid deposition monitoring sites

Country	Site for acid deposition monitoring	Plot for soil and vegetation monitoring	Code for soil and vegetation monitoring* ¹	Site for inland aquatic environment monitoring	Code for inland aquatic environment monitoring* ¹
Cambodia	-	-	-	Sras Srang Lake	<i>KHI002</i>
China	Chongqing - Jinyunshan	Jinyunshan	<i>CNS004</i>	Jinyunshan Lake	<i>CNI004</i>
	Xi'an - Jiwozi	Dabagou	<i>CNS007</i>	Jiwozi River	<i>CNI007</i>
	Xiamen - Xiaoping	Xiaoping	<i>CNS009</i>	Xiaoping Dam	<i>CNI209</i>
	Zhuhai - Zhuxiandong	Zhuxiandong	<i>CNS011</i>	Zhuxiandong Stream	<i>CNI111</i>
Indonesia	Serpong	Bogor Research Forest (Dramaga Experimental Forest)	<i>IDS002</i>	-	-
	Bandung	-	-	Patengang Lake	<i>IDI004</i>
	-	-	-	Gunung Lake	<i>IDI006</i>
Japan	Happo	Sekido-san* ²	<i>JPS005</i>	Futago-ike Lake* ²	<i>JPI005</i>
		Horyu-zan* ²	<i>JPS105</i>		
	Ijira	Ijira	<i>JPS006</i>	Ijira Lake	<i>JPI006</i>
		Yamato	<i>JPS106</i>		
Lao PDR	Vientiane	-	-	Nam Hum Lake	<i>LAI001</i>
Malaysia	Petaling Jaya	Pasoh Reserve Forest 1	<i>MYS001</i>	Semenyih Dam	<i>MYI001</i>
		Pasoh Reserve Forest 2	<i>MYS101</i>		
	-	UPMKB Rehabilitated Forest Planted in 1991	<i>MYS005</i>		
		UPMKB Rehabilitated Forest Planted in 2008	<i>MYS105</i>		
	Danum Valley	-	-	Tembaling River	<i>MYI003</i>
Mongolia	Ulaanbaatar	Bogdkhan Mountain	<i>MNS001</i>	-	-
	Terelj	Terelj Mountain	<i>MNS002</i>	Terelj River	<i>MNI002</i>

Table 2.3 Basic survey sites for ecological monitoring and their nearest acid deposition monitoring sites (continued)

Country	Site for acid deposition monitoring	Plot for soil and vegetation monitoring	Code for soil and vegetation monitoring* ¹	Site for inland aquatic environment monitoring	Code for inland aquatic environment monitoring* ¹
Philippines	Metro Manila	La Mesa Watershed	<i>PHS001</i>		
	Los Baños	Mt. Makiling	<i>PHS002</i>	Pandin Lake	<i>PHI102</i>
		UP Quezon, Land Grant	<i>PHS102</i>		
	Mt. Sto Tomas	Boneco Long Term Ecological Research Site	<i>PHS003</i>	Ambulalakaw Lake	<i>PHI003</i>
Republic of Korea	Imsil	Mt. Naejang	<i>KRS003</i>	-	-
Russia	Irkutsk	Irkutsk	<i>RUS003</i>	-	-
	Listvyanka	Bolshie Koty	<i>RUS002</i>		
		Pereemnaya river catchment	<i>RUS102</i>	Pereemnaya River	<i>RUI102</i>
	Mondy	Ilchir Lake	<i>RUS001</i>	-	-
		Okinskoe Lake	<i>RUS101</i>		
		Solar Observatory	<i>RUS201</i>		
	Primorskaya	Primorskaya	<i>RUS004</i>	Komarovka River	<i>RUI004</i>
Thailand	Khanchanaburi (Vajiralongkorn Dam)	Vajiralongkorn Dam	<i>THS004</i>	Vajiralongkorn Dam	<i>THI004</i>
		Vajiralongkorn Puye	<i>THS104</i>		
Vietnam	Hoa Binh	Cave of Heaven	<i>VNS002</i>	Hoa Binh Reservoir	<i>VNI002</i>
		Thang Ranh	<i>VNS102</i>		

*1 Each code of ecological monitoring sites is assigned in accordance with the following rules.

e.g.) CN S 0 04

(a) (b) (c) (d)

(a): country code (2 digits) (b): item code (“S”: soil and vegetation monitoring, “T”: monitoring on inland aquatic environment)

(c): sub-serial number when there are multiple ecological monitoring sites in the nearest acid deposition monitoring site

(d): 2-digit serial number corresponding to its nearest acid deposition monitoring site (If there is no nearest acid deposition monitoring site within 50 km, another new serial number is assigned after the existing acid deposition monitoring site in its country.)

*2 Banryu site was closed in 2018, and Sekido-san/Horyu-zan and Futago-ike Lake sites started soil and vegetation monitoring and inland aquatic environment monitoring in 2019.

Table 2.4 shows the sites for catchment-scale monitoring.

Table 2.4 Site for catchment-scale monitoring

Country	Site for acid deposition monitoring	Site for catchment-scale monitoring	Code for catchment-scale monitoring^{*1}
Japan	Ijira	Lake Ijira catchment	<i>JPC006</i>
Philippines	Mereo Manila	La Mesa Watershed	<i>PHC001</i>

*1 Each code of the catchment-scale monitoring sites is assigned in accordance with the following rules.

e.g.) *JP C 0 06*

(a) (b) (c) (d)

(a): country code (2 digits) (b): item code ("C": catchment-scale monitoring)

(c): Sub-serial number when there are multiple ecological monitoring sites in the nearest acid deposition monitoring site

(d): 2-digit number corresponding to its nearest acid deposition monitoring site

(If there is no nearest acid deposition monitoring site within 50 km, another new serial number is assigned after the existing acid deposition monitoring site in its country.)

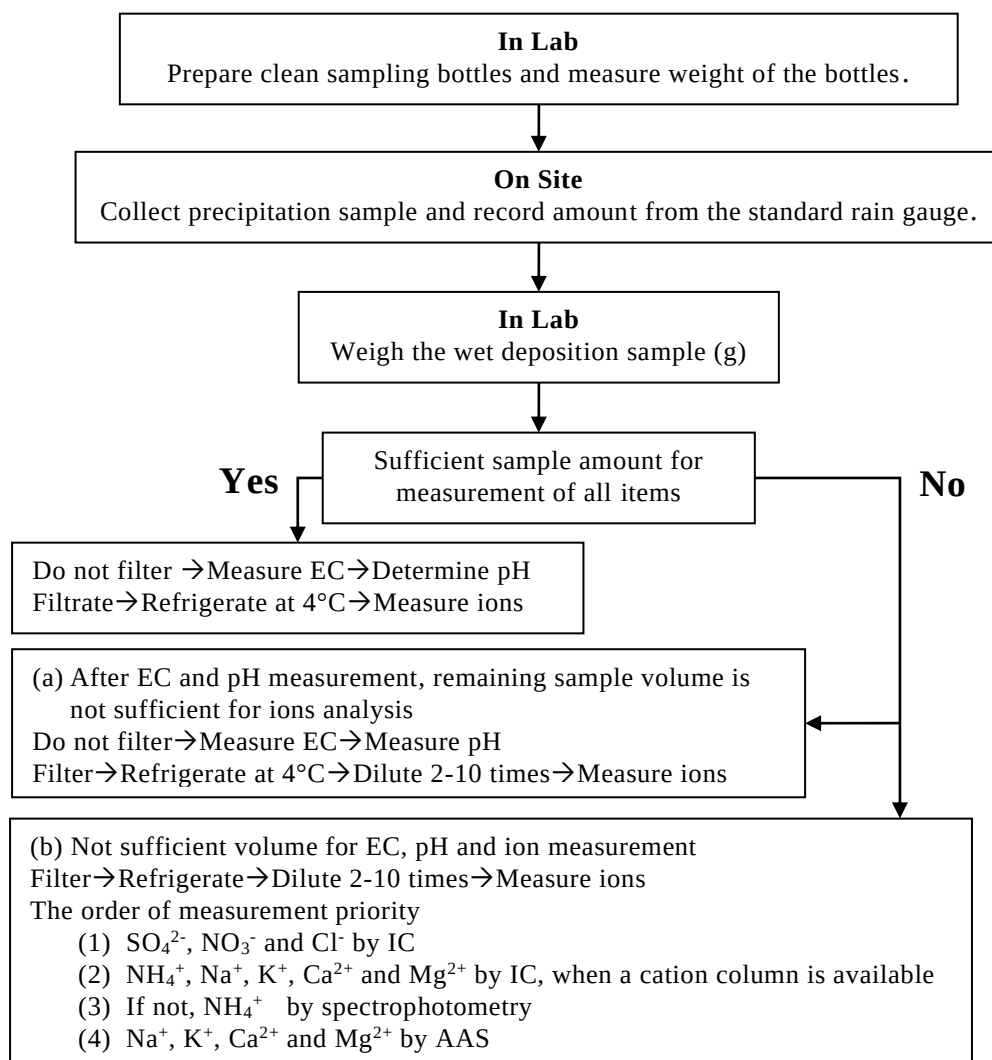
CHAPTER 3

Wet Deposition Monitoring

3. Wet Deposition Monitoring

3.1 Method

Each participating country is required to carry out acid deposition monitoring using common methodologies as specified in “*Guidelines for Acid Deposition Monitoring in East Asia, Technical Manual for Wet Deposition Monitoring in East Asia -2010*”, which was issued by the Network Center for EANET in November 2010 to obtain comparable, high quality monitoring data. Figure 3.1 shows the flow chart that summarizes the procedures for sampling and chemical analysis by the participating countries.



* EC: Electric conductivity, IC: Ion chromatography

Figure 3.1 Flow chart of sampling and chemical analysis of Wet Deposition

3.1.1 Field Operation

The wet-only sampler is recommended for the collection of the precipitation samples. This instrument is designed to collect precipitation samples during the period of rainfall which is detected by an equipped rain sensor that opens the lid on the collecting bucket or funnel. The lid of this instrument closes to avoid any collection into the collecting bucket or funnel, when no rainfall is detected by the sensor.

On the other hand, when a manual sampler is used to collect the precipitation since an automatic instrument is not available, the sampling shall be done by ensuring the sample collection only during rainfall period.

The collected wet deposition samples in a tropical region have to be prevented from any microbiological degradation. Biocides such as thymol should be used to prevent the microbiological degradation when the storage during sampling, shipping and storage of the samples under the refrigeration is not possible.

Samples without biocides have to be shipped to the laboratories in charge of chemical analysis using a cooling box to keep the sample temperature low enough to preserve the sample chemistry. On the other hand, the special care for the sampling of wet deposition in the higher latitude region during winter seasons should be done. The collection of the wet deposition samples may encounter difficulties due to low ambient temperature particularly when the temperature falls below -10 to -20°C.

3.1.2 Laboratory Operation

Procedures for the analysis of major constituent in wet deposition sample according to the “*Technical Manual for Wet Deposition Monitoring in East Asia -2010*” are shown in Table 3.1. Ion chromatography is recommended as the major analytical method which has been adopted by the participating countries for chemical analysis of both anions and cations contained in precipitation samples. Atomic absorption/emission spectrometry for Na^+ , K^+ , Ca^{2+} , and Mg^{2+} , and spectrophotometry for NH_4^+ are the secondary methods for the determination of these ions. Laboratories that use other non-recommended methods with insufficient analytical sensitivity, such as titration method, will encounter problems of unsatisfactory detection limit.

The EANET Data quality objective (DQO) values are defined in the “*Technical Documents for Wet Deposition Monitoring in East Asia -2010.*” And DQO values about Detection limits are shown in Table 3.2.

3.1.3 Data Management

Each laboratory has to submit the analyzed data of the precipitation samples to the National Center. Each National Center is expected to submit the compiled data in the required format to the Network Center for EANET (NC) by the end of June in the following year. All the data have to be checked by calculating values of ion balance (R_1) and conductivity agreement (R_2). If a sample or individual datum has problems including “insufficient sample volume” or “low precision”, the flags corresponding to the problems should be recorded onto the data sheet. Participating countries can refer to QA/QC part of the EANET document on “*Technical Manual for Wet Deposition Monitoring in East Asia -2010.*”

3.1.4 Meteorological Measurements

It is recommended that monitoring sites incorporate collocated meteorological measurements including wind direction/speed, temperature, humidity, precipitation amount and solar radiation. Meteorological data can also be acquired from the nearest standard meteorological station (meeting the requirements of the national weather service). Local meteorological data is very useful when dealing with the interpretation of unusual precipitation events.

Meteorological statistics at the monitoring sites are shown in Appendix 2 at the end of the report.

Table 3.1 Recommended analytical method for the measurement of major constituent in wet deposition samples

Analytical items	Method
Electric conductivity (EC)	Conductivity cell method
pH	Glass electrode
Cl^- , NO_3^- , SO_4^{2-} , NO_2^- , F^- , PO_4^{3-}	Ion chromatography, Spectrophotometry
NH_4^+	Ion chromatography, Spectrophotometry (Indophenol Blue)*
Na^+ , K^+ , Ca^{2+} , Mg^{2+}	Ion chromatography Atomic absorption/emission spectrometry
HCO_3^-	Ion chromatography, Alkalinity method, HPLC
Organic acids	Ion chromatography

* An alternate analysis method should be used if thymol has been used as a biocide during sample collection.

Table 3.2 DQO values about Detection limits

Items	Detection limits ($\mu\text{mol L}^{-1}$)
SO_4^{2-}	0.3
NO_3^-	0.5
Cl^-	0.5
NH_4^+	0.8
Na^+	0.3
K^+	0.3
Ca^{2+}	0.2
Mg^{2+}	0.3

3.1.5 Overview of the Statistics and Definition

An overview of the statistics and definitions used is given below.

Weighted average: the precipitation amount weighted average concentration ($\mu\text{mol L}^{-1}$) over the summary period.

Calculated as:

$$\hat{C} = \Sigma(C_i P_i) / \Sigma P_i$$

where $\hat{C}$: precipitation amount weighted average concentration ($\mu\text{mol L}^{-1}$)

C_i : measured valid concentration for sample i ($\mu\text{mol L}^{-1}$)

P_i : precipitation amount for the same sample i with valid concentration (mm)

Deposition amount: the wet deposition amount (mmol m^{-2}) for the summary period.

Calculated as:

$$\text{Deposition amount} = \hat{C} \times (\text{total precipitation amount for the summary period}) / 1000$$

The concentrations for the sampling periods with missing data have consequently been assumed to be equal to the weighted average of the summary period.

Non-sea-salt sulfate and non-sea-salt calcium ($\mu\text{mol L}^{-1}$): Equal to the measured sulfate (calcium) in the sample minus the sulfate (calcium) contributed by sea salt. Sea salt sulfate (calcium) is estimated from the concentration of sodium and the component ratio of sea water.

$$[\text{nss-SO}_4^{2-}] = [\text{SO}_4^{2-}] - 0.06028 [\text{Na}^+]$$

$$[\text{nss-Ca}^{2+}] = [\text{Ca}^{2+}] - 0.02161 [\text{Na}^+]$$

(Na⁺ : 468.3 mmol L⁻¹, SO₄²⁻ : 28.23 mmol L⁻¹, Ca²⁺ : 10.12 mmol L⁻¹; Ref.: *Guide to maritime observation, Oceanographic Society of Japan*)

Data completeness:

- (i) **Percent precipitation coverage length (%PCL):** Percentage of days with measured precipitation plus no precipitation days in the summary period. Calculated as:

$$\%PCL = [(\text{Number of days in the summary period}) - (\text{Number of days with missing or unknown precipitation})] / (\text{Number of days in the summary period}) \times 100$$

- (ii) **Percent total precipitation (%TP):** Percentage of total precipitation amount over the summary period represented by valid component measurements. Calculated as:

$$\%TP = (\text{Sum of precipitation amounts for samples with valid sample component measurements}) / (\text{Sum of precipitation amounts for all samples}) \times 100$$

- (iii) **Data completeness criteria for monthly and annual summaries:**

$$\%PCL > 80\% \text{ and } \%TP > 80\%$$

The low values on data completeness were caused by some trouble, such as contamination of sample and malfunction of the wet-only sampler or the rain gauge.

Ion balance (R₁):

Calculated as:

$$R_1 = (C - A) / (C + A) \times 100 (\%)$$

where C: total cation equivalent concentration (μeq L⁻¹)

A: total anion equivalent concentration (μeq L⁻¹)

$$C = 10^{(6-pH)} + \sum(C_{Ci}V_i)$$

where C_{Ci} : the concentration of i-th cation (μmol L⁻¹)

V_i : the valence of the given ion

$$A = \sum(C_{Ai}V_i)$$

where C_{Ai} : the concentration of i-th anion (μmol L⁻¹)

Required criteria for R₁ :

The required ion balances of precipitation analyses are given in Table 3.3.

Table 3.3 Required criteria for R₁

(C+A) (μeq L ⁻¹)	R ₁ (%)
<50	± 30
50 – 100	± 15
>100	± 8

Conductivity agreement (R₂) :

Calculated as:

$$R_2 = (\Lambda_{\text{calc}} - \Lambda_{\text{meas}}) / (\Lambda_{\text{calc}} + \Lambda_{\text{meas}}) \times 100 (\%)$$

where Λ_{calc} : the calculated conductivity (mS m⁻¹)

Λ_{meas} : the measured conductivity (mS m⁻¹)

$$\Lambda_{\text{calc}} = \sum (C_i \Lambda_i^0) \times 10^{-4}$$

where C_i : the ionic concentration of i-th ion (μmol L⁻¹)

Λ_i^0 : the molar conductivity at infinite dilution and 25°C (Scm² mol⁻¹)

$$\Lambda_{\text{calc}} = \{349.7 \times 10^{(6-\text{pH})} + 80.0 \times 2c(\text{SO}_4^{2-}) + 71.4c(\text{NO}_3^-) + 76.3c(\text{Cl}^-) + 73.5c(\text{NH}_4^+) + 50.1c(\text{Na}^+) + 73.5c(\text{K}^+) + 59.5 \times 2c(\text{Ca}^{2+}) + 53.0 \times 2c(\text{Mg}^{2+})\} / 10000$$

where $c()$: the ionic concentrations (μmol L⁻¹)

Required criteria for R₂ :

The required conductivity comparison criteria are given in Table 3.4.

Table 3.4 Required criteria for R₂

Λ_{meas} (mS m ⁻¹)	R ₂ (%)
<0.5	± 20
0.5 – 3	± 13
>3	± 9

3.1.6 Terms and Abbreviations

Terms and abbreviations are given in Table 3.5.

Table 3.5 Terms and abbreviations

	Terms and abbreviations	Definition
For all data	Data in hatched cell (■)	Rejected monthly (annual) value by the criteria. [%PCL≤80% and/or %TP≤80%]
	[--]	Precipitation was 0 mm.
	[*]	The constituent was rejected or not measured although precipitation was not 0 mm. [%TP=0%]
	[**]	Precipitation was not measured. [%PCL=0%]
	[***]	No data or no measurement
	Black cell (■)	Monitoring was not carried out.
For precipitation amount weighted average concentrations	Max	Maximum monitoring data for a year.
	Min	Minimum monitoring data for a year.
For concentration of ions except for H ⁺	[<0.2]	The values were lower than each DQO value about Detection limit ([<0.2]: Ca ²⁺ , [<0.3]: SO ₄ ²⁻ , Na ⁺ , K ⁺ and Mg ²⁺ , [<0.5]: NO ₃ ⁻ and Cl ⁻ , [<0.8]: NH ₄ ⁺). nss-SO ₄ ²⁻ and nss-Ca ²⁺ refer to Detection limit of SO ₄ ²⁻ and Ca ²⁺ respectively.
	[<0.3]	
	[<0.5]	
	[<0.8]	
For deposition	[0.00]	Deposition amount was zero. (Precipitation was 0 mm.)
	[<0.01]	Calculated deposition amount was lower than 0.01mmol m ⁻² .
For results of ion balance (R ₁) and conductivity agreement check (R ₂)	Sample (N)	Number of samples.
	R ₁ (N)	Number of samples measured and calculated ion balance (R ₁).
	R ₁ (AA)	Number of samples within allowable ranges for R ₁ .
	R ₂ (N)	Number of samples measured and calculated conductivity agreement (R ₂).
	R ₂ (AA)	Number of samples within allowable ranges for R ₂ .
	R ₁ &R ₂ (N)	Number of samples measured and calculated both R ₁ and R ₂ .
	R ₁ &R ₂ (AA)	Number of samples within allowable ranges of both R ₁ and R ₂ .

3.1.7 Monitoring Sites

Precipitation samples are collected on a daily basis at 39 out of 61 sites, while weekly collection are performed at 22 sites, as presented in Table 3.6. The analytical methods used in the laboratories for measuring the precipitation samples are presented in Table 3.7.

In addition, Table 3.7 shows additional items that some sites analyzed. R_1 and R_2 were calculated for these sites including the additional items.

Table 3.6 Sampling Frequencies for Wet Deposition Monitoring in 2019

Country	Site	Classification	Sampling Interval	Starting Month	
Cambodia	Phnom Penh* ¹	Urban	Weekly	April 2004	
China	Chongqing	- Haifu	Urban	Daily	January 2008
		- Jinyunshan	Rural	Daily	April 1999
	Xi'an	- Shizhan	Urban	Daily	April 1999
		- Jiwozi	Remote	Daily	April 1999
	Xiamen	- Hongwen	Urban	Daily	April 1999
		- Xiaoping	Remote	Daily	April 1999
	Zhuhai	- Xiang Zhou	Urban	Daily	April 1999
		- Zhuxiandong	Urban	Daily	December 1999
	Wuzhishan	- Wuzhishan	Remote	Daily	January 2019
Lijiang	- Lijiang	Remote	Daily	January 2019	
Indonesia	Jakarta	Urban	Weekly	April 1998	
	Serpong	Rural	Daily	April 1998	
	Kototabang	Remote	Weekly	April 1998	
	Bandung	Urban	Daily	January 1999	
	Maros	Rural	Weekly	January 2008	
	Jembrana	Rural	Weekly	January 2019	
	Lombok	Rural	Weekly	January 2019	
Japan	Rishiri	Remote	Daily	April 1998	
	Ochiishi	Remote	Daily	January 2003	
	Sado-seki	Remote	Daily	April 1999	
	Happo	Remote	Daily	April 1998	
	Ijira	Rural	Weekly	June 1999	
	Oki	Remote	Daily	April 1998	
	Yusuhara	Remote	Daily	December 1999	
	Hedo	Remote	Daily	December 1999	
	Ogasawara	Remote	Daily	May 1999	
	Tokyo	Urban	Daily	April 2007	
	Niigata-maki	Rural	Daily	January 2019	
	Tsushima	Remote	Daily	January 2019	
Lao PDR	Vientiane	Urban	Daily	October 2003	
Malaysia	Petaling Jaya* ¹	Urban	Weekly	April 1998	
	Tanah Rata* ¹	Rural	Weekly	January 1999	
	Danum Valley* ¹	Remote	Weekly	January 2005	
	Kuching* ¹	Urban	Weekly	January 2008	
Mongolia	Ulaanbaatar	Urban	Daily	August 1998	
	Terelj* ¹	Remote	Daily	September 1998	
Myanmar	Yangon	Urban	Weekly	January 2007	

Table 3.6 Sampling Frequencies for Wet Deposition Monitoring in 2019 (continued)

Country	Site	Classification	Sampling Interval	Starting Month
Philippines	Metro Manila	Urban	Weekly	April 1999
	Los Baños* ¹	Rural	Weekly	April 1999
	Mt. Sto. Tomas* ¹	Remote	Weekly	October 2006
Republic of Korea	Kanghwa	Rural	Daily	March 1999
	Cheju (Kosan)	Remote	Daily	April 1999
	Imsil	Rural	Daily	January 2001
Russia	Mondy	Remote	Daily	May 1999
	Listvyanka	Rural	Daily	January 2000
	Irkutsk	Urban	Daily	January 2000
	Primorskaya	Rural	Daily	February 2002
Thailand	Bangkok	Urban	Daily	April 1999
	Samutprakarn	Urban	Daily	January 2004
	Pathumthani	Rural	Daily	March 1999
	Khanchanaburi	Remote	Daily	April 1999
	Chiang Mai			
	- Mae Hia	Rural	Daily	January 2001
	Nakhon Ratchasima			
Vietnam	- Sakaerat	Rural	Daily	January 2006
	Hanoi	Urban	Weekly	August 1999
	Hoa Binh	Rural	Weekly	August 1999
	Cuc Phuong	Remote	Weekly	January 2009
	Da Nang	Urban	Weekly	January 2009
	Can Tho	Rural	Weekly	January 2014
	Ho Chi Minh	Urban	Weekly	January 2014
	Yen Bai	Rural	Weekly	May 2015

*1 Wet deposition monitoring data of Phnom Penh, Petaling Jaya, Tanah Rata, Danum Valley, Kuching, Terelj, Los Baños and Mt. Sto. Tomas were not submitted.

Table 3.7 Analytical methods and additional items in 2019

Country	Site	Analytical methods			Additional items (Analytical methods)
		Anions	NH ₄ ⁺	Other Cations	
China	Chongqing	- Haifu	IC, TI	IC	F ⁻ (IC)
		- Jinyunshan	IC, TI	IC	F ⁻ (IC)
	Xi'an	- Shizhan	IC	IC	
		- Jiwozi	IC	IC	
	Xiamen	- Hongwen	IC	IC	F ⁻ (IC)
		- Xiaoping	IC	IC	F ⁻ (IC)
	Zhuhai	- Xiang Zhou	IC	IC	F ⁻ (IC)
		- Zhuxiandong	IC	IC	F ⁻ (IC)
	Wuzhishan	IC	IC	IC	F ⁻ (IC)
	Lijiang	IC	IC	IC	F ⁻ (IC)
Indonesia	Jakarta	IC	IC	IC	
	Serpong	IC	IC	IC	
	Kototabang	IC	IC	IC	
	Bandung	IC	IC	IC	
	Maros	IC	IC	IC	
	Jembrana	IC	IC	IC	
	Lombok	IC	IC	IC	

Table 3.7 Analytical methods and additional items in 2019 (continued)

Country	Site	Analytical methods			Additional items (Analytical methods)
		Anions	NH ₄ ⁺	Other Cations	
Japan	Rishiri	IC	IC	IC	
	Ochiishi	IC	IC	IC	
	Sado-seki	IC	IC	IC	
	Happo	IC	IC	IC	
	Ijira	IC	IC	IC	
	Oki	IC	IC	IC	
	Yusuhara	IC	IC	IC	F ⁻ , NO ₂ ⁻ , PO ₄ ³⁻ (IC)
	Hedo	IC	IC	IC	
	Ogasawara	IC	IC	IC	NO ₂ ⁻ (IC)
	Tokyo	IC	IC	IC	NO ₂ ⁻ (IC)
	Niigata-maki	IC	IC	IC	
	Tsushima	IC	IC	IC	
Lao PDR	Vientiane	IC	IC	IC	
Malaysia	Petaling Jaya	IC	IC	IC	HCOO ⁻ , CH ₃ COO ⁻ , (COO ⁻) ₂ (IC)
	Tanah Rata	IC	IC	IC	HCOO ⁻ , CH ₃ COO ⁻ , (COO ⁻) ₂ (IC)
	Danum Valley	IC	IC	IC	HCOO ⁻ , CH ₃ COO ⁻ , (COO ⁻) ₂ (IC)
	Kuching	IC	IC	IC	HCOO ⁻ , CH ₃ COO ⁻ , (COO ⁻) ₂ (IC)
Mongolia	Ulaanbaatar	IC	IC	IC	
	Terelj	IC	IC	IC	
Myanmar	Yangon	IC	IC	IC	
Philippines	Metro Manila	IC	IC	IC	NO ₂ ⁻ (IC)
	Los Baños	IC	IC	IC	
	Mt. Sto. Tomas	IC	IC	IC	
Republic of Korea	Kanghwa	IC	IC	IC	
	Cheju (Kosan)	IC	IC	IC	
	Imsil	IC	IC	IC	
Russia	Mondy	IC, SP, TI	SP	AAS	HCO ₃ ⁻ (TI), Br ⁻ (IC), NO ₂ ⁻ (SP), PO ₄ ³⁻ (SP)
	Listvyanka	IC, SP, TI	SP	AAS	HCO ₃ ⁻ (TI), Br ⁻ (IC), NO ₂ ⁻ (SP), PO ₄ ³⁻ (SP)
	Irkutsk	IC, SP, TI	SP	AAS	HCO ₃ ⁻ (TI), Br ⁻ (IC), NO ₂ ⁻ (SP), PO ₄ ³⁻ (SP)
	Primorskaya	SP, TI	SP	AAS	
Thailand	Bangkok	IC	IC	IC	PO ₄ ³⁻ , HCOO ⁻ , CH ₃ COO ⁻ (IC)
	Samutprakarn	IC	IC	IC	PO ₄ ³⁻ , HCOO ⁻ , CH ₃ COO ⁻ (IC)
	Pathumthani	IC	IC	IC	PO ₄ ³⁻ , HCOO ⁻ , CH ₃ COO ⁻ (IC)
	Khanchanaburi	IC	IC	IC	PO ₄ ³⁻ , HCOO ⁻ , CH ₃ COO ⁻ (IC)
	Chiang Mai				PO ₄ ³⁻ , HCOO ⁻ , CH ₃ COO ⁻ (IC)
	- Mae Hia	IC	IC	IC	
	Nakhon Ratchasima				PO ₄ ³⁻ , HCOO ⁻ , CH ₃ COO ⁻ (IC)
Vietnam	- Sakaerat	IC	IC	IC	
	Hanoi	IC	IC	IC	F ⁻ (IC)
	Hoa Binh	IC	IC	IC	F ⁻ (IC)
	Cuc Phuong	IC, TI	IC	IC	HCO ₃ ⁻ (TI), F ⁻ (IC)
	Da Nang	IC, TI	IC	IC	HCO ₃ ⁻ (TI), F ⁻ (IC)
	Can Tho	SP, TI	SP	AES	F ⁻ (SP)
	Ho Chi Minh	SP, TI	SP	AES	F ⁻ (SP)
	Yen Bai	IC	IC	IC	F ⁻ (IC)

AAS: Atomic absorption spectrometry, AES: Atomic emission spectrometry,
 IC: Ion chromatography, SP: Spectrophotometry, TI: Titration

3.2 Results of Monitoring

The monthly summaries of each monitoring site in 2019 are shown in Table 3.8 through Table 3.68. The annual summaries of wet deposition monitoring in 2019 are shown in Table 3.69 through Table 3.71. The summaries contain the precipitation amount weighted average, data completeness (%PCL, %TP) and the wet deposition amount.

Results of ion balance (R_1) and the conductivity agreement (R_2) of each monitoring site are shown in Table 3.72. The summaries of annual data from 2005 to 2019 are shown in Table 3.73 through Table 3.97. Figure 3.2 to Figure 3.62 are plots of R_1 and R_2 for each site. The following information is provided to describe the figures:

(1) Ion Balance (R_1)

- (C + A) is logarithmic scale
- Horizontal bar : The allowable range of R_1 in each concentration range

(2) Conductivity Agreement (R_2)

- (Λ_{meas}) is logarithmic scale
- Horizontal bar : The allowable range of R_2 in each conductivity range

Results of the additional items are shown in Table 3.98 through Table 3.104.

Note that the annual data before 2005 are disclosed in EANET homepage and the data in 2000 was obtained during the preparatory-phase activities of EANET.

EANET homepage URL <https://monitoring.eanet.asia/document/public/index>

Table 3.8 Monthly results

Site: Phnom Penh

Country: Cambodia

Precipitation amount-weighted average concentration/ Precipitation amount

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺	pH	EC	Precip.
2019	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹		mS m ⁻¹	mm month ⁻¹ or mm year ⁻¹
Jan	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Feb	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Mar	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Apr	***	***	***	***	***	***	***	***	***	***	***	***	***	***
May	***	***	***	***	***	***	***	***	***	***	***	***	***	***
June	***	***	***	***	***	***	***	***	***	***	***	***	***	***
July	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Aug	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Sept	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Oct	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Nov	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Dec	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Annual	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Max.	***	***	***	***	***	***	***	***	***	***	***	***	***	
Min.	***	***	***	***	***	***	***	***	***	***	***	***	***	

Wet deposition amount

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺
2019	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²
Jan	***	***	***	***	***	***	***	***	***	***	***
Feb	***	***	***	***	***	***	***	***	***	***	***
Mar	***	***	***	***	***	***	***	***	***	***	***
Apr	***	***	***	***	***	***	***	***	***	***	***
May	***	***	***	***	***	***	***	***	***	***	***
June	***	***	***	***	***	***	***	***	***	***	***
July	***	***	***	***	***	***	***	***	***	***	***
Aug	***	***	***	***	***	***	***	***	***	***	***
Sept	***	***	***	***	***	***	***	***	***	***	***
Oct	***	***	***	***	***	***	***	***	***	***	***
Nov	***	***	***	***	***	***	***	***	***	***	***
Dec	***	***	***	***	***	***	***	***	***	***	***
Annual	***	***	***	***	***	***	***	***	***	***	***

Data completeness

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺	pH	EC	Precip.
2019	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%PCL
Jan	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Feb	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Mar	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Apr	***	***	***	***	***	***	***	***	***	***	***	***	***	***
May	***	***	***	***	***	***	***	***	***	***	***	***	***	***
June	***	***	***	***	***	***	***	***	***	***	***	***	***	***
July	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Aug	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Sept	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Oct	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Nov	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Dec	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Annual	***	***	***	***	***	***	***	***	***	***	***	***	***	***

Terms and abbreviations are given in Table 3.5.

Table 3.9 Monthly results

Site: Haifu

Country: China

Precipitation amount-weighted average concentration/ Precipitation amount

2019	SO ₄ ²⁻ μmol L ⁻¹	nss-SO ₄ ²⁻ μmol L ⁻¹	NO ₃ ⁻ μmol L ⁻¹	Cl ⁻ μmol L ⁻¹	NH ₄ ⁺ μmol L ⁻¹	Na ⁺ μmol L ⁻¹	K ⁺ μmol L ⁻¹	Ca ²⁺ μmol L ⁻¹	nss-Ca ²⁺ μmol L ⁻¹	Mg ²⁺ μmol L ⁻¹	H ⁺ μmol L ⁻¹	pH	EC mS m ⁻¹	Precip. mm month ⁻¹ or mm year ⁻¹
Jan	184	183	334	31.9	449	11.3	14.2	107	107	11.8	33.7	4.47	12.0	14.5
Feb	145	145	185	28.4	414	9.41	24.0	68.8	68.6	7.54	0.261	6.58	8.47	3.2
Mar	76.4	75.7	93.1	14.8	214	11.4	11.9	65.1	64.8	7.32	1.31	5.88	5.16	56.5
Apr	31.1	31.0	41.0	4.74	95.6	2.73	2.53	26.0	25.9	3.39	0.788	6.10	2.09	144
May	38.7	38.4	53.2	8.12	110	4.47	4.67	33.1	33.0	4.63	0.809	6.09	2.58	148
June	23.3	23.0	33.4	5.87	71.2	4.93	3.05	19.4	19.3	2.53	0.898	6.05	1.61	224
July	17.7	17.6	29.1	3.25	50.9	1.19	1.66	13.2	13.2	1.07	4.08	5.39	1.33	211
Aug	13.4	13.3	24.5	4.69	39.1	2.27	0.798	14.8	14.7	1.44	1.22	5.91	1.07	50.3
Sept	27.0	27.0	36.9	4.38	68.2	0.880	1.19	21.7	21.7	1.60	2.90	5.54	1.70	78.6
Oct	24.3	24.0	37.9	6.81	57.7	3.77	2.50	16.1	16.0	1.97	5.66	5.25	1.65	215
Nov	83.4	83.0	136	10.5	197	5.38	5.39	49.0	48.9	4.93	20.3	4.69	5.30	55.4
Dec	76.3	75.3	148	19.0	198	15.2	8.62	69.0	68.7	8.72	3.10	5.51	5.08	24.0
Annual	33.5	33.3	50.2	6.82	91.5	4.01	3.45	25.7	25.6	3.01	3.73	5.43	2.27	1224
Max.	296	295	488	62.9	756	51.3	97.2	257	256	23.8	89.1	6.99	17.9	
Min.	1.25	1.22	6.77	1.41	14.4	<0.3	<0.3	6.24	6.23	0.822	0.102	4.05	0.444	

Wet deposition amount

2019	SO ₄ ²⁻ mmol m ⁻²	nss-SO ₄ ²⁻ mmol m ⁻²	NO ₃ ⁻ mmol m ⁻²	Cl ⁻ mmol m ⁻²	NH ₄ ⁺ mmol m ⁻²	Na ⁺ mmol m ⁻²	K ⁺ mmol m ⁻²	Ca ²⁺ mmol m ⁻²	nss-Ca ²⁺ mmol m ⁻²	Mg ²⁺ mmol m ⁻²	H ⁺ mmol m ⁻²
Jan	2.66	2.65	4.85	0.463	6.52	0.164	0.206	1.55	1.55	0.171	0.489
Feb	0.465	0.463	0.590	0.0909	1.33	0.0301	0.0770	0.220	0.219	0.0241	<0.01
Mar	4.31	4.28	5.26	0.835	12.1	0.645	0.674	3.68	3.66	0.413	0.0742
Apr	4.48	4.46	5.90	0.683	13.8	0.393	0.364	3.74	3.74	0.488	0.114
May	5.73	5.69	7.90	1.20	16.3	0.662	0.692	4.91	4.90	0.686	0.120
June	5.21	5.14	7.47	1.31	15.9	1.10	0.682	4.34	4.32	0.567	0.201
July	3.73	3.71	6.14	0.684	10.7	0.249	0.349	2.77	2.77	0.226	0.859
Aug	0.676	0.669	1.23	0.236	1.97	0.114	0.0402	0.743	0.740	0.0725	0.0614
Sept	2.12	2.12	2.90	0.344	5.36	0.0692	0.0934	1.71	1.71	0.126	0.228
Oct	5.21	5.16	8.15	1.46	12.4	0.809	0.537	3.46	3.44	0.424	1.22
Nov	4.62	4.60	7.53	0.579	10.9	0.298	0.299	2.71	2.71	0.273	1.13
Dec	1.83	1.81	3.54	0.455	4.74	0.365	0.207	1.66	1.65	0.209	0.0744
Annual	41.0	40.7	61.4	8.35	112	4.90	4.22	31.5	31.4	3.68	4.56

Data completeness

2019	SO ₄ ²⁻ %TP	nss-SO ₄ ²⁻ %TP	NO ₃ ⁻ %TP	Cl ⁻ %TP	NH ₄ ⁺ %TP	Na ⁺ %TP	K ⁺ %TP	Ca ²⁺ %TP	nss-Ca ²⁺ %TP	Mg ²⁺ %TP	H ⁺ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Feb	93.8	93.8	93.8	93.8	93.8	93.8	93.8	93.8	93.8	93.8	93.8	93.8	93.8	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	100
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Terms and abbreviations are given in Table 3.5.

Table 3.10 Monthly results

Site: Jinyunshan

Country: China

Precipitation amount-weighted average concentration/ Precipitation amount

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺	pH	EC	Precip.
2019	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹		mS m ⁻¹	mm month ⁻¹ or mm year ⁻¹
Jan	275	275	373	30.9	512	11.7	26.1	108	108	12.7	189	3.72	17.8	9.3
Feb	473	471	567	74.8	1037	32.3	50.5	290	289	32.9	0.355	6.45	15.6	2.4
Mar	87.6	87.0	110	13.0	170	8.99	5.79	57.2	57.0	7.57	8.19	5.09	4.91	32.2
Apr	40.2	40.1	46.2	5.21	89.9	2.53	5.73	25.0	25.0	5.31	3.31	5.48	2.14	47.4
May	33.0	32.8	42.0	5.24	83.2	2.40	3.81	23.8	23.8	3.94	2.75	5.56	2.04	161
June	20.9	20.8	27.1	3.06	40.6	1.23	2.48	29.4	29.4	2.36	9.91	5.00	1.77	195
July	14.4	14.4	21.3	2.38	25.5	0.377	1.44	7.89	7.88	1.12	14.3	4.85	1.27	154
Aug	12.8	12.8	20.9	3.05	24.9	0.675	2.43	9.07	9.06	1.12	13.1	4.88	1.12	49.2
Sept	32.4	32.3	33.3	4.45	60.0	0.933	1.47	12.8	12.8	2.08	20.6	4.69	2.16	82.9
Oct	22.5	22.4	31.3	3.18	35.8	1.24	1.75	11.5	11.5	1.85	24.1	4.62	1.93	215
Nov	79.0	78.8	115	8.59	162	3.45	5.19	32.8	32.7	4.14	45.6	4.34	5.38	65.0
Dec	135	135	205	16.8	271	8.13	9.44	82.6	82.4	11.1	39.3	4.41	8.26	24.2
Annual	35.3	35.1	47.0	4.92	70.6	2.00	3.20	22.8	22.7	3.01	17.5	4.76	2.43	1037
Max.	1056	1051	1349	210	2519	82.2	126	547	545	70.3	479	7.52	48.2	
Min.	6.56	6.53	8.71	1.21	4.43	<0.3	<0.3	2.50	2.49	<0.3	0.0302	3.32	0.608	

Wet deposition amount

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺
2019	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²
Jan	2.56	2.55	3.47	0.287	4.77	0.109	0.243	1.00	1.00	0.118	1.75
Feb	1.14	1.13	1.36	0.179	2.49	0.0775	0.121	0.696	0.695	0.0789	<0.01
Mar	2.82	2.80	3.54	0.417	5.46	0.289	0.186	1.84	1.84	0.244	0.264
Apr	1.91	1.90	2.19	0.247	4.26	0.120	0.272	1.19	1.18	0.252	0.157
May	5.32	5.30	6.77	0.845	13.4	0.387	0.615	3.84	3.83	0.635	0.443
June	4.07	4.06	5.27	0.596	7.91	0.240	0.482	5.72	5.72	0.459	1.93
July	2.21	2.21	3.28	0.367	3.93	0.0580	0.222	1.21	1.21	0.172	2.19
Aug	0.630	0.628	1.03	0.150	1.23	0.0332	0.120	0.446	0.446	0.0549	0.646
Sept	2.68	2.68	2.76	0.369	4.97	0.0774	0.122	1.06	1.06	0.172	1.71
Oct	4.82	4.81	6.71	0.684	7.69	0.265	0.375	2.48	2.47	0.397	5.18
Nov	5.14	5.12	7.46	0.558	10.5	0.224	0.338	2.13	2.12	0.269	2.97
Dec	3.27	3.26	4.95	0.407	6.55	0.197	0.228	2.00	2.00	0.268	0.950
Annual	36.6	36.5	48.8	5.10	73.2	2.08	3.32	23.6	23.6	3.12	18.2

Data completeness

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺	pH	EC	Precip.
2019	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%PCL
Jan	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Feb	100	100	100	100	100	100	100	100	100	100	79.2	79.2	79.2	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	99.2	99.2	99.2	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	100	100	100	100	100	100	100	100	100	100	99.9	99.9	99.9	100

Terms and abbreviations are given in Table 3.5.

Table 3.11 Monthly results

Site: Shizhan

Country: China

Precipitation amount-weighted average concentration/ Precipitation amount

2019	SO ₄ ²⁻ μmol L ⁻¹	nss-SO ₄ ²⁻ μmol L ⁻¹	NO ₃ ⁻ μmol L ⁻¹	Cl ⁻ μmol L ⁻¹	NH ₄ ⁺ μmol L ⁻¹	Na ⁺ μmol L ⁻¹	K ⁺ μmol L ⁻¹	Ca ²⁺ μmol L ⁻¹	nss-Ca ²⁺ μmol L ⁻¹	Mg ²⁺ μmol L ⁻¹	H ⁺ μmol L ⁻¹	pH	EC mS m ⁻¹	Precip. mm month ⁻¹ or mm year ⁻¹
Jan	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Mar	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Apr	7.40	5.95	25.5	21.9	202	23.9	10.8	126	125	8.81	0.0590	7.23	4.88	48.6
May	150	146	65.0	34.2	272	51.4	21.4	123	122	16.7	0.0894	7.05	7.01	19.1
June	22.4	22.0	15.6	13.6	124	7.07	10.2	35.1	34.9	5.63	0.0403	7.39	2.52	96.0
July	19.8	19.2	17.4	9.76	111	10.8	6.97	66.7	66.5	5.67	0.147	6.83	3.07	44.1
Aug	31.9	31.5	15.5	15.5	153	7.72	6.08	20.7	20.6	3.95	0.204	6.69	2.54	78.2
Sept	14.3	13.7	23.4	9.32	38.6	9.50	3.84	27.4	27.2	7.57	0.301	6.52	1.39	107
Oct	28.0	27.7	45.1	6.72	166	4.38	2.93	31.5	31.4	3.78	0.101	7.00	2.96	59.2
Nov	166	164	29.3	10.6	420	34.2	16.1	188	187	15.6	0.0585	7.23	10.4	13.0
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Annual	30.3	29.6	24.7	13.3	136	12.1	7.50	50.9	50.6	6.63	0.150	6.82	3.02	465
Max.	444	434	165	90.4	735	168	66.6	310	307	43.5	0.441	8.23	17.3	
Min.	3.17	2.16	3.11	4.03	13.1	2.13	1.92	10.5	10.4	2.96	0.0059	6.36	0.496	

Wet deposition amount

2019	SO ₄ ²⁻ mmol m ⁻²	nss-SO ₄ ²⁻ mmol m ⁻²	NO ₃ ⁻ mmol m ⁻²	Cl ⁻ mmol m ⁻²	NH ₄ ⁺ mmol m ⁻²	Na ⁺ mmol m ⁻²	K ⁺ mmol m ⁻²	Ca ²⁺ mmol m ⁻²	nss-Ca ²⁺ mmol m ⁻²	Mg ²⁺ mmol m ⁻²	H ⁺ mmol m ⁻²
Jan	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Feb	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr	0.359	0.289	1.24	1.06	9.82	1.16	0.526	6.12	6.09	0.428	<0.01
May	2.86	2.80	1.24	0.654	5.20	0.981	0.408	2.36	2.33	0.320	<0.01
June	2.15	2.11	1.49	1.31	12.0	0.679	0.979	3.37	3.35	0.541	<0.01
July	0.874	0.845	0.766	0.431	4.90	0.478	0.307	2.94	2.93	0.250	<0.01
Aug	2.50	2.46	1.21	1.22	12.0	0.603	0.475	1.62	1.61	0.309	0.0160
Sept	1.52	1.46	2.50	0.993	4.12	1.01	0.410	2.92	2.90	0.806	0.0321
Oct	1.66	1.64	2.67	0.398	9.83	0.260	0.173	1.87	1.86	0.224	<0.01
Nov	2.16	2.14	0.381	0.138	5.47	0.444	0.210	2.44	2.43	0.203	<0.01
Dec	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	14.1	13.7	11.5	6.20	63.3	5.62	3.49	23.6	23.5	3.08	0.0697

Data completeness

2019	SO ₄ ²⁻ %TP	nss-SO ₄ ²⁻ %TP	NO ₃ ⁻ %TP	Cl ⁻ %TP	NH ₄ ⁺ %TP	Na ⁺ %TP	K ⁺ %TP	Ca ²⁺ %TP	nss-Ca ²⁺ %TP	Mg ²⁺ %TP	H ⁺ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Mar	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Annual	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Terms and abbreviations are given in Table 3.5.

Table 3.12 Monthly results

Site: Jiwozi

Country: China

Precipitation amount-weighted average concentration/ Precipitation amount

2019	SO ₄ ²⁻ μmol L ⁻¹	nss-SO ₄ ²⁻ μmol L ⁻¹	NO ₃ ⁻ μmol L ⁻¹	Cl ⁻ μmol L ⁻¹	NH ₄ ⁺ μmol L ⁻¹	Na ⁺ μmol L ⁻¹	K ⁺ μmol L ⁻¹	Ca ²⁺ μmol L ⁻¹	nss-Ca ²⁺ μmol L ⁻¹	Mg ²⁺ μmol L ⁻¹	H ⁺ μmol L ⁻¹	pH	EC mS m ⁻¹	Precip. mm month ⁻¹ or mm year ⁻¹
Jan	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Mar	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Apr	21.4	17.2	41.5	45.9	60.3	75.3	29.0	198	196	21.5	0.0319	7.50	5.88	87.7
May	73.5	63.6	58.3	21.7	38.7	164	168	227	224	23.6	0.0452	7.34	8.48	97.8
June	10.7	7.39	6.37	8.84	6.20	55.4	48.0	28.3	27.1	3.26	0.595	6.23	1.70	108
July	30.0	28.1	23.7	10.6	6.44	32.0	24.9	167	166	25.9	0.313	6.50	4.53	35.1
Aug	117	111	40.2	31.2	3.82	105	52.8	194	192	39.2	0.0822	7.09	6.30	103
Sept	142	135	46.8	32.1	60.8	103	70.1	196	194	29.4	0.0429	7.37	7.70	72.4
Oct	33.3	30.5	50.3	13.6	83.3	45.2	28.8	170	170	19.7	0.0679	7.17	5.21	45.8
Nov	22.1	20.9	33.7	8.68	46.9	18.4	7.25	69.6	69.2	6.93	0.179	6.75	2.57	24.1
Dec	86.9	81.5	61.6	3.61	27.3	89.6	28.4	222	220	53.4	0.0332	7.48	6.74	7.5
Annual	62.5	57.2	37.8	23.9	34.2	88.3	64.1	161	160	22.5	0.175	6.76	5.58	582
Max.	254	242	171	180	230	384	387	385	380	65.5	4.17	7.96	13.3	
Min.	1.38	<0.3	0.700	1.69	<0.8	4.13	0.949	4.68	4.58	1.41	0.0111	5.38	0.325	

Wet deposition amount

2019	SO ₄ ²⁻ mmol m ⁻²	nss-SO ₄ ²⁻ mmol m ⁻²	NO ₃ ⁻ mmol m ⁻²	Cl ⁻ mmol m ⁻²	NH ₄ ⁺ mmol m ⁻²	Na ⁺ mmol m ⁻²	K ⁺ mmol m ⁻²	Ca ²⁺ mmol m ⁻²	nss-Ca ²⁺ mmol m ⁻²	Mg ²⁺ mmol m ⁻²	H ⁺ mmol m ⁻²
Jan	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Feb	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr	1.88	1.51	3.64	4.03	5.29	6.60	2.54	17.4	17.2	1.88	<0.01
May	7.19	6.22	5.70	2.12	3.78	16.1	16.5	22.2	21.9	2.31	<0.01
June	1.16	0.798	0.688	0.955	0.669	5.99	5.19	3.06	2.93	0.352	0.0643
July	1.05	0.985	0.833	0.371	0.226	1.12	0.875	5.85	5.83	0.908	0.0110
Aug	12.1	11.5	4.15	3.22	0.395	10.9	5.46	20.1	19.8	4.04	<0.01
Sept	10.3	9.81	3.39	2.32	4.40	7.49	5.07	14.2	14.1	2.13	<0.01
Oct	1.52	1.40	2.31	0.622	3.81	2.07	1.32	7.81	7.76	0.903	<0.01
Nov	0.532	0.505	0.813	0.209	1.13	0.442	0.175	1.68	1.67	0.167	<0.01
Dec	0.652	0.611	0.462	0.0271	0.204	0.672	0.213	1.66	1.65	0.401	<0.01
Annual	36.4	33.3	22.0	13.9	19.9	51.3	37.3	93.9	92.8	13.1	0.102

Data completeness

2019	SO ₄ ²⁻ %TP	nss-SO ₄ ²⁻ %TP	NO ₃ ⁻ %TP	Cl ⁻ %TP	NH ₄ ⁺ %TP	Na ⁺ %TP	K ⁺ %TP	Ca ²⁺ %TP	nss-Ca ²⁺ %TP	Mg ²⁺ %TP	H ⁺ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Mar	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Terms and abbreviations are given in Table 3.5.

Table 3.13 Monthly results

Site: Hongwen

Country: China

Precipitation amount-weighted average concentration/ Precipitation amount

2019	SO ₄ ²⁻ μmol L ⁻¹	nss-SO ₄ ²⁻ μmol L ⁻¹	NO ₃ ⁻ μmol L ⁻¹	Cl ⁻ μmol L ⁻¹	NH ₄ ⁺ μmol L ⁻¹	Na ⁺ μmol L ⁻¹	K ⁺ μmol L ⁻¹	Ca ²⁺ μmol L ⁻¹	nss-Ca ²⁺ μmol L ⁻¹	Mg ²⁺ μmol L ⁻¹	H ⁺ μmol L ⁻¹	pH	EC mS m ⁻¹	Precip. mm month ⁻¹ or mm year ⁻¹
Jan	37.9	37.1	71.9	36.6	90.4	12.2	7.54	76.1	75.9	10.3	0.183	6.74	3.84	7.2
Feb	14.9	14.8	22.2	19.7	28.1	1.61	1.66	18.0	18.0	3.20	1.08	5.97	1.45	37.2
Mar	16.3	16.1	26.9	20.4	36.4	1.82	3.96	20.6	20.6	3.21	1.42	5.85	1.33	259
Apr	24.5	24.4	49.6	15.1	58.5	2.40	4.75	40.1	40.1	3.31	0.850	6.07	1.99	131
May	16.7	16.4	34.4	18.5	33.1	4.76	4.68	31.6	31.5	4.67	0.686	6.16	1.67	168
June	15.4	14.9	37.5	16.5	20.2	9.16	1.98	40.1	39.9	3.90	1.49	5.83	1.65	85.2
July	19.6	19.4	43.0	53.8	20.8	2.38	3.95	57.5	57.5	8.76	0.538	6.27	2.35	57.5
Aug	120	120	49.5	212	6.69	7.61	42.9	119	119	3.83	0.292	6.53	7.09	272
Sept	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Oct	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Dec	17.2	14.7	63.9	68.3	<0.8	40.5	11.5	635	634	17.5	0.213	6.67	10.0	9.9
Annual	45.2	44.9	39.3	72.3	28.3	4.99	14.3	60.8	60.7	4.18	0.853	6.07	3.18	1027
Max.	173	173	234	260	192	45.7	60.0	699	698	29.1	14.8	7.17	10.8	
Min.	2.18	2.12	5.23	3.04	<0.8	<0.3	0.667	5.01	5.00	0.628	0.0676	4.83	0.292	

Wet deposition amount

2019	SO ₄ ²⁻ mmol m ⁻²	nss-SO ₄ ²⁻ mmol m ⁻²	NO ₃ ⁻ mmol m ⁻²	Cl ⁻ mmol m ⁻²	NH ₄ ⁺ mmol m ⁻²	Na ⁺ mmol m ⁻²	K ⁺ mmol m ⁻²	Ca ²⁺ mmol m ⁻²	nss-Ca ²⁺ mmol m ⁻²	Mg ²⁺ mmol m ⁻²	H ⁺ mmol m ⁻²
Jan	0.272	0.266	0.516	0.262	0.648	0.0878	0.0541	0.546	0.545	0.0736	<0.01
Feb	0.553	0.550	0.828	0.733	1.05	0.0601	0.0618	0.671	0.670	0.119	0.0403
Mar	4.21	4.18	6.96	5.28	9.42	0.473	1.03	5.35	5.34	0.832	0.369
Apr	3.22	3.20	6.52	1.99	7.68	0.316	0.624	5.27	5.27	0.435	0.112
May	2.80	2.76	5.77	3.11	5.54	0.798	0.784	5.31	5.29	0.783	0.115
June	1.32	1.27	3.20	1.40	1.72	0.781	0.169	3.42	3.40	0.333	0.127
July	1.13	1.12	2.47	3.09	1.19	0.137	0.227	3.31	3.30	0.504	0.0309
Aug	32.7	32.6	13.5	57.8	1.82	2.07	11.7	32.3	32.2	1.04	0.0795
Sept	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Oct	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nov	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dec	0.170	0.146	0.633	0.677	<0.01	0.401	0.114	6.29	6.28	0.174	<0.01
Annual	46.4	46.1	40.4	74.3	29.1	5.12	14.7	62.4	62.3	4.29	0.877

Data completeness

2019	SO ₄ ²⁻ %TP	nss-SO ₄ ²⁻ %TP	NO ₃ ⁻ %TP	Cl ⁻ %TP	NH ₄ ⁺ %TP	Na ⁺ %TP	K ⁺ %TP	Ca ²⁺ %TP	nss-Ca ²⁺ %TP	Mg ²⁺ %TP	H ⁺ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Oct	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Terms and abbreviations are given in Table 3.5.

Table 3.14 Monthly results

Site: Xiaoping

Country: China

Precipitation amount-weighted average concentration/ Precipitation amount

2019	SO ₄ ²⁻ μmol L ⁻¹	nss-SO ₄ ²⁻ μmol L ⁻¹	NO ₃ ⁻ μmol L ⁻¹	Cl ⁻ μmol L ⁻¹	NH ₄ ⁺ μmol L ⁻¹	Na ⁺ μmol L ⁻¹	K ⁺ μmol L ⁻¹	Ca ²⁺ μmol L ⁻¹	nss-Ca ²⁺ μmol L ⁻¹	Mg ²⁺ μmol L ⁻¹	H ⁺ μmol L ⁻¹	pH	EC mS m ⁻¹	Precip. mm month ⁻¹ or mm year ⁻¹
Jan	19.5	19.5	44.9	24.4	20.4	<0.3	2.97	17.0	17.0	3.95	36.3	4.44	2.58	5.8
Feb	20.0	20.0	55.4	23.3	26.1	0.716	1.45	13.5	13.5	2.81	36.0	4.44	2.81	38.0
Mar	11.1	11.1	22.4	8.45	19.7	0.657	2.85	5.64	5.63	1.24	15.8	4.80	1.27	155
Apr	16.6	16.6	42.9	7.12	33.9	<0.3	2.58	8.62	8.62	1.01	28.1	4.55	1.89	85.9
May	11.8	11.7	26.1	6.57	15.6	1.43	3.40	8.12	8.09	2.27	20.4	4.69	1.44	171
June	12.8	12.6	38.5	10.3	18.0	2.42	2.03	7.49	7.44	2.06	20.7	4.68	1.78	254
July	12.5	12.5	32.6	12.6	21.4	1.01	2.22	9.48	9.46	2.58	13.6	4.86	1.58	130
Aug	9.77	9.67	23.7	11.4	18.9	1.67	1.85	3.89	3.85	1.78	12.9	4.89	1.23	138
Sept	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Oct	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Dec	16.3	16.1	12.7	7.84	11.4	3.07	4.51	7.21	7.15	4.56	3.32	5.48	0.831	36.3
Annual	12.7	12.6	31.3	10.0	19.9	1.44	2.51	7.45	7.41	2.04	18.6	4.73	1.56	1013
Max.	73.0	72.8	201	81.3	114	5.47	6.94	48.3	48.3	11.0	123	5.89	9.56	
Min.	2.37	2.37	4.78	3.25	<0.8	<0.3	<0.3	1.22	1.21	<0.3	1.29	3.91	0.290	

Wet deposition amount

2019	SO ₄ ²⁻ mmol m ⁻²	nss-SO ₄ ²⁻ mmol m ⁻²	NO ₃ ⁻ mmol m ⁻²	Cl ⁻ mmol m ⁻²	NH ₄ ⁺ mmol m ⁻²	Na ⁺ mmol m ⁻²	K ⁺ mmol m ⁻²	Ca ²⁺ mmol m ⁻²	nss-Ca ²⁺ mmol m ⁻²	Mg ²⁺ mmol m ⁻²	H ⁺ mmol m ⁻²
Jan	0.112	0.112	0.258	0.141	0.118	<0.01	0.0171	0.0979	0.0979	0.0228	0.209
Feb	0.762	0.760	2.10	0.885	0.991	0.0272	0.0549	0.512	0.512	0.107	1.37
Mar	1.72	1.71	3.47	1.31	3.05	0.102	0.441	0.873	0.871	0.191	2.45
Apr	1.43	1.43	3.69	0.611	2.91	<0.01	0.222	0.740	0.740	0.0867	2.41
May	2.03	2.01	4.47	1.12	2.67	0.245	0.583	1.39	1.39	0.389	3.49
June	3.24	3.20	9.76	2.60	4.57	0.613	0.516	1.90	1.89	0.522	5.26
July	1.62	1.62	4.23	1.63	2.78	0.130	0.287	1.23	1.23	0.334	1.77
Aug	1.35	1.33	3.27	1.57	2.61	0.230	0.254	0.536	0.531	0.245	1.78
Sept	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Oct	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nov	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dec	0.593	0.586	0.460	0.285	0.414	0.112	0.164	0.262	0.260	0.166	0.120
Annual	12.9	12.8	31.7	10.2	20.1	1.46	2.54	7.54	7.51	2.06	18.9

Data completeness

2019	SO ₄ ²⁻ %TP	nss-SO ₄ ²⁻ %TP	NO ₃ ⁻ %TP	Cl ⁻ %TP	NH ₄ ⁺ %TP	Na ⁺ %TP	K ⁺ %TP	Ca ²⁺ %TP	nss-Ca ²⁺ %TP	Mg ²⁺ %TP	H ⁺ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Oct	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Terms and abbreviations are given in Table 3.5.

Table 3.15 Monthly results

Site: Xiang Zhou

Country: China

Precipitation amount-weighted average concentration/ Precipitation amount

2019	SO ₄ ²⁻ μmol L ⁻¹	nss-SO ₄ ²⁻ μmol L ⁻¹	NO ₃ ⁻ μmol L ⁻¹	Cl ⁻ μmol L ⁻¹	NH ₄ ⁺ μmol L ⁻¹	Na ⁺ μmol L ⁻¹	K ⁺ μmol L ⁻¹	Ca ²⁺ μmol L ⁻¹	nss-Ca ²⁺ μmol L ⁻¹	Mg ²⁺ μmol L ⁻¹	H ⁺ μmol L ⁻¹	pH	EC mS m ⁻¹	Precip. mm month ⁻¹ or mm year ⁻¹
Jan	30.0	27.1	171	28.8	103	48.3	3.32	16.2	15.2	3.70	100	4.00	7.18	1.0
Feb	9.72	7.73	19.3	38.0	17.3	33.1	1.56	4.19	3.47	4.72	10.9	4.96	1.59	139
Mar	16.8	15.6	39.2	24.2	50.7	19.9	3.30	8.54	8.11	3.42	24.1	4.62	2.62	143
Apr	12.2	11.3	24.7	17.0	33.3	15.6	1.35	7.31	6.98	2.99	11.4	4.94	1.60	210
May	10.7	9.99	23.4	15.4	25.8	12.2	1.70	6.57	6.30	2.16	19.4	4.71	1.40	397
June	6.39	5.92	13.7	11.7	13.6	7.79	0.343	12.8	12.6	2.00	3.92	5.41	0.903	339
July	7.88	5.80	12.2	40.5	10.2	34.6	1.60	9.58	8.84	5.93	1.02	5.99	1.04	304
Aug	6.46	5.01	12.2	29.0	12.2	24.0	1.24	5.41	4.89	4.19	2.96	5.53	1.12	326
Sept	17.0	15.8	48.5	24.0	39.8	18.9	1.80	9.01	8.60	3.52	25.1	4.60	2.62	93.5
Oct	36.8	33.5	86.8	57.3	73.7	55.3	3.88	11.0	9.83	7.43	63.5	4.20	4.89	37.0
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Annual	10.2	8.94	21.6	24.4	22.7	20.3	1.49	8.15	7.71	3.56	11.3	4.95	1.46	1988
Max.	85.2	76.8	223	460	233	395	12.0	78.3	77.6	48.1	100	6.75	8.62	
Min.	2.81	2.58	5.48	5.36	<0.8	1.30	<0.3	1.25	1.19	0.823	0.178	4.00	0.375	

Wet deposition amount

2019	SO ₄ ²⁻ mmol m ⁻²	nss-SO ₄ ²⁻ mmol m ⁻²	NO ₃ ⁻ mmol m ⁻²	Cl ⁻ mmol m ⁻²	NH ₄ ⁺ mmol m ⁻²	Na ⁺ mmol m ⁻²	K ⁺ mmol m ⁻²	Ca ²⁺ mmol m ⁻²	nss-Ca ²⁺ mmol m ⁻²	Mg ²⁺ mmol m ⁻²	H ⁺ mmol m ⁻²
Jan	0.0300	0.0271	0.171	0.0288	0.103	0.0483	<0.01	0.0162	0.0152	<0.01	0.100
Feb	1.35	1.07	2.69	5.28	2.40	4.60	0.218	0.582	0.483	0.657	1.51
Mar	2.40	2.22	5.58	3.45	7.23	2.83	0.471	1.22	1.16	0.488	3.43
Apr	2.57	2.37	5.19	3.57	6.98	3.28	0.284	1.54	1.47	0.629	2.39
May	4.25	3.96	9.27	6.10	10.2	4.85	0.675	2.60	2.50	0.855	7.71
June	2.16	2.01	4.64	3.95	4.61	2.64	0.116	4.32	4.26	0.676	1.33
July	2.39	1.76	3.71	12.3	3.11	10.5	0.486	2.91	2.68	1.80	0.309
Aug	2.11	1.63	3.96	9.46	3.98	7.81	0.405	1.76	1.60	1.37	0.966
Sept	1.59	1.48	4.53	2.24	3.72	1.77	0.168	0.843	0.805	0.329	2.35
Oct	1.36	1.24	3.21	2.12	2.73	2.05	0.143	0.408	0.364	0.275	2.35
Nov	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dec	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	20.2	17.8	43.0	48.5	45.1	40.4	2.97	16.2	15.3	7.08	22.4

Data completeness

2019	SO ₄ ²⁻ %TP	nss-SO ₄ ²⁻ %TP	NO ₃ ⁻ %TP	Cl ⁻ %TP	NH ₄ ⁺ %TP	Na ⁺ %TP	K ⁺ %TP	Ca ²⁺ %TP	nss-Ca ²⁺ %TP	Mg ²⁺ %TP	H ⁺ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Annual	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Terms and abbreviations are given in Table 3.5.

Table 3.16 Monthly results

Site: Zhuxiandong

Country: China

Precipitation amount-weighted average concentration/ Precipitation amount

2019	SO ₄ ²⁻ μmol L ⁻¹	nss-SO ₄ ²⁻ μmol L ⁻¹	NO ₃ ⁻ μmol L ⁻¹	Cl ⁻ μmol L ⁻¹	NH ₄ ⁺ μmol L ⁻¹	Na ⁺ μmol L ⁻¹	K ⁺ μmol L ⁻¹	Ca ²⁺ μmol L ⁻¹	nss-Ca ²⁺ μmol L ⁻¹	Mg ²⁺ μmol L ⁻¹	H ⁺ μmol L ⁻¹	pH	EC mS m ⁻¹	Precip. mm month ⁻¹ or mm year ⁻¹
Jan	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Feb	14.7	11.6	28.0	57.2	21.4	51.0	2.47	10.0	8.90	7.32	9.83	5.01	2.06	125
Mar	19.9	18.2	44.0	32.3	54.8	27.0	3.28	13.0	12.4	4.63	17.8	4.75	2.47	176
Apr	13.1	12.1	25.4	20.3	28.9	16.6	1.48	11.9	11.5	3.28	11.3	4.95	1.67	258
May	13.5	12.3	31.9	23.3	28.2	19.7	1.90	15.7	15.2	3.05	16.3	4.79	1.73	318
June	8.66	7.69	20.1	19.6	14.5	16.0	1.33	8.64	8.29	2.66	7.81	5.11	1.19	281
July	7.63	5.32	11.6	45.8	5.85	38.4	1.61	8.44	7.61	6.18	2.79	5.55	1.19	254
Aug	7.71	6.66	13.1	22.1	14.2	17.4	1.33	8.20	7.82	3.56	2.80	5.55	1.01	448
Sept	10.0	9.00	26.1	22.2	18.9	16.8	2.37	12.0	11.6	3.88	5.91	5.23	1.24	146
Oct	25.0	22.4	47.3	48.1	49.7	44.0	3.32	11.0	10.1	6.58	26.4	4.58	2.71	101
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Annual	11.8	10.3	24.2	28.8	23.0	24.0	1.87	10.8	10.3	4.12	9.55	5.02	1.53	2105
Max.	87.1	85.7	214	288	231	250	36.1	147	147	30.4	79.4	6.75	8.70	
Min.	3.12	2.83	5.16	6.21	<0.8	2.17	<0.3	2.50	2.39	0.411	0.178	4.10	0.373	

Wet deposition amount

2019	SO ₄ ²⁻ mmol m ⁻²	nss-SO ₄ ²⁻ mmol m ⁻²	NO ₃ ⁻ mmol m ⁻²	Cl ⁻ mmol m ⁻²	NH ₄ ⁺ mmol m ⁻²	Na ⁺ mmol m ⁻²	K ⁺ mmol m ⁻²	Ca ²⁺ mmol m ⁻²	nss-Ca ²⁺ mmol m ⁻²	Mg ²⁺ mmol m ⁻²	H ⁺ mmol m ⁻²
Jan	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Feb	1.83	1.45	3.49	7.12	2.66	6.36	0.307	1.24	1.11	0.911	1.22
Mar	3.49	3.20	7.72	5.67	9.61	4.74	0.576	2.28	2.18	0.812	3.12
Apr	3.37	3.11	6.54	5.23	7.45	4.28	0.382	3.07	2.97	0.845	2.91
May	4.28	3.90	10.2	7.40	8.97	6.26	0.604	4.98	4.85	0.969	5.18
June	2.43	2.16	5.65	5.50	4.07	4.50	0.373	2.43	2.33	0.747	2.20
July	1.94	1.35	2.96	11.6	1.49	9.75	0.410	2.14	1.93	1.57	0.709
Aug	3.45	2.98	5.89	9.91	6.37	7.80	0.596	3.67	3.51	1.59	1.25
Sept	1.46	1.31	3.81	3.25	2.76	2.45	0.346	1.75	1.70	0.566	0.862
Oct	2.51	2.25	4.76	4.83	4.99	4.42	0.334	1.11	1.01	0.661	2.65
Nov	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dec	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	24.8	21.7	51.0	60.5	48.4	50.5	3.93	22.7	21.6	8.67	20.1

Data completeness

2019	SO ₄ ²⁻ %TP	nss-SO ₄ ²⁻ %TP	NO ₃ ⁻ %TP	Cl ⁻ %TP	NH ₄ ⁺ %TP	Na ⁺ %TP	K ⁺ %TP	Ca ²⁺ %TP	nss-Ca ²⁺ %TP	Mg ²⁺ %TP	H ⁺ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Annual	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Terms and abbreviations are given in Table 3.5.

Table 3.17 Monthly results

Site: Wuzhishan

Country: China

Precipitation amount-weighted average concentration/ Precipitation amount

2019	SO ₄ ²⁻ μmol L ⁻¹	nss-SO ₄ ²⁻ μmol L ⁻¹	NO ₃ ⁻ μmol L ⁻¹	Cl ⁻ μmol L ⁻¹	NH ₄ ⁺ μmol L ⁻¹	Na ⁺ μmol L ⁻¹	K ⁺ μmol L ⁻¹	Ca ²⁺ μmol L ⁻¹	nss-Ca ²⁺ μmol L ⁻¹	Mg ²⁺ μmol L ⁻¹	H ⁺ μmol L ⁻¹	pH	EC mS m ⁻¹	Precip. mm month ⁻¹ or mm year ⁻¹
Jan	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Feb	70.6	68.6	32.2	25.5	62.6	33.4	13.6	44.2	43.4	8.41	1.12	5.95	0.110	27.7
Mar	83.5	80.1	38.5	27.2	71.5	56.2	17.2	45.7	44.5	11.0	1.35	5.87	4.17	10.6
Apr	18.6	17.6	11.4	14.8	6.85	16.3	5.38	16.0	15.7	2.82	1.62	5.79	1.76	100
May	10.8	9.92	20.5	9.15	43.1	14.2	6.43	33.2	32.9	3.99	0.530	6.28	1.52	226
June	5.98	5.47	10.8	7.07	16.8	8.48	3.37	7.70	7.61	8.01	0.555	6.26	0.749	99.7
July	1.91	1.59	5.73	4.47	5.92	5.33	1.25	5.14	5.03	0.946	0.786	6.10	0.385	205
Aug	2.14	1.85	6.23	5.13	7.17	4.80	1.37	3.25	3.14	0.695	1.34	5.87	0.371	405
Sept	1.26	1.14	4.17	2.96	6.78	1.95	0.950	2.21	2.17	<0.3	1.66	5.78	0.242	295
Oct	5.22	4.28	10.3	14.5	8.81	15.7	2.30	8.66	8.32	1.79	1.01	6.00	0.536	93.4
Nov	8.72	7.44	2.91	20.1	15.3	21.3	3.05	1.45	0.994	12.5	1.09	5.96	3.24	32.0
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Annual	6.78	6.26	9.44	7.43	14.7	8.68	2.87	10.3	10.2	2.30	1.14	5.94	0.733	1495
Max.	83.5	80.1	79.7	124	116	135	18.7	130	130	53.1	9.33	7.64	6.60	
Min.	<0.3	<0.3	1.20	1.10	<0.8	<0.3	<0.3	<0.2	<0.2	<0.3	0.0229	5.03	0.110	

Wet deposition amount

2019	SO ₄ ²⁻ mmol m ⁻²	nss-SO ₄ ²⁻ mmol m ⁻²	NO ₃ ⁻ mmol m ⁻²	Cl ⁻ mmol m ⁻²	NH ₄ ⁺ mmol m ⁻²	Na ⁺ mmol m ⁻²	K ⁺ mmol m ⁻²	Ca ²⁺ mmol m ⁻²	nss-Ca ²⁺ mmol m ⁻²	Mg ²⁺ mmol m ⁻²	H ⁺ mmol m ⁻²
Jan	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Feb	1.95	1.90	0.892	0.707	1.73	0.925	0.376	1.22	1.20	0.233	0.0311
Mar	0.885	0.849	0.409	0.288	0.758	0.595	0.182	0.484	0.471	0.117	0.0143
Apr	1.87	1.77	1.14	1.49	0.687	1.64	0.540	1.61	1.57	0.283	0.162
May	2.43	2.24	4.62	2.07	9.72	3.21	1.45	7.50	7.43	0.901	0.120
June	0.596	0.545	1.07	0.705	1.67	0.846	0.336	0.767	0.759	0.799	0.0553
July	0.393	0.327	1.18	0.917	1.22	1.09	0.256	1.06	1.03	0.194	0.162
Aug	0.867	0.749	2.52	2.08	2.91	1.95	0.557	1.32	1.27	0.282	0.545
Sept	0.372	0.337	1.23	0.872	2.00	0.575	0.280	0.653	0.641	0.0612	0.489
Oct	0.488	0.400	0.958	1.36	0.823	1.47	0.214	0.809	0.777	0.167	0.0941
Nov	0.279	0.238	0.0930	0.642	0.488	0.681	0.0976	0.0465	0.0318	0.401	0.0347
Dec	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	10.1	9.35	14.1	11.1	22.0	13.0	4.29	15.5	15.2	3.44	1.71

Data completeness

2019	SO ₄ ²⁻ %TP	nss-SO ₄ ²⁻ %TP	NO ₃ ⁻ %TP	Cl ⁻ %TP	NH ₄ ⁺ %TP	Na ⁺ %TP	K ⁺ %TP	Ca ²⁺ %TP	nss-Ca ²⁺ %TP	Mg ²⁺ %TP	H ⁺ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	96.3	96.3	96.3	100
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Annual	100	100	100	100	100	100	100	100	100	100	99.8	99.8	99.8	100

Terms and abbreviations are given in Table 3.5.

Table 3.18 Monthly results

Site: Lijiang

Country: China

Precipitation amount-weighted average concentration/ Precipitation amount

2019	SO ₄ ²⁻ μmol L ⁻¹	nss-SO ₄ ²⁻ μmol L ⁻¹	NO ₃ ⁻ μmol L ⁻¹	Cl ⁻ μmol L ⁻¹	NH ₄ ⁺ μmol L ⁻¹	Na ⁺ μmol L ⁻¹	K ⁺ μmol L ⁻¹	Ca ²⁺ μmol L ⁻¹	nss-Ca ²⁺ μmol L ⁻¹	Mg ²⁺ μmol L ⁻¹	H ⁺ μmol L ⁻¹	pH	EC mS m ⁻¹	Precip. mm month ⁻¹ or mm year ⁻¹
Jan	0.948	0.836	<0.5	4.56	41.5	1.86	2.85	2.23	2.19	<0.3	0.122	6.91	8.29	11.5
Feb	0.700	0.646	<0.5	1.20	32.0	0.900	1.00	0.500	0.481	<0.3	0.871	6.06	7.00	6.4
Mar	1.70	1.58	<0.5	2.11	44.4	1.97	2.68	1.97	1.93	1.97	0.341	6.47	8.53	13.6
Apr	10.3	10.0	<0.5	6.69	60.7	3.40	10.6	34.0	33.9	1.85	0.582	6.24	21.2	9.8
May	--	--	--	--	--	--	--	--	--	--	--	--	--	0
June	1.84	1.42	0.585	4.50	10.5	8.41	0.745	20.7	20.6	2.37	0.233	6.63	0.637	51.6
July	<0.3	<0.3	6.20	4.98	6.79	9.40	2.02	35.9	35.7	7.26	1.02	5.99	0.574	170
Aug	<0.3	<0.3	5.42	2.74	10.0	7.52	0.723	19.0	18.9	3.81	0.380	6.42	0.535	112
Sept	<0.3	<0.3	3.27	<0.5	9.93	15.3	0.877	16.8	16.4	4.79	0.181	6.74	0.684	73.3
Oct	<0.3	<0.3	5.11	2.51	2.55	5.23	1.20	14.1	14.0	2.58	0.182	6.74	0.979	60.4
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Annual	0.460	0.407	4.42	3.38	11.0	8.65	1.53	23.1	22.9	4.59	0.529	6.28	1.50	508
Max.	13.8	13.6	23.3	31.9	98.0	87.0	26.4	65.5	65.2	32.9	5.01	7.26	28.3	
Min.	<0.3	<0.3	<0.5	<0.5	<0.8	<0.3	<0.3	0.500	0.481	<0.3	0.0550	5.30	0.110	

Wet deposition amount

2019	SO ₄ ²⁻ mmol m ⁻²	nss-SO ₄ ²⁻ mmol m ⁻²	NO ₃ ⁻ mmol m ⁻²	Cl ⁻ mmol m ⁻²	NH ₄ ⁺ mmol m ⁻²	Na ⁺ mmol m ⁻²	K ⁺ mmol m ⁻²	Ca ²⁺ mmol m ⁻²	nss-Ca ²⁺ mmol m ⁻²	Mg ²⁺ mmol m ⁻²	H ⁺ mmol m ⁻²
Jan	0.0109	<0.01	<0.01	0.0524	0.477	0.0214	0.0328	0.0257	0.0252	<0.01	<0.01
Feb	<0.01	<0.01	<0.01	<0.01	0.205	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Mar	0.0231	0.0215	<0.01	0.0288	0.603	0.0268	0.0365	0.0268	0.0262	0.0268	<0.01
Apr	0.100	0.0985	<0.01	0.0655	0.595	0.0333	0.104	0.333	0.332	0.0181	<0.01
May	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
June	0.0947	0.0732	0.0302	0.232	0.543	0.434	0.0384	1.07	1.06	0.122	0.0120
July	<0.01	<0.01	1.05	0.844	1.15	1.60	0.343	6.09	6.05	1.23	0.173
Aug	<0.01	<0.01	0.606	0.306	1.12	0.841	0.0809	2.13	2.11	0.426	0.0425
Sept	<0.01	<0.01	0.240	0.0294	0.728	1.12	0.0643	1.23	1.20	0.351	0.0132
Oct	<0.01	<0.01	0.308	0.152	0.154	0.316	0.0722	0.850	0.843	0.156	0.0110
Nov	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dec	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	0.234	0.207	2.25	1.72	5.58	4.40	0.778	11.8	11.7	2.33	0.269

Data completeness

2019	SO ₄ ²⁻ %TP	nss-SO ₄ ²⁻ %TP	NO ₃ ⁻ %TP	Cl ⁻ %TP	NH ₄ ⁺ %TP	Na ⁺ %TP	K ⁺ %TP	Ca ²⁺ %TP	nss-Ca ²⁺ %TP	Mg ²⁺ %TP	H ⁺ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	--	--	--	--	--	--	--	--	--	--	--	--	--	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Annual	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Terms and abbreviations are given in Table 3.5.

Table 3.19 Monthly results

Site: Jakarta

Country: Indonesia

Precipitation amount-weighted average concentration/ Precipitation amount

2019	SO ₄ ²⁻ μmol L ⁻¹	nss-SO ₄ ²⁻ μmol L ⁻¹	NO ₃ ⁻ μmol L ⁻¹	Cl ⁻ μmol L ⁻¹	NH ₄ ⁺ μmol L ⁻¹	Na ⁺ μmol L ⁻¹	K ⁺ μmol L ⁻¹	Ca ²⁺ μmol L ⁻¹	nss-Ca ²⁺ μmol L ⁻¹	Mg ²⁺ μmol L ⁻¹	H ⁺ μmol L ⁻¹	pH	EC mS m ⁻¹	Precip. mm month ⁻¹ or mm year ⁻¹
Jan	20.8	20.2	18.7	18.0	15.6	9.23	0.905	8.15	7.96	2.05	10.8	4.97	1.66	400
Feb	20.7	20.3	21.2	10.2	28.3	7.88	0.805	6.93	6.76	1.31	11.8	4.93	1.46	236
Mar	17.2	16.9	15.9	9.39	23.3	6.21	0.772	13.4	13.2	1.37	7.15	5.15	1.08	287
Apr	34.9	34.2	40.9	14.7	47.2	10.6	1.70	9.90	9.67	2.32	36.0	4.44	2.71	185
May	53.8	52.8	71.0	26.0	61.9	16.8	2.44	17.3	16.9	3.76	54.2	4.27	4.11	57.6
June	35.1	32.9	51.3	42.7	78.9	37.3	5.24	54.2	53.4	3.13	8.22	5.09	2.60	23.1
July	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Aug	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Sept	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Oct	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Nov	43.5	42.5	72.4	24.1	66.8	18.0	4.21	26.3	25.9	4.29	12.3	4.91	3.34	65.0
Dec	27.5	27.1	15.2	13.1	25.5	7.32	1.84	5.34	5.19	1.26	8.72	5.06	1.60	246
Annual	25.4	24.8	25.6	14.9	29.6	9.40	1.38	10.6	10.4	1.88	14.7	4.83	1.82	1500
Max.	147	142	240	190	256	101	40.9	217	215	23.6	67.6	6.34	9.80	
Min.	11.0	10.5	<0.5	4.20	<0.8	0.357	<0.3	1.24	1.24	<0.3	0.457	4.17	0.809	

Wet deposition amount

2019	SO ₄ ²⁻ mmol m ⁻²	nss-SO ₄ ²⁻ mmol m ⁻²	NO ₃ ⁻ mmol m ⁻²	Cl ⁻ mmol m ⁻²	NH ₄ ⁺ mmol m ⁻²	Na ⁺ mmol m ⁻²	K ⁺ mmol m ⁻²	Ca ²⁺ mmol m ⁻²	nss-Ca ²⁺ mmol m ⁻²	Mg ²⁺ mmol m ⁻²	H ⁺ mmol m ⁻²
Jan	8.31	8.08	7.47	7.20	6.23	3.69	0.362	3.26	3.18	0.819	4.33
Feb	4.89	4.78	5.01	2.41	6.67	1.86	0.190	1.63	1.59	0.308	2.79
Mar	4.95	4.85	4.58	2.70	6.69	1.78	0.222	3.84	3.80	0.393	2.05
Apr	6.44	6.32	7.56	2.71	8.72	1.96	0.315	1.83	1.79	0.428	6.65
May	3.10	3.04	4.09	1.50	3.57	0.969	0.141	0.994	0.973	0.216	3.12
June	0.811	0.759	1.18	0.987	1.82	0.863	0.121	1.25	1.23	0.0724	0.190
July	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sept	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Oct	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nov	2.83	2.76	4.70	1.57	4.35	1.17	0.273	1.71	1.68	0.279	0.802
Dec	6.76	6.65	3.74	3.22	6.27	1.80	0.453	1.31	1.28	0.310	2.14
Annual	38.1	37.2	38.3	22.3	44.3	14.1	2.08	15.8	15.5	2.83	22.1

Data completeness

2019	SO ₄ ²⁻ %TP	nss-SO ₄ ²⁻ %TP	NO ₃ ⁻ %TP	Cl ⁻ %TP	NH ₄ ⁺ %TP	Na ⁺ %TP	K ⁺ %TP	Ca ²⁺ %TP	nss-Ca ²⁺ %TP	Mg ²⁺ %TP	H ⁺ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Aug	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Sept	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Oct	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Terms and abbreviations are given in Table 3.5.

Table 3.20 Monthly results

Site: Serpong

Country: Indonesia

Precipitation amount-weighted average concentration/ Precipitation amount

2019	SO ₄ ²⁻ μmol L ⁻¹	nss-SO ₄ ²⁻ μmol L ⁻¹	NO ₃ ⁻ μmol L ⁻¹	Cl ⁻ μmol L ⁻¹	NH ₄ ⁺ μmol L ⁻¹	Na ⁺ μmol L ⁻¹	K ⁺ μmol L ⁻¹	Ca ²⁺ μmol L ⁻¹	nss-Ca ²⁺ μmol L ⁻¹	Mg ²⁺ μmol L ⁻¹	H ⁺ μmol L ⁻¹	pH	EC mS m ⁻¹	Precip. mm month ⁻¹ or mm year ⁻¹
Jan	24.4	23.3	22.1	25.7	49.7	17.3	4.24	11.7	11.3	2.59	4.77	5.32	1.47	343
Feb	28.7	28.1	27.0	18.0	53.4	9.93	2.23	12.0	11.8	2.83	13.0	4.89	1.84	299
Mar	23.6	22.6	26.1	42.3	58.0	17.5	25.6	12.2	11.8	3.46	8.95	5.05	2.31	173
Apr	32.7	31.4	38.1	24.1	59.6	21.4	13.5	9.68	9.21	4.05	18.7	4.73	2.63	408
May	35.9	34.9	42.4	25.9	78.2	17.0	5.96	14.7	14.3	3.17	12.1	4.92	2.68	246
June	51.4	49.4	82.0	35.1	132	33.9	17.0	46.2	45.5	7.19	0.158	6.80	3.80	41.5
July	61.2	58.6	81.7	120	134	42.5	83.6	62.0	61.1	10.7	0.423	6.37	5.50	46.9
Aug	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Sept	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Oct	115	113	186	114	169	36.8	43.9	130	129	23.4	2.41	5.62	8.51	31.7
Nov	59.8	58.4	89.2	43.2	87.5	22.9	24.7	50.5	50.0	5.24	13.1	4.88	4.11	169
Dec	28.1	27.5	31.7	22.5	67.6	9.35	5.72	8.49	8.29	5.79	6.90	5.16	1.89	440
Annual	33.8	32.8	40.1	29.9	67.4	17.0	11.9	17.5	17.1	4.43	10.5	4.98	2.46	2199
Max.	241	233	418	607	407	135	462	239	237	69.1	61.7	7.75	18.9	
Min.	5.00	4.35	3.40	6.80	11.3	0.838	0.892	<0.2	<0.2	<0.3	0.0178	4.21	0.650	

Wet deposition amount

2019	SO ₄ ²⁻ mmol m ⁻²	nss-SO ₄ ²⁻ mmol m ⁻²	NO ₃ ⁻ mmol m ⁻²	Cl ⁻ mmol m ⁻²	NH ₄ ⁺ mmol m ⁻²	Na ⁺ mmol m ⁻²	K ⁺ mmol m ⁻²	Ca ²⁺ mmol m ⁻²	nss-Ca ²⁺ mmol m ⁻²	Mg ²⁺ mmol m ⁻²	H ⁺ mmol m ⁻²
Jan	8.37	8.01	7.57	8.82	17.1	5.95	1.45	4.02	3.89	0.889	1.64
Feb	8.60	8.42	8.08	5.39	16.0	2.97	0.669	3.59	3.52	0.848	3.89
Mar	4.09	3.90	4.52	7.32	10.0	3.03	4.43	2.11	2.05	0.598	1.55
Apr	13.4	12.8	15.5	9.84	24.3	8.76	5.51	3.95	3.76	1.65	7.63
May	8.84	8.59	10.4	6.38	19.3	4.19	1.47	3.62	3.53	0.782	2.99
June	2.13	2.05	3.40	1.46	5.50	1.41	0.708	1.92	1.89	0.299	<0.01
July	2.87	2.75	3.83	5.63	6.28	1.99	3.92	2.90	2.86	0.503	0.0198
Aug	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sept	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Oct	3.63	3.56	5.90	3.62	5.34	1.17	1.39	4.12	4.10	0.739	0.0762
Nov	10.1	9.86	15.1	7.29	14.8	3.87	4.17	8.52	8.44	0.885	2.21
Dec	12.3	12.1	13.9	9.91	29.7	4.11	2.52	3.73	3.64	2.55	3.04
Annual	74.3	72.1	88.3	65.7	148	37.5	26.2	38.5	37.7	9.74	23.1

Data completeness

2019	SO ₄ ²⁻ %TP	nss-SO ₄ ²⁻ %TP	NO ₃ ⁻ %TP	Cl ⁻ %TP	NH ₄ ⁺ %TP	Na ⁺ %TP	K ⁺ %TP	Ca ²⁺ %TP	nss-Ca ²⁺ %TP	Mg ²⁺ %TP	H ⁺ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Sept	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Terms and abbreviations are given in Table 3.5.

Table 3.21 Monthly results

Site: Kototabang

Country: Indonesia

Precipitation amount-weighted average concentration/ Precipitation amount

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺	pH	EC	Precip.
2019	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹		mS m ⁻¹	mm month ⁻¹ or mm year ⁻¹
Jan	4.46	4.16	6.45	5.17	5.82	4.89	1.33	3.91	3.81	0.836	6.25	5.20	0.485	272
Feb	5.18	5.04	5.79	3.70	2.41	2.33	1.20	10.7	10.7	0.781	8.33	5.08	0.607	194
Mar	9.01	8.41	6.15	10.1	13.8	9.92	4.56	13.1	12.9	1.61	5.40	5.27	0.796	78.2
Apr	3.69	3.59	4.70	2.62	2.73	1.60	1.34	62.5	62.5	0.581	1.07	5.97	0.495	266
May	5.82	5.35	10.8	3.72	9.53	7.85	4.83	83.9	83.8	0.541	2.20	5.66	0.851	140
June	4.50	4.28	3.80	4.18	2.16	3.61	1.06	68.8	68.7	0.570	4.18	5.38	0.612	190
July	11.7	11.2	8.00	6.95	7.09	8.37	3.61	72.3	72.1	0.751	2.75	5.56	0.836	91.5
Aug	9.18	8.28	7.30	11.2	9.36	14.9	8.56	116	115	1.34	2.17	5.66	1.30	60.7
Sept	15.9	14.9	24.6	15.1	30.6	17.0	5.11	55.1	54.8	2.64	2.53	5.60	1.77	60.0
Oct	9.28	8.98	9.24	5.43	20.3	5.03	2.50	3.98	3.87	0.698	5.40	5.27	0.764	307
Nov	5.69	5.52	8.25	5.58	5.23	2.87	2.63	1.66	1.60	0.477	3.05	5.52	0.574	203
Dec	6.96	6.84	8.14	9.66	2.58	2.02	5.47	6.84	6.80	0.303	3.88	5.41	0.517	272
Annual	6.58	6.30	7.60	5.89	7.80	4.75	2.87	30.9	30.8	0.724	4.21	5.38	0.671	2134
Max.	33.9	31.5	54.6	52.7	52.0	84.7	21.6	388	386	7.00	10.0	6.23	4.46	
Min.	2.85	2.76	<0.5	1.65	<0.8	0.443	0.553	1.02	0.938	<0.3	0.596	5.00	0.330	

Wet deposition amount

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺
2019	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²
Jan	1.21	1.13	1.75	1.41	1.58	1.33	0.361	1.06	1.04	0.227	1.70
Feb	1.01	0.979	1.13	0.719	0.469	0.452	0.233	2.08	2.07	0.152	1.62
Mar	0.704	0.658	0.481	0.787	1.08	0.776	0.357	1.02	1.01	0.126	0.422
Apr	0.979	0.953	1.25	0.696	0.726	0.424	0.355	16.6	16.6	0.154	0.285
May	0.815	0.749	1.52	0.521	1.33	1.10	0.676	11.8	11.7	0.0757	0.309
June	0.857	0.815	0.723	0.795	0.411	0.688	0.202	13.1	13.1	0.109	0.795
July	1.07	1.02	0.732	0.636	0.648	0.766	0.330	6.62	6.60	0.0687	0.251
Aug	0.557	0.503	0.443	0.679	0.568	0.905	0.520	7.02	7.00	0.0811	0.132
Sept	0.956	0.895	1.47	0.905	1.84	1.02	0.306	3.31	3.29	0.158	0.152
Oct	2.85	2.75	2.83	1.66	6.22	1.54	0.768	1.22	1.19	0.214	1.66
Nov	1.16	1.12	1.67	1.13	1.06	0.583	0.533	0.336	0.324	0.0969	0.618
Dec	1.89	1.86	2.21	2.62	0.700	0.548	1.49	1.86	1.85	0.0823	1.05
Annual	14.0	13.4	16.2	12.6	16.6	10.1	6.13	66.0	65.8	1.55	8.99

Data completeness

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺	pH	EC	Precip.
2019	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%PCL
Jan	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Terms and abbreviations are given in Table 3.5.

Table 3.22 Monthly results

Site: Bandung

Country: Indonesia

Precipitation amount-weighted average concentration/ Precipitation amount

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺	pH	EC	Precip.
2019	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹		mS m ⁻¹	mm month ⁻¹ or mm year ⁻¹
Jan	26.2	25.7	18.9	11.5	46.3	8.80	1.98	20.9	20.7	4.85	0.387	6.41	1.41	245
Feb	29.4	27.2	22.8	17.5	34.6	35.8	3.05	10.4	9.66	2.55	2.00	5.70	1.50	208
Mar	34.2	32.0	27.0	17.9	41.5	35.4	3.62	13.9	13.2	3.36	1.08	5.97	1.77	196
Apr	27.2	25.5	21.4	15.1	36.4	27.4	2.07	11.1	10.5	2.28	1.54	5.81	1.46	203
May	40.4	38.1	29.6	22.3	93.6	37.5	3.45	13.0	12.2	3.40	0.905	6.04	2.30	233
June	--	--	--	--	--	--	--	--	--	--	--	--	--	0
July	69.2	65.3	55.3	34.2	187	64.5	12.8	17.4	16.0	4.26	0.158	6.80	3.64	10.0
Aug	227	221	151	117	505	107	48.6	79.4	77.1	23.4	0.123	6.91	12.2	1.5
Sept	93.7	89.6	72.3	44.7	221	67.7	15.9	70.7	69.2	9.90	0.0520	7.28	5.83	31.5
Oct	63.3	58.3	63.8	51.7	142	84.0	19.4	27.6	25.8	11.5	0.158	6.80	4.58	30.6
Nov	70.8	68.1	66.1	33.1	172	44.3	8.11	28.6	27.6	7.65	0.297	6.53	4.09	229
Dec	54.7	48.9	47.5	23.3	47.7	97.2	5.44	26.4	24.3	6.77	0.956	6.02	2.84	301
Annual	43.1	40.4	35.8	21.5	73.2	44.8	4.65	19.6	18.7	4.83	0.953	6.02	2.37	1689
Max.	227	221	190	117	505	323	48.6	118	112	28.5	9.12	7.32	12.2	
Min.	13.9	12.8	8.88	5.43	8.83	3.53	0.755	2.75	2.12	0.617	0.0479	5.04	0.800	

Wet deposition amount

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺
2019	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²
Jan	6.42	6.29	4.63	2.82	11.3	2.16	0.486	5.12	5.07	1.19	0.0948
Feb	6.12	5.67	4.75	3.64	7.21	7.46	0.635	2.17	2.01	0.531	0.417
Mar	6.70	6.28	5.30	3.50	8.13	6.94	0.710	2.73	2.58	0.658	0.211
Apr	5.51	5.18	4.33	3.06	7.39	5.54	0.420	2.24	2.12	0.462	0.311
May	9.42	8.89	6.90	5.20	21.8	8.73	0.805	3.04	2.85	0.792	0.211
June	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
July	0.692	0.653	0.553	0.342	1.87	0.645	0.128	0.174	0.160	0.0426	<0.01
Aug	0.341	0.331	0.227	0.175	0.757	0.161	0.0729	0.119	0.116	0.0352	<0.01
Sept	2.95	2.82	2.28	1.41	6.97	2.13	0.500	2.23	2.18	0.312	<0.01
Oct	1.94	1.78	1.95	1.58	4.34	2.57	0.595	0.844	0.788	0.351	<0.01
Nov	16.2	15.6	15.2	7.60	39.5	10.2	1.86	6.55	6.33	1.75	0.0681
Dec	16.5	14.7	14.3	7.00	14.3	29.2	1.64	7.94	7.30	2.04	0.288
Annual	72.8	68.2	60.4	36.3	124	75.7	7.85	33.2	31.5	8.16	1.61

Data completeness

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺	pH	EC	Precip.
2019	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%PCL
Jan	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	--	--	--	--	--	--	--	--	--	--	--	--	--	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Terms and abbreviations are given in Table 3.5.

Table 3.23 Monthly results

Site: Maros

Country: Indonesia

Precipitation amount-weighted average concentration/ Precipitation amount

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺	pH	EC	Precip.
2019	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹		mS m ⁻¹	mm month ⁻¹ or mm year ⁻¹
Jan	5.52	3.91	1.28	28.2	<0.8	26.8	1.74	5.24	4.66	3.28	17.8	4.75	1.19	734
Feb	4.81	4.05	<0.5	13.4	<0.8	12.6	0.895	7.23	6.96	1.91	12.6	4.90	0.855	169
Mar	7.13	6.19	1.59	18.7	4.93	15.7	3.39	17.8	17.5	1.57	4.67	5.33	0.807	215
Apr	4.95	4.58	2.24	9.54	1.27	6.17	4.49	52.6	52.5	1.25	8.37	5.08	0.658	198
May	5.48	4.97	6.24	10.9	11.9	8.45	0.712	51.1	50.9	1.41	8.04	5.10	0.651	53.0
June	8.21	7.77	<0.5	19.4	<0.8	7.29	3.32	40.9	40.7	2.62	2.11	5.68	0.889	80.8
July	12.4	10.8	<0.5	25.0	2.44	26.6	8.07	139	138	12.2	1.55	5.81	3.00	4.3
Aug	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Sept	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Oct	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Nov	28.0	23.9	<0.5	74.8	<0.8	67.4	22.4	71.6	70.1	8.80	1.66	5.78	2.52	5.0
Dec	15.2	14.2	15.5	19.5	9.19	15.8	7.26	36.7	36.3	2.96	3.04	5.52	1.37	205
Annual	6.99	5.86	3.16	21.3	2.61	18.7	3.00	20.3	19.9	2.59	11.5	4.94	1.04	1663
Max.	28.0	23.9	22.0	74.8	29.5	67.4	22.4	139	138	12.2	43.7	6.02	3.00	
Min.	4.00	3.08	<0.5	6.56	<0.8	5.15	0.710	3.13	2.23	0.974	0.955	4.36	0.423	

Wet deposition amount

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺
2019	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²
Jan	4.05	2.87	0.941	20.7	0.453	19.6	1.28	3.84	3.42	2.41	13.1
Feb	0.813	0.684	0.0163	2.26	0.0359	2.13	0.151	1.22	1.18	0.323	2.13
Mar	1.53	1.33	0.342	4.01	1.06	3.37	0.727	3.83	3.75	0.338	1.00
Apr	0.981	0.908	0.445	1.89	0.251	1.22	0.891	10.4	10.4	0.247	1.66
May	0.291	0.264	0.331	0.578	0.629	0.448	0.0378	2.71	2.70	0.0748	0.426
June	0.664	0.628	<0.01	1.56	0.0164	0.589	0.268	3.30	3.29	0.212	0.171
July	0.0535	0.0466	<0.01	0.107	0.0105	0.114	0.0347	0.598	0.595	0.0526	<0.01
Aug	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sept	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Oct	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nov	0.140	0.120	<0.01	0.374	<0.01	0.337	0.112	0.358	0.351	0.0440	<0.01
Dec	3.10	2.91	3.18	3.99	1.88	3.24	1.49	7.50	7.43	0.606	0.621
Annual	11.6	9.75	5.26	35.5	4.33	31.1	4.98	33.8	33.1	4.30	19.1

Data completeness

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺	pH	EC	Precip.
2019	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%PCL
Jan	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Sept	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Oct	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Terms and abbreviations are given in Table 3.5.

Table 3.24 Monthly results

Site: Jembrana

Country: Indonesia

Precipitation amount-weighted average concentration/ Precipitation amount

2019	SO ₄ ²⁻ μmol L ⁻¹	nss-SO ₄ ²⁻ μmol L ⁻¹	NO ₃ ⁻ μmol L ⁻¹	Cl ⁻ μmol L ⁻¹	NH ₄ ⁺ μmol L ⁻¹	Na ⁺ μmol L ⁻¹	K ⁺ μmol L ⁻¹	Ca ²⁺ μmol L ⁻¹	nss-Ca ²⁺ μmol L ⁻¹	Mg ²⁺ μmol L ⁻¹	H ⁺ μmol L ⁻¹	pH	EC mS m ⁻¹	Precip. mm month ⁻¹ or mm year ⁻¹
Jan	9.69	8.50	11.5	33.9	26.1	19.7	1.39	8.20	7.78	2.98	2.67	5.57	0.979	158
Feb	8.14	7.05	8.39	25.5	17.1	18.1	1.15	5.86	5.47	2.74	3.63	5.44	0.748	384
Mar	11.4	10.7	9.49	20.0	18.0	11.3	1.29	4.68	4.43	1.93	4.71	5.33	0.793	428
Apr	11.1	9.54	12.8	47.6	19.8	26.5	8.40	6.40	5.83	3.44	4.95	5.31	1.18	201
May	7.84	5.92	8.89	52.1	14.2	31.8	7.21	15.8	15.1	2.67	5.02	5.30	1.00	299
June	--	--	--	--	--	--	--	--	--	--	--	--	--	0
July	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Aug	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Sept	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Oct	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Dec	5.60	4.65	8.10	8.10	0.911	15.8	8.39	8.12	7.78	2.91	4.49	5.35	0.905	118
Annual	9.30	8.10	9.64	31.4	16.8	19.9	3.81	7.88	7.45	2.63	4.32	5.36	0.898	1589
Max.	21.8	17.1	21.9	898	51.9	272	241	65.3	59.5	14.2	50.7	6.00	11.1	
Min.	5.58	4.64	<0.5	<0.5	<0.8	7.12	0.765	2.92	2.66	1.37	1.00	4.30	0.514	

Wet deposition amount

2019	SO ₄ ²⁻ mmol m ⁻²	nss-SO ₄ ²⁻ mmol m ⁻²	NO ₃ ⁻ mmol m ⁻²	Cl ⁻ mmol m ⁻²	NH ₄ ⁺ mmol m ⁻²	Na ⁺ mmol m ⁻²	K ⁺ mmol m ⁻²	Ca ²⁺ mmol m ⁻²	nss-Ca ²⁺ mmol m ⁻²	Mg ²⁺ mmol m ⁻²	H ⁺ mmol m ⁻²
Jan	1.53	1.35	1.82	5.36	4.13	3.12	0.220	1.30	1.23	0.472	0.422
Feb	3.13	2.71	3.22	9.80	6.56	6.93	0.443	2.25	2.10	1.05	1.40
Mar	4.87	4.58	4.06	8.57	7.71	4.84	0.552	2.00	1.90	0.827	2.02
Apr	2.24	1.92	2.59	9.58	3.99	5.34	1.69	1.29	1.17	0.692	0.996
May	2.34	1.77	2.66	15.6	4.23	9.49	2.16	4.72	4.51	0.798	1.50
June	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
July	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sept	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Oct	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nov	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dec	0.661	0.549	0.957	0.957	0.108	1.87	0.991	0.959	0.919	0.343	0.530
Annual	14.8	12.9	15.3	49.8	26.7	31.6	6.05	12.5	11.8	4.19	6.86

Data completeness

2019	SO ₄ ²⁻ %TP	nss-SO ₄ ²⁻ %TP	NO ₃ ⁻ %TP	Cl ⁻ %TP	NH ₄ ⁺ %TP	Na ⁺ %TP	K ⁺ %TP	Ca ²⁺ %TP	nss-Ca ²⁺ %TP	Mg ²⁺ %TP	H ⁺ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	--	--	--	--	--	--	--	--	--	--	--	--	--	100
July	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Aug	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Sept	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Oct	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Terms and abbreviations are given in Table 3.5.

Table 3.25 Monthly results

Site: Lombok

Country: Indonesia

Precipitation amount-weighted average concentration/ Precipitation amount

2019	SO ₄ ²⁻ μmol L ⁻¹	nss-SO ₄ ²⁻ μmol L ⁻¹	NO ₃ ⁻ μmol L ⁻¹	Cl ⁻ μmol L ⁻¹	NH ₄ ⁺ μmol L ⁻¹	Na ⁺ μmol L ⁻¹	K ⁺ μmol L ⁻¹	Ca ²⁺ μmol L ⁻¹	nss-Ca ²⁺ μmol L ⁻¹	Mg ²⁺ μmol L ⁻¹	H ⁺ μmol L ⁻¹	pH	EC mS m ⁻¹	Precip. mm month ⁻¹ or mm year ⁻¹
Jan	10.3	8.14	7.92	35.9	11.2	35.6	5.30	25.4	24.6	7.73	0.767	6.12	1.54	203
Feb	15.8	15.0	11.2	21.7	5.05	13.6	2.11	16.8	16.5	4.09	2.04	5.69	1.15	196
Mar	11.6	10.2	11.4	23.1	6.86	23.1	5.06	24.5	24.0	4.50	1.64	5.78	1.14	247
Apr	10.5	9.60	13.4	16.4	24.4	14.4	2.27	9.99	9.68	2.97	2.16	5.67	0.909	329
May	14.4	13.0	11.2	27.1	57.9	22.7	2.44	22.4	21.9	2.56	1.80	5.75	1.25	115
June	--	--	--	--	--	--	--	--	--	--	--	--	--	0
July	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Aug	5.46	5.08	<0.5	9.68	<0.8	6.19	5.35	9.11	8.98	1.48	16.6	4.78	3.32	6.0
Sept	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Oct	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Nov	13.4	10.4	20.7	35.4	22.7	48.3	3.70	9.75	8.70	4.87	3.62	5.44	1.40	140
Dec	9.56	8.43	12.9	19.5	11.5	18.8	2.56	9.39	8.99	3.28	4.40	5.36	0.772	369
Annual	11.6	10.2	12.5	23.6	16.9	22.8	3.28	15.7	15.2	4.15	2.56	5.59	1.10	1604
Max.	35.5	34.0	37.3	108	115	103	17.2	40.8	40.0	12.7	16.6	6.12	3.76	
Min.	5.46	4.95	<0.5	9.51	<0.8	6.19	<0.3	4.72	4.36	1.48	0.767	4.78	0.650	

Wet deposition amount

2019	SO ₄ ²⁻ mmol m ⁻²	nss-SO ₄ ²⁻ mmol m ⁻²	NO ₃ ⁻ mmol m ⁻²	Cl ⁻ mmol m ⁻²	NH ₄ ⁺ mmol m ⁻²	Na ⁺ mmol m ⁻²	K ⁺ mmol m ⁻²	Ca ²⁺ mmol m ⁻²	nss-Ca ²⁺ mmol m ⁻²	Mg ²⁺ mmol m ⁻²	H ⁺ mmol m ⁻²
Jan	2.09	1.65	1.61	7.28	2.28	7.22	1.08	5.15	5.00	1.57	0.156
Feb	3.10	2.94	2.19	4.26	0.991	2.67	0.413	3.30	3.24	0.802	0.400
Mar	2.86	2.52	2.82	5.71	1.70	5.72	1.25	6.06	5.94	1.11	0.406
Apr	3.44	3.15	4.41	5.39	8.02	4.74	0.747	3.28	3.18	0.975	0.710
May	1.65	1.50	1.29	3.11	6.65	2.60	0.280	2.57	2.52	0.293	0.207
June	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
July	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug	0.0327	0.0305	<0.01	0.0581	<0.01	0.0372	0.0321	0.0547	0.0539	<0.01	0.0996
Sept	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Oct	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nov	1.86	1.46	2.90	4.95	3.17	6.74	0.517	1.36	1.22	0.680	0.505
Dec	3.52	3.11	4.77	7.17	4.23	6.92	0.944	3.46	3.31	1.21	1.62
Annual	18.6	16.4	20.0	37.9	27.0	36.6	5.26	25.3	24.5	6.65	4.11

Data completeness

2019	SO ₄ ²⁻ %TP	nss-SO ₄ ²⁻ %TP	NO ₃ ⁻ %TP	Cl ⁻ %TP	NH ₄ ⁺ %TP	Na ⁺ %TP	K ⁺ %TP	Ca ²⁺ %TP	nss-Ca ²⁺ %TP	Mg ²⁺ %TP	H ⁺ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	--	--	--	--	--	--	--	--	--	--	--	--	--	100
July	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Oct	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Terms and abbreviations are given in Table 3.5.

Table 3.26 Monthly results

Site: Rishiri

Country: Japan

Precipitation amount-weighted average concentration/ Precipitation amount

2019	SO ₄ ²⁻ μmol L ⁻¹	nss-SO ₄ ²⁻ μmol L ⁻¹	NO ₃ ⁻ μmol L ⁻¹	Cl ⁻ μmol L ⁻¹	NH ₄ ⁺ μmol L ⁻¹	Na ⁺ μmol L ⁻¹	K ⁺ μmol L ⁻¹	Ca ²⁺ μmol L ⁻¹	nss-Ca ²⁺ μmol L ⁻¹	Mg ²⁺ μmol L ⁻¹	H ⁺ μmol L ⁻¹	pH	EC mS m ⁻¹	Precip. mm month ⁻¹ or mm year ⁻¹
Jan	83.4	27.8	29.7	1071	25.5	923	26.1	32.8	12.8	110	25.9	4.59	16.6	43.2
Feb	40.6	18.7	30.7	417	21.9	364	10.7	16.9	9.02	45.4	23.9	4.62	7.55	17.1
Mar	36.4	27.3	54.7	179	70.1	150	9.89	16.8	13.6	20.3	30.8	4.51	5.58	29.5
Apr	23.7	20.6	43.7	57.0	43.9	52.4	3.41	12.0	10.9	7.88	16.5	4.78	2.63	8.1
May	10.3	8.37	17.9	38.3	20.6	32.8	1.30	4.32	3.61	4.14	9.08	5.04	1.45	56.6
June	22.3	19.8	23.1	48.0	26.0	41.9	2.75	3.79	2.88	5.72	32.2	4.49	2.73	42.5
July	13.6	11.9	18.3	32.3	25.6	28.6	1.56	2.17	1.55	3.19	16.5	4.78	1.61	89.8
Aug	6.18	5.02	7.16	22.0	8.06	19.4	0.636	0.848	0.433	2.12	9.69	5.01	0.944	232
Sept	30.5	3.32	6.57	514	7.38	455	9.75	11.6	1.75	49.8	9.00	5.05	7.74	46.0
Oct	19.7	8.86	13.2	199	17.4	179	4.51	7.26	3.39	20.3	11.3	4.95	3.76	57.2
Nov	46.0	7.25	11.4	742	10.3	642	15.0	18.4	4.58	76.6	9.92	5.00	10.6	33.8
Dec	33.3	15.4	31.2	337	28.2	297	8.20	11.4	5.01	35.8	25.1	4.60	6.30	57.3
Annual	21.8	10.9	17.1	209	19.0	182	5.24	7.35	3.42	21.5	15.3	4.82	4.00	713
Max.	734	191	276	13498	421	11475	248	280	73.8	1367	170	6.06	165	
Min.	0.573	<0.3	<0.5	2.03	<0.8	1.38	<0.3	0.271	<0.2	0.400	0.871	3.77	0.273	

Wet deposition amount

2019	SO ₄ ²⁻ mmol m ⁻²	nss-SO ₄ ²⁻ mmol m ⁻²	NO ₃ ⁻ mmol m ⁻²	Cl ⁻ mmol m ⁻²	NH ₄ ⁺ mmol m ⁻²	Na ⁺ mmol m ⁻²	K ⁺ mmol m ⁻²	Ca ²⁺ mmol m ⁻²	nss-Ca ²⁺ mmol m ⁻²	Mg ²⁺ mmol m ⁻²	H ⁺ mmol m ⁻²
Jan	3.61	1.20	1.28	46.3	1.10	39.9	1.13	1.42	0.554	4.77	1.12
Feb	0.695	0.320	0.526	7.14	0.375	6.22	0.183	0.289	0.154	0.778	0.409
Mar	1.07	0.806	1.61	5.29	2.07	4.44	0.292	0.496	0.400	0.598	0.909
Apr	0.193	0.167	0.355	0.464	0.357	0.427	0.0278	0.0976	0.0884	0.0641	0.135
May	0.586	0.474	1.02	2.17	1.17	1.86	0.0735	0.245	0.205	0.234	0.514
June	0.949	0.842	0.983	2.04	1.11	1.78	0.117	0.161	0.123	0.244	1.37
July	1.22	1.06	1.64	2.90	2.30	2.57	0.140	0.195	0.139	0.286	1.48
Aug	1.43	1.16	1.66	5.09	1.87	4.48	0.147	0.197	0.100	0.492	2.25
Sept	1.40	0.153	0.302	23.6	0.339	20.9	0.449	0.533	0.0806	2.29	0.414
Oct	1.13	0.507	0.754	11.4	0.997	10.3	0.258	0.416	0.194	1.16	0.648
Nov	1.55	0.245	0.385	25.1	0.349	21.7	0.506	0.622	0.155	2.59	0.335
Dec	1.91	0.885	1.79	19.3	1.62	17.0	0.470	0.655	0.287	2.05	1.44
Annual	15.6	7.76	12.2	149	13.6	130	3.74	5.24	2.44	15.3	10.9

Data completeness

2019	SO ₄ ²⁻ %TP	nss-SO ₄ ²⁻ %TP	NO ₃ ⁻ %TP	Cl ⁻ %TP	NH ₄ ⁺ %TP	Na ⁺ %TP	K ⁺ %TP	Ca ²⁺ %TP	nss-Ca ²⁺ %TP	Mg ²⁺ %TP	H ⁺ %TP	pH	EC	Precip. %PCL
Jan	97.1	97.1	97.1	97.1	97.1	97.1	97.1	97.1	97.1	97.1	97.1	97.1	97.1	100
Feb	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	100
Mar	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	89.8	89.8	89.8	100
Apr	94.4	94.4	94.4	94.4	94.4	94.4	94.4	94.4	94.4	94.4	94.4	94.4	94.4	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0	96.8	100
July	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	100
Aug	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	100
Sept	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	100
Oct	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	100
Nov	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	100
Dec	97.1	97.1	97.1	97.1	97.1	97.1	97.1	97.1	97.1	97.1	97.1	97.1	97.1	100
Annual	98.1	98.1	98.1	98.1	98.1	98.1	98.1	98.1	98.1	98.1	97.8	97.8	97.8	100

Terms and abbreviations are given in Table 3.5.

Table 3.27 Monthly results

Site: Ochiishi

Country: Japan

Precipitation amount-weighted average concentration/ Precipitation amount

2019	SO ₄ ²⁻ μmol L ⁻¹	nss-SO ₄ ²⁻ μmol L ⁻¹	NO ₃ ⁻ μmol L ⁻¹	Cl ⁻ μmol L ⁻¹	NH ₄ ⁺ μmol L ⁻¹	Na ⁺ μmol L ⁻¹	K ⁺ μmol L ⁻¹	Ca ²⁺ μmol L ⁻¹	nss-Ca ²⁺ μmol L ⁻¹	Mg ²⁺ μmol L ⁻¹	H ⁺ μmol L ⁻¹	pH	EC mS m ⁻¹	Precip. mm month ⁻¹ or mm year ⁻¹
Jan	33.4	8.46	27.3	482	9.84	414	11.2	11.1	2.20	47.0	10.5	4.98	15.2	8.0
Feb	15.7	6.25	17.3	173	10.4	156	4.12	7.85	4.47	17.6	6.03	5.22	2.10	7.0
Mar	24.4	12.8	27.6	221	28.1	192	4.80	10.2	6.05	21.9	8.19	5.09	4.30	28.1
Apr	16.4	7.57	11.7	169	15.9	146	3.47	5.29	2.13	16.6	7.74	5.11	3.07	24.5
May	8.08	4.71	5.79	64.9	5.75	55.8	1.34	2.86	1.65	6.49	6.23	5.21	1.36	92.4
June	5.72	3.93	6.72	34.3	5.26	29.7	0.701	1.35	0.712	3.40	7.51	5.12	1.00	80.8
July	12.7	9.33	14.9	63.6	11.5	55.5	1.57	2.24	1.04	6.52	17.8	4.75	1.89	9.2
Aug	4.73	2.67	3.59	39.2	3.64	34.2	0.885	1.07	0.336	3.70	8.12	5.09	0.976	245
Sept	*	*	*	*	*	*	*	*	*	*	*	*	*	92.5
Oct	*	*	*	*	*	*	*	*	*	*	*	*	*	164
Nov	*	*	*	*	*	*	*	*	*	*	*	*	*	35.5
Dec	*	*	*	*	*	*	*	*	*	*	*	*	*	44.0
Annual	8.90	4.84	8.05	77.7	7.54	67.4	1.68	2.87	1.41	7.65	7.64	5.12	1.58	830
Max.	90.1	79.3	259	1042	292	897	24.9	78.3	74.4	99.5	34.1	5.98	15.2	
Min.	3.17	1.38	2.01	11.8	<0.8	8.09	0.324	0.499	<0.2	1.11	1.05	4.47	0.544	

Wet deposition amount

2019	SO ₄ ²⁻ mmol m ⁻²	nss-SO ₄ ²⁻ mmol m ⁻²	NO ₃ ⁻ mmol m ⁻²	Cl ⁻ mmol m ⁻²	NH ₄ ⁺ mmol m ⁻²	Na ⁺ mmol m ⁻²	K ⁺ mmol m ⁻²	Ca ²⁺ mmol m ⁻²	nss-Ca ²⁺ mmol m ⁻²	Mg ²⁺ mmol m ⁻²	H ⁺ mmol m ⁻²
Jan	0.268	0.0680	0.220	3.87	0.0791	3.33	0.0899	0.0895	0.0176	0.378	0.0841
Feb	0.110	0.0440	0.122	1.22	0.0732	1.10	0.0290	0.0553	0.0315	0.124	0.0424
Mar	0.685	0.360	0.775	6.21	0.789	5.40	0.135	0.286	0.170	0.616	0.230
Apr	0.401	0.185	0.286	4.13	0.390	3.58	0.0850	0.129	0.0521	0.407	0.190
May	0.746	0.435	0.535	5.99	0.531	5.16	0.124	0.264	0.153	0.600	0.576
June	0.462	0.317	0.543	2.77	0.425	2.40	0.0566	0.109	0.0575	0.274	0.607
July	0.117	0.0862	0.137	0.587	0.106	0.512	0.0145	0.0207	<0.01	0.0602	0.164
Aug	1.16	0.652	0.877	9.59	0.891	8.36	0.216	0.263	0.0822	0.905	1.99
Sept	*	*	*	*	*	*	*	*	*	*	*
Oct	*	*	*	*	*	*	*	*	*	*	*
Nov	*	*	*	*	*	*	*	*	*	*	*
Dec	*	*	*	*	*	*	*	*	*	*	*
Annual	7.39	4.02	6.68	64.6	6.26	56.0	1.40	2.38	1.17	6.35	6.34

Data completeness

2019	SO ₄ ²⁻ %TP	nss-SO ₄ ²⁻ %TP	NO ₃ ⁻ %TP	Cl ⁻ %TP	NH ₄ ⁺ %TP	Na ⁺ %TP	K ⁺ %TP	Ca ²⁺ %TP	nss-Ca ²⁺ %TP	Mg ²⁺ %TP	H ⁺ %TP	pH	EC	Precip. %PCL
Jan	87.1	87.1	87.1	87.1	87.1	87.1	87.1	87.1	87.1	87.1	24.9	24.9	24.9	100
Feb	78.2	78.2	78.2	78.2	78.2	78.2	78.2	78.2	78.2	78.2	49.8	49.8	49.8	100
Mar	97.9	97.9	97.9	97.9	97.9	97.9	97.9	97.9	97.9	97.9	97.9	97.9	97.9	100
Apr	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	94.0	94.0	94.0	100
May	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	98.0	98.0	98.0	100
June	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2	100
July	81.2	81.2	81.2	81.2	81.2	81.2	81.2	81.2	81.2	81.2	64.9	64.9	64.9	100
Aug	50.3	50.3	50.3	50.3	50.3	50.3	50.3	50.3	50.3	50.3	49.5	49.5	49.5	100
Sept	0	0	0	0	0	0	0	0	0	0	0	0	0	100
Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	100
Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	100
Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	100
Annual	43.9	43.9	43.9	43.9	43.9	43.9	43.9	43.9	43.9	43.9	42.4	42.4	42.4	100

Terms and abbreviations are given in Table 3.5.

Table 3.28 Monthly results

Site: Sado-seki

Country: Japan

Precipitation amount-weighted average concentration/ Precipitation amount

2019	SO ₄ ²⁻ μmol L ⁻¹	nss-SO ₄ ²⁻ μmol L ⁻¹	NO ₃ ⁻ μmol L ⁻¹	Cl ⁻ μmol L ⁻¹	NH ₄ ⁺ μmol L ⁻¹	Na ⁺ μmol L ⁻¹	K ⁺ μmol L ⁻¹	Ca ²⁺ μmol L ⁻¹	nss-Ca ²⁺ μmol L ⁻¹	Mg ²⁺ μmol L ⁻¹	H ⁺ μmol L ⁻¹	pH	EC mS m ⁻¹	Precip. mm month ⁻¹ or mm year ⁻¹
Jan	59.0	19.1	45.2	759	30.1	661	15.9	21.2	6.90	75.9	34.3	4.46	12.7	47.3
Feb	31.4	17.5	24.3	255	21.0	231	5.98	12.1	7.14	26.9	18.5	4.73	4.40	44.2
Mar	37.1	24.6	50.4	238	64.0	207	6.03	18.2	13.7	25.2	11.6	4.94	5.01	50.5
Apr	23.5	17.1	30.4	118	26.3	106	7.23	11.2	8.92	13.6	11.0	4.96	2.18	51.6
May	11.6	9.53	18.1	37.8	15.5	34.8	1.68	5.33	4.58	4.80	11.8	4.93	1.55	39.1
June	12.4	7.87	16.7	88.5	20.7	74.7	2.08	3.47	1.86	8.60	9.88	5.01	2.18	128
July	5.36	4.75	9.70	10.4	7.14	10.2	0.792	1.07	0.854	1.55	10.3	4.99	0.868	62.6
Aug	6.01	4.80	7.76	22.6	2.81	20.1	0.886	2.04	1.60	2.78	8.50	5.07	0.900	187
Sept	18.0	12.7	15.8	99.9	9.02	87.3	2.23	3.51	1.62	10.1	22.5	4.65	2.89	42.7
Oct	18.4	2.28	3.51	308	1.98	271	6.63	7.86	2.00	30.6	5.40	5.27	4.73	183
Nov	31.0	10.4	18.3	387	11.0	341	7.95	11.1	3.71	38.9	15.4	4.81	5.75	64.6
Dec	40.9	11.7	18.5	546	15.1	484	10.7	12.2	1.79	53.8	20.1	4.70	6.17	58.1
Annual	23.1	9.88	18.1	250	16.2	220	5.81	8.74	3.98	25.3	12.6	4.90	4.15	959
Max.	348	168	404	6010	319	5611	121	148	80.0	623	240	6.27	44.6	
Min.	1.60	<0.3	1.20	2.00	<0.8	1.40	<0.3	0.300	<0.2	0.300	0.537	3.62	0.370	

Wet deposition amount

2019	SO ₄ ²⁻ mmol m ⁻²	nss-SO ₄ ²⁻ mmol m ⁻²	NO ₃ ⁻ mmol m ⁻²	Cl ⁻ mmol m ⁻²	NH ₄ ⁺ mmol m ⁻²	Na ⁺ mmol m ⁻²	K ⁺ mmol m ⁻²	Ca ²⁺ mmol m ⁻²	nss-Ca ²⁺ mmol m ⁻²	Mg ²⁺ mmol m ⁻²	H ⁺ mmol m ⁻²
Jan	2.79	0.905	2.14	35.9	1.42	31.2	0.749	1.00	0.326	3.59	1.62
Feb	1.39	0.772	1.07	11.3	0.928	10.2	0.264	0.536	0.316	1.19	0.817
Mar	1.87	1.24	2.55	12.0	3.23	10.5	0.305	0.920	0.694	1.27	0.585
Apr	1.21	0.881	1.57	6.08	1.36	5.47	0.373	0.578	0.460	0.700	0.570
May	0.454	0.372	0.706	1.47	0.607	1.36	0.0657	0.208	0.179	0.187	0.462
June	1.59	1.01	2.14	11.3	2.65	9.57	0.266	0.445	0.238	1.10	1.27
July	0.335	0.297	0.607	0.653	0.447	0.637	0.0495	0.0672	0.0534	0.0968	0.642
Aug	1.13	0.899	1.45	4.23	0.527	3.77	0.166	0.382	0.300	0.520	1.59
Sept	0.767	0.542	0.675	4.27	0.385	3.73	0.0952	0.150	0.0691	0.430	0.962
Oct	3.38	0.417	0.644	56.4	0.362	49.7	1.22	1.44	0.367	5.60	0.991
Nov	2.00	0.675	1.18	25.0	0.708	22.0	0.513	0.716	0.240	2.51	0.994
Dec	2.38	0.683	1.07	31.7	0.876	28.2	0.625	0.710	0.104	3.13	1.17
Annual	22.2	9.48	17.4	240	15.5	211	5.57	8.39	3.82	24.3	12.1

Data completeness

2019	SO ₄ ²⁻ %TP	nss-SO ₄ ²⁻ %TP	NO ₃ ⁻ %TP	Cl ⁻ %TP	NH ₄ ⁺ %TP	Na ⁺ %TP	K ⁺ %TP	Ca ²⁺ %TP	nss-Ca ²⁺ %TP	Mg ²⁺ %TP	H ⁺ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	91.1	91.1	91.1	91.1	91.1	91.1	91.1	91.1	91.1	91.1	85.8	85.8	85.8	100
Feb	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	93.0	93.0	93.0	100
Mar	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	94.0	94.0	94.0	100
Apr	97.7	97.7	97.7	97.7	97.7	97.7	97.7	97.7	97.7	97.7	82.4	82.4	82.4	100
May	100	100	100	100	100	100	100	100	100	100	98.6	98.6	98.6	100
June	67.5	67.5	67.5	67.5	67.5	67.5	67.5	67.5	67.5	67.5	65.6	65.6	65.6	100
July	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.1	99.1	99.1	100
Aug	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	15.7	15.7	15.7	100
Sept	71.6	71.6	71.6	71.6	71.6	71.6	71.6	71.6	71.6	71.6	69.1	69.1	69.1	100
Oct	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	98.5	98.5	98.5	100
Nov	72.1	72.1	72.1	72.1	72.1	72.1	72.1	72.1	72.1	72.1	70.4	70.4	70.4	96.7
Dec	100	100	100	100	100	100	100	100	100	100	94.6	94.6	94.6	100
Annual	75.6	75.6	75.6	75.6	75.6	75.6	75.6	75.6	75.6	75.6	72.6	72.6	72.6	99.7

Terms and abbreviations are given in Table 3.5.

Table 3.29 Monthly results

Site: Happo

Country: Japan

Precipitation amount-weighted average concentration/ Precipitation amount

2019	SO ₄ ²⁻ μmol L ⁻¹	nss-SO ₄ ²⁻ μmol L ⁻¹	NO ₃ ⁻ μmol L ⁻¹	Cl ⁻ μmol L ⁻¹	NH ₄ ⁺ μmol L ⁻¹	Na ⁺ μmol L ⁻¹	K ⁺ μmol L ⁻¹	Ca ²⁺ μmol L ⁻¹	nss-Ca ²⁺ μmol L ⁻¹	Mg ²⁺ μmol L ⁻¹	H ⁺ μmol L ⁻¹	pH	EC mS m ⁻¹	Precip. mm month ⁻¹ or mm year ⁻¹
Jan	11.1	10.3	14.4	15.5	11.8	12.7	0.810	2.10	1.82	1.89	18.4	4.74	1.27	156
Feb	5.81	5.67	5.69	3.19	6.58	2.41	0.635	1.82	1.77	0.750	7.62	5.12	0.544	179
Mar	12.6	12.0	20.5	13.6	28.2	10.9	1.53	8.23	7.99	2.07	5.95	5.23	0.916	151
Apr	18.0	17.1	33.1	19.1	40.0	15.6	2.22	11.0	10.7	3.36	5.19	5.28	1.39	109
May	8.33	8.13	11.2	3.73	12.3	3.28	0.880	3.35	3.28	1.12	6.34	5.20	0.681	76.0
June	1.98	1.94	3.63	0.879	2.24	0.602	<0.3	1.01	1.00	0.304	4.46	5.35	0.316	402
July	4.48	4.44	4.98	0.859	5.57	0.548	<0.3	0.669	0.657	<0.3	7.49	5.13	0.509	237
Aug	3.56	3.51	3.54	0.755	3.22	0.693	<0.3	0.683	0.668	<0.3	6.38	5.20	0.426	426
Sept	4.70	4.64	4.80	2.01	3.40	1.14	<0.3	0.723	0.698	0.331	10.4	4.98	0.592	116
Oct	2.54	2.47	2.63	1.50	1.89	1.23	0.316	1.04	1.01	0.467	4.61	5.34	0.349	360
Nov	*	*	*	*	*	*	*	*	*	*	*	*	*	112
Dec	*	*	*	*	*	*	*	*	*	*	*	*	*	161
Annual	5.84	5.63	8.06	4.42	8.54	3.54	0.558	2.24	2.16	0.808	7.23	5.14	0.595	2484
Max.	146	140	325	108	365	114	21.4	122	119	24.6	45.7	6.66	9.98	
Min.	0.400	0.340	<0.5	<0.5	<0.8	<0.3	<0.3	0.400	0.394	<0.3	0.219	4.34	0.140	

Wet deposition amount

2019	SO ₄ ²⁻ mmol m ⁻²	nss-SO ₄ ²⁻ mmol m ⁻²	NO ₃ ⁻ mmol m ⁻²	Cl ⁻ mmol m ⁻²	NH ₄ ⁺ mmol m ⁻²	Na ⁺ mmol m ⁻²	K ⁺ mmol m ⁻²	Ca ²⁺ mmol m ⁻²	nss-Ca ²⁺ mmol m ⁻²	Mg ²⁺ mmol m ⁻²	H ⁺ mmol m ⁻²
Jan	1.73	1.61	2.25	2.42	1.84	1.98	0.126	0.327	0.284	0.294	2.87
Feb	1.04	1.01	1.02	0.571	1.18	0.431	0.114	0.326	0.317	0.134	1.36
Mar	1.91	1.81	3.10	2.05	4.26	1.65	0.231	1.24	1.21	0.313	0.898
Apr	1.96	1.86	3.61	2.08	4.36	1.70	0.242	1.20	1.17	0.366	0.566
May	0.633	0.618	0.854	0.284	0.938	0.250	0.0669	0.255	0.249	0.0854	0.482
June	0.795	0.780	1.46	0.353	0.900	0.242	0.0869	0.407	0.401	0.122	1.79
July	1.06	1.05	1.18	0.203	1.32	0.130	0.0635	0.158	0.155	0.0627	1.77
Aug	1.51	1.50	1.51	0.322	1.37	0.295	0.101	0.291	0.285	0.119	2.72
Sept	0.546	0.538	0.557	0.233	0.395	0.132	0.0332	0.0838	0.0810	0.0384	1.21
Oct	0.914	0.887	0.945	0.539	0.679	0.440	0.113	0.372	0.363	0.168	1.66
Nov	*	*	*	*	*	*	*	*	*	*	*
Dec	*	*	*	*	*	*	*	*	*	*	*
Annual	14.5	14.0	20.0	11.0	21.2	8.80	1.39	5.57	5.38	2.01	18.0

Data completeness

2019	SO ₄ ²⁻ %TP	nss-SO ₄ ²⁻ %TP	NO ₃ ⁻ %TP	Cl ⁻ %TP	NH ₄ ⁺ %TP	Na ⁺ %TP	K ⁺ %TP	Ca ²⁺ %TP	nss-Ca ²⁺ %TP	Mg ²⁺ %TP	H ⁺ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	98.7	98.7	98.7	98.7	98.7	98.7	98.7	98.7	98.7	98.7	97.4	97.4	97.4	100
Feb	93.3	93.3	93.3	93.3	93.3	93.3	93.3	93.3	93.3	93.3	92.2	92.2	92.2	100
Mar	98.3	98.3	98.3	98.3	98.3	98.3	98.3	98.3	98.3	98.3	92.4	92.4	92.4	100
Apr	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2	96.3	96.3	96.3	100
May	94.1	94.1	94.1	94.1	94.1	94.1	94.1	94.1	94.1	94.1	94.1	94.1	94.1	100
June	96.4	96.4	96.4	96.4	96.4	96.4	96.4	96.4	96.4	96.4	96.4	96.4	96.4	100
July	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	98.5	98.5	98.5	100
Aug	100	100	100	100	100	100	100	100	100	100	99.5	99.5	99.5	100
Sept	95.3	95.3	95.3	95.3	95.3	95.3	95.3	95.3	95.3	95.3	95.3	95.3	95.3	100
Oct	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	100
Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	100
Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	100
Annual	77.1	77.1	77.1	77.1	77.1	77.1	77.1	77.1	77.1	77.1	76.4	76.4	76.4	100

Terms and abbreviations are given in Table 3.5.

Table 3.30 Monthly results

Site: Ijira

Country: Japan

Precipitation amount-weighted average concentration/ Precipitation amount

2019	SO ₄ ²⁻ μmol L ⁻¹	nss-SO ₄ ²⁻ μmol L ⁻¹	NO ₃ ⁻ μmol L ⁻¹	Cl ⁻ μmol L ⁻¹	NH ₄ ⁺ μmol L ⁻¹	Na ⁺ μmol L ⁻¹	K ⁺ μmol L ⁻¹	Ca ²⁺ μmol L ⁻¹	nss-Ca ²⁺ μmol L ⁻¹	Mg ²⁺ μmol L ⁻¹	H ⁺ μmol L ⁻¹	pH	EC mS m ⁻¹	Precip. mm month ⁻¹ or mm year ⁻¹
Jan	18.4	15.1	37.7	69.5	22.6	54.8	1.68	5.04	3.85	6.93	41.3	4.38	3.06	97.5
Feb	5.84	5.28	9.31	11.5	5.78	9.35	0.301	1.43	1.23	1.33	12.3	4.91	0.756	72.0
Mar	23.1	19.2	35.5	72.8	32.8	63.8	2.42	14.4	13.0	9.34	13.1	4.88	2.50	134
Apr	10.7	10.2	15.0	10.2	14.9	8.73	0.781	2.16	1.97	1.35	16.8	4.77	1.20	231
May	9.42	8.74	15.5	12.3	14.2	11.3	0.546	2.64	2.39	1.68	13.9	4.86	1.10	282
June	9.95	9.71	12.3	5.42	14.4	3.92	<0.3	1.09	1.00	0.572	18.2	4.74	1.10	338
July	6.73	6.53	9.36	4.40	8.76	3.28	<0.3	0.832	0.761	0.445	14.0	4.85	0.819	523
Aug	9.10	8.65	7.65	9.02	11.3	7.49	0.343	1.61	1.45	0.464	13.8	4.86	0.933	548
Sept	8.59	7.89	16.6	14.2	10.4	11.6	<0.3	1.40	1.15	1.45	20.4	4.69	1.28	92.0
Oct	5.81	5.34	9.08	8.82	7.15	7.85	<0.3	1.46	1.29	1.01	10.0	5.00	0.734	320
Nov	27.9	25.4	37.4	49.1	24.3	40.9	1.32	6.28	5.40	5.31	49.6	4.30	3.47	54.5
Dec	13.0	10.8	15.8	45.5	9.14	36.6	0.998	1.64	0.854	4.33	26.0	4.59	2.00	86.0
Annual	9.90	9.11	13.6	15.7	12.7	13.1	0.523	2.36	2.08	1.67	16.4	4.79	1.19	2777
Max.	56.3	55.4	105	169	109	145	4.30	26.2	24.9	17.8	88.3	5.29	5.38	
Min.	0.900	0.791	2.30	1.70	<0.8	1.10	<0.3	0.200	<0.2	<0.3	5.12	4.05	0.300	

Wet deposition amount

2019	SO ₄ ²⁻ mmol m ⁻²	nss-SO ₄ ²⁻ mmol m ⁻²	NO ₃ ⁻ mmol m ⁻²	Cl ⁻ mmol m ⁻²	NH ₄ ⁺ mmol m ⁻²	Na ⁺ mmol m ⁻²	K ⁺ mmol m ⁻²	Ca ²⁺ mmol m ⁻²	nss-Ca ²⁺ mmol m ⁻²	Mg ²⁺ mmol m ⁻²	H ⁺ mmol m ⁻²
Jan	1.79	1.47	3.68	6.77	2.20	5.34	0.164	0.491	0.376	0.676	4.02
Feb	0.421	0.380	0.670	0.825	0.416	0.673	0.0217	0.103	0.0883	0.0956	0.883
Mar	3.09	2.57	4.76	9.75	4.40	8.55	0.324	1.93	1.74	1.25	1.76
Apr	2.47	2.35	3.47	2.36	3.45	2.02	0.180	0.499	0.456	0.311	3.89
May	2.65	2.46	4.38	3.48	3.99	3.18	0.154	0.743	0.674	0.474	3.90
June	3.37	3.29	4.15	1.83	4.88	1.33	0.0675	0.368	0.339	0.194	6.15
July	3.52	3.42	4.89	2.30	4.58	1.71	0.112	0.435	0.398	0.233	7.32
Aug	4.98	4.73	4.19	4.94	6.17	4.10	0.188	0.882	0.793	0.254	7.55
Sept	0.790	0.726	1.53	1.30	0.961	1.07	0.0274	0.128	0.105	0.133	1.87
Oct	1.86	1.71	2.91	2.82	2.29	2.51	0.0830	0.468	0.414	0.324	3.20
Nov	1.52	1.38	2.04	2.68	1.32	2.23	0.0720	0.342	0.294	0.290	2.70
Dec	1.12	0.930	1.36	3.92	0.786	3.15	0.0859	0.141	0.0734	0.373	2.23
Annual	27.5	25.3	37.9	43.6	35.2	36.3	1.45	6.55	5.77	4.64	45.4

Data completeness

2019	SO ₄ ²⁻ %TP	nss-SO ₄ ²⁻ %TP	NO ₃ ⁻ %TP	Cl ⁻ %TP	NH ₄ ⁺ %TP	Na ⁺ %TP	K ⁺ %TP	Ca ²⁺ %TP	nss-Ca ²⁺ %TP	Mg ²⁺ %TP	H ⁺ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	53.4	53.4	53.4	53.4	53.4	53.4	53.4	53.4	53.4	53.4	53.4	53.4	53.4	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	96.1	96.1	96.1	96.1	96.1	96.1	96.1	96.1	96.1	96.1	96.1	96.1	96.1	100

Terms and abbreviations are given in Table 3.5.

Table 3.31 Monthly results

Site: Oki

Country: Japan

Precipitation amount-weighted average concentration/ Precipitation amount

2019	SO ₄ ²⁻ μmol L ⁻¹	nss-SO ₄ ²⁻ μmol L ⁻¹	NO ₃ ⁻ μmol L ⁻¹	Cl ⁻ μmol L ⁻¹	NH ₄ ⁺ μmol L ⁻¹	Na ⁺ μmol L ⁻¹	K ⁺ μmol L ⁻¹	Ca ²⁺ μmol L ⁻¹	nss-Ca ²⁺ μmol L ⁻¹	Mg ²⁺ μmol L ⁻¹	H ⁺ μmol L ⁻¹	pH	EC mS m ⁻¹	Precip. mm month ⁻¹ or mm year ⁻¹
Jan	63.9	23.1	60.5	778	39.1	676	16.6	23.9	9.26	75.0	33.0	4.48	13.0	49.3
Feb	39.4	20.5	31.2	359	27.7	312	8.50	17.0	10.2	35.9	18.6	4.73	6.42	64.8
Mar	41.3	25.0	53.4	312	63.2	271	7.78	17.0	11.1	32.5	15.9	4.80	6.28	94.4
Apr	11.2	9.11	11.5	39.3	7.26	33.9	1.46	2.64	1.91	4.34	16.5	4.78	1.59	112
May	12.8	10.4	12.9	46.4	11.3	38.7	1.56	5.07	4.23	5.35	6.66	5.18	1.17	41.9
June	9.06	7.27	12.5	35.5	13.9	29.7	1.01	2.76	2.12	3.69	9.74	5.01	1.26	132
July	8.11	7.56	6.27	10.9	8.73	9.19	0.461	0.612	0.413	1.28	9.84	5.01	0.872	84.4
Aug	8.23	5.75	8.14	47.9	3.57	41.2	1.18	1.79	0.900	4.72	11.1	4.95	1.38	144
Sept	8.33	3.75	4.24	88.2	1.37	76.0	1.93	2.24	0.600	8.67	7.35	5.13	1.73	159
Oct	15.0	7.49	7.69	146	4.91	125	3.23	4.50	1.81	14.6	11.7	4.93	2.86	102
Nov	74.6	20.1	29.4	1066	15.7	905	21.9	30.1	10.6	105	26.1	4.58	11.1	24.4
Dec	43.5	22.3	46.7	409	29.8	353	8.47	11.2	3.62	40.8	44.9	4.35	7.90	87.1
Annual	21.0	11.2	19.1	189	15.5	163	4.26	6.94	3.43	18.8	15.4	4.81	3.51	1095
Max.	498	205	282	9436	392	7924	189	214	77.4	931	275	6.43	43.6	
Min.	1.70	1.30	2.10	4.50	<0.8	3.20	<0.3	0.500	<0.2	0.600	0.372	3.56	0.320	

Wet deposition amount

2019	SO ₄ ²⁻ mmol m ⁻²	nss-SO ₄ ²⁻ mmol m ⁻²	NO ₃ ⁻ mmol m ⁻²	Cl ⁻ mmol m ⁻²	NH ₄ ⁺ mmol m ⁻²	Na ⁺ mmol m ⁻²	K ⁺ mmol m ⁻²	Ca ²⁺ mmol m ⁻²	nss-Ca ²⁺ mmol m ⁻²	Mg ²⁺ mmol m ⁻²	H ⁺ mmol m ⁻²
Jan	3.15	1.14	2.98	38.4	1.93	33.4	0.818	1.18	0.457	3.70	1.63
Feb	2.55	1.33	2.02	23.3	1.79	20.2	0.551	1.10	0.662	2.32	1.20
Mar	3.90	2.36	5.04	29.5	5.96	25.6	0.734	1.60	1.05	3.07	1.50
Apr	1.25	1.02	1.30	4.41	0.815	3.81	0.164	0.297	0.214	0.487	1.86
May	0.535	0.437	0.540	1.94	0.475	1.62	0.0653	0.212	0.177	0.224	0.279
June	1.20	0.962	1.65	4.69	1.84	3.93	0.134	0.366	0.281	0.487	1.29
July	0.684	0.637	0.529	0.918	0.736	0.775	0.0389	0.0516	0.0349	0.108	0.830
Aug	1.18	0.825	1.17	6.88	0.513	5.92	0.169	0.257	0.129	0.678	1.60
Sept	1.32	0.595	0.673	14.0	0.217	12.1	0.307	0.356	0.0951	1.38	1.17
Oct	1.53	0.766	0.786	15.0	0.502	12.7	0.330	0.460	0.185	1.49	1.19
Nov	1.82	0.489	0.715	26.0	0.382	22.1	0.534	0.734	0.257	2.57	0.635
Dec	3.79	1.94	4.07	35.6	2.59	30.7	0.738	0.979	0.315	3.55	3.91
Annual	23.0	12.2	20.9	207	16.9	178	4.67	7.60	3.75	20.6	16.8

Data completeness

2019	SO ₄ ²⁻ %TP	nss-SO ₄ ²⁻ %TP	NO ₃ ⁻ %TP	Cl ⁻ %TP	NH ₄ ⁺ %TP	Na ⁺ %TP	K ⁺ %TP	Ca ²⁺ %TP	nss-Ca ²⁺ %TP	Mg ²⁺ %TP	H ⁺ %TP	pH	EC	Precip. %PCL
Jan	98.1	98.1	98.1	98.1	98.1	98.1	98.1	98.1	98.1	98.1	94.2	94.2	94.2	100
Feb	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	95.9	95.9	95.9	100
Mar	70.7	70.7	70.7	70.7	70.7	70.7	70.7	70.7	70.7	70.7	69.0	69.0	69.0	80.6
Apr	43.4	43.4	43.4	43.4	43.4	43.4	43.4	43.4	43.4	43.4	43.4	43.4	43.4	46.7
May	100	100	100	100	100	100	100	100	100	100	93.7	93.7	93.7	96.8
June	93.5	93.5	93.5	93.5	93.5	93.5	93.5	93.5	93.5	93.5	93.1	93.1	93.1	93.3
July	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	100
Aug	98.7	98.7	98.7	98.7	98.7	98.7	98.7	98.7	98.7	98.7	97.4	97.4	97.4	100
Sept	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.3	99.3	99.3	100
Oct	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	98.8	98.8	98.8	100
Nov	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	90.3	90.3	90.3	100
Dec	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	92.6	92.6	92.6	96.8
Annual	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	88.6	88.6	88.6	92.9

Terms and abbreviations are given in Table 3.5.

Table 3.32 Monthly results

Site: Yusuhara

Country: Japan

Precipitation amount-weighted average concentration/ Precipitation amount

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺	pH	EC	Precip.
2019	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹		mS m ⁻¹	mm month ⁻¹ or mm year ⁻¹
Jan	23.1	21.9	25.1	25.5	24.0	20.0	1.62	3.21	2.78	2.38	40.5	4.39	2.60	43.0
Feb	14.4	13.9	9.55	13.4	10.1	9.14	0.828	2.14	1.94	1.06	26.2	4.58	1.64	124
Mar	13.7	12.3	19.6	26.8	21.5	22.6	1.59	7.37	6.88	3.32	10.8	4.97	1.42	157
Apr	11.1	10.6	10.6	10.7	12.6	7.88	0.783	2.11	1.94	1.04	17.0	4.77	1.24	161
May	9.96	7.14	7.09	54.4	6.35	46.9	1.41	1.74	0.748	5.07	13.1	4.88	1.47	205
June	4.88	4.71	3.94	3.75	4.71	2.69	0.561	0.628	0.570	0.693	9.80	5.01	0.582	363
July	3.64	3.28	3.11	7.36	2.74	5.94	0.563	0.606	0.478	1.02	7.83	5.11	0.536	648
Aug	4.07	3.06	2.36	19.4	2.47	16.7	0.717	0.744	0.384	1.80	6.59	5.18	0.665	582
Sept	4.09	2.70	3.09	27.7	2.32	23.3	0.883	0.946	0.442	2.49	6.10	5.21	0.762	364
Oct	3.72	3.49	3.16	5.18	2.09	3.81	0.487	0.554	0.471	0.948	8.76	5.06	0.540	286
Nov	19.6	18.3	16.1	29.1	10.5	21.3	1.76	2.56	2.10	2.60	39.7	4.40	2.44	45.5
Dec	10.9	10.4	11.3	12.7	7.42	9.74	0.778	1.45	1.24	1.11	20.5	4.69	1.37	126
Annual	6.46	5.64	5.64	16.7	5.39	13.8	0.793	1.32	1.03	1.72	10.8	4.97	0.870	3102
Max.	117	116	212	833	418	717	40.4	77.4	75.6	82.1	282	5.55	15.2	
Min.	<0.3	<0.3	<0.5	0.500	<0.8	0.500	<0.3	<0.2	<0.2	<0.3	2.82	3.55	0.210	

Wet deposition amount

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺
2019	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²
Jan	0.995	0.943	1.08	1.10	1.03	0.862	0.0697	0.138	0.119	0.102	1.74
Feb	1.78	1.71	1.18	1.65	1.24	1.13	0.102	0.264	0.240	0.131	3.23
Mar	2.14	1.93	3.07	4.20	3.36	3.54	0.249	1.15	1.08	0.519	1.68
Apr	1.79	1.71	1.70	1.72	2.02	1.26	0.126	0.338	0.311	0.168	2.73
May	2.04	1.46	1.45	11.1	1.30	9.59	0.290	0.356	0.153	1.04	2.69
June	1.77	1.71	1.43	1.36	1.71	0.974	0.204	0.228	0.207	0.252	3.56
July	2.36	2.13	2.01	4.77	1.77	3.85	0.365	0.393	0.309	0.659	5.07
Aug	2.37	1.78	1.38	11.3	1.44	9.72	0.417	0.433	0.223	1.05	3.84
Sept	1.49	0.983	1.13	10.1	0.846	8.50	0.321	0.345	0.161	0.906	2.22
Oct	1.06	0.997	0.902	1.48	0.596	1.09	0.139	0.158	0.135	0.271	2.50
Nov	0.890	0.831	0.733	1.32	0.477	0.970	0.0800	0.116	0.0955	0.119	1.81
Dec	1.38	1.31	1.43	1.59	0.935	1.23	0.0980	0.183	0.156	0.140	2.58
Annual	20.1	17.5	17.5	51.7	16.7	42.7	2.46	4.10	3.19	5.35	33.6

Data completeness

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺	pH	EC	Precip.
2019	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%PCL
Jan	100	100	100	100	100	100	100	100	100	100	98.8	98.8	98.8	100
Feb	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	100
Mar	100	100	100	100	100	100	100	100	100	100	99.7	99.7	99.7	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	99.9	99.9	99.9	100
June	100	100	100	100	100	100	100	100	100	100	99.8	99.8	99.8	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	99.9	99.9	99.9	100
Sept	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	100
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	100	100	100	100	100	100	100	100	100	100	99.9	99.9	99.9	100

Terms and abbreviations are given in Table 3.5.

Table 3.33 Monthly results

Site: Hedo

Country: Japan

Precipitation amount-weighted average concentration/ Precipitation amount

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺	pH	EC	Precip.
2019	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹		mS m ⁻¹	mm month ⁻¹ or mm year ⁻¹
Jan	30.0	13.6	14.5	317	12.5	272	6.12	7.48	1.61	31.8	24.6	4.61	5.71	35.5
Feb	14.1	9.33	10.0	91.0	10.8	78.5	2.09	2.90	1.31	9.88	16.1	4.79	2.11	155
Mar	13.3	7.52	12.2	110	15.3	95.0	3.15	3.44	1.40	12.2	15.5	4.81	2.47	263
Apr	9.86	5.95	14.4	76.3	12.0	64.9	1.97	2.86	1.51	8.70	14.0	4.85	1.87	161
May	5.92	3.87	6.62	40.0	4.93	34.1	0.818	1.41	0.734	4.62	8.80	5.06	0.988	141
June	4.91	2.31	5.25	50.2	2.49	43.0	0.743	0.864	<0.2	5.97	8.21	5.09	1.04	556
July	9.73	2.41	5.50	141	1.83	121	2.82	3.54	0.948	16.8	7.39	5.13	2.32	124
Aug	7.53	2.04	3.77	105	2.38	91.1	2.03	2.88	0.912	13.4	4.50	5.35	1.72	259
Sept	19.4	2.14	2.45	337	1.25	286	6.64	8.43	2.25	39.0	5.48	5.26	4.86	305
Oct	10.8	5.74	4.57	98.8	1.55	84.1	1.74	1.73	<0.2	10.9	13.0	4.89	1.98	268
Nov	18.2	2.65	4.08	301	1.16	257	5.89	8.28	2.75	35.8	6.23	5.21	4.61	164
Dec	39.1	13.5	9.24	509	5.04	425	9.24	10.4	1.33	50.6	24.3	4.62	8.34	136
Annual	12.5	4.66	6.62	153	4.93	130	3.03	3.79	1.06	17.2	10.5	4.98	2.66	2566
Max.	288	75.3	75.9	5166	69.6	4443	92.5	103	29.1	482	154	5.66	69.5	
Min.	1.12	0.402	<0.5	5.50	<0.8	3.30	<0.3	<0.2	<0.2	<0.3	2.19	3.81	0.218	

Wet deposition amount

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺
2019	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²
Jan	1.06	0.482	0.514	11.3	0.445	9.65	0.217	0.266	0.0571	1.13	0.872
Feb	2.18	1.45	1.55	14.1	1.67	12.2	0.324	0.449	0.203	1.53	2.50
Mar	3.49	1.98	3.22	28.9	4.03	25.0	0.828	0.905	0.367	3.22	4.07
Apr	1.59	0.957	2.31	12.3	1.94	10.5	0.317	0.460	0.243	1.40	2.25
May	0.835	0.545	0.933	5.64	0.695	4.80	0.115	0.199	0.104	0.651	1.24
June	2.73	1.29	2.92	27.9	1.39	23.9	0.413	0.480	0.0756	3.32	4.56
July	1.21	0.299	0.682	17.5	0.227	15.1	0.350	0.439	0.118	2.08	0.917
Aug	1.95	0.528	0.975	27.2	0.615	23.5	0.525	0.744	0.236	3.45	1.16
Sept	5.92	0.654	0.748	103	0.382	87.3	2.03	2.57	0.687	11.9	1.67
Oct	2.89	1.53	1.22	26.4	0.414	22.5	0.465	0.463	0.0146	2.92	3.48
Nov	2.97	0.433	0.668	49.2	0.190	42.1	0.963	1.35	0.450	5.85	1.02
Dec	5.30	1.83	1.25	68.9	0.683	57.6	1.25	1.41	0.180	6.86	3.29
Annual	32.0	11.9	17.0	391	12.6	333	7.78	9.72	2.73	44.2	27.0

Data completeness

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺	pH	EC	Precip.
2019	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%PCL
Jan	95.8	95.8	95.8	95.8	95.8	95.8	95.8	95.8	95.8	95.8	95.8	95.8	95.8	100
Feb	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	100
Mar	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	100
Apr	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	100
Dec	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	100
Annual	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	100

Terms and abbreviations are given in Table 3.5.

Table 3.34 Monthly results

Site: Ogasawara

Country: Japan

Precipitation amount-weighted average concentration/ Precipitation amount

2019	SO ₄ ²⁻ μmol L ⁻¹	nss-SO ₄ ²⁻ μmol L ⁻¹	NO ₃ ⁻ μmol L ⁻¹	Cl ⁻ μmol L ⁻¹	NH ₄ ⁺ μmol L ⁻¹	Na ⁺ μmol L ⁻¹	K ⁺ μmol L ⁻¹	Ca ²⁺ μmol L ⁻¹	nss-Ca ²⁺ μmol L ⁻¹	Mg ²⁺ μmol L ⁻¹	H ⁺ μmol L ⁻¹	pH	EC mS m ⁻¹	Precip. mm month ⁻¹ or mm year ⁻¹
Jan	29.3	10.2	8.58	372	7.60	317	7.19	7.81	0.986	36.9	18.1	4.74	6.37	41.4
Feb	8.25	4.25	4.20	75.0	5.62	66.4	1.65	2.53	1.09	7.74	7.77	5.11	1.32	26.0
Mar	12.5	5.50	8.48	132	9.25	116	3.12	3.89	1.38	13.5	8.12	5.09	2.43	93.8
Apr	7.91	5.06	6.10	52.9	7.85	47.4	1.48	1.97	0.951	5.64	9.59	5.02	1.33	122
May	3.46	1.28	2.52	40.5	2.44	36.1	0.881	1.26	0.482	4.28	5.35	5.27	0.849	222
June	1.95	0.713	1.22	23.4	0.918	20.5	0.698	0.850	0.406	2.49	5.17	5.29	0.555	206
July	1.82	1.19	1.31	11.2	2.37	10.4	0.394	0.537	0.311	1.23	5.89	5.23	0.395	165
Aug	13.9	0.475	<0.5	260	<0.8	227	5.91	5.95	1.04	27.0	4.56	5.34	3.75	62.5
Sept	3.33	0.498	0.746	55.2	0.921	48.9	1.14	1.36	0.299	5.75	4.23	5.37	1.00	244
Oct	47.1	1.28	0.727	869	<0.8	765	18.1	18.0	1.52	85.3	2.29	5.64	12.4	393
Nov	13.7	6.50	5.62	134	5.11	121	4.96	4.92	2.30	16.2	8.36	5.08	2.37	57.4
Dec	6.22	2.20	1.19	78.7	1.05	67.1	1.77	1.95	0.496	8.16	7.76	5.11	1.42	236
Annual	12.8	2.10	2.27	203	2.47	178	4.41	4.63	0.784	20.3	5.87	5.23	3.15	1868
Max.	111	65.5	52.9	2039	52.5	1784	44.4	42.7	22.0	199	52.5	6.67	28.4	
Min.	0.700	<0.3	<0.5	3.00	<0.8	2.90	<0.3	0.300	<0.2	0.500	0.214	4.28	0.290	

Wet deposition amount

2019	SO ₄ ²⁻ mmol m ⁻²	nss-SO ₄ ²⁻ mmol m ⁻²	NO ₃ ⁻ mmol m ⁻²	Cl ⁻ mmol m ⁻²	NH ₄ ⁺ mmol m ⁻²	Na ⁺ mmol m ⁻²	K ⁺ mmol m ⁻²	Ca ²⁺ mmol m ⁻²	nss-Ca ²⁺ mmol m ⁻²	Mg ²⁺ mmol m ⁻²	H ⁺ mmol m ⁻²
Jan	1.21	0.421	0.355	15.4	0.315	13.1	0.298	0.324	0.0409	1.53	0.751
Feb	0.214	0.110	0.109	1.95	0.146	1.72	0.0429	0.0656	0.0283	0.201	0.202
Mar	1.17	0.515	0.795	12.4	0.867	10.9	0.292	0.365	0.130	1.27	0.761
Apr	0.961	0.614	0.741	6.43	0.954	5.76	0.180	0.240	0.116	0.686	1.17
May	0.768	0.284	0.559	9.01	0.543	8.02	0.196	0.281	0.107	0.950	1.19
June	0.401	0.146	0.250	4.80	0.189	4.22	0.143	0.175	0.0835	0.512	1.06
July	0.301	0.197	0.217	1.84	0.392	1.72	0.0651	0.0887	0.0514	0.204	0.973
Aug	0.870	0.0297	0.0166	16.3	0.0219	14.2	0.370	0.372	0.0650	1.69	0.285
Sept	0.812	0.122	0.182	13.5	0.225	11.9	0.278	0.331	0.0729	1.40	1.03
Oct	18.5	0.502	0.286	341	0.239	300	7.10	7.08	0.597	33.5	0.898
Nov	0.788	0.373	0.322	7.67	0.293	6.94	0.285	0.282	0.132	0.932	0.479
Dec	1.47	0.519	0.280	18.5	0.248	15.8	0.416	0.459	0.117	1.92	1.83
Annual	23.9	3.92	4.25	379	4.61	333	8.23	8.65	1.47	38.0	11.0

Data completeness

2019	SO ₄ ²⁻ %TP	nss-SO ₄ ²⁻ %TP	NO ₃ ⁻ %TP	Cl ⁻ %TP	NH ₄ ⁺ %TP	Na ⁺ %TP	K ⁺ %TP	Ca ²⁺ %TP	nss-Ca ²⁺ %TP	Mg ²⁺ %TP	H ⁺ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	92.9	92.9	92.9	92.9	92.9	92.9	92.9	92.9	92.9	92.9	84.5	84.5	84.5	100
Feb	97.4	97.4	97.4	97.4	97.4	97.4	97.4	97.4	97.4	97.4	93.6	93.6	93.6	100
Mar	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	98.8	98.8	98.8	100
Apr	96.7	96.7	96.7	96.7	96.7	96.7	96.7	96.7	96.7	96.7	96.7	96.7	96.7	100
May	84.4	84.4	84.4	84.4	84.4	84.4	84.4	84.4	84.4	84.4	83.5	83.5	83.5	100
June	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	98.5	98.5	98.5	100
July	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	97.5	97.5	97.5	100
Aug	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	100
Sept	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.4	99.4	99.4	100
Oct	70.7	70.7	70.7	70.7	70.7	70.7	70.7	70.7	70.7	70.7	70.0	70.0	70.0	80.6
Nov	98.8	98.8	98.8	98.8	98.8	98.8	98.8	98.8	98.8	98.8	96.7	96.7	96.7	100
Dec	100	100	100	100	100	100	100	100	100	100	99.8	99.8	99.8	96.8
Annual	91.4	91.4	91.4	91.4	91.4	91.4	91.4	91.4	91.4	91.4	90.4	90.4	90.4	98.1

Terms and abbreviations are given in Table 3.5.

Table 3.35 Monthly results

Site: Tokyo

Country: Japan

Precipitation amount-weighted average concentration/ Precipitation amount

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺	pH	EC	Precip.
2019	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹		mS m ⁻¹	mm month ⁻¹ or mm year ⁻¹
Jan	5.90	5.77	21.4	3.70	36.5	2.20	0.400	5.30	5.25	0.600	2.09	5.68	0.830	14.4
Feb	7.56	6.59	15.9	18.0	20.1	16.1	0.549	6.45	6.10	2.20	4.91	5.31	0.863	36.3
Mar	8.62	8.07	20.7	11.2	27.7	9.21	0.692	3.40	3.20	1.41	8.83	5.05	1.05	99.7
Apr	24.1	22.1	38.3	38.5	40.8	33.2	1.57	10.9	10.2	5.10	22.8	4.64	2.48	82.5
May	10.3	7.54	7.61	52.4	13.4	45.6	1.02	4.20	3.21	5.60	8.50	5.07	1.36	103
June	9.35	8.71	13.2	13.1	20.6	10.6	0.321	3.45	3.22	1.61	11.8	4.93	1.01	205
July	9.46	9.08	16.9	8.49	23.6	6.36	<0.3	3.02	2.88	1.06	15.1	4.82	1.10	172
Aug	22.4	21.2	27.5	23.3	32.0	20.2	0.712	5.15	4.72	3.02	28.7	4.54	2.23	98.6
Sept	3.00	2.09	4.37	16.6	6.95	15.1	0.427	2.15	1.83	2.02	3.56	5.45	0.562	178
Oct	13.1	3.42	5.46	182	9.49	160	3.41	4.35	0.888	17.6	5.09	5.29	2.90	457
Nov	7.56	6.76	13.1	15.5	15.4	13.3	0.382	2.19	1.90	1.80	11.2	4.95	0.960	125
Dec	8.08	5.73	10.8	43.6	16.7	39.0	0.900	3.08	2.24	4.69	6.10	5.21	1.14	70.9
Annual	11.0	7.50	12.7	65.8	17.6	57.7	1.37	4.01	2.76	6.71	9.99	5.00	1.66	1641
Max.	110	96.1	245	1050	191	927	19.6	63.6	62.3	99.0	117	6.49	14.5	
Min.	0.600	0.450	0.500	0.600	1.40	0.300	<0.3	0.300	<0.2	<0.3	0.324	3.93	0.190	

Wet deposition amount

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺
2019	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²
Jan	0.0849	0.0829	0.308	0.0532	0.525	0.0316	<0.01	0.0762	0.0755	<0.01	0.0300
Feb	0.274	0.239	0.577	0.653	0.728	0.583	0.0199	0.234	0.221	0.0798	0.178
Mar	0.860	0.804	2.07	1.11	2.76	0.918	0.0690	0.339	0.319	0.141	0.880
Apr	1.98	1.82	3.16	3.18	3.37	2.74	0.129	0.903	0.843	0.421	1.88
May	1.06	0.774	0.782	5.38	1.38	4.68	0.105	0.431	0.330	0.575	0.872
June	1.91	1.78	2.70	2.68	4.22	2.16	0.0656	0.706	0.659	0.328	2.41
July	1.62	1.56	2.90	1.46	4.06	1.09	0.0371	0.518	0.494	0.182	2.59
Aug	2.21	2.09	2.72	2.29	3.15	1.99	0.0703	0.508	0.465	0.298	2.83
Sept	0.533	0.371	0.776	2.96	1.24	2.69	0.0760	0.383	0.325	0.359	0.633
Oct	5.97	1.56	2.49	82.9	4.33	73.2	1.55	1.99	0.405	8.05	2.32
Nov	0.948	0.847	1.65	1.94	1.93	1.67	0.0479	0.274	0.238	0.225	1.41
Dec	0.574	0.407	0.765	3.09	1.19	2.77	0.0638	0.219	0.159	0.333	0.433
Annual	18.0	12.3	20.9	108	28.8	94.7	2.25	6.58	4.53	11.0	16.4

Data completeness

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺	pH	EC	Precip.
2019	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%PCL
Jan	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	100
Feb	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	97.9	97.9	97.9	100
Mar	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	98.8	98.8	98.8	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.3	99.3	99.3	100
June	100	100	100	100	100	100	100	100	100	100	99.3	99.3	99.3	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	95.3	95.3	95.3	100
Sept	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.6	99.6	99.6	100
Oct	100	100	100	100	100	100	100	100	100	100	99.9	99.9	99.9	100
Nov	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	98.6	98.6	98.6	100
Dec	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	97.3	97.3	97.3	100
Annual	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.1	99.1	99.1	100

Terms and abbreviations are given in Table 3.5.

Table 3.36 Monthly results

Site: Niigata-maki

Country: Japan

Precipitation amount-weighted average concentration/ Precipitation amount

2019	SO ₄ ²⁻ μmol L ⁻¹	nss-SO ₄ ²⁻ μmol L ⁻¹	NO ₃ ⁻ μmol L ⁻¹	Cl ⁻ μmol L ⁻¹	NH ₄ ⁺ μmol L ⁻¹	Na ⁺ μmol L ⁻¹	K ⁺ μmol L ⁻¹	Ca ²⁺ μmol L ⁻¹	nss-Ca ²⁺ μmol L ⁻¹	Mg ²⁺ μmol L ⁻¹	H ⁺ μmol L ⁻¹	pH	EC mS m ⁻¹	Precip. mm month ⁻¹ or mm year ⁻¹
Jan	38.5	16.9	31.0	415	24.9	359	8.22	13.6	5.87	41.2	26.5	4.58	7.48	185
Feb	32.8	19.5	28.6	256	28.8	220	5.57	14.7	9.98	26.3	14.1	4.85	4.99	50.0
Mar	38.5	24.9	41.8	272	56.0	226	6.30	16.7	11.9	26.9	13.9	4.86	5.50	121
Apr	16.7	11.8	21.7	96.8	19.3	80.4	2.63	7.08	5.35	10.7	15.1	4.82	2.51	92.0
May	12.9	11.7	18.4	24.8	17.6	20.1	0.890	3.54	3.10	2.99	21.2	4.67	1.63	61.0
June	5.00	3.03	6.34	39.6	7.67	32.7	1.22	1.45	0.758	3.94	5.20	5.28	0.947	203
July	5.72	5.51	10.7	4.81	12.1	3.47	0.439	0.645	0.573	0.509	10.8	4.97	0.811	92.0
Aug	5.00	4.66	7.23	7.10	6.63	5.61	<0.3	0.556	0.439	0.802	9.80	5.01	0.701	239
Sept	10.8	8.67	14.6	43.6	9.25	35.8	1.28	1.75	0.975	4.79	18.4	4.73	1.76	59.4
Oct	28.6	4.31	5.85	490	5.43	403	12.7	9.72	1.24	44.3	5.49	5.26	6.99	187
Nov	31.9	12.8	21.1	379	13.7	318	7.80	12.0	5.15	36.6	18.9	4.72	6.37	114
Dec	28.5	12.1	16.8	323	14.2	272	6.44	8.19	2.32	31.8	18.1	4.74	5.62	120
Annual	20.7	10.1	16.9	210	16.3	176	4.80	7.18	3.40	20.4	13.7	4.86	3.87	1522
Max.	126	92.3	175	2283	151	1876	50.1	54.3	52.9	211	120	6.01	28.8	
Min.	0.500	0.488	0.500	0.600	<0.8	<0.3	<0.3	<0.2	<0.2	<0.3	0.977	3.92	0.170	

Wet deposition amount

2019	SO ₄ ²⁻ mmol m ⁻²	nss-SO ₄ ²⁻ mmol m ⁻²	NO ₃ ⁻ mmol m ⁻²	Cl ⁻ mmol m ⁻²	NH ₄ ⁺ mmol m ⁻²	Na ⁺ mmol m ⁻²	K ⁺ mmol m ⁻²	Ca ²⁺ mmol m ⁻²	nss-Ca ²⁺ mmol m ⁻²	Mg ²⁺ mmol m ⁻²	H ⁺ mmol m ⁻²
Jan	7.10	3.11	5.73	76.6	4.60	66.2	1.52	2.51	1.08	7.59	4.88
Feb	1.64	0.975	1.43	12.8	1.44	11.0	0.279	0.737	0.499	1.31	0.707
Mar	4.64	3.00	5.03	32.7	6.75	27.2	0.759	2.02	1.43	3.24	1.68
Apr	1.53	1.09	2.00	8.91	1.78	7.39	0.242	0.652	0.492	0.980	1.39
May	0.789	0.715	1.12	1.51	1.07	1.23	0.0543	0.216	0.189	0.183	1.29
June	1.02	0.616	1.29	8.04	1.56	6.63	0.247	0.295	0.154	0.800	1.06
July	0.526	0.507	0.984	0.443	1.11	0.319	0.0404	0.0593	0.0527	0.0468	0.990
Aug	1.19	1.11	1.73	1.70	1.59	1.34	0.0383	0.133	0.105	0.192	2.34
Sept	0.643	0.515	0.869	2.59	0.550	2.13	0.0762	0.104	0.0579	0.285	1.09
Oct	5.34	0.806	1.09	91.6	1.01	75.3	2.37	1.82	0.231	8.28	1.03
Nov	3.64	1.45	2.40	43.2	1.56	36.3	0.889	1.37	0.586	4.17	2.15
Dec	3.42	1.46	2.02	38.7	1.71	32.6	0.773	0.983	0.279	3.81	2.17
Annual	31.6	15.4	25.7	320	24.8	269	7.31	10.9	5.17	31.0	20.8

Data completeness

2019	SO ₄ ²⁻ %TP	nss-SO ₄ ²⁻ %TP	NO ₃ ⁻ %TP	Cl ⁻ %TP	NH ₄ ⁺ %TP	Na ⁺ %TP	K ⁺ %TP	Ca ²⁺ %TP	nss-Ca ²⁺ %TP	Mg ²⁺ %TP	H ⁺ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mar	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.2	99.2	99.2	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	97.5	97.5	97.5	97.5	97.5	97.5	97.5	97.5	97.5	97.5	97.3	97.3	97.3	100
July	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	97.5	97.5	97.5	97.5	97.5	97.5	97.5	97.5	97.5	97.5	97.5	97.5	97.5	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	100
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.4	99.4	99.4	100

Terms and abbreviations are given in Table 3.5.

Table 3.37 Monthly results

Site: Tsushima

Country: Japan

Precipitation amount-weighted average concentration/ Precipitation amount

2019	SO ₄ ²⁻ μmol L ⁻¹	nss-SO ₄ ²⁻ μmol L ⁻¹	NO ₃ ⁻ μmol L ⁻¹	Cl ⁻ μmol L ⁻¹	NH ₄ ⁺ μmol L ⁻¹	Na ⁺ μmol L ⁻¹	K ⁺ μmol L ⁻¹	Ca ²⁺ μmol L ⁻¹	nss-Ca ²⁺ μmol L ⁻¹	Mg ²⁺ μmol L ⁻¹	H ⁺ μmol L ⁻¹	pH	EC mS m ⁻¹	Precip. mm month ⁻¹ or mm year ⁻¹
Jan	18.0	15.9	42.6	35.0	28.8	35.0	1.50	4.42	3.66	4.56	32.1	4.49	2.69	31.0
Feb	11.0	9.79	7.09	23.1	12.1	20.2	1.00	1.10	0.665	1.62	9.35	5.03	1.10	88.5
Mar	15.8	13.5	13.9	44.8	20.5	38.8	0.790	2.27	1.43	4.29	14.5	4.84	1.61	158
Apr	23.2	20.9	17.7	43.3	25.2	38.4	1.22	4.37	3.54	4.63	21.1	4.68	2.21	126
May	18.3	15.4	12.7	56.5	12.0	48.5	8.49	3.71	2.67	6.69	15.8	4.80	1.98	59.0
June	7.99	7.63	5.76	8.22	7.12	5.89	<0.3	0.235	<0.2	0.635	12.9	4.89	0.781	286
July	8.65	7.50	3.16	22.6	10.2	19.1	<0.3	0.610	0.212	1.79	6.10	5.21	0.810	527
Aug	4.24	3.63	3.80	11.4	2.60	10.2	0.331	0.447	0.279	1.04	4.94	5.31	0.587	325
Sept	10.0	6.90	3.95	59.7	2.15	51.7	1.10	1.29	<0.2	5.64	9.34	5.03	1.51	582
Oct	14.5	11.8	7.19	51.6	6.80	45.0	1.02	1.61	0.632	4.97	14.2	4.85	1.76	124
Nov	15.0	8.02	11.5	133	7.18	117	3.30	4.75	2.23	13.3	11.6	4.94	2.76	68.5
Dec	13.9	13.0	12.6	18.2	12.1	14.1	0.461	1.45	1.15	1.76	17.7	4.75	1.47	88.0
Annual	10.5	8.69	6.76	34.7	8.61	30.0	0.882	1.35	0.717	3.27	10.2	4.99	1.23	2461
Max.	65.7	64.1	112	590	154	501	16.2	14.2	13.9	55.8	126	5.71	9.29	
Min.	2.40	1.92	<0.5	2.00	<0.8	0.900	<0.3	<0.2	<0.2	<0.3	1.95	3.90	0.280	

Wet deposition amount

2019	SO ₄ ²⁻ mmol m ⁻²	nss-SO ₄ ²⁻ mmol m ⁻²	NO ₃ ⁻ mmol m ⁻²	Cl ⁻ mmol m ⁻²	NH ₄ ⁺ mmol m ⁻²	Na ⁺ mmol m ⁻²	K ⁺ mmol m ⁻²	Ca ²⁺ mmol m ⁻²	nss-Ca ²⁺ mmol m ⁻²	Mg ²⁺ mmol m ⁻²	H ⁺ mmol m ⁻²
Jan	0.557	0.492	1.32	1.08	0.892	1.09	0.0464	0.137	0.113	0.141	0.994
Feb	0.974	0.867	0.627	2.04	1.07	1.78	0.0886	0.0974	0.0588	0.143	0.827
Mar	2.49	2.13	2.19	7.05	3.23	6.11	0.124	0.357	0.225	0.676	2.29
Apr	2.91	2.62	2.22	5.43	3.16	4.82	0.154	0.548	0.444	0.581	2.65
May	1.08	0.908	0.751	3.33	0.708	2.86	0.501	0.219	0.157	0.395	0.934
June	2.28	2.18	1.65	2.35	2.04	1.69	0.0404	0.0672	0.0417	0.182	3.68
July	4.55	3.95	1.67	11.9	5.37	10.0	0.0502	0.321	0.111	0.943	3.21
Aug	1.38	1.18	1.24	3.70	0.845	3.30	0.107	0.145	0.0908	0.337	1.60
Sept	5.83	4.01	2.30	34.7	1.25	30.1	0.640	0.753	0.116	3.28	5.44
Oct	1.80	1.46	0.888	6.38	0.840	5.56	0.126	0.198	0.0781	0.614	1.75
Nov	1.03	0.549	0.791	9.13	0.492	7.99	0.226	0.325	0.152	0.908	0.794
Dec	1.22	1.15	1.11	1.60	1.07	1.24	0.0406	0.128	0.101	0.155	1.56
Annual	25.8	21.4	16.6	85.5	21.2	73.8	2.17	3.31	1.76	8.05	25.1

Data completeness

2019	SO ₄ ²⁻ %TP	nss-SO ₄ ²⁻ %TP	NO ₃ ⁻ %TP	Cl ⁻ %TP	NH ₄ ⁺ %TP	Na ⁺ %TP	K ⁺ %TP	Ca ²⁺ %TP	nss-Ca ²⁺ %TP	Mg ²⁺ %TP	H ⁺ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	93.5	93.5	93.5	93.5	93.5	93.5	93.5	93.5	93.5	93.5	93.5	93.5	93.5	100
Feb	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	100
Mar	45.4	45.4	45.4	45.4	45.4	45.4	45.4	45.4	45.4	45.4	45.4	45.4	45.4	90.3
Apr	98.4	98.4	98.4	98.4	98.4	98.4	98.4	98.4	98.4	98.4	98.4	98.4	98.4	100
May	97.5	97.5	97.5	97.5	97.5	97.5	97.5	97.5	97.5	97.5	97.5	97.5	97.5	100
June	67.3	67.3	67.3	67.3	67.3	67.3	67.3	67.3	67.3	67.3	67.3	67.3	67.3	93.3
July	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	90.3
Aug	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	93.5
Sept	68.8	68.8	68.8	68.8	68.8	68.8	68.8	68.8	68.8	68.8	68.8	68.8	68.8	77.4
Oct	83.8	83.8	83.8	83.8	83.8	83.8	83.8	83.8	83.8	83.8	83.8	83.8	83.8	100
Nov	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	100
Dec	98.3	98.3	98.3	98.3	98.3	98.3	98.3	98.3	98.3	98.3	98.3	98.3	98.3	100
Annual	84.0	84.0	84.0	84.0	84.0	84.0	84.0	84.0	84.0	84.0	84.0	84.0	84.0	95.3

Terms and abbreviations are given in Table 3.5.

Table 3.38 Monthly results

Site: Vientiane

Country: Lao PDR

Precipitation amount-weighted average concentration/ Precipitation amount

2019	SO ₄ ²⁻ μmol L ⁻¹	nss-SO ₄ ²⁻ μmol L ⁻¹	NO ₃ ⁻ μmol L ⁻¹	Cl ⁻ μmol L ⁻¹	NH ₄ ⁺ μmol L ⁻¹	Na ⁺ μmol L ⁻¹	K ⁺ μmol L ⁻¹	Ca ²⁺ μmol L ⁻¹	nss-Ca ²⁺ μmol L ⁻¹	Mg ²⁺ μmol L ⁻¹	H ⁺ μmol L ⁻¹	pH	EC mS m ⁻¹	Precip. mm month ⁻¹ or mm year ⁻¹
Jan	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Mar	*	*	*	*	*	*	*	*	*	*	*	*	*	54.0
Apr	--	--	--	--	--	--	--	--	--	--	--	--	--	0
May	*	*	*	*	*	*	*	*	*	*	*	*	*	95.3
June	*	*	*	*	*	*	*	*	*	*	*	*	*	57.3
July	*	*	*	*	*	*	*	*	*	*	*	*	*	70.0
Aug	*	*	*	*	*	*	*	*	*	*	*	*	*	306
Sept	*	*	*	*	*	*	*	*	*	*	*	*	*	98.7
Oct	*	*	*	*	*	*	*	*	*	*	*	*	*	19.1
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Annual	*	*	*	*	*	*	*	*	*	*	*	*	*	700
Max.	*	*	*	*	*	*	*	*	*	*	*	*	*	
Min.	*	*	*	*	*	*	*	*	*	*	*	*	*	

Wet deposition amount

2019	SO ₄ ²⁻ mmol m ⁻²	nss-SO ₄ ²⁻ mmol m ⁻²	NO ₃ ⁻ mmol m ⁻²	Cl ⁻ mmol m ⁻²	NH ₄ ⁺ mmol m ⁻²	Na ⁺ mmol m ⁻²	K ⁺ mmol m ⁻²	Ca ²⁺ mmol m ⁻²	nss-Ca ²⁺ mmol m ⁻²	Mg ²⁺ mmol m ⁻²	H ⁺ mmol m ⁻²
Jan	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Feb	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar	*	*	*	*	*	*	*	*	*	*	*
Apr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May	*	*	*	*	*	*	*	*	*	*	*
June	*	*	*	*	*	*	*	*	*	*	*
July	*	*	*	*	*	*	*	*	*	*	*
Aug	*	*	*	*	*	*	*	*	*	*	*
Sept	*	*	*	*	*	*	*	*	*	*	*
Oct	*	*	*	*	*	*	*	*	*	*	*
Nov	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dec	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	*	*	*	*	*	*	*	*	*	*	*

Data completeness

2019	SO ₄ ²⁻ %TP	nss-SO ₄ ²⁻ %TP	NO ₃ ⁻ %TP	Cl ⁻ %TP	NH ₄ ⁺ %TP	Na ⁺ %TP	K ⁺ %TP	Ca ²⁺ %TP	nss-Ca ²⁺ %TP	Mg ²⁺ %TP	H ⁺ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Mar	0	0	0	0	0	0	0	0	0	0	0	0	0	100
Apr	--	--	--	--	--	--	--	--	--	--	--	--	--	100
May	0	0	0	0	0	0	0	0	0	0	0	0	0	100
June	0	0	0	0	0	0	0	0	0	0	0	0	0	100
July	0	0	0	0	0	0	0	0	0	0	0	0	0	100
Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	100
Sept	0	0	0	0	0	0	0	0	0	0	0	0	0	100
Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	100
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Annual	0	0	0	0	0	0	0	0	0	0	0	0	0	100

Terms and abbreviations are given in Table 3.5.

Table 3.39 Monthly results

Site: Petaling Jaya

Country: Malaysia

Precipitation amount-weighted average concentration/ Precipitation amount

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺	pH	EC	Precip.
2019	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹		mS m ⁻¹	mm month ⁻¹ or mm year ⁻¹
Jan	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Feb	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Mar	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Apr	***	***	***	***	***	***	***	***	***	***	***	***	***	***
May	***	***	***	***	***	***	***	***	***	***	***	***	***	***
June	***	***	***	***	***	***	***	***	***	***	***	***	***	***
July	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Aug	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Sept	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Oct	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Nov	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Dec	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Annual	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Max.	***	***	***	***	***	***	***	***	***	***	***	***	***	
Min.	***	***	***	***	***	***	***	***	***	***	***	***	***	

Wet deposition amount

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺
2019	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²
Jan	***	***	***	***	***	***	***	***	***	***	***
Feb	***	***	***	***	***	***	***	***	***	***	***
Mar	***	***	***	***	***	***	***	***	***	***	***
Apr	***	***	***	***	***	***	***	***	***	***	***
May	***	***	***	***	***	***	***	***	***	***	***
June	***	***	***	***	***	***	***	***	***	***	***
July	***	***	***	***	***	***	***	***	***	***	***
Aug	***	***	***	***	***	***	***	***	***	***	***
Sept	***	***	***	***	***	***	***	***	***	***	***
Oct	***	***	***	***	***	***	***	***	***	***	***
Nov	***	***	***	***	***	***	***	***	***	***	***
Dec	***	***	***	***	***	***	***	***	***	***	***
Annual	***	***	***	***	***	***	***	***	***	***	***

Data completeness

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺	pH	EC	Precip.
2019	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%PCL
Jan	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Feb	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Mar	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Apr	***	***	***	***	***	***	***	***	***	***	***	***	***	***
May	***	***	***	***	***	***	***	***	***	***	***	***	***	***
June	***	***	***	***	***	***	***	***	***	***	***	***	***	***
July	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Aug	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Sept	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Oct	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Nov	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Dec	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Annual	***	***	***	***	***	***	***	***	***	***	***	***	***	***

Terms and abbreviations are given in Table 3.5.

Table 3.40 Monthly results

Site: Tanah Rata

Country: Malaysia

Precipitation amount-weighted average concentration/ Precipitation amount

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺	pH	EC	Precip.
2019	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹		mS m ⁻¹	mm month ⁻¹ or mm year ⁻¹
Jan	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Feb	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Mar	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Apr	***	***	***	***	***	***	***	***	***	***	***	***	***	***
May	***	***	***	***	***	***	***	***	***	***	***	***	***	***
June	***	***	***	***	***	***	***	***	***	***	***	***	***	***
July	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Aug	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Sept	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Oct	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Nov	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Dec	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Annual	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Max.	***	***	***	***	***	***	***	***	***	***	***	***	***	
Min.	***	***	***	***	***	***	***	***	***	***	***	***	***	

Wet deposition amount

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺
2019	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²
Jan	***	***	***	***	***	***	***	***	***	***	***
Feb	***	***	***	***	***	***	***	***	***	***	***
Mar	***	***	***	***	***	***	***	***	***	***	***
Apr	***	***	***	***	***	***	***	***	***	***	***
May	***	***	***	***	***	***	***	***	***	***	***
June	***	***	***	***	***	***	***	***	***	***	***
July	***	***	***	***	***	***	***	***	***	***	***
Aug	***	***	***	***	***	***	***	***	***	***	***
Sept	***	***	***	***	***	***	***	***	***	***	***
Oct	***	***	***	***	***	***	***	***	***	***	***
Nov	***	***	***	***	***	***	***	***	***	***	***
Dec	***	***	***	***	***	***	***	***	***	***	***
Annual	***	***	***	***	***	***	***	***	***	***	***

Data completeness

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺	pH	EC	Precip.
2019	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%PCL
Jan	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Feb	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Mar	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Apr	***	***	***	***	***	***	***	***	***	***	***	***	***	***
May	***	***	***	***	***	***	***	***	***	***	***	***	***	***
June	***	***	***	***	***	***	***	***	***	***	***	***	***	***
July	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Aug	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Sept	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Oct	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Nov	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Dec	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Annual	***	***	***	***	***	***	***	***	***	***	***	***	***	***

Terms and abbreviations are given in Table 3.5.

Table 3.41 Monthly results

Site: Danum Valley

Country: Malaysia

Precipitation amount-weighted average concentration/ Precipitation amount

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺	pH	EC	Precip.
2019	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹		mS m ⁻¹	mm month ⁻¹ or mm year ⁻¹
Jan	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Feb	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Mar	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Apr	***	***	***	***	***	***	***	***	***	***	***	***	***	***
May	***	***	***	***	***	***	***	***	***	***	***	***	***	***
June	***	***	***	***	***	***	***	***	***	***	***	***	***	***
July	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Aug	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Sept	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Oct	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Nov	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Dec	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Annual	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Max.	***	***	***	***	***	***	***	***	***	***	***	***	***	
Min.	***	***	***	***	***	***	***	***	***	***	***	***	***	

Wet deposition amount

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺
2019	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²
Jan	***	***	***	***	***	***	***	***	***	***	***
Feb	***	***	***	***	***	***	***	***	***	***	***
Mar	***	***	***	***	***	***	***	***	***	***	***
Apr	***	***	***	***	***	***	***	***	***	***	***
May	***	***	***	***	***	***	***	***	***	***	***
June	***	***	***	***	***	***	***	***	***	***	***
July	***	***	***	***	***	***	***	***	***	***	***
Aug	***	***	***	***	***	***	***	***	***	***	***
Sept	***	***	***	***	***	***	***	***	***	***	***
Oct	***	***	***	***	***	***	***	***	***	***	***
Nov	***	***	***	***	***	***	***	***	***	***	***
Dec	***	***	***	***	***	***	***	***	***	***	***
Annual	***	***	***	***	***	***	***	***	***	***	***

Data completeness

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺	pH	EC	Precip.
2019	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%PCL
Jan	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Feb	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Mar	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Apr	***	***	***	***	***	***	***	***	***	***	***	***	***	***
May	***	***	***	***	***	***	***	***	***	***	***	***	***	***
June	***	***	***	***	***	***	***	***	***	***	***	***	***	***
July	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Aug	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Sept	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Oct	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Nov	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Dec	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Annual	***	***	***	***	***	***	***	***	***	***	***	***	***	***

Terms and abbreviations are given in Table 3.5.

Table 3.42 Monthly results

Site: Kuching

Country: Malaysia

Precipitation amount-weighted average concentration/ Precipitation amount

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺	pH	EC	Precip.
2019	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹		mS m ⁻¹	mm month ⁻¹ or mm year ⁻¹
Jan	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Feb	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Mar	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Apr	***	***	***	***	***	***	***	***	***	***	***	***	***	***
May	***	***	***	***	***	***	***	***	***	***	***	***	***	***
June	***	***	***	***	***	***	***	***	***	***	***	***	***	***
July	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Aug	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Sept	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Oct	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Nov	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Dec	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Annual	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Max.	***	***	***	***	***	***	***	***	***	***	***	***	***	
Min.	***	***	***	***	***	***	***	***	***	***	***	***	***	

Wet deposition amount

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺
2019	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²
Jan	***	***	***	***	***	***	***	***	***	***	***
Feb	***	***	***	***	***	***	***	***	***	***	***
Mar	***	***	***	***	***	***	***	***	***	***	***
Apr	***	***	***	***	***	***	***	***	***	***	***
May	***	***	***	***	***	***	***	***	***	***	***
June	***	***	***	***	***	***	***	***	***	***	***
July	***	***	***	***	***	***	***	***	***	***	***
Aug	***	***	***	***	***	***	***	***	***	***	***
Sept	***	***	***	***	***	***	***	***	***	***	***
Oct	***	***	***	***	***	***	***	***	***	***	***
Nov	***	***	***	***	***	***	***	***	***	***	***
Dec	***	***	***	***	***	***	***	***	***	***	***
Annual	***	***	***	***	***	***	***	***	***	***	***

Data completeness

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺	pH	EC	Precip.
2019	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%PCL
Jan	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Feb	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Mar	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Apr	***	***	***	***	***	***	***	***	***	***	***	***	***	***
May	***	***	***	***	***	***	***	***	***	***	***	***	***	***
June	***	***	***	***	***	***	***	***	***	***	***	***	***	***
July	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Aug	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Sept	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Oct	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Nov	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Dec	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Annual	***	***	***	***	***	***	***	***	***	***	***	***	***	***

Terms and abbreviations are given in Table 3.5.

Table 3.43 Monthly results

Site: Ulaanbaatar

Country: Mongolia

Precipitation amount-weighted average concentration/ Precipitation amount

2019	SO ₄ ²⁻ μmol L ⁻¹	nss-SO ₄ ²⁻ μmol L ⁻¹	NO ₃ ⁻ μmol L ⁻¹	Cl ⁻ μmol L ⁻¹	NH ₄ ⁺ μmol L ⁻¹	Na ⁺ μmol L ⁻¹	K ⁺ μmol L ⁻¹	Ca ²⁺ μmol L ⁻¹	nss-Ca ²⁺ μmol L ⁻¹	Mg ²⁺ μmol L ⁻¹	H ⁺ μmol L ⁻¹	pH	EC mS m ⁻¹	Precip. mm month ⁻¹ or mm year ⁻¹
Jan	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Mar	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Apr	--	--	--	--	--	--	--	--	--	--	--	--	--	0
May	56.7	54.3	181	43.9	101	40.8	4.38	93.1	92.2	8.51	12.4	4.91	4.65	6.5
June	535	525	23.6	5.82	61.6	164	1.40	23.3	19.8	1.98	1.24	5.91	10.8	20.6
July	22.2	21.7	29.8	3.95	91.5	7.83	1.28	25.2	25.0	2.47	0.440	6.36	1.87	4.2
Aug	87.8	86.5	41.1	9.03	90.4	20.0	1.79	44.4	44.0	6.99	0.724	6.14	2.76	2.5
Sept	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Oct	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Annual	346	339	56.8	13.4	75.1	110	2.01	39.0	36.6	3.71	3.25	5.49	7.89	33.7
Max.	1108	1088	215	116	123	715	5.38	219	217	19.7	19.5	6.69	22.2	
Min.	22.2	21.7	13.9	3.95	38.8	7.83	1.02	17.0	13.7	1.23	0.204	4.71	0.430	

Wet deposition amount

2019	SO ₄ ²⁻ mmol m ⁻²	nss-SO ₄ ²⁻ mmol m ⁻²	NO ₃ ⁻ mmol m ⁻²	Cl ⁻ mmol m ⁻²	NH ₄ ⁺ mmol m ⁻²	Na ⁺ mmol m ⁻²	K ⁺ mmol m ⁻²	Ca ²⁺ mmol m ⁻²	nss-Ca ²⁺ mmol m ⁻²	Mg ²⁺ mmol m ⁻²	H ⁺ mmol m ⁻²
Jan	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Feb	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May	0.369	0.353	1.18	0.286	0.658	0.265	0.0285	0.606	0.600	0.0553	0.0805
June	11.0	10.8	0.486	0.120	1.27	3.37	0.0288	0.480	0.407	0.0407	0.0254
July	0.0924	0.0905	0.124	0.0165	0.381	0.0327	<0.01	0.105	0.104	0.0103	<0.01
Aug	0.218	0.215	0.102	0.0224	0.224	0.0496	<0.01	0.110	0.109	0.0173	<0.01
Sept	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Oct	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nov	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dec	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	11.7	11.4	1.92	0.452	2.53	3.72	0.0677	1.31	1.23	0.125	0.110

Data completeness

2019	SO ₄ ²⁻ %TP	nss-SO ₄ ²⁻ %TP	NO ₃ ⁻ %TP	Cl ⁻ %TP	NH ₄ ⁺ %TP	Na ⁺ %TP	K ⁺ %TP	Ca ²⁺ %TP	nss-Ca ²⁺ %TP	Mg ²⁺ %TP	H ⁺ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Mar	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Apr	--	--	--	--	--	--	--	--	--	--	--	--	--	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	97.1	97.1	97.1	97.1	97.1	97.1	97.1	97.1	97.1	97.1	100	100	100	100
July	92.6	92.6	92.6	92.6	92.6	92.6	92.6	92.6	92.6	92.6	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Oct	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Annual	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	100	100	100	100

Terms and abbreviations are given in Table 3.5.

Table 3.44 Monthly results

Site: Terej

Country: Mongolia

Precipitation amount-weighted average concentration/ Precipitation amount

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺	pH	EC	Precip.
2019	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹		mS m ⁻¹	mm month ⁻¹ or mm year ⁻¹
Jan	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Feb	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Mar	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Apr	***	***	***	***	***	***	***	***	***	***	***	***	***	***
May	***	***	***	***	***	***	***	***	***	***	***	***	***	***
June	***	***	***	***	***	***	***	***	***	***	***	***	***	***
July	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Aug	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Sept	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Oct	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Nov	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Dec	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Annual	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Max.	***	***	***	***	***	***	***	***	***	***	***	***	***	
Min.	***	***	***	***	***	***	***	***	***	***	***	***	***	

Wet deposition amount

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺
2019	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²
Jan	***	***	***	***	***	***	***	***	***	***	***
Feb	***	***	***	***	***	***	***	***	***	***	***
Mar	***	***	***	***	***	***	***	***	***	***	***
Apr	***	***	***	***	***	***	***	***	***	***	***
May	***	***	***	***	***	***	***	***	***	***	***
June	***	***	***	***	***	***	***	***	***	***	***
July	***	***	***	***	***	***	***	***	***	***	***
Aug	***	***	***	***	***	***	***	***	***	***	***
Sept	***	***	***	***	***	***	***	***	***	***	***
Oct	***	***	***	***	***	***	***	***	***	***	***
Nov	***	***	***	***	***	***	***	***	***	***	***
Dec	***	***	***	***	***	***	***	***	***	***	***
Annual	***	***	***	***	***	***	***	***	***	***	***

Data completeness

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺	pH	EC	Precip.
2019	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%PCL
Jan	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Feb	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Mar	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Apr	***	***	***	***	***	***	***	***	***	***	***	***	***	***
May	***	***	***	***	***	***	***	***	***	***	***	***	***	***
June	***	***	***	***	***	***	***	***	***	***	***	***	***	***
July	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Aug	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Sept	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Oct	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Nov	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Dec	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Annual	***	***	***	***	***	***	***	***	***	***	***	***	***	***

Terms and abbreviations are given in Table 3.5.

Table 3.45 Monthly results

Site: Yangon

Country: Myanmar

Precipitation amount-weighted average concentration/ Precipitation amount

2019	SO ₄ ²⁻ μmol L ⁻¹	nss-SO ₄ ²⁻ μmol L ⁻¹	NO ₃ ⁻ μmol L ⁻¹	Cl ⁻ μmol L ⁻¹	NH ₄ ⁺ μmol L ⁻¹	Na ⁺ μmol L ⁻¹	K ⁺ μmol L ⁻¹	Ca ²⁺ μmol L ⁻¹	nss-Ca ²⁺ μmol L ⁻¹	Mg ²⁺ μmol L ⁻¹	H ⁺ μmol L ⁻¹	pH	EC mS m ⁻¹	Precip. mm month ⁻¹ or mm year ⁻¹
Jan	9.59	9.04	51.3	11.3	20.6	9.13	8.29	23.6	23.4	4.07	3.16	5.50	1.70	49.3
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Mar	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Apr	62.1	60.5	131	118	68.7	26.4	42.1	134	133	20.5	0.794	6.10	5.00	12.3
May	29.5	27.8	59.1	60.5	70.9	28.9	21.8	36.0	35.4	7.77	0.289	6.54	2.14	214
June	6.62	5.45	9.15	21.8	17.9	19.4	10.8	12.1	11.7	3.37	0.340	6.47	0.783	650
July	6.33	5.27	8.62	20.3	13.4	17.7	3.00	12.5	12.1	3.52	0.284	6.55	0.761	505
Aug	7.05	5.71	13.2	14.0	4.35	22.2	2.97	11.8	11.4	4.40	0.143	6.84	0.832	736
Sept	7.24	6.29	6.62	18.9	13.7	15.8	3.89	8.60	8.25	3.40	0.151	6.82	0.639	451
Oct	9.57	9.18	122	10.7	22.9	6.48	11.2	14.7	14.6	3.51	0.271	6.57	0.915	182
Nov	4.51	4.10	21.6	8.68	8.76	6.81	4.28	12.2	12.0	2.13	0.349	6.46	0.822	162
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Annual	8.77	7.67	22.1	20.8	17.0	18.3	7.01	14.2	13.8	4.00	0.294	6.53	0.910	2962
Max.	62.1	60.5	274	118	87.9	59.8	47.7	134	133	26.0	3.16	7.00	5.00	
Min.	<0.3	<0.3	<0.5	<0.5	<0.8	<0.3	<0.3	<0.2	<0.2	<0.3	0.100	5.50	0.400	

Wet deposition amount

2019	SO ₄ ²⁻ mmol m ⁻²	nss-SO ₄ ²⁻ mmol m ⁻²	NO ₃ ⁻ mmol m ⁻²	Cl ⁻ mmol m ⁻²	NH ₄ ⁺ mmol m ⁻²	Na ⁺ mmol m ⁻²	K ⁺ mmol m ⁻²	Ca ²⁺ mmol m ⁻²	nss-Ca ²⁺ mmol m ⁻²	Mg ²⁺ mmol m ⁻²	H ⁺ mmol m ⁻²
Jan	0.472	0.445	2.52	0.555	1.02	0.450	0.408	1.16	1.15	0.200	0.156
Feb	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr	0.762	0.742	1.61	1.44	0.843	0.324	0.516	1.64	1.64	0.252	<0.01
May	6.31	5.94	12.6	12.9	15.1	6.18	4.65	7.69	7.56	1.66	0.0617
June	4.30	3.54	5.94	14.2	11.6	12.6	7.00	7.87	7.60	2.19	0.221
July	3.20	2.66	4.36	10.3	6.75	8.94	1.52	6.31	6.12	1.78	0.143
Aug	5.19	4.21	9.75	10.3	3.21	16.3	2.19	8.72	8.36	3.24	0.106
Sept	3.26	2.83	2.98	8.53	6.16	7.12	1.75	3.87	3.72	1.53	0.0680
Oct	1.74	1.67	22.2	1.95	4.16	1.18	2.05	2.68	2.66	0.639	0.0493
Nov	0.732	0.665	3.50	1.41	1.42	1.11	0.694	1.97	1.95	0.346	0.0567
Dec	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	26.0	22.7	65.5	61.6	50.3	54.2	20.8	41.9	40.8	11.8	0.871

Data completeness

2019	SO ₄ ²⁻ %TP	nss-SO ₄ ²⁻ %TP	NO ₃ ⁻ %TP	Cl ⁻ %TP	NH ₄ ⁺ %TP	Na ⁺ %TP	K ⁺ %TP	Ca ²⁺ %TP	nss-Ca ²⁺ %TP	Mg ²⁺ %TP	H ⁺ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Mar	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Annual	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Terms and abbreviations are given in Table 3.5.

Table 3.46 Monthly results

Site: Metro Manila

Country: Philippines

Precipitation amount-weighted average concentration/ Precipitation amount

2019	SO ₄ ²⁻ μmol L ⁻¹	nss-SO ₄ ²⁻ μmol L ⁻¹	NO ₃ ⁻ μmol L ⁻¹	Cl ⁻ μmol L ⁻¹	NH ₄ ⁺ μmol L ⁻¹	Na ⁺ μmol L ⁻¹	K ⁺ μmol L ⁻¹	Ca ²⁺ μmol L ⁻¹	nss-Ca ²⁺ μmol L ⁻¹	Mg ²⁺ μmol L ⁻¹	H ⁺ μmol L ⁻¹	pH	EC mS m ⁻¹	Precip. mm month ⁻¹ or mm year ⁻¹
Jan	*	*	*	*	*	*	*	*	*	*	*	*	*	4.6
Feb	*	*	*	*	*	*	*	*	*	*	*	*	*	5.1
Mar	30.6	29.0	12.0	89.6	128	27.5	47.0	7.00	6.41	0.986	0.170	6.77	3.22	2.8
Apr	11.4	11.0	18.5	8.75	24.2	5.48	1.17	17.1	17.0	2.96	24.0	4.62	0.190	31.4
May	23.6	23.1	25.3	10.8	44.2	8.24	1.08	23.7	23.6	3.10	9.12	5.04	0.871	223
June	7.04	6.33	17.7	14.3	42.8	11.7	1.33	16.9	16.6	2.95	4.03	5.39	1.06	477
July	7.23	5.41	11.1	40.6	31.0	30.2	1.58	16.5	15.8	7.27	3.07	5.51	1.50	284
Aug	6.68	5.00	5.95	34.5	17.8	27.9	0.789	10.1	9.49	3.23	1.32	5.88	0.850	496
Sept	11.3	10.1	6.25	26.2	17.5	20.5	6.30	4.09	3.65	4.24	2.47	5.61	1.05	400
Oct	16.1	15.3	25.0	18.0	33.0	13.8	22.8	24.6	24.3	6.94	10.1	5.00	2.50	179
Nov	9.46	9.04	13.6	12.0	21.0	6.94	6.19	21.8	21.7	2.47	0.808	6.09	1.05	194
Dec	4.59	4.30	6.59	5.42	18.7	4.79	0.642	11.3	11.2	1.30	1.56	5.81	2.70	69.9
Annual	10.2	9.10	13.1	23.3	28.6	18.0	4.13	14.7	14.3	3.97	3.94	5.40	1.20	2367
Max.	30.9	30.1	70.5	140	163	102	81.3	65.4	64.8	24.7	24.0	6.77	3.40	
Min.	1.52	1.14	<0.5	2.84	<0.8	3.43	<0.3	0.613	<0.2	<0.3	0.170	4.62	0.120	

Wet deposition amount

2019	SO ₄ ²⁻ mmol m ⁻²	nss-SO ₄ ²⁻ mmol m ⁻²	NO ₃ ⁻ mmol m ⁻²	Cl ⁻ mmol m ⁻²	NH ₄ ⁺ mmol m ⁻²	Na ⁺ mmol m ⁻²	K ⁺ mmol m ⁻²	Ca ²⁺ mmol m ⁻²	nss-Ca ²⁺ mmol m ⁻²	Mg ²⁺ mmol m ⁻²	H ⁺ mmol m ⁻²
Jan	*	*	*	*	*	*	*	*	*	*	*
Feb	*	*	*	*	*	*	*	*	*	*	*
Mar	0.0858	0.0811	0.0335	0.251	0.357	0.0771	0.132	0.0196	0.0179	<0.01	<0.01
Apr	0.357	0.346	0.581	0.275	0.761	0.172	0.0369	0.537	0.534	0.0929	0.753
May	5.27	5.16	5.64	2.40	9.86	1.84	0.241	5.29	5.25	0.691	2.03
June	3.36	3.02	8.43	6.84	20.4	5.58	0.636	8.04	7.92	1.41	1.92
July	2.05	1.53	3.15	11.5	8.80	8.57	0.449	4.68	4.49	2.06	0.869
Aug	3.31	2.48	2.95	17.1	8.84	13.8	0.391	5.00	4.70	1.60	0.653
Sept	4.53	4.03	2.50	10.5	7.00	8.23	2.52	1.64	1.46	1.70	0.988
Oct	2.89	2.74	4.48	3.22	5.91	2.47	4.08	4.40	4.34	1.24	1.81
Nov	1.84	1.76	2.64	2.33	4.08	1.35	1.20	4.25	4.22	0.479	0.157
Dec	0.321	0.300	0.461	0.379	1.31	0.335	0.0449	0.788	0.781	0.0905	0.109
Annual	24.1	21.5	31.0	55.1	67.6	42.7	9.78	34.8	33.9	9.41	9.33

Data completeness

2019	SO ₄ ²⁻ %TP	nss-SO ₄ ²⁻ %TP	NO ₃ ⁻ %TP	Cl ⁻ %TP	NH ₄ ⁺ %TP	Na ⁺ %TP	K ⁺ %TP	Ca ²⁺ %TP	nss-Ca ²⁺ %TP	Mg ²⁺ %TP	H ⁺ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	100
Feb	0	0	0	0	0	0	0	0	0	0	0	0	0	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dec	97.1	97.1	97.1	97.1	97.1	97.1	97.1	97.1	97.1	97.1	97.1	97.1	97.1	100
Annual	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	100

Terms and abbreviations are given in Table 3.5.

Table 3.47 Monthly results

Site: Los Baños

Country: Philippines

Precipitation amount-weighted average concentration/ Precipitation amount

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺	pH	EC	Precip.
2019	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹		mS m ⁻¹	mm month ⁻¹ or mm year ⁻¹
Jan	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Feb	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Mar	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Apr	***	***	***	***	***	***	***	***	***	***	***	***	***	***
May	***	***	***	***	***	***	***	***	***	***	***	***	***	***
June	***	***	***	***	***	***	***	***	***	***	***	***	***	***
July	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Aug	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Sept	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Oct	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Nov	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Dec	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Annual	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Max.	***	***	***	***	***	***	***	***	***	***	***	***	***	
Min.	***	***	***	***	***	***	***	***	***	***	***	***	***	

Wet deposition amount

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺
2019	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²
Jan	***	***	***	***	***	***	***	***	***	***	***
Feb	***	***	***	***	***	***	***	***	***	***	***
Mar	***	***	***	***	***	***	***	***	***	***	***
Apr	***	***	***	***	***	***	***	***	***	***	***
May	***	***	***	***	***	***	***	***	***	***	***
June	***	***	***	***	***	***	***	***	***	***	***
July	***	***	***	***	***	***	***	***	***	***	***
Aug	***	***	***	***	***	***	***	***	***	***	***
Sept	***	***	***	***	***	***	***	***	***	***	***
Oct	***	***	***	***	***	***	***	***	***	***	***
Nov	***	***	***	***	***	***	***	***	***	***	***
Dec	***	***	***	***	***	***	***	***	***	***	***
Annual	***	***	***	***	***	***	***	***	***	***	***

Data completeness

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺	pH	EC	Precip.
2019	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%PCL
Jan	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Feb	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Mar	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Apr	***	***	***	***	***	***	***	***	***	***	***	***	***	***
May	***	***	***	***	***	***	***	***	***	***	***	***	***	***
June	***	***	***	***	***	***	***	***	***	***	***	***	***	***
July	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Aug	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Sept	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Oct	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Nov	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Dec	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Annual	***	***	***	***	***	***	***	***	***	***	***	***	***	***

Terms and abbreviations are given in Table 3.5.

Table 3.48 Monthly results

Site: Mt. Sto. Tomas

Country: Philippines

Precipitation amount-weighted average concentration/ Precipitation amount

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺	pH	EC	Precip.
2019	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹		mS m ⁻¹	mm month ⁻¹ or mm year ⁻¹
Jan	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Feb	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Mar	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Apr	***	***	***	***	***	***	***	***	***	***	***	***	***	***
May	***	***	***	***	***	***	***	***	***	***	***	***	***	***
June	***	***	***	***	***	***	***	***	***	***	***	***	***	***
July	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Aug	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Sept	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Oct	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Nov	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Dec	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Annual	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Max.	***	***	***	***	***	***	***	***	***	***	***	***	***	
Min.	***	***	***	***	***	***	***	***	***	***	***	***	***	

Wet deposition amount

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺
2019	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²
Jan	***	***	***	***	***	***	***	***	***	***	***
Feb	***	***	***	***	***	***	***	***	***	***	***
Mar	***	***	***	***	***	***	***	***	***	***	***
Apr	***	***	***	***	***	***	***	***	***	***	***
May	***	***	***	***	***	***	***	***	***	***	***
June	***	***	***	***	***	***	***	***	***	***	***
July	***	***	***	***	***	***	***	***	***	***	***
Aug	***	***	***	***	***	***	***	***	***	***	***
Sept	***	***	***	***	***	***	***	***	***	***	***
Oct	***	***	***	***	***	***	***	***	***	***	***
Nov	***	***	***	***	***	***	***	***	***	***	***
Dec	***	***	***	***	***	***	***	***	***	***	***
Annual	***	***	***	***	***	***	***	***	***	***	***

Data completeness

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺	pH	EC	Precip.
2019	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%PCL
Jan	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Feb	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Mar	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Apr	***	***	***	***	***	***	***	***	***	***	***	***	***	***
May	***	***	***	***	***	***	***	***	***	***	***	***	***	***
June	***	***	***	***	***	***	***	***	***	***	***	***	***	***
July	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Aug	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Sept	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Oct	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Nov	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Dec	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Annual	***	***	***	***	***	***	***	***	***	***	***	***	***	***

Terms and abbreviations are given in Table 3.5.

Table 3.49 Monthly results

Site: Kanghwa

Country: R of Korea

Precipitation amount-weighted average concentration/ Precipitation amount

2019	SO ₄ ²⁻ μmol L ⁻¹	nss-SO ₄ ²⁻ μmol L ⁻¹	NO ₃ ⁻ μmol L ⁻¹	Cl ⁻ μmol L ⁻¹	NH ₄ ⁺ μmol L ⁻¹	Na ⁺ μmol L ⁻¹	K ⁺ μmol L ⁻¹	Ca ²⁺ μmol L ⁻¹	nss-Ca ²⁺ μmol L ⁻¹	Mg ²⁺ μmol L ⁻¹	H ⁺ μmol L ⁻¹	pH	EC mS m ⁻¹	Precip. mm month ⁻¹ or mm year ⁻¹
Jan	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Feb	25.7	24.2	43.8	37.3	81.3	24.1	10.7	5.93	5.41	2.09	8.58	5.07	2.14	12.5
Mar	42.7	37.5	110	151	139	86.1	52.9	22.8	21.0	10.8	12.5	4.90	5.34	21.5
Apr	37.5	36.1	66.2	28.2	116	23.2	1.95	9.28	8.79	2.23	24.5	4.61	3.25	17.5
May	20.4	19.7	23.7	15.0	62.6	12.1	<0.3	1.19	0.926	0.415	11.0	4.96	1.61	35.5
June	24.0	22.3	59.3	36.9	107	28.5	0.656	4.81	4.20	1.53	7.36	5.13	2.31	32.5
July	17.8	15.2	26.9	42.3	38.0	41.6	1.06	1.59	0.721	1.28	25.5	4.59	2.09	114
Aug	17.7	16.1	24.1	29.4	25.2	27.2	0.900	1.19	0.598	0.747	28.3	4.55	2.30	53.0
Sept	34.7	7.26	17.1	544	7.80	455	14.0	12.4	2.57	43.2	24.3	4.61	9.24	174
Oct	9.37	8.48	18.9	15.6	26.2	14.7	<0.3	0.401	<0.2	<0.3	4.60	5.34	0.923	22.5
Nov	38.7	34.7	90.9	72.5	73.9	64.9	3.69	23.8	22.4	7.80	11.7	4.93	3.18	3.0
Dec	28.0	25.1	74.3	55.4	103	48.5	1.57	9.07	8.02	3.72	17.6	4.75	3.40	16.0
Annual	26.2	15.4	32.0	216	42.3	180	7.91	7.07	3.19	16.2	20.9	4.68	4.74	502
Max.	138	107	309	978	342	819	195	99.6	88.7	79.2	88.4	6.04	18.1	
Min.	2.08	1.55	4.29	11.9	2.14	8.81	<0.3	<0.2	<0.2	<0.3	0.919	4.05	0.450	

Wet deposition amount

2019	SO ₄ ²⁻ mmol m ⁻²	nss-SO ₄ ²⁻ mmol m ⁻²	NO ₃ ⁻ mmol m ⁻²	Cl ⁻ mmol m ⁻²	NH ₄ ⁺ mmol m ⁻²	Na ⁺ mmol m ⁻²	K ⁺ mmol m ⁻²	Ca ²⁺ mmol m ⁻²	nss-Ca ²⁺ mmol m ⁻²	Mg ²⁺ mmol m ⁻²	H ⁺ mmol m ⁻²
Jan	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Feb	0.321	0.302	0.547	0.466	1.02	0.301	0.134	0.0741	0.0676	0.0261	0.107
Mar	0.917	0.806	2.37	3.25	2.99	1.85	1.14	0.491	0.451	0.231	0.269
Apr	0.657	0.632	1.16	0.493	2.02	0.407	0.0341	0.162	0.154	0.0391	0.430
May	0.726	0.700	0.842	0.534	2.22	0.430	<0.01	0.0421	0.0329	0.0147	0.389
June	0.780	0.724	1.93	1.20	3.49	0.927	0.0213	0.156	0.136	0.0497	0.239
July	2.02	1.74	3.07	4.83	4.34	4.74	0.121	0.182	0.0822	0.145	2.91
Aug	0.938	0.851	1.28	1.56	1.33	1.44	0.0477	0.0628	0.0317	0.0396	1.50
Sept	6.01	1.26	2.96	94.5	1.35	78.9	2.42	2.15	0.447	7.50	4.21
Oct	0.211	0.191	0.426	0.352	0.590	0.332	<0.01	<0.01	<0.01	<0.01	0.103
Nov	0.116	0.104	0.273	0.217	0.222	0.195	0.0111	0.0715	0.0673	0.0234	0.0352
Dec	0.448	0.401	1.19	0.886	1.64	0.776	0.0252	0.145	0.128	0.0595	0.282
Annual	13.2	7.71	16.0	108	21.2	90.3	3.97	3.54	1.60	8.13	10.5

Data completeness

2019	SO ₄ ²⁻ %TP	nss-SO ₄ ²⁻ %TP	NO ₃ ⁻ %TP	Cl ⁻ %TP	NH ₄ ⁺ %TP	Na ⁺ %TP	K ⁺ %TP	Ca ²⁺ %TP	nss-Ca ²⁺ %TP	Mg ²⁺ %TP	H ⁺ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Terms and abbreviations are given in Table 3.5.

Table 3.50 Monthly results

Site: Cheju

Country: R of Korea

Precipitation amount-weighted average concentration/ Precipitation amount

2019	SO ₄ ²⁻ μmol L ⁻¹	nss-SO ₄ ²⁻ μmol L ⁻¹	NO ₃ ⁻ μmol L ⁻¹	Cl ⁻ μmol L ⁻¹	NH ₄ ⁺ μmol L ⁻¹	Na ⁺ μmol L ⁻¹	K ⁺ μmol L ⁻¹	Ca ²⁺ μmol L ⁻¹	nss-Ca ²⁺ μmol L ⁻¹	Mg ²⁺ μmol L ⁻¹	H ⁺ μmol L ⁻¹	pH	EC mS m ⁻¹	Precip. mm month ⁻¹ or mm year ⁻¹
Jan	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Feb	36.9	9.78	42.7	487	18.4	449	10.8	24.8	15.1	30.9	0.380	6.42	7.76	4.2
Mar	40.8	26.2	76.4	203	74.9	242	8.95	10.7	5.49	11.6	0.365	6.44	5.21	113
Apr	69.8	60.3	115	131	153	156	6.46	31.2	27.9	15.8	5.68	5.25	6.21	39.9
May	21.5	16.5	29.5	74.6	54.8	83.4	3.02	3.04	1.48	2.73	2.70	5.57	2.04	78.0
June	38.3	26.8	73.9	161	81.9	191	5.44	9.52	5.55	9.57	3.20	5.49	4.64	61.7
July	21.9	18.0	15.7	51.4	43.3	65.4	1.11	0.435	<0.2	<0.3	3.58	5.45	1.58	102
Aug	9.73	5.62	20.7	55.1	19.0	68.1	4.26	0.899	<0.2	<0.3	1.45	5.84	1.30	18.5
Sept	6.50	4.65	24.2	21.5	19.7	30.8	0.337	0.392	<0.2	<0.3	2.47	5.61	0.981	346
Oct	8.24	6.82	6.88	9.15	17.0	23.6	0.696	<0.2	<0.2	<0.3	1.95	5.71	0.580	3.6
Nov	9.67	6.51	10.8	35.7	12.9	52.4	5.32	0.881	<0.2	<0.3	2.45	5.61	1.19	10.1
Dec	24.8	20.9	15.7	23.5	10.6	63.6	1.47	0.890	<0.2	<0.3	3.58	5.45	1.30	13.7
Annual	21.1	15.5	39.2	76.4	45.4	93.4	2.87	4.56	2.88	3.67	2.53	5.60	2.37	791
Max.	112	105	199	487	303	459	15.7	56.3	53.7	33.1	6.61	6.56	9.03	
Min.	1.82	0.449	6.11	9.15	1.62	21.4	0.309	<0.2	<0.2	<0.3	0.275	5.18	0.500	

Wet deposition amount

2019	SO ₄ ²⁻ mmol m ⁻²	nss-SO ₄ ²⁻ mmol m ⁻²	NO ₃ ⁻ mmol m ⁻²	Cl ⁻ mmol m ⁻²	NH ₄ ⁺ mmol m ⁻²	Na ⁺ mmol m ⁻²	K ⁺ mmol m ⁻²	Ca ²⁺ mmol m ⁻²	nss-Ca ²⁺ mmol m ⁻²	Mg ²⁺ mmol m ⁻²	H ⁺ mmol m ⁻²
Jan	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Feb	0.155	0.0411	0.179	2.05	0.0774	1.89	0.0455	0.104	0.0635	0.130	<0.01
Mar	4.61	2.96	8.64	23.0	8.47	27.4	1.01	1.21	0.621	1.31	0.0413
Apr	2.78	2.41	4.60	5.21	6.09	6.24	0.258	1.25	1.11	0.630	0.227
May	1.68	1.29	2.30	5.82	4.28	6.51	0.235	0.237	0.116	0.213	0.211
June	2.37	1.65	4.56	9.94	5.06	11.8	0.335	0.587	0.342	0.591	0.198
July	2.23	1.83	1.60	5.24	4.42	6.67	0.113	0.0443	<0.01	0.0120	0.364
Aug	0.180	0.104	0.383	1.02	0.352	1.26	0.0787	0.0166	<0.01	<0.01	0.0268
Sept	2.25	1.61	8.39	7.44	6.81	10.6	0.117	0.136	0.0208	<0.01	0.854
Oct	0.0297	0.0245	0.0248	0.0330	0.0612	0.0850	<0.01	<0.01	<0.01	<0.01	<0.01
Nov	0.0976	0.0657	0.109	0.360	0.130	0.529	0.0537	<0.01	<0.01	<0.01	0.0248
Dec	0.339	0.287	0.215	0.322	0.145	0.871	0.0201	0.0122	<0.01	<0.01	0.0490
Annual	16.7	12.3	31.0	60.4	35.9	73.8	2.27	3.61	2.28	2.90	2.00

Data completeness

2019	SO ₄ ²⁻ %TP	nss-SO ₄ ²⁻ %TP	NO ₃ ⁻ %TP	Cl ⁻ %TP	NH ₄ ⁺ %TP	Na ⁺ %TP	K ⁺ %TP	Ca ²⁺ %TP	nss-Ca ²⁺ %TP	Mg ²⁺ %TP	H ⁺ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Terms and abbreviations are given in Table 3.5.

Table 3.51 Monthly results

Site: Imsil

Country: R of Korea

Precipitation amount-weighted average concentration/ Precipitation amount

2019	SO ₄ ²⁻ μmol L ⁻¹	nss-SO ₄ ²⁻ μmol L ⁻¹	NO ₃ ⁻ μmol L ⁻¹	Cl ⁻ μmol L ⁻¹	NH ₄ ⁺ μmol L ⁻¹	Na ⁺ μmol L ⁻¹	K ⁺ μmol L ⁻¹	Ca ²⁺ μmol L ⁻¹	nss-Ca ²⁺ μmol L ⁻¹	Mg ²⁺ μmol L ⁻¹	H ⁺ μmol L ⁻¹	pH	EC mS m ⁻¹	Precip. mm month ⁻¹ or mm year ⁻¹
Jan	27.6	24.4	55.8	34.3	63.0	53.1	2.48	4.20	3.06	1.11	2.83	5.55	2.12	12.5
Feb	25.9	22.0	47.8	33.1	50.2	64.8	1.75	1.39	<0.2	0.327	1.71	5.77	2.00	22.5
Mar	48.0	39.3	98.6	140	114	145	6.55	33.1	30.0	11.5	0.576	6.24	5.34	33.0
Apr	13.8	11.4	26.7	18.2	27.8	40.6	1.06	2.10	1.50	0.327	1.64	5.79	1.19	92.5
May	13.6	11.0	36.6	19.4	28.7	42.3	1.51	1.52	0.936	0.463	2.64	5.58	1.36	30.0
June	7.34	5.83	15.7	9.72	9.71	25.0	1.09	0.679	0.207	<0.3	3.74	5.43	0.708	115
July	20.8	19.5	18.4	26.5	65.0	22.6	1.24	2.39	2.03	<0.3	8.69	5.06	1.38	298
Aug	6.62	5.26	13.9	9.63	16.4	22.7	0.811	0.339	<0.2	<0.3	1.81	5.74	0.651	162
Sept	7.36	5.16	6.46	24.4	6.38	36.6	0.322	0.293	<0.2	<0.3	3.15	5.50	0.741	248
Oct	10.9	8.24	12.9	32.4	11.0	44.9	0.585	0.465	<0.2	<0.3	5.50	5.26	1.05	27.2
Nov	24.6	19.4	33.9	69.0	44.3	86.5	1.93	3.46	1.81	2.06	1.68	5.77	2.19	18.0
Dec	50.6	42.9	120	117	113	128	7.29	13.8	11.0	9.12	11.9	4.92	4.98	37.0
Annual	15.3	13.0	22.9	28.4	35.7	38.1	1.33	2.66	2.07	0.797	4.60	5.34	1.31	1096
Max.	69.9	57.2	141	221	172	210	9.78	68.5	63.9	21.7	16.2	6.50	8.13	
Min.	1.59	0.400	3.04	5.29	<0.8	13.3	0.302	<0.2	<0.2	<0.3	0.316	4.79	0.330	

Wet deposition amount

2019	SO ₄ ²⁻ mmol m ⁻²	nss-SO ₄ ²⁻ mmol m ⁻²	NO ₃ ⁻ mmol m ⁻²	Cl ⁻ mmol m ⁻²	NH ₄ ⁺ mmol m ⁻²	Na ⁺ mmol m ⁻²	K ⁺ mmol m ⁻²	Ca ²⁺ mmol m ⁻²	nss-Ca ²⁺ mmol m ⁻²	Mg ²⁺ mmol m ⁻²	H ⁺ mmol m ⁻²
Jan	0.345	0.305	0.698	0.428	0.788	0.664	0.0310	0.0525	0.0382	0.0138	0.0353
Feb	0.584	0.496	1.07	0.744	1.13	1.46	0.0394	0.0313	<0.01	<0.01	0.0385
Mar	1.58	1.30	3.25	4.63	3.77	4.78	0.216	1.09	0.991	0.379	0.0190
Apr	1.28	1.05	2.47	1.68	2.57	3.75	0.0978	0.194	0.139	0.0303	0.152
May	0.407	0.330	1.10	0.581	0.862	1.27	0.0454	0.0456	0.0281	0.0139	0.0793
June	0.847	0.673	1.81	1.12	1.12	2.88	0.126	0.0784	0.0238	0.0196	0.431
July	6.20	5.79	5.49	7.88	19.4	6.74	0.370	0.712	0.606	0.0202	2.59
Aug	1.07	0.852	2.25	1.56	2.66	3.68	0.132	0.0549	<0.01	<0.01	0.293
Sept	1.83	1.28	1.60	6.07	1.58	9.07	0.0800	0.0728	<0.01	0.0107	0.782
Oct	0.298	0.224	0.350	0.882	0.299	1.22	0.0159	0.0127	<0.01	<0.01	0.150
Nov	0.442	0.348	0.610	1.24	0.798	1.56	0.0348	0.0623	0.0325	0.0371	0.0303
Dec	1.87	1.59	4.43	4.34	4.18	4.75	0.270	0.511	0.409	0.337	0.442
Annual	16.8	14.2	25.1	31.2	39.1	41.8	1.46	2.92	2.27	0.874	5.04

Data completeness

2019	SO ₄ ²⁻ %TP	nss-SO ₄ ²⁻ %TP	NO ₃ ⁻ %TP	Cl ⁻ %TP	NH ₄ ⁺ %TP	Na ⁺ %TP	K ⁺ %TP	Ca ²⁺ %TP	nss-Ca ²⁺ %TP	Mg ²⁺ %TP	H ⁺ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Terms and abbreviations are given in Table 3.5.

Table 3.52 Monthly results

Site: Mondy

Country: Russia

Precipitation amount-weighted average concentration/ Precipitation amount

2019	SO ₄ ²⁻ μmol L ⁻¹	nss-SO ₄ ²⁻ μmol L ⁻¹	NO ₃ ⁻ μmol L ⁻¹	Cl ⁻ μmol L ⁻¹	NH ₄ ⁺ μmol L ⁻¹	Na ⁺ μmol L ⁻¹	K ⁺ μmol L ⁻¹	Ca ²⁺ μmol L ⁻¹	nss-Ca ²⁺ μmol L ⁻¹	Mg ²⁺ μmol L ⁻¹	H ⁺ μmol L ⁻¹	pH	EC mS m ⁻¹	Precip. mm month ⁻¹ or mm year ⁻¹
Jan	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Mar	9.02	8.58	8.03	2.19	11.6	7.39	1.61	16.9	16.8	1.72	0.868	6.06	0.718	7.2
Apr	--	--	--	--	--	--	--	--	--	--	--	--	--	0
May	20.8	20.4	31.0	6.60	19.4	6.52	2.80	42.4	42.3	7.00	1.55	5.81	1.41	6.9
June	3.73	3.63	13.3	0.791	10.1	1.56	1.21	2.23	2.20	0.527	3.90	5.41	0.397	31.9
July	2.63	2.59	5.95	2.13	3.58	0.759	0.914	1.50	1.48	0.481	7.13	5.15	0.455	22.0
Aug	2.03	1.99	2.46	0.880	2.50	0.582	0.559	0.561	0.550	0.365	5.37	5.27	0.297	62.1
Sept	6.50	6.43	9.43	2.40	22.8	1.21	0.986	4.66	4.63	1.19	1.97	5.71	0.574	41.4
Oct	6.66	6.11	3.10	6.20	1.20	9.13	1.30	16.7	16.5	1.20	0.398	6.40	0.520	10.9
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Annual	4.68	4.56	7.69	1.95	9.51	1.92	0.982	5.09	5.05	0.948	3.93	5.41	0.469	182
Max.	20.8	20.4	31.0	8.60	47.9	25.7	2.80	42.4	42.3	7.00	8.13	6.40	1.41	
Min.	1.04	0.987	0.970	<0.5	<0.8	0.435	<0.3	<0.2	<0.2	<0.3	0.398	5.09	0.165	

Wet deposition amount

2019	SO ₄ ²⁻ mmol m ⁻²	nss-SO ₄ ²⁻ mmol m ⁻²	NO ₃ ⁻ mmol m ⁻²	Cl ⁻ mmol m ⁻²	NH ₄ ⁺ mmol m ⁻²	Na ⁺ mmol m ⁻²	K ⁺ mmol m ⁻²	Ca ²⁺ mmol m ⁻²	nss-Ca ²⁺ mmol m ⁻²	Mg ²⁺ mmol m ⁻²	H ⁺ mmol m ⁻²
Jan	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Feb	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar	0.0650	0.0618	0.0578	0.0158	0.0836	0.0532	0.0116	0.122	0.121	0.0124	<0.01
Apr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May	0.144	0.141	0.214	0.0455	0.134	0.0450	0.0193	0.293	0.292	0.0483	0.0107
June	0.119	0.116	0.424	0.0252	0.324	0.0498	0.0385	0.0713	0.0702	0.0168	0.124
July	0.0579	0.0569	0.131	0.0468	0.0788	0.0167	0.0201	0.0329	0.0325	0.0106	0.157
Aug	0.126	0.124	0.153	0.0546	0.155	0.0361	0.0347	0.0348	0.0342	0.0227	0.333
Sept	0.269	0.266	0.390	0.0995	0.946	0.0500	0.0408	0.193	0.192	0.0491	0.0815
Oct	0.0726	0.0666	0.0338	0.0676	0.0131	0.0995	0.0142	0.182	0.180	0.0131	<0.01
Nov	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dec	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	0.853	0.832	1.40	0.355	1.73	0.350	0.179	0.928	0.921	0.173	0.717

Data completeness

2019	SO ₄ ²⁻ %TP	nss-SO ₄ ²⁻ %TP	NO ₃ ⁻ %TP	Cl ⁻ %TP	NH ₄ ⁺ %TP	Na ⁺ %TP	K ⁺ %TP	Ca ²⁺ %TP	nss-Ca ²⁺ %TP	Mg ²⁺ %TP	H ⁺ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	--	--	--	--	--	--	--	--	--	--	--	--	--	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Annual	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Terms and abbreviations are given in Table 3.5.

Table 3.53 Monthly results

Site: Listvyanka

Country: Russia

Precipitation amount-weighted average concentration/ Precipitation amount

2019	SO ₄ ²⁻ μmol L ⁻¹	nss-SO ₄ ²⁻ μmol L ⁻¹	NO ₃ ⁻ μmol L ⁻¹	Cl ⁻ μmol L ⁻¹	NH ₄ ⁺ μmol L ⁻¹	Na ⁺ μmol L ⁻¹	K ⁺ μmol L ⁻¹	Ca ²⁺ μmol L ⁻¹	nss-Ca ²⁺ μmol L ⁻¹	Mg ²⁺ μmol L ⁻¹	H ⁺ μmol L ⁻¹	pH	EC mS m ⁻¹	Precip. mm month ⁻¹ or mm year ⁻¹
Jan	30.6	30.3	62.8	4.15	9.26	5.72	2.87	37.0	36.9	7.60	6.85	5.16	1.78	5.0
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Mar	47.4	46.7	53.8	7.15	23.6	10.8	4.91	38.7	38.5	9.94	8.19	5.09	2.37	18.4
Apr	35.6	34.8	36.3	5.78	17.8	12.9	5.35	32.9	32.6	6.15	9.83	5.01	1.78	8.8
May	21.5	20.3	18.6	7.20	23.8	3.42	2.07	18.8	18.7	3.33	8.36	5.08	1.31	18.4
June	19.0	18.9	13.8	3.02	14.2	3.16	2.86	6.32	6.25	1.36	24.7	4.61	1.38	75.4
July	15.0	14.9	12.2	1.65	15.7	1.18	1.14	2.24	2.22	0.925	22.4	4.65	1.16	140
Aug	22.8	22.6	14.5	10.1	38.9	3.46	5.05	5.10	5.02	2.01	21.3	4.67	1.65	71.7
Sept	13.3	13.2	6.67	1.70	10.9	1.87	3.43	5.51	5.47	2.24	11.0	4.96	0.876	65.2
Oct	25.8	25.5	15.9	5.76	5.93	3.65	8.83	15.5	15.4	5.45	14.8	4.83	1.17	11.5
Nov	19.2	18.8	25.0	3.90	14.6	6.09	2.56	18.2	18.1	4.11	2.04	5.69	1.10	1.3
Dec	16.8	16.4	34.8	7.57	9.24	6.43	3.51	16.2	16.0	3.53	12.3	4.91	1.33	13.8
Annual	19.4	19.1	16.0	4.19	18.8	3.06	3.04	8.05	7.98	2.27	18.6	4.73	1.32	430
Max.	227	223	340	53.3	150	73.9	117	287	285	75.5	75.9	6.52	12.6	
Min.	4.16	4.14	1.60	<0.5	<0.8	0.435	<0.3	0.250	0.240	0.410	0.302	4.12	0.510	

Wet deposition amount

2019	SO ₄ ²⁻ mmol m ⁻²	nss-SO ₄ ²⁻ mmol m ⁻²	NO ₃ ⁻ mmol m ⁻²	Cl ⁻ mmol m ⁻²	NH ₄ ⁺ mmol m ⁻²	Na ⁺ mmol m ⁻²	K ⁺ mmol m ⁻²	Ca ²⁺ mmol m ⁻²	nss-Ca ²⁺ mmol m ⁻²	Mg ²⁺ mmol m ⁻²	H ⁺ mmol m ⁻²
Jan	0.153	0.151	0.314	0.0208	0.0463	0.0286	0.0144	0.185	0.185	0.0380	0.0343
Feb	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar	0.872	0.860	0.990	0.131	0.435	0.199	0.0903	0.713	0.708	0.183	0.151
Apr	0.313	0.306	0.319	0.0509	0.156	0.113	0.0471	0.289	0.287	0.0541	0.0865
May	0.395	0.373	0.343	0.133	0.438	0.0630	0.0380	0.346	0.345	0.0613	0.154
June	1.44	1.42	1.04	0.227	1.07	0.238	0.215	0.477	0.472	0.103	1.86
July	2.10	2.09	1.71	0.231	2.20	0.165	0.159	0.314	0.311	0.130	3.13
Aug	1.63	1.62	1.04	0.721	2.79	0.248	0.362	0.366	0.360	0.144	1.53
Sept	0.869	0.861	0.435	0.111	0.711	0.122	0.224	0.359	0.357	0.146	0.717
Oct	0.296	0.294	0.182	0.0663	0.0682	0.0419	0.102	0.178	0.177	0.0627	0.170
Nov	0.0249	0.0244	0.0325	<0.01	0.0190	<0.01	<0.01	0.0237	0.0235	<0.01	<0.01
Dec	0.232	0.227	0.480	0.104	0.128	0.0888	0.0485	0.223	0.221	0.0487	0.170
Annual	8.32	8.22	6.88	1.80	8.06	1.32	1.31	3.46	3.43	0.974	8.00

Data completeness

2019	SO ₄ ²⁻ %TP	nss-SO ₄ ²⁻ %TP	NO ₃ ⁻ %TP	Cl ⁻ %TP	NH ₄ ⁺ %TP	Na ⁺ %TP	K ⁺ %TP	Ca ²⁺ %TP	nss-Ca ²⁺ %TP	Mg ²⁺ %TP	H ⁺ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	91.3	100	100	100	91.3	91.3	91.3	91.3	91.3	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	100	99.6	100	100	100	99.6	99.6	99.6	99.6	99.6	100	100	100	100

Terms and abbreviations are given in Table 3.5.

Table 3.54 Monthly results

Site: Irkutsk

Country: Russia

Precipitation amount-weighted average concentration/ Precipitation amount

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺	pH	EC	Precip.
2019	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹		mS m ⁻¹	mm month ⁻¹ or mm year ⁻¹
Jan	74.3	72.6	39.8	32.2	42.9	28.5	5.49	116	115	13.9	0.256	6.59	3.95	8.0
Feb	159	145	105	274	39.0	239	17.4	260	254	38.2	0.0468	7.33	10.6	0.5
Mar	62.9	60.6	33.4	45.9	33.4	38.4	5.36	62.2	61.4	14.2	0.870	6.06	3.10	20.7
Apr	27.3	26.1	17.9	15.5	28.7	20.6	3.12	38.6	38.1	5.61	1.41	5.85	1.70	6.5
May	58.6	57.5	29.9	15.1	51.7	16.9	9.70	64.1	63.7	12.6	0.856	6.07	3.10	8.8
June	21.0	20.9	10.7	3.64	15.4	1.74	1.17	8.81	8.77	2.63	20.1	4.70	1.25	100
July	20.1	19.5	14.5	7.25	36.3	0.560	1.04	2.74	2.73	0.961	20.7	4.69	1.39	127
Aug	39.8	39.6	21.0	8.20	52.1	2.32	7.94	14.0	13.9	4.84	29.0	4.54	2.36	27.3
Sept	24.9	24.7	11.7	4.06	24.9	2.50	9.63	10.1	10.0	3.71	12.1	4.92	1.29	50.6
Oct	23.2	22.7	11.4	9.82	15.4	8.24	12.1	18.7	18.5	6.36	2.04	5.69	1.15	21.5
Nov	55.1	52.9	30.1	45.5	42.7	37.2	6.08	61.7	60.9	13.5	0.923	6.03	3.08	9.5
Dec	29.8	29.1	22.0	15.4	32.9	12.7	3.68	35.3	35.0	6.14	0.800	6.10	1.74	21.5
Annual	28.2	27.7	16.2	10.6	29.8	6.70	4.06	17.6	17.5	4.20	15.3	4.82	1.65	402
Max.	220	210	105	274	144	239	67.0	260	254	38.2	63.1	7.33	10.6	
Min.	9.47	9.45	3.31	<0.5	1.94	<0.3	<0.3	<0.2	<0.2	<0.3	0.0468	4.20	0.692	

Wet deposition amount

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺
2019	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²
Jan	0.595	0.581	0.318	0.258	0.343	0.228	0.0440	0.925	0.920	0.111	<0.01
Feb	0.0797	0.0724	0.0527	0.137	0.0195	0.120	<0.01	0.130	0.127	0.0191	<0.01
Mar	1.30	1.26	0.692	0.951	0.693	0.797	0.111	1.29	1.27	0.294	0.0180
Apr	0.178	0.170	0.116	0.101	0.186	0.134	0.0203	0.251	0.248	0.0365	<0.01
May	0.515	0.506	0.263	0.133	0.455	0.149	0.0853	0.564	0.561	0.111	<0.01
June	2.10	2.09	1.07	0.365	1.54	0.174	0.117	0.882	0.878	0.264	2.01
July	2.55	2.47	1.84	0.920	4.61	0.0711	0.132	0.348	0.346	0.122	2.62
Aug	1.09	1.08	0.572	0.224	1.42	0.0633	0.217	0.381	0.380	0.132	0.793
Sept	1.26	1.25	0.593	0.205	1.26	0.127	0.487	0.510	0.507	0.187	0.614
Oct	0.499	0.488	0.245	0.211	0.331	0.177	0.260	0.402	0.398	0.137	0.0438
Nov	0.524	0.503	0.286	0.432	0.405	0.353	0.0577	0.586	0.578	0.129	<0.01
Dec	0.640	0.624	0.473	0.330	0.707	0.274	0.0790	0.757	0.751	0.132	0.0172
Annual	11.3	11.1	6.53	4.27	12.0	2.69	1.63	7.09	7.03	1.69	6.14

Data completeness

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺	pH	EC	Precip.
2019	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%PCL
Jan	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	96.8	100	100	100	96.8	96.8	96.8	96.8	96.8	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	100	99.0	100	100	100	99.0	99.0	99.0	99.0	99.0	100	100	100	100

Terms and abbreviations are given in Table 3.5.

Table 3.55 Monthly results

Site: Primorskaya

Country: Russia

Precipitation amount-weighted average concentration/ Precipitation amount

2019	SO ₄ ²⁻ μmol L ⁻¹	nss-SO ₄ ²⁻ μmol L ⁻¹	NO ₃ ⁻ μmol L ⁻¹	Cl ⁻ μmol L ⁻¹	NH ₄ ⁺ μmol L ⁻¹	Na ⁺ μmol L ⁻¹	K ⁺ μmol L ⁻¹	Ca ²⁺ μmol L ⁻¹	nss-Ca ²⁺ μmol L ⁻¹	Mg ²⁺ μmol L ⁻¹	H ⁺ μmol L ⁻¹	pH	EC mS m ⁻¹	Precip. mm month ⁻¹ or mm year ⁻¹
Jan	*	*	*	*	*	*	*	*	*	*	0.0758	7.12	*	1.2
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Mar	32.7	31.3	22.1	52.4	30.4	21.8	8.02	23.4	22.9	12.6	0.978	6.01	1.79	18.8
Apr	84.6	80.1	69.6	57.9	71.9	74.6	38.1	42.6	41.0	29.6	0.277	6.56	4.65	6.2
May	15.6	14.7	16.0	32.5	19.5	16.3	6.35	11.9	11.5	9.27	0.572	6.24	1.11	186
June	35.0	33.7	38.1	37.6	65.2	21.3	10.0	17.7	17.2	10.3	4.38	5.36	2.19	54.9
July	20.6	19.2	26.3	30.3	32.8	22.3	8.44	13.3	12.9	6.67	1.07	5.97	1.35	62.8
Aug	12.1	11.2	17.0	30.5	18.4	14.1	6.46	7.93	7.63	9.57	1.46	5.84	1.03	284
Sept	10.6	9.56	10.3	34.3	5.85	17.3	15.7	10.0	9.65	6.02	0.571	6.24	0.932	75.9
Oct	28.4	26.0	32.3	39.3	23.8	40.2	9.09	14.7	13.9	8.42	10.7	4.97	2.02	99.1
Nov	25.2	23.9	25.0	45.9	31.3	21.5	5.84	16.1	15.7	7.91	11.1	4.96	1.90	71.1
Dec	29.7	28.5	33.9	37.0	40.8	19.7	7.62	22.4	22.0	8.03	23.6	4.63	2.15	19.8
Annual	18.7	17.4	21.2	34.6	23.9	20.0	8.03	12.1	11.6	8.90	3.65	5.44	1.36	880
Max.	106	100	83.7	168	171	96.1	54.7	51.9	49.8	42.0	288	7.60	6.39	
Min.	3.00	2.01	4.40	10.2	2.20	6.50	1.80	4.20	4.06	3.30	0.0251	3.54	0.690	

Wet deposition amount

2019	SO ₄ ²⁻ mmol m ⁻²	nss-SO ₄ ²⁻ mmol m ⁻²	NO ₃ ⁻ mmol m ⁻²	Cl ⁻ mmol m ⁻²	NH ₄ ⁺ mmol m ⁻²	Na ⁺ mmol m ⁻²	K ⁺ mmol m ⁻²	Ca ²⁺ mmol m ⁻²	nss-Ca ²⁺ mmol m ⁻²	Mg ²⁺ mmol m ⁻²	H ⁺ mmol m ⁻²
Jan	*	*	*	*	*	*	*	*	*	*	<0.01
Feb	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar	0.614	0.589	0.415	0.985	0.572	0.409	0.151	0.439	0.431	0.237	0.0184
Apr	0.525	0.497	0.432	0.359	0.446	0.463	0.236	0.264	0.254	0.184	<0.01
May	2.90	2.72	2.97	6.04	3.61	3.03	1.18	2.20	2.14	1.72	0.106
June	1.92	1.85	2.09	2.07	3.58	1.17	0.551	0.971	0.945	0.567	0.240
July	1.29	1.21	1.65	1.91	2.06	1.40	0.530	0.838	0.807	0.419	0.0669
Aug	3.43	3.19	4.84	8.67	5.24	4.00	1.84	2.26	2.17	2.72	0.414
Sept	0.805	0.726	0.780	2.61	0.444	1.31	1.19	0.761	0.732	0.457	0.0433
Oct	2.81	2.57	3.20	3.89	2.35	3.98	0.901	1.46	1.37	0.835	1.06
Nov	1.79	1.70	1.78	3.26	2.22	1.53	0.415	1.15	1.11	0.562	0.788
Dec	0.588	0.565	0.671	0.734	0.808	0.390	0.151	0.444	0.436	0.159	0.468
Annual	16.4	15.4	18.6	30.4	21.0	17.6	7.07	10.6	10.2	7.83	3.21

Data completeness

2019	SO ₄ ²⁻ %TP	nss-SO ₄ ²⁻ %TP	NO ₃ ⁻ %TP	Cl ⁻ %TP	NH ₄ ⁺ %TP	Na ⁺ %TP	K ⁺ %TP	Ca ²⁺ %TP	nss-Ca ²⁺ %TP	Mg ²⁺ %TP	H ⁺ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	0	0	0	0	0	0	0	0	0	0	100	100	0	100
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Mar	80.9	80.9	80.9	80.9	80.9	80.9	80.9	80.9	80.9	80.9	100	100	80.9	100
Apr	54.8	54.8	54.8	54.8	54.8	54.8	54.8	54.8	54.8	54.8	100	100	54.8	100
May	97.0	97.0	97.0	97.0	97.0	97.0	97.0	97.0	97.0	97.0	100	100	97.0	100
June	95.6	95.6	95.6	95.6	95.6	95.6	95.6	95.6	95.6	95.6	100	100	95.6	100
July	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	100	100	81.8	100
Aug	96.9	96.9	96.9	96.9	96.9	96.9	96.9	96.9	96.9	96.9	100	100	96.9	100
Sept	96.0	96.0	96.0	96.0	96.0	96.0	96.0	96.0	96.0	96.0	100	100	96.0	100
Oct	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	100	100	99.2	100
Nov	91.6	91.6	91.6	91.6	91.6	91.6	91.6	91.6	91.6	91.6	100	100	91.6	100
Dec	78.3	78.3	78.3	78.3	78.3	78.3	78.3	78.3	78.3	78.3	100	100	78.3	100
Annual	94.3	94.3	94.3	94.3	94.3	94.3	94.3	94.3	94.3	94.3	100	100	94.3	100

Terms and abbreviations are given in Table 3.5.

Table 3.56 Monthly results

Site: Bangkok

Country: Thailand

Precipitation amount-weighted average concentration/ Precipitation amount

2019	SO ₄ ²⁻ μmol L ⁻¹	nss-SO ₄ ²⁻ μmol L ⁻¹	NO ₃ ⁻ μmol L ⁻¹	Cl ⁻ μmol L ⁻¹	NH ₄ ⁺ μmol L ⁻¹	Na ⁺ μmol L ⁻¹	K ⁺ μmol L ⁻¹	Ca ²⁺ μmol L ⁻¹	nss-Ca ²⁺ μmol L ⁻¹	Mg ²⁺ μmol L ⁻¹	H ⁺ μmol L ⁻¹	pH	EC mS m ⁻¹	Precip. mm month ⁻¹ or mm year ⁻¹
Jan	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Mar	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Apr	--	--	--	--	--	--	--	--	--	--	--	--	--	0
May	19.3	18.6	38.3	15.1	53.9	12.5	3.18	36.8	36.5	3.40	0.285	6.55	2.11	29.0
June	--	--	--	--	--	--	--	--	--	--	--	--	--	0
July	8.57	7.47	13.8	18.5	26.4	18.2	16.2	29.1	28.7	3.26	0.351	6.46	1.53	94.2
Aug	7.65	7.06	12.0	16.8	23.2	9.92	1.51	32.3	32.1	2.70	0.385	6.41	1.31	145
Sept	7.18	6.93	19.5	4.90	33.0	4.07	1.08	15.6	15.5	1.76	1.08	5.97	0.869	261
Oct	29.3	28.7	87.8	15.5	63.3	9.84	3.24	58.0	57.8	4.45	1.65	5.78	2.35	100
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Annual	11.6	11.0	28.7	11.8	35.5	8.83	3.89	29.2	29.0	2.71	0.863	6.06	1.36	630
Max.	89.1	88.3	235	56.4	135	36.1	37.9	137	136	11.1	3.72	6.98	3.51	
Min.	4.68	4.16	7.10	2.54	12.2	1.30	0.767	2.00	1.75	1.23	0.105	5.43	0.610	

Wet deposition amount

2019	SO ₄ ²⁻ mmol m ⁻²	nss-SO ₄ ²⁻ mmol m ⁻²	NO ₃ ⁻ mmol m ⁻²	Cl ⁻ mmol m ⁻²	NH ₄ ⁺ mmol m ⁻²	Na ⁺ mmol m ⁻²	K ⁺ mmol m ⁻²	Ca ²⁺ mmol m ⁻²	nss-Ca ²⁺ mmol m ⁻²	Mg ²⁺ mmol m ⁻²	H ⁺ mmol m ⁻²
Jan	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Feb	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May	0.561	0.539	1.11	0.437	1.56	0.361	0.0921	1.07	1.06	0.0986	<0.01
June	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
July	0.807	0.704	1.30	1.74	2.48	1.71	1.53	2.74	2.70	0.307	0.0330
Aug	1.11	1.02	1.75	2.44	3.37	1.44	0.220	4.69	4.66	0.392	0.0558
Sept	1.87	1.81	5.09	1.28	8.60	1.06	0.283	4.08	4.05	0.460	0.281
Oct	2.93	2.87	8.80	1.56	6.34	0.986	0.325	5.81	5.79	0.446	0.165
Nov	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dec	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	7.29	6.95	18.0	7.46	22.4	5.56	2.45	18.4	18.3	1.70	0.543

Data completeness

2019	SO ₄ ²⁻ %TP	nss-SO ₄ ²⁻ %TP	NO ₃ ⁻ %TP	Cl ⁻ %TP	NH ₄ ⁺ %TP	Na ⁺ %TP	K ⁺ %TP	Ca ²⁺ %TP	nss-Ca ²⁺ %TP	Mg ²⁺ %TP	H ⁺ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Mar	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Apr	--	--	--	--	--	--	--	--	--	--	--	--	--	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	--	--	--	--	--	--	--	--	--	--	--	--	--	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Annual	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Terms and abbreviations are given in Table 3.5.

Table 3.57 Monthly results

Site: Samutprakarn

Country: Thailand

Precipitation amount-weighted average concentration/ Precipitation amount

2019	SO ₄ ²⁻ μmol L ⁻¹	nss-SO ₄ ²⁻ μmol L ⁻¹	NO ₃ ⁻ μmol L ⁻¹	Cl ⁻ μmol L ⁻¹	NH ₄ ⁺ μmol L ⁻¹	Na ⁺ μmol L ⁻¹	K ⁺ μmol L ⁻¹	Ca ²⁺ μmol L ⁻¹	nss-Ca ²⁺ μmol L ⁻¹	Mg ²⁺ μmol L ⁻¹	H ⁺ μmol L ⁻¹	pH	EC mS m ⁻¹	Precip. mm month ⁻¹ or mm year ⁻¹
Jan	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Mar	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Apr	14.6	13.7	22.6	17.6	29.4	15.2	2.97	9.44	9.11	2.88	14.9	4.83	1.36	39.9
May	12.5	11.6	15.6	16.1	35.2	15.5	2.61	10.2	9.84	2.48	1.14	5.94	0.995	133
June	10.9	10.0	15.1	15.0	26.7	15.0	2.41	15.4	15.0	2.67	0.443	6.35	0.967	169
July	7.34	6.66	8.86	12.8	24.7	11.3	1.23	9.23	8.99	1.96	0.222	6.65	0.764	154
Aug	6.30	5.75	4.00	12.2	12.6	9.14	1.34	10.1	9.91	1.79	0.985	6.01	0.652	68.2
Sept	8.32	8.16	19.7	4.88	31.6	2.79	1.37	6.88	6.82	1.02	0.950	6.02	0.772	186
Oct	15.8	15.5	47.1	7.77	50.5	3.87	2.12	12.5	12.4	1.35	3.27	5.49	1.69	149
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Annual	10.6	10.0	19.9	11.4	31.6	9.65	1.92	10.6	10.4	1.91	1.76	5.75	1.01	899
Max.	37.5	35.8	144	53.3	78.7	53.5	8.44	56.4	55.8	9.05	22.9	7.13	3.65	
Min.	3.02	2.68	2.10	1.97	3.33	0.870	0.512	1.75	1.73	0.411	0.0741	4.64	0.410	

Wet deposition amount

2019	SO ₄ ²⁻ mmol m ⁻²	nss-SO ₄ ²⁻ mmol m ⁻²	NO ₃ ⁻ mmol m ⁻²	Cl ⁻ mmol m ⁻²	NH ₄ ⁺ mmol m ⁻²	Na ⁺ mmol m ⁻²	K ⁺ mmol m ⁻²	Ca ²⁺ mmol m ⁻²	nss-Ca ²⁺ mmol m ⁻²	Mg ²⁺ mmol m ⁻²	H ⁺ mmol m ⁻²
Jan	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Feb	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr	0.582	0.545	0.900	0.703	1.17	0.608	0.118	0.376	0.363	0.115	0.593
May	1.67	1.54	2.08	2.15	4.70	2.07	0.348	1.36	1.31	0.331	0.152
June	1.85	1.70	2.56	2.54	4.51	2.55	0.408	2.60	2.55	0.452	0.0750
July	1.13	1.02	1.36	1.97	3.79	1.74	0.189	1.42	1.38	0.301	0.0342
Aug	0.430	0.392	0.273	0.835	0.859	0.623	0.0914	0.690	0.676	0.122	0.0672
Sept	1.55	1.51	3.67	0.906	5.88	0.517	0.255	1.28	1.27	0.190	0.176
Oct	2.34	2.31	7.00	1.15	7.50	0.575	0.315	1.85	1.84	0.201	0.486
Nov	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dec	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	9.55	9.03	17.8	10.3	28.4	8.68	1.72	9.57	9.38	1.71	1.58

Data completeness

2019	SO ₄ ²⁻ %TP	nss-SO ₄ ²⁻ %TP	NO ₃ ⁻ %TP	Cl ⁻ %TP	NH ₄ ⁺ %TP	Na ⁺ %TP	K ⁺ %TP	Ca ²⁺ %TP	nss-Ca ²⁺ %TP	Mg ²⁺ %TP	H ⁺ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Mar	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Annual	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Terms and abbreviations are given in Table 3.5.

Table 3.58 Monthly results

Site: Pathumthani

Country: Thailand

Precipitation amount-weighted average concentration/ Precipitation amount

2019	SO ₄ ²⁻ μmol L ⁻¹	nss-SO ₄ ²⁻ μmol L ⁻¹	NO ₃ ⁻ μmol L ⁻¹	Cl ⁻ μmol L ⁻¹	NH ₄ ⁺ μmol L ⁻¹	Na ⁺ μmol L ⁻¹	K ⁺ μmol L ⁻¹	Ca ²⁺ μmol L ⁻¹	nss-Ca ²⁺ μmol L ⁻¹	Mg ²⁺ μmol L ⁻¹	H ⁺ μmol L ⁻¹	pH	EC mS m ⁻¹	Precip. mm month ⁻¹ or mm year ⁻¹
Jan	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Mar	19.5	18.9	75.2	7.93	96.5	10.2	6.82	19.1	18.9	3.78	6.67	5.18	2.57	27.2
Apr	18.4	17.9	47.5	13.3	70.0	8.54	2.82	11.5	11.4	2.04	9.03	5.04	2.01	145
May	13.9	13.3	42.1	14.0	63.5	9.83	2.19	19.1	18.9	2.79	2.52	5.60	1.61	70.8
June	6.89	6.54	17.4	8.38	46.3	5.88	1.96	8.73	8.61	2.32	1.75	5.76	0.869	136
July	7.68	7.01	15.4	14.3	38.8	11.1	1.93	9.76	9.52	2.22	1.66	5.78	1.00	104
Aug	6.21	5.84	9.95	10.6	37.0	6.01	1.26	9.42	9.29	1.67	0.887	6.05	0.940	31.6
Sept	8.00	7.83	19.8	4.97	37.2	2.87	1.09	6.76	6.70	1.30	2.22	5.65	0.896	164
Oct	11.7	11.5	25.8	6.40	36.4	3.45	2.66	10.2	10.1	1.53	3.34	5.48	1.06	85.5
Nov	5.50	5.25	23.1	7.27	44.2	4.04	1.44	6.97	6.88	1.34	0.912	6.04	0.892	40.1
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Annual	10.7	10.3	28.1	9.62	49.4	6.57	2.14	10.3	10.2	1.98	3.47	5.46	1.24	804
Max.	83.4	82.7	257	52.3	219	57.3	17.3	108	108	16.6	25.7	6.80	7.25	
Min.	1.01	0.891	1.67	1.53	<0.8	0.934	0.429	1.14	1.12	0.827	0.158	4.59	0.265	

Wet deposition amount

2019	SO ₄ ²⁻ mmol m ⁻²	nss-SO ₄ ²⁻ mmol m ⁻²	NO ₃ ⁻ mmol m ⁻²	Cl ⁻ mmol m ⁻²	NH ₄ ⁺ mmol m ⁻²	Na ⁺ mmol m ⁻²	K ⁺ mmol m ⁻²	Ca ²⁺ mmol m ⁻²	nss-Ca ²⁺ mmol m ⁻²	Mg ²⁺ mmol m ⁻²	H ⁺ mmol m ⁻²
Jan	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Feb	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar	0.531	0.514	2.05	0.216	2.63	0.278	0.186	0.519	0.513	0.103	0.181
Apr	2.66	2.59	6.87	1.92	10.1	1.24	0.409	1.67	1.64	0.295	1.31
May	0.982	0.941	2.98	0.990	4.49	0.696	0.155	1.35	1.34	0.198	0.178
June	0.939	0.890	2.38	1.14	6.31	0.800	0.267	1.19	1.17	0.316	0.239
July	0.798	0.728	1.60	1.48	4.03	1.15	0.200	1.01	0.989	0.231	0.172
Aug	0.196	0.185	0.314	0.335	1.17	0.190	0.0399	0.298	0.294	0.0528	0.0280
Sept	1.31	1.29	3.25	0.815	6.10	0.471	0.179	1.11	1.10	0.214	0.364
Oct	0.999	0.981	2.20	0.547	3.11	0.295	0.227	0.872	0.865	0.131	0.286
Nov	0.220	0.210	0.925	0.291	1.77	0.162	0.0578	0.279	0.276	0.0535	0.0365
Dec	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	8.64	8.32	22.6	7.74	39.7	5.28	1.72	8.30	8.19	1.59	2.79

Data completeness

2019	SO ₄ ²⁻ %TP	nss-SO ₄ ²⁻ %TP	NO ₃ ⁻ %TP	Cl ⁻ %TP	NH ₄ ⁺ %TP	Na ⁺ %TP	K ⁺ %TP	Ca ²⁺ %TP	nss-Ca ²⁺ %TP	Mg ²⁺ %TP	H ⁺ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	99.9	99.9	99.9	100
Oct	100	100	100	100	100	100	100	100	100	100	99.4	99.4	99.4	100
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Annual	100	100	100	100	100	100	100	100	100	100	99.9	99.9	99.9	100

Terms and abbreviations are given in Table 3.5.

Table 3.59 Monthly results

Site: Khanchanaburi

Country: Thailand

Precipitation amount-weighted average concentration/ Precipitation amount

2019	SO ₄ ²⁻ μmol L ⁻¹	nss-SO ₄ ²⁻ μmol L ⁻¹	NO ₃ ⁻ μmol L ⁻¹	Cl ⁻ μmol L ⁻¹	NH ₄ ⁺ μmol L ⁻¹	Na ⁺ μmol L ⁻¹	K ⁺ μmol L ⁻¹	Ca ²⁺ μmol L ⁻¹	nss-Ca ²⁺ μmol L ⁻¹	Mg ²⁺ μmol L ⁻¹	H ⁺ μmol L ⁻¹	pH	EC mS m ⁻¹	Precip. mm month ⁻¹ or mm year ⁻¹
Jan	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Mar	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Apr	--	--	--	--	--	--	--	--	--	--	--	--	--	0
May	--	--	--	--	--	--	--	--	--	--	--	--	--	0
June	2.96	2.61	4.82	6.86	6.86	5.91	1.11	9.41	9.28	1.28	0.332	6.48	0.503	134
July	2.17	1.78	2.35	6.74	6.15	6.45	0.988	2.46	2.32	0.960	0.788	6.10	0.413	94.7
Aug	2.36	2.10	1.82	6.18	1.99	4.32	0.850	2.69	2.59	0.857	1.10	5.96	0.368	294
Sept	4.78	4.37	5.28	8.58	6.60	6.82	1.45	3.79	3.65	1.03	0.794	6.10	0.463	129
Oct	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Annual	2.94	2.61	3.20	6.88	4.51	5.45	1.04	4.25	4.13	0.993	0.835	6.08	0.421	652
Max.	22.4	21.9	23.2	18.1	42.7	15.7	4.35	36.4	36.3	3.29	1.55	6.88	1.40	
Min.	0.729	0.571	0.968	1.97	<0.8	0.870	0.512	0.749	0.692	0.411	0.132	5.81	0.250	

Wet deposition amount

2019	SO ₄ ²⁻ mmol m ⁻²	nss-SO ₄ ²⁻ mmol m ⁻²	NO ₃ ⁻ mmol m ⁻²	Cl ⁻ mmol m ⁻²	NH ₄ ⁺ mmol m ⁻²	Na ⁺ mmol m ⁻²	K ⁺ mmol m ⁻²	Ca ²⁺ mmol m ⁻²	nss-Ca ²⁺ mmol m ⁻²	Mg ²⁺ mmol m ⁻²	H ⁺ mmol m ⁻²
Jan	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Feb	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
June	0.395	0.348	0.643	0.916	0.916	0.790	0.148	1.26	1.24	0.171	0.0443
July	0.206	0.169	0.223	0.639	0.582	0.611	0.0936	0.233	0.220	0.0909	0.0747
Aug	0.693	0.616	0.536	1.82	0.585	1.27	0.250	0.789	0.762	0.252	0.323
Sept	0.619	0.566	0.683	1.11	0.854	0.882	0.188	0.491	0.472	0.133	0.103
Oct	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nov	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dec	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	1.91	1.70	2.09	4.48	2.94	3.55	0.679	2.77	2.69	0.647	0.544

Data completeness

2019	SO ₄ ²⁻ %TP	nss-SO ₄ ²⁻ %TP	NO ₃ ⁻ %TP	Cl ⁻ %TP	NH ₄ ⁺ %TP	Na ⁺ %TP	K ⁺ %TP	Ca ²⁺ %TP	nss-Ca ²⁺ %TP	Mg ²⁺ %TP	H ⁺ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Mar	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Apr	--	--	--	--	--	--	--	--	--	--	--	--	--	100
May	--	--	--	--	--	--	--	--	--	--	--	--	--	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Annual	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Terms and abbreviations are given in Table 3.5.

Table 3.60 Monthly results

Site: Mae Hia

Country: Thailand

Precipitation amount-weighted average concentration/ Precipitation amount

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺	pH	EC	Precip.
2019	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹		mS m ⁻¹	mm month ⁻¹ or mm year ⁻¹
Jan	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Mar	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Apr	66.5	65.3	112	22.9	233	20.9	22.8	49.6	49.2	10.6	25.6	4.59	5.93	9.0
May	21.9	20.8	39.4	13.7	89.8	18.7	9.12	19.5	19.1	3.94	13.9	4.86	2.28	109
June	4.73	4.17	8.22	6.17	23.4	9.25	1.70	5.21	5.01	0.999	3.18	5.50	0.639	80.3
July	2.46	2.19	7.76	4.72	18.5	4.59	1.51	4.09	3.99	<0.3	2.35	5.63	0.481	96.1
Aug	2.86	2.47	8.59	6.53	16.2	6.34	1.31	12.3	12.2	1.09	3.09	5.51	0.531	221
Sept	3.89	3.38	9.11	9.19	18.8	8.57	6.19	7.13	6.95	0.886	16.6	4.78	0.932	119
Oct	4.26	4.09	10.1	4.06	28.0	2.95	1.58	5.54	5.47	0.693	4.31	5.37	0.612	99.1
Nov	9.95	9.87	16.0	4.22	30.6	1.30	2.96	8.28	8.25	1.05	1.53	5.81	0.978	13.7
Dec	11.5	11.3	33.5	7.57	66.6	2.97	5.43	17.9	17.8	0.789	1.62	5.79	1.45	7.3
Annual	7.08	6.59	14.8	7.55	33.2	8.18	3.64	10.3	10.1	1.41	7.04	5.15	0.942	754
Max.	85.2	83.9	170	90.9	303	56.6	75.8	80.6	79.8	16.5	43.7	6.60	8.17	
Min.	<0.3	<0.3	2.25	<0.5	4.46	<0.3	<0.3	1.02	0.953	<0.3	0.251	4.36	0.188	

Wet deposition amount

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺
2019	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²
Jan	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Feb	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr	0.599	0.588	1.01	0.206	2.10	0.188	0.205	0.447	0.443	0.0953	0.231
May	2.39	2.27	4.31	1.49	9.80	2.05	0.996	2.13	2.09	0.430	1.52
June	0.380	0.335	0.660	0.496	1.88	0.743	0.137	0.419	0.403	0.0802	0.255
July	0.237	0.210	0.745	0.454	1.78	0.441	0.145	0.393	0.383	0.0259	0.226
Aug	0.631	0.546	1.90	1.44	3.57	1.40	0.289	2.73	2.70	0.240	0.681
Sept	0.462	0.401	1.08	1.09	2.23	1.02	0.735	0.847	0.825	0.105	1.96
Oct	0.423	0.405	0.997	0.402	2.77	0.292	0.156	0.549	0.543	0.0687	0.427
Nov	0.136	0.135	0.219	0.0578	0.420	0.0178	0.0406	0.113	0.113	0.0144	0.0210
Dec	0.0839	0.0826	0.244	0.0552	0.487	0.0217	0.0396	0.131	0.130	<0.01	0.0118
Annual	5.34	4.97	11.2	5.70	25.0	6.17	2.74	7.75	7.62	1.07	5.31

Data completeness

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺	pH	EC	Precip.
2019	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%PCL
Jan	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Mar	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	98.7	98.7	98.7	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	98.7	98.7	98.7	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	100	100	100	100	100	100	100	100	100	100	99.6	99.6	99.6	100

Terms and abbreviations are given in Table 3.5.

Table 3.61 Monthly results

Site: Sakaerat

Country: Thailand

Precipitation amount-weighted average concentration/ Precipitation amount

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺	pH	EC	Precip.
2019	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹		mS m ⁻¹	mm month ⁻¹ or mm year ⁻¹
Jan	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Feb	17.1	16.2	33.2	12.1	124	14.8	11.8	38.9	38.6	15.2	2.69	5.57	1.46	17.5
Mar	20.6	19.7	43.4	12.1	137	15.1	8.42	56.1	55.8	13.5	29.2	4.53	2.75	72.2
Apr	16.0	15.3	44.4	7.16	135	10.3	7.39	47.6	47.4	11.7	20.7	4.68	2.00	63.4
May	13.1	12.3	27.4	8.26	99.7	13.2	9.09	41.1	40.9	11.5	18.4	4.74	1.72	39.2
June	4.60	4.09	11.3	4.42	59.1	8.45	5.67	38.8	38.6	8.50	4.24	5.37	0.573	172
July	3.56	2.56	5.64	7.53	34.1	16.6	5.55	62.9	62.5	11.4	2.66	5.57	0.447	179
Aug	5.02	4.35	7.95	5.39	47.7	11.1	5.89	65.2	64.9	15.0	2.28	5.64	0.476	171
Sept	4.33	4.01	5.99	2.57	61.9	5.15	5.35	69.5	69.4	4.71	2.63	5.58	0.457	299
Oct	8.81	8.52	12.1	2.66	87.1	4.82	6.03	35.3	35.2	5.11	4.41	5.36	0.784	128
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Annual	7.03	6.45	13.4	5.26	68.9	9.64	6.12	55.9	55.7	9.26	6.23	5.21	0.800	1141
Max.	45.5	43.9	148	32.2	435	41.3	50.4	249	248	27.6	51.3	6.75	4.59	
Min.	0.729	0.519	2.42	0.846	9.42	2.61	2.81	11.7	11.7	2.47	0.178	4.29	0.200	

Wet deposition amount

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺
2019	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²
Jan	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Feb	0.299	0.283	0.581	0.212	2.16	0.259	0.206	0.681	0.676	0.266	0.0471
Mar	1.49	1.42	3.14	0.874	9.90	1.09	0.608	4.05	4.03	0.973	2.11
Apr	1.01	0.973	2.81	0.454	8.54	0.654	0.468	3.02	3.00	0.743	1.31
May	0.513	0.482	1.07	0.324	3.91	0.516	0.356	1.61	1.60	0.450	0.720
June	0.789	0.701	1.93	0.758	10.1	1.45	0.974	6.66	6.63	1.46	0.728
July	0.636	0.457	1.01	1.35	6.10	2.96	0.993	11.2	11.2	2.04	0.476
Aug	0.858	0.743	1.36	0.922	8.16	1.90	1.01	11.1	11.1	2.56	0.390
Sept	1.29	1.20	1.79	0.769	18.5	1.54	1.60	20.8	20.8	1.41	0.788
Oct	1.13	1.09	1.55	0.339	11.1	0.616	0.771	4.51	4.50	0.653	0.563
Nov	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dec	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	8.02	7.36	15.2	6.00	78.6	11.0	6.99	63.7	63.5	10.6	7.11

Data completeness

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺	pH	EC	Precip.
2019	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%PCL
Jan	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	100	100	100	100	100	100	100	100	100	100	97.9	97.9	97.9	100
May	100	100	100	100	100	100	100	100	100	100	95.9	95.9	95.9	100
June	100	100	100	100	100	100	100	100	100	100	99.5	99.5	99.5	100
July	100	100	100	100	100	100	100	100	100	100	99.8	99.8	99.8	100
Aug	100	100	100	100	100	100	100	100	100	100	99.3	99.3	99.3	100
Sept	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Annual	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.4	99.4	99.4	100

Terms and abbreviations are given in Table 3.5.

Table 3.62 Monthly results

Site: Hanoi

Country: Vietnam

Precipitation amount-weighted average concentration/ Precipitation amount

2019	SO ₄ ²⁻ μmol L ⁻¹	nss-SO ₄ ²⁻ μmol L ⁻¹	NO ₃ ⁻ μmol L ⁻¹	Cl ⁻ μmol L ⁻¹	NH ₄ ⁺ μmol L ⁻¹	Na ⁺ μmol L ⁻¹	K ⁺ μmol L ⁻¹	Ca ²⁺ μmol L ⁻¹	nss-Ca ²⁺ μmol L ⁻¹	Mg ²⁺ μmol L ⁻¹	H ⁺ μmol L ⁻¹	pH	EC mS m ⁻¹	Precip. mm month ⁻¹ or mm year ⁻¹
Jan	139	134	163	35.3	34.0	86.2	14.1	160	158	16.6	7.55	5.12	6.88	21.0
Feb	152	150	176	83.8	65.8	35.3	13.4	201	201	15.6	39.8	4.40	8.98	18.4
Mar	252	248	203	86.0	53.9	66.3	24.5	304	303	26.6	28.3	4.55	12.2	15.6
Apr	91.6	88.7	126	48.6	48.3	48.4	12.3	93.2	92.1	8.06	39.1	4.41	5.72	79.4
May	82.1	80.1	132	34.6	63.3	33.2	16.2	101	100	9.78	28.1	4.55	5.57	176
June	65.0	62.7	65.6	23.1	31.6	38.3	9.76	68.8	68.0	8.32	3.80	5.42	3.25	99.4
July	52.1	51.1	88.5	19.3	13.8	16.5	5.07	72.6	72.2	5.15	11.4	4.94	3.25	67.0
Aug	54.4	53.3	56.0	13.0	15.8	18.9	5.34	64.8	64.4	5.54	5.89	5.23	2.67	581
Sept	36.8	36.3	48.6	15.8	9.14	9.23	2.30	52.6	52.4	5.14	9.13	5.04	2.19	46.7
Oct	64.2	62.6	47.9	36.5	28.7	26.3	5.12	73.5	72.9	9.25	0.440	6.36	3.05	153
Nov	66.5	66.1	60.7	31.9	79.9	6.65	9.32	72.1	72.0	5.90	1.20	5.92	3.32	26.8
Dec	242	238	175	111	110	74.6	31.5	239	237	29.6	0.839	6.08	11.5	5.6
Annual	67.8	66.3	77.6	25.2	29.9	26.4	8.12	80.0	79.4	7.57	11.2	4.95	3.68	1290
Max.	335	329	233	121	172	171	31.5	365	363	41.7	163	6.63	17.4	
Min.	26.3	25.5	27.0	6.83	4.55	6.31	<0.3	23.8	23.5	0.535	0.233	3.79	1.68	

Wet deposition amount

2019	SO ₄ ²⁻ mmol m ⁻²	nss-SO ₄ ²⁻ mmol m ⁻²	NO ₃ ⁻ mmol m ⁻²	Cl ⁻ mmol m ⁻²	NH ₄ ⁺ mmol m ⁻²	Na ⁺ mmol m ⁻²	K ⁺ mmol m ⁻²	Ca ²⁺ mmol m ⁻²	nss-Ca ²⁺ mmol m ⁻²	Mg ²⁺ mmol m ⁻²	H ⁺ mmol m ⁻²
Jan	2.92	2.81	3.43	0.741	0.713	1.81	0.295	3.36	3.32	0.350	0.159
Feb	2.80	2.76	3.23	1.54	1.21	0.650	0.247	3.71	3.69	0.288	0.732
Mar	3.94	3.88	3.17	1.34	0.841	1.03	0.382	4.75	4.73	0.414	0.441
Apr	7.27	7.04	10.0	3.86	3.83	3.85	0.978	7.40	7.32	0.640	3.10
May	14.5	14.1	23.2	6.11	11.2	5.86	2.86	17.8	17.6	1.73	4.95
June	6.46	6.23	6.52	2.30	3.14	3.81	0.970	6.84	6.75	0.827	0.378
July	3.49	3.42	5.93	1.30	0.921	1.10	0.340	4.86	4.84	0.345	0.763
Aug	31.6	31.0	32.5	7.57	9.21	11.0	3.10	37.6	37.4	3.22	3.42
Sept	1.72	1.69	2.27	0.739	0.427	0.431	0.107	2.45	2.45	0.240	0.426
Oct	9.78	9.54	7.30	5.56	4.38	4.02	0.781	11.2	11.1	1.41	0.0671
Nov	1.78	1.77	1.63	0.855	2.14	0.178	0.250	1.93	1.93	0.158	0.0322
Dec	1.36	1.33	0.981	0.622	0.618	0.418	0.176	1.34	1.33	0.166	<0.01
Annual	87.5	85.5	100	32.5	38.6	34.1	10.5	103	102	9.77	14.5

Data completeness

2019	SO ₄ ²⁻ %TP	nss-SO ₄ ²⁻ %TP	NO ₃ ⁻ %TP	Cl ⁻ %TP	NH ₄ ⁺ %TP	Na ⁺ %TP	K ⁺ %TP	Ca ²⁺ %TP	nss-Ca ²⁺ %TP	Mg ²⁺ %TP	H ⁺ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	97.1	97.1	97.1	97.1	97.1	97.1	97.1	97.1	97.1	97.1	97.1	97.1	97.1	100
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dec	92.9	92.9	92.9	92.9	92.9	92.9	92.9	92.9	92.9	92.9	92.9	92.9	92.9	100
Annual	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	100

Terms and abbreviations are given in Table 3.5.

Table 3.63 Monthly results

Site: Hoa Binh

Country: Vietnam

Precipitation amount-weighted average concentration/ Precipitation amount

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺	pH	EC	Precip.
2019	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹		mS m ⁻¹	mm month ⁻¹ or mm year ⁻¹
Jan	63.2	57.9	103	29.9	74.0	88.8	8.37	37.0	35.1	2.80	22.7	4.64	4.35	14.6
Feb	29.3	27.7	57.4	21.0	34.2	26.8	3.44	29.8	29.2	3.87	6.08	5.22	2.00	25.0
Mar	70.9	68.3	136	15.9	62.8	43.9	8.60	65.3	64.4	10.3	22.4	4.65	4.89	4.4
Apr	36.2	33.4	76.7	14.6	38.2	46.6	2.53	31.0	30.0	5.56	3.97	5.40	2.35	44.1
May	14.0	13.4	30.4	6.63	12.2	10.7	1.95	20.1	19.9	2.83	3.35	5.48	1.06	371
June	9.28	8.66	18.9	5.76	9.19	10.3	1.26	10.9	10.7	1.60	2.46	5.61	0.712	133
July	11.8	11.3	22.0	6.06	8.48	9.21	2.86	18.9	18.7	1.85	0.980	6.01	0.837	162
Aug	9.16	8.74	11.6	7.27	4.47	6.99	0.856	11.7	11.6	1.56	3.94	5.40	0.644	468
Sept	19.0	18.5	25.7	15.2	9.19	9.29	1.72	17.6	17.4	2.11	26.1	4.58	1.79	71.5
Oct	21.1	20.2	22.2	16.4	17.9	14.6	2.44	21.3	21.0	1.75	4.98	5.30	1.27	214
Nov	37.8	36.5	48.0	14.9	33.4	21.0	2.71	28.7	28.3	3.41	14.8	4.83	2.48	19.2
Dec	62.2	59.1	59.9	40.9	61.3	51.6	9.87	56.3	55.2	4.69	4.00	5.40	3.20	2.6
Annual	15.0	14.2	24.4	9.31	12.0	12.2	1.85	17.6	17.3	2.17	4.94	5.31	1.06	1529
Max.	75.3	68.3	136	40.9	76.8	125	9.87	65.3	64.4	10.3	37.5	6.15	4.89	
Min.	5.47	5.09	5.50	2.09	2.94	1.87	0.563	8.80	8.67	0.411	0.708	4.43	0.430	

Wet deposition amount

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺
2019	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²
Jan	0.923	0.845	1.50	0.436	1.08	1.30	0.122	0.540	0.512	0.0409	0.331
Feb	0.732	0.692	1.44	0.526	0.855	0.671	0.0861	0.744	0.730	0.0969	0.152
Mar	0.312	0.300	0.599	0.0701	0.276	0.193	0.0378	0.287	0.283	0.0453	0.0985
Apr	1.60	1.47	3.38	0.646	1.68	2.06	0.111	1.37	1.32	0.245	0.175
May	5.20	4.96	11.3	2.46	4.51	3.95	0.721	7.46	7.37	1.05	1.24
June	1.24	1.15	2.52	0.767	1.23	1.38	0.168	1.45	1.42	0.213	0.328
July	1.92	1.83	3.56	0.983	1.37	1.49	0.463	3.07	3.04	0.301	0.159
Aug	4.29	4.09	5.44	3.40	2.09	3.27	0.401	5.48	5.41	0.732	1.84
Sept	1.36	1.32	1.83	1.09	0.657	0.664	0.123	1.26	1.25	0.151	1.86
Oct	4.50	4.31	4.75	3.49	3.82	3.12	0.521	4.54	4.48	0.373	1.06
Nov	0.726	0.701	0.922	0.286	0.641	0.403	0.0521	0.551	0.543	0.0655	0.284
Dec	0.162	0.154	0.156	0.106	0.159	0.134	0.0257	0.146	0.143	0.0122	0.0104
Annual	22.9	21.8	37.3	14.2	18.3	18.6	2.83	26.9	26.5	3.32	7.55

Data completeness

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺	pH	EC	Precip.
2019	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%PCL
Jan	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	97.9	97.9	97.9	97.9	97.9	97.9	97.9	97.9	97.9	97.9	97.9	97.9	97.9	100
Dec	61.5	61.5	61.5	61.5	61.5	61.5	61.5	61.5	61.5	61.5	61.5	61.5	61.5	100
Annual	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	100

Terms and abbreviations are given in Table 3.5.

Table 3.64 Monthly results

Site: Cuc Phuong

Country: Vietnam

Precipitation amount-weighted average concentration/ Precipitation amount

2019	SO ₄ ²⁻ μmol L ⁻¹	nss-SO ₄ ²⁻ μmol L ⁻¹	NO ₃ ⁻ μmol L ⁻¹	Cl ⁻ μmol L ⁻¹	NH ₄ ⁺ μmol L ⁻¹	Na ⁺ μmol L ⁻¹	K ⁺ μmol L ⁻¹	Ca ²⁺ μmol L ⁻¹	nss-Ca ²⁺ μmol L ⁻¹	Mg ²⁺ μmol L ⁻¹	H ⁺ μmol L ⁻¹	pH	EC mS m ⁻¹	Precip. mm month ⁻¹ or mm year ⁻¹
Jan	111	107	146	97.0	152	67.3	11.4	95.1	93.7	29.1	5.25	5.28	6.58	16.8
Feb	61.3	57.7	42.9	104	29.0	58.4	19.2	56.9	55.6	32.4	2.31	5.64	3.97	27.8
Mar	112	105	136	102	46.2	121	23.6	107	105	72.3	1.23	5.91	6.81	39.7
Apr	29.0	25.3	36.4	165	50.5	61.6	10.0	43.6	42.3	22.4	3.90	5.41	3.51	43.7
May	25.6	24.5	30.1	43.4	31.6	18.5	6.77	32.1	31.7	13.3	2.50	5.60	2.00	258
June	5.34	2.74	29.0	48.2	1.51	43.1	6.53	35.2	34.3	20.6	1.46	5.83	1.92	33.5
July	9.82	9.00	13.8	22.1	4.95	13.5	3.22	17.4	17.1	13.0	0.784	6.11	0.997	97.0
Aug	10.3	9.37	4.16	30.0	7.59	16.0	2.90	12.5	12.1	8.94	2.94	5.53	0.940	642
Sept	24.8	23.2	15.0	33.7	12.1	27.0	3.38	27.8	27.2	12.9	2.12	5.67	1.57	104
Oct	32.3	31.0	28.6	27.4	25.5	21.9	6.26	23.9	23.4	12.1	7.98	5.10	1.96	275
Nov	13.3	12.2	7.99	50.7	9.26	18.4	6.04	25.3	25.0	17.0	0.316	6.50	1.41	20.2
Dec	109	106	204	108	335	49.8	23.9	60.3	59.3	32.5	0.794	6.10	7.90	13.7
Annual	22.6	21.2	21.3	38.8	19.7	23.4	5.38	24.2	23.7	13.5	3.51	5.45	1.69	1571
Max.	166	154	204	252	335	187	30.4	177	173	89.0	12.0	7.60	11.8	
Min.	4.15	1.32	3.41	11.4	0.887	9.79	0.665	8.01	7.75	5.60	0.0251	4.92	0.650	

Wet deposition amount

2019	SO ₄ ²⁻ mmol m ⁻²	nss-SO ₄ ²⁻ mmol m ⁻²	NO ₃ ⁻ mmol m ⁻²	Cl ⁻ mmol m ⁻²	NH ₄ ⁺ mmol m ⁻²	Na ⁺ mmol m ⁻²	K ⁺ mmol m ⁻²	Ca ²⁺ mmol m ⁻²	nss-Ca ²⁺ mmol m ⁻²	Mg ²⁺ mmol m ⁻²	H ⁺ mmol m ⁻²
Jan	1.86	1.80	2.45	1.63	2.56	1.13	0.192	1.60	1.57	0.488	0.0882
Feb	1.70	1.60	1.19	2.89	0.807	1.62	0.533	1.58	1.55	0.901	0.0643
Mar	4.46	4.17	5.39	4.04	1.83	4.79	0.939	4.26	4.16	2.87	0.0488
Apr	1.27	1.11	1.59	7.21	2.21	2.69	0.438	1.91	1.85	0.981	0.170
May	6.60	6.31	7.74	11.2	8.14	4.77	1.74	8.26	8.15	3.43	0.644
June	0.179	0.0917	0.970	1.61	0.0504	1.45	0.219	1.18	1.15	0.689	0.0491
July	0.952	0.873	1.34	2.14	0.480	1.31	0.312	1.69	1.66	1.26	0.0760
Aug	6.63	6.01	2.67	19.3	4.87	10.3	1.86	8.02	7.80	5.74	1.89
Sept	2.57	2.40	1.56	3.49	1.25	2.80	0.351	2.88	2.82	1.34	0.220
Oct	8.89	8.53	7.86	7.54	7.01	6.01	1.72	6.57	6.44	3.32	2.19
Nov	0.270	0.247	0.161	1.02	0.187	0.372	0.122	0.512	0.504	0.344	<0.01
Dec	1.49	1.45	2.80	1.48	4.60	0.682	0.327	0.827	0.812	0.445	0.0109
Annual	35.5	33.3	33.4	60.9	31.0	36.7	8.45	38.0	37.2	21.2	5.52

Data completeness

2019	SO ₄ ²⁻ %TP	nss-SO ₄ ²⁻ %TP	NO ₃ ⁻ %TP	Cl ⁻ %TP	NH ₄ ⁺ %TP	Na ⁺ %TP	K ⁺ %TP	Ca ²⁺ %TP	nss-Ca ²⁺ %TP	Mg ²⁺ %TP	H ⁺ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	60.1	60.1	60.1	60.1	60.1	60.1	60.1	60.1	60.1	60.1	60.1	60.1	60.1	100
Feb	81.3	81.3	81.3	81.3	81.3	81.3	81.3	81.3	81.3	81.3	81.3	81.3	81.3	100
Mar	94.2	94.2	94.2	94.2	94.2	94.2	94.2	94.2	94.2	94.2	94.2	94.2	94.2	100
Apr	77.1	77.1	77.1	77.1	77.1	77.1	77.1	77.1	77.1	77.1	77.1	77.1	77.1	100
May	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	100
June	92.8	92.8	92.8	92.8	92.8	92.8	92.8	92.8	92.8	92.8	92.8	92.8	92.8	100
July	96.1	96.1	96.1	96.1	96.1	96.1	96.1	96.1	96.1	96.1	96.1	96.1	96.1	100
Aug	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	57.4	57.4	57.4	57.4	57.4	57.4	57.4	57.4	57.4	57.4	57.4	57.4	57.4	100
Dec	55.5	55.5	55.5	55.5	55.5	55.5	55.5	55.5	55.5	55.5	55.5	55.5	55.5	100
Annual	96.9	96.9	96.9	96.9	96.9	96.9	96.9	96.9	96.9	96.9	96.9	96.9	96.9	100

Terms and abbreviations are given in Table 3.5.

Table 3.65 Monthly results

Site: Da Nang

Country: Vietnam

Precipitation amount-weighted average concentration/ Precipitation amount

2019	SO ₄ ²⁻ μmol L ⁻¹	nss-SO ₄ ²⁻ μmol L ⁻¹	NO ₃ ⁻ μmol L ⁻¹	Cl ⁻ μmol L ⁻¹	NH ₄ ⁺ μmol L ⁻¹	Na ⁺ μmol L ⁻¹	K ⁺ μmol L ⁻¹	Ca ²⁺ μmol L ⁻¹	nss-Ca ²⁺ μmol L ⁻¹	Mg ²⁺ μmol L ⁻¹	H ⁺ μmol L ⁻¹	pH	EC mS m ⁻¹	Precip. mm month ⁻¹ or mm year ⁻¹
Jan	34.2	28.1	4.74	159	70.8	100	20.6	61.8	59.6	23.3	0.689	6.16	4.59	271
Feb	*	*	*	*	*	*	*	*	*	*	*	*	*	0.7
Mar	57.3	52.5	<0.5	165	4.29	79.7	60.6	281	279	57.7	0.138	6.86	9.65	34.4
Apr	--	--	--	--	--	--	--	--	--	--	--	--	--	0
May	56.8	52.2	7.53	149	410	76.8	61.3	223	222	43.9	0.056	7.26	13.4	53.1
June	79.5	69.5	<0.5	335	161	166	111	241	237	91.9	0.089	7.05	13.4	11.1
July	23.3	16.2	2.50	187	30.8	118	25.8	131	128	46.1	0.322	6.49	6.30	42.9
Aug	15.5	9.93	<0.5	143	5.64	93.1	18.6	98.4	96.4	33.0	0.562	6.25	4.34	225
Sept	17.0	12.8	0.583	115	6.31	70.5	7.31	82.6	81.1	20.6	0.967	6.01	3.33	275
Oct	16.7	9.54	<0.5	178	23.4	120	15.1	77.1	74.5	25.9	0.784	6.11	4.49	824
Nov	31.6	24.0	<0.5	190	20.7	126	16.7	108	105	30.9	0.742	6.13	5.44	280
Dec	46.7	38.9	13.3	211	144	129	18.5	101	98.2	37.3	0.482	6.32	7.70	125
Annual	24.6	18.1	1.88	167	41.7	108	18.1	92.2	89.8	28.6	0.709	6.15	5.02	2142
Max.	94.2	82.9	25.1	437	788	309	174	382	380	98.6	1.82	7.44	21.7	
Min.	7.56	3.53	<0.5	76.3	3.82	47.2	3.17	35.2	32.1	10.5	0.0363	5.74	1.97	

Wet deposition amount

2019	SO ₄ ²⁻ mmol m ⁻²	nss-SO ₄ ²⁻ mmol m ⁻²	NO ₃ ⁻ mmol m ⁻²	Cl ⁻ mmol m ⁻²	NH ₄ ⁺ mmol m ⁻²	Na ⁺ mmol m ⁻²	K ⁺ mmol m ⁻²	Ca ²⁺ mmol m ⁻²	nss-Ca ²⁺ mmol m ⁻²	Mg ²⁺ mmol m ⁻²	H ⁺ mmol m ⁻²
Jan	9.26	7.62	1.28	43.1	19.2	27.1	5.59	16.7	16.2	6.31	0.187
Feb	*	*	*	*	*	*	*	*	*	*	*
Mar	1.97	1.81	0.0135	5.66	0.148	2.74	2.08	9.67	9.61	1.99	<0.01
Apr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May	3.02	2.77	0.400	7.93	21.8	4.08	3.25	11.9	11.8	2.33	<0.01
June	0.883	0.772	<0.01	3.72	1.78	1.84	1.24	2.67	2.63	1.02	<0.01
July	0.999	0.694	0.107	8.04	1.32	5.06	1.11	5.62	5.51	1.98	0.0138
Aug	3.50	2.23	0.0712	32.3	1.27	20.9	4.18	22.1	21.7	7.42	0.126
Sept	4.68	3.51	0.160	31.6	1.73	19.4	2.01	22.7	22.3	5.65	0.266
Oct	13.8	7.86	0.270	147	19.3	98.5	12.4	63.5	61.4	21.3	0.646
Nov	8.85	6.73	0.0854	53.2	5.79	35.2	4.67	30.2	29.4	8.67	0.208
Dec	5.85	4.88	1.67	26.5	18.0	16.2	2.31	12.7	12.3	4.68	0.0603
Annual	52.7	38.8	4.03	359	89.4	231	38.7	197	192	61.3	1.52

Data completeness

2019	SO ₄ ²⁻ %TP	nss-SO ₄ ²⁻ %TP	NO ₃ ⁻ %TP	Cl ⁻ %TP	NH ₄ ⁺ %TP	Na ⁺ %TP	K ⁺ %TP	Ca ²⁺ %TP	nss-Ca ²⁺ %TP	Mg ²⁺ %TP	H ⁺ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Feb	0	0	0	0	0	0	0	0	0	0	0	0	0	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	--	--	--	--	--	--	--	--	--	--	--	--	--	100
May	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	100
June	94.6	94.6	94.6	94.6	94.6	94.6	94.6	94.6	94.6	94.6	94.6	94.6	94.6	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	100
Dec	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	100
Annual	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	100

Terms and abbreviations are given in Table 3.5.

Table 3.66 Monthly results

Site: Can Tho

Country: Vietnam

Precipitation amount-weighted average concentration/ Precipitation amount

2019	SO ₄ ²⁻ μmol L ⁻¹	nss-SO ₄ ²⁻ μmol L ⁻¹	NO ₃ ⁻ μmol L ⁻¹	Cl ⁻ μmol L ⁻¹	NH ₄ ⁺ μmol L ⁻¹	Na ⁺ μmol L ⁻¹	K ⁺ μmol L ⁻¹	Ca ²⁺ μmol L ⁻¹	nss-Ca ²⁺ μmol L ⁻¹	Mg ²⁺ μmol L ⁻¹	H ⁺ μmol L ⁻¹	pH	EC mS m ⁻¹	Precip. mm month ⁻¹ or mm year ⁻¹
Jan	28.4	27.1	19.8	25.8	12.5	20.6	9.15	22.9	22.4	8.26	0.724	6.14	1.41	56.0
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Mar	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Apr	32.9	31.6	19.3	30.3	22.3	22.5	10.3	15.8	15.3	8.98	3.77	5.42	1.65	162
May	22.8	21.8	12.9	25.9	13.5	15.6	7.97	13.8	13.5	10.5	1.27	5.89	1.16	334
June	26.9	25.8	19.0	22.0	13.6	17.2	15.8	15.6	15.2	10.6	0.987	6.01	1.27	316
July	29.3	28.1	19.7	21.5	19.1	20.4	13.9	17.5	17.0	12.3	1.42	5.85	1.63	295
Aug	29.4	28.0	19.0	26.9	17.9	23.5	12.2	22.6	22.1	8.59	0.837	6.08	1.72	315
Sept	22.2	21.3	14.2	26.4	19.0	15.0	13.2	13.3	13.0	11.3	0.632	6.20	1.24	261
Oct	22.8	21.9	14.7	19.1	21.2	15.1	14.0	12.8	12.5	10.2	0.827	6.08	1.13	451
Nov	22.0	20.9	16.6	24.0	16.3	18.3	13.6	14.1	13.7	8.05	0.992	6.00	1.14	180
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Annual	25.7	24.6	16.7	23.9	17.6	18.1	12.7	15.8	15.4	10.2	1.18	5.93	1.35	2370
Max.	44.6	42.7	24.2	45.8	28.1	31.6	21.7	32.3	31.7	16.3	5.75	6.69	2.14	
Min.	16.1	15.6	8.77	13.4	8.33	8.72	5.18	8.63	8.18	4.31	0.204	5.24	0.980	

Wet deposition amount

2019	SO ₄ ²⁻ mmol m ⁻²	nss-SO ₄ ²⁻ mmol m ⁻²	NO ₃ ⁻ mmol m ⁻²	Cl ⁻ mmol m ⁻²	NH ₄ ⁺ mmol m ⁻²	Na ⁺ mmol m ⁻²	K ⁺ mmol m ⁻²	Ca ²⁺ mmol m ⁻²	nss-Ca ²⁺ mmol m ⁻²	Mg ²⁺ mmol m ⁻²	H ⁺ mmol m ⁻²
Jan	1.59	1.52	1.11	1.44	0.700	1.15	0.512	1.28	1.25	0.463	0.0406
Feb	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr	5.35	5.13	3.13	4.92	3.62	3.65	1.67	2.57	2.49	1.46	0.612
May	7.60	7.28	4.31	8.65	4.52	5.19	2.66	4.60	4.49	3.49	0.425
June	8.50	8.17	6.01	6.96	4.31	5.43	4.99	4.92	4.81	3.34	0.312
July	8.63	8.26	5.79	6.34	5.61	6.01	4.10	5.14	5.01	3.62	0.417
Aug	9.28	8.84	5.98	8.49	5.64	7.41	3.86	7.12	6.96	2.71	0.264
Sept	5.79	5.55	3.71	6.88	4.95	3.91	3.44	3.47	3.39	2.96	0.165
Oct	10.3	9.88	6.65	8.62	9.54	6.80	6.33	5.77	5.62	4.60	0.373
Nov	3.96	3.76	2.98	4.30	2.92	3.28	2.43	2.53	2.46	1.45	0.178
Dec	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	61.0	58.4	39.7	56.6	41.8	42.8	30.0	37.4	36.5	24.1	2.79

Data completeness

2019	SO ₄ ²⁻ %TP	nss-SO ₄ ²⁻ %TP	NO ₃ ⁻ %TP	Cl ⁻ %TP	NH ₄ ⁺ %TP	Na ⁺ %TP	K ⁺ %TP	Ca ²⁺ %TP	nss-Ca ²⁺ %TP	Mg ²⁺ %TP	H ⁺ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Mar	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Annual	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Terms and abbreviations are given in Table 3.5.

Table 3.67 Monthly results

Site: Ho Chi Minh

Country: Vietnam

Precipitation amount-weighted average concentration/ Precipitation amount

2019	SO ₄ ²⁻ μmol L ⁻¹	nss-SO ₄ ²⁻ μmol L ⁻¹	NO ₃ ⁻ μmol L ⁻¹	Cl ⁻ μmol L ⁻¹	NH ₄ ⁺ μmol L ⁻¹	Na ⁺ μmol L ⁻¹	K ⁺ μmol L ⁻¹	Ca ²⁺ μmol L ⁻¹	nss-Ca ²⁺ μmol L ⁻¹	Mg ²⁺ μmol L ⁻¹	H ⁺ μmol L ⁻¹	pH	EC mS m ⁻¹	Precip. mm month ⁻¹ or mm year ⁻¹
Jan	*	*	*	*	*	*	*	*	*	*	*	*	*	7.8
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0
Mar	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0
Apr	45.6	42.9	35.7	52.8	25.2	45.4	15.4	35.8	34.8	20.9	7.59	5.12	2.59	38.9
May	34.4	32.7	21.1	39.6	23.3	28.6	8.95	26.4	25.8	11.7	2.58	5.59	1.90	308
June	36.6	35.5	12.4	37.5	27.3	19.3	13.8	21.9	21.5	15.4	0.771	6.11	1.97	316
July	31.5	30.5	15.3	31.2	26.4	16.0	11.3	22.4	22.1	14.5	0.769	6.11	2.01	325
Aug	40.1	38.7	16.1	40.9	26.7	22.2	9.32	33.3	32.8	15.5	0.419	6.38	1.99	383
Sept	27.4	26.2	23.0	33.1	14.0	19.4	7.95	35.2	34.8	10.6	0.505	6.30	1.57	425
Oct	23.0	22.1	16.4	33.3	19.9	15.7	11.5	17.1	16.7	10.7	0.953	6.02	1.30	334
Nov	21.5	20.5	24.9	49.6	25.0	16.4	21.7	21.4	21.0	14.4	1.36	5.87	1.47	125
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0
Annual	31.7	30.5	18.3	36.9	22.8	20.4	11.0	26.5	26.1	13.2	1.08	5.96	1.78	2262
Max.	54.2	52.9	35.7	58.9	40.1	45.4	23.8	53.7	53.1	23.7	7.59	6.83	2.80	
Min.	10.1	9.60	4.69	20.9	12.8	8.99	4.25	12.7	12.2	4.17	0.148	5.12	1.00	

Wet deposition amount

2019	SO ₄ ²⁻ mmol m ⁻²	nss-SO ₄ ²⁻ mmol m ⁻²	NO ₃ ⁻ mmol m ⁻²	Cl ⁻ mmol m ⁻²	NH ₄ ⁺ mmol m ⁻²	Na ⁺ mmol m ⁻²	K ⁺ mmol m ⁻²	Ca ²⁺ mmol m ⁻²	nss-Ca ²⁺ mmol m ⁻²	Mg ²⁺ mmol m ⁻²	H ⁺ mmol m ⁻²
Jan	*	*	*	*	*	*	*	*	*	*	*
Feb	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr	1.78	1.67	1.39	2.05	0.980	1.76	0.597	1.39	1.35	0.811	0.295
May	10.6	10.0	6.48	12.2	7.18	8.79	2.75	8.13	7.94	3.61	0.793
June	11.6	11.2	3.93	11.9	8.62	6.08	4.36	6.92	6.79	4.88	0.243
July	10.2	9.91	4.96	10.1	8.59	5.21	3.65	7.28	7.17	4.72	0.250
Aug	15.4	14.9	6.17	15.7	10.2	8.51	3.57	12.8	12.6	5.95	0.161
Sept	11.6	11.1	9.78	14.1	5.94	8.24	3.38	15.0	14.8	4.51	0.214
Oct	7.70	7.38	5.48	11.1	6.65	5.26	3.85	5.70	5.59	3.56	0.319
Nov	2.69	2.56	3.10	6.19	3.11	2.04	2.70	2.66	2.62	1.80	0.170
Dec	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	71.8	69.0	41.4	83.6	51.5	46.1	24.9	60.0	59.0	29.9	2.45

Data completeness

2019	SO ₄ ²⁻ %TP	nss-SO ₄ ²⁻ %TP	NO ₃ ⁻ %TP	Cl ⁻ %TP	NH ₄ ⁺ %TP	Na ⁺ %TP	K ⁺ %TP	Ca ²⁺ %TP	nss-Ca ²⁺ %TP	Mg ²⁺ %TP	H ⁺ %TP	pH %TP	EC %TP	Precip. %PCL
Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	100
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Mar	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Annual	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	100

Terms and abbreviations are given in Table 3.5.

Table 3.68 Monthly results

Site: Yen Bai

Country: Vietnam

Precipitation amount-weighted average concentration/ Precipitation amount

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺	pH	EC	Precip.
2019	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹		mS m ⁻¹	mm month ⁻¹ or mm year ⁻¹
Jan	33.2	32.3	50.9	15.1	18.6	15.4	2.23	47.9	47.5	2.13	5.90	5.23	2.09	51.4
Feb	50.9	49.6	94.3	14.9	49.8	20.9	7.29	64.8	64.3	4.64	4.31	5.37	3.13	51.8
Mar	81.4	78.5	123	28.0	58.3	48.3	13.5	95.8	94.8	7.90	0.839	6.08	4.21	11.6
Apr	79.6	77.5	128	36.5	70.9	35.2	9.55	83.8	83.0	7.38	38.7	4.41	5.66	77.5
May	35.6	34.5	62.2	11.8	32.3	18.0	2.41	33.8	33.4	2.98	29.8	4.53	2.97	225
June	44.0	42.5	53.4	67.8	31.9	25.8	5.37	61.5	61.0	5.35	12.8	4.89	3.42	135
July	12.1	11.7	19.3	5.06	7.83	5.72	1.41	12.6	12.5	1.34	7.21	5.14	0.887	239
Aug	7.93	7.77	15.2	2.96	4.47	2.71	<0.3	8.22	8.16	0.434	13.6	4.87	0.868	477
Sept	18.0	17.5	40.0	9.94	9.19	8.17	1.91	26.8	26.6	1.37	13.6	4.87	1.60	84.4
Oct	15.0	14.6	22.6	6.57	7.87	7.11	2.41	13.4	13.3	1.47	13.4	4.87	1.22	200
Nov	27.7	26.9	42.2	15.9	17.0	13.6	4.54	29.8	29.5	4.98	11.4	4.94	1.86	28.7
Dec	127	122	165	46.8	77.9	74.3	18.9	134	132	19.6	4.11	5.39	6.82	11.3
Annual	24.4	23.7	39.5	14.0	18.2	11.7	2.59	27.4	27.1	2.33	15.3	4.82	1.90	1593
Max.	165	160	201	171	116	96.2	19.6	196	194	20.3	223	6.08	10.7	
Min.	1.62	1.58	9.16	1.81	3.60	0.800	<0.3	7.30	7.28	0.300	0.839	3.65	0.580	

Wet deposition amount

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺
2019	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²
Jan	1.71	1.66	2.61	0.775	0.955	0.792	0.115	2.46	2.44	0.110	0.303
Feb	2.64	2.57	4.89	0.774	2.58	1.08	0.378	3.36	3.33	0.240	0.223
Mar	0.944	0.911	1.43	0.324	0.676	0.560	0.157	1.11	1.10	0.0916	<0.01
Apr	6.17	6.01	9.94	2.83	5.50	2.73	0.740	6.49	6.43	0.572	3.00
May	8.02	7.78	14.0	2.66	7.27	4.06	0.544	7.61	7.52	0.672	6.72
June	5.95	5.74	7.21	9.16	4.30	3.48	0.726	8.32	8.24	0.722	1.73
July	2.88	2.80	4.61	1.21	1.87	1.36	0.337	3.02	2.99	0.319	1.72
Aug	3.78	3.70	7.27	1.41	2.13	1.29	0.137	3.92	3.89	0.207	6.47
Sept	1.52	1.48	3.37	0.839	0.776	0.690	0.161	2.26	2.25	0.116	1.15
Oct	3.01	2.93	4.53	1.32	1.58	1.42	0.483	2.69	2.66	0.294	2.68
Nov	0.796	0.773	1.21	0.457	0.488	0.391	0.130	0.856	0.848	0.143	0.327
Dec	1.43	1.38	1.87	0.529	0.880	0.839	0.214	1.51	1.49	0.222	0.0465
Annual	38.9	37.7	63.0	22.3	29.0	18.7	4.12	43.6	43.2	3.71	24.4

Data completeness

	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺	pH	EC	Precip.
2019	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%PCL
Jan	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Terms and abbreviations are given in Table 3.5.

Table 3.69 Annual precipitation amount and precipitation amount-weighted average concentration in 2019

Country	Name of sites	Precip.	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺	pH	EC
		mm y ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹	μmol L ⁻¹		mS m ⁻¹
Cambodia	Phnom Penh	***	***	***	***	***	***	***	***	***	***	***	***	***	***
China	Haifu	1224	33.5	33.3	50.2	6.82	91.5	4.01	3.45	25.7	25.6	3.01	3.73	5.43	2.27
	Jinyunshan	1037	35.3	35.1	47.0	4.92	70.6	2.00	3.20	22.8	22.7	3.01	17.5	4.76	2.43
	Shizhan	465	30.3	29.6	24.7	13.3	136	12.1	7.50	50.9	50.6	6.63	0.150	6.82	3.02
	Jiwozi	582	62.5	57.2	37.8	23.9	34.2	88.3	64.1	161	160	22.5	0.175	6.76	5.58
	Hongwen	1027	45.2	44.9	39.3	72.3	28.3	4.99	14.3	60.8	60.7	4.18	0.853	6.07	3.18
	Xiaoping	1013	12.7	12.6	31.3	10.0	19.9	1.44	2.51	7.45	7.41	2.04	18.6	4.73	1.56
	Xiang Zhou	1988	10.2	8.94	21.6	24.4	22.7	20.3	1.49	8.15	7.71	3.56	11.3	4.95	1.46
	Zhuxiandong	2105	11.8	10.3	24.2	28.8	23.0	24.0	1.87	10.8	10.3	4.12	9.55	5.02	1.53
	Wuzhishan	1495	6.78	6.26	9.44	7.43	14.7	8.68	2.87	10.3	10.2	2.30	1.14	5.94	0.733
	Lijiang	508	0.460	0.407	4.42	3.38	11.0	8.65	1.53	23.1	22.9	4.59	0.529	6.28	1.50
Indonesia	Jakarta	1500	25.4	24.8	25.6	14.9	29.6	9.40	1.38	10.6	10.4	1.88	14.7	4.83	1.82
	Serpong	2199	33.8	32.8	40.1	29.9	67.4	17.0	11.9	17.5	17.1	4.43	10.5	4.98	2.46
	Kototabang	2134	6.58	6.30	7.60	5.89	7.80	4.75	2.87	30.9	30.8	0.724	4.21	5.38	0.671
	Bandung	1689	43.1	40.4	35.8	21.5	73.2	44.8	4.65	19.6	18.7	4.83	0.953	6.02	2.37
	Maros	1663	6.99	5.86	3.16	21.3	2.61	18.7	3.00	20.3	19.9	2.59	11.5	4.94	1.04
	Jembrana	1589	9.30	8.10	9.64	31.4	16.8	19.9	3.81	7.88	7.45	2.63	4.32	5.36	0.898
	Lombok	1604	11.6	10.2	12.5	23.6	16.9	22.8	3.28	15.7	15.2	4.15	2.56	5.59	1.10
Japan	Rishiri	713	21.8	10.9	17.1	209	19.0	182	5.24	7.35	3.42	21.5	15.3	4.82	4.00
	Ochiishi	830	8.90	4.84	8.05	77.7	7.54	67.4	1.68	2.87	1.41	7.65	7.64	5.12	1.58
	Sado-seki	959	23.1	9.88	18.1	250	16.2	220	5.81	8.74	3.98	25.3	12.6	4.90	4.15
	Happo	2484	5.84	5.63	8.06	4.42	8.54	3.54	0.558	2.24	2.16	0.808	7.26	5.14	0.595
	Ijira	2777	9.90	9.11	13.6	15.7	12.7	13.1	0.523	2.36	2.08	1.67	16.4	4.79	1.19
	Oki	1095	21.0	11.2	19.1	189	15.5	163	4.26	6.94	3.43	18.8	15.4	4.81	3.51
	Yusuhara	3102	6.46	5.64	5.64	16.7	5.39	13.8	0.793	1.32	1.03	1.72	10.8	4.97	0.870
	Hedo	2566	12.5	4.66	6.62	153	4.93	130	3.03	3.79	1.06	17.2	10.5	4.98	2.66
	Ogasawara	1868	12.8	2.10	2.27	203	2.47	178	4.41	4.63	0.784	20.3	5.87	5.23	3.15
	Tokyo	1641	11.0	7.50	12.7	65.8	17.6	57.7	1.37	4.01	2.76	6.71	9.99	5.00	1.66
	Niigata-maki	1522	20.7	10.1	16.9	210	16.3	176	4.80	7.18	3.40	20.4	13.7	4.86	3.87
	Tsushima	2461	10.5	8.69	6.76	34.7	8.61	30.0	0.882	1.35	0.717	3.27	10.2	4.99	1.23
Lao PDR	Vientiane	700	*	*	*	*	*	*	*	*	*	*	*	*	*
Malaysia	Petaling Jaya	***	***	***	***	***	***	***	***	***	***	***	***	***	***
	Tanah Rata	***	***	***	***	***	***	***	***	***	***	***	***	***	***
	Danum Valley	***	***	***	***	***	***	***	***	***	***	***	***	***	***
	Kuching	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Mongolia	Ulaanbaatar	33.7	346	339	56.8	13.4	75.1	110	2.01	39.0	36.6	3.71	3.25	5.49	7.89
	Terelj	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Myanmar	Yangon	2962	8.77	7.67	22.1	20.8	17.0	18.3	7.01	14.2	13.8	4.00	0.294	6.53	0.910
Philippines	Metro Manila	2367	10.2	9.10	13.1	23.3	28.6	18.0	4.13	14.7	14.3	3.97	3.94	5.40	1.20
	Los Baños	***	***	***	***	***	***	***	***	***	***	***	***	***	***
	Mt. Sto. Tomas	***	***	***	***	***	***	***	***	***	***	***	***	***	***
R of Korea	Kanghwa	502	26.2	15.4	32.0	216	42.3	180	7.91	7.07	3.19	16.2	20.9	4.68	4.74
	Cheju	791	21.1	15.5	39.2	76.4	45.4	93.4	2.87	4.56	2.88	3.67	2.53	5.60	2.37
	Imsil	1096	15.3	13.0	22.9	28.4	35.7	38.1	1.33	2.66	2.07	0.797	4.60	5.34	1.31
Russia	Mondy	182	4.68	4.56	7.69	1.95	9.51	1.92	0.982	5.09	5.05	0.948	3.93	5.41	0.469
	Listvyanka	430	19.4	19.1	16.0	4.19	18.8	3.06	3.04	8.05	7.98	2.27	18.6	4.73	1.32
	Irkutsk	402	28.2	27.7	16.2	10.6	29.8	6.70	4.06	17.6	17.5	4.20	15.3	4.82	1.65
	Primorskaya	880	18.7	17.4	21.2	34.6	23.9	20.0	8.03	12.1	11.6	8.90	3.65	5.44	1.36
Thailand	Bangkok	630	11.6	11.0	28.7	11.8	35.5	8.83	3.89	29.2	29.0	2.71	0.863	6.06	1.36
	Samutprakarn	899	10.6	10.0	19.9	11.4	31.6	9.65	1.92	10.6	10.4	1.91	1.76	5.75	1.01
	Pathumthani	804	10.7	10.3	28.1	9.62	49.4	6.57	2.14	10.3	10.2	1.98	3.47	5.46	1.24
	Khanchanaburi	652	2.94	2.61	3.20	6.88	4.51	5.45	1.04	4.25	4.13	0.993	0.835	6.08	0.421
	Mae Hia	754	7.08	6.59	14.8	7.55	33.2	8.18	3.64	10.3	10.1	1.41	7.04	5.15	0.942
	Sakaerat	1141	7.03	6.45	13.4	5.26	68.9	9.64	6.12	55.9	55.7	9.26	6.23	5.21	0.800
Vietnam	Hanoi	1290	67.8	66.3	77.6	25.2	29.9	26.4	8.12	80.0	79.4	7.57	11.2	4.95	3.68
	Hoa Binh	1529	15.0	14.2	24.4	9.31	12.0	12.2	1.85	17.6	17.3	2.17	4.94	5.31	1.06
	Cuc Phuong	1571	22.6	21.2	21.3	38.8	19.7	23.4	5.38	24.2	23.7	13.5	3.51	5.45	1.69
	Da Nang	2142	24.6	18.1	1.88	167	41.7	108	18.1	92.2	89.8	28.6	0.709	6.15	5.02
	Can Tho	2370	25.7	24.6	16.7	23.9	17.6	18.1	12.7	15.8	15.4	10.2	1.18	5.93	1.35
	Ho Chi Minh	2262	31.7	30.5	18.3	36.9	22.8	20.4	11.0	26.5	26.1	13.2	1.08	5.96	1.78
	Yen Bai	1593	24.4	23.7	39.5	14.0	18.2	11.7	2.59	27.4	27.1	2.33	15.3	4.82	1.90

Terms and abbreviations are given in Table 3.5.

Table 3.70 Annual wet depositions in 2019

Country	Name of sites	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺
		mmol m ⁻² y ⁻¹	mmol m ⁻² y ⁻¹	mmol m ⁻² y ⁻¹	mmol m ⁻² y ⁻¹	mmol m ⁻² y ⁻¹	mmol m ⁻² y ⁻¹	mmol m ⁻² y ⁻¹	mmol m ⁻² y ⁻¹	mmol m ⁻² y ⁻¹	mmol m ⁻² y ⁻¹	mmol m ⁻² y ⁻¹
Cambodia	Phnom Penh	***	***	***	***	***	***	***	***	***	***	***
China	Haifu	41.0	40.7	61.4	8.35	112	4.90	4.22	31.5	31.4	3.68	4.56
	Jinyunshan	36.6	36.5	48.8	5.10	73.2	2.08	3.32	23.6	23.6	3.12	18.2
	Shizhan	14.1	13.7	11.5	6.20	63.3	5.62	3.49	23.6	23.5	3.08	0.0697
	Jiwozi	36.4	33.3	22.0	13.9	19.9	51.3	37.3	93.9	92.8	13.1	0.102
	Hongwen	46.4	46.1	40.4	74.3	29.1	5.12	14.7	62.4	62.3	4.29	0.877
	Xiaoping	12.9	12.8	31.7	10.2	20.1	1.46	2.54	7.54	7.51	2.06	18.9
	Xiang Zhou	20.2	17.8	43.0	48.5	45.1	40.4	2.97	16.2	15.3	7.08	22.4
	Zhuxiandong	24.8	21.7	51.0	60.5	48.4	50.5	3.93	22.7	21.6	8.67	20.1
	Wuzhishan	10.1	9.35	14.1	11.1	22.0	13.0	4.29	15.5	15.2	3.44	1.71
	Lijiang	0.234	0.207	2.25	1.72	5.58	4.40	0.778	11.8	11.7	2.33	0.269
Indonesia	Jakarta	38.1	37.2	38.3	22.3	44.3	14.1	2.08	15.8	15.5	2.83	22.1
	Serpong	74.3	72.1	88.3	65.7	148	37.5	26.2	38.5	37.7	9.74	23.1
	Kototabang	14.0	13.4	16.2	12.6	16.6	10.1	6.13	66.0	65.8	1.55	8.99
	Bandung	72.8	68.2	60.4	36.3	124	75.7	7.85	33.2	31.5	8.16	1.61
	Maros	11.6	9.75	5.26	35.5	4.33	31.1	4.98	33.8	33.1	4.30	19.1
	Jembrana	14.8	12.9	15.3	49.8	26.7	31.6	6.05	12.5	11.8	4.19	6.86
	Lombok	18.6	16.4	20.0	37.9	27.0	36.6	5.26	25.3	24.5	6.65	4.11
Japan	Rishiri	15.6	7.76	12.2	149	13.6	130	3.74	5.24	2.44	15.3	10.9
	Ochiishi	7.39	4.02	6.68	64.6	6.26	56.0	1.40	2.38	1.17	6.35	6.34
	Sado-seki	22.2	9.48	17.4	240	15.5	211	5.57	8.39	3.82	24.3	12.1
	Happo	14.5	14.0	20.0	11.0	21.2	8.80	1.39	5.57	5.38	2.01	18.0
	Ijira	27.5	25.3	37.9	43.6	35.2	36.3	1.45	6.55	5.77	4.64	45.4
	Oki	23.0	12.2	20.9	207	16.9	178	4.67	7.60	3.75	20.6	16.8
	Yusuhara	20.1	17.5	17.5	51.7	16.7	42.7	2.46	4.10	3.19	5.35	33.6
	Hedo	32.0	11.9	17.0	391	12.6	333	7.78	9.72	2.73	44.2	27.0
	Ogasawara	23.9	3.92	4.25	379	4.61	333	8.23	8.65	1.47	38.0	11.0
	Tokyo	18.0	12.3	20.9	108	28.8	94.7	2.25	6.58	4.53	11.0	16.4
	Niigata-maki	31.6	15.4	25.7	320	24.8	269	7.31	10.9	5.17	31.0	20.8
	Tsushima	25.8	21.4	16.6	85.5	21.2	73.8	2.17	3.31	1.76	8.05	25.1
Lao PDR	Vientiane	*	*	*	*	*	*	*	*	*	*	*
Malaysia	Petaling Jaya	***	***	***	***	***	***	***	***	***	***	***
	Tanah Rata	***	***	***	***	***	***	***	***	***	***	***
	Danum Valley	***	***	***	***	***	***	***	***	***	***	***
	Kuching	***	***	***	***	***	***	***	***	***	***	***
Mongolia	Ulaanbaatar	11.7	11.4	1.92	0.452	2.53	3.72	0.07	1.31	1.23	0.125	0.110
	Terelj	***	***	***	***	***	***	***	***	***	***	***
Myanmar	Yangon	26.0	22.7	65.5	61.6	50.3	54.2	20.8	41.9	40.8	11.8	0.871
Philippines	Metro Manila	24.1	21.5	31.0	55.1	67.6	42.7	9.78	34.8	33.9	9.41	9.33
	Los Baños	***	***	***	***	***	***	***	***	***	***	***
	Mt. Sto. Tomas	***	***	***	***	***	***	***	***	***	***	***
R of Korea	Kanghwa	13.2	7.71	16.0	108	21.2	90.3	3.97	3.54	1.60	8.13	10.5
	Cheju	16.7	12.3	31.0	60.4	35.9	73.8	2.27	3.61	2.28	2.90	2.00
	Imsil	16.8	14.2	25.1	31.2	39.1	41.8	1.46	2.92	2.27	0.874	5.04
Russia	Mondy	0.853	0.832	1.40	0.355	1.73	0.350	0.179	0.928	0.921	0.173	0.717
	Listvyanka	8.32	8.22	6.88	1.80	8.06	1.32	1.31	3.46	3.43	0.974	8.00
	Irkutsk	11.3	11.1	6.53	4.27	12.0	2.69	1.63	7.09	7.03	1.69	6.14
	Primorskaya	16.4	15.4	18.6	30.4	21.0	17.6	7.07	10.6	10.2	7.83	3.21
Thailand	Bangkok	7.29	6.95	18.0	7.46	22.4	5.56	2.45	18.4	18.3	1.70	0.543
	Samutprakarn	9.55	9.03	17.8	10.3	28.4	8.68	1.72	9.57	9.38	1.71	1.58
	Pathumthani	8.64	8.32	22.6	7.74	39.7	5.28	1.72	8.30	8.19	1.59	2.79
	Khanchanaburi	1.91	1.70	2.09	4.48	2.94	3.55	0.679	2.77	2.69	0.647	0.544
	Mae Hia	5.34	4.97	11.2	5.70	25.0	6.17	2.74	7.75	7.62	1.07	5.31
	Sakaerat	8.02	7.36	15.2	6.00	78.6	11.0	6.99	63.7	63.5	10.6	7.11
Vietnam	Hanoi	87.5	85.5	100	32.5	38.6	34.1	10.5	103	102	9.77	14.5
	Hoa Binh	22.9	21.8	37.3	14.2	18.3	18.6	2.83	26.9	26.5	3.32	7.55
	Cuc Phuong	35.5	33.3	33.4	60.9	31.0	36.7	8.45	38.0	37.2	21.2	5.52
	Da Nang	52.7	38.8	4.03	359	89.4	231	38.7	197	192	61.3	1.52
	Can Tho	61.0	58.4	39.7	56.6	41.8	42.8	30.0	37.4	36.5	24.1	2.79
	Ho Chi Minh	71.8	69.0	41.4	83.6	51.5	46.1	24.9	60.0	59.0	29.9	2.45
	Yen Bai	38.9	37.7	63.0	22.3	29.0	18.7	4.12	43.6	43.2	3.71	24.4

Terms and abbreviations are given in Table 3.5.

Table 3.71 Data completeness for annual summaries in 2019 (%PCL, %TP)

Country	Name of sites	Precip.	SO ₄ ²⁻	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	nss-Ca ²⁺	Mg ²⁺	H ⁺	pH	EC
		%PCL	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP
Cambodia	Phnom Penh	***	***	***	***	***	***	***	***	***	***	***	***	***	***
China	Haifu	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Jinyunshan	100	100	100	100	100	100	100	100	100	100	100	99.9	99.9	99.9
	Shizhan	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Jiwozi	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Hongwen	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Xiaoping	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Xiang Zhou	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Zhuxiandong	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Wuzhishan	100	100	100	100	100	100	100	100	100	100	100	99.8	99.8	99.8
	Lijiang	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Indonesia	Jakarta	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Serpong	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Kototabang	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Bandung	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Maros	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Jembrana	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Lombok	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Japan	Rishiri	100	98.1	98.1	98.1	98.1	98.1	98.1	98.1	98.1	98.1	98.1	97.8	97.8	97.8
	Ochiishi	100	43.9	43.9	43.9	43.9	43.9	43.9	43.9	43.9	43.9	43.9	42.4	42.4	42.4
	Sado-seki	99.7	75.6	75.6	75.6	75.6	75.6	75.6	75.6	75.6	75.6	75.6	72.6	72.6	72.6
	Happo	100	77.1	77.1	77.1	77.1	77.1	77.1	77.1	77.1	77.1	77.1	76.4	76.4	76.4
	Ijira	100	96.1	96.1	96.1	96.1	96.1	96.1	96.1	96.1	96.1	96.1	96.1	96.1	96.1
	Oki	92.9	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	88.6	88.6	88.6
	Yusuhara	100	100	100	100	100	100	100	100	100	100	100	99.9	99.9	99.9
	Hedo	100	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7
	Ogasawara	98.1	91.4	91.4	91.4	91.4	91.4	91.4	91.4	91.4	91.4	91.4	90.4	90.4	90.4
	Tokyo	100	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.1	99.1	99.1
	Niigata-maki	100	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.4	99.4	99.4
	Tsushima	95.3	84.0	84.0	84.0	84.0	84.0	84.0	84.0	84.0	84.0	84.0	84.0	84.0	84.0
Lao PDR	Vientiane	100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Malaysia	Petaling Jaya	***	***	***	***	***	***	***	***	***	***	***	***	***	***
	Tanah Rata	***	***	***	***	***	***	***	***	***	***	***	***	***	***
	Danum Valley	***	***	***	***	***	***	***	***	***	***	***	***	***	***
	Kuching	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Mongolia	Ulaanbaatar	100	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	100	100	100
	Terelj	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Myanmar	Yangon	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Philippines	Metro Manila	100	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5
	Los Baños	***	***	***	***	***	***	***	***	***	***	***	***	***	***
	Mt. Sto. Tomas	***	***	***	***	***	***	***	***	***	***	***	***	***	***
R of Korea	Kanghwa	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Cheju	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Imsil	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Russia	Mondy	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Listvyanka	100	100	99.6	100	100	100	99.6	99.6	99.6	99.6	99.6	100	100	100
	Irkutsk	100	100	99.0	100	100	100	99.0	99.0	99.0	99.0	99.0	100	100	100
	Primorskaya	100	94.3	94.3	94.3	94.3	94.3	94.3	94.3	94.3	94.3	94.3	100	100	94.3
Thailand	Bangkok	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Samutprakarn	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Pathumthani	100	100	100	100	100	100	100	100	100	100	100	99.9	99.9	99.9
	Khanchanaburi	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Mae Hia	100	100	100	100	100	100	100	100	100	100	100	99.6	99.6	99.6
	Sakaerat	100	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.4	99.4	99.4
Vietnam	Hanoi	100	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9
	Hoa Binh	100	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9
	Cuc Phuong	100	96.9	96.9	96.9	96.9	96.9	96.9	96.9	96.9	96.9	96.9	96.9	96.9	96.9
	Da Nang	100	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7
	Can Tho	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Ho Chi Minh	100	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7
	Yen Bai	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Terms and abbreviations are given in Table 3.5.

Table 3.72 Results of ion balance and conductivity agreement check in 2019

Country	Name of sites	Sample (N)	R ₁ (N)	R ₁ (AA)	%	R ₂ (N)	R ₂ (AA)	%	R ₁ &R ₂ (N)	R ₁ &R ₂ (AA)	%
Cambodia	Phnom Penh	***	***	***	***	***	***	***	***	***	***
China	Haifu*	132	132	59	44.7	132	131	99.2	132	59	44.7
	Jinyunshan*	112	110	94	85.5	110	109	99.1	110	94	85.5
	Shizhan	38	38	0	0	38	22	57.9	38	0	0
	Jiwozi	42	42	3	7.1	42	25	59.5	42	3	7.1
	Hongwen*	58	58	23	39.7	58	56	96.6	58	23	39.7
	Xiaoping*	86	86	44	51.2	86	86	100	86	44	51.2
	Xiang Zhou*	74	74	42	56.8	74	67	90.5	74	39	52.7
	Zhuxiandong*	95	95	67	70.5	95	91	95.8	95	63	66.3
	Wuzhishan*	68	67	29	43.3	67	39	58.2	67	18	26.9
	Lijiang*	60	60	1	1.7	60	20	33.3	60	1	1.7
Indonesia	Jakarta	28	28	13	46.4	28	23	82.1	28	13	46.4
	Serpong	77	77	57	74.0	77	75	97.4	77	56	72.7
	Kototabang	42	42	10	23.8	42	21	50.0	42	7	16.7
	Bandung	85	85	36	42.4	85	82	96.5	85	36	42.4
	Maros	21	21	2	9.5	21	17	81.0	21	2	9.5
	Jembrana	22	22	14	63.6	22	18	81.8	22	14	63.6
	Lombok	21	21	5	23.8	21	16	76.2	21	4	19.0
Japan	Rishiri	183	148	142	95.9	147	146	99.3	147	140	95.2
	Ochiishi	66	31	31	100	31	31	100	31	31	100
	Sado-seki	179	107	107	100	107	107	100	107	107	100
	Happo	176	129	120	93.0	129	125	96.9	129	118	91.5
	Ijira	45	44	44	100	44	44	100	44	44	100
	Oki	194	95	95	100	95	95	100	95	95	100
	Yusuhara*	166	157	156	99.4	157	157	100	157	156	99.4
	Hedo	186	186	182	97.8	186	186	100	186	182	97.8
	Ogasawara*	163	116	114	98.3	116	116	100	116	114	98.3
	Tokyo*	151	111	104	93.7	111	111	100	111	104	93.7
	Niigata-maki	143	140	140	100	140	140	100	140	140	100
	Tsushima	104	95	92	96.8	95	89	93.7	95	88	92.6
Lao PDR	Vientiane	24	0	0	*	0	0	*	0	0	*
Malaysia	Petaling Jaya	***	***	***	***	***	***	***	***	***	***
	Tanah Rata	***	***	***	***	***	***	***	***	***	***
	Danum Valley	***	***	***	***	***	***	***	***	***	***
	Kuching	***	***	***	***	***	***	***	***	***	***
Mongolia	Ulaanbaatar	11	8	1	12.5	8	7	87.5	8	1	12.5
	Terelj	***	***	***	***	***	***	***	***	***	***
Myanmar	Yangon	27	27	5	18.5	27	18	66.7	27	4	14.8
Philippines	Metro Manila*	33	32	6	18.8	32	19	59.4	32	3	9.4
	Los Baños	***	***	***	***	***	***	***	***	***	***
	Mt. Sto. Tomas	***	***	***	***	***	***	***	***	***	***
R of Korea	Kanghwa	37	37	37	100	37	37	100	37	37	100
	Cheju	37	37	37	100	37	37	100	37	37	100
	Imsil	55	55	54	98.2	55	55	100	55	54	98.2
Russia	Mondy*	18	18	18	100	18	18	100	18	18	100
	Listvyanka*	51	50	49	98.0	50	50	100	50	49	98.0
	Irkutsk*	91	90	88	97.8	90	89	98.9	90	87	96.7
	Primorskaya	106	59	59	100	59	59	100	59	59	100
Thailand	Bangkok*	27	27	3	11.1	27	17	63.0	27	1	3.7
	Samutprakarn*	54	54	13	24.1	54	46	85.2	54	10	18.5
	Pathumthani*	81	79	20	25.3	79	67	84.8	79	20	25.3
	Khanchanaburi*	34	34	26	76.5	34	18	52.9	34	14	41.2
	Mae Hia*	89	84	16	19.0	84	70	83.3	84	12	14.3
	Sakaerat*	80	72	0	0	72	1	1.4	72	0	0
Vietnam	Hanoi*	42	41	41	100	41	41	100	41	41	100
	Hoa Binh*	38	36	34	94.4	36	36	100	36	34	94.4
	Cuc Phuong*	47	31	31	100	31	31	100	31	31	100
	Da Nang*	41	34	34	100	34	34	100	34	34	100
	Can Tho*	32	32	23	71.9	32	32	100	32	23	71.9
	Ho Chi Minh*	29	28	19	67.9	28	27	96.4	28	19	67.9
	Yen Bai*	34	34	34	100	34	34	100	34	34	100

Sites marked with * : R₁ and R₂, calculated including concentrations of additional measured constituents

Terms and abbreviations are given in Table 3.5.

Table 3.73 Annual precipitation from 2005 to 2019

unit: mm y⁻¹

Country	Name of sites	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Cambodia	PhnomPenh	1308	949	1374	1834	1326	1851	1277	1617	1345	1561	1103	1277	1379	***	***
China	Guanyinqiao	1077	842	1299												
	Haifu				1010	1066	977	810	1010	1026	1417	1220	1270	1217	1117	1224
	Jinyunshan	1461	1196	1645	1213	1098	979	848	1005	1127	1490	1288	1217	1268	935	1037
	Shizhan	509	483	527	385	592	459	659	393	441	623	594	415	577	471	465
	Weishuiyuan	439	316													
	Jiwozi	362	234	100	438	628	1155	971	390	649	568	447	369	508	547	582
	Hongwen	1702	2134	1347	945	737	1530	843	924	1403	1129	1015	1771	538	978	1027
	Xiaoping	2921	2352	1044	2000	1134	1518	1531	1291	1979	1364	1557	1851	676	840	1013
	Xiang Zhou	1179	1529	1442	2815	2010	1857	1259	1518	2421	1673	1431	2344	1905	2067	1988
	Zhuxiandong	1062	887	***	2311	1580	1853	1146	***	***	***	1598	2356	1817	2109	2105
	Wuzhishan															1495
	Lijiang															508
Indonesia	Jakarta	2125	1481	2171	1717	1557	2120	990	2722	2331	3168	2807	1976	1307	1709	1500
	Serpong	824	1603	2015	2370	1344	1426	830	894	2324	2882	1770	2929	3197	2117	2199
	Kototabang	2194	1248	2772	2481	2656	2370	2193	2639	2120	2496	2503	2163	2437	2905	2134
	Bandung	1749	1311	1969	2334	2683	2606	1530	2084	2346	2033	2012	2699	1921	1747	1689
	Maros				3037	3237	2663	3632	2451	4033	2763	2479	1973	2301	3339	1663
	Jembrana															1589
	Lombok															1604
Japan	Rishiri	961	1294	883	828	1054	1072	1232	1172	1170	1033	1092	1299	938	1087	713
	Ochiishi	822	997	866	730	1580	1085	818	871	1059	838	827	1138	836	1124	830
	Tappi	1240	964	1055	824	1337	1555	1144	1178	1070	1194	1114	1222	1129	1649	
	Sado-seki	1143	1264	1163	1021	1037	1368	1387	1296	1576	1409	867	999	1262	1573	959
	Happo	2997	2755	2329	1645	2352	2621	3076	2002	2658	2453	2242	2446	3121	2758	2484
	Ijira	2569	2829	2263	2250	2876	3847	3068	2862	2724	3044	3135	3151	2919	3725	2777
	Oki	1313	1396	1160	1110	1123	1452	1534	1296	1395	1053	1061	1519	992	1308	1095
	Banryu	1290	1960	1273	1268	1735	1471	1432	1208	2024	1516	1458	1829	1471	1662	
	Yusuhara	2321	3160	2373	2189	2068	2476	3401	3048	2485	3529	3046	2744	2594	4022	3102
	Hedo	1780	1863	2701	1961	1975	2643	1766	2837	1612	2442	1762	1822	1623	2632	2566
	Ogasawara	2050	1585	1567	1674	1675	1856	1297	1572	1265	1532	1586	1153	1654	960	1868
	Tokyo			1080	1860	1727	1656	1388	1635	1609	1807	1641	1609	1280	1296	1641
	Niigata-maki															1522
	Tsushima															2461
Lao PDR	Vientiane	665	709	1399	1668	181	***	***	1322	***	1273	921	713	1337	829	700
Malaysia	Petaling Jaya	2848	4009	3021	3747	2968	3517	3607	3412	3570	3708	3751	3432	3125	3848	***
	Tanah Rata	2886	2785	2968	3925	3077	2451	3293	2846	2771	2895	2684	2366	3016	2607	***
	Danum Valley	1256	3005	2988	2999	3391	2370	3787	2958	3202	2848	2025	2987	2964	2489	***
	Kuching				4286	4671	4645	4632	3796	4110	3656	4428	5655	3828	3804	***
Mongolia	Ulaanbaatar	150	188	126	155	228	153	163	170	154	***	150	160	160	170	33.7
	Terelj	246	215	185	206	111	130	144	117	90.8	***	100	106	105	149	***
Myanmar	Yangon			3981	6375	3010	2280	3151	2570	2692	2872	2432	2180	2813	2940	2962
Philippines	Metro Manila	2377	2696	3505	2381	3782	2676	3657	4461	3516	2628	2499	2519	***	***	2367
	Los Baños	1643	2222	3097	1894	2900	2068	2384	2102	2394	2073	1559	1756	***	***	***
	Mt.Sto.Tomas		431	3379	5078	4727	3610	4608	5730	4392	3641	6108	4426	***	***	***
Republic of Korea	Kanghwa	811	1092	883	1546	1266	1570	1476	748	898	427	589	837	588	628	502
	Cheju	699	1127	1244	843	1039	1003	1076	1199	636	1195	1452	1121	714	1035	791
	Imsil	1248	709	1344	854	1069	1642	1493	1400	1220	1101	719	838	761	1171	1096
Russia	Mondy	286	410	351	206	119	90.2	73.5	105	330	123	136	222	191	362	182
	Listvyanka	452	311	408	391	312	327	478	343	278	279	335	316	315	225	430
	Irkutsk	442	357	478	527	430	375	329	443	277	388	291	481	502	442	402
	Primorskaya	737	623	989	553	864	673	621	922	723	643	1157	925	635	1023	880
Thailand	Bangkok	2006	1589	1579	1776	2072	2023	2171	1799	1330	1011	1593	1631	1592	1144	630
	Samutprakarn	1625	1420	1871	1734	1989	1880	2103	953	1115	991	1442	1810	1815	1471	899
	Pathumthani	1268	1608	1381	1670	1314	1763	1562	1563	1181	1059	1071	1069	1365	1322	804
	Khanchanaburi	2043	2518	1704	1962	1998	1626	1941	2390	1501	979	1093	1059	1178	994	652
	Mae Hia	1430	1420	937	1286	1052	1167	1614	1111	1433	527	747	743	1234	818	754
	Sakaerat		1190	1386	1722	1259	1627	1509	1126	1443	427	1385	1083	1692	1129	1141
Vietnam	Hanoi	1761	1231	1659	2267	1609	1236	1817	1798	1945	1661	1273	1661	2071	1900	1290
	HoaBinh	2279	1546	1949	1978	1357	1370	1760	1915	2008	1303	1616	1438	1895	2799	1529
	Cuc Phuong					2266	1654	1853	2018	1898	1702	1461	1937	2236	2521	1571
	Da Nang					2966	1690	3639	1682	2315	2219	1891	2723	2244	2597	2142
	Can Tho										1840	2205	1670	1907	2608	2370
	Ho Chi Minh										1916	1420	2553	3444	2480	2262
	Yen Bai											1514	1815	2397	1866	1593

Terms and abbreviations are given in Table 3.5.

Table 3.74 Precipitation amount-weighted annual average concentrations of SO₄²⁻ from 2005 to 2019

		unit: $\mu\text{mol L}^{-1}$														
Country	Name of sites	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Cambodia	PhnomPenh	5.68	5.31	22.5	11.6	11.6	7.37	9.04	10.5	7.99	6.27	7.04	5.37	11.3	***	***
China	Guanyinqiao	186	177	130												
	Haifu				144	99.3	139	142	102	106	84.4	50.3	46.9	41.0	41.2	33.5
	Jinyunshan	102	141	90.4	120	114	151	141	124	81.4	60.4	43.9	40.0	36.5	36.3	35.3
	Shizhan	126	274	183	191	136	100.0	110	109	141	113	82.8	62.5	72.5	47.0	30.3
	Weishuiyuan	107	330													
	Jiwozi	118	128	182	145	93.5	31.8	62.6	94.5	52.6	69.3	31.6	19.5	35.8	26.6	62.5
	Hongwen	47.2	28.6	75.5	31.7	26.1	26.7	31.3	32.2	21.9	27.0	18.5	22.8	31.7	17.7	45.2
	Xiaoping	20.2	16.9	28.0	29.2	28.2	27.3	24.9	23.4	22.7	29.6	17.3	13.7	14.6	13.1	12.7
	Xiang Zhou	23.8	29.2	21.7	16.5	18.2	19.8	15.5	14.9	19.1	14.3	11.6	16.0	14.1	12.1	10.2
	Zhuxiandong	29.5	19.3	***	21.5	21.0	17.1	20.4	***	***	***	23.3	18.1	14.1	15.7	11.8
	Wuzhishan															6.78
	Lijiang															0.460
Indonesia	Jakarta	40.3	26.2	27.9	22.7	19.4	21.9	28.7	20.6	21.9	22.2	17.1	31.1	17.3	34.8	25.4
	Serpong	33.3	28.2	30.5	27.8	23.1	24.4	33.6	29.0	26.5	23.2	31.5	25.9	25.5	33.6	33.8
	Kototabang	5.50	7.65	6.99	2.91	4.72	6.33	7.77	6.04	6.22	8.52	8.30	5.70	4.48	5.59	6.58
	Bandung	35.3	26.8	26.4	28.0	29.2	27.0	30.8	26.5	30.7	38.8	30.1	31.9	35.0	31.8	43.1
	Maros				5.38	6.96	10.8	8.26	8.77	6.44	7.56	6.19	10.4	6.34	5.83	6.99
	Jembrana															9.30
	Lombok															11.6
Japan	Rishiri	27.9	22.9	28.3	29.4	25.9	23.4	21.2	27.8	23.2	20.0	18.2	11.8	24.6	22.5	21.8
	Ochiishi	22.6	27.7	21.3	18.7	16.7	23.0	15.2	25.3	32.5	13.0	20.3	12.7	18.0	9.68	8.90
	Tappi	29.6	35.8	29.6	28.3	23.1	21.3	27.5	22.3	33.1	26.5	24.7	22.5	22.1	17.4	
	Sado-seki	34.2	28.3	34.9	31.0	33.0	32.3	24.5	29.8	33.5	32.0	34.7	21.4	19.6	15.6	23.1
	Happo	12.0	10.3	12.2	10.9	10.1	6.11	7.00	11.6	8.88	8.00	7.06	5.12	4.66	4.74	5.84
	Ijira	18.9	20.6	19.0	18.2	15.4	11.1	13.0	13.6	12.3	12.0	11.7	10.8	10.1	7.43	9.90
	Oki	55.7	29.5	36.3	35.6	37.8	40.8	45.6	37.9	47.0	47.8	36.4	31.7	40.7	35.1	21.0
	Banryu	26.9	22.0	27.9	25.8	20.9	21.0	21.1	25.9	17.3	21.6	18.3	16.9	16.2	11.6	
	Yusuhara	12.1	10.1	9.50	10.2	11.7	9.64	7.02	10.7	9.07	6.92	6.52	7.58	19.8	5.28	6.46
	Hedo	36.0	19.2	14.4	14.2	13.1	20.9	20.5	31.2	22.2	14.3	23.9	17.5	28.0	12.8	12.5
	Ogasawara	13.1	10.2	12.7	8.97	16.5	15.0	15.7	10.2	13.5	12.1	20.8	9.57	12.8	3.99	12.8
	Tokyo			17.1	19.6	16.0	10.9	15.9	15.6	12.2	13.9	11.7	9.36	11.3	10.6	11.0
	Niigata-maki															20.7
	Tsushima															10.5
Lao PDR	Vientiane	***	3.46	4.67	5.06	4.05	***	***	2.41	***	***	3.19	3.66	*	*	*
Malaysia	Petaling Jaya	23.3	20.6	13.8	17.5	13.2	17.1	22.5	17.0	17.8	21.4	21.4	20.2	13.5	15.5	***
	Tanah Rata	5.58	4.43	3.52	3.28	3.27	3.25	5.05	4.59	4.77	6.19	6.86	3.92	3.53	4.23	***
	Danum Valley	4.40	3.41	2.29	2.49	2.82	5.08	1.96	2.28	3.17	2.58	3.54	1.65	2.70	3.22	***
	Kuching				4.14	3.78	3.57	4.07	4.67	5.01	7.14	4.68	4.07	4.00	4.28	***
Mongolia	Ulaanbaatar	26.7	25.4	37.1	27.9	19.9	22.2	28.1	***	56.6	***	122	129	34.6	32.1	346
	Terelj	17.5	23.8	25.0	16.5	16.5	30.5	23.6	***	48.5	***	104	142	13.5	26.7	***
Myanmar	Yangon			***	***	8.01	4.52	6.63	7.48	7.96	4.55	4.62	9.19	11.6	8.09	8.77
Philippines	Metro Manila	24.0	17.6	22.3	24.9	13.6	20.3	18.7	24.1	15.1	18.0	19.0	21.7	***	***	10.2
	Los Baños	9.86	10.8	8.38	18.0	8.82	7.39	8.57	12.6	6.60	9.13	13.4	15.4	***	***	***
	Mt.Sto.Tomas		1.37	5.74	3.47	5.04	4.94	4.69	7.26	7.71	4.62	4.02	5.52	***	***	***
Republic of Korea	Kanghwa	46.8	37.0	41.2	27.9	29.2	26.3	27.2	27.2	36.1	29.3	29.4	18.8	23.5	14.2	26.2
	Cheju	34.3	28.1	37.9	26.2	25.3	19.3	25.5	36.7	40.6	17.2	17.3	43.1	31.6	23.4	21.1
	Imsil	22.8	26.8	28.8	21.0	19.6	19.5	20.7	19.4	18.5	15.2	20.2	13.8	18.6	10.6	15.3
Russia	Mondy	5.37	4.70	9.31	7.13	7.82	6.80	4.53	7.16	3.58	5.47	6.45	3.13	6.43	4.37	4.68
	Listvyanka	17.3	19.0	17.1	21.3	19.3	20.7	22.1	21.4	18.1	17.4	21.0	15.0	22.5	21.2	19.4
	Irkutsk	27.8	26.0	33.6	38.5	31.2	33.5	34.4	37.9	36.6	23.2	42.2	23.6	25.7	31.1	28.2
	Primorskaya	38.2	46.0	30.8	40.6	22.6	31.9	14.0	20.8	29.2	32.1	21.4	24.0	34.2	29.9	18.7
Thailand	Bangkok	19.5	22.3	17.2	18.0	12.7	12.0	10.7	10.7	7.09	8.43	7.53	14.1	17.0	15.1	11.6
	Samutprakarn	19.1	20.7	14.8	15.7	15.1	15.6	7.67	10.2	7.67	9.61	7.24	11.8	8.90	10.3	10.6
	Pathumthani	13.2	13.4	12.0	10.6	8.89	8.01	9.45	7.93	9.41	8.23	11.6	10.2	8.91	7.17	10.7
	Khanchanaburi	2.80	4.04	2.47	3.78	3.60	1.79	5.11	3.72	1.23	3.59	2.34	9.80	3.33	2.66	2.94
	Mae Hia	5.90	4.54	6.00	4.96	4.30	3.32	3.24	4.76	4.13	8.39	4.12	5.45	6.21	4.17	7.08
	Sakaerat		8.24	6.44	7.36	6.44	7.04	5.30	6.64	7.49	10.8	6.53	6.94	4.93	9.62	7.03
Vietnam	Hanoi	51.4	46.9	33.6	20.2	27.4	35.4	30.7	28.8	25.9	39.3	39.5	35.8	34.6	44.5	67.8
	HoaBinh	17.8	24.9	17.0	13.6	16.1	26.3	18.0	17.1	19.7	25.2	20.0	26.3	18.9	21.9	15.0
	Cuc Phuong					18.5	20.3	37.6	24.3	26.9	18.5	18.8	16.7	16.2	13.5	22.6
	Da Nang					18.8	16.4	21.1	19.6	24.2	15.8	11.4	11.7	16.5	13.9	24.6
	Can Tho										8.73	30.7	15.9	16.2	22.7	25.7
	Ho Chi Minh										24.2	47.6	19.2	23.4	25.6	31.7
	Yen Bai											22.6	43.6	26.2	25.4	24.4

Terms and abbreviations are given in Table 3.5.

Table 3.75 Precipitation amount-weighted annual average concentrations of nss-SO₄²⁻ from 2005 to 2019

		unit: $\mu\text{mol L}^{-1}$															
Country	Name of sites	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	
Cambodia	PhnomPenh	***	5.08	22.0	8.67	11.2	7.18	8.83	10.3	7.80	5.81	6.66	5.11	11.0	***	***	
China	Guanyinqiao	185	177	130													
	Haifu				144	99.0	138	142	101	106	84.0	50.1	46.5	40.7	40.9	33.3	
	Jinyunshan	101	140	90.0	120	113	151	140	124	81.2	60.1	43.8	39.8	36.4	36.2	35.1	
	Shizhan	125	271	182	190	135	99.5	109	109	132	105	75.9	59.2	70.8	45.8	29.6	
	Weishuiyuan	106	326														
	Jiwozi	115	124	177	140	92.0	31.4	62.1	91.8	45.8	61.8	26.0	19.0	33.8	25.1	57.2	
	Hongwen	44.1	27.0	74.0	30.3	24.6	25.5	30.2	31.2	21.0	25.8	17.4	21.3	29.5	16.3	44.9	
	Xiaoping	19.6	16.1	27.2	27.8	27.3	26.2	24.2	22.9	22.0	29.0	16.7	13.3	14.2	12.7	12.6	
	Xiang Zhou	21.5	27.0	20.5	14.4	15.8	18.6	13.5	12.1	15.9	12.5	8.60	14.7	11.0	8.04	8.94	
	Zhuxiandong	26.1	18.0	***	19.0	18.3	15.9	17.7	***	***	***	19.3	16.2	12.6	10.3	10.3	
	Wuzhishan															6.26	
	Lijiang															0.407	
Indonesia	Jakarta	38.9	25.4	27.0	22.1	18.8	21.4	28.0	19.8	20.9	20.9	16.3	29.8	16.7	33.8	24.8	
	Serpong	32.3	27.7	29.8	27.2	22.5	23.9	33.0	28.4	25.6	22.1	30.7	25.1	24.8	32.5	32.8	
	Kototabang	5.16	7.28	6.47	2.61	4.38	6.04	7.38	5.47	5.71	8.18	8.63	4.96	4.27	5.39	6.30	
	Bandung	34.6	25.7	26.0	27.5	28.5	26.4	30.1	25.8	29.9	38.0	29.6	31.2	33.9	30.4	40.4	
	Maros				4.43	6.18	10.0	7.36	7.65	5.28	6.24	5.99	5.58	3.71	5.01	5.86	
	Jembrana															8.10	
	Lombok															10.2	
Japan	Rishiri	15.7	16.3	19.7	14.5	15.3	13.6	12.9	10.5	11.3	10.2	9.80	7.61	12.2	12.2	10.9	
	Ochiishi	10.1	11.3	10.1	8.41	5.88	9.65	6.73	8.81	7.18	7.15	9.53	4.37	4.87	5.01	4.84	
	Tappi	16.6	18.4	15.7	16.4	11.5	14.5	18.5	13.8	17.6	17.1	11.5	12.3	10.7	7.83		
	Sado-seki	16.8	14.8	21.3	18.3	13.7	13.4	15.3	15.3	13.9	15.0	15.1	10.9	10.6	7.60	9.88	
	Happo	11.5	10.1	12.0	10.7	9.82	5.88	6.80	11.0	8.63	7.68	6.71	4.83	4.36	4.42	5.63	
	Ijira	18.0	20.0	17.7	17.3	14.6	10.3	12.1	12.4	11.4	11.1	10.8	10.1	9.20	6.55	9.11	
	Oki	19.3	15.8	19.7	16.4	15.2	16.2	16.7	16.4	16.5	15.0	11.5	11.7	11.5	10.8	11.2	
	Banryu	21.3	18.0	23.1	21.4	15.0	15.3	14.6	20.3	13.1	16.4	12.8	11.9	10.9	8.21		
	Yusuhara	10.6	9.39	8.69	9.69	10.9	9.11	6.28	9.66	8.47	6.61	5.28	7.10	16.7	4.40	5.64	
	Hedo	13.0	7.86	6.58	6.73	5.55	5.79	8.26	6.30	8.58	6.03	5.04	5.47	5.94	3.12	4.66	
	Ogasawara	7.32	4.15	4.85	3.81	5.21	3.02	3.56	3.35	4.99	4.20	2.39	4.09	2.09	1.23	2.10	
	Tokyo			15.0	18.4	14.5	9.86	13.6	13.8	10.8	12.8	10.6	8.49	8.89	8.51	7.50	
	Niigata-maki															10.1	
	Tsushima															8.69	
Lao PDR	Vientiane	***	3.03	4.53	4.88	3.50	***	***	***	***	***	3.02	3.56	*	*	*	
Malaysia	Petaling Jaya	22.9	20.3	13.6	17.2	12.9	16.8	22.2	16.8	17.5	21.1	21.0	19.9	13.2	15.2	***	
	Tanah Rata	5.18	4.34	3.43	3.21	3.19	3.17	4.93	4.50	4.64	6.02	6.69	3.77	3.38	4.08	***	
	Danum Valley	4.13	3.07	2.04	2.30	2.47	4.32	1.72	2.11	2.86	2.25	3.22	1.46	2.56	2.91	***	
	Kuching				3.82	3.33	3.17	3.53	4.35	4.56	6.58	3.91	3.33	3.44	3.76	***	
Mongolia	Ulaanbaatar	26.3	24.9	36.8	27.3	19.6	22.0	27.7	***	52.0	***	***	119	33.3	29.6	339	
	Terelj	16.8	23.0	24.5	15.8	16.0	29.8	23.2	***	47.7	***	***	127	12.7	23.9	***	
Myanmar	Yangon			***	***	6.90	3.90	5.72	6.15	7.33	3.51	4.09	8.24	10.7	6.77	7.67	
Philippines	Metro Manila	23.0	16.5	21.1	23.4	12.6	18.9	17.4	23.1	13.4	16.5	17.6	20.7	***	***	9.10	
	Los Baños	8.83	9.44	7.32	16.9	7.77	6.02	7.40	11.3	5.22	8.20	12.4	14.0	***	***	***	
	Mt.Sto.Tomas		1.20	5.40	3.17	4.54	4.56	4.43	6.64	7.31	4.24	3.49	4.62	***	***	***	
Republic of Korea	Kanghwa	44.7	35.2	38.5	25.6	26.5	24.7	25.0	24.4	34.3	26.7	26.7	17.1	21.9	12.4	15.4	
	Cheju	29.2	22.9	31.8	18.2	22.1	13.1	16.4	14.1	23.2	10.2	11.2	19.3	15.9	7.55	15.5	
	Imsil	21.5	24.9	27.9	19.0	16.6	16.6	18.4	16.3	16.7	13.4	17.3	11.8	16.5	8.33	13.0	
Russia	Mondy	5.28	4.60	9.12	7.02	7.69	6.63	4.30	6.90	3.49	5.34	6.35	3.05	6.27	4.24	4.56	
	Listvyanka	17.1	18.8	17.0	21.2	19.1	20.5	21.8	21.1	17.7	17.1	20.9	14.7	22.3	20.8	19.1	
	Irkutsk	27.4	25.4	33.0	37.9	30.1	32.4	33.4	37.3	35.8	22.7	41.4	23.2	25.2	30.6	27.7	
	Primorskaya	36.9	45.0	29.6	39.3	21.8	30.4	13.2	19.4	27.6	31.1	19.9	22.5	32.6	28.6	17.4	
Thailand	Bangkok	18.7	21.8	16.8	17.4	12.1	11.5	10.3	10.3	6.36	7.88	7.04	13.5	16.7	14.5	11.0	
	Samutprakarn	17.9	19.7	14.1	14.8	14.5	14.5	7.33	9.74	6.22	8.85	6.68	11.2	8.47	9.69	10.0	
	Pathumthani	12.8	13.0	11.7	10.3	8.56	7.67	9.10	7.10	9.04	7.91	11.2	9.77	8.61	6.87	10.3	
	Khanchanaburi	2.40	3.67	2.04	3.22	3.03	1.60	4.66	3.14	<1.0	3.20	2.00	9.19	3.05	2.17	2.61	
	Mae Hia	5.84	4.34	5.82	4.81	4.14	3.16	3.05	4.53	3.83	8.17	3.85	5.04	5.85	3.74	6.59	
	Sakaerat		7.97	6.18	7.11	6.27	6.85	5.05	6.42	7.31	10.3	6.25	6.70	4.80	8.95	6.45	
Vietnam	Hanoi	50.4	46.1	33.1	19.6	26.8	35.0	30.3	28.6	25.4	38.9	39.0	35.2	33.6	43.9	66.3	
	HoaBinh	17.4	24.6	16.8	13.4	15.9	26.0	17.9	16.9	19.5	25.1	19.8	26.1	18.7	21.8	14.2	
	Cuc Phuong					17.8	19.6	36.8	23.1	25.3	17.9	18.3	15.9	15.1	12.7	21.2	
	Da Nang					13.1	13.9	16.8	16.1	15.6	10.8	6.65	7.75	11.6	9.85	18.1	
	Can Tho										7.80	28.9	15.1	15.6	22.1	24.6	
	Ho Chi Minh										22.7	45.5	18.4	22.3	24.8	30.5	
	Yen Bai											22.2	43.0	26.0	25.1	23.7	

Terms and abbreviations are given in Table 3.5.

Table 3.76 Precipitation amount-weighted annual average concentrations of NO₃⁻ from 2005 to 2019

		unit: $\mu\text{mol L}^{-1}$															
Country	Name of sites	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	
Cambodia	PhnomPenh	***	9.05	8.26	9.40	10.3	8.37	8.85	10.7	7.65	8.51	10.4	7.66	10.9	***	***	
China	Guanyinqiao	41.3	60.7	48.8													
	Haifu				65.0	53.2	77.6	83.1	73.9	73.9	64.1	47.4	52.3	51.8	56.8	50.2	
	Jinyunshan	34.4	46.1	31.5	46.5	54.4	75.0	77.5	70.4	53.1	45.6	36.4	37.5	36.8	44.6	47.0	
	Shizhan	12.1	81.7	75.9	40.2	57.7	41.0	17.5	49.4	35.6	98.0	71.9	62.8	25.2	38.5	24.7	
	Weishuiyuan	11.4	104														
	Jiwozi	9.31	50.7	66.8	103	27.4	12.2	8.24	47.4	8.77	13.8	28.6	5.56	2.55	15.1	37.8	
	Hongwen	37.3	22.4	37.6	22.9	23.4	29.0	23.6	35.2	20.9	26.4	26.2	31.4	43.7	27.1	39.3	
	Xiaoping	18.1	16.0	26.2	24.6	29.3	30.3	22.6	26.7	20.7	34.0	24.4	19.3	28.1	25.3	31.3	
	Xiang Zhou	17.2	21.8	16.6	12.3	17.7	23.9	15.7	15.2	20.4	20.9	18.8	18.2	18.1	17.1	21.6	
	Zhuxiandong	21.5	13.2	***	14.7	19.8	19.7	18.8	***	***	***	29.4	22.2	22.8	19.3	24.2	
	Wuzhishan															9.44	
	Lijiang															4.42	
Indonesia	Jakarta	53.9	20.5	31.1	14.1	15.3	17.1	29.8	16.2	21.8	20.0	15.3	34.2	18.9	44.3	25.6	
	Serpong	39.4	28.3	30.4	30.3	25.4	29.8	35.5	31.5	39.5	36.2	48.1	31.7	31.1	48.0	40.1	
	Kototabang	1.58	1.40	3.57	2.79	<0.5	2.37	5.05	4.65	2.86	7.48	3.60	4.16	3.78	7.47	7.60	
	Bandung	19.2	23.1	21.6	20.7	22.8	17.9	28.0	21.6	22.0	27.2	23.6	22.6	25.9	23.9	35.8	
	Maros				3.51	5.36	6.35	7.51	9.05	3.65	6.10	6.29	8.79	3.48	7.51	3.16	
	Jembrana															9.64	
	Lombok															12.5	
Japan	Rishiri	12.6	14.0	15.6	14.7	17.3	14.3	14.1	13.4	13.4	10.2	10.8	10.2	18.7	19.3	17.1	
	Ochiishi	9.31	11.4	9.57	8.44	5.42	9.47	9.58	9.80	8.83	8.71	11.5	5.62	6.83	7.04	8.05	
	Tappi	18.2	22.5	21.6	22.4	13.4	17.5	19.8	17.4	25.2	24.1	14.3	17.6	19.5	12.2		
	Sado-seki	18.6	18.9	25.8	23.9	16.6	18.1	19.7	20.0	19.4	19.3	20.8	18.7	18.6	14.1	18.1	
	Happo	9.53	8.25	9.82	11.0	8.56	6.51	8.17	11.6	8.32	7.80	6.78	5.79	5.96	6.49	8.06	
	Ijira	24.1	24.2	21.8	24.1	18.4	15.1	15.1	16.7	14.8	14.7	16.7	16.4	15.4	10.4	13.6	
	Oki	21.8	18.2	23.8	19.3	20.2	24.2	21.2	21.6	24.2	20.3	15.1	16.4	21.0	16.9	19.1	
	Banryu	25.5	19.5	29.2	24.6	20.0	22.6	19.5	27.8	16.2	21.7	18.0	17.9	22.2	13.6		
	Yusuhara	9.41	7.56	7.19	8.98	7.83	7.70	5.75	8.57	7.03	4.87	7.55	6.96	26.3	4.37	5.64	
	Hedo	11.0	8.09	6.41	6.90	6.43	6.38	7.69	7.17	8.58	6.88	7.05	7.40	8.76	4.99	6.62	
	Ogasawara	3.21	4.78	4.88	3.75	3.39	3.07	2.93	2.88	3.82	3.11	2.41	3.87	2.81	2.08	2.27	
	Tokyo			19.5	24.4	18.1	15.3	21.7	18.8	16.1	16.8	16.3	11.8	14.0	15.4	12.7	
	Niigata-maki															16.9	
Tsushima															6.76		
Lao PDR	Vientiane	***	6.94	6.90	5.96	9.73	***	***	5.55	***	***	4.12	4.07	*	*	*	
Malaysia	Petaling Jaya	35.9	30.0	26.6	36.1	46.4	49.5	52.8	43.8	33.5	35.8	43.6	44.1	28.8	36.4	***	
	Tanah Rata	6.04	5.34	4.17	4.53	5.19	4.40	2.21	3.78	3.78	4.82	7.63	5.97	7.89	5.83	***	
	Danum Valley	2.50	1.41	0.676	1.37	1.65	1.42	1.05	0.956	1.97	0.738	1.88	0.888	<0.5	0.945	***	
	Kuching				4.98	4.55	4.91	5.00	3.82	4.52	5.29	3.61	4.16	4.64	5.25	***	
Mongolia	Ulaanbaatar	18.8	18.6	26.0	20.1	19.1	21.4	16.8	***	30.9	***	34.6	36.7	30.4	24.4	56.8	
	Terelj	11.8	15.5	18.3	18.3	21.0	27.6	18.0	***	31.8	***	24.0	48.9	43.5	25.5	***	
Myanmar	Yangon			***	***	7.23	4.96	6.30	8.31	6.72	4.80	8.25	14.9	18.3	9.98	22.1	
Philippines	Metro Manila	21.5	12.3	14.1	21.1	8.68	50.5	14.4	18.2	13.9	16.0	13.4	36.4	***	***	13.1	
	Los Baños	9.83	8.13	6.25	7.97	8.01	31.4	8.35	11.9	7.80	8.22	8.81	38.5	***	***	***	
	Mt.Sto.Tomas		1.87	5.47	3.92	3.94	4.29	2.56	6.10	8.47	5.07	3.49	5.76	***	***	***	
Republic of Korea	Kanghwa	45.0	33.0	39.0	31.0	18.9	31.8	27.7	36.4	43.2	36.9	50.5	29.6	41.9	28.6	32.0	
	Cheju	27.5	25.5	15.1	26.5	18.6	22.7	27.9	19.3	30.3	18.2	21.6	31.8	39.7	20.5	39.2	
	Imsil	26.4	27.7	18.1	22.6	22.3	29.0	27.7	26.2	26.2	28.0	33.8	22.7	34.8	21.1	22.9	
Russia	Mondy	5.03	5.10	8.51	7.48	7.90	8.11	4.30	7.99	5.03	4.65	5.29	5.75	9.75	5.30	7.69	
	Listvyanka	11.8	14.6	20.4	15.4	16.4	20.2	30.6	19.3	15.7	13.2	15.5	15.0	19.3	17.8	16.0	
	Irkutsk	16.4	16.5	18.3	17.1	16.8	22.3	20.7	18.3	16.3	12.3	20.7	13.4	14.4	13.2	16.2	
	Primorskaya	21.6	29.2	19.1	33.1	18.6	21.9	37.8	23.4	18.5	7.66	25.4	22.3	35.0	26.4	21.2	
Thailand	Bangkok	23.2	33.0	28.0	31.2	28.1	26.8	20.6	27.6	12.9	15.3	16.2	31.8	20.2	38.0	28.7	
	Samutprakarn	17.9	14.1	16.6	17.4	20.0	15.4	9.81	12.5	5.07	13.0	9.97	18.3	15.7	18.7	19.9	
	Pathumthani	19.6	22.0	22.8	21.5	16.6	20.4	19.2	18.8	18.6	14.8	29.1	26.3	28.4	18.3	28.1	
	Khanchanaburi	2.50	6.15	2.94	5.02	4.55	3.76	7.27	6.86	1.93	4.68	4.28	4.93	4.95	4.03	3.20	
	Mae Hia	8.36	7.87	7.97	9.11	8.44	7.30	7.26	7.91	9.89	11.7	8.36	12.9	10.1	8.86	14.8	
	Sakaerat		11.3	11.4	11.5	12.7	14.6	9.97	11.2	10.4	24.5	12.8	13.5	10.6	13.6	13.4	
Vietnam	Hanoi	30.8	24.9	15.6	9.76	16.6	20.8	21.7	25.2	26.3	30.6	35.1	28.5	34.8	46.3	77.6	
	HoaBinh	12.9	16.1	10.5	10.2	12.9	15.5	14.4	15.4	18.8	25.2	22.3	24.8	22.2	16.4	24.4	
	Cuc Phuong					10.9	23.2	27.8	20.1	16.7	10.2	13.4	11.4	14.0	9.19	21.3	
	Da Nang					11.4	7.02	15.8	4.79	5.41	5.29	<0.5	2.78	5.39	<0.5	1.88	
	Can Tho										8.38	11.7	3.31	3.83	3.07	16.7	
	Ho Chi Minh										17.9	18.0	7.42	10.8	4.90	18.3	
	Yen Bai											17.8	40.3	24.5	28.9	39.5	

Terms and abbreviations are given in Table 3.5.

Table 3.77 Precipitation amount-weighted annual average concentrations of Cl⁻ from 2005 to 2019unit: $\mu\text{mol L}^{-1}$

Country	Name of sites	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Cambodia	PhnomPenh	6.21	6.20	12.6	8.68	10.3	4.93	5.89	6.67	7.53	9.08	9.01	6.45	6.09	***	***
China	Guanyinqiao	18.3	19.3	13.8												
	Haifu				13.8	11.0	16.2	14.3	11.4	12.7	11.1	7.78	8.34	7.80	8.89	6.82
	Jinyunshan	15.5	13.6	8.70	15.4	16.1	16.1	11.9	11.6	7.21	5.70	5.09	4.75	5.34	4.47	4.92
	Shizhan	34.4	35.8	39.9	33.6	26.2	22.9	10.7	16.0	50.8	21.1	17.8	14.4	8.93	22.1	13.3
	Weishuiyuan	36.5	51.1													
	Jiwozi	38.4	33.2	44.1	33.8	27.9	14.6	11.1	31.3	33.9	23.0	14.2	0.787	16.7	14.5	23.9
	Hongwen	66.0	45.9	39.0	31.2	32.3	15.0	25.4	23.9	19.3	28.6	25.7	31.2	71.7	62.7	72.3
	Xiaoping	11.9	22.3	14.6	18.6	20.1	13.9	17.1	14.5	13.0	13.8	18.5	10.6	21.5	22.5	10.0
	Xiang Zhou	65.8	44.6	30.9	34.8	44.9	22.4	29.8	43.4	46.1	23.8	60.2	23.6	61.1	73.3	24.4
	Zhuxiandong	52.6	29.3	***	45.6	51.4	21.7	18.8	***	***	***	72.4	33.5	29.3	102	28.8
	Wuzhishan															7.43
	Lijiang															3.38
Indonesia	Jakarta	41.6	15.6	18.7	11.4	12.0	15.4	19.4	13.0	19.3	28.8	17.1	31.2	12.4	21.1	14.9
	Serpong	19.8	10.9	14.3	17.0	17.6	22.4	15.1	24.1	22.7	25.5	22.3	16.0	16.4	23.7	29.9
	Kototabang	7.13	7.80	13.8	3.88	10.7	9.91	13.9	9.72	27.3	10.6	8.28	33.4	6.28	4.85	5.89
	Bandung	14.6	14.1	7.53	8.33	11.8	8.60	12.4	10.6	15.6	14.7	9.49	9.63	14.9	13.7	21.5
	Maros				20.1	15.3	21.1	16.1	20.0	36.3	36.2	6.90	154	114	15.5	21.3
	Jembrana															31.4
	Lombok															23.6
Japan	Rishiri	233	126	161	268	193	184	156	332	222	184	160	79.8	234	194	209
	Ochiishi	232	317	219	194	205	266	180	307	486	112	201	161	258	88.7	77.7
	Tappi	250	326	262	226	217	124	167	162	289	176	283	195	215	185	
	Sado-seki	337	256	257	236	364	351	182	293	355	317	367	199	170	151	250
	Happo	8.69	5.68	4.36	5.60	6.64	4.99	4.43	11.6	4.89	6.21	7.00	6.42	6.18	6.57	4.42
	Ijira	16.8	14.4	24.8	18.9	16.5	16.2	17.2	24.5	19.5	19.7	19.9	15.2	17.7	18.0	15.7
	Oki	696	253	312	371	436	471	552	411	579	617	473	384	555	473	189
	Banryu	110	76.0	89.2	82.5	114	107	125	103	80.8	102	107	92.1	99.8	65.0	
	Yusuhara	29.9	14.0	16.2	10.0	13.9	11.0	14.7	21.8	13.4	6.95	27.4	9.97	60.4	16.6	16.7
	Hedo	488	217	146	138	141	284	232	496	263	157	368	236	429	186	153
	Ogasawara	115	119	154	98.8	227	211	241	134	166	154	370	106	208	52.8	203
	Tokyo			41.1	23.7	27.8	19.4	45.9	35.8	27.7	23.1	22.2	17.2	47.5	39.7	65.8
	Niigata-maki															210
	Tsushima															34.7
Lao PDR	Vientiane	***	4.77	7.42	7.41	6.19	***	***	4.46	***	***	4.97	5.28	*	*	*
Malaysia	Petaling Jaya	8.78	6.94	5.70	7.50	7.89	9.26	8.36	7.98	7.66	8.89	10.3	10.3	10.0	9.75	***
	Tanah Rata	2.64	2.10	1.70	1.47	2.26	1.91	2.95	3.19	2.96	3.49	3.75	3.30	3.35	4.09	***
	Danum Valley	6.00	7.15	4.90	6.10	6.79	17.1	5.70	4.16	7.52	6.50	7.47	4.90	4.60	7.29	***
	Kuching				6.35	8.41	8.04	11.5	6.78	8.82	11.0	14.5	14.5	11.5	10.9	***
Mongolia	Ulaanbaatar	7.75	7.77	9.38	10.1	9.63	8.49	7.46	***	4.08	***	5.15	4.63	3.56	4.41	13.4
	Terelj	9.92	9.28	10.3	9.22	9.95	10.6	9.81	***	6.94	***	7.91	9.71	8.67	5.77	***
Myanmar	Yangon			***	***	25.0	13.2	15.8	26.6	27.1	19.5	34.4	31.3	35.2	21.8	20.8
Philippines	Metro Manila	14.2	23.1	27.9	28.7	24.6	20.6	29.8	20.2	28.7	26.1	27.3	31.4	***	***	23.3
	Los Baños	18.1	21.0	24.4	18.8	25.0	25.3	26.2	21.6	25.8	18.3	92.0	25.2	***	***	***
	Mt.Sto.Tomas		1.57	7.38	5.24	8.31	5.07	4.41	6.50	7.11	4.21	7.79	5.46	***	***	***
Republic of Korea	Kanghwa	56.1	36.0	57.7	45.6	60.2	43.9	48.5	67.5	36.3	61.6	161	50.1	55.7	42.3	216
	Cheju	105	102	104	136	63.7	114	147	455	344	124	109	444	280	293	76.4
	Imsil	44.0	77.5	22.4	36.6	51.9	44.4	25.3	88.8	22.8	30.7	46.8	29.9	32.1	27.6	28.4
Russia	Mondy	5.92	4.47	3.94	4.22	3.29	3.39	5.28	5.95	3.69	3.57	3.68	1.66	5.29	2.39	1.95
	Listvyanka	5.38	3.50	4.29	5.13	3.02	3.43	6.63	3.28	5.85	3.65	5.45	3.09	4.12	2.93	4.19
	Irkutsk	12.4	12.5	13.2	15.9	24.9	23.8	22.0	15.1	19.2	9.86	23.9	9.90	10.2	10.0	10.6
	Primorskaya	21.7	18.0	18.6	25.6	14.7	29.4	67.4	29.9	42.7	25.0	25.4	33.4	37.1	21.5	34.6
Thailand	Bangkok	12.3	10.8	8.23	11.3	7.65	9.33	7.98	8.33	7.24	9.22	7.36	11.1	8.16	14.4	11.8
	Samutprakarn	19.0	12.5	11.2	12.8	8.45	16.2	7.61	9.92	9.16	11.3	9.66	9.41	8.30	10.9	11.4
	Pathumthani	7.13	6.83	6.64	6.61	6.23	5.77	6.82	15.9	6.85	7.88	9.96	8.65	7.48	6.98	9.62
	Khanchanaburi	7.79	6.30	6.62	10.3	8.84	3.30	8.86	11.6	2.89	6.90	5.69	9.04	5.92	7.60	6.88
	Mae Hia	4.21	3.73	5.85	4.59	4.91	3.58	2.88	4.14	5.94	5.39	3.87	7.39	5.73	7.19	7.55
	Sakaerat		5.52	5.11	5.93	4.62	4.81	4.80	6.36	6.34	11.1	6.99	6.57	4.08	5.08	5.26
Vietnam	Hanoi	27.2	15.6	11.8	8.74	9.65	10.9	8.56	6.58	9.93	10.4	14.8	11.4	14.6	23.0	25.2
	HoaBinh	13.5	6.46	6.30	4.22	5.38	6.35	4.30	4.65	6.18	4.24	5.25	7.94	14.6	9.84	9.31
	Cuc Phuong					44.2	24.3	15.5	20.3	25.2	11.7	21.3	17.1	35.6	30.2	38.8
	Da Nang					110	50.4	93.5	83.1	174	92.9	72.8	70.2	80.9	97.8	167
	Can Tho										27.4	41.2	36.1	29.2	30.4	23.9
	Ho Chi Minh										44.8	52.0	37.3	47.5	36.3	36.9
	Yen Bai											7.48	14.3	17.3	12.4	14.0

Terms and abbreviations are given in Table 3.5.

Table 3.78 Precipitation amount-weighted annual average concentrations of NH₄⁺ from 2005 to 2019unit: $\mu\text{mol L}^{-1}$

Country	Name of sites	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Cambodia	PhnomPenh	16.3	17.9	19.7	11.8	13.1	22.6	21.9	21.6	13.5	13.9	18.1	19.5	22.2	***	***
China	Guanyinqiao	157	179	140												
	Haifu				148	105	141	145	116	142	116	95.2	98.7	96.3	103	91.5
	Jinyunshan	105	121	75.2	98.8	110	124	117	124	90.1	70.6	62.6	65.8	60.0	79.3	70.6
	Shizhan	77.2	167	206	164	169	187	60.8	109	238	170	194	118	147	127	136
	Weishuiyuan	64.4	239													
	Jiwozi	37.8	48.6	11.2	31.6	52.0	17.3	23.1	26.6	55.5	32.8	65.7	2.87	1.07	15.5	34.2
	Hongwen	35.4	29.1	38.5	34.7	46.6	39.8	42.3	43.2	18.3	25.7	29.2	37.2	33.8	25.0	28.3
	Xiaoping	32.2	21.5	52.7	33.0	45.8	42.9	38.9	30.4	25.3	38.9	37.8	24.6	29.5	23.5	19.9
	Xiang Zhou	103	56.7	19.4	19.5	22.1	24.4	20.7	29.1	17.7	23.8	19.1	29.6	24.5	24.2	22.7
	Zhuxiandong	26.1	27.4	***	18.6	25.6	22.7	24.8	***	***	***	24.3	42.4	25.7	23.6	23.0
	Wuzhishan															14.7
	Lijiang															11.0
Indonesia	Jakarta	12.4	17.4	24.2	25.4	17.7	23.0	33.7	23.1	17.2	17.6	18.9	37.5	24.0	47.9	29.6
	Serpong	44.6	40.3	44.3	47.2	43.0	52.3	62.2	71.1	83.0	65.5	63.0	55.6	50.5	69.4	67.4
	Kototabang	9.46	9.88	18.2	7.55	2.69	2.83	10.0	8.47	6.93	12.1	1903	4.94	5.59	7.35	7.80
	Bandung	35.8	46.5	47.9	44.8	48.3	32.1	60.8	53.8	47.4	55.4	56.7	58.1	62.4	61.9	73.2
	Maros				8.85	12.7	10.1	9.30	14.1	6.75	7.19	20.7	53.7	5.22	10.9	2.61
	Jembrana															16.8
	Lombok															16.9
Japan	Rishiri	18.9	17.5	25.9	23.6	17.7	15.7	14.0	11.4	12.9	12.5	13.3	10.4	22.3	22.3	19.0
	Ochiishi	7.51	15.6	7.84	6.45	8.40	10.7	11.0	12.3	9.68	10.8	11.4	5.01	6.26	6.59	7.54
	Tappi	15.8	18.9	17.7	18.2	10.5	15.0	16.9	13.8	19.1	22.7	13.0	15.4	15.9	10.3	
	Sado-seki	18.3	16.6	25.2	21.7	12.5	11.9	14.6	15.5	18.1	18.2	19.3	16.0	20.0	10.9	16.2
	Happo	10.8	8.96	11.1	10.1	9.73	5.88	6.06	10.7	8.94	8.08	7.84	4.77	4.33	5.57	8.54
	Ijira	20.3	22.8	20.7	18.0	18.2	12.2	14.1	14.7	13.4	13.4	13.5	14.3	12.5	9.12	12.7
	Oki	15.8	12.8	15.7	15.7	17.0	17.8	18.6	17.0	17.5	14.0	9.63	14.4	17.7	12.1	15.5
	Banryu	21.8	14.9	22.3	19.2	16.3	21.6	15.7	21.5	13.8	17.3	14.9	15.0	16.3	9.62	
	Yusuhara	8.88	7.52	7.45	7.52	8.25	6.60	4.83	7.55	7.16	4.91	4.04	6.04	21.9	3.15	5.39
	Hedo	13.3	8.55	7.49	6.11	6.43	9.31	9.13	18.8	9.94	8.28	11.0	8.05	7.04	3.19	4.93
	Ogasawara	3.46	4.59	7.70	3.43	4.82	5.29	4.54	5.18	6.04	3.88	2.64	4.85	2.30	2.02	2.47
	Tokyo			27.7	29.9	26.2	19.2	25.4	24.3	22.9	23.1	20.1	17.2	18.2	21.7	17.6
	Niigata-maki															16.3
	Tsushima															8.61
Lao PDR	Vientiane	***	7.72	10.9	8.39	17.3	***	***	***	***	***	7.78	7.50	*	*	*
Malaysia	Petaling Jaya	20.1	23.3	19.1	20.8	7.57	4.60	4.86	1.29	16.2	27.4	25.5	13.0	17.0	19.8	***
	Tanah Rata	2.82	3.53	3.91	3.10	5.41	4.05	14.3	5.67	2.42	3.44	7.54	3.51	3.13	2.04	***
	Danum Valley	2.03	2.05	1.32	9.76	3.44	4.89	1.90	<0.8	<0.8	0.915	4.21	<0.8	<0.8	1.75	***
	Kuching				4.61	4.94	1.94	5.03	6.16	2.87	9.38	5.49	2.45	3.48	5.24	***
Mongolia	Ulaanbaatar	54.4	53.7	87.1	53.3	46.7	54.7	45.9	***	62.2	***	***	40.7	48.9	57.4	75.1
	Terelj	36.1	54.6	38.8	51.1	41.0	35.0	39.4	***	5.37	***	***	60.2	41.9	31.0	***
Myanmar	Yangon			***	***	16.2	14.6	14.9	17.7	17.0	16.6	22.3	17.1	13.6	19.5	17.0
Philippines	Metro Manila	29.9	40.5	33.6	62.2	21.1	53.1	183	273	41.2	61.6	86.1	112	***	***	28.6
	Los Baños	15.0	16.3	16.8	19.6	11.7	38.2	29.4	67.8	22.3	55.9	54.9	84.8	***	***	***
	Mt.Sto.Tomas		<0.8	8.69	10.5	14.1	4.65	0.822	3.42	4.71	13.5	9.57	7.79	***	***	***
Republic of Korea	Kanghwa	66.4	53.0	58.4	35.4	30.5	26.5	43.3	49.4	78.5	60.2	99.0	58.1	84.4	38.6	42.3
	Cheju	30.9	26.1	28.8	26.2	45.2	26.8	28.0	33.4	35.9	25.5	28.2	40.3	38.3	25.7	45.4
	Imsil	32.4	50.2	40.0	29.9	35.2	31.2	37.7	39.5	40.5	33.4	50.6	36.1	51.6	26.8	35.7
Russia	Mondy	9.76	3.70	30.1	9.86	20.2	17.5	9.14	19.0	2.71	3.60	13.5	4.97	10.4	8.38	9.51
	Listvyanka	16.6	15.5	15.6	18.9	13.4	18.3	17.2	26.7	9.85	13.7	36.8	14.4	20.6	13.8	18.8
	Irkutsk	35.3	24.9	33.9	34.4	36.4	34.5	32.7	34.1	29.5	23.9	73.0	22.2	20.4	21.0	29.8
	Primorskaya	41.6	49.8	29.6	50.6	28.8	42.7	54.1	27.0	39.6	42.3	25.7	22.7	46.8	33.0	23.9
Thailand	Bangkok	43.4	56.1	57.8	53.8	64.9	37.8	40.2	44.1	46.3	52.3	60.7	63.6	54.6	52.9	35.5
	Samutprakarn	37.4	49.9	47.1	56.4	41.0	28.1	27.8	34.1	37.7	48.6	46.0	43.3	48.5	40.1	31.6
	Pathumthani	31.2	33.5	34.4	29.7	33.0	28.0	38.1	37.9	44.9	35.3	45.3	53.1	41.3	35.6	49.4
	Khanchanaburi	4.96	17.5	13.9	10.1	26.1	8.90	13.0	8.95	6.80	14.0	10.7	16.2	14.1	6.33	4.51
	Mae Hia	21.0	15.2	18.8	19.9	20.2	19.3	13.5	19.6	19.3	26.8	17.6	29.3	26.2	15.1	33.2
	Sakaerat		23.1	18.3	21.1	22.9	24.6	24.3	25.7	23.8	42.3	31.3	34.0	23.3	63.3	68.9
Vietnam	Hanoi	98.8	45.7	48.3	30.6	50.6	52.4	52.8	60.2	53.4	68.0	64.9	61.4	52.6	56.9	29.9
	HoaBinh	30.1	27.6	21.3	17.1	31.4	28.3	27.8	30.0	25.3	45.6	38.3	56.9	20.0	29.0	12.0
	Cuc Phuong					6.30	9.90	19.2	23.9	25.5	20.5	30.0	20.1	8.72	5.39	19.7
	Da Nang					13.5	8.67	21.5	21.3	24.6	14.5	8.73	5.43	20.9	14.1	41.7
	Can Tho										18.3	21.3	22.7	21.5	12.3	17.6
	Ho Chi Minh										24.3	29.4	28.8	38.4	20.7	22.8
	Yen Bai											30.5	91.5	33.6	39.0	18.2

Terms and abbreviations are given in Table 3.5.

Table 3.79 Precipitation amount-weighted annual average concentrations of Na⁺ from 2005 to 2019unit: $\mu\text{mol L}^{-1}$

Country	Name of sites	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Cambodia	PhnomPenh	***	1.85	8.25	10.3	6.95	3.10	3.55	3.65	3.10	7.60	6.28	4.23	4.45	***	***
China	Guanyinqiao	8.35	7.92	5.92												
	Haifu				6.99	4.20	7.56	9.87	6.04	7.29	6.36	3.61	6.18	4.42	4.98	4.01
	Jinyunshan	15.3	6.65	6.20	10.3	7.70	8.17	6.12	6.28	3.92	4.50	2.23	2.55	2.95	1.81	2.00
	Shizhan	16.1	45.2	15.6	24.4	13.4	7.30	17.7	5.59	138	126	113	53.6	28.7	20.6	12.1
	Weishuiyuan	20.5	66.9													
	Jiwozi	59.6	65.6	85.8	81.1	25.2	6.47	7.86	44.5	112	125	92.5	8.39	33.7	24.6	88.3
	Hongwen	51.4	30.8	24.1	22.9	24.5	19.4	18.1	16.3	14.3	19.8	18.6	27.2	35.7	24.0	4.99
	Xiaoping	9.67	23.2	12.4	22.5	16.4	18.8	10.9	8.45	12.1	8.77	11.0	6.54	6.87	6.55	1.44
	Xiang Zhou	44.1	35.5	19.4	34.6	40.2	19.8	32.3	45.9	54.2	30.7	52.9	22.5	52.2	67.2	20.3
	Zhuxiandong	60.9	22.6	***	40.7	45.3	19.9	45.0	***	***	***	66.9	34.1	26.2	89.3	24.0
	Wuzhishan															8.68
	Lijiang															8.65
Indonesia	Jakarta	23.2	13.1	15.8	9.95	9.31	7.92	11.7	12.7	16.2	21.4	2.01	21.0	9.76	16.7	9.40
	Serpong	16.0	7.46	11.7	10.5	10.2	8.32	10.1	10.9	14.0	18.8	14.6	14.4	12.1	17.7	17.0
	Kototabang	5.69	6.21	8.65	5.33	6.12	5.25	6.54	9.63	8.51	5.67	0.779	21.1	3.46	3.40	4.75
	Bandung	11.9	18.3	6.65	8.62	11.8	9.74	12.2	10.8	13.6	12.9	8.58	11.2	18.7	23.1	44.8
	Maros				15.7	13.3	13.2	14.9	19.9	19.3	29.1	3.67	118	104	13.5	18.7
	Jembrana															19.9
	Lombok															22.8
Japan	Rishiri	203	110	143	247	176	162	139	292	200	162	140	69.7	207	170	182
	Ochiishi	208	278	186	171	182	232	155	274	421	97.2	178	138	219	77.6	67.4
	Tappi	218	289	234	197	199	114	150	141	257	156	237	169	189	159	
	Sado-seki	290	224	227	215	321	320	153	246	328	282	327	175	150	134	220
	Happo	7.04	4.13	3.13	4.12	5.14	3.76	3.34	9.57	4.07	5.31	5.84	4.83	4.96	5.41	3.54
	Ijira	13.6	10.8	20.8	15.4	13.5	13.0	13.8	19.3	15.1	15.6	15.8	12.4	14.6	14.6	13.1
	Oki	602	225	275	324	376	409	480	357	505	545	412	332	486	405	163
	Banryu	92.1	66.4	78.6	72.2	98.8	94.2	108	92.2	69.1	86.9	91.1	81.9	87.8	56.7	
	Yusuhara	25.2	11.9	13.5	8.61	12.0	8.82	12.3	18.1	9.90	5.19	22.9	7.97	48.7	14.5	13.8
	Hedo	449	189	129	124	127	254	204	418	227	137	313	201	368	160	130
	Ogasawara	97.3	103	133	86.2	188	208	202	114	141	131	306	90.9	180	46.7	178
	Tokyo			34.5	19.5	23.5	17.3	37.7	29.5	22.8	18.9	18.0	14.4	40.3	34.5	57.7
	Niigata-maki															176
	Tsushima															30.0
Lao PDR	Vientiane	***	7.10	2.38	2.91	9.14	***	***	***	***	***	2.78	1.52	*	*	*
Malaysia	Petaling Jaya	6.64	4.27	3.61	4.22	4.59	4.99	4.56	3.85	4.29	5.04	6.20	6.14	6.04	5.33	***
	Tanah Rata	6.64	1.41	1.54	1.20	1.58	1.29	1.99	1.51	2.17	2.82	2.74	2.72	2.47	2.48	***
	Danum Valley	4.45	5.64	4.15	3.22	5.83	13.8	5.52	2.87	5.14	5.42	5.40	3.30	2.52	5.16	***
	Kuching				5.39	7.35	6.67	9.08	5.21	7.54	9.25	12.9	12.7	9.28	8.49	***
Mongolia	Ulaanbaatar	7.16	8.43	5.25	3.59	4.88	3.50	5.65	***	78.8	***	***	***	172	21.9	41.5
	Terelj	11.5	12.5	9.42	5.47	7.60	11.1	6.07	***	17.0	***	***	206	13.5	49.5	***
Myanmar	Yangon			***	***	18.5	12.9	15.0	22.1	15.8	17.3	8.77	15.7	15.0	21.9	18.3
Philippines	Metro Manila	15.9	17.2	20.2	24.6	20.2	22.3	21.4	16.7	28.0	24.5	23.4	17.4	***	***	18.0
	Los Baños	17.2	22.7	17.6	19.1	17.4	22.7	19.4	22.2	22.8	15.4	17.6	22.4	***	***	***
	Mt.Sto.Tomas		2.81	5.68	5.11	8.26	6.30	4.31	10.3	6.70	6.30	8.71	14.8	***	***	***
Republic of Korea	Kanghwa	33.7	28.8	44.3	39.3	45.1	27.0	35.8	50.7	29.6	43.2	45.0	28.5	27.8	30.4	180
	Cheju	84.8	85.0	101	133	53.6	103	152	375	290	116	101	394	261	264	93.4
	Imsil	21.7	31.1	15.0	32.0	50.3	48.2	37.4	51.8	30.3	29.8	47.1	33.8	36.2	38.5	38.1
Russia	Mondy	1.52	1.57	3.13	1.84	2.28	2.81	3.86	4.32	1.36	2.25	1.61	1.38	2.58	2.11	1.92
	Listvyanka	3.01	2.80	2.57	2.49	3.82	3.60	5.42	4.20	6.68	4.80	2.96	2.80	3.26	3.01	3.06
	Irkutsk	6.89	10.0	9.94	10.0	18.7	18.4	16.8	9.96	12.8	8.62	12.7	7.42	7.99	8.80	6.70
	Primorskaya	21.7	16.8	19.8	22.9	12.8	23.9	13.7	23.1	25.5	15.8	24.8	25.2	26.0	21.9	20.0
Thailand	Bangkok	12.8	8.72	7.08	9.77	9.79	8.79	6.46	6.07	12.0	9.17	7.97	11.0	5.83	11.4	8.83
	Samutprakarn	19.8	14.6	12.2	15.4	10.0	18.6	5.70	7.89	25.3	12.6	9.33	8.87	7.10	9.95	9.65
	Pathumthani	6.56	7.49	5.77	5.96	5.58	7.46	5.87	14.1	5.96	5.31	6.92	6.41	4.83	5.10	6.57
	Khanchanaburi	6.70	6.86	7.05	9.23	9.49	3.11	7.45	9.71	5.46	6.41	5.91	10.4	4.70	8.17	5.45
	Mae Hia	0.913	3.53	2.93	2.61	2.69	2.72	3.21	3.80	5.63	3.65	4.48	7.01	6.14	7.89	8.18
	Sakaerat		4.45	4.45	4.20	2.73	3.21	4.04	3.71	2.96	8.85	4.59	4.02	2.08	11.0	9.64
Vietnam	Hanoi	17.7	13.5	8.20	9.59	9.17	7.28	6.17	4.19	7.69	7.24	9.00	11.4	16.4	11.2	26.4
	HoaBinh	7.47	4.49	3.20	3.07	3.39	4.86	2.46	3.03	4.13	3.16	3.80	4.40	3.99	2.79	12.2
	Cuc Phuong					11.2	12.0	13.6	20.0	26.7	10.7	8.76	12.7	17.6	13.4	23.4
	Da Nang					94.6	41.3	70.2	63.2	144	82.1	79.6	65.7	81.0	68.1	108
	Can Tho										15.4	29.4	12.6	9.61	9.73	18.1
	Ho Chi Minh										25.0	34.6	13.5	17.4	14.2	20.4
	Yen Bai											5.40	8.96	3.68	3.65	11.7

Terms and abbreviations are given in Table 3.5.

Table 3.80 Precipitation amount-weighted annual average concentrations of K⁺ from 2005 to 2019unit: $\mu\text{mol L}^{-1}$

Country	Name of sites	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Cambodia	PhnomPenh	***	1.48	3.64	10.3	1.50	0.861	1.15	0.761	1.06	2.69	1.98	2.11	1.22	***	***
China	Guanyinqiao	12.4	12.6	8.81												
	Haifu				11.5	7.72	10.0	9.38	6.57	12.8	9.28	5.99	4.66	4.80	6.21	3.45
	Jinyunshan	11.4	11.4	6.78	9.54	8.71	10.4	10.4	7.64	5.49	4.42	3.40	3.37	3.60	2.75	3.20
	Shizhan	15.4	18.0	19.3	13.3	10.2	32.4	13.4	5.69	28.1	251	5.32	3.76	4.60	10.9	7.50
	Weishuiyuan	12.6	33.6													
	Jiwozi	27.7	20.8	28.0	29.0	13.7	4.89	7.28	9.74	10.2	16.4	6.63	4.58	13.0	19.3	64.1
	Hongwen	5.08	3.35	3.73	2.12	2.26	2.24	1.99	2.86	1.90	1.42	5.99	5.34	35.0	37.8	14.3
	Xiaoping	2.76	13.5	7.31	10.2	2.33	1.94	2.80	3.47	1.66	1.45	8.40	5.59	12.4	14.4	2.51
	Xiang Zhou	2.66	8.16	8.27	1.65	2.10	2.21	3.74	9.20	8.24	6.89	4.41	3.68	2.56	3.05	1.49
	Zhuxiandong	5.60	2.62	***	4.50	2.56	3.29	5.92	***	***	***	8.30	5.80	2.24	4.65	1.87
	Wuzhishan															2.87
	Lijiang															1.53
Indonesia	Jakarta	5.73	8.01	11.2	3.51	2.22	2.23	2.28	2.86	2.83	3.62	12.5	10.5	2.38	2.83	1.38
	Serpong	6.18	4.46	2.76	2.21	1.75	3.20	3.15	4.33	4.91	5.64	7.81	4.85	3.78	6.02	11.9
	Kototabang	4.36	4.56	8.40	3.40	9.35	4.43	3.96	5.52	19.3	10.4	4949	11.5	1.86	2.06	2.87
	Bandung	4.66	4.81	2.03	2.31	4.08	4.22	4.77	3.36	7.97	5.63	3.54	2.89	4.22	4.48	4.65
	Maros				5.76	3.89	2.52	1.86	3.50	1.84	19.1	1786	15.1	6.27	2.83	3.00
	Jembrana															3.81
	Lombok															3.28
Japan	Rishiri	5.09	3.75	4.13	6.58	4.31	4.28	3.44	6.41	4.61	4.10	3.62	2.07	6.01	4.83	5.24
	Ochiishi	5.28	7.66	4.58	3.81	4.09	6.16	3.70	6.76	9.35	2.55	4.84	3.43	5.36	1.86	1.68
	Tappi	4.99	7.12	5.66	5.36	4.95	3.50	4.34	3.96	6.21	3.97	5.56	4.47	4.72	3.87	
	Sado-seki	6.65	5.69	5.88	7.16	7.96	8.08	4.45	6.62	7.69	7.51	9.69	7.55	4.71	3.33	5.81
	Happo	0.713	0.515	0.605	0.585	0.670	0.356	0.447	0.865	0.581	0.746	0.681	0.457	0.376	0.423	0.558
	Ijira	0.931	0.980	1.15	0.630	0.678	0.426	0.535	0.609	0.589	0.611	0.699	0.498	0.576	0.462	0.523
	Oki	15.5	6.56	9.12	11.9	10.1	10.1	12.7	9.16	12.8	13.1	9.87	8.06	11.6	9.86	4.26
	Banryu	3.69	2.23	3.06	2.54	3.00	5.43	3.39	3.26	2.33	2.65	2.54	2.28	2.41	1.66	
	Yusuhara	0.976	0.681	0.637	0.424	0.768	0.613	0.465	1.07	0.387	0.701	0.758	0.508	1.83	0.664	0.793
	Hedo	11.3	4.71	3.31	3.18	3.29	6.19	4.94	10.6	5.48	3.31	7.24	4.51	8.02	3.52	3.03
	Ogasawara	2.28	2.53	3.17	2.61	4.55	5.02	4.95	2.71	3.64	3.12	8.10	2.22	4.14	1.10	4.41
	Tokyo			1.40	1.14	1.10	0.989	1.29	0.888	0.711	0.628	0.641	0.539	1.11	0.842	1.37
	Niigata-maki															4.80
	Tsushima															0.882
Lao PDR	Vientiane	***	3.51	1.69	1.69	0.930	***	***	***	***	***	1.74	0.958	*	*	*
Malaysia	Petaling Jaya	2.46	1.55	0.984	1.19	1.51	1.50	1.31	1.33	1.14	1.47	1.70	1.83	1.55	1.90	***
	Tanah Rata	0.891	0.626	0.646	0.433	0.991	1.06	2.03	1.68	1.75	1.62	2.37	1.22	1.93	1.36	***
	Danum Valley	1.17	1.01	1.08	2.53	1.59	3.24	1.73	1.21	1.01	2.16	2.39	1.01	1.29	2.64	***
	Kuching				0.647	0.695	0.650	0.854	0.924	0.695	3.26	1.44	1.13	1.43	1.54	***
Mongolia	Ulaanbaatar	4.33	5.15	1.28	2.81	2.53	2.72	3.98	***	3.88	***	***	0.620	1.29	1.01	2.01
	Terelj	6.48	8.98	3.80	6.46	4.10	5.43	5.00	***	7.98	***	***	7.09	3.40	3.65	***
Myanmar	Yangon			***	***	6.46	2.07	1.66	6.78	2.66	4.69	13.3	3.35	10.4	4.38	7.01
Philippines	Metro Manila	3.90	12.6	5.38	15.6	3.99	17.0	23.5	26.3	6.45	9.79	13.1	14.2	***	***	4.13
	Los Baños	2.20	2.49	4.92	2.91	9.08	7.43	6.82	8.14	6.37	8.18	73.4	13.8	***	***	***
	Mt.Sto.Tomas		1.32	2.29	0.702	1.95	1.41	0.821	0.885	0.752	1.26	1.63	0.889	***	***	***
Republic of Korea	Kanghwa	6.49	4.86	10.8	5.40	8.97	7.78	3.62	6.39	3.27	13.4	106	13.3	16.5	5.01	7.91
	Cheju	8.61	6.04	7.18	10.4	9.75	7.96	6.54	15.7	12.0	11.3	13.8	15.2	7.43	6.53	2.87
	Imsil	48.6	42.1	14.3	5.61	10.9	10.3	3.89	47.5	6.33	9.82	9.19	3.39	8.80	2.18	1.33
Russia	Mondy	1.05	1.11	2.47	2.02	3.29	2.62	4.98	9.05	2.30	2.01	3.40	1.05	1.94	1.27	0.982
	Listvyanka	1.15	1.54	1.28	3.38	2.07	1.66	2.42	2.00	4.36	3.11	2.10	1.71	3.64	2.01	3.04
	Irkutsk	3.39	7.64	7.77	8.99	26.6	5.52	4.59	4.99	5.19	2.97	4.51	3.10	2.92	3.06	4.06
	Primorskaya	7.07	5.47	6.18	8.99	4.40	5.84	6.75	5.09	5.55	5.14	7.79	19.1	10.1	8.36	8.03
Thailand	Bangkok	2.17	2.83	1.57	2.03	1.98	2.58	1.82	1.52	1.91	1.38	1.75	1.70	1.24	2.26	3.89
	Samutprakarn	4.92	4.31	2.88	6.12	2.77	17.0	1.11	1.52	5.23	2.33	1.93	1.71	1.36	1.63	1.92
	Pathumthani	1.20	1.66	1.61	1.50	1.61	1.85	1.96	1.64	2.13	1.87	1.84	2.09	2.13	1.35	2.14
	Khanchanaburi	0.687	2.44	0.708	1.15	1.21	0.710	2.21	1.57	0.955	1.22	0.838	1.51	1.43	1.72	1.04
	Mae Hia	0.717	1.70	2.87	2.63	1.47	1.21	1.45	1.26	1.48	1.77	1.24	3.17	2.71	1.90	3.64
	Sakaerat		0.665	1.38	1.24	1.31	0.940	1.20	1.26	0.813	2.63	1.52	1.59	0.512	6.95	6.12
Vietnam	Hanoi	5.22	3.78	2.70	2.77	1.57	2.78	2.27	3.00	2.64	3.75	3.72	3.63	7.09	8.06	8.12
	HoaBinh	3.64	2.43	2.24	3.24	2.72	2.88	2.40	1.50	7.10	2.77	2.87	2.59	2.88	3.89	1.85
	Cuc Phuong					14.0	5.61	3.31	6.06	8.57	4.72	4.68	5.77	3.41	4.00	5.38
	Da Nang					6.27	3.41	14.0	11.5	17.9	13.8	11.9	3.39	9.85	15.6	18.1
	Can Tho										7.45	7.17	6.07	5.44	6.27	12.7
	Ho Chi Minh										10.6	12.0	6.62	10.4	8.29	11.0
	Yen Bai											4.03	4.98	6.20	3.27	2.59

Terms and abbreviations are given in Table 3.5.

Table 3.81 Precipitation amount-weighted annual average concentrations of Ca²⁺ from 2005 to 2019

unit: $\mu\text{mol L}^{-1}$

Country	Name of sites	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Cambodia	PhnomPenh	***	9.11	19.2	32.6	20.4	8.33	9.30	10.7	9.57	9.47	11.6	14.3	9.74	***	***
China	Guanyinqiao	156	143	75.2												
	Haifu				65.3	43.2	69.2	68.5	57.9	69.5	54.6	43.0	67.3	53.5	43.0	25.7
	Jinyunshan	57.7	98.3	55.1	68.3	66.7	68.7	65.1	59.2	31.2	26.0	21.7	38.0	51.9	34.2	22.8
	Shizhan	107	301	116	150	138	105	91.2	128	325	92.7	89.7	35.0	68.3	61.9	50.9
	Weishuiyuan	91.0	330													
	Jiwozi	129	221	347	266	93.7	40.7	91.6	203	133	149	57.7	36.8	95.1	56.3	161
	Hongwen	37.4	25.5	54.9	14.1	13.2	9.11	14.1	17.5	21.9	25.5	16.3	13.1	28.3	26.5	60.8
	Xiaoping	10.6	10.5	16.7	15.6	9.04	8.37	11.7	20.0	22.7	42.4	9.17	6.39	15.1	8.12	7.45
	Xiang Zhou	7.31	14.1	4.71	5.43	4.91	7.40	17.5	10.8	43.4	17.0	15.9	10.8	10.0	10.6	8.15
	Zhuxiandong	17.0	17.1	***	13.6	7.40	16.4	19.1	***	***	***	25.2	17.3	13.9	17.7	10.8
	Wuzhishan															10.3
	Lijiang															23.1
Indonesia	Jakarta	17.4	18.8	13.9	4.36	12.6	10.3	11.1	12.0	14.1	15.0	7.47	25.2	17.6	16.5	10.6
	Serpong	12.0	7.19	7.37	7.97	5.17	9.25	10.9	9.29	14.0	13.0	19.7	13.9	12.1	21.2	17.5
	Kototabang	3.38	5.19	4.70	4.86	5.47	4.77	5.90	7.85	9.55	3.93	1.99	3.83	11.6	8.57	30.9
	Bandung	15.9	14.8	9.50	11.3	15.3	13.5	20.9	13.3	19.6	22.8	17.6	15.2	14.4	18.2	19.6
	Maros				8.39	8.11	9.58	6.49	16.1	10.4	27.9	16.8	13.8	14.4	14.0	20.3
	Jembrana															7.88
	Lombok															15.7
Japan	Rishiri	7.62	5.33	5.83	8.72	10.1	6.89	5.63	8.44	7.33	5.78	5.27	3.60	8.15	8.45	7.35
	Ochiishi	8.96	10.2	6.96	5.29	5.20	8.25	5.42	7.35	11.5	4.06	6.72	4.27	6.18	3.18	2.87
	Tappi	10.7	12.7	11.0	10.3	6.41	8.54	8.01	8.02	14.1	7.45	7.99	7.45	6.78	6.07	
	Sado-seki	10.2	12.1	11.8	10.3	11.1	12.7	8.28	11.4	10.4	9.49	11.3	11.4	6.67	7.86	8.74
	Happo	4.15	6.28	2.91	2.70	4.66	2.40	2.57	4.14	2.77	2.31	1.70	0.750	1.77	2.12	2.24
	Ijira	2.82	2.89	3.63	2.20	2.74	2.48	1.97	2.50	2.74	1.65	2.00	1.88	2.20	1.86	2.36
	Oki	18.6	11.4	13.6	10.9	14.6	16.1	17.1	12.1	17.0	16.4	12.0	10.6	15.1	13.1	6.94
	Banryu	5.87	9.51	7.36	7.41	5.45	8.02	5.85	6.65	3.92	4.75	5.37	5.17	5.13	3.30	
	Yusuhara	2.39	2.61	1.96	1.69	1.97	1.79	2.27	2.39	2.16	1.60	1.02	1.14	5.19	0.848	1.32
	Hedo	14.1	9.21	4.92	4.18	4.47	7.98	6.04	11.5	6.89	4.25	8.24	5.37	9.70	5.31	3.79
	Ogasawara	2.56	3.58	4.36	2.55	5.20	5.82	5.56	3.46	4.60	3.98	8.13	2.60	4.54	1.28	4.63
	Tokyo			4.99	4.09	3.42	3.98	4.84	4.21	4.35	3.81	3.56	2.48	3.34	3.46	4.01
	Niigata-maki															7.18
	Tsushima															1.35
Lao PDR	Vientiane	***	8.75	3.04	5.77	5.50	***	***	***	***	***	4.00	2.21	*	*	*
Malaysia	Petaling Jaya	6.07	3.80	3.94	3.94	4.97	5.40	3.97	3.96	6.13	6.02	6.70	6.48	4.18	6.96	***
	Tanah Rata	1.83	1.15	1.05	0.772	1.03	1.22	2.08	2.37	2.91	2.68	2.00	2.18	2.25	2.76	***
	Danum Valley	1.35	1.26	0.513	0.353	1.01	3.82	0.887	0.800	1.44	1.41	2.28	0.987	1.48	2.52	***
	Kuching				1.91	1.79	2.60	3.15	3.42	4.20	6.12	4.35	3.35	3.86	4.28	***
Mongolia	Ulaanbaatar	49.8	45.9	41.2	42.9	42.2	34.3	33.9	***	95.3	***	***	29.1	41.8	23.5	39.0
	Terelj	13.6	24.8	13.6	17.9	35.8	42.3	20.4	***	69.1	***	***	16.8	15.9	15.3	***
Myanmar	Yangon			***	***	9.66	6.37	6.89	7.79	1.07	14.1	88.7	5.55	10.5	16.6	14.2
Philippines	Metro Manila	10.6	13.7	10.4	13.7	6.41	12.8	12.9	13.9	11.5	14.5	17.4	20.5	***	***	14.7
	Los Baños	3.54	6.92	5.19	3.75	5.08	20.1	6.38	9.40	6.40	6.99	8.77	11.8	***	***	***
	Mt.Sto.Tomas		5.64	23.4	3.09	5.87	22.7	7.84	14.0	8.58	8.06	6.85	13.4	***	***	***
Republic of Korea	Kanghwa	11.1	15.8	12.4	10.8	5.19	7.02	4.39	8.64	8.72	8.94	9.52	3.85	6.73	3.20	7.07
	Cheju	11.3	9.05	10.6	10.5	4.08	6.72	6.60	11.2	13.6	4.12	4.64	16.2	12.8	6.64	4.56
	Imsil	5.00	14.7	13.7	6.92	3.88	5.74	6.81	4.31	2.95	3.50	5.16	2.70	3.71	1.64	2.66
Russia	Mondy	4.17	5.46	6.91	7.97	5.19	9.20	9.02	12.1	4.61	7.02	8.36	5.42	8.67	5.35	5.09
	Listvyanka	8.23	8.81	9.02	8.18	12.6	12.6	16.1	11.7	11.9	12.8	9.97	7.94	12.2	12.4	8.05
	Irkutsk	21.6	29.9	26.5	29.5	29.2	32.2	34.7	31.3	33.0	26.5	30.5	17.0	22.5	27.8	17.6
	Primorskaya	21.1	25.0	14.0	19.4	11.7	16.9	13.7	12.2	18.0	18.1	13.1	13.1	20.9	14.7	12.1
Thailand	Bangkok	18.6	18.4	13.6	16.1	10.0	11.2	10.5	13.5	25.2	14.5	16.9	15.9	11.3	27.1	29.2
	Samutprakarn	9.68	14.8	11.0	13.8	13.2	7.78	5.95	8.39	19.9	14.6	6.23	9.28	7.96	8.67	10.6
	Pathumthani	8.48	12.8	8.50	11.6	9.19	9.17	12.1	20.6	13.7	22.5	16.6	13.7	12.3	7.97	10.3
	Khanchanaburi	2.45	2.71	3.03	4.59	4.93	1.80	4.04	17.5	3.26	4.07	3.63	5.17	3.63	3.54	4.25
	Mae Hia	3.75	4.74	8.03	6.68	5.69	4.40	2.60	7.77	10.6	9.72	4.11	10.7	8.57	7.01	10.3
	Sakaerat		9.54	3.75	3.35	2.53	2.21	1.88	3.74	1.96	8.73	6.83	8.24	4.60	35.1	55.9
Vietnam	Hanoi	26.1	35.2	18.1	11.8	12.0	23.7	14.6	15.0	16.2	24.8	36.7	22.8	35.3	40.6	80.0
	HoaBinh	14.3	17.8	9.33	14.5	9.44	21.1	12.5	11.1	16.9	13.4	10.1	13.1	23.1	13.7	17.6
	Cuc Phuong					24.8	38.3	32.2	30.6	24.4	23.1	19.4	27.1	24.0	18.0	24.2
	Da Nang					6.35	8.87	10.0	16.9	21.5	27.3	34.4	38.5	33.9	36.5	92.2
	Can Tho										12.8	26.8	11.9	10.6	14.4	15.8
	Ho Chi Minh										26.0	44.3	12.1	14.8	18.2	26.5
	Yen Bai											15.9	20.3	23.1	20.8	27.4

Terms and abbreviations are given in Table 3.5.

Table 3.82 Precipitation amount-weighted annual average concentrations of nss-Ca²⁺ from 2005 to 2019

		unit: $\mu\text{mol L}^{-1}$														
Country	Name of sites	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Cambodia	PhnomPenh	***	9.07	19.1	32.5	20.3	8.26	9.23	10.7	9.50	9.31	11.5	14.2	9.64	***	***
China	Guanyinqiao	156	143	75.1												
	Haifu				65.2	43.2	69.0	68.2	57.7	69.3	54.5	43.0	67.1	53.4	42.9	25.6
	Jinyunshan	57.4	98.2	55.0	68.1	66.5	68.6	64.9	59.0	31.1	25.9	21.7	38.0	51.9	34.2	22.7
	Shizhan	107	300	116	149	138	105	90.8	128	322	90.0	87.2	33.9	67.7	61.4	50.6
	Weishuiyuan	90.6	328													
	Jiwozi	128	220	345	264	93.2	40.6	91.4	202	130	146	55.7	36.6	94.4	55.7	160
	Hongwen	36.3	24.8	54.4	13.6	12.7	8.70	13.7	17.1	21.6	25.1	15.9	12.6	27.5	26.0	60.7
	Xiaoping	10.4	9.99	16.4	15.1	8.69	7.96	11.5	19.9	22.4	42.2	8.94	6.24	14.9	7.98	7.4
	Xiang Zhou	6.46	13.3	4.33	4.68	4.04	6.97	16.8	9.76	42.2	16.4	14.7	10.4	8.88	9.14	7.7
	Zhuxiandong	15.7	16.7	***	12.7	6.44	15.9	18.1	***	***	***	23.7	16.6	13.3	15.8	10.3
	Wuzhishan															10.2
	Lijiang															22.9
Indonesia	Jakarta	16.9	18.5	13.6	4.14	12.4	10.2	10.8	11.7	13.8	14.5	7.43	24.7	17.3	16.1	10.4
	Serpong	11.7	7.03	7.19	7.75	5.03	9.07	10.7	9.05	13.7	12.6	19.4	13.6	11.8	20.8	17.1
	Kototabang	3.26	5.06	4.51	4.76	5.34	4.65	5.76	7.64	9.37	3.81	2.03	3.53	11.6	8.50	30.8
	Bandung	15.4	14.4	9.36	11.1	15.1	13.3	20.6	13.1	19.3	22.6	17.4	15.0	14.0	17.7	18.7
	Maros				8.05	7.83	9.30	6.17	15.7	9.98	27.2	16.7	11.5	12.2	13.7	19.9
	Jembrana															7.45
	Lombok															15.2
Japan	Rishiri	3.27	2.99	2.76	3.40	6.39	3.44	2.63	2.20	3.06	2.31	2.29	2.10	3.68	4.78	3.42
	Ochiishi	4.44	4.30	2.96	1.66	1.38	3.25	2.11	1.50	2.42	1.96	2.87	1.28	1.46	1.50	1.41
	Tappi	6.15	6.50	6.01	6.09	2.26	6.16	4.87	4.44	8.53	4.17	3.02	3.80	2.71	2.63	
	Sado-seki	3.90	7.28	6.87	5.67	4.20	5.94	4.99	6.19	3.83	3.47	4.33	7.67	3.43	4.96	3.98
	Happo	4.00	6.19	2.85	2.61	4.55	2.32	2.49	3.93	2.69	2.20	1.58	0.646	1.67	2.01	2.16
	Ijira	2.53	2.65	3.18	1.87	2.46	2.21	1.70	2.09	2.43	1.34	1.66	1.61	1.88	1.54	2.08
	Oki	5.51	6.85	7.68	3.94	6.44	7.24	6.73	4.40	6.12	4.63	3.15	3.55	4.72	4.35	3.43
	Banryu	3.89	8.08	5.66	5.85	3.32	5.99	3.52	4.66	2.42	2.87	3.49	3.45	3.23	2.08	
	Yusuhara	1.85	2.35	1.67	1.51	1.71	1.65	2.04	2.00	1.95	1.49	0.530	0.969	4.14	0.558	1.03
	Hedo	4.39	5.15	2.13	1.50	1.75	2.50	1.63	2.44	1.99	1.29	1.48	1.12	2.08	1.90	1.06
	Ogasawara	0.575	1.37	1.50	0.862	1.16	1.35	1.20	1.01	1.56	1.15	1.51	0.638	0.647	0.302	0.784
	Tokyo			4.24	3.67	2.91	3.60	4.03	3.57	3.86	3.40	3.17	2.17	2.47	2.72	2.76
	Niigata-maki															3.40
	Tsushima															0.717
Lao PDR	Vientiane	***	8.59	2.99	5.70	5.30	***	***	***	***	***	3.94	2.18	*	*	*
Malaysia	Petaling Jaya	5.93	3.71	3.86	3.85	4.87	5.29	3.87	3.88	6.04	5.91	6.56	6.34	4.05	6.84	***
	Tanah Rata	1.70	1.12	1.02	0.753	1.01	1.19	2.04	2.33	2.87	2.63	1.94	2.12	2.20	2.71	***
	Danum Valley	1.26	1.16	0.453	0.315	0.919	3.59	0.794	0.750	1.34	1.32	2.18	0.920	1.43	2.41	***
	Kuching				1.81	1.66	2.45	2.95	3.32	4.04	5.93	4.07	3.07	3.71	4.10	***
Mongolia	Ulaanbaatar	49.6	45.7	41.1	42.9	42.1	34.2	33.8	***	93.6	***	***	25.4	41.3	22.6	36.6
	Terelj	13.3	24.5	13.4	17.7	35.6	42.1	20.2	***	68.8	***	***	13.7	15.6	14.4	***
Myanmar	Yangon			***	***	9.26	6.09	6.57	7.32	0.792	13.8	88.5	5.22	10.2	16.1	13.8
Philippines	Metro Manila	10.3	13.3	9.96	13.2	5.98	12.3	12.4	13.5	10.9	14.0	16.9	20.2	***	***	14.3
	Los Baños	3.18	6.43	4.82	3.34	4.71	19.7	5.96	8.92	5.94	6.67	8.42	11.3	***	***	***
	Mt.Sto.Tomas		5.58	23.3	2.98	5.69	22.5	7.75	13.8	8.43	7.92	6.66	13.1	***	***	***
Republic of Korea	Kanghwa	10.3	15.2	11.5	10.0	4.23	6.44	3.66	7.54	8.09	8.13	8.55	3.24	6.15	2.56	3.19
	Cheju	9.45	7.21	8.43	7.63	3.03	4.70	3.72	3.15	7.33	1.79	2.52	7.72	7.59	2.29	2.88
	Imsil	4.53	14.0	13.3	6.23	2.83	4.79	6.02	3.40	2.29	2.90	4.19	2.01	2.98	1.17	2.07
Russia	Mondy	4.14	5.43	6.84	7.93	5.14	9.14	8.94	12.1	4.58	6.97	8.32	5.39	8.61	5.30	5.05
	Listvyanka	8.16	8.76	8.96	8.12	12.5	12.5	16.0	11.7	11.7	12.7	9.91	7.88	12.1	12.4	7.98
	Irkutsk	21.4	29.7	26.3	29.2	28.8	31.8	34.4	31.1	32.7	26.3	30.2	16.8	22.4	27.6	17.5
	Primorskaya	20.7	24.7	13.5	18.9	11.4	16.3	13.4	11.7	17.4	17.7	12.6	12.6	20.4	14.2	11.6
Thailand	Bangkok	18.4	18.2	13.5	15.9	9.81	11.1	10.4	13.3	25.0	14.3	16.8	15.7	11.2	26.9	29.0
	Samutprakarn	9.25	14.5	10.7	13.5	13.0	7.38	5.83	8.22	19.3	14.3	6.02	9.09	7.81	8.46	10.4
	Pathumthani	8.34	12.7	8.38	11.5	9.07	9.03	12.0	20.3	27.0	22.4	16.5	13.6	12.2	7.86	10.2
	Khanchanaburi	2.31	2.56	2.88	4.39	4.72	1.73	3.88	17.3	3.14	3.93	3.50	4.95	3.53	3.36	4.13
	Mae Hia	3.73	4.68	7.97	6.63	5.63	4.36	2.54	7.69	10.4	9.64	4.01	10.6	8.43	6.84	10.1
	Sakaerat		9.45	3.66	3.26	2.48	2.15	1.81	3.66	1.90	8.57	6.73	8.16	4.55	34.9	55.7
Vietnam	Hanoi	25.7	35.0	17.9	11.6	11.8	23.5	14.5	15.0	16.1	24.6	36.5	22.5	35.0	40.3	79.4
	HoaBinh	14.1	17.7	9.26	14.4	9.37	21.0	12.5	11.0	16.9	13.3	10.0	13.0	23.1	13.7	17.3
	Cuc Phuong					24.6	38.0	32.0	30.2	23.8	22.8	19.2	26.8	23.7	17.7	23.7
	Da Nang					4.31	7.98	8.50	15.5	18.4	25.5	32.7	37.1	32.1	35.0	89.8
	Can Tho										12.4	26.2	11.6	10.3	14.2	15.4
	Ho Chi Minh										25.4	43.5	11.8	14.4	17.9	26.1
	Yen Bai											15.8	20.1	23.0	20.7	27.1

Terms and abbreviations are given in Table 3.5.

Table 3.83 Precipitation amount-weighted annual average concentrations of Mg²⁺ from 2005 to 2019

		unit: $\mu\text{mol L}^{-1}$															
Country	Name of sites	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	
Cambodia	PhnomPenh	***	0.661	3.27	3.45	2.00	0.717	1.22	1.22	1.12	1.63	2.56	1.44	1.41	***	***	
China	Guanyinqiao	12.7	12.6	8.04													
	Haifu				7.08	5.45	8.95	8.61	6.87	8.23	7.00	4.79	5.69	4.08	4.04	3.01	
	Jinyunshan	3.17	4.00	2.81	4.64	5.56	5.76	6.13	5.82	4.42	4.37	3.24	3.89	4.74	3.34	3.01	
	Shizhan	13.2	28.3	21.4	45.4	12.4	11.0	9.94	3.47	54.5	11.8	9.25	1.97	11.2	12.9	6.63	
	Weishuiyuan	10.9	42.0														
	Jiwozi	30.9	40.6	48.8	77.3	20.2	7.17	9.65	44.4	22.3	21.6	11.1	12.6	19.7	16.0	22.5	
	Hongwen	9.04	5.44	6.18	4.92	4.08	2.00	4.22	4.69	3.36	4.27	4.20	4.89	7.19	4.77	4.18	
	Xiaoping	1.15	2.77	2.06	3.39	3.24	1.89	2.21	3.45	4.03	3.65	2.27	2.14	2.78	2.12	2.04	
	Xiang Zhou	6.87	12.0	2.38	3.97	4.52	2.57	4.39	6.90	14.0	7.21	7.19	4.02	5.64	6.39	3.56	
	Zhuxiandong	9.08	4.99	***	5.70	6.15	2.86	6.75	***	***	***	8.78	5.17	3.21	10.2	4.12	
	Wuzhishan															2.30	
	Lijiang															4.59	
Indonesia	Jakarta	3.63	8.59	2.21	1.67	1.97	2.23	3.45	2.96	2.62	3.64	1.81	4.50	2.95	3.37	1.88	
	Serpong	3.74	1.73	2.65	4.12	1.36	3.09	3.12	2.01	3.86	3.23	3.86	3.06	2.51	4.42	4.43	
	Kototabang	0.939	2.26	3.81	1.000	1.10	1.55	0.950	1.40	2.40	0.908	21.5	1.19	1.08	1.06	0.724	
	Bandung	2.45	3.26	1.68	4.40	4.13	4.43	5.78	3.17	6.33	7.51	5.61	3.50	3.80	3.92	4.83	
	Maros				2.56	1.86	2.17	2.50	7.03	2.81	13.6	30.0	2.92	2.24	2.51	2.59	
	Jembrana															2.63	
	Lombok															4.15	
Japan	Rishiri	23.3	12.6	17.0	30.0	19.9	18.6	15.4	32.3	22.5	18.1	16.2	7.96	24.2	19.9	21.5	
	Ochiishi	22.2	31.2	21.5	19.8	19.9	28.6	18.5	30.6	48.2	11.1	20.4	15.8	25.4	8.76	7.65	
	Tappi	24.2	33.3	26.4	23.1	21.1	12.9	17.4	15.4	30.0	18.1	25.2	19.5	21.7	18.3		
	Sado-seki	33.0	25.9	26.1	23.5	36.2	37.7	19.0	29.4	36.9	32.5	37.3	20.8	17.1	15.4	25.3	
	Happo	1.20	0.958	0.676	0.697	1.16	0.810	0.896	2.30	1.37	1.27	1.33	0.861	1.23	1.03	0.808	
	Ijira	1.75	1.64	2.75	1.74	1.67	1.62	1.69	2.54	2.09	1.97	2.04	1.57	1.84	1.92	1.67	
	Oki	69.9	26.9	31.7	36.7	43.1	48.1	55.5	41.2	56.1	60.6	47.9	38.5	55.2	46.1	18.8	
	Banryu	10.8	8.34	9.85	8.91	11.8	12.1	12.8	11.2	8.50	10.8	10.8	9.45	9.94	6.66		
	Yusuhara	3.04	1.66	1.80	1.11	1.61	1.56	2.56	2.84	2.40	1.82	2.77	1.21	6.01	1.78	1.72	
	Hedo	47.3	21.8	14.8	14.2	14.5	29.2	23.2	47.9	25.7	15.6	35.8	23.3	42.6	20.8	17.2	
	Ogasawara	10.7	11.4	15.0	10.6	21.9	24.5	23.6	13.6	17.0	15.2	34.5	10.5	21.3	5.45	20.3	
	Tokyo			4.22	2.78	2.97	2.40	4.79	3.78	3.04	2.54	2.45	1.85	4.92	4.15	6.71	
	Niigata-maki															20.4	
	Tsushima															3.27	
Lao PDR	Vientiane	***	3.49	0.698	1.31	0.722	***	***	***	***	***	0.613	<0.3	*	*	*	
Malaysia	Petaling Jaya	0.842	0.710	0.385	0.520	0.467	0.698	0.579	0.497	0.686	1.10	0.922	0.819	0.565	0.724	***	
	Tanah Rata	0.492	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	0.301	0.333	<0.3	<0.3	<0.3	<0.3	***	
	Danum Valley	0.323	0.481	0.402	0.528	0.549	1.48	0.541	<0.3	0.430	0.552	0.934	0.320	0.379	1.30	***	
	Kuching				<0.3	0.395	0.457	0.745	<0.3	0.588	1.12	1.21	0.949	0.718	0.607	***	
Mongolia	Ulaanbaatar	5.21	4.39	4.75	3.67	5.32	2.98	9.23	***	3.74	***	***	6.06	3.06	2.50	3.71	
	Terelj	3.67	4.85	2.07	3.00	5.45	5.54	7.35	***	4.97	***	***	2.19	1.32	1.46	***	
Myanmar	Yangon			***	***	2.84	1.80	3.02	6.56	12.3	3.41	5.87	4.58	3.46	4.72	4.00	
Philippines	Metro Manila	2.46	5.46	4.13	4.64	2.56	9.12	7.13	6.53	4.54	4.64	6.39	5.29	***	***	3.97	
	Los Baños	2.34	3.44	3.46	4.65	3.73	8.20	4.76	4.26	3.25	3.32	4.40	4.14	***	***	***	
	Mt.Sto.Tomas		0.971	2.08	0.346	1.53	3.34	1.61	2.90	1.69	1.35	3.44	2.78	***	***	***	
Republic of Korea	Kanghwa	6.20	5.10	6.74	2.75	5.27	3.64	3.18	5.50	3.30	3.27	3.60	1.19	2.33	1.09	16.2	
	Cheju	15.0	9.59	7.30	9.68	6.02	6.90	10.5	34.5	25.6	7.85	5.92	37.7	21.5	18.1	3.67	
	Imsil	1.82	3.99	3.57	1.99	3.88	4.68	2.02	3.05	1.87	1.77	3.30	1.55	1.91	0.648	0.797	
Russia	Mondy	0.961	0.986	1.78	1.98	1.17	1.81	2.60	4.06	0.877	1.18	2.15	0.864	1.75	1.07	0.948	
	Listvyanka	1.58	1.71	1.85	1.76	2.84	2.97	3.12	2.53	2.92	2.37	2.06	1.91	3.15	2.95	2.27	
	Irkutsk	5.08	5.76	6.27	6.44	7.55	6.75	7.29	6.49	6.38	3.68	5.51	3.97	4.70	5.32	4.20	
	Primorskaya	5.67	5.50	4.30	6.26	3.11	4.27	4.29	4.43	4.89	6.21	5.62	5.51	11.9	9.23	8.90	
Thailand	Bangkok	3.78	2.34	1.68	2.34	1.49	1.52	1.25	1.35	2.63	2.37	1.90	2.48	1.57	3.00	2.71	
	Samutprakarn	3.43	4.63	2.69	3.99	2.80	2.20	1.20	1.53	4.46	3.12	1.57	1.79	1.56	2.14	1.91	
	Pathumthani	1.31	1.76	1.28	1.70	1.24	1.38	1.57	3.14	2.59	1.91	1.88	2.10	1.41	1.14	1.98	
	Khanchanaburi	1.13	0.983	0.997	1.61	1.44	0.575	1.27	2.76	1.03	1.32	1.06	1.74	1.15	1.44	0.993	
	Mae Hia	1.00	2.42	1.24	1.78	2.73	0.451	<0.3	0.842	1.50	1.91	1.41	1.54	1.37	0.656	1.41	
	Sakaerat		1.98	1.78	1.22	1.27	0.703	<0.3	0.423	<0.3	1.31	2.17	4.25	1.76	8.17	9.26	
Vietnam	Hanoi	8.64	8.55	4.17	3.65	4.78	5.68	4.08	2.15	2.79	3.51	4.59	4.38	7.27	6.49	7.57	
	HoaBinh	4.21	5.28	2.76	1.60	1.85	5.56	2.39	2.17	2.69	2.72	2.44	2.52	1.97	3.11	2.17	
	Cuc Phuong					4.37	4.41	4.78	7.07	12.2	4.88	5.44	8.30	8.30	10.2	13.5	
	Da Nang					10.2	8.52	9.42	9.19	18.8	10.8	8.77	9.03	11.3	10.6	28.6	
	Can Tho										4.45	9.17	6.85	5.35	9.84	10.2	
	Ho Chi Minh										8.73	17.9	6.90	9.01	10.2	13.2	
	Yen Bai											2.68	3.24	1.66	3.39	2.33	

Terms and abbreviations are given in Table 3.5.

Table 3.84 Precipitation amount-weighted annual average concentrations of H⁺ from 2005 to 2019unit: $\mu\text{mol L}^{-1}$

Country	Name of sites	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Cambodia	PhnomPenh	0.478	0.191	0.203	1.45	0.649	1.07	1.10	0.694	0.662	0.621	0.717	0.389	0.667	***	***
China	Guanyinqiao	11.2	13.7	22.6												
	Haifu				63.5	60.3	71.0	65.9	57.5	30.1	12.1	3.81	0.655	1.47	5.10	3.73
	Jinyunshan	23.7	20.4	30.0	44.0	47.1	115	90.9	81.5	63.3	41.2	20.0	10.6	7.07	14.2	17.5
	Shizhan	3.86	2.75	3.03	0.402	0.297	0.211	0.535	0.552	0.117	0.247	0.220	0.206	0.256	0.171	0.150
	Weishuiyuan	7.04	1.46													
	Jiwozi	0.627	1.36	0.143	0.114	0.794	2.91	1.13	0.076	0.635	0.104	0.124	0.237	0.203	0.164	0.175
	Hongwen	19.9	14.7	16.2	25.7	30.2	26.6	22.5	30.9	13.2	8.39	12.7	12.1	4.56	2.30	0.853
	Xiaoping	16.5	16.5	25.4	27.9	34.1	26.5	15.3	15.7	9.92	19.6	11.3	18.5	1.27	14.6	18.6
	Xiang Zhou	27.3	13.4	23.3	11.7	13.4	14.1	8.81	7.73	5.83	9.91	2.77	6.78	10.5	8.66	11.3
	Zhuxiandong	24.4	15.0	***	13.1	17.7	11.3	16.7	***	***	***	3.29	6.88	8.49	6.98	9.55
	Wuzhishan															1.14
	Lijiang															0.529
Indonesia	Jakarta	49.1	41.5	27.5	22.5	23.5	18.6	28.2	17.4	16.9	19.6	14.4	11.3	12.9	20.4	14.7
	Serpong	25.6	25.0	25.8	23.9	19.3	17.5	19.7	12.4	8.63	7.23	11.4	6.56	6.34	6.10	10.5
	Kototabang	20.9	29.4	5.31	6.00	22.6	16.0	9.22	9.75	10.6	15.2	12.4	5.04	6.29	4.88	4.21
	Bandung	9.33	7.00	11.8	6.81	4.99	7.99	4.00	3.48	4.01	6.14	4.41	8.29	5.63	2.17	0.953
	Maros				2.35	4.64	6.16	4.43	2.41	3.41	5.88	5.77	5.77	4.88	4.21	11.5
	Jembrana															4.32
	Lombok															2.56
Japan	Rishiri	18.4	21.5	26.3	12.3	18.3	18.7	20.1	20.2	21.2	18.6	16.8	12.6	17.3	13.6	15.3
	Ochiishi	14.6	13.8	16.7	13.5	9.64	14.8	13.1	15.2	9.38	7.82	9.96	6.39	7.42	7.28	7.64
	Tappi	24.9	26.5	23.8	26.0	18.2	20.4	24.6	20.5	16.0	21.9	14.1	15.2	18.0	11.0	
	Sado-seki	27.6	19.7	31.4	27.9	17.7	19.8	20.8	18.6	18.2	19.7	21.8	13.9	12.7	10.9	12.6
	Happo	15.9	10.7	16.2	14.7	10.7	8.00	9.15	13.3	10.0	9.77	8.14	8.18	7.96	6.31	7.26
	Ijira	30.9	31.0	29.3	35.7	23.0	17.3	18.0	20.5	17.9	19.3	20.0	17.5	18.3	12.1	16.4
	Oki	27.4	18.7	23.1	25.0	19.4	21.8	18.8	26.4	24.6	22.2	19.1	13.4	14.9	13.6	15.4
	Banryu	32.7	20.5	32.3	29.3	22.1	19.8	21.8	33.5	22.8	27.9	22.2	15.4	17.1	13.5	
	Yusuhara	22.8	14.4	15.3	21.6	17.2	16.2	11.7	16.8	16.7	13.2	13.5	14.2	31.1	10.0	10.8
	Hedo	14.7	10.1	10.2	10.0	7.81	6.34	12.5	7.49	10.9	9.55	7.17	6.72	9.90	7.96	10.5
	Ogasawara	15.4	10.1	9.38	10.0	6.79	5.68	4.98	4.63	5.65	8.38	5.89	7.98	6.09	5.96	5.87
	Tokyo			16.3	24.8	17.7	11.2	14.9	14.4	8.83	14.8	16.3	11.4	12.7	11.8	9.99
	Niigata-maki															13.7
	Tsushima															10.2
Lao PDR	Vientiane	0.481	0.325	2.16	0.987	3.31	***	***	0.351	***	0.288	1.15	0.171	*	*	*
Malaysia	Petaling Jaya	43.1	37.8	27.6	37.2	45.2	54.4	69.4	61.4	38.0	38.2	40.8	54.9	30.9	31.6	***
	Tanah Rata	14.3	11.3	11.1	8.01	8.31	8.64	9.76	10.9	11.2	13.9	19.1	14.1	13.9	13.7	***
	Danum Valley	10.5	8.93	8.03	6.02	6.00	5.99	6.20	6.58	5.33	4.87	6.15	5.56	6.08	4.97	***
	Kuching				5.55	5.47	5.25	3.73	4.84	5.17	4.60	4.88	7.14	6.10	5.62	***
Mongolia	Ulaanbaatar	1.02	0.354	0.550	0.521	0.777	1.33	3.64	1.31	1.04	***	0.379	9.54	2.95	1.73	3.25
	Terelj	5.44	6.89	6.04	3.72	0.608	2.44	5.47	1.81	12.3	***	3.14	6.47	9.14	1.56	***
Myanmar	Yangon			2.66	0.392	0.346	0.384	0.347	0.323	0.352	0.199	0.216	0.178	0.204	0.264	0.294
Philippines	Metro Manila	11.3	5.01	5.33	2.84	5.87	2.25	2.27	6.03	2.85	0.736	0.528	3.05	***	***	3.94
	Los Baños	7.27	2.44	2.91	11.2	2.64	1.32	2.70	2.19	1.41	1.61	0.508	19.3	***	***	***
	Mt.Sto.Tomas		0.475	2.97	3.22	1.47	0.201	4.46	1.12	5.18	0.724	1.10	0.345	***	***	***
Republic of Korea	Kanghwa	56.9	21.0	24.0	28.4	25.9	39.0	23.0	24.4	26.3	13.4	20.2	16.4	36.4	13.2	20.9
	Cheju	28.5	45.9	30.7	21.5	7.79	9.19	6.80	4.95	4.18	1.61	2.15	7.94	5.27	1.36	2.53
	Imsil	0.997	6.45	1.85	13.1	8.06	13.5	5.42	7.82	6.01	5.17	8.04	3.15	5.04	2.00	4.60
Russia	Mondy	4.34	4.08	3.03	6.72	3.33	2.80	2.90	2.37	4.83	4.65	3.58	4.31	4.86	6.50	3.93
	Listvyanka	14.7	22.8	21.6	23.2	14.4	17.6	18.8	16.7	15.9	12.6	14.7	12.5	17.0	17.9	18.6
	Irkutsk	7.61	7.04	11.7	17.1	3.89	7.41	9.51	11.6	9.81	8.65	6.15	11.8	11.4	14.0	15.3
	Primorskaya	8.67	15.0	14.5	16.3	10.5	10.7	23.4	8.55	8.80	3.41	6.90	3.97	2.07	1.49	3.65
Thailand	Bangkok	12.7	6.91	8.96	5.29	8.07	8.48	8.97	2.08	2.52	0.0943	5.09	2.91	1.08	0.902	0.863
	Samutprakarn	3.42	1.36	2.46	5.08	7.40	4.82	1.27	0.679	1.06	0.310	2.53	3.57	1.37	3.01	1.76
	Pathumthani	12.9	13.0	15.6	9.24	7.05	5.82	9.99	3.60	3.90	3.09	5.12	4.01	4.55	7.57	3.47
	Khanchanaburi	2.87	1.78	1.66	2.19	2.18	2.03	3.21	0.964	4.72	1.61	3.44	1.04	1.72	1.73	0.835
	Mae Hia	5.94	2.00	1.12	1.04	1.20	0.676	5.14	0.789	0.909	0.527	2.28	2.49	2.77	3.07	7.04
	Sakaerat		7.61	8.30	9.31	13.6	17.8	9.95	8.58	5.70	15.0	9.26	5.47	3.84	7.28	6.23
Vietnam	Hanoi	0.710	1.85	2.61	1.43	2.15	1.16	5.03	2.39	2.21	1.83	0.649	2.52	0.292	3.04	11.2
	HoaBinh	2.03	2.57	8.71	3.25	5.13	4.26	3.65	2.35	0.911	3.60	5.07	2.31	6.02	5.51	4.94
	Cuc Phuong					10.3	5.88	9.09	3.68	3.77	3.00	4.78	1.57	8.43	3.57	3.51
	Da Nang					16.8	7.71	10.4	3.66	2.62	3.01	1.05	1.10	1.36	1.64	0.709
	Can Tho										0.550	1.68	1.43	1.08	1.34	1.18
	Ho Chi Minh										1.42	0.775	1.75	0.861	0.773	1.08
	Yen Bai											5.90	6.63	6.40	4.48	15.3

Terms and abbreviations are given in Table 3.5.

Table 3.85 Precipitation amount-weighted annual average pH from 2005 to 2019

Country	Name of sites	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Cambodia	PhnomPenh	6.32	6.72	6.69	5.84	6.19	5.97	5.96	6.16	6.18	6.21	6.14	6.41	6.18	***	***
China	Guanyinqiao	4.95	4.86	4.65												
	Haifu				4.20	4.22	4.15	4.18	4.24	4.52	4.92	5.42	6.18	5.83	5.29	5.43
	Jinyunshan	4.62	4.69	4.52	4.36	4.33	3.94	4.04	4.09	4.20	4.39	4.70	4.97	5.15	4.85	4.76
	Shizhan	5.41	5.56	5.52	6.40	6.53	6.68	6.27	6.26	6.93	6.61	6.66	6.69	6.59	6.77	6.82
	Weishuiyuan	5.15	5.84													
	Jiwozi	6.20	5.87	6.85	6.94	6.10	5.54	5.95	7.12	6.20	6.98	6.91	6.63	6.69	6.79	6.76
	Hongwen	4.70	4.83	4.79	4.59	4.52	4.57	4.65	4.51	4.88	5.08	4.90	4.92	5.34	5.64	6.07
	Xiaoping	4.78	4.78	4.60	4.55	4.47	4.58	4.82	4.80	5.00	4.71	4.95	4.73	5.90	4.84	4.73
	Xiang Zhou	4.56	4.87	4.63	4.93	4.87	4.85	5.05	5.11	5.23	5.00	5.56	5.17	4.98	5.06	4.95
	Zhuxiandong	4.61	4.82	***	4.88	4.75	4.95	4.78	***	***	***	5.48	5.16	5.07	5.16	5.02
	Wuzhishan															5.94
	Lijiang															6.28
Indonesia	Jakarta	4.31	4.38	4.56	4.65	4.63	4.73	4.55	4.76	4.77	4.71	4.84	4.95	4.89	4.69	4.83
	Serpong	4.59	4.60	4.59	4.62	4.71	4.76	4.70	4.91	5.06	5.14	4.94	5.18	5.20	5.21	4.98
	Kototabang	4.68	4.53	5.27	5.22	4.65	4.80	5.04	5.01	4.97	4.82	4.91	5.30	5.20	5.31	5.38
	Bandung	5.03	5.15	4.93	5.17	5.30	5.10	5.40	5.46	5.40	5.21	5.36	5.08	5.25	5.66	6.02
	Maros				5.63	5.33	5.21	5.35	5.62	5.47	5.23	5.24	5.24	5.31	5.38	4.94
	Jembrana															5.36
	Lombok															5.59
Japan	Rishiri	4.74	4.67	4.58	4.91	4.74	4.73	4.70	4.70	4.67	4.73	4.77	4.90	4.76	4.87	4.82
	Ochiishi	4.84	4.86	4.78	4.87	5.02	4.83	4.88	4.82	5.03	5.11	5.00	5.19	5.13	5.14	5.12
	Tappi	4.60	4.58	4.62	4.59	4.74	4.69	4.61	4.69	4.80	4.66	4.85	4.82	4.74	4.96	
	Sado-seki	4.56	4.70	4.50	4.55	4.75	4.70	4.68	4.73	4.74	4.70	4.66	4.86	4.90	4.96	4.90
	Happo	4.80	4.97	4.79	4.83	4.97	5.10	5.04	4.88	5.00	5.01	5.09	5.09	5.10	5.20	5.14
	Ijira	4.51	4.51	4.53	4.45	4.64	4.76	4.75	4.69	4.75	4.71	4.70	4.76	4.74	4.92	4.79
	Oki	4.56	4.73	4.64	4.60	4.71	4.66	4.73	4.58	4.61	4.65	4.72	4.87	4.83	4.87	4.81
	Banryu	4.49	4.69	4.49	4.53	4.66	4.70	4.66	4.48	4.64	4.55	4.65	4.81	4.77	4.87	
	Yusuhara	4.64	4.84	4.81	4.67	4.77	4.79	4.93	4.77	4.78	4.88	4.87	4.85	4.51	5.00	4.97
	Hedo	4.83	4.99	4.99	5.00	5.11	5.20	4.90	5.13	4.96	5.02	5.14	5.17	5.00	5.10	4.98
	Ogasawara	4.81	4.99	5.03	5.00	5.17	5.25	5.30	5.33	5.25	5.08	5.23	5.10	5.22	5.23	5.23
	Tokyo			4.79	4.60	4.75	4.95	4.83	4.84	5.05	4.83	4.79	4.94	4.90	4.93	5.00
	Niigata-maki															4.86
	Tsushima															4.99
Lao PDR	Vientiane	6.32	6.49	5.67	6.01	5.48	***	***	6.46	***	6.54	5.94	6.77	*	*	*
Malaysia	Petaling Jaya	4.37	4.42	4.56	4.43	4.35	4.26	4.16	4.21	4.42	4.42	4.39	4.26	4.51	4.50	***
	Tanah Rata	4.84	4.95	4.95	5.10	5.08	5.06	5.01	4.96	4.95	4.86	4.72	4.85	4.86	4.86	***
	Danum Valley	4.98	5.05	5.10	5.22	5.22	5.22	5.21	5.18	5.27	5.31	5.21	5.25	5.22	5.30	***
	Kuching				5.26	5.26	5.28	5.43	5.32	5.29	5.34	5.31	5.15	5.21	5.25	***
Mongolia	Ulaanbaatar	5.99	6.45	6.26	6.28	6.11	5.88	5.44	5.88	5.98	***	6.42	5.02	5.53	5.76	5.49
	Terelj	5.26	5.16	5.22	5.43	6.22	5.61	5.26	5.74	4.91	***	5.50	5.19	5.04	5.81	***
Myanmar	Yangon			5.57	6.41	6.46	6.42	6.46	6.49	6.45	6.70	6.66	6.75	6.69	6.58	6.53
Philippines	Metro Manila	4.95	5.30	5.27	5.55	5.23	5.65	5.64	5.22	5.55	6.13	6.28	5.52	***	***	5.40
	Los Baños	5.14	5.61	5.54	4.95	5.58	5.88	5.57	5.66	5.85	5.79	6.29	4.71	***	***	***
	Mt.Sto.Tomas		6.32	5.53	5.49	5.83	6.70	5.35	5.95	5.29	6.14	5.96	6.46	***	***	***
Republic of Korea	Kanghwa	4.25	4.68	4.62	4.55	4.59	4.41	4.64	4.61	4.58	4.87	4.69	4.79	4.44	4.88	4.68
	Cheju	4.55	4.34	4.51	4.67	5.11	5.04	5.17	5.31	5.38	5.79	5.67	5.10	5.28	5.87	5.60
	Imsil	6.00	5.19	5.73	4.88	5.09	4.87	5.27	5.11	5.22	5.29	5.09	5.50	5.30	5.70	5.34
Russia	Mondy	5.36	5.39	5.52	5.17	5.48	5.55	5.54	5.62	5.32	5.33	5.45	5.37	5.31	5.19	5.41
	Listvyanka	4.83	4.64	4.67	4.63	4.84	4.76	4.73	4.78	4.80	4.90	4.83	4.90	4.77	4.75	4.73
	Irkutsk	5.12	5.15	4.93	4.77	5.41	5.13	5.02	4.93	5.01	5.06	5.21	4.93	4.94	4.86	4.82
	Primorskaya	5.06	4.83	4.84	4.79	4.98	4.97	4.63	5.07	5.06	5.47	5.16	5.40	5.69	5.83	5.44
Thailand	Bangkok	4.89	5.16	5.05	5.28	5.09	5.07	5.05	5.68	5.60	7.03	5.29	5.54	5.97	6.04	6.06
	Samutprakarn	5.47	5.87	5.61	5.29	5.13	5.32	5.90	6.17	5.98	6.51	5.60	5.45	5.86	5.52	5.75
	Pathumthani	4.89	4.89	4.81	5.03	5.15	5.24	5.00	5.44	5.41	5.51	5.29	5.40	5.34	5.12	5.46
	Khanchanaburi	5.54	5.75	5.78	5.66	5.66	5.69	5.49	6.02	5.33	5.79	5.46	5.98	5.76	5.76	6.08
	Mae Hia	5.23	5.70	5.95	5.98	5.92	6.17	5.29	6.10	6.04	6.28	5.64	5.60	5.56	5.51	5.15
	Sakaerat		5.12	5.08	5.03	4.87	4.75	5.00	5.07	5.24	4.82	5.03	5.26	5.42	5.14	5.21
Vietnam	Hanoi	6.15	5.73	5.58	5.84	5.67	5.93	5.30	5.62	5.66	5.74	6.19	5.60	6.53	5.52	4.95
	HoaBinh	5.69	5.59	5.06	5.49	5.29	5.37	5.44	5.63	6.04	5.44	5.29	5.64	5.22	5.26	5.31
	Cuc Phuong					4.99	5.23	5.04	5.43		5.52	5.32	5.81	5.07	5.45	5.45
	Da Nang					4.77	5.11	4.98	5.44	5.58	5.52	5.98	5.96	5.87	5.78	6.15
	Can Tho										6.26	5.77	5.84	5.97	5.87	5.93
	Ho Chi Minh										5.85	6.11	5.76	6.06	6.11	5.96
	Yen Bai											5.23	5.18	5.19	5.35	4.82

Terms and abbreviations are given in Table 3.5.

Table 3.86 Precipitation amount-weighted annual average EC from 2005 to 2019

unit: mS m⁻¹

Country	Name of sites	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Cambodia	PhnomPenh	0.807	1.17	1.37	1.53	0.880	0.747	0.820	0.704	0.665	0.676	0.691	0.705	0.747	***	***
China	Guanyinqiao	6.70	6.70	5.01												
	Haifu				6.46	5.14	6.71	6.55	5.33	5.26	3.94	2.70	3.00	2.71	2.83	2.27
	Jinyunshan	4.23	5.45	3.76	5.13	5.27	8.07	7.09	6.56	4.81	3.65	2.50	2.44	2.38	2.65	2.43
	Shizhan	5.18	9.81	7.21	7.96	5.80	5.63	4.31	6.51	6.97	4.37	5.06	3.69	3.53	3.28	3.02
	Weishuiyuan	4.61	13.4													
	Jiwozi	5.82	6.95	10.3	8.46	3.73	1.67	3.04	5.39	3.61	4.29	2.32	1.05	2.64	2.09	5.58
	Hongwen	2.63	2.31	2.68	2.15	2.25	2.05	2.18	2.67	1.63	1.89	1.59	2.33	2.21	2.07	3.18
	Xiaoping	1.91	2.19	2.01	2.09	2.26	2.06	1.82	1.67	1.46	2.15	1.43	1.28	0.996	1.29	1.56
	Xiang Zhou	2.41	2.20	1.99	1.84	1.99	1.74	1.84	1.76	1.15	1.94	1.65	1.50	1.85	2.09	1.46
	Zhuxiandong	2.49	2.67	***	1.94	2.15	1.37	1.99	***	***	***	2.29	2.01	1.45	2.38	1.53
	Wuzhishan															0.733
	Lijiang															1.50
Indonesia	Jakarta	3.37	1.92	2.23	1.78	1.66	1.90	2.17	1.39	1.59	1.67	1.26	2.03	1.27	2.52	1.82
	Serpong	2.63	2.10	2.14	2.10	1.66	1.95	2.31	2.05	2.16	1.89	2.26	1.85	1.82	2.30	2.46
	Kototabang	0.843	0.881	0.816	0.556	0.766	0.903	0.742	0.791	0.927	1.10	1.04	0.790	0.402	0.429	0.671
	Bandung	1.75	1.69	1.64	1.58	1.62	1.43	1.90	1.60	1.86	2.14	1.71	1.79	1.88	1.88	2.37
	Maros				0.623	1.06	0.718	0.576	0.885	0.970	1.00	2.10	3.03	1.65	0.664	1.04
	Jembrana															0.898
	Lombok															1.10
Japan	Rishiri	4.46	3.04	3.72	4.86	4.10	3.77	3.50	5.54	4.25	3.56	3.16	1.92	4.47	3.78	4.00
	Ochiishi	4.01	5.00	3.69	3.33	3.31	4.65	3.28	4.96	7.10	2.14	3.29	2.42	4.02	1.64	1.58
	Tappi	4.18	5.98	4.92	4.32	3.78	2.80	3.64	3.45	4.76	3.62	3.97	3.32	3.91	3.16	
	Sado-seki	5.05	3.81	4.92	4.28	5.65	5.08	3.57	4.88	5.98	5.58	6.15	3.47	3.11	2.86	4.15
	Happo	1.10	0.840	1.08	1.03	0.860	0.597	0.666	1.07	0.764	0.744	0.680	0.616	0.569	0.560	0.595
	Ijira	2.11	2.15	2.05	2.18	1.65	1.33	1.46	1.65	1.42	1.47	1.49	1.33	1.32	0.959	1.19
	Oki	11.3	4.77	5.91	6.60	7.16	7.56	8.76	6.72	9.41	9.58	7.57	6.08	7.96	6.96	3.51
	Banryu	3.50	2.54	3.36	3.10	3.02	2.88	3.13	3.44	2.48	3.11	2.82	2.39	2.46	1.85	
	Yusuhara	1.59	1.08	1.06	1.14	1.15	1.06	0.870	1.24	1.06	0.789	1.11	0.972	2.68	0.804	0.870
	Hedo	7.10	3.58	2.54	2.61	2.44	4.59	3.87	7.27	4.24	2.68	5.28	3.41	6.15	3.00	2.66
	Ogasawara	2.33	2.14	2.59	1.86	3.27	3.58	3.70	2.26	2.86	2.62	5.30	1.87	3.25	1.02	3.15
	Tokyo			1.80	1.96	1.66	1.18	1.88	1.75	1.33	1.46	1.40	1.04	1.60	1.43	1.66
	Niigata-maki															3.87
	Tsushima															1.23
Lao PDR	Vientiane	1.01	0.764	0.396	0.644	0.534	***	***	0.411	***	0.867	1.26	0.730	*	*	*
Malaysia	Petaling Jaya	2.12	1.81	1.40	1.98	2.46	2.90	3.43	3.10	2.43	2.50	2.61	2.95	1.92	2.17	***
	Tanah Rata	0.684	0.510	0.506	0.471	0.544	0.550	0.822	0.780	0.734	0.875	1.10	0.813	0.798	0.808	***
	Danum Valley	0.562	0.465	0.347	0.461	0.445	0.552	0.440	0.416	0.410	0.419	0.513	0.360	0.339	0.433	***
	Kuching				0.443	0.521	0.500	0.547	0.489	0.549	1.02	0.635	0.683	0.588	0.612	***
Mongolia	Ulaanbaatar	1.87	1.92	2.18	1.92	1.76	1.53	1.74	1.71	2.54	***	2.86	3.52	1.26	1.40	7.89
	Terelj	1.18	1.95	2.02	1.34	2.06	1.88	1.54	1.33	1.94	***	2.80	3.27	1.38	1.19	***
Myanmar	Yangon			0.595	0.949	1.54	1.34	0.682	1.30	0.813	0.914	1.46	1.37	0.504	0.644	0.910
Philippines	Metro Manila	1.66	1.66	1.40	2.88	1.24	1.89	3.76	4.81	1.53	1.92	2.53	3.02	***	***	1.20
	Los Baños	1.01	1.08	0.859	1.76	0.802	1.22	1.18	1.74	1.02	1.45	3.34	2.25	***	***	***
	Mt.Sto.Tomas		0.221	1.03	0.347	0.495	0.533	0.355	0.500	0.558	0.460	0.464	0.527	***	***	***
Republic of Korea	Kanghwa	4.14	2.75	3.49	2.72	2.88	2.46	2.34	2.76	2.66	2.41	4.29	1.80	2.44	1.67	4.74
	Cheju	3.43	3.64	3.43	3.47	2.20	2.32	3.07	7.05	5.55	2.42	2.31	7.07	5.00	4.74	2.37
	Imsil	1.72	2.51	1.58	1.75	1.98	1.89	1.58	2.58	1.47	1.39	1.98	1.23	1.69	1.07	1.31
Russia	Mondy	0.485	0.428	0.799	0.727	0.621	0.653	0.566	0.864	0.420	0.480	0.588	0.409	0.659	0.576	0.469
	Listvyanka	1.19	1.51	1.38	1.58	1.31	1.41	1.63	1.51	1.25	1.20	1.50	1.11	1.54	1.43	1.32
	Irkutsk	1.66	1.76	2.02	2.48	2.18	2.05	2.16	2.16	2.08	1.59	2.55	1.47	1.62	1.90	1.65
	Primorskaya	2.03	2.47	1.90	2.58	1.48	1.96	2.64	1.56	1.89	1.63	1.75	1.58	2.06	1.53	1.36
Thailand	Bangkok	1.66	1.94	1.41	1.54	1.38	1.31	1.24	1.26	1.35	1.10	1.35	1.34	0.821	1.64	1.36
	Samutprakarn	1.30	1.56	1.34	1.66	1.48	1.13	0.667	0.902	1.20	1.00	0.921	0.880	0.799	1.05	1.01
	Pathumthani	1.31	1.42	1.50	1.19	1.07	0.975	1.27	1.17	1.08	0.998	1.34	1.38	1.19	1.24	1.24
	Khanchanaburi	0.315	0.462	0.292	0.496	0.511	0.249	0.585	0.817	0.326	0.506	0.438	0.379	0.421	0.382	0.421
	Mae Hia	0.812	0.593	0.630	0.622	0.608	0.519	0.442	0.512	0.682	0.803	0.561	0.825	0.736	0.526	0.939
	Sakaerat		0.918	0.775	0.833	0.981	0.992	0.796	0.756	0.789	1.46	0.856	0.848	0.566	0.870	0.800
Vietnam	Hanoi	2.75	2.18	1.57	1.11	1.41	1.72	1.60	1.56	1.52	1.99	2.21	1.93	2.08	2.47	3.68
	HoaBinh	1.15	1.22	1.08	0.918	1.10	1.39	1.02	0.940	1.10	1.35	1.22	1.45	1.27	1.22	1.06
	Cuc Phuong					1.74	1.71	1.98	1.73	1.80	1.28	1.42	1.37	1.52	1.10	1.69
	Da Nang					2.53	1.46	2.37	2.10	3.46	1.85	1.82	1.74	2.47	2.41	5.02
	Can Tho										1.10	1.92	1.20	1.06	1.27	1.35
	Ho Chi Minh										2.00	2.85	1.33	1.68	1.35	1.78
	Yen Bai											1.31	2.47	1.55	1.49	1.90

Terms and abbreviations are given in Table 3.5.

Table 3.87 Annual SO₄²⁻ deposition amount from 2005 to 2019

unit: mmol m⁻²y⁻¹

Country	Name of sites	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Cambodia	Phnom Penh	7.43	5.04	30.9	21.3	15.4	13.6	11.5	17.0	10.7	9.78	7.76	6.85	15.6	***	***
China	Guanyinqiao	200	149	169												
	Haifu				145	106	136	115	103	109	120	61.3	59.5	49.8	46.1	41.0
	Jinyunshan	149	169	149	146	125	148	119	125	91.7	90.0	56.5	48.6	46.3	33.9	36.6
	Shizhan	63.9	132	96.7	73.6	80.5	45.8	72.5	42.9	62.0	70.1	49.1	25.9	41.8	22.1	14.1
	Weishuiyuan	47.1	104													
	Jiwozi	42.8	30.0	18.2	63.6	58.7	36.8	60.7	36.9	34.1	39.4	14.1	7.18	18.2	14.5	36.4
	Hongwen	80.4	61.1	102	29.9	19.2	40.8	26.4	29.7	30.7	30.4	18.8	40.4	17.1	17.3	46.4
	Xiaoping	59.0	39.7	29.2	58.3	32.0	41.4	38.1	30.2	44.9	40.3	27.0	25.4	9.85	11.0	12.9
	Xiang Zhou	28.0	44.6	31.2	46.5	36.6	36.7	19.5	22.6	46.3	23.9	16.6	37.6	26.9	25.0	20.2
	Zhuxiandong	31.3	17.1	***	49.6	33.2	31.6	23.4	***	***	***	37.2	42.6	25.7	33.1	24.8
	Wuzhishan															10.1
	Lijiang															0.234
Indonesia	Jakarta	85.6	38.7	60.6	38.9	30.2	46.4	28.4	56.0	51.0	70.4	48.0	61.4	22.6	59.4	38.1
	Serpong	27.5	45.2	61.5	65.9	31.0	34.8	27.9	26.0	61.6	66.9	55.8	76.0	81.5	71.0	74.3
	Kototabang	12.1	9.55	19.4	7.21	12.5	15.0	17.1	16.0	13.2	21.3	20.8	12.3	10.9	16.2	14.0
	Bandung	61.7	35.1	52.0	65.4	78.3	28.3	47.1	55.2	72.1	78.8	60.6	86.1	67.3	55.6	72.8
	Maros				16.3	22.5	70.9	30.0	21.5	26.0	20.9	15.3	20.6	14.6	19.4	11.6
	Jembrana															14.8
	Lombok															18.6
Japan	Rishiri	26.8	29.6	24.9	24.3	27.4	25.1	26.1	32.6	27.1	20.7	19.9	15.3	23.1	24.4	15.6
	Ochiishi	18.6	27.6	18.4	13.7	26.3	24.9	12.4	22.0	34.4	10.9	16.8	14.5	15.1	10.9	7.39
	Tappi	36.8	34.5	31.2	23.3	30.9	33.1	31.5	26.2	35.4	31.7	27.5	27.5	24.9	28.8	
	Sado-seki	39.1	35.7	40.6	31.6	34.2	44.2	34.0	38.6	52.7	45.1	30.1	21.4	24.7	24.6	22.2
	Happo	35.8	28.4	28.4	18.0	23.8	16.0	21.5	23.2	23.6	19.6	15.8	12.5	14.5	13.1	14.5
	Ijira	48.5	58.3	43.0	41.0	44.2	42.6	39.8	38.9	33.6	36.6	36.8	34.1	29.4	27.7	27.5
	Okii	73.2	41.1	42.1	39.5	42.4	59.3	70.0	49.1	65.6	50.4	38.6	48.2	40.4	45.9	23.0
	Banryu	34.6	43.1	35.5	32.7	36.3	30.8	30.1	31.2	35.0	32.7	26.7	30.9	23.8	19.3	
	Yusuhara	28.0	31.9	22.5	22.4	24.1	23.9	23.9	32.8	22.5	24.4	19.9	20.8	51.3	21.2	20.1
	Hedo	64.1	35.8	38.8	27.8	25.9	55.3	36.3	88.5	35.8	34.9	42.1	31.9	45.5	33.6	32.0
	Ogasawara	26.9	16.2	19.9	15.0	27.7	27.9	20.4	16.0	17.1	18.5	32.9	11.0	21.1	3.83	23.9
	Tokyo			18.4	36.5	27.6	18.1	22.0	25.5	19.7	25.1	19.2	15.1	14.5	13.7	18.0
	Niigata-maki															31.6
	Tsushima															25.8
Lao PDR	Vientiane	***	2.45	6.54	8.43	0.733	***	***	3.19	***	***	2.94	2.61	*	*	*
Malaysia	Petaling Jaya	66.4	82.5	41.8	65.6	39.2	60.3	81.2	58.0	63.6	79.2	80.3	69.4	42.2	59.6	***
	Tanah Rata	16.1	12.3	10.4	12.9	10.0	7.96	16.6	13.1	13.2	17.9	18.4	9.28	10.7	11.0	***
	Danum Valley	5.53	10.2	6.85	7.46	9.56	12.0	7.42	6.75	10.1	7.35	7.17	4.92	7.99	8.01	***
	Kuching				17.8	17.6	16.6	18.9	17.7	20.6	26.1	20.7	23.0	15.3	16.3	***
Mongolia	Ulaanbaatar	4.01	4.78	4.67	4.33	4.53	3.39	4.59	***	8.71	***	18.3	20.7	5.54	5.48	11.7
	Terelj	4.29	5.10	4.63	3.40	1.83	3.96	3.40	***	4.40	***	10.4	15.1	1.42	3.98	***
Myanmar	Yangon			***	***	24.1	10.3	20.9	19.2	21.4	13.1	11.2	20.0	32.6	23.8	26.0
Philippines	Metro Manila	57.1	47.4	78.1	59.2	51.3	54.2	68.3	108	52.9	47.3	47.4	54.7	***	***	24.1
	Los Baños	16.2	23.9	26.0	34.2	25.6	15.3	20.4	26.5	15.8	18.9	21.0	27.0	***	***	***
	Mt.Sto. Tomas		0.592	19.4	17.6	23.8	17.8	21.6	41.6	33.8	16.8	24.5	24.4	***	***	***
Republic of Korea	Kanghwa	37.9	40.3	36.4	43.2	37.0	41.3	40.1	20.3	32.4	12.5	17.3	15.8	13.8	8.93	13.2
	Cheju	24.0	31.6	47.1	22.1	26.3	19.4	27.4	43.9	25.9	20.5	25.1	48.3	22.6	24.3	16.7
	Imsil	28.4	19.0	38.8	17.9	21.0	32.0	30.9	27.2	22.6	16.7	14.5	11.6	14.2	12.4	16.8
Russia	Mondy	1.54	1.93	3.26	1.47	0.929	0.613	0.333	0.753	1.18	0.675	0.877	0.696	1.23	1.58	0.853
	Listvyanka	7.80	5.90	6.99	8.33	6.02	6.76	10.6	7.33	5.02	4.85	7.04	4.74	7.09	4.77	8.32
	Irkutsk	12.3	9.28	16.0	20.3	13.4	12.6	11.3	16.8	10.1	9.02	12.3	11.4	12.9	13.7	11.3
	Primorskaya	28.2	28.6	30.4	22.5	19.5	21.5	8.70	19.1	21.1	20.6	24.7	22.2	21.7	30.6	16.4
Thailand	Bangkok	39.1	35.5	27.2	32.0	26.3	24.3	23.2	19.3	9.42	8.52	12.0	23.1	27.1	17.3	7.29
	Samutprakarn	31.1	29.4	27.7	27.2	30.0	29.3	16.1	9.73	8.55	9.52	10.4	21.3	16.2	15.1	9.55
	Pathumthani	16.7	21.6	16.6	17.8	11.7	14.1	14.8	12.4	11.1	8.71	12.4	10.9	12.2	9.47	8.64
	Khanchanaburi	5.72	10.2	4.20	7.41	7.19	2.91	9.93	8.89	1.84	3.51	2.56	10.4	3.92	2.65	1.91
	Mae Hia	8.43	6.44	5.62	6.38	4.52	3.88	5.23	5.28	5.92	4.42	3.07	4.06	7.67	3.41	5.34
	Sakaerat		9.80	8.93	12.7	8.11	11.5	7.99	7.48	10.8	4.61	9.04	7.51	8.34	10.9	8.02
Vietnam	Hanoi	90.6	57.7	55.8	45.8	44.1	43.8	55.7	51.8	50.4	65.3	50.3	59.5	71.7	84.6	87.5
	Hoa Binh	40.6	38.5	33.1	26.9		21.8	36.1	31.7	32.7	32.9	32.3	37.9	35.9	61.4	22.9
	Cuc Phuong					41.9	33.7	69.7	49.0	51.1	31.5	27.5	32.3	36.1	34.0	35.5
	Da Nang					55.6	27.6	76.7	32.9	56.1	35.0	21.6	31.9	37.0	36.2	52.7
	Can Tho										16.1	67.7	26.5	30.9	59.1	61.0
	Ho Chi Minh										46.3	67.6	49.0	80.5	63.5	71.8
	Yen Bai											34.2	79.1	62.9	47.3	38.9

Terms and abbreviations are given in Table 3.5.

Table 3.88 Annual nss-SO₄²⁻ deposition amount from 2005 to 2019

unit: mmol m⁻²y⁻¹

Country	Name of sites	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Cambodia	Phnom Penh	***	4.82	30.2	15.9	14.9	13.3	11.3	16.6	10.5	9.07	7.35	6.53	15.2	***	***
China	Guanyinqiao	200	149	169												
	Haifu				145	106	135	115	102	108	119	61.1	59.1	49.5	45.7	40.7
	Jinyunshan	148	168	148	145	124	148	119	125	91.5	89.6	56.4	48.5	46.1	33.8	36.5
	Shizhan	63.4	131	96.2	73.0	80.1	45.6	71.8	42.8	58.3	65.4	45.1	24.6	40.8	21.5	13.7
	Weishuiyuan	46.6	103													
	Jiwozi	41.5	29.1	17.7	61.5	57.8	36.3	60.3	35.8	29.7	35.1	11.6	6.99	17.1	13.7	33.3
	Hongwen	75.1	57.7	99.7	28.6	18.1	39.0	25.5	28.8	29.5	29.1	17.7	37.7	15.9	15.9	46.1
	Xiaoping	57.3	37.9	28.4	55.6	30.9	39.7	37.1	29.5	43.5	39.6	25.9	24.7	9.57	10.7	12.8
	Xiang Zhou	25.3	41.3	29.5	40.6	31.7	34.5	17.0	18.4	38.4	20.9	12.3	34.4	20.9	16.6	17.8
	Zhuxiandong	27.7	15.9	***	44.0	28.9	29.4	20.3	***	***	***	30.8	38.3	22.8	21.8	21.7
	Wuzhishan															9.35
	Lijiang															0.207
Indonesia	Jakarta	82.7	37.6	58.5	37.9	29.3	45.4	27.7	53.9	48.8	66.3	45.7	58.9	21.8	57.7	37.2
	Serpong	26.7	44.4	60.1	64.5	30.2	34.1	27.4	25.4	59.6	63.7	54.3	73.5	79.2	68.8	72.1
	Kototabang	11.3	9.08	17.9	6.47	11.6	14.3	16.2	14.4	12.1	20.4	21.6	10.7	10.4	15.7	13.4
	Bandung	60.5	33.7	51.2	64.2	76.4	68.8	46.0	53.8	70.2	77.2	59.5	84.3	65.1	53.2	68.2
	Maros				13.5	20.0	26.7	18.7	21.3	21.3	17.2	14.9	11.0	8.53	16.7	9.75
	Jembrana															12.9
	Lombok															16.4
Japan	Rishiri	15.0	21.0	17.4	12.0	16.2	14.6	15.8	12.3	13.2	10.6	10.7	9.89	11.4	13.3	7.76
	Ochiishi	8.28	11.3	8.73	6.14	9.29	10.5	5.51	7.68	7.60	5.99	7.88	4.98	4.07	5.63	4.02
	Tappi	20.6	17.8	16.6	13.5	15.4	22.5	21.2	16.3	18.9	20.4	12.9	15.1	12.1	12.9	
	Sado-seki	19.2	18.7	24.7	18.7	14.2	18.3	21.2	19.9	22.0	21.2	13.1	10.9	13.3	12.0	9.48
	Happo	34.5	27.8	28.0	17.6	23.1	15.4	20.9	22.0	22.9	18.8	15.0	11.8	13.6	12.2	14.0
	Ijira	46.3	56.5	40.1	39.0	41.9	39.6	37.2	35.5	31.1	33.8	33.8	31.8	26.8	24.4	25.3
	Okii	25.3	22.0	22.8	18.2	17.0	23.6	25.6	21.2	23.1	15.8	12.3	17.8	11.4	14.1	12.2
	Banryu	27.5	35.3	29.5	27.2	25.9	22.5	20.8	24.5	26.5	24.8	18.6	21.8	16.0	13.7	
	Yusuhara	24.5	29.7	20.6	21.2	22.6	22.6	21.3	29.4	21.1	23.3	16.1	19.5	43.4	17.7	17.5
	Hedo	23.1	14.7	17.8	13.2	11.0	15.3	14.6	17.9	13.8	14.7	8.88	9.97	9.63	8.21	11.9
	Ogasawara	15.0	6.58	7.61	6.38	8.72	5.60	4.62	5.27	6.31	6.44	3.79	4.72	3.45	1.18	3.92
	Tokyo			16.2	34.3	25.1	16.3	18.9	22.6	17.4	23.1	17.4	13.7	11.4	11.0	12.3
	Niigata-maki															15.4
	Tsushima															21.4
Lao PDR	Vientiane	***	2.15	6.34	8.14	0.633	***	***	***	***	***	2.79	2.54	*	*	*
Malaysia	Petaling Jaya	65.3	81.4	41.2	64.6	38.4	59.3	80.2	57.3	62.6	78.1	78.9	68.1	41.1	58.4	***
	Tanah Rata	14.9	12.1	10.2	12.6	9.80	7.78	16.2	12.8	12.8	17.4	18.0	8.93	10.2	10.6	***
	Danum Valley	5.19	9.23	6.11	6.89	8.36	10.2	6.51	6.24	9.15	6.42	6.52	4.36	7.58	7.24	***
	Kuching				16.4	15.6	14.7	16.3	16.5	18.7	24.1	17.3	18.8	13.2	14.3	***
Mongolia	Ulaanbaatar	3.95	4.68	4.63	4.22	4.47	3.36	4.53	***	8.00	***	***	19.0	5.32	5.05	11.4
	Terelj	4.12	4.93	4.53	3.26	1.78	3.86	3.34	***	4.33	***	***	13.5	1.34	3.56	***
Myanmar	Yangon			***	***	20.8	8.88	18.0	15.8	19.7	10.1	9.94	18.0	30.0	19.9	22.7
Philippines	Metro Manila	54.8	44.6	73.9	55.7	47.7	50.6	63.6	103	47.0	43.5	43.9	52.0	***	***	21.5
	Los Baños	14.5	21.0	22.7	32.0	22.5	12.5	17.6	23.7	12.5	17.0	19.3	24.7	***	***	***
	Mt.Sto. Tomas		0.519	18.2	16.1	21.5	16.5	20.4	38.1	32.1	15.4	21.3	20.5	***	***	***
Republic of Korea	Kanghwa	36.3	38.5	34.0	39.5	33.6	38.8	36.9	18.3	30.8	11.4	15.7	14.3	12.9	7.77	7.71
	Cheju	20.4	25.9	39.5	15.3	23.0	13.1	17.6	16.9	14.8	12.1	16.2	21.7	11.3	7.82	12.3
	Imsil	26.8	17.6	37.5	16.3	17.7	27.2	27.5	22.8	20.4	14.7	12.5	9.88	12.5	9.75	14.2
Russia	Mondy	1.51	1.89	3.20	1.45	0.912	0.598	0.316	0.726	1.15	0.658	0.863	0.678	1.20	1.54	0.832
	Listvyanka	7.72	5.85	6.93	8.27	5.94	6.69	10.4	7.25	4.91	4.77	6.98	4.63	7.03	4.68	8.22
	Irkutsk	12.1	9.07	15.8	20.0	12.9	12.2	11.0	16.5	9.90	8.82	12.1	11.1	12.7	13.5	11.1
	Primorskaya	27.2	28.0	29.2	21.7	18.8	20.5	8.19	17.9	20.0	20.0	23.0	20.8	20.7	29.3	15.4
Thailand	Bangkok	37.6	34.6	26.5	31.0	25.1	23.3	22.4	18.6	8.46	7.96	11.2	22.0	26.6	16.5	6.95
	Samutprakarn	29.1	28.0	26.3	25.6	28.8	27.2	15.4	9.28	6.94	8.77	9.63	20.3	15.4	14.3	9.03
	Pathumthani	16.2	20.8	16.1	17.2	11.2	13.5	14.2	11.1	10.7	8.37	12.0	10.4	11.8	9.09	8.32
	Khanchanaburi	4.89	9.24	3.48	6.33	6.05	2.61	9.06	7.49	1.40	3.13	2.19	9.73	3.59	2.16	1.70
	Mae Hia	8.36	6.16	5.46	6.18	4.36	3.69	4.93	5.04	5.49	4.31	2.87	3.74	7.23	3.06	4.97
	Sakaerat		9.48	8.56	12.2	7.90	11.1	7.63	7.23	10.5	4.39	8.66	7.25	8.13	10.1	7.36
Vietnam	Hanoi	88.7	56.7	55.0	44.5	43.2	43.3	55.0	51.4	49.5	64.6	49.6	58.4	69.6	83.3	85.5
	Hoa Binh	39.6	38.1	32.7	26.5	21.5	35.7	31.5	32.4	39.1	32.7	31.9	37.5	35.4	61.0	21.8
	Cuc Phuong					40.4	32.5	68.2	46.5	48.0	30.4	26.8	30.8	33.7	31.9	33.3
	Da Nang					38.7	23.4	61.3	27.1	36.0	24.0	12.6	21.1	26.1	25.6	38.8
	Can Tho										14.4	63.8	25.2	29.8	57.5	58.4
	Ho Chi Minh										43.5	64.6	46.9	76.9	61.4	69.0
	Yen Bai											33.7	78.1	62.4	46.9	37.7

Terms and abbreviations are given in Table 3.5.

Table 3.89 Annual NO₃⁻ deposition amount from 2005 to 2019unit: mmol m⁻²y⁻¹

Country	Name of sites	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Cambodia	Phnom Penh	***	8.59	11.3	17.2	13.7	15.5	11.3	17.4	10.3	13.3	11.4	9.78	15.1	***	***
China	Guanyinqiao	44.5	51.1	63.3												
	Haifu				65.6	56.7	75.9	67.4	74.6	75.8	90.8	57.8	66.4	63.1	63.5	61.4
	Jinyunshan	50.2	55.2	51.8	56.4	59.7	73.4	65.8	70.8	59.9	68.0	46.9	45.6	46.7	41.7	48.8
	Shizhan	6.16	39.4	40.0	15.5	34.1	18.8	11.5	19.4	15.7	61.0	42.7	26.1	14.6	18.1	11.5
	Weishuiyuan	5.01	32.8													
	Jiwozi	3.37	11.9	6.68	44.9	17.2	14.1	8.01	18.5	5.69	7.84	12.8	2.05	1.30	8.25	22.0
	Hongwen	63.4	47.7	50.6	21.6	17.2	44.3	19.9	32.5	29.3	29.8	26.6	55.6	23.5	26.5	40.4
	Xiaoping	52.9	37.7	27.3	49.2	33.2	46.0	34.6	34.4	40.9	46.3	38.0	35.7	19.0	21.3	31.7
	Xiang Zhou	20.3	33.3	23.9	34.7	35.5	44.3	19.8	23.1	49.3	34.9	26.9	42.6	34.5	35.3	43.0
	Zhuxiandong	22.8	11.7	***	33.9	31.3	36.6	21.5	***	***	***	47.0	52.2	41.5	40.7	51.0
	Wuzhishan															14.1
	Lijiang															2.25
Indonesia	Jakarta	115	30.4	67.4	24.1	23.8	36.2	29.5	44.2	50.8	63.4	42.9	67.5	24.7	75.8	38.3
	Serpong	32.5	45.4	61.3	71.8	34.2	42.4	29.5	28.2	91.9	104	85.1	92.8	99.6	102	88.3
	Kototabang	3.46	1.74	9.88	6.93	0.679	5.61	11.1	12.3	6.06	18.7	9.00	8.99	9.21	21.7	16.2
	Bandung	33.5	30.3	42.4	48.4	61.3	46.8	42.8	45.0	51.7	55.3	47.5	61.0	49.7	41.8	60.4
	Maros				10.7	17.4	16.9	27.3	22.2	14.7	16.8	15.6	17.3	8.00	25.1	5.26
	Jembrana															15.3
	Lombok															20.0
Japan	Rishiri	12.1	18.2	13.8	12.1	18.3	15.4	17.4	15.7	15.7	10.6	11.8	13.3	17.5	20.9	12.2
	Ochiishi	7.65	11.3	8.29	6.16	8.57	10.3	7.83	8.54	9.36	7.29	9.54	6.40	5.71	7.92	6.68
	Tappi	22.5	21.7	22.8	18.5	18.0	27.2	22.7	20.4	27.0	28.8	15.9	21.5	22.0	20.1	
	Sado-seki	21.3	23.9	30.0	24.4	17.2	24.8	27.3	26.0	30.6	27.1	18.0	18.7	23.5	22.2	17.4
	Happo	28.6	22.7	22.9	18.2	20.1	17.1	25.1	23.3	22.1	19.1	15.2	14.2	18.6	17.9	20.0
	Ijira	61.9	68.5	49.4	54.3	52.9	57.9	46.4	47.7	40.2	44.7	52.5	51.6	44.9	38.6	37.9
	Okii	28.7	25.4	27.6	21.5	22.7	35.2	32.6	28.0	33.7	21.4	16.1	24.9	20.8	22.0	20.9
	Banryu	32.8	38.3	37.1	31.2	34.8	33.2	27.9	33.6	32.8	32.9	26.3	32.8	32.6	22.6	
	Yusuhara	21.8	23.9	17.1	19.7	16.2	19.1	19.6	26.1	17.5	17.2	23.0	19.1	68.2	17.6	17.5
	Hedo	19.6	15.1	17.3	13.5	12.7	16.9	13.6	20.3	13.8	16.8	12.4	13.5	14.2	13.1	17.0
	Ogasawara	6.58	7.57	7.64	6.27	5.67	5.70	3.80	4.53	4.83	4.76	3.82	4.47	4.65	2.00	4.25
	Tokyo			21.0	45.5	31.3	25.4	30.1	30.7	25.9	30.4	26.7	19.0	17.9	20.0	20.9
	Niigata-maki															25.7
	Tsushima															16.6
Lao PDR	Vientiane	***	4.92	9.65	9.95	1.76	***	***	7.34	***	***	3.79	2.90	*	*	*
Malaysia	Petaling Jaya	102	120	80.5	135	138	174	190	150	119	133	164	151	90.1	140	***
	Tanah Rata	17.4	14.9	12.4	17.8	16.0	10.8	7.29	10.8	10.5	13.9	20.5	14.1	23.8	15.2	***
	Danum Valley	3.14	4.24	2.02	4.11	5.61	3.36	3.99	2.83	6.32	2.10	3.81	2.65	0.545	2.35	***
	Kuching				21.3	21.2	22.8	23.1	14.5	18.6	19.4	16.0	23.5	17.8	20.0	***
Mongolia	Ulaanbaatar	2.83	3.50	3.27	3.12	4.35	3.26	2.75	***	4.76	***	5.20	5.87	4.86	4.16	1.92
	Terelj	2.89	3.32	3.39	3.77	2.33	3.58	2.59	***	2.89	***	2.41	5.20	4.58	3.81	***
Myanmar	Yangon			***	***	21.8	11.3	19.8	21.4	18.1	13.8	20.1	32.5	51.4	29.3	65.5
Philippines	Metro Manila	51.1	33.1	49.4	50.2	32.8	135	52.7	81.4	49.0	42.0	33.5	91.8	***	***	31.0
	Los Baños	16.2	18.1	19.4	15.1	23.2	64.9	19.9	25.0	18.7	17.0	13.7	67.7	***	***	***
	Mt.Sto. Tomas		0.804	18.5	19.9	18.6	15.5	11.8	34.9	37.2	18.5	21.3	25.5	***	***	***
Republic of Korea	Kanghwa	36.5	36.1	34.5	48.0	23.9	49.8	40.9	27.2	38.8	15.7	29.7	24.7	24.6	17.9	16.0
	Cheju	19.2	28.8	18.7	22.3	19.3	22.7	30.0	23.1	19.3	21.8	31.4	35.6	28.4	21.2	31.0
	Imsil	32.9	19.6	24.4	19.3	23.9	47.6	41.3	36.7	32.0	30.8	24.3	19.0	26.5	24.6	25.1
Russia	Mondy	1.44	2.09	2.99	1.54	0.938	0.732	0.316	0.841	1.66	0.573	0.718	1.28	1.86	1.92	1.40
	Listvyanka	5.34	4.54	8.33	6.02	5.10	6.59	14.6	6.64	4.37	3.68	5.18	4.73	6.08	3.99	6.88
	Irkutsk	7.25	5.89	8.76	9.02	7.23	8.36	6.81	8.09	4.52	4.77	6.02	6.46	7.22	5.82	6.53
	Primorskaya	15.9	18.2	18.9	18.3	16.1	14.7	23.5	21.6	13.4	4.93	29.4	20.6	22.3	27.0	18.6
Thailand	Bangkok	46.6	52.4	44.1	55.4	58.2	54.1	44.7	49.7	17.2	15.5	25.7	51.8	32.2	43.4	18.0
	Samutprakarn	29.1	20.0	31.0	30.2	39.7	28.9	20.6	11.9	5.65	12.9	14.4	33.2	28.5	27.5	17.8
	Pathumthani	24.8	35.4	31.4	35.9	21.8	36.0	30.0	29.3	22.0	15.6	31.2	28.1	38.8	24.2	22.6
	Khanchanaburi	5.11	15.5	5.01	9.85	9.10	6.11	14.1	16.4	2.90	4.58	4.68	5.22	5.83	4.00	2.09
	Mae Hia	12.0	11.2	7.47	11.7	8.88	8.52	11.7	8.78	14.2	6.19	6.24	9.59	12.5	7.25	11.2
	Sakaerat		13.5	15.7	19.8	16.0	23.7	15.0	12.6	15.0	10.5	17.8	14.6	17.9	15.4	15.2
Vietnam	Hanoi	54.3	30.6	25.8	22.1	26.7	25.7	39.5	45.3	51.2	50.9	44.7	47.3	72.1	88.0	100
	Hoa Binh	29.5	25.0	20.4	20.2	17.5	21.3	25.4	29.5	37.7	32.8	36.0	35.7	42.1	45.9	37.3
	Cuc Phuong					24.6	38.4	51.5	40.5	31.6	17.4	19.6	22.1	31.4	23.2	33.4
	Da Nang					33.7	11.9	57.5	8.06	12.5	11.7	0.941	7.58	12.1	1.12	4.03
	Can Tho										15.4	25.8	5.52	7.30	8.01	39.7
	Ho Chi Minh										34.2	25.5	18.9	37.2	12.2	41.4
	Yen Bai											27.0	73.2	58.6	54.0	63.0

Terms and abbreviations are given in Table 3.5.

Table 3.90 Annual Cl⁻ deposition amount from 2005 to 2019unit: mmol m⁻² y⁻¹

Country	Name of sites	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Cambodia	Phnom Penh	8.12	5.88	17.4	15.9	13.6	9.12	7.52	10.8	10.1	14.2	9.94	8.23	8.40	***	***
China	Guanyinqiao	19.7	16.2	17.9												
	Haifu				13.9	11.7	15.8	11.6	11.5	13.1	15.7	9.48	10.6	9.49	9.93	8.35
	Jinyunshan	22.6	16.2	14.3	18.6	17.7	15.7	10.1	11.7	8.13	8.50	6.56	5.78	6.77	4.18	5.10
	Shizhan	17.5	17.3	21.0	12.9	15.5	10.5	7.07	6.28	22.4	13.1	10.6	5.96	5.15	10.4	6.20
	Weishuiyuan	16.0	16.1													
	Jiwozi	13.9	7.77	4.41	14.8	17.5	16.9	10.8	12.2	22.0	13.1	6.35	0.290	8.49	7.94	13.9
	Hongwen	112	98.0	52.6	29.5	23.8	23.0	21.5	22.1	27.1	32.3	26.1	55.3	38.6	61.3	74.3
	Xiaoping	34.9	52.4	15.2	37.1	22.8	21.1	26.1	18.8	25.7	18.8	28.8	19.7	14.5	18.9	10.2
	Xiang Zhou	77.6	68.1	44.5	98.1	90.2	41.6	37.5	65.8	112	39.8	86.1	55.3	116	152	48.5
	Zhuxiandong	55.9	25.9	***	105	81.2	40.2	21.5	***	***	***	116	78.9	53.3	214	60.5
	Wuzhishan															11.1
	Lijiang															1.72
Indonesia	Jakarta	88.4	23.0	40.7	19.6	18.7	32.7	19.2	35.3	45.1	91.1	48.0	61.6	16.2	36.1	22.3
	Serpong	16.3	17.4	28.8	40.3	23.6	31.9	12.5	21.6	52.8	73.3	39.4	46.8	52.6	50.2	65.7
	Kototabang	15.6	9.74	38.2	9.62	28.4	23.5	30.5	25.7	57.8	26.4	20.7	72.3	15.3	14.1	12.6
	Bandung	25.5	18.6	14.8	19.4	31.6	22.4	18.9	22.1	36.5	29.8	19.1	26.0	28.7	24.0	36.3
	Maros				60.9	49.7	56.2	58.4	48.9	146	99.9	17.1	304	262	51.8	35.5
	Jembrana															49.8
	Lombok															37.9
Japan	Rishiri	224	163	142	222	203	197	192	389	260	190	175	104	219	211	149
	Ochiishi	191	316	189	142	323	288	147	267	514	93.8	166	184	216	99.6	64.6
	Tappi	310	314	276	186	290	192	191	191	309	210	315	238	242	305	
	Sado-seki	385	324	298	241	377	481	252	380	559	447	318	199	214	237	240
	Happo	26.1	15.6	10.1	9.21	15.6	13.1	13.6	23.3	13.0	15.2	15.7	15.7	19.3	18.1	11.0
	Ijira	43.3	40.8	56.1	42.5	47.4	62.4	52.8	70.2	53.2	59.8	62.3	48.0	51.7	66.9	43.6
	Okii	914	353	362	412	489	684	847	532	807	649	502	583	551	619	207
	Banryu	142	149	114	105	197	157	179	125	164	155	157	168	147	108	
	Yusuhara	69.4	44.4	38.5	22.0	28.8	27.3	49.8	66.5	33.4	24.5	83.4	27.4	157	66.8	51.7
	Hedo	869	404	394	270	278	751	410	1407	424	383	648	429	696	490	391
	Ogasawara	235	188	241	165	379	391	313	210	210	236	587	122	344	50.7	379
	Tokyo			44.4	44.0	48.0	32.1	63.8	58.5	44.5	41.8	36.4	27.6	60.8	51.5	108
	Niigata-maki															320
	Tsushima															85.5
Lao PDR	Vientiane	***	3.38	10.4	12.4	1.12	***	***	5.89	***	***	4.58	3.76	*	*	*
Malaysia	Petaling Jaya	25.0	27.8	17.2	28.1	23.4	32.6	30.2	27.2	27.3	33.0	38.7	35.3	31.3	37.5	***
	Tanah Rata	7.61	5.85	5.05	5.78	6.96	4.67	9.70	9.07	8.19	10.1	10.1	7.82	10.1	10.7	***
	Danum Valley	7.54	21.5	14.6	18.3	23.0	40.5	21.6	12.3	24.1	18.5	15.1	14.6	13.6	18.1	***
	Kuching				27.2	39.3	37.3	53.2	25.7	36.2	40.4	64.1	81.8	44.0	41.3	***
Mongolia	Ulaanbaatar	1.17	1.46	1.18	1.56	2.20	1.30	1.22	***	0.628	***	0.774	0.740	0.569	0.752	0.452
	Terelj	2.44	1.99	1.91	1.90	1.10	1.37	1.41	***	0.630	***	0.793	1.03	0.913	0.860	***
Myanmar	Yangon			***	***	75.3	30.0	49.6	68.3	72.9	56.0	83.6	68.2	99.1	64.1	61.6
Philippines	Metro Manila	33.7	62.3	97.8	68.4	92.9	55.2	109	90.1	101	68.6	68.2	79.0	***	***	55.1
	Los Baños	29.7	46.7	75.5	35.5	72.6	52.3	62.5	45.4	61.7	38.0	143	44.3	***	***	***
	Mt.Sto.Tomas		0.677	24.9	26.6	39.3	18.3	20.3	37.2	31.2	15.3	47.6	24.1	***	***	***
Republic of Korea	Kanghwa	45.5	39.2	50.9	70.5	76.2	68.9	71.6	50.5	32.6	26.3	95.0	41.9	32.8	26.6	108
	Cheju	73.1	116	130	114	66.1	114	158	545	219	148	159	498	200	303	60.4
	Imsil	54.9	54.9	30.1	31.2	55.5	72.9	37.9	124	27.8	33.8	33.7	25.1	24.4	32.4	31.2
Russia	Mondy	1.69	1.83	1.38	0.869	0.391	0.306	0.388	0.626	1.22	0.440	0.501	0.369	1.01	0.864	0.355
	Listvyanka	2.43	1.09	1.75	2.00	0.942	1.12	3.17	1.13	1.62	1.02	1.82	0.975	1.30	0.658	1.80
	Irkutsk	5.47	4.48	6.30	8.39	10.7	8.95	7.23	6.69	5.30	3.82	6.96	4.76	5.13	4.43	4.27
	Primorskaya	16.0	11.2	18.3	14.2	12.7	19.8	41.9	27.5	30.9	16.1	29.4	30.9	23.6	22.0	30.4
Thailand	Bangkok	24.7	17.1	13.0	20.1	15.9	18.9	17.3	15.0	9.63	9.32	11.7	18.1	13.0	16.5	7.46
	Samutprakarn	30.9	17.7	21.0	22.1	16.8	30.4	16.0	9.45	10.2	11.2	13.9	17.0	15.1	16.0	10.3
	Pathumthani	9.04	11.0	9.17	11.0	8.18	10.2	10.6	24.9	8.08	8.34	10.7	9.24	10.2	9.23	7.74
	Khanchanaburi	15.9	15.9	11.3	20.1	17.6	5.37	17.2	27.8	4.34	6.75	6.22	9.58	6.97	7.55	4.48
	Mae Hia	6.01	5.29	5.48	5.90	5.16	4.17	4.65	4.59	8.51	2.84	2.89	5.49	7.07	5.89	5.70
	Sakaerat		6.56	7.08	10.2	5.81	7.82	7.24	7.17	9.14	4.76	9.68	7.12	6.90	5.74	6.00
Vietnam	Hanoi	47.9	19.2	19.5	19.8	15.5	13.4	15.6	11.8	19.3	17.2	18.8	18.9	30.3	43.7	32.5
	Hoa Binh	30.9	9.99	12.3	8.35	7.30	8.70	7.58	8.91	12.4	5.53	8.49	11.4	27.6	27.5	14.2
	Cuc Phuong					100	40.2	28.7	41.0	47.9	19.8	31.1	33.1	79.6	76.1	60.9
	Da Nang					325	85.2	340	140	403	206	138	191	182	254	359
	Can Tho										50.4	90.8	60.3	55.6	79.4	56.6
	Ho Chi Minh										85.8	73.9	95.2	164	89.9	83.6
	Yen Bai											11.3	25.9	41.4	23.2	22.3

Terms and abbreviations are given in Table 3.5.

Table 3.91 Annual NH₄⁺ deposition amount from 2005 to 2019

unit: mmol m⁻²y⁻¹

Country	Name of sites	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Cambodia	Phnom Penh	21.3	17.0	27.0	21.6	17.3	41.9	28.0	34.9	18.1	21.7	19.9	24.9	30.7	***	***
China	Guanyinqiao	169	151	181												
	Haifu				149	112	137	117	118	145	164	116	125	117	115	112
	Jinyunshan	154	145	124	120	121	121	98.8	125	102	105	80.6	80.1	76.1	74.2	73.2
	Shizhan	39.3	80.7	109	63.3	99.7	85.6	40.0	42.7	105	106	115	49.0	85.0	59.8	63.3
	Weishuiyuan	28.2	75.4													
	Jiwozi	13.7	11.4	1.12	13.8	32.7	20.0	22.5	10.4	36.0	18.6	29.4	1.06	0.544	8.50	19.9
	Hongwen	60.2	62.0	51.8	32.8	34.4	60.9	35.7	39.9	25.7	29.1	29.6	65.9	18.2	24.4	29.1
	Xiaoping	94.0	50.5	55.0	65.9	52.0	65.1	59.6	39.2	50.0	53.0	58.8	45.5	20.0	19.8	20.1
	Xiang Zhou	121	86.6	28.0	55.0	44.4	45.4	26.1	44.2	42.9	39.9	27.3	69.4	46.6	50.0	45.1
	Zhuxiandong	27.8	24.3	***	42.9	40.5	42.1	28.4	***	***	***	38.9	99.8	46.7	49.8	48.4
	Wuzhishan															22.0
	Lijiang															5.58
Indonesia	Jakarta	26.4	25.7	52.6	43.6	27.6	48.8	33.4	62.9	40.0	55.7	53.2	74.1	31.4	81.9	44.3
	Serpong	36.8	64.6	89.2	112	57.7	74.6	51.6	63.6	193	189	112	163	161	147	148
	Kototabang	20.7	12.3	50.5	18.7	7.15	6.72	21.9	22.4	14.7	30.2	476.4	10.7	13.6	21.4	16.6
	Bandung	62.6	61.0	94.3	104	130	83.7	93.0	112	111	113	114	157	120	108	124
	Maros				26.9	41.2	27.0	33.8	34.5	27.2	19.9	51.4	106	12.0	36.5	4.33
	Jembrana															26.7
	Lombok															27.0
Japan	Rishiri	18.1	22.6	22.9	19.5	18.7	16.8	17.3	13.3	15.1	12.9	14.5	13.5	20.9	24.2	13.6
	Ochiishi	6.17	15.6	6.79	4.71	13.3	11.6	8.98	10.7	10.3	9.05	9.45	5.70	5.24	7.40	6.26
	Tappi	19.6	18.2	18.7	15.0	14.0	23.3	19.4	16.3	20.4	27.2	14.5	18.8	17.9	16.9	
	Sado-seki	20.9	21.0	29.3	22.2	12.9	16.2	20.2	20.1	28.6	25.6	16.7	16.0	15.2	17.2	15.5
	Happo	32.3	24.7	25.8	16.6	22.9	15.4	18.6	21.5	23.8	19.8	17.6	11.7	13.5	15.4	21.2
	Ijira	52.1	64.5	46.8	40.6	52.4	46.9	43.4	42.2	36.6	40.8	42.3	45.1	36.4	34.0	35.2
	Okie	20.8	17.8	18.3	17.4	19.1	25.8	28.6	22.0	24.4	14.7	10.2	21.9	17.6	15.8	16.9
	Banryu	28.1	29.1	28.4	24.3	28.3	31.8	22.5	25.9	27.9	26.2	21.8	27.4	24.0	16.0	
	Yusuhara	20.6	23.8	17.7	16.5	17.1	16.3	16.4	23.0	17.8	17.3	12.3	16.6	56.9	12.7	16.7
	Hedo	23.6	15.9	20.2	12.0	12.7	24.6	16.1	53.5	16.0	20.2	19.4	14.7	11.4	8.39	12.6
	Ogasawara	7.10	7.27	12.1	5.74	8.07	9.82	5.88	8.14	7.64	5.94	4.19	5.59	3.80	1.94	4.61
	Tokyo			29.9	55.6	45.3	31.8	35.3	39.8	36.9	41.8	33.0	27.7	23.3	28.1	28.8
	Niigata-maki															24.8
	Tsushima															21.2
Lao PDR	Vientiane	***	5.47	15.3	14.0	3.13	***	***	***	***	***	7.17	5.35	*	*	*
Malaysia	Petaling Jaya	57.3	93.3	57.7	77.9	22.5	16.2	17.5	4.40	57.8	102	95.5	44.6	53.3	76.0	***
	Tanah Rata	8.13	9.84	11.6	12.2	16.7	9.92	47.2	16.1	6.69	9.97	20.2	8.31	9.45	5.33	***
	Danum Valley	2.55	6.15	3.95	29.3	11.7	11.6	7.19	1.90	2.48	2.60	8.53	0.827	0.590	4.34	***
	Kuching				19.7	23.1	9.03	23.3	23.4	11.8	34.3	24.3	13.9	13.3	19.9	***
Mongolia	Ulaanbaatar	8.18	10.1	11.0	8.26	10.6	8.35	7.50	***	9.58	***	***	6.50	7.81	9.78	2.53
	Terej	8.87	11.7	7.19	10.5	4.54	4.53	5.66	***	0.487	***	***	6.41	4.40	4.62	***
Myanmar	Yangon			***	***	48.9	33.3	46.9	45.6	45.8	47.6	54.3	37.4	38.2	57.4	50.3
Philippines	Metro Manila	71.0	109	118	148	79.7	142	667	1218	145	162	215	283	***	***	67.6
	Los Baños	24.7	36.2	52.1	37.1	33.9	79.1	70.1	142	53.3	116	85.6	149	***	***	***
	Mt.Sto. Tomas		0.293	29.4	53.3	66.7	16.8	3.79	19.6	20.7	49.0	58.4	34.5	***	***	***
Republic of Korea	Kanghwa	53.8	57.9	51.5	54.8	38.6	41.6	63.8	36.9	70.5	25.7	58.3	48.6	49.6	24.2	21.2
	Cheju	21.6	29.5	35.9	22.1	47.0	26.8	30.2	40.1	22.9	30.4	40.9	45.2	27.3	26.6	35.9
	Imsil	40.5	35.5	53.7	25.5	37.6	51.2	56.3	55.4	49.4	36.7	36.4	30.2	39.2	31.4	39.1
Russia	Mondy	2.79	1.52	10.6	2.03	2.40	1.58	0.672	2.00	0.894	0.444	1.84	1.10	1.99	3.03	1.73
	Listvyanka	7.50	4.82	6.35	7.40	4.18	5.99	8.22	9.17	2.74	3.83	12.3	4.56	6.50	3.11	8.06
	Irkutsk	15.6	8.89	16.2	18.1	15.7	12.9	10.8	15.1	8.15	9.28	21.3	10.7	10.3	9.29	12.0
	Primorskaya	30.7	31.0	29.2	28.0	24.9	28.8	33.6	24.9	28.6	27.2	29.8	21.0	29.7	33.8	21.0
Thailand	Bangkok	87.1	89.0	91.3	95.5	134	76.5	87.3	79.4	61.6	52.9	96.7	104	87.0	60.5	22.4
	Samutprakarn	60.8	70.8	88.1	97.8	81.5	52.9	58.5	32.5	42.1	48.2	66.3	78.4	88.1	58.9	28.4
	Pathumthani	39.6	53.9	47.5	49.6	43.3	49.4	59.5	59.2	53.1	37.4	48.6	56.7	56.3	47.0	39.7
	Khanchanaburi	10.1	44.1	23.7	19.8	52.1	14.5	25.2	21.4	10.2	13.7	11.7	17.2	16.6	6.29	2.94
	Mae Hia	30.1	21.6	17.7	25.6	21.2	22.5	21.9	21.8	27.7	14.1	13.1	21.8	32.3	12.3	25.0
	Sakaerat		27.5	25.4	36.4	28.8	40.0	36.7	29.0	34.4	18.0	43.3	36.8	39.4	71.5	78.6
Vietnam	Hanoi	174	56.2	80.1	69.4	81.4	64.8	95.9	108	104	113	82.6	102	109	108	38.6
	Hoa Binh	68.5	42.7	41.4	33.8	42.6	38.8	48.9	57.4	50.7	59.5	62.0	81.8	37.8	81.1	18.3
	Cuc Phuong					14.3	16.4	35.5	48.3	48.5	34.9	43.8	38.9	19.5	13.6	31.0
	Da Nang					40.0	14.6	78.3	35.8	57.0	32.2	16.5	14.8	46.8	36.6	89.4
	Can Tho										33.7	46.9	38.0	41.0	32.0	41.8
	Ho Chi Minh										46.6	41.8	73.6	132	51.3	51.5
	Yen Bai											46.1	166	80.5	72.8	29.0

Terms and abbreviations are given in Table 3.5.

Table 3.92 Annual Na⁺ deposition amount from 2005 to 2019unit: mmol m⁻² y⁻¹

Country	Name of sites	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Cambodia	Phnom Penh	***	1.75	11.3	18.8	9.22	5.74	4.54	5.90	4.16	11.9	6.92	5.40	6.14	***	***
China	Guanyinqiao	8.99	6.66	7.69												
	Haifu				7.06	4.48	7.38	7.99	6.10	7.48	9.01	4.40	7.85	5.38	5.56	4.90
	Jinyunshan	22.3	7.95	10.2	12.5	8.45	8.00	5.19	6.32	4.41	6.70	2.87	3.10	3.74	1.69	2.08
	Shizhan	8.18	21.8	8.22	9.41	7.91	3.35	11.7	2.20	60.9	78.1	67.3	22.2	16.6	9.72	5.62
	Weishuiyuan	9.01	21.1													
	Jiwozi	21.6	15.4	8.58	35.5	15.8	7.47	7.63	17.3	72.8	70.9	41.3	3.09	17.1	13.4	51.3
	Hongwen	87.4	65.6	32.4	21.7	18.1	29.6	15.2	15.0	20.1	22.3	18.8	48.2	19.2	23.4	5.12
	Xiaoping	28.3	54.5	13.0	44.9	18.5	28.6	16.6	10.9	23.9	12.0	17.0	12.1	4.64	5.50	1.46
	Xiang Zhou	52.0	54.3	27.9	97.5	80.7	36.8	40.7	69.7	131	51.4	75.7	52.8	99.5	139	40.4
	Zhuxiandong	64.7	20.0	***	94.1	71.5	37.0	51.5	***	***	***	107	80.4	47.7	188	50.5
	Wuzhishan															13.0
	Lijiang															4.40
Indonesia	Jakarta	49.4	19.3	34.4	17.1	14.5	16.8	11.6	34.5	37.7	67.8	5.65	41.5	12.8	28.5	14.1
	Serpong	13.2	12.0	23.7	24.8	13.7	11.9	8.36	9.71	32.5	54.1	25.9	42.1	38.7	37.4	37.5
	Kototabang	12.5	7.75	24.0	13.2	16.3	12.4	14.3	25.4	18.0	14.2	1.95	45.7	8.43	9.88	10.1
	Bandung	20.9	24.0	13.1	20.1	31.6	25.4	18.7	22.5	31.9	26.3	17.3	30.3	35.9	40.4	75.7
	Maros				47.5	43.0	35.3	54.1	48.8	77.7	80.5	9.10	233	240	45.2	31.1
	Jembrana															31.6
	Lombok															36.6
Japan	Rishiri	195	142	126	204	185	173	171	343	234	168	153	90.6	194	185	130
	Ochiishi	171	277	161	125	287	252	126	239	446	81.5	147	158	183	87.2	56.0
	Tappi	270	278	247	162	266	177	171	166	275	187	264	206	213	263	
	Sado-seki	332	283	264	219	333	437	213	319	517	397	283	175	189	211	211
	Happo	21.1	11.4	7.29	6.77	12.1	9.86	10.3	19.2	10.8	13.0	13.1	11.8	15.5	14.9	8.80
	Ijira	34.9	30.7	47.1	34.5	39.0	50.0	42.3	55.2	41.3	47.5	49.6	39.1	42.7	54.4	36.3
	Okii	791	315	319	360	422	594	737	462	705	574	437	505	482	530	178
	Banryu	119	130	100	91.6	171	139	155	111	140	132	133	150	129	94.3	
	Yusuhara	58.5	37.5	32.1	18.8	24.9	21.8	41.8	55.1	24.6	18.3	69.8	21.9	126	58.3	42.7
	Hedo	800	351	349	243	250	670	360	1186	366	335	552	365	597	421	333
	Ogasawara	199	163	209	144	315	386	262	179	178	201	486	105	298	44.8	333
	Tokyo			37.3	36.2	40.7	28.7	52.3	48.2	36.7	34.2	29.6	23.2	51.5	44.7	94.7
	Niigata-maki															269
	Tsushima															73.8
Lao PDR	Vientiane	***	5.04	3.32	4.86	1.66	***	***	***	***	***	2.56	1.08	*	*	*
Malaysia	Petaling Jaya	18.9	17.1	10.9	15.8	13.6	17.6	16.5	13.1	15.3	18.7	23.3	21.1	18.9	20.5	***
	Tanah Rata	19.2	3.93	4.57	4.73	4.87	3.15	6.56	4.29	6.02	8.17	7.36	6.44	7.45	6.46	***
	Danum Valley	5.59	16.9	12.4	9.65	19.8	32.7	20.9	8.49	16.5	15.4	10.9	9.87	7.47	12.8	***
	Kuching				23.1	34.3	31.0	42.1	19.8	31.0	33.8	56.9	71.7	35.5	32.3	***
Mongolia	Ulaanbaatar	1.08	1.58	0.660	0.556	1.11	0.535	0.924	***	12.1	***	***	27.6	3.50	7.07	3.72
	Terelj	2.83	2.68	1.74	1.13	0.843	1.44	0.873	***	1.54	***	***	21.9	1.42	7.38	***
Myanmar	Yangon			***	***	55.7	29.3	47.2	56.7	42.6	49.6	21.3	34.3	42.2	64.3	54.2
Philippines	Metro Manila	37.9	46.3	70.8	58.7	76.5	59.7	78.2	74.6	98.3	64.4	58.5	43.7	***	***	42.7
	Los Baños	28.3	50.5	54.4	36.2	50.5	46.9	46.3	46.7	54.5	32.0	27.4	39.3	***	***	***
	Mt.Sto.Tomas		1.21	19.2	25.9	39.1	22.7	19.9	58.9	29.4	23.0	53.2	65.7	***	***	***
Republic of Korea	Kanghwa	27.3	31.5	39.1	60.8	57.1	42.4	52.8	37.9	26.6	18.4	26.5	23.8	16.3	19.1	90.3
	Cheju	59.3	95.8	126	112	55.7	103	163	449	184	139	147	442	187	273	73.8
	Imsil	27.0	22.0	20.2	27.3	53.7	79.2	55.9	72.6	36.9	32.8	33.9	28.4	27.5	45.1	41.8
Russia	Mondy	0.436	0.643	1.10	0.379	0.270	0.253	0.283	0.455	0.449	0.277	0.219	0.306	0.493	0.764	0.350
	Listvyanka	1.36	0.870	1.05	0.972	1.19	1.18	2.59	1.44	1.86	1.34	0.989	0.883	1.03	0.677	1.32
	Irkutsk	3.04	3.58	4.75	5.29	8.06	6.91	5.52	4.41	3.55	3.35	3.71	3.57	4.01	3.89	2.69
	Primorskaya	16.0	10.5	19.6	12.7	11.0	16.1	8.48	21.3	18.4	10.1	28.7	23.3	16.5	22.4	17.6
Thailand	Bangkok	25.6	13.8	11.2	17.3	20.3	17.8	14.0	10.9	16.0	9.26	12.7	17.9	9.28	13.0	5.56
	Samutprakarn	32.2	20.8	22.8	26.8	19.9	35.0	12.0	7.51	28.2	12.5	13.5	16.1	12.9	14.6	8.68
	Pathumthani	8.32	12.0	7.97	9.95	7.34	13.1	9.16	22.0	7.04	5.62	7.42	6.85	6.60	6.74	5.28
	Khanchanaburi	13.7	17.3	12.0	18.1	19.0	5.05	14.5	23.2	8.19	6.28	6.46	11.0	5.54	8.12	3.55
	Mae Hia	1.31	5.02	2.75	3.35	2.83	3.17	5.17	4.22	8.07	1.93	3.34	5.21	7.58	6.45	6.17
	Sakaerat		5.30	6.17	7.24	3.44	5.22	6.10	4.18	4.27	3.78	6.36	4.36	3.53	12.5	11.0
Vietnam	Hanoi	31.2	16.6	13.6	21.7	14.8	9.00	11.2	7.54	15.0	12.0	11.5	18.9	33.9	21.2	34.1
	Hoa Binh	17.0	6.94	6.23	6.08	4.60	6.65	4.32	5.81	8.29	4.12	6.14	6.33	7.56	7.80	18.6
	Cuc Phuong					25.5	19.8	25.2	40.4	50.7	18.2	12.8	24.6	39.3	33.9	36.7
	Da Nang					281	69.9	255	106	333	182	151	179	182	177	231
	Can Tho										28.4	64.8	21.0	18.3	25.4	42.8
	Ho Chi Minh										47.9	49.1	34.4	59.8	35.1	46.1
	Yen Bai											8.18	16.3	8.81	6.81	18.7

Terms and abbreviations are given in Table 3.5.

Table 3.93 Annual K⁺ deposition amount from 2005 to 2019unit: mmol m⁻² y⁻¹

Country	Name of sites	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Cambodia	Phnom Penh	***	1.41	5.00	19.0	1.98	1.59	1.47	1.23	1.42	4.20	2.18	2.70	1.68	***	***
China	Guanyinqiao	13.4	10.6	11.4												
	Haifu				11.6	8.23	9.78	7.60	6.64	13.1	13.2	7.30	5.91	5.84	6.94	4.22
	Jinyunshan	16.6	13.6	11.1	11.6	9.56	10.2	8.80	7.69	6.19	6.59	4.38	4.10	4.56	2.57	3.32
	Shizhan	7.85	8.67	10.2	5.11	6.03	14.9	8.83	2.23	12.4	156	3.16	1.56	2.65	5.13	3.49
	Weishuiyuan	5.52	10.6													
	Jiwozi	10.0	4.88	2.80	12.7	8.58	5.64	7.07	3.80	6.64	9.33	2.96	1.69	6.59	10.6	37.3
	Hongwen	8.65	7.14	5.03	2.00	1.66	3.42	1.68	2.64	2.67	1.60	6.08	9.45	18.8	37.0	14.7
	Xiaoping	8.06	31.7	7.63	20.3	2.64	2.94	4.29	4.48	3.29	1.98	13.1	10.3	8.37	12.1	2.54
	Xiang Zhou	3.13	12.5	11.9	4.65	4.23	4.10	4.71	14.0	20.0	11.5	6.31	8.63	4.87	6.30	2.97
	Zhuxiandong	5.95	2.32	***	10.4	4.04	6.10	6.78	***	***	***	13.3	13.7	4.08	9.80	3.93
	Wuzhishan															4.29
	Lijiang															0.778
Indonesia	Jakarta	12.2	11.9	24.3	6.03	3.46	4.72	2.26	7.79	6.61	11.5	35.2	20.7	3.10	4.83	2.08
	Serpong	5.09	7.14	5.56	5.24	2.36	4.57	2.61	3.87	11.4	16.3	13.8	14.2	12.1	12.8	26.2
	Kototabang	9.57	5.69	23.3	8.42	24.8	10.5	8.69	14.6	40.9	25.8	12387	24.9	4.54	5.98	6.13
	Bandung	8.15	6.31	4.01	5.38	11.0	11.0	7.30	7.01	18.7	11.4	7.11	7.79	8.10	9.42	7.85
	Maros				17.5	12.6	6.71	6.74	8.57	7.41	52.7	4427	29.7	14.4	7.44	4.98
	Jembrana															6.05
	Lombok															5.26
Japan	Rishiri	4.89	4.85	3.65	5.44	4.54	4.59	4.24	7.51	5.40	4.23	3.95	2.69	5.63	5.25	3.74
	Ochiishi	4.34	7.64	3.97	2.78	6.47	6.68	3.02	5.89	9.91	2.14	4.00	3.91	4.48	2.09	1.40
	Tappi	6.19	6.86	5.97	4.42	6.62	5.45	4.96	4.66	6.65	4.74	6.20	5.46	5.33	6.38	
	Sado-seki	7.60	7.20	6.84	7.31	8.26	11.1	6.18	8.58	12.1	10.6	8.40	7.54	5.95	5.23	5.57
	Happo	2.14	1.42	1.41	0.962	1.58	0.934	1.38	1.73	1.54	1.83	1.53	1.12	1.17	1.17	1.39
	Ijira	2.39	2.77	2.60	1.43	1.95	1.64	1.64	1.74	1.60	1.86	2.19	1.57	1.68	1.72	1.45
	Okii	20.4	9.16	10.6	13.2	11.3	14.7	19.5	11.9	17.8	13.8	10.5	12.2	11.5	12.9	4.67
	Banryu	4.76	4.37	3.89	3.22	5.20	7.98	4.85	3.93	4.71	4.02	3.70	4.17	3.54	2.76	
	Yusuhara	2.27	2.15	1.51	0.928	1.59	1.52	1.58	3.25	0.962	2.47	2.31	1.39	4.74	2.67	2.46
	Hedo	20.2	8.77	8.95	6.23	6.49	16.4	8.73	30.2	8.82	8.08	12.8	8.22	13.0	9.26	7.78
	Ogasawara	4.68	4.01	4.97	4.36	7.61	9.32	6.42	4.26	4.60	4.79	12.8	2.56	6.84	1.06	8.23
	Tokyo			1.51	2.12	1.90	1.64	1.79	1.45	1.14	1.13	1.05	0.868	1.42	1.09	2.25
	Niigata-maki															7.31
	Tsushima															2.17
Lao PDR	Vientiane	***	2.49	2.37	2.82	0.168	***	***	***	***	***	1.61	0.683	*	*	*
Malaysia	Petaling Jaya	6.99	6.23	2.97	4.45	4.47	5.26	4.71	4.53	4.07	5.46	6.39	6.27	4.83	7.33	***
	Tanah Rata	2.57	1.74	1.92	1.70	3.05	2.60	6.70	4.78	4.85	4.69	6.35	2.88	5.82	3.54	***
	Danum Valley	1.47	3.05	3.22	7.58	5.39	7.67	6.56	3.59	3.22	6.15	4.83	3.02	3.83	6.58	***
	Kuching				2.77	3.24	3.02	3.95	3.51	2.85	11.9	6.37	6.40	5.48	5.84	***
Mongolia	Ulaanbaatar	0.651	0.968	0.161	0.435	0.577	0.416	0.650	***	0.598	***	***	0.0990	0.207	0.172	0.0677
	Terelj	1.59	1.93	0.703	1.33	0.455	0.703	0.719	***	0.725	***	***	0.754	0.358	0.544	***
Myanmar	Yangon			***	***	19.4	4.71	5.21	17.4	7.17	13.5	32.2	7.30	29.4	12.9	20.8
Philippines	Metro Manila	9.28	34.0	18.9	37.1	15.1	45.6	85.9	117	22.7	25.7	32.7	35.8	***	***	9.78
	Los Baños	3.62	5.53	15.2	5.51	26.3	15.4	16.3	17.1	15.3	17.0	114	24.3	***	***	***
	Mt.Sto.Tomas		0.569	7.73	3.57	9.24	5.09	3.78	5.07	3.30	4.57	9.93	3.93	***	***	***
Republic of Korea	Kanghwa	5.26	5.31	9.51	8.35	11.3	12.2	5.34	4.78	2.94	5.73	62.7	11.2	9.72	3.14	3.97
	Cheju	6.02	6.80	8.94	8.78	10.1	7.98	7.04	18.8	7.65	13.5	20.1	17.0	5.31	6.76	2.27
	Imsil	60.6	29.9	19.2	4.79	11.7	16.8	5.81	66.5	7.72	10.8	6.61	2.84	6.70	2.55	1.46
Russia	Mondy	0.300	0.455	0.867	0.416	0.390	0.237	0.366	0.952	0.759	0.248	0.462	0.233	0.371	0.461	0.179
	Listvyanka	0.520	0.479	0.521	1.32	0.646	0.543	1.16	0.686	1.21	0.868	0.702	0.540	1.15	0.452	1.31
	Irkutsk	1.50	2.73	3.72	4.74	11.4	2.07	1.51	2.21	1.44	1.15	1.31	1.49	1.47	1.35	1.63
	Primorskaya	5.21	3.41	6.11	4.97	3.81	3.93	4.19	4.69	4.01	3.30	9.01	17.6	6.41	8.56	7.07
Thailand	Bangkok	4.34	4.50	2.48	3.61	4.10	5.22	3.95	2.74	2.54	1.40	2.78	2.77	1.97	2.58	2.45
	Samutprakarn	7.99	6.12	5.38	10.6	5.51	31.9	2.33	1.45	5.83	2.30	2.79	3.10	2.48	2.40	1.72
	Pathumthani	1.52	2.67	2.23	2.51	2.12	3.26	3.06	2.57	2.51	1.98	1.97	2.24	2.90	1.78	1.72
	Khanchanaburi	1.40	6.16	1.21	2.26	2.41	1.15	4.30	3.75	1.43	1.19	0.916	1.60	1.69	1.71	0.679
	Mae Hia	1.02	2.41	2.69	3.38	1.55	1.41	2.33	1.40	2.12	0.935	0.924	2.35	3.35	1.55	2.74
	Sakaerat		0.791	1.91	2.13	1.65	1.53	1.81	1.42	1.17	1.12	2.10	1.73	0.866	7.85	6.99
Vietnam	Hanoi	9.19	4.65	4.48	6.28	2.53	3.43	4.12	5.39	5.13	6.23	4.73	6.03	14.7	15.3	10.5
	Hoa Binh	8.29	3.76	4.36	6.40	3.69	3.94	4.23	2.88	14.3	3.61	4.63	3.73	5.46	10.9	2.83
	Cuc Phuong					31.7	9.28	6.14	12.2	16.3	8.04	6.83	11.2	7.63	10.1	8.45
	Da Nang					18.6	5.76	50.9	19.3	41.5	30.5	22.6	9.24	22.1	40.5	38.7
	Can Tho										13.7	15.8	10.1	10.4	16.4	30.0
	Ho Chi Minh										20.3	17.1	16.9	35.7	20.6	24.9
	Yen Bai											6.09	9.03	14.9	6.10	4.12

Terms and abbreviations are given in Table 3.5.

Table 3.94 Annual Ca²⁺ deposition amount from 2005 to 2019unit: mmol m⁻² y⁻¹

Country	Name of sites	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Cambodia	Phnom Penh	***	8.64	26.4	59.9	27.1	15.4	11.9	17.4	12.9	14.8	12.8	18.2	13.4	***	***
China	Guanyinqiao	168	120	97.7												
	Haifu				66.0	46.1	67.6	55.5	58.5	71.2	77.4	52.5	85.4	65.1	48.0	31.5
	Jinyunshan	84.3	118	90.7	82.9	73.2	67.3	55.2	59.5	35.1	38.8	28.0	46.3	65.8	32.0	23.6
	Shizhan	54.4	145	61.3	57.6	81.7	48.1	60.1	50.1	143	57.7	53.2	14.5	39.4	29.1	23.6
	Weishuiyuan	39.9	104													
	Jiwozi	46.7	51.9	34.7	116	58.9	47.0	88.9	79.3	86.2	84.4	25.8	13.6	48.3	30.7	93.9
	Hongwen	63.7	54.4	74.0	13.3	9.71	13.9	11.9	16.1	30.8	28.8	16.6	23.3	15.2	26.0	62.4
	Xiaoping	30.9	24.7	17.4	31.2	10.2	12.7	17.9	25.9	44.9	57.8	14.3	11.8	10.2	6.83	7.54
	Xiang Zhou	8.62	21.6	6.78	15.3	9.87	13.7	22.1	16.3	105	28.5	22.7	25.4	19.1	21.9	16.2
	Zhuxiandong	18.1	15.2	***	31.4	11.7	30.3	21.8	***	***	***	40.2	40.9	25.2	37.4	22.7
	Wuzhishan															15.5
	Lijiang															11.8
Indonesia	Jakarta	36.9	27.9	30.2	7.48	19.6	21.9	11.0	32.6	33.0	47.4	21.0	49.8	22.9	28.2	15.8
	Serpong	9.89	11.5	14.9	18.9	6.95	13.2	9.08	8.31	32.5	37.4	34.9	40.7	38.6	44.9	38.5
	Kototabang	7.42	6.48	13.0	12.1	14.5	11.3	12.9	20.7	20.2	9.82	4.98	8.28	28.4	24.9	66.0
	Bandung	27.7	19.4	18.7	26.4	41.1	35.1	32.0	27.8	45.9	46.4	35.4	41.0	27.7	31.8	33.2
	Maros				25.5	26.3		23.6	39.4	41.9	77.0	41.5	27.2	33.0	46.8	33.8
	Jembrana															12.5
	Lombok															25.3
Japan	Rishiri	7.32	6.90	5.15	7.22	10.6	7.39	6.93	9.89	8.58	5.97	5.75	4.68	7.64	9.19	5.24
	Ochiishi	7.37	10.2	6.03	3.86	8.21	8.95	4.44	6.41	12.2	3.40	5.56	4.86	5.17	3.57	2.38
	Tappi	13.3	12.3	11.7	8.52	8.58	13.3	9.17	9.45	15.0	8.89	8.90	9.10	7.66	10.0	
	Sado-seki	11.6	15.3	13.7	10.5	11.5	17.4	11.5	14.8	16.4	13.4	9.83	11.4	8.41	12.4	8.39
	Happo	12.4	17.3	6.77	4.44	11.0	6.30	7.89	8.29	7.37	5.67	3.82	1.84	5.54	5.86	5.57
	Ijira	7.25	8.17	8.23	4.94	7.89	9.55	6.05	7.16	7.45	5.02	6.26	5.92	6.41	6.92	6.55
	Oki	24.4	15.9	15.8	12.1	16.3	23.3	26.2	15.7	23.8	17.3	12.8	16.2	15.0	17.1	7.60
	Banryu	7.57	18.6	9.37	9.40	9.46	11.8	8.38	8.03	7.92	7.20	7.83	9.45	7.55	5.49	
	Yusuhara	5.55	8.25	4.66	3.71	4.07	4.44	7.71	7.28	5.37	5.64	3.11	3.13	13.5	3.41	4.10
	Hedo	25.1	17.2	13.3	8.19	8.83	21.1	10.7	32.6	11.1	10.4	14.5	9.79	15.7	14.0	9.72
	Ogasawara	5.25	5.68	6.83	4.27	8.71	10.8	7.21	5.44	5.82	6.10	12.9	3.00	7.51	1.23	8.65
	Tokyo			5.38	7.61	5.91	6.59	6.72	6.88	7.00	6.88	5.84	3.99	4.27	4.49	6.58
	Niigata-maki															10.9
	Tsushima															3.31
Lao PDR	Vientiane	***	6.20	4.25	9.62	0.996	***	***	***	***	***	3.68	1.57	*	*	*
Malaysia	Petaling Jaya	17.3	15.2	11.9	14.7	14.8	19.0	14.3	13.5	21.9	22.3	25.1	22.2	13.1	26.8	***
	Tanah Rata	5.28	3.20	3.11	3.03	3.17	2.99	6.84	6.73	8.06	7.75	5.36	5.15	6.80	7.19	***
	Danum Valley	1.70	3.79	1.53	1.06	3.43	9.05	3.36	2.37	4.59	4.02	4.62	2.95	4.38	6.27	***
	Kuching				8.19	8.35	12.1	14.6	13.0	17.2	22.4	19.2	18.9	14.8	16.3	***
Mongolia	Ulaanbaatar	7.49	8.63	5.19	6.66	9.63	5.23	5.54	***	14.7	***	***	4.65	6.68	4.00	1.31
	Terej	3.33	5.32	2.52	3.68	3.97	5.48	2.93	***	6.28	***	***	1.78	1.67	2.29	***
Myanmar	Yangon			***	***	29.1	14.5	21.7	20.0	2.87	40.6	216	12.1	29.5	48.8	41.9
Philippines	Metro Manila	25.2	36.8	36.4	32.7	24.2	34.2	47.0	61.8	40.5	38.2	43.6	51.6	***	***	34.8
	Los Baños	5.82	15.4	16.1	7.10	14.7	41.6	15.2	19.8	15.3	14.5	13.7	20.7	***	***	***
	Mt.Sto. Tomas		2.43	79.0	15.7	27.8	81.8	36.1	80.4	37.7	29.3	41.8	59.5	***	***	***
Republic of Korea	Kanghwa	8.98	17.2	11.0	16.8	6.57	11.0	6.48	6.46	7.83	3.81	5.61	3.22	3.96	2.01	3.54
	Cheju	7.89	10.2	13.2	8.86	4.23	6.74	7.10	13.4	8.64	4.92	6.74	18.1	9.15	6.87	3.61
	Imsil	6.24	10.4	18.4	5.91	4.14	9.42	10.2	6.03	3.59	3.85	3.71	2.26	2.82	1.92	2.92
Russia	Mondy	1.19	2.24	2.42	1.64	0.616	0.830	0.663	1.28	1.52	0.866	1.14	1.20	1.66	1.94	0.928
	Listvyanka	3.72	2.74	3.68	3.19	3.92	4.12	7.72	4.03	3.30	3.56	3.34	2.51	3.86	2.80	3.46
	Irkutsk	9.53	10.7	12.7	15.5	12.6	12.1	11.4	13.9	9.12	10.3	8.88	8.18	11.3	12.3	7.09
	Primorskaya	15.6	15.6	13.8	10.7	10.1	11.3	8.52	11.2	13.0	11.6	15.2	12.1	13.3	15.0	10.6
Thailand	Bangkok	37.4	29.2	21.5	28.7	20.8	22.8	22.9	24.2	33.5	14.6	27.0	26.0	18.0	31.0	18.4
	Samutprakarn	15.7	21.0	20.5	24.0	26.2	14.6	12.5	7.99	22.2	14.5	8.98	16.8	14.4	12.8	9.57
	Pathumthani	10.8	20.6	11.7	19.4	12.1	16.2	18.9	32.2	32.0	23.8	17.8	14.7	16.8	10.5	8.30
	Khanchanaburi	5.01	6.82	5.16	9.00	9.85	2.93	7.84	41.7	4.90	3.98	3.97	5.48	4.28	3.52	2.77
	Mae Hia	5.36	6.72	7.53	8.60	5.98	5.14	4.20	8.64	15.1	5.13	3.07	7.99	10.6	5.74	7.75
	Sakaerat		11.4	5.20	5.78	3.19	3.60	2.83	4.21	2.83	3.73	9.46	8.93	7.78	39.7	63.7
Vietnam	Hanoi	45.9	43.4	30.0	26.7	19.3	29.2	26.6	27.0	31.6	41.2	46.8	37.8	73.2	77.1	103
	Hoa Binh	32.6	27.5	18.2	28.7	12.8	28.9	22.1	21.2	34.0	17.4	16.3	18.9	43.8	38.4	26.9
	Cuc Phuong					56.2	63.3	59.8	61.8	46.2	39.2	28.3	52.4	53.7	45.4	38.0
	Da Nang					18.8	15.0	36.4	28.4	49.7	60.6	65.0	105	76.0	94.8	197
	Can Tho										23.5	59.1	19.8	20.1	37.5	37.4
	Ho Chi Minh										49.7	62.8	30.8	51.0	45.1	60.0
	Yen Bai											24.1	36.9	55.4	38.8	43.6

Terms and abbreviations are given in Table 3.5.

Table 3.95 Annual nss-Ca²⁺ deposition amount from 2005 to 2019unit: mmol m⁻² y⁻¹

Country	Name of sites	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Cambodia	Phnom Penh	***	8.61	26.2	59.5	26.9	15.3	11.8	17.3	12.8	14.5	12.6	18.1	13.3	***	***
China	Guanyinqiao	168	120	97.5												
	Haifu				65.8	46.0	67.5	55.3	58.3	71.1	77.2	52.4	85.2	65.0	47.9	31.4
	Jinyunshan	83.9	117	90.4	82.6	73.0	67.1	55.1	59.4	35.0	38.6	27.9	46.2	65.7	32.0	23.6
	Shizhan	54.3	145	61.2	57.4	81.5	48.0	59.8	50.1	142	56.0	51.8	14.1	39.0	28.9	23.5
	Weishuiyuan	39.8	104													
	Jiwozi	46.2	51.6	34.5	116	58.5	46.9	88.8	78.9	84.6	82.9	24.9	13.5	47.9	30.5	92.8
	Hongwen	61.8	53.0	73.3	12.8	9.32	13.3	11.5	15.8	30.3	28.4	16.2	22.2	14.8	25.4	62.3
	Xiaoping	30.3	23.5	17.1	30.2	9.85	12.1	17.6	25.6	44.4	57.6	13.9	11.6	10.1	6.71	7.51
	Xiang Zhou	7.62	20.4	6.25	13.2	8.13	13.0	21.2	14.8	102	27.4	21.1	24.4	16.9	18.9	15.3
	Zhuxiandong	16.7	14.8	***	29.3	10.2	29.5	20.7	***	***	***	37.9	39.1	24.2	33.3	21.6
	Wuzhishan															15.2
	Lijiang															11.7
Indonesia	Jakarta	35.9	27.5	29.5	7.11	19.2	21.6	10.7	31.9	32.2	46.0	20.8	48.9	22.7	27.6	15.5
	Serpong	9.60	11.3	14.5	18.4	6.76	12.9	8.91	8.10	31.8	36.2	34.3	39.8	37.8	44.1	37.7
	Kototabang	7.15	6.31	12.5	11.8	14.2	11.0	12.6	20.2	19.9	9.51	5.09	7.64	28.2	24.7	65.8
	Bandung	26.9	18.9	18.4	25.9	40.4	34.6	31.6	27.4	45.2	45.9	35.1	40.4	27.0	31.0	31.5
	Maros				24.4	25.3		22.4	38.4	40.3	75.2	41.4	22.8	28.1	45.8	33.1
	Jembrana															11.8
	Lombok															24.5
Japan	Rishiri	3.15	3.87	2.44	2.81	6.74	3.69	3.24	2.58	3.58	2.39	2.51	2.72	3.45	5.20	2.44
	Ochiishi	3.65	4.29	2.56	1.21	2.18	3.52	1.73	1.31	2.57	1.64	2.38	1.45	1.22	1.69	1.17
	Tappi	7.62	6.26	6.34	5.02	3.02	9.58	5.57	5.23	9.14	4.98	3.36	4.65	3.06	4.35	
	Sado-seki	4.46	9.20	7.99	5.79	4.36	8.12	6.92	8.03	6.04	4.88	3.76	7.66	4.33	7.80	3.82
	Happo	12.0	17.0	6.63	4.30	10.7	6.09	7.67	7.87	7.14	5.39	3.54	1.58	5.20	5.53	5.38
	Ijira	6.49	7.51	7.21	4.21	7.06	8.49	5.23	5.99	6.61	4.07	5.20	5.08	5.49	5.74	5.77
	Okii	7.24	9.57	8.91	4.37	7.23	10.5	10.3	5.71	8.53	4.88	3.34	5.39	4.68	5.69	3.75
	Banryu	5.02	15.8	7.21	7.42	5.76	8.80	5.04	5.62	4.90	4.35	5.09	6.31	4.75	3.46	
	Yusuhara	4.28	7.44	3.97	3.30	3.53	4.07	6.94	6.09	4.84	5.25	1.61	2.66	10.7	2.24	3.19
	Hedo	7.81	9.59	5.75	2.95	3.46	6.61	2.88	6.93	3.21	3.14	2.60	2.05	3.38	5.01	2.73
	Ogasawara	1.18	2.17	2.34	1.44	1.95	2.51	1.56	1.58	1.97	1.76	2.40	0.736	1.07	0.290	1.47
	Tokyo			4.58	6.83	5.03	5.97	5.59	5.84	6.21	6.14	5.20	3.49	3.16	3.52	4.53
	Niigata-maki															5.17
	Tsushima															1.76
Lao PDR	Vientiane	***	6.09	4.18	9.51	0.960	***	***	***	***	***	3.63	1.55	*	*	*
Malaysia	Petaling Jaya	16.9	14.9	11.7	14.4	14.5	18.6	14.0	13.2	21.6	21.9	24.6	21.8	12.7	26.3	***
	Tanah Rata	4.92	3.13	3.02	2.95	3.10	2.93	6.71	6.64	7.95	7.60	5.22	5.01	6.64	7.05	***
	Danum Valley	1.58	3.49	1.36	0.944	3.12	8.51	3.01	2.22	4.30	3.76	4.40	2.75	4.24	5.99	***
	Kuching				7.77	7.76	11.4	13.7	12.6	16.6	21.7	18.0	17.4	14.2	15.6	***
Mongolia	Ulaanbaatar	7.46	8.59	5.17	6.64	9.60	5.22	5.53	***	14.4	***	***	4.05	6.60	3.85	1.23
	Terelj	3.27	5.26	2.48	3.66	3.95	5.45	2.91	***	6.25	***	***	1.46	1.64	2.14	***
Myanmar	Yangon			***	***	27.9	13.9	20.7	18.8	2.13	39.6	215	11.4	28.6	47.4	40.8
Philippines	Metro Manila	24.4	35.8	34.9	31.4	22.6	32.9	45.4	60.2	38.4	36.8	42.3	50.8	***	***	33.9
	Los Baños	5.22	14.3	14.9	6.32	13.7	40.7	14.2	18.7	14.2	13.8	13.1	19.9	***	***	***
	Mt.Sto.Tomas		2.40	78.7	15.1	26.9	81.4	35.7	79.1	37.0	28.8	40.7	58.0	***	***	***
Republic of Korea	Kanghwa	8.39	16.6	10.1	15.5	5.35	10.1	5.40	5.64	7.26	3.47	5.04	2.71	3.61	1.61	1.60
	Cheju	6.61	8.13	10.5	6.43	3.15	4.72	4.00	3.78	4.66	2.13	3.66	8.65	5.42	2.37	2.28
	Imsil	5.65	9.93	17.9	5.32	3.02	7.87	8.99	4.76	2.80	3.19	3.01	1.68	2.26	1.37	2.27
Russia	Mondy	1.18	2.23	2.40	1.63	0.610	0.824	0.657	1.27	1.51	0.860	1.13	1.20	1.65	1.92	0.921
	Listvyanka	3.69	2.72	3.66	3.17	3.89	4.09	7.67	4.00	3.26	3.53	3.31	2.49	3.83	2.78	3.43
	Irkutsk	9.46	10.6	12.6	15.4	12.4	11.9	11.3	13.8	9.04	10.2	8.80	8.10	11.2	12.2	7.03
	Primorskaya	15.2	15.4	13.4	10.4	9.86	11.0	8.34	10.8	12.6	11.4	14.5	11.6	12.9	14.5	10.2
Thailand	Bangkok	36.8	28.9	21.3	28.3	20.3	22.4	22.6	24.0	33.2	14.4	26.7	25.6	17.8	30.7	18.3
	Samutprakarn	15.0	20.6	20.0	23.4	25.8	13.9	12.3	7.83	21.6	14.2	8.69	16.5	14.2	12.4	9.38
	Pathumthani	10.6	20.4	11.6	19.2	11.9	15.9	18.7	31.8	31.9	23.7	17.7	14.5	16.6	10.4	8.19
	Khanchanaburi	4.72	6.44	4.90	8.61	9.44	2.82	7.53	41.2	4.72	3.85	3.83	5.24	4.16	3.34	2.69
	Mae Hia	5.33	6.64	7.47	8.52	5.92	5.09	4.10	8.54	15.0	5.09	3.00	7.87	10.4	5.60	7.62
	Sakaerat		11.2	5.07	5.62	3.12	3.50	2.73	4.13	2.75	3.66	9.32	8.83	7.70	39.4	63.5
Vietnam	Hanoi	45.2	43.0	29.7	26.2	19.0	29.0	26.3	26.9	31.2	40.9	46.5	37.4	72.5	76.6	102
	Hoa Binh	32.2	27.4	18.0	28.5	12.7	28.7	22.0	21.0	33.8	17.3	16.2	18.7	43.7	38.2	26.5
	Cuc Phuong					55.7	62.9	59.2	60.9	45.2	38.8	28.0	51.9	52.9	44.7	37.2
	Da Nang					12.8	13.5	30.9	26.1	42.5	56.7	61.8	101	72.1	91.0	192
	Can Tho										22.9	57.7	19.4	19.7	37.0	36.5
	Ho Chi Minh										48.7	61.8	30.1	49.7	44.3	59.0
	Yen Bai											23.9	36.5	55.2	38.6	43.2

Terms and abbreviations are given in Table 3.5.

Table 3.96 Annual Mg²⁺ deposition amount from 2005 to 2019

unit: mmol m⁻²y⁻¹

Country	Name of sites	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Cambodia	Phnom Penh	***	0.627	4.49	6.33	2.66	1.33	1.55	1.98	1.50	2.54	2.82	1.84	1.94	***	***
China	Guanyinqiao	13.7	10.6	10.4												
	Haifu				7.15	5.81	8.75	6.98	6.94	8.44	9.92	5.85	7.22	4.96	4.52	3.68
	Jinyunshan	4.63	4.78	4.61	5.62	6.10	5.64	5.20	5.85	4.99	6.52	4.17	4.73	6.01	3.13	3.12
	Shizhan	6.69	13.6	11.3	17.5	7.34	5.04	6.55	1.36	24.0	7.34	5.49	0.819	6.45	6.06	3.08
	Weishuiyuan	4.77	13.3													
	Jiwozi	11.2	9.51	4.88	33.8	12.7	8.28	9.37	17.3	14.5	12.3	4.97	4.66	10.0	8.74	13.1
	Hongwen	15.4	11.6	8.32	4.65	3.01	3.06	3.56	4.34	4.71	4.82	4.26	8.65	3.87	4.66	4.29
	Xiaoping	3.35	6.52	2.16	6.78	3.67	2.88	3.39	4.46	7.97	4.98	3.54	3.96	1.88	1.78	2.06
	Xiang Zhou	8.10	18.3	3.43	11.2	9.08	4.77	5.53	10.5	33.9	12.1	10.3	9.42	10.7	13.2	7.08
	Zhuxiandong	9.65	4.43	***	13.2	9.71	5.30	7.74	***	***	***	14.0	12.2	5.82	21.5	8.67
	Wuzhishan															3.44
	Lijiang															2.33
Indonesia	Jakarta	7.72	12.7	4.79	2.87	3.06	4.72	3.42	8.06	6.11	11.5	5.07	8.90	3.86	5.76	2.83
	Serpong	3.09	2.78	5.33	9.76	1.83	4.40	2.59	1.80	8.97	9.31	6.84	8.96	8.01	9.36	9.74
	Kototabang	2.06	2.82	10.6	2.48	2.92	3.67	2.08	3.69	5.09	2.27	53.7	2.57	2.63	3.08	1.55
	Bandung	4.29	4.27	3.31	10.3	11.1	11.6	8.85	6.61	14.8	15.3	11.3	9.45	7.30	6.86	8.16
	Maros				7.77	6.02	5.79	9.07	17.2	11.3	37.7	74.5	5.76	5.16	8.39	4.30
	Jembrana															4.19
	Lombok															6.65
Japan	Rishiri	22.4	16.3	15.0	24.8	21.0	20.0	18.9	37.8	26.3	18.7	17.7	10.3	22.7	21.7	15.3
	Ochiishi	18.2	31.1	18.6	14.5	31.4	31.0	15.1	26.6	51.0	9.28	16.9	18.0	21.3	9.84	6.35
	Tappi	30.0	32.1	27.9	19.1	28.2	20.1	19.9	18.2	32.1	21.6	28.0	23.8	24.5	30.2	
	Sado-seki	37.7	32.7	30.3	24.0	37.6	51.6	26.4	38.1	58.2	45.8	32.3	20.8	21.6	24.3	24.3
	Happo	3.59	2.64	1.57	1.15	2.73	2.12	2.76	4.60	3.63	3.11	2.98	2.11	3.83	2.84	2.01
	Ijira	4.51	4.63	6.23	3.92	4.80	6.22	5.19	7.27	5.70	6.00	6.40	4.94	5.38	7.17	4.64
	Okii	91.8	37.6	36.8	40.8	48.3	69.9	85.2	53.4	78.3	63.9	50.8	58.5	54.8	60.4	20.6
	Banryu	13.9	16.3	12.5	11.3	20.4	17.7	18.3	13.5	17.2	16.4	15.7	17.3	14.6	11.1	
	Yusuhara	7.07	5.25	4.27	2.42	3.33	3.86	8.71	8.65	5.98	6.43	8.45	3.33	15.6	7.18	5.35
	Hedo	84.3	40.7	40.0	27.9	28.6	77.2	40.9	136	41.5	38.2	63.0	42.5	69.2	54.7	44.2
	Ogasawara	21.8	18.1	23.4	17.7	36.6	45.4	30.5	21.3	21.5	23.2	54.8	12.1	35.2	5.23	38.0
	Tokyo			4.56	5.17	5.13	3.98	6.65	6.18	4.89	4.58	4.02	2.97	6.30	5.38	11.0
	Niigata-maki															31.0
	Tsushima															8.05
Lao PDR	Vientiane	***	2.47	0.977	2.18	0.131	***	***	***	***	***	0.564	0.198	*	*	*
Malaysia	Petaling Jaya	2.40	2.85	1.16	1.95	1.39	2.46	2.09	1.69	2.45	4.07	3.46	2.81	1.77	2.79	***
	Tanah Rata	1.42	0.452	0.329	0.192	0.0927	0.210	0.869	0.528	0.835	0.964	0.636	0.647	0.327	0.673	***
	Danum Valley	0.406	1.45	1.20	1.58	1.86	3.51	2.05	0.830	1.38	1.57	1.89	0.956	1.12	3.25	***
	Kuching				1.24	1.84	2.12	3.45	1.04	2.42	4.10	5.35	5.37	2.75	2.31	***
Mongolia	Ulaanbaatar	0.783	0.825	0.597	0.568	1.21	0.455	1.51	***	0.576	***	***	0.968	0.489	0.426	0.125
	Terelj	0.901	1.04	0.384	0.619	0.604	0.718	1.06	***	0.451	***	***	0.233	0.139	0.218	***
Myanmar	Yangon			***	***	8.54	4.11	9.52	16.9	33.1	9.79	14.3	9.98	9.75	13.9	11.8
Philippines	Metro Manila	5.86	14.7	14.5	11.1	9.69	24.4	26.1	29.1	16.0	12.2	16.0	13.3	***	***	9.41
	Los Baños	3.84	7.65	10.7	8.80	10.8	17.0	11.3	8.96	7.77	6.88	6.86	7.28	***	***	***
	Mt.Sto.Tomas		0.418	7.03	1.76	7.23	12.1	7.41	16.6	7.41	4.92	21.0	12.3	***	***	***
Republic of Korea	Kanghwa	5.03	5.57	5.95	4.26	6.67	5.71	4.70	4.11	2.96	1.39	2.12	0.994	1.37	0.683	8.13
	Cheju	10.5	10.8	9.09	8.16	6.25	6.91	11.3	41.4	16.3	9.38	8.60	42.2	15.3	18.7	2.90
	Imsil	2.27	2.83	4.80	1.70	4.14	7.69	3.02	4.27	2.28	1.95	2.38	1.30	1.45	0.759	0.874
Russia	Mondy	0.275	0.405	0.623	0.408	0.138	0.163	0.191	0.427	0.290	0.146	0.292	0.192	0.334	0.386	0.173
	Listvyanka	0.715	0.532	0.755	0.687	0.884	0.970	1.49	0.867	0.810	0.662	0.689	0.604	0.993	0.663	0.974
	Irkutsk	2.24	2.06	3.00	3.40	3.25	2.53	2.40	2.88	1.77	1.43	1.60	1.91	2.36	2.35	1.69
	Primorskaya	4.18	3.43	4.25	3.46	2.68	2.88	2.66	4.08	3.53	3.99	6.49	5.09	7.57	9.44	7.83
Thailand	Bangkok	7.58	3.72	2.65	4.15	3.09	3.07	2.72	2.43	3.50	2.40	3.02	4.04	2.50	3.43	1.70
	Samutprakarn	5.57	6.57	5.03	6.91	5.57	4.14	2.52	1.46	4.97	3.09	2.26	3.24	2.83	3.14	1.71
	Pathumthani	1.66	2.82	1.77	2.84	1.62	2.43	2.46	4.91	3.06	2.03	2.02	2.25	1.92	1.51	1.59
	Khanchanaburi	2.30	2.47	1.70	3.16	2.87	0.935	2.47	6.59	1.55	1.30	1.16	1.84	1.35	1.43	0.647
	Mae Hia	1.43	3.44	1.16	2.29	2.87	0.526	0.367	0.936	2.15	1.01	1.05	1.15	1.69	0.537	1.07
	Sakaerat		2.36	2.47	2.11	1.60	1.14	0.410	0.477	0.289	0.557	3.01	4.60	2.97	9.23	10.6
Vietnam	Hanoi	15.2	10.5	6.91	8.27	7.70	7.02	7.41	3.87	5.42	5.83	5.85	7.28	15.1	12.3	9.77
	Hoa Binh	9.59	8.17	5.38	3.17	2.51	7.61	4.21	4.15	5.40	3.54	3.95	3.63	3.73	8.70	3.32
	Cuc Phuong					9.89	7.30	8.86	14.3	23.1	8.30	7.94	16.1	18.6	25.6	21.2
	Da Nang					30.1	14.4	34.3	15.4	43.4	23.9	16.6	24.6	25.4	27.6	61.3
	Can Tho										8.19	20.2	11.4	10.2	25.7	24.1
	Ho Chi Minh										16.7	25.4	17.6	31.0	25.2	29.9
	Yen Bai											4.06	5.88	3.99	6.32	3.71

Terms and abbreviations are given in Table 3.5.

Table 3.97 Annual H⁺ deposition amount from 2005 to 2019unit: mmol m⁻² y⁻¹

Country	Name of sites	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Cambodia	Phnom Penh	0.625	0.181	0.279	2.65	0.861	1.98	1.41	1.12	0.890	0.969	0.791	0.496	0.920	***	***
China	Guanyinqiao	12.1	11.6	29.3												
	Haifu				64.1	64.3	69.3	53.4	58.1	30.8	17.1	4.65	0.832	1.79	5.70	4.56
	Jinyunshan	34.7	24.4	49.4	53.3	51.7	112	77.1	82.0	71.4	61.3	25.7	12.9	8.96	13.2	18.2
	Shizhan	1.96	1.33	1.60	0.155	0.176	0.0965	0.352	0.217	0.0514	0.154	0.131	0.0852	0.148	0.0803	0.0697
	Weishuiyuan	3.09	0.460													
	Jiwozi	0.227	0.318	0.0143	0.0498	0.498	3.36	1.10	0.0295	0.412	0.0591	0.0556	0.0875	0.103	0.0895	0.102
	Hongwen	33.8	31.4	21.8	24.3	22.2	40.7	19.0	28.6	18.5	9.48	12.9	21.5	2.46	2.25	0.877
	Xiaoping	48.1	38.9	26.5	55.8	38.7	40.2	23.4	20.3	19.6	26.7	17.6	34.2	0.856	12.2	18.9
	Xiang Zhou	32.2	20.4	33.7	33.0	26.9	26.2	11.1	11.7	14.1	16.6	3.96	15.9	20.0	17.9	22.4
	Zhuxiandong	25.9	13.3	***	30.2	28.0	21.0	19.1	***	***	***	5.25	16.2	15.4	14.7	20.1
	Wuzhishan															1.71
	Lijiang															0.269
Indonesia	Jakarta	104	61.4	59.7	38.6	36.6	39.5	27.9	47.4	39.3	62.2	40.5	22.3	16.8	34.8	22.1
	Serpong	21.1	40.1	52.0	56.7	25.9	25.0	16.4	11.1	20.1	20.8	20.1	19.2	20.3	12.9	23.1
	Kototabang	46.0	36.6	14.7	14.9	59.9	37.9	20.2	25.7	22.5	38.0	30.9	10.9	15.3	14.2	8.99
	Bandung	16.3	9.18	23.2	15.9	13.4	20.8	6.12	7.25	9.42	12.5	8.87	22.4	10.8	3.79	1.61
	Maros				7.15	15.0	16.4	16.1	5.90	13.7	16.2	14.3	11.4	11.2	14.1	19.1
	Jembrana															6.86
	Lombok															4.11
Japan	Rishiri	17.7	27.8	23.3	10.2	19.3	20.1	24.8	23.6	24.8	19.2	18.4	16.4	16.2	14.8	10.9
	Ochiishi	12.0	13.8	14.5	9.86	15.2	16.0	10.7	13.3	9.94	6.55	8.23	7.28	6.21	8.18	6.34
	Tappi	30.9	25.5	25.1	21.4	24.4	31.7	28.2	24.1	17.1	26.1	15.7	18.5	20.4	18.1	
	Sado-seki	31.5	24.9	36.5	28.5	18.4	27.0	28.8	24.1	28.7	27.8	18.9	13.9	16.0	17.1	12.1
	Happo	47.6	29.4	37.8	24.2	25.2	21.0	28.2	26.6	26.7	24.0	18.3	20.0	24.9	17.4	18.0
	Ijira	79.4	87.6	66.3	80.2	66.0	66.6	55.2	58.7	48.8	58.8	62.7	55.2	53.5	45.1	45.4
	Okii	36.0	26.1	26.8	27.7	21.8	31.7	28.8	34.2	34.3	23.4	20.3	20.3	14.8	17.8	16.8
	Banryu	42.2	40.1	41.1	37.2	38.3	29.2	31.3	40.5	46.2	42.3	32.4	28.2	25.2	22.5	
	Yusuhara	52.9	45.4	36.4	47.3	35.5	40.1	39.7	51.3	41.4	46.5	41.2	38.9	80.7	40.3	33.6
	Hedo	26.2	18.9	27.7	19.6	15.4	16.8	22.1	21.3	17.6	23.3	12.6	12.2	16.1	21.0	27.0
	Ogasawara	31.5	16.1	14.7	16.8	11.4	10.5	6.46	7.28	7.15	12.8	9.35	9.21	10.1	5.72	11.0
	Tokyo			17.6	46.2	30.6	18.6	20.7	23.5	14.2	26.7	26.8	18.4	16.3	15.3	16.4
	Niigata-maki															20.8
	Tsushima															25.1
Lao PDR	Vientiane	0.320	0.231	3.02	1.65	0.600	***	***	0.463	***	0.366	1.06	0.122	*	*	*
Malaysia	Petaling Jaya	123	151	83.2	140	134	191	250	210	136	142	153	189	96.6	122	***
	Tanah Rata	41.4	31.3	33.0	31.4	25.6	21.2	32.1	31.0	31.1	40.3	51.4	33.3	41.9	35.7	***
	Danum Valley	13.1	26.8	24.0	18.1	20.4	14.2	23.5	19.5	17.1	13.9	12.4	16.6	18.0	12.4	***
	Kuching				23.8	25.5	24.4	17.3	18.4	21.2	16.8	21.6	40.4	23.4	21.4	***
Mongolia	Ulaanbaatar	0.153	0.0666	0.0692	0.0807	0.177	0.202	0.595	0.224	0.161	***	0.0569	1.52	0.471	0.295	0.110
	Terelj	1.34	1.48	1.12	0.768	0.0675	0.316	0.786	0.211	1.11	***	0.315	0.689	0.962	0.233	***
Myanmar	Yangon			10.6	2.50	1.04	0.875	1.09	0.831	0.948	0.571	0.526	0.387	0.575	0.777	0.871
Philippines	Metro Manila	26.8	13.5	18.7	6.75	22.2	6.01	8.29	26.9	10.0	1.93	1.32	7.68	***	***	9.33
	Los Baños	11.9	5.42	9.01	21.2	7.64	2.73	6.43	4.61	3.37	3.34	0.791	33.9	***	***	***
	Mt.Sto.Tomas		0.204	10.0	16.3	6.96	0.726	20.6	6.41	22.7	2.64	6.72	1.52	***	***	***
Republic of Korea	Kanghwa	46.1	23.0	21.2	43.9	32.7	61.2	33.9	18.3	23.6	5.72	11.9	13.7	21.4	8.27	10.5
	Cheju	19.9	51.8	38.2	18.1	8.09	9.21	7.32	5.93	2.66	1.93	3.12	8.90	3.76	1.41	2.00
	Imsil	1.24	4.57	2.49	11.2	8.62	22.1	8.09	10.9	7.33	5.69	5.78	2.64	3.83	2.34	5.04
Russia	Mondy	1.24	1.67	1.06	1.38	0.395	0.253	0.213	0.250	1.60	0.573	0.487	0.957	0.928	2.35	0.717
	Listvyanka	6.62	7.10	8.82	9.06	4.49	5.74	9.00	5.73	4.41	3.53	4.91	3.94	5.38	4.03	8.00
	Irkutsk	3.36	2.52	5.59	9.01	1.67	2.78	3.13	5.15	2.71	3.35	1.79	5.68	5.73	6.17	6.14
	Primorskaya	6.39	9.32	14.4	9.02	9.11	7.23	14.6	7.88	6.36	2.19	7.98	3.68	1.31	1.53	3.21
Thailand	Bangkok	25.6	11.0	14.1	9.39	16.7	17.2	19.5	3.74	3.35	0.0953	8.10	4.75	1.72	1.03	0.543
	Samutprakarn	5.55	1.93	4.60	8.81	14.7	9.06	2.66	0.647	1.18	0.307	3.66	6.46	2.49	4.43	1.58
	Pathumthani	16.4	20.9	21.5	15.4	9.26	10.3	15.6	5.62	4.60	3.27	5.48	4.29	6.21	10.0	2.79
	Khanchanaburi	5.86	4.48	2.83	4.30	4.35	3.30	6.24	2.30	7.08	1.58	3.76	1.10	2.02	1.72	0.544
	Mae Hia	8.50	2.83	1.05	1.34	1.26	0.789	8.29	0.876	1.30	0.278	1.70	1.85	3.42	2.51	5.31
	Sakaerat		9.06	11.5	16.0	17.1	29.0	15.0	9.66	8.23	6.42	12.8	5.92	6.50	8.21	7.11
Vietnam	Hanoi	1.25	2.28	4.32	3.24	3.46	1.44	9.13	4.29	4.29	3.04	0.826	4.19	0.604	5.77	14.5
	Hoa Binh	4.63	3.98	17.0	6.42	6.96	5.84	6.42	4.50	1.83	4.69	8.20	3.32	11.4	15.4	7.55
	Cuc Phuong					23.4	9.73	16.8	7.42	7.16	5.10	6.99	3.03	18.8	8.99	5.52
	Da Nang					49.9	13.0	38.0	6.16	6.07	6.69	1.98	2.99	3.06	4.27	1.52
	Can Tho										1.01	3.71	2.39	2.05	3.50	2.79
	Ho Chi Minh										2.72	1.10	4.46	2.97	1.92	2.45
	Yen Bai											8.93	12.0	15.3	8.36	24.4

Terms and abbreviations are given in Table 3.5.

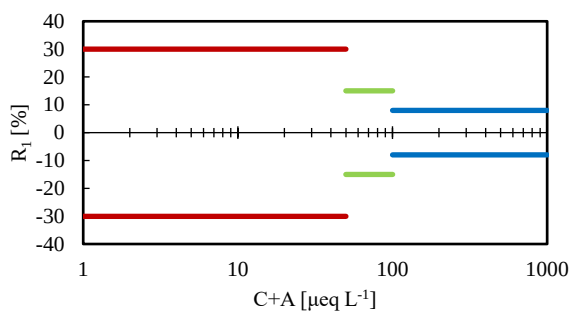


Fig. 3.2 a) Phnom Penh Ion Balance (R_1)

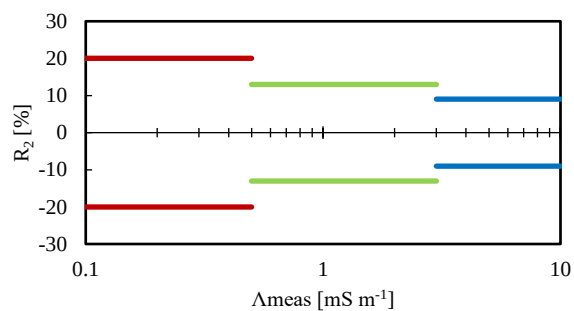


Fig. 3.2 b) Phnom Penh Conductivity Agreement (R_2)

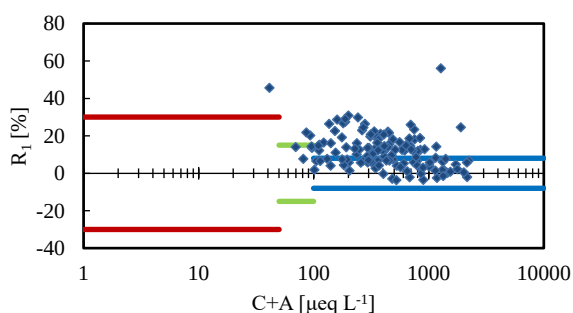


Fig. 3.3 a) Haifu Ion Balance (R_1)

All of R_1 plots were calculated including F^-

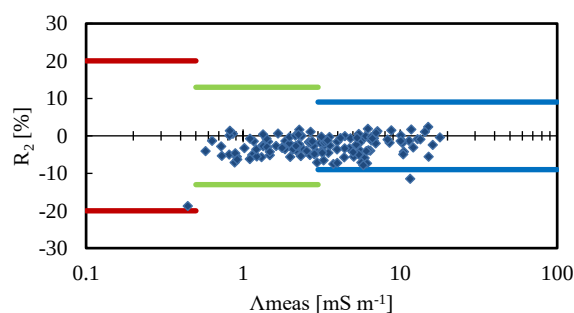


Fig. 3.3 b) Haifu Conductivity Agreement (R_2)

All of R_2 plots were calculated including F^-

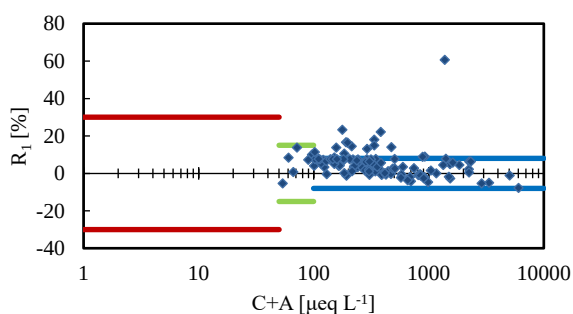


Fig. 3.4 a) Jinyunshan Ion Balance (R_1)

All of R_1 plots were calculated including F^-

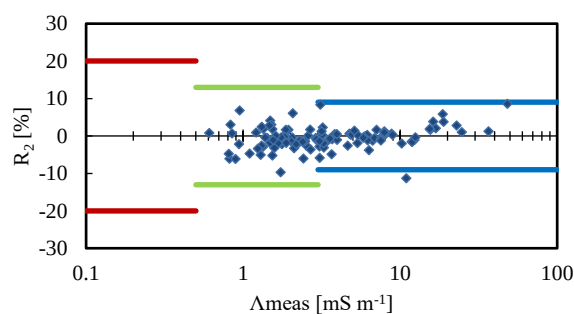


Fig. 3.4 b) Jinyunshan Conductivity Agreement (R_2)

All of R_2 plots were calculated including F^-

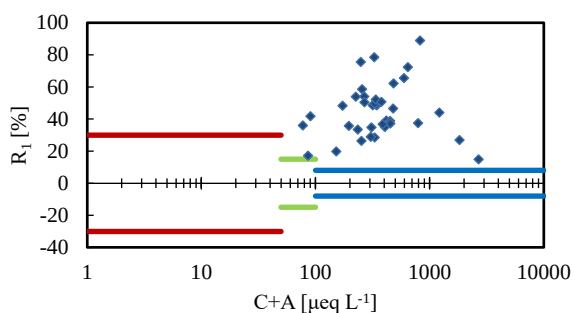


Fig. 3.5 a) Shizhan Ion Balance (R_1)

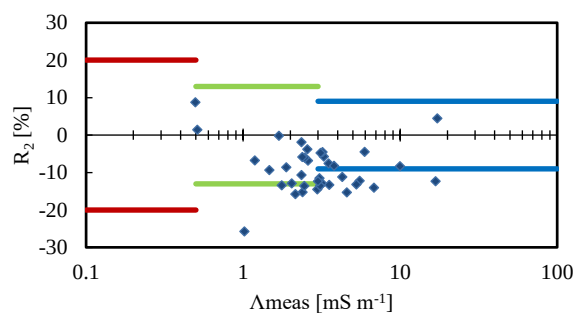


Fig. 3.5 b) Shizhan Conductivity Agreement (R_2)

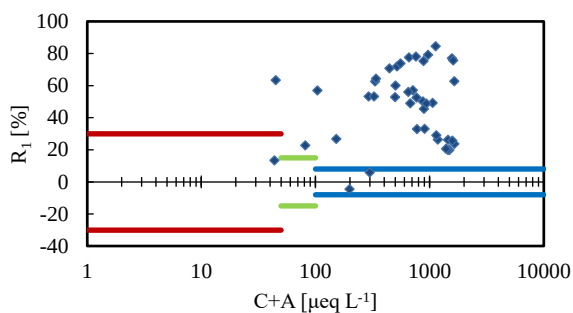


Fig. 3.6 a) Jiwozi Ion Balance (R_1)

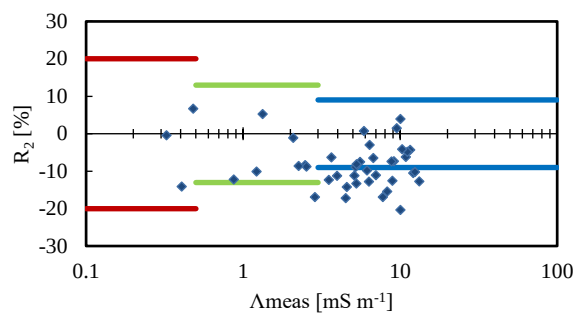


Fig. 3.6 b) Jiwozi Conductivity Agreement (R_2)

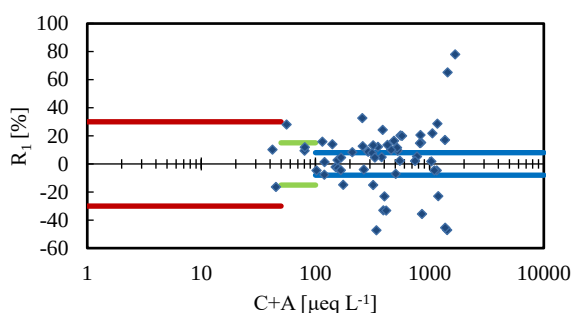


Fig. 3.7 a) Hongwen Ion Balance (R_1)

All of R_1 plots were calculated including F^-

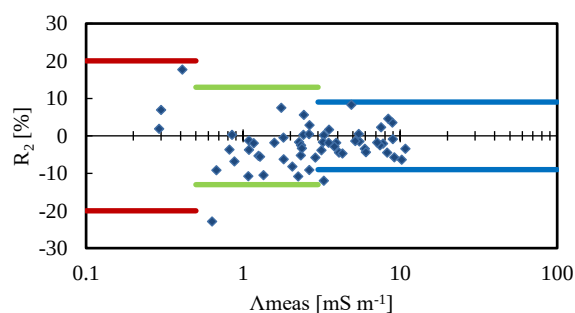


Fig. 3.7 b) Hongwen Conductivity Agreement (R_2)

All of R_2 plots were calculated including F^-

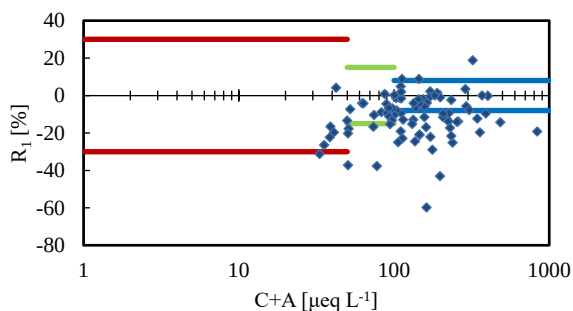


Fig. 3.8 a) Xiaoping Ion Balance (R_1)

All of R_1 plots were calculated including F^-

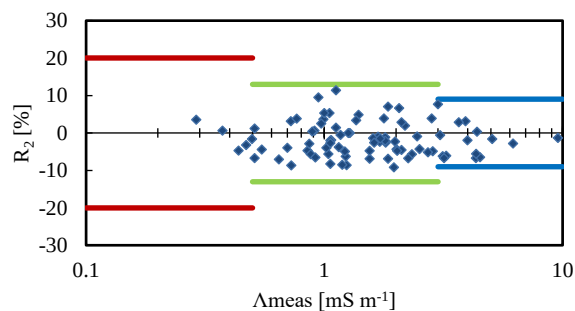


Fig. 3.8 b) Xiaoping Conductivity Agreement (R_2)

All of R_2 plots were calculated including F^-

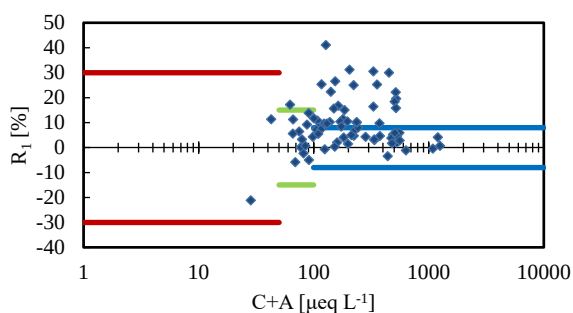


Fig. 3.9 a) Xiang Zhou Ion Balance (R_1)

All of R_1 plots were calculated including F^-

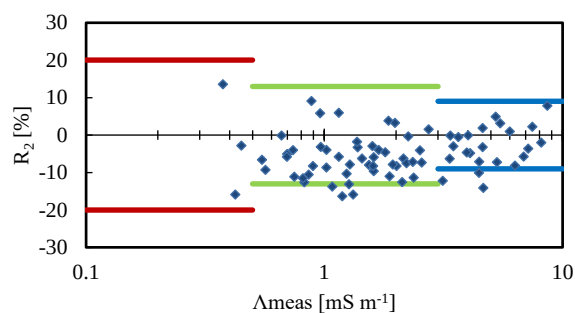


Fig. 3.9 b) Xiang Zhou Conductivity Agreement (R_2)

All of R_2 plots were calculated including F^-

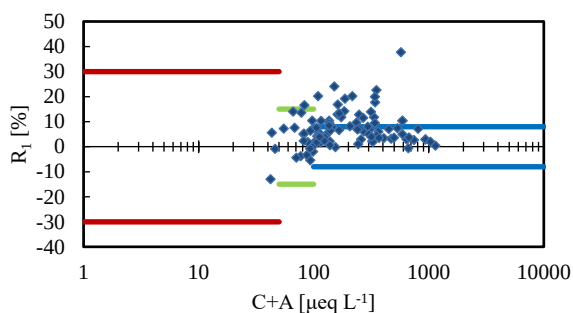


Fig. 3.10 a) Zhuxiandong Ion Balance (R_1)

All of R_1 plots were calculated including F^-

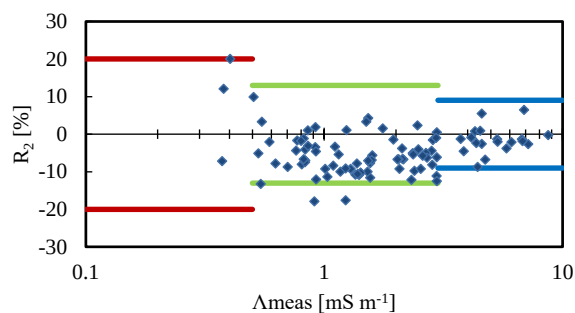


Fig. 3.10 b) Zhuxiandong

Conductivity Agreement (R_2)

All of R_2 plots were calculated including F^-

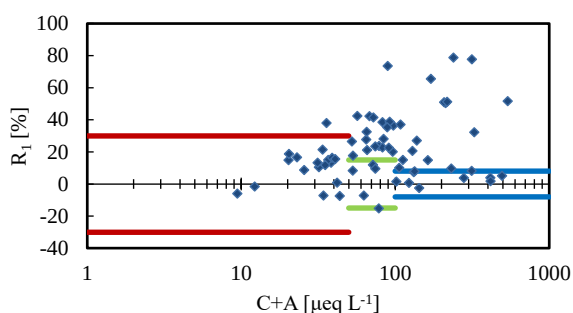


Fig. 3.11 a) Wuzhishan Ion Balance (R_1)

All of R_1 plots were calculated including F^-

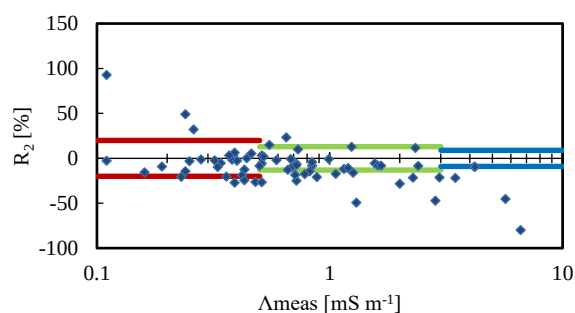


Fig. 3.11 b) Wuzhishan Conductivity Agreement (R_2)

All of R_2 plots were calculated including F^-

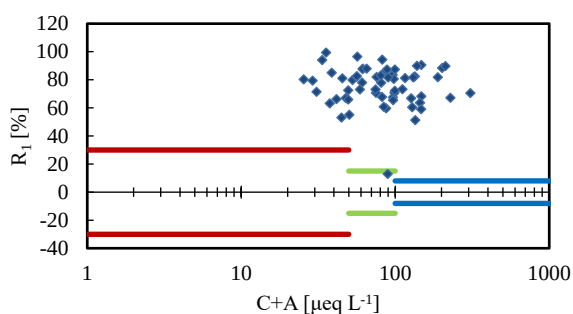


Fig. 3.12 a) Lijiang Ion Balance (R_1)

All of R_1 plots were calculated including F^-

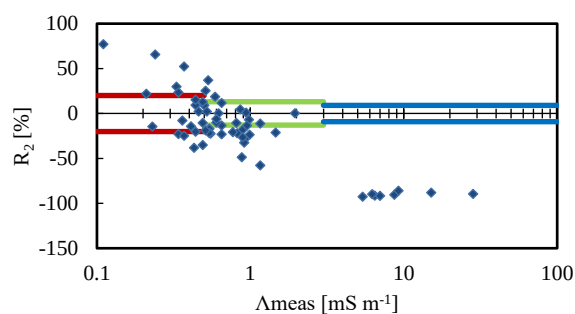


Fig. 3.12 b) Lijiang Conductivity Agreement (R_2)

All of R_2 plots were calculated including F^-

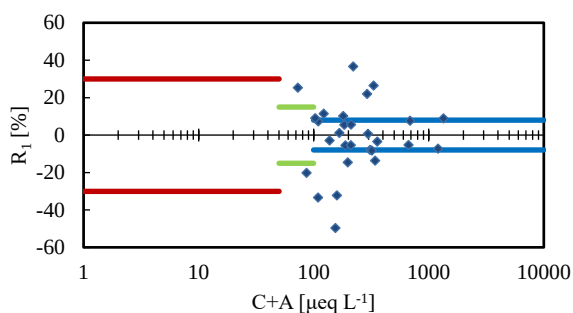


Fig. 3.13 a) Jakarta Ion Balance (R_1)

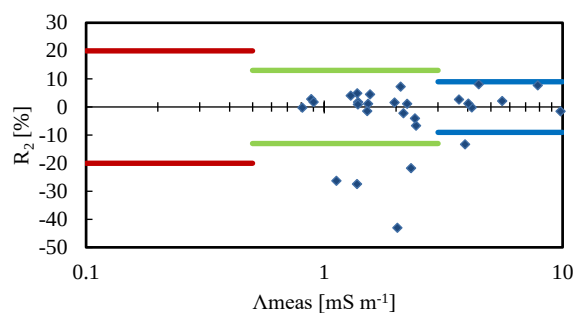


Fig. 3.13 b) Jakarta Conductivity Agreement (R_2)

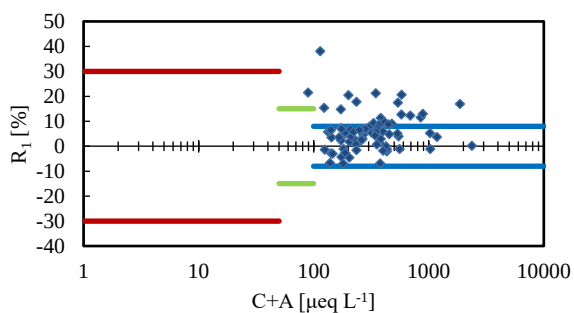


Fig. 3.14 a) Serpong Ion Balance (R_1)

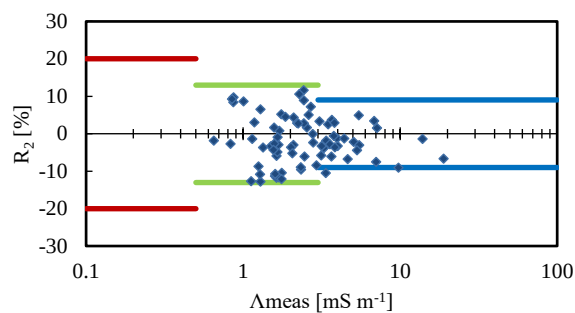


Fig. 3.14 b) Serpong Conductivity Agreement (R_2)

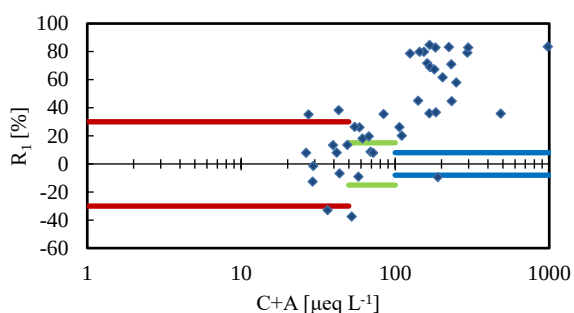


Fig. 3.15 a) Kototabang Ion Balance (R_1)

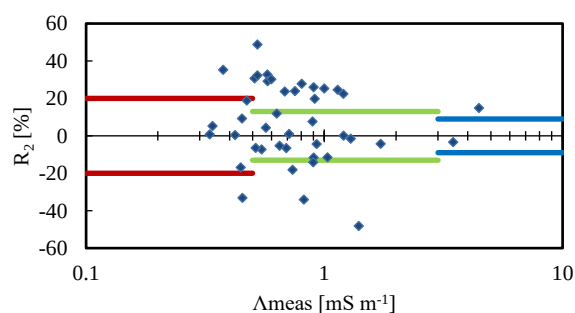


Fig. 3.15 b) Kototabang Conductivity Agreement (R_2)

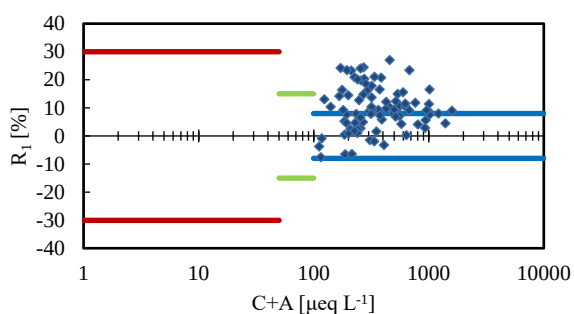


Fig. 3.16 a) Bandung Ion Balance (R_1)

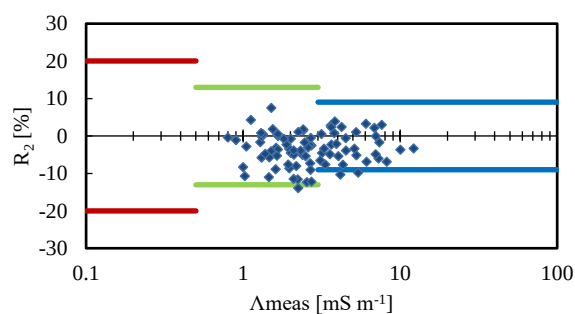


Fig. 3.16 b) Bandung Conductivity Agreement (R_2)

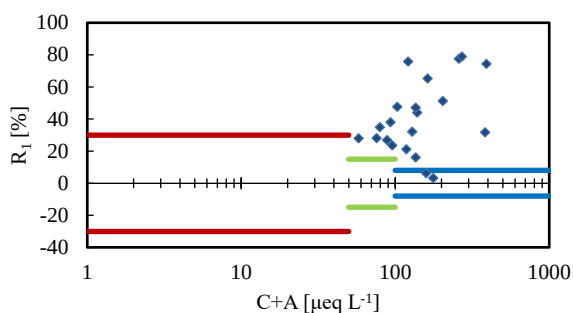


Fig. 3.17 a) Maros Ion Balance (R_1)

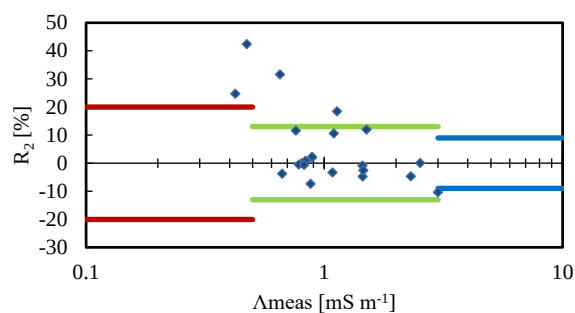


Fig. 3.17 b) Maros Conductivity Agreement (R_2)

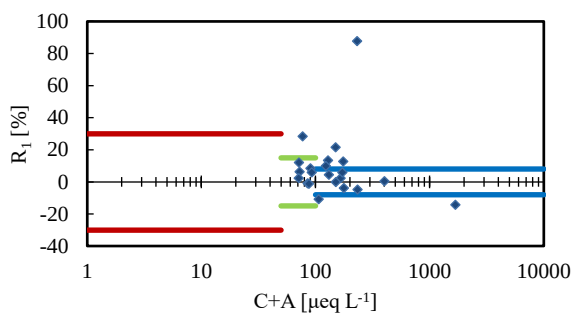


Fig. 3.18 a) Jembrana Ion Balance (R_1)

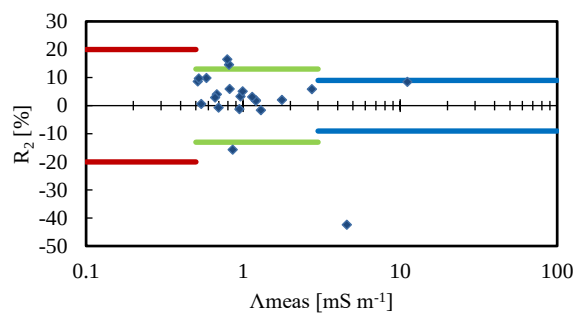


Fig. 3.18 b) Jembrana Conductivity Agreement (R_2)

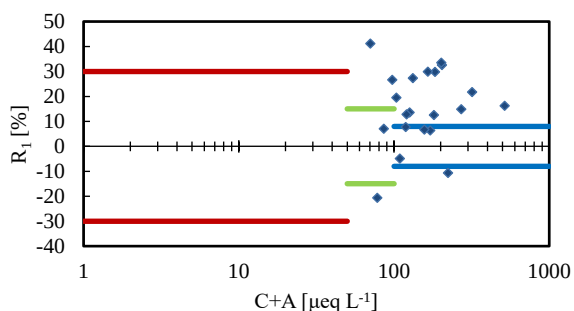


Fig. 3.19 a) Lombok Ion Balance (R_1)

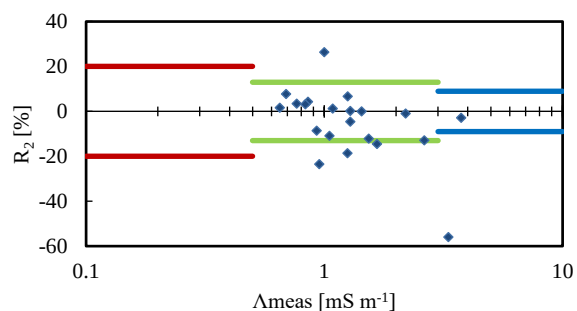


Fig. 3.19 b) Lombok Conductivity Agreement (R_2)

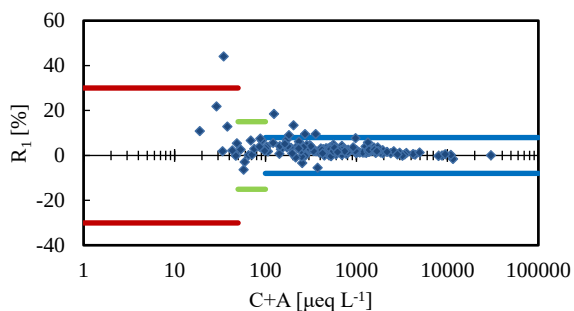


Fig. 3.20 a) Rishiri Ion Balance (R_1)

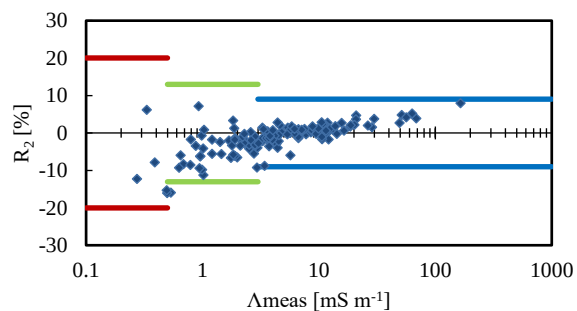


Fig. 3.20 b) Rishiri Conductivity Agreement (R_2)

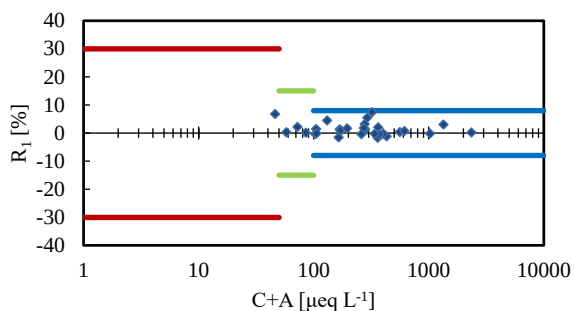


Fig. 3.21 a) Ochiishi Ion Balance (R_1)

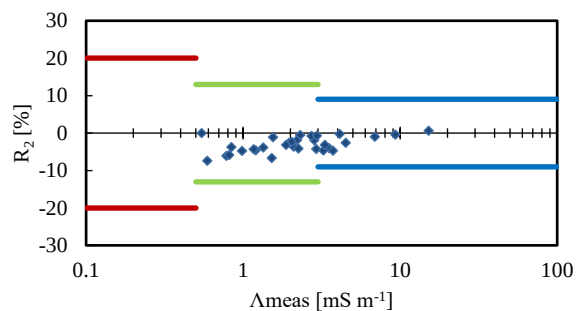


Fig. 3.21 b) Ochiishi Conductivity Agreement (R_2)

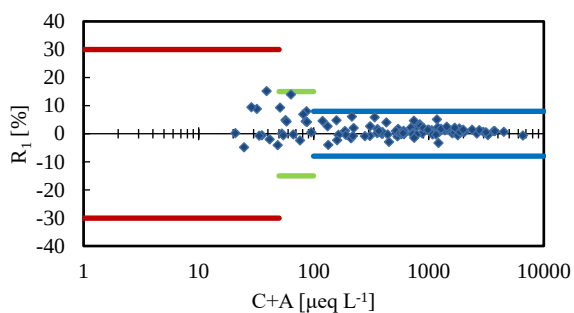


Fig. 3.22 a) Sado-seki Ion Balance (R_1)

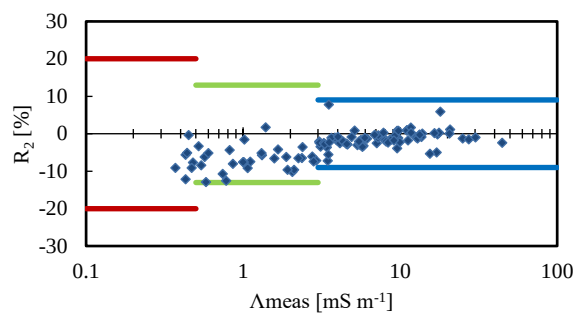


Fig. 3.22 b) Sado-seki Conductivity Agreement (R_2)

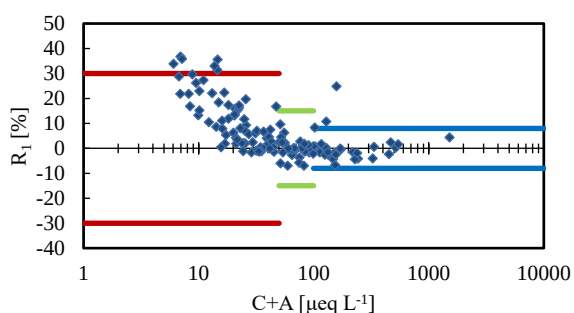


Fig. 3.23 a) Happo Ion Balance (R_1)

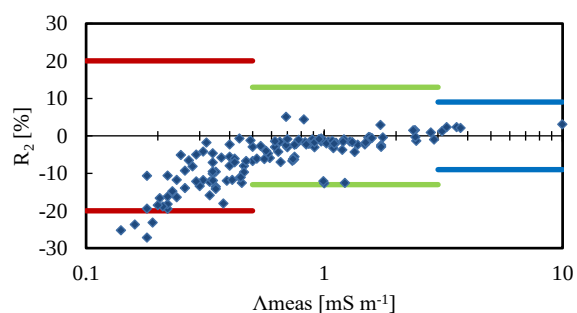


Fig. 3.23 b) Happo Conductivity Agreement (R_2)

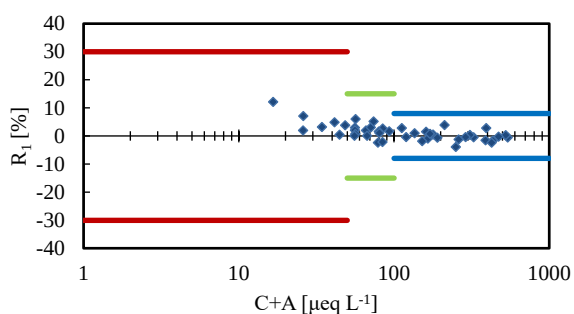


Fig. 3.24 a) Ijira Ion Balance (R_1)

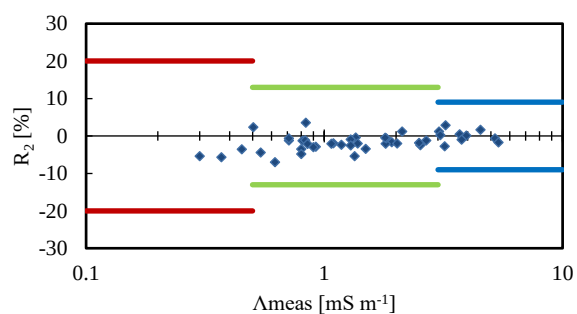


Fig. 3.24 b) Ijira Conductivity Agreement (R_2)

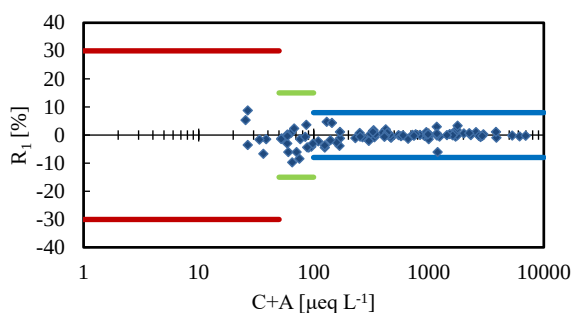


Fig. 3.25 a) Oki Ion Balance (R_1)

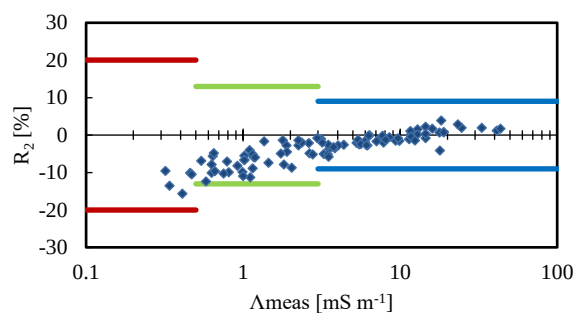


Fig. 3.25 b) Oki Conductivity Agreement (R_2)

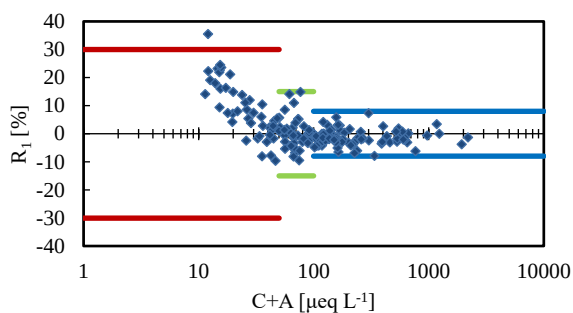


Fig. 3.26 a) Yusuhara Ion Balance (R_1)

All of R_1 plots were calculated including F^- , NO_2^- and PO_4^{3-}

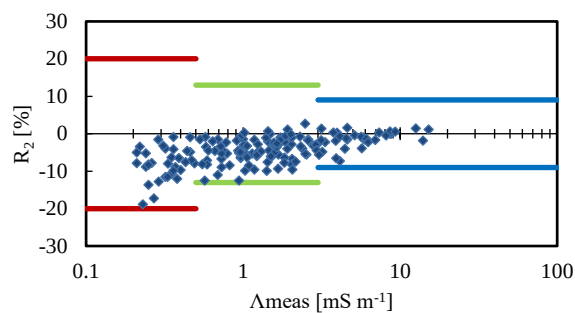


Fig. 3.26 b) Yusuhara Conductivity Agreement (R_2)

All of R_2 plots were calculated including F^- , NO_2^- and PO_4^{3-}

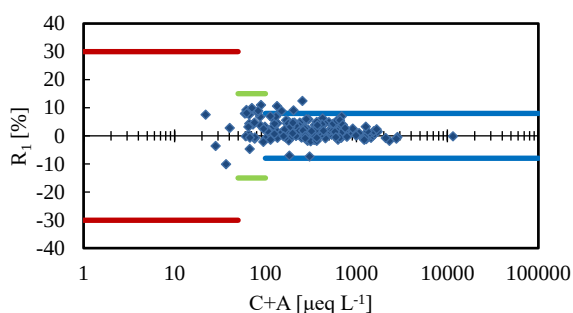


Fig. 3.27 a) Hedo Ion Balance (R_1)

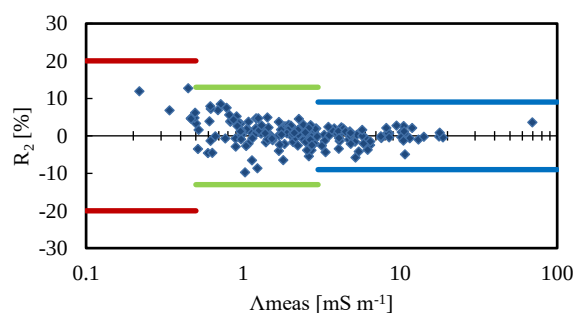


Fig. 3.27 b) Hedo Conductivity Agreement (R_2)

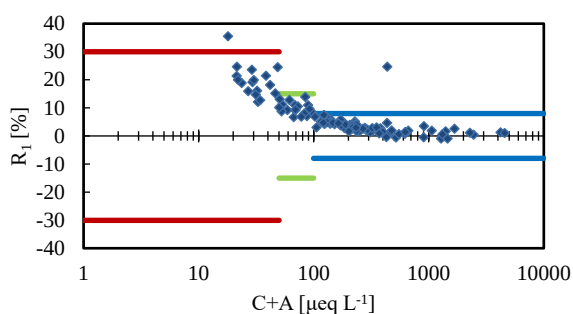


Fig. 3.28 a) Ogasawara Ion Balance (R_1)

All of R_1 plots were calculated including NO_2^-

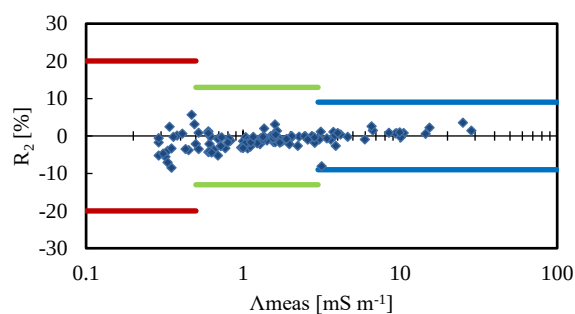


Fig. 3.28 b) Ogasawara Conductivity Agreement (R_2)

All of R_2 plots were calculated including NO_2^-

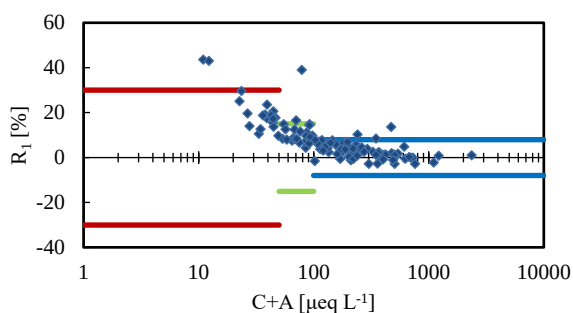


Fig. 3.29 a) Tokyo Ion Balance (R_1)

All of R_1 plots were calculated including NO_2^-

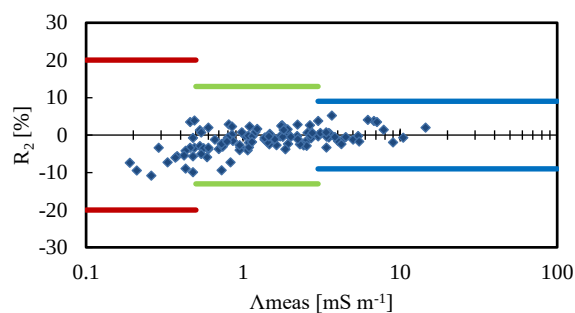


Fig. 3.29 b) Tokyo Conductivity Agreement (R_2)

All of R_2 plots were calculated including NO_2^-

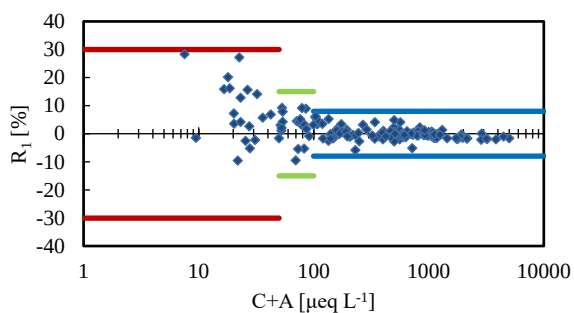


Fig. 3.30 a) Niigata-maki Ion Balance (R_1)

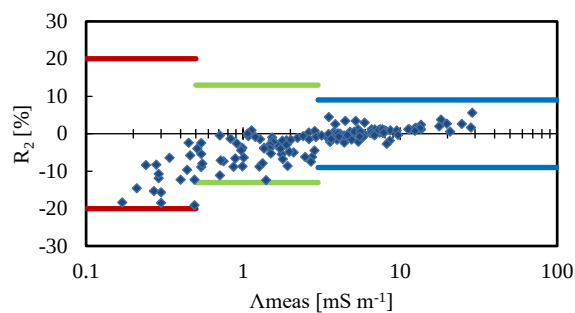


**Fig. 3.30 b) Niigata-maki
Conductivity Agreement (R_2)**

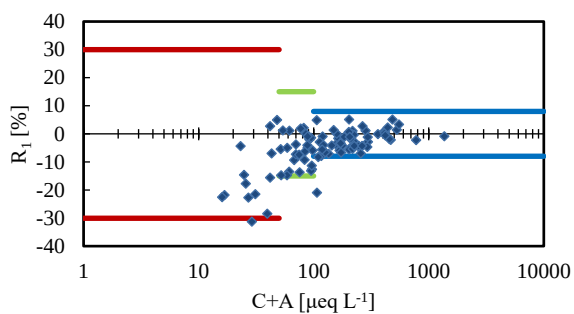


Fig. 3.31 a) Tsushima Ion Balance (R_1)

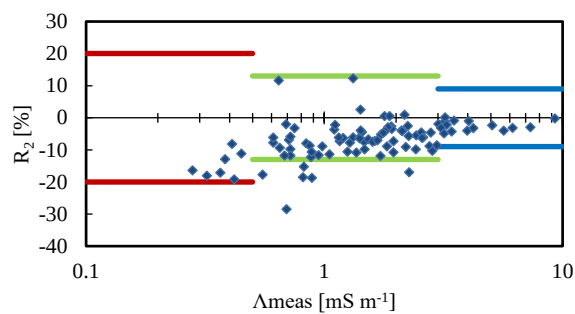


Fig. 3.31 b) Tsushima Conductivity Agreement (R_2)

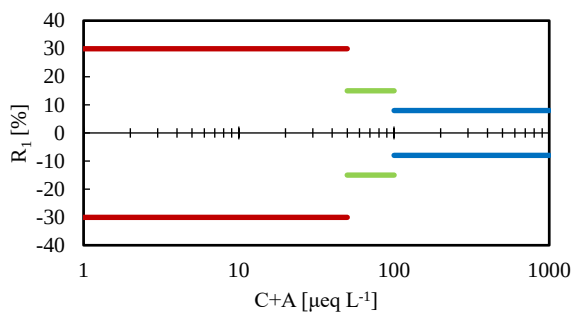


Fig. 3.32 a) Vientiane Ion Balance (R_1)

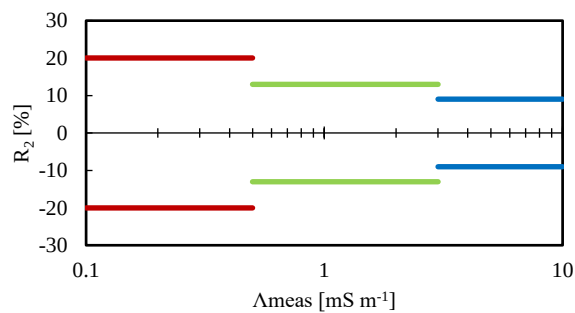


Fig. 3.32 b) Vientiane Conductivity Agreement (R_2)

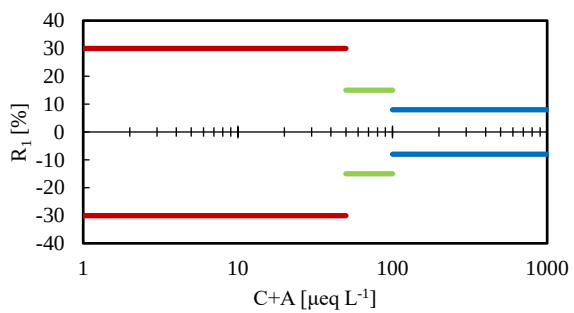


Fig. 3.33 a) Petaling Jaya Ion Balance (R_1)

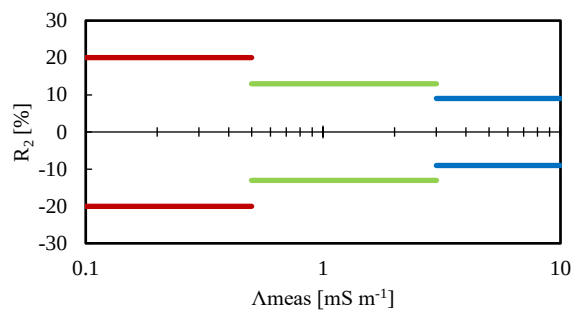


**Fig. 3.33 b) Petaling Jaya
Conductivity Agreement (R_2)**

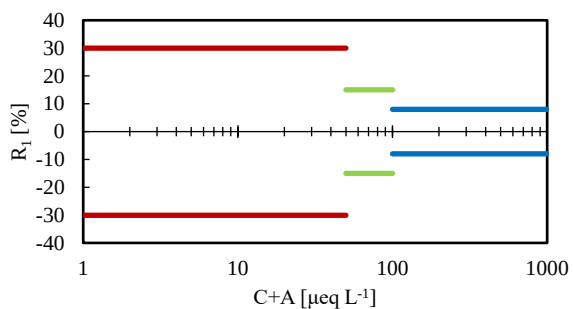


Fig. 3.34 a) Tanah Rata Ion Balance (R_1)

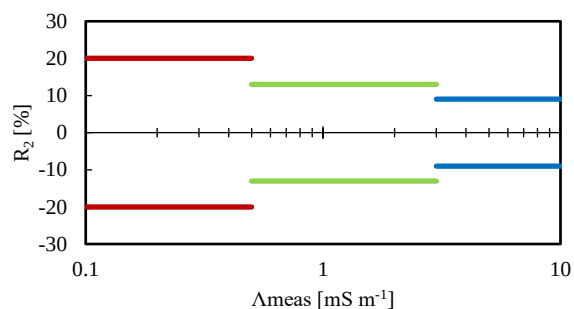


Fig. 3.34 b) Tanah Rata Conductivity Agreement (R_2)

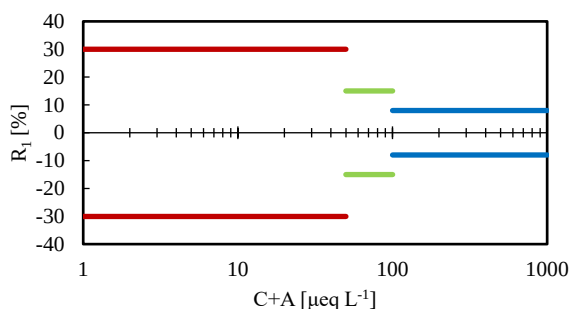


Fig. 3.35 a) Danum Valley Ion Balance (R_1)

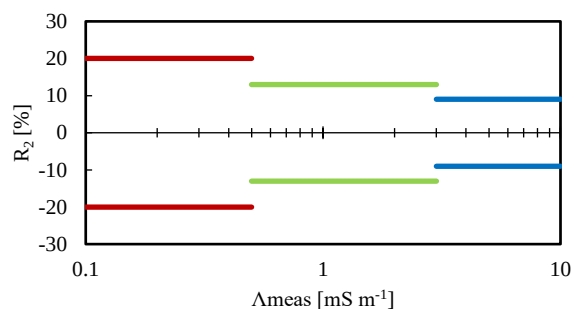


Fig. 3.35 b) Danum Valley Conductivity Agreement (R_2)

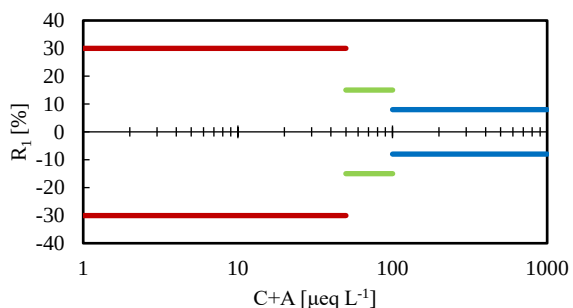


Fig. 3.36 a) Kuching Ion Balance (R_1)

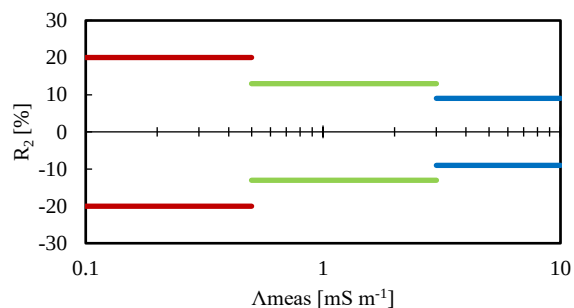


Fig. 3.36 b) Kuching Conductivity Agreement (R_2)

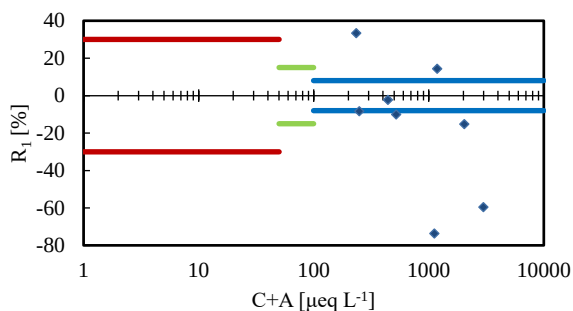


Fig. 3.37 a) Ulaanbaatar Ion Balance (R_1)

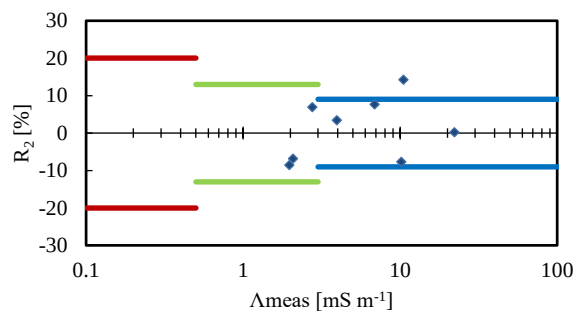


**Fig. 3.37 b) Ulaanbaatar
Conductivity Agreement (R_2)**

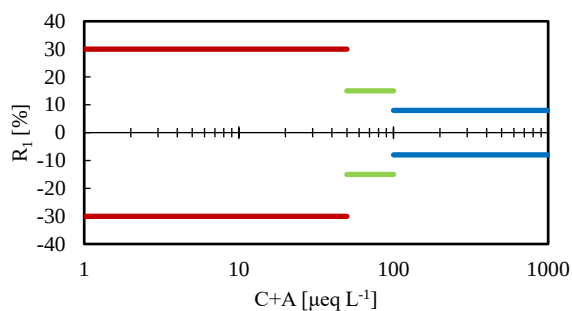


Fig. 3.38 a) Terelj Ion Balance (R_1)

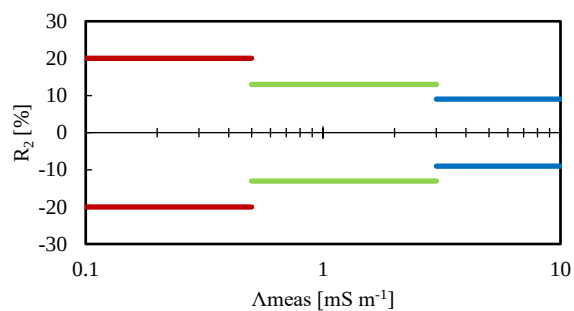


Fig. 3.38 b) Terelj Conductivity Agreement (R_2)

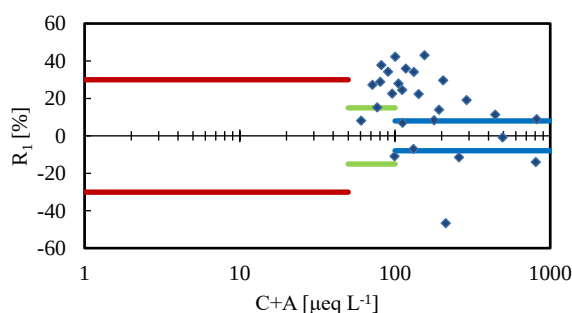


Fig. 3.39 a) Yangon Ion Balance (R_1)

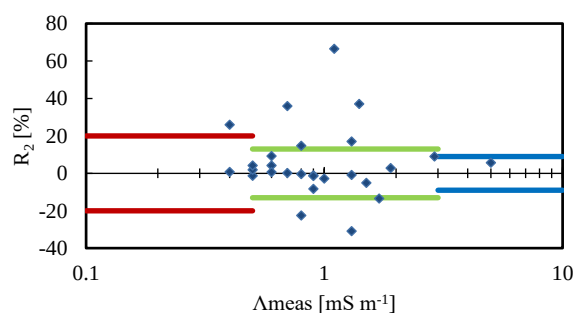


Fig. 3.39 b) Yangon Conductivity Agreement (R_2)

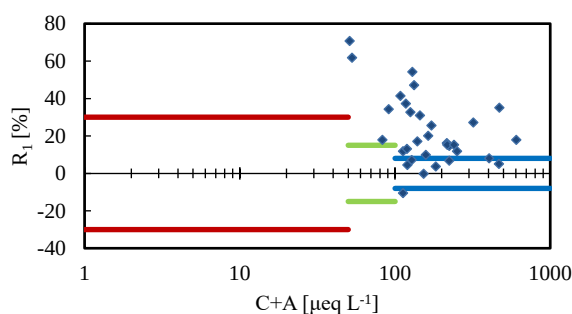


Fig. 3.40 a) Metro Manila Ion Balance (R_1)

All of R_1 plots were calculated including NO_2^-

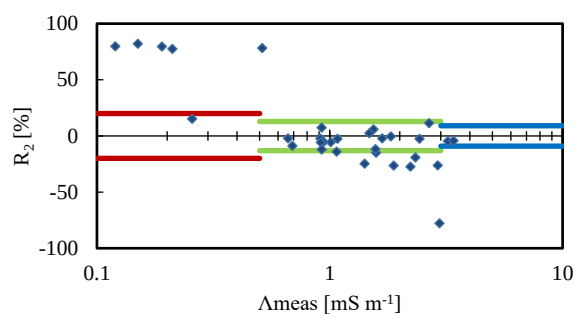


**Fig. 3.40 b) Metro Manila
Conductivity Agreement (R_2)**

All of R_2 plots were calculated including NO_2^-

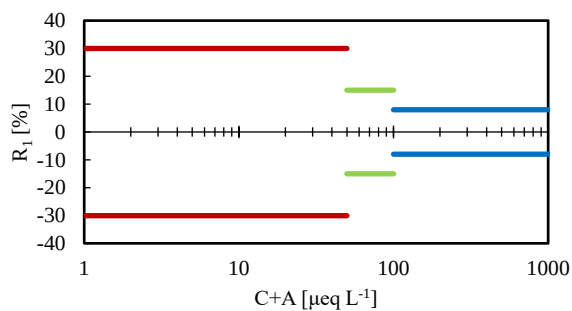


Fig. 3.41 a) Los Baños Ion Balance (R_1)

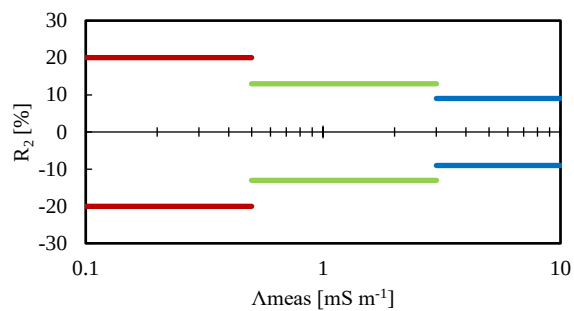


Fig. 3.41 b) Los Baños Conductivity Agreement (R_2)

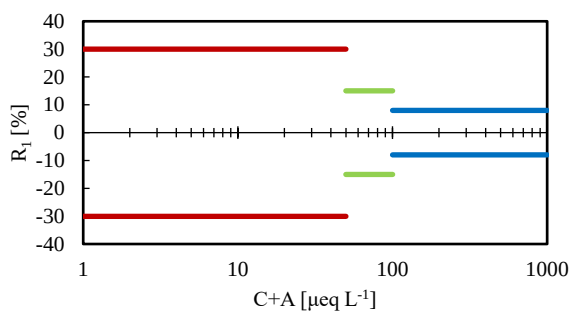


Fig. 3.42 a) Mt. Sto. Tomas Ion Balance (R_1)

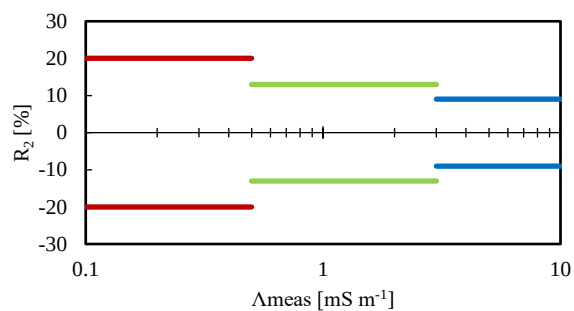


**Fig. 3.42 b) Mt. Sto. Tomas
Conductivity Agreement (R_2)**

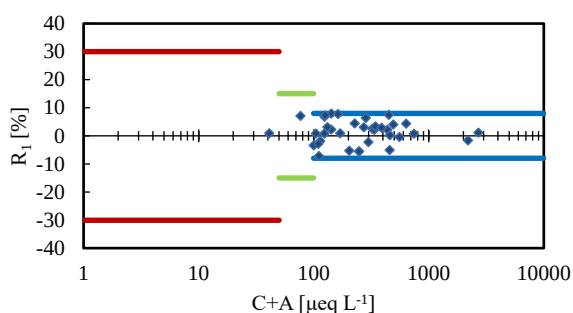


Fig. 3.43 a) Kanghwa Ion Balance (R_1)

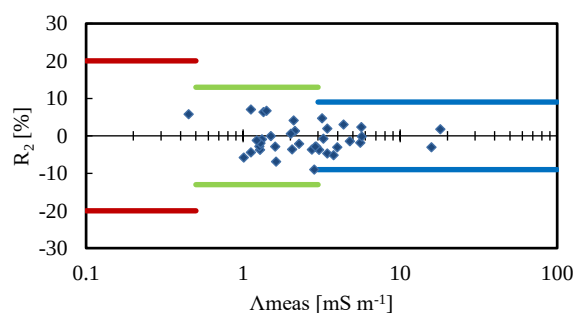


Fig. 3.43 b) Kanghwa Conductivity Agreement (R_2)

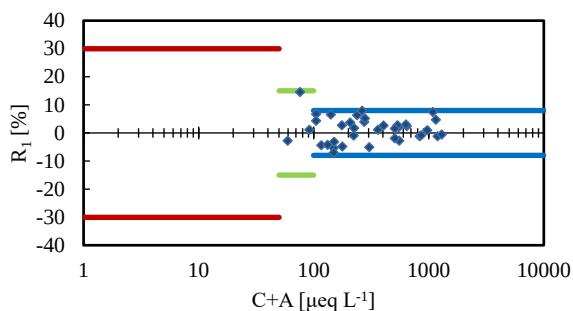


Fig. 3.44 a) Cheju Ion Balance (R_1)

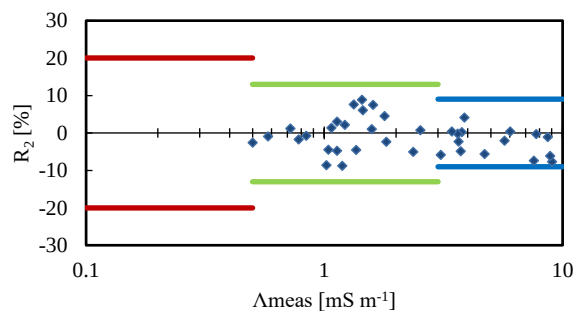


Fig. 3.44 b) Cheju Conductivity Agreement (R_2)

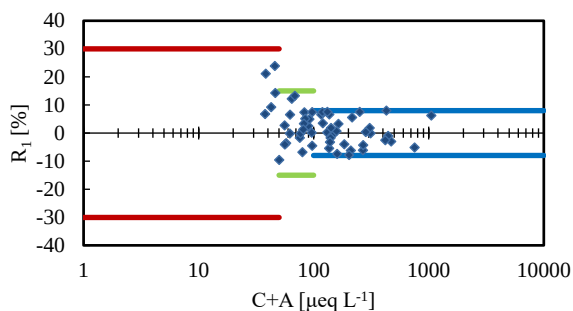


Fig. 3.45 a) Imsil Ion Balance (R_1)

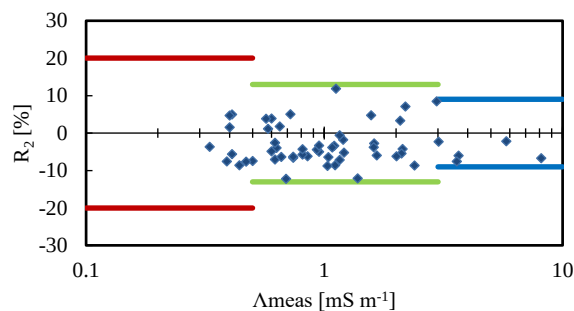


Fig. 3.45 b) Imsil Conductivity Agreement (R_2)

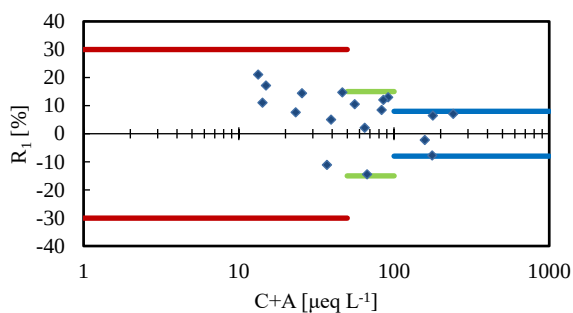


Fig. 3.46 a) Mondy Ion Balance (R_1)

All of R_1 plots were calculated including HCO_3^- , Br^- , NO_2^- and PO_4^{3-}

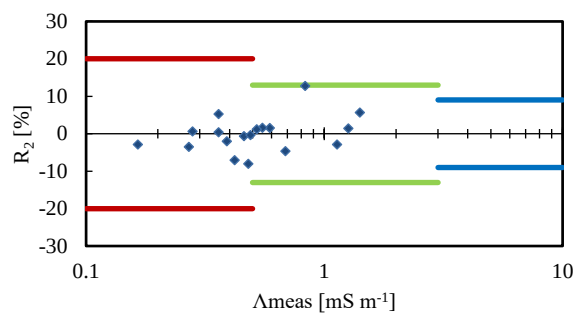


Fig. 3.46 b) Mondy Conductivity Agreement (R_2)

All of R_2 plots were calculated including HCO_3^- , Br^- , NO_2^- and PO_4^{3-}

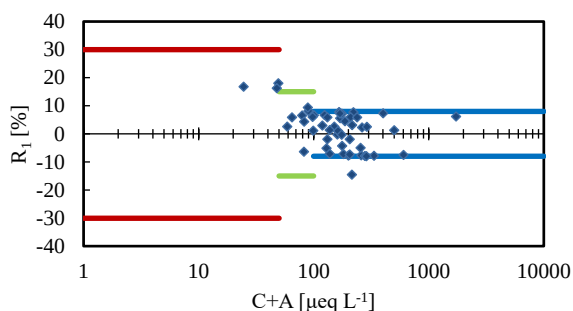


Fig. 3.47 a) Listvyanka Ion Balance (R_1)

All of R_1 plots were calculated including HCO_3^- , Br^- , NO_2^- and PO_4^{3-}

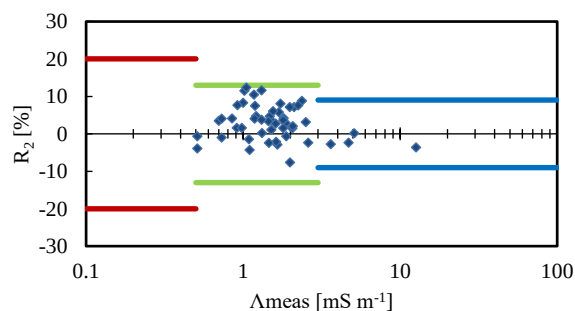


Fig. 3.47 b) Listvyanka Conductivity Agreement (R_2)

All of R_2 plots were calculated including HCO_3^- , Br^- , NO_2^- and PO_4^{3-}

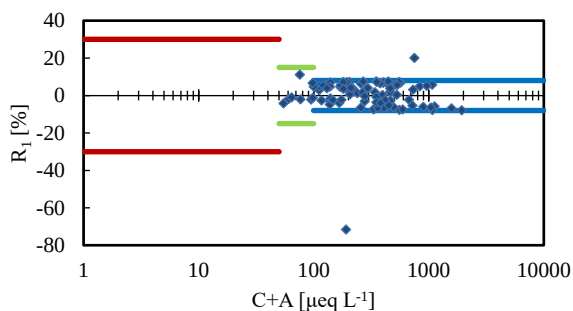


Fig. 3.48 a) Irkutsk Ion Balance (R_1)

All of R_1 plots were calculated including HCO_3^- , Br^- , NO_2^- and PO_4^{3-}

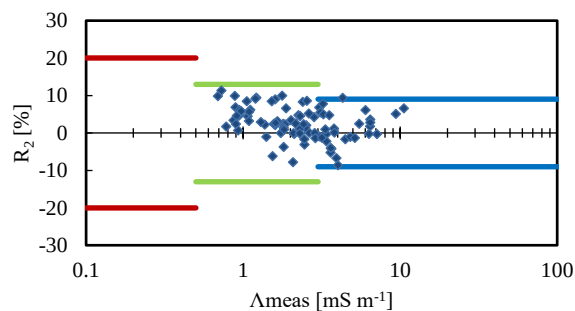


Fig. 3.48 b) Irkutsk Conductivity Agreement (R_2)

All of R_2 plots were calculated including HCO_3^- , Br^- , NO_2^- and PO_4^{3-}

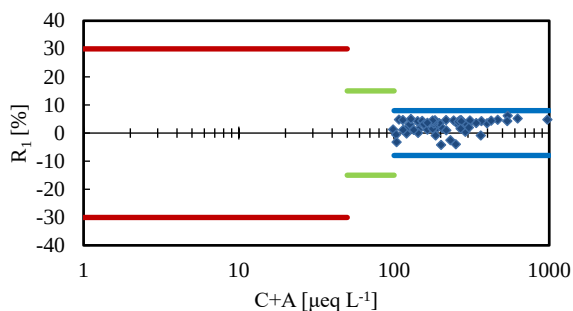


Fig. 3.49 a) Primorskaya Ion Balance (R_1)

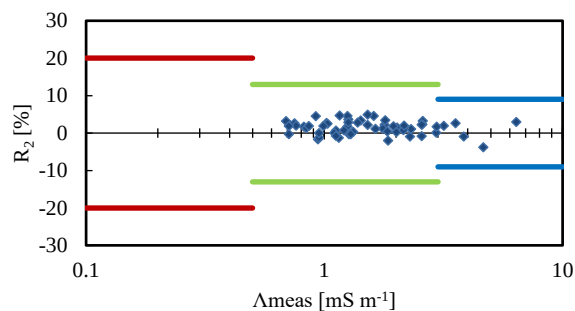


**Fig. 3.49 b) Primorskaya
Conductivity Agreement (R_2)**

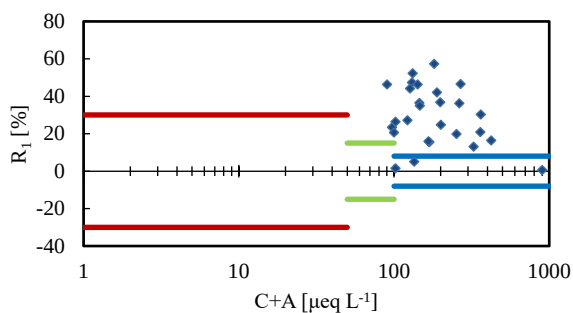


Fig. 3.50 a) Bangkok Ion Balance (R_1)

All of R_1 plots were calculated including PO_4^{3-} , Formic and Acetic acid

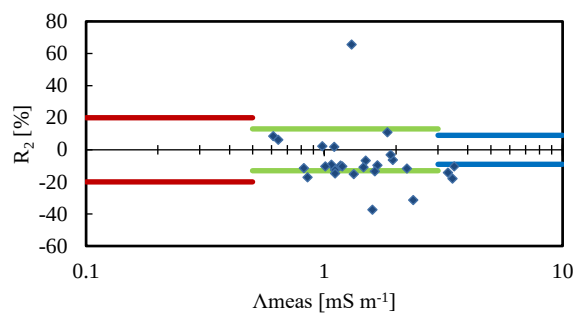


Fig. 3.50 b) Bangkok Conductivity Agreement (R_2)

All of R_2 plots were calculated including PO_4^{3-} , Formic and Acetic acid

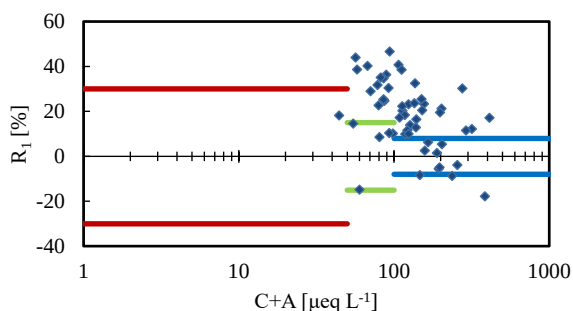


Fig. 3.51 a) Samutprakarn Ion Balance (R_1)

All of R_1 plots were calculated including PO_4^{3-} , Formic and Acetic acid

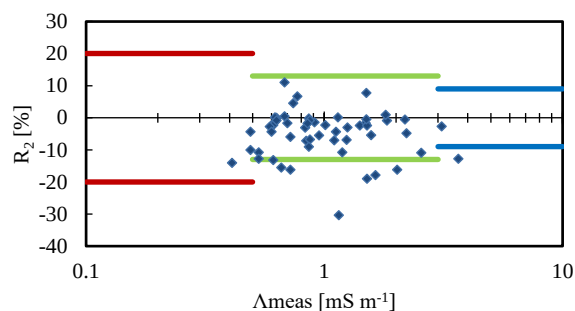


**Fig. 3.51 b) Samutprakarn
Conductivity Agreement (R_2)**

All of R_2 plots were calculated including PO_4^{3-} , Formic and Acetic acid

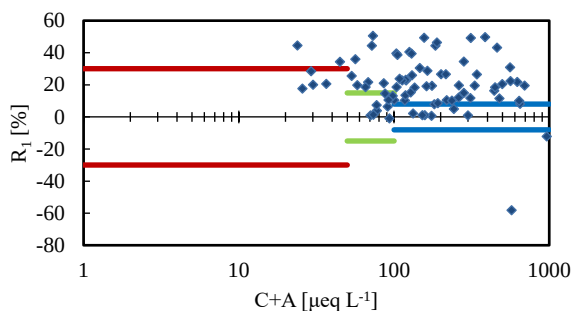


Fig. 3.52 a) Pathumthani Ion Balance (R_1)

All of R_1 plots were calculated including PO_4^{3-} , Formic and Acetic acid

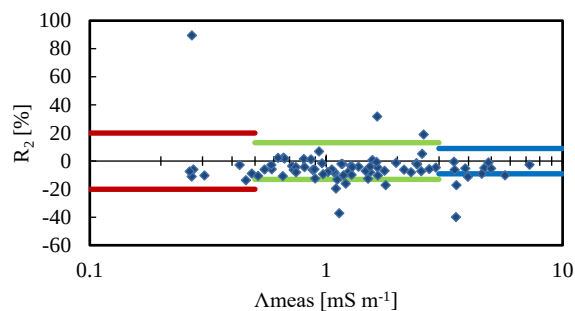


**Fig. 3.52 b) Pathumthani
Conductivity Agreement (R_2)**

All of R_2 plots were calculated including PO_4^{3-} , Formic and Acetic acid

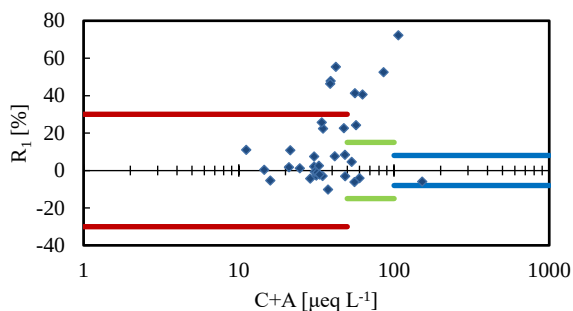


Fig. 3.53 a) Khanchanaburi Ion Balance (R_1)

All of R_1 plots were calculated including PO_4^{3-} , Formic and Acetic acid

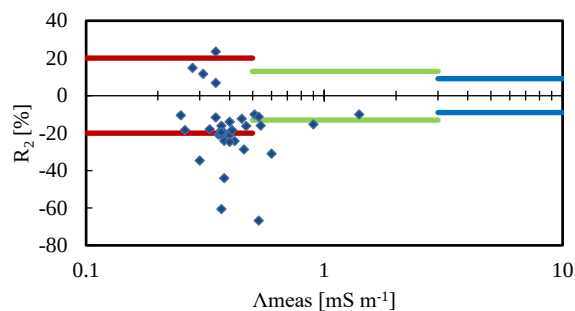


**Fig. 3.53 b) Khanchanaburi
Conductivity Agreement (R_2)**

All of R_2 plots were calculated including PO_4^{3-} , Formic and Acetic acid

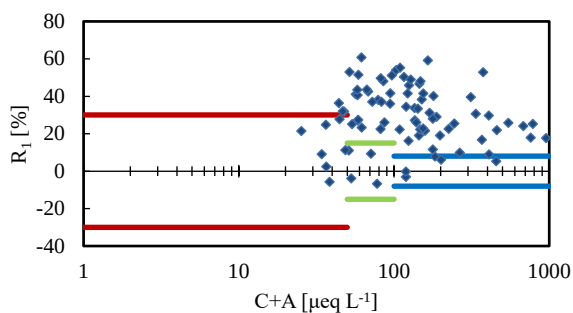


Fig. 3.54 a) Mae Hia Ion Balance (R_1)

All of R_1 plots were calculated including PO_4^{3-} , Formic and Acetic acid

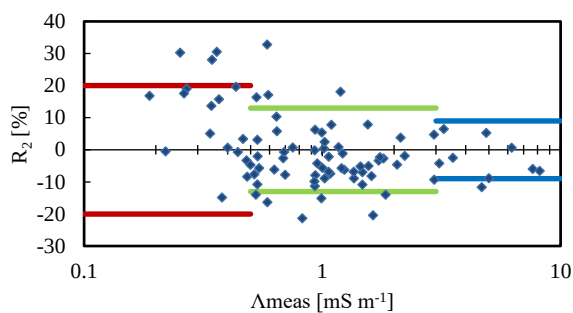


Fig. 3.54 b) Mae Hia Conductivity Agreement (R_2)

All of R_2 plots were calculated including PO_4^{3-} , Formic and Acetic acid

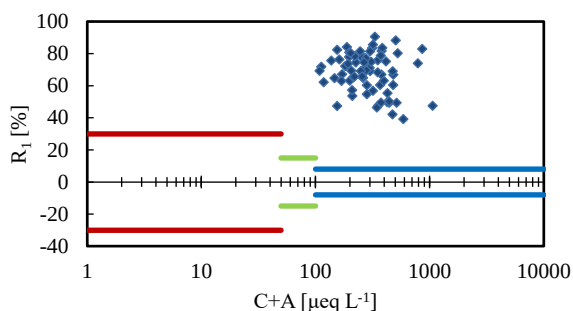


Fig. 3.55 a) Sakaerat Ion Balance (R_1)

All of R_1 plots were calculated including PO_4^{3-} , Formic and Acetic acid

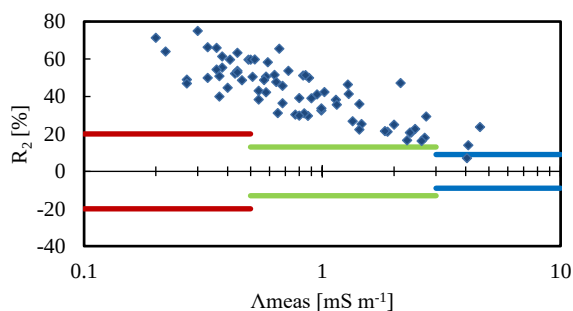


Fig. 3.55 b) Sakaerat Conductivity Agreement (R_2)

All of R_2 plots were calculated including PO_4^{3-} , Formic and Acetic acid

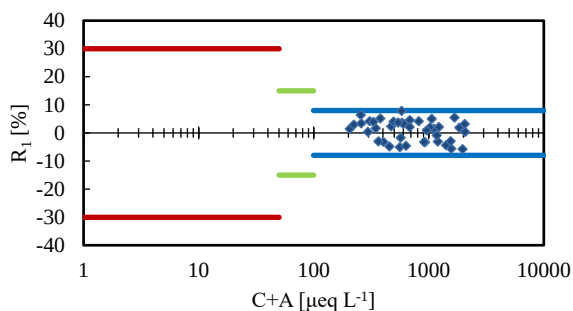


Fig. 3.56 a) Hanoi Ion Balance (R_1)

All of R_1 plots were calculated including F^-

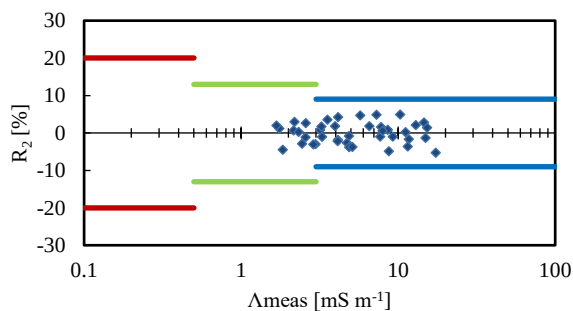


Fig. 3.56 b) Hanoi Conductivity Agreement (R_2)

All of R_2 plots were calculated including F^-

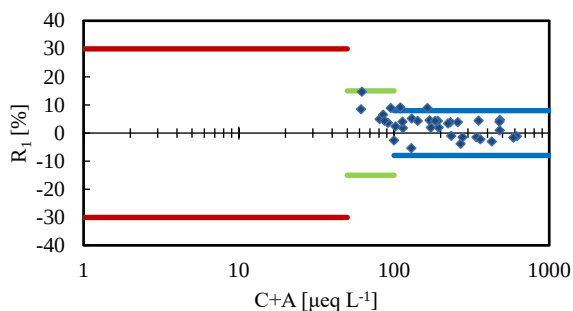


Fig. 3.57 a) Hoa Binh Ion Balance (R_1)

All of R_1 plots were calculated including F^-

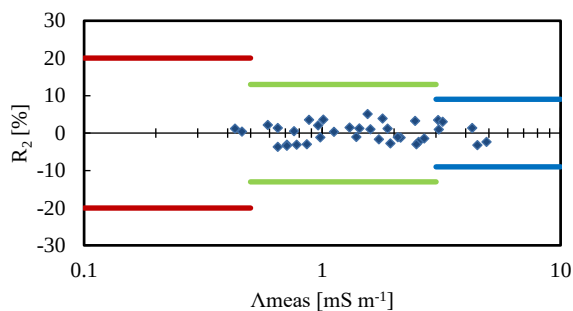


Fig. 3.57 b) Hoa Binh Conductivity Agreement (R_2)

All of R_2 plots were calculated including F^-

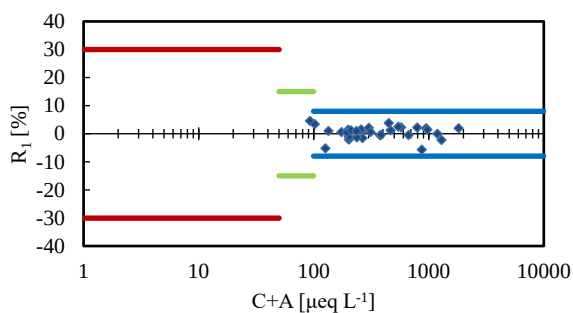


Fig. 3.58 a) Cuc Phuong Ion Balance (R_1)

All of R_1 plots were calculated including HCO_3^- and F^-

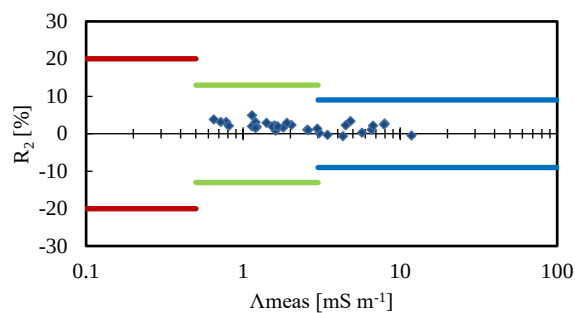


Fig. 3.58 b) Cuc Phuong Conductivity Agreement (R_2)

All of R_2 plots were calculated including HCO_3^- and F^-

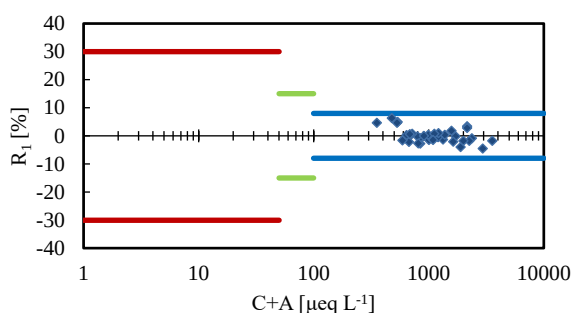


Fig. 3.59 a) Da Nang Ion Balance (R_1)

All of R_1 plots were calculated including HCO_3^- and F^-

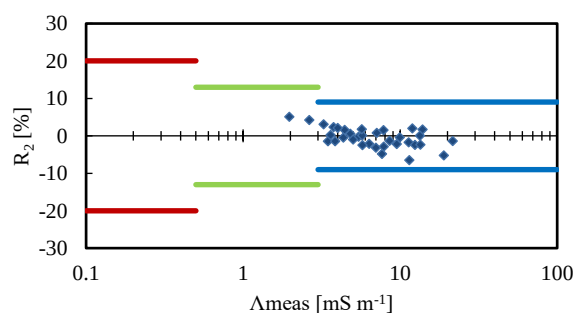


Fig. 3.59 b) Da Nang Conductivity Agreement (R_2)

All of R_2 plots were calculated including HCO_3^- and F^-

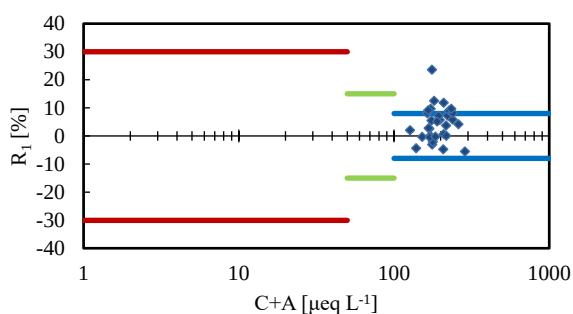


Fig. 3.60 a) Can Tho Ion Balance (R_1)

All of R_1 plots were calculated including F^-

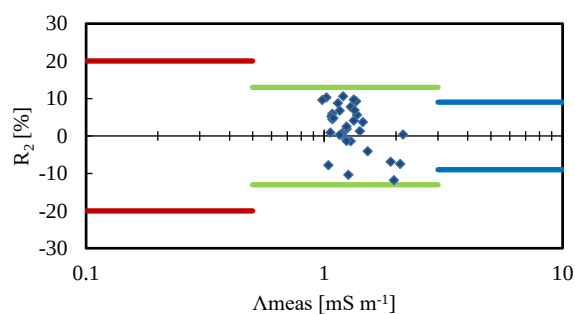


Fig. 3.60 b) Can Tho Conductivity Agreement (R_2)

All of R_2 plots were calculated including F^-

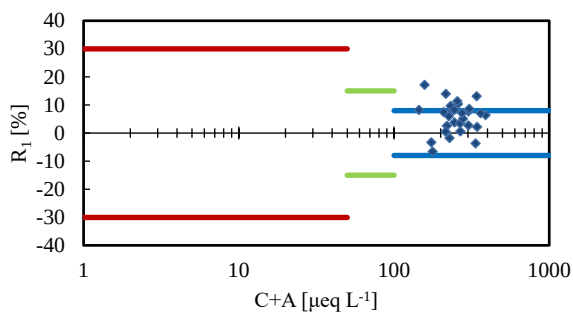


Fig. 3.61 a) Ho Chi Minh Ion Balance (R_1)

All of R_1 plots were calculated including F^-

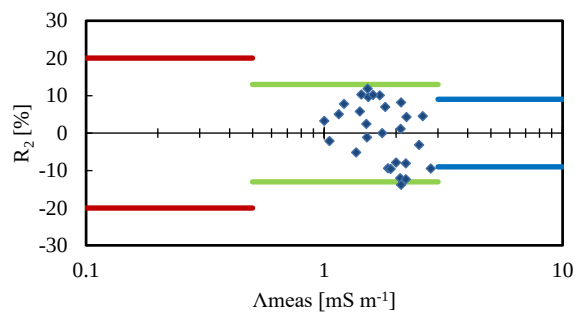


Fig. 3.61 b) Ho Chi Minh Conductivity Agreement (R_2)

All of R_2 plots were calculated including F^-

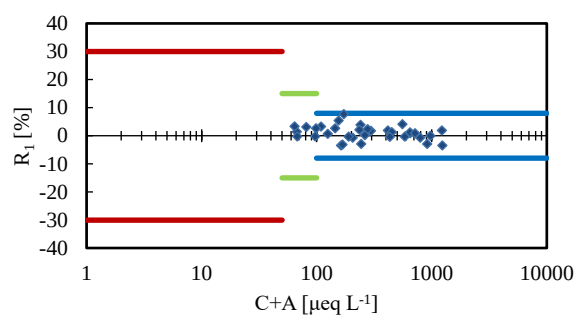


Fig. 3.62 a) Yen Bai Ion Balance (R_1)

All of R_1 plots were calculated including F^-

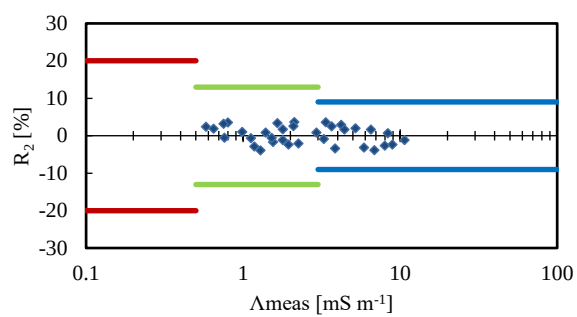


Fig. 3.62 b) Yen Bai Conductivity Agreement (R_2)

All of R_2 plots were calculated including F^-

Table 3.98 Concentration, deposition and data completeness of HCO_3^-

Precipitation amount-weighted average concentration/ Precipitation amount														
unit : $\mu\text{mol L}^{-1}$														
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Russia	Mondy	--	--	23.6	--	32.3	2.77	<1	<1	6.75	14.7	--	--	5.38
	Listvyanka	<1	--	<1	<1	5.55	<1	<1	9.95	<1	<1	<1	<1	1.90
	Irkutsk	159	344	45.9	37.9	58.2	<1	<1	6.68	2.06	15.8	56.0	37.2	12.7
Vietnam	Cuc Phuong	<1	40.2	81.5	<1	25.3	69.7	26.3	14.0	24.0	7.81	30.0	60.0	19.3
	Da Nang	112	*	514	--	867	640	292	208	123	151	174	242	185
Wet deposition amount														
unit: $\text{mmol m}^{-2}\text{month}^{-1}$ or $\text{mmol m}^{-2}\text{year}^{-1}$														
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Russia	Mondy	0.00	0.00	0.170	0.00	0.223	0.0884	<0.01	0.0616	0.279	0.160	0.00	0.00	0.982
	Listvyanka	<0.01	0.00	<0.01	<0.01	0.102	<0.01	<0.01	0.713	<0.01	<0.01	<0.01	<0.01	0.815
	Irkutsk	1.27	0.172	0.952	0.247	0.512	<0.01	<0.01	0.182	0.104	0.340	0.532	0.799	5.11
Vietnam	Cuc Phuong	<0.01	1.12	3.23	<0.01	6.51	2.33	2.55	8.99	2.48	2.15	0.606	0.822	30.4
	Da Nang	30.5	*	17.7	0.00	46.0	7.10	12.5	46.9	33.8	124	48.9	30.3	397
Data completeness														
%TP														
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Russia	Mondy	--	--	100	--	100	100	100	100	100	100	--	--	100
	Listvyanka	100	--	100	100	100	100	100	100	100	100	100	100	100
	Irkutsk	100	100	100	100	100	100	100	100	100	100	100	100	100
Vietnam	Cuc Phuong	60.1	81.3	94.2	77.1	99.2	92.8	96.1	99.7	100	100	57.4	55.5	96.9
	Da Nang	100	0.0	100	--	96.6	94.6	100	100	100	100	99.7	98.2	99.7

Terms and abbreviations are given in Table 3.5.

Table 3.99 Concentration, deposition and data completeness of F⁻

Precipitation amount-weighted average concentration/ Precipitation amount														unit : $\mu\text{mol L}^{-1}$
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
China	Haifu	8.41	6.49	4.19	1.65	2.59	1.41	1.13	1.12	1.62	1.72	5.42	6.76	2.10
	Jinyunshan	8.36	17.1	3.87	1.26	1.57	<1	1.10	<1	1.48	1.10	3.49	7.08	1.61
	Hongwen	39.8	19.2	21.0	11.5	20.3	14.5	56.7	314	--	--	--	45.0	99.1
	Xiaoping	23.7	16.7	8.86	4.02	9.25	10.7	14.4	10.9	--	--	--	4.16	10.2
	Xiang Zhou	1.58	1.54	3.86	1.05	1.27	<1	<1	<1	1.80	1.99	--	--	1.11
	Zhuxiandong	--	<1	1.18	1.09	1.79	<1	<1	1.02	1.43	2.45	--	--	1.13
	Wuzhishan	--	<1	1.32	1.68	6.56	2.94	3.09	1.14	1.02	<1	<1	--	2.34
	Lijiang	<1	<1	<1	1.86	--	<1	<1	<1	<1	<1	--	--	<1
Japan	Yusuhara	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1.44	<1	<1
Vietnam	Hanoi	14.8	18.5	26.6	12.9	9.85	6.08	5.80	3.88	4.13	5.67	7.44	27.2	6.57
	Hoa Binh	3.74	7.10	4.32	2.22	1.40	1.04	1.34	<1	2.29	1.35	1.74	4.26	1.38
	Cuc Phuong	1.00	1.31	3.34	1.15	1.05	1.18	<1	1.10	<1	<1	1.11	5.74	1.14
	Da Nang	10.3	*	10.2	--	9.63	9.21	9.07	8.96	9.49	8.61	8.77	9.19	9.09
	Can Tho	1.48	--	--	1.82	1.16	1.53	1.17	1.16	1.15	1.14	1.39	--	1.27
	Ho Chi Minh	*	--	--	2.05	1.28	2.29	1.12	1.51	1.01	1.04	1.22	--	1.36
	Yen Bai	3.08	3.36	8.11	8.02	4.71	2.13	1.36	3.35	2.06	1.50	2.51	10.6	3.13
Wet deposition amount														unit: $\text{mmol m}^{-2}\text{month}^{-1}$ or $\text{mmol m}^{-2}\text{year}^{-1}$
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
China	Haifu	0.122	0.0208	0.237	0.238	0.383	0.316	0.237	0.0563	0.128	0.370	0.300	0.162	2.57
	Jinyunshan	0.0777	0.0411	0.125	0.0598	0.254	0.153	0.169	0.0375	0.123	0.236	0.227	0.171	1.67
	Hongwen	0.286	0.715	5.45	1.51	3.41	1.23	3.26	85.5	0.00	0.00	0.00	0.445	102
	Xiaoping	0.136	0.634	1.37	0.345	1.58	2.70	1.87	1.50	0.00	0.00	0.00	0.151	10.3
	Xiang Zhou	<0.01	0.214	0.550	0.221	0.504	0.218	0.0871	0.177	0.168	0.0737	0.00	0.00	2.22
	Zhuxiandong	0.00	0.0945	0.207	0.280	0.569	0.200	0.117	0.458	0.209	0.246	0.00	0.00	2.38
	Wuzhishan	0.00	0.0171	0.0140	0.169	1.48	0.293	0.634	0.464	0.300	0.0910	0.0307	0.00	3.49
	Lijiang	<0.01	<0.01	<0.01	0.0183	0.00	0.0148	0.134	0.0198	0.0269	<0.01	0.00	0.00	0.215
Japan	Yusuhara	0.0379	0.110	0.114	0.102	0.143	0.180	0.338	0.297	0.0863	0.161	0.0657	0.107	1.74
Vietnam	Hanoi	0.312	0.341	0.416	1.03	1.74	0.605	0.389	2.25	0.193	0.865	0.199	0.152	8.48
	Hoa Binh	0.0546	0.177	0.0190	0.0980	0.521	0.139	0.217	0.392	0.164	0.289	0.0333	0.0111	2.11
	Cuc Phuong	0.0168	0.0364	0.133	0.0502	0.270	0.0397	0.0918	0.705	0.101	0.274	0.0223	0.0786	1.79
	Da Nang	2.78	*	0.351	0.00	0.512	0.102	0.389	2.02	2.61	7.09	2.46	1.15	19.5
	Can Tho	0.0829	0.00	0.00	0.296	0.386	0.483	0.344	0.365	0.300	0.513	0.249	0.00	3.02
	Ho Chi Minh	*	0.00	0.00	0.0797	0.394	0.723	0.365	0.579	0.430	0.348	0.152	0.00	3.08
	Yen Bai	0.159	0.174	0.0940	0.622	1.06	0.288	0.324	1.60	0.174	0.300	0.0721	0.120	4.99
Data completeness														%TP
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
China	Haifu	100	93.8	100	100	100	99.9	100	100	100	100	99.6	100	100
	Jinyunshan	100	100	100	100	100	100	100	100	100	100	100	100	100
	Hongwen	100	100	100	100	100	100	100	100	--	--	--	100	100
	Xiaoping	100	100	100	100	100	100	100	100	--	--	--	100	100
	Xiang Zhou	100	100	100	100	100	100	100	100	100	100	--	--	100
	Zhuxiandong	--	100	100	100	100	100	100	100	100	100	--	--	100
	Wuzhishan	--	100	100	100	100	100	100	100	100	100	100	--	100
	Lijiang	100	100	100	100	--	100	100	100	100	100	--	--	100
Japan	Yusuhara	100	99.6	100	100	100	100	100	100	99.9	100	98.9	100	100
Vietnam	Hanoi	97.1	100	100	100	100	100	100	100	99.8	100	100	92.9	99.9
	Hoa Binh	100	100	100	100	100	100	100	100	100	100	97.9	61.5	99.9
	Cuc Phuong	60.1	81.3	94.2	77.1	99.2	92.8	96.1	99.7	100	100	57.4	55.5	96.9
	Da Nang	100	0.0	100	--	96.6	94.6	100	100	100	100	99.7	98.2	99.7
	Can Tho	100	--	--	100	100	100	100	100	100	100	100	--	100
	Ho Chi Minh	0.0	--	--	100	100	100	100	100	100	100	100	--	99.7
	Yen Bai	100	100	100	100	100	100	100	100	100	100	100	100	100

Terms and abbreviations are given in Table 3.5.

Table 3.100 Concentration, deposition and data completeness of Br⁻

Precipitation amount-weighted average concentration/ Precipitation amount															unit : $\mu\text{mol L}^{-1}$	
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual		
Russia	Mondy	--	--	*	--	*	*	*	*	*	*	--	--	*		
	Listvyanka	*	--	*	*	*	*	*	*	*	*	*	*	*		
	Irkutsk	*	*	*	*	*	*	*	*	*	*	*	*	*		
Wet deposition amount															unit: $\text{mmol m}^{-2}\text{month}^{-1}$ or $\text{mmol m}^{-2}\text{year}^{-1}$	
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual		
Russia	Mondy	0.00	0.00	*	0.00	*	*	*	*	*	*	0.00	0.00	*		
	Listvyanka	*	0.00	*	*	*	*	*	*	*	*	*	*	*		
	Irkutsk	*	*	*	*	*	*	*	*	*	*	*	*	*		
Data completeness															%TP	
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual		
Russia	Mondy	--	--	0.0	--	0.0	0.0	0.0	0.0	0.0	0.0	--	--	0.0		
	Listvyanka	0.0	--	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	Irkutsk	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		

Terms and abbreviations are given in Table 3.5.

Table 3.101 Concentration, deposition and data completeness of NO₂⁻

Precipitation amount-weighted average concentration/ Precipitation amount unit : $\mu\text{mol L}^{-1}$														
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Japan	Yusuhara	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Ogasawara	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Tokyo	2.40	1.96	1.39	1.01	<1	<1	<1	<1	<1	<1	1.23	1.46	<1
Philippines	Metro Manila	*	*	22.7	<1	<1	1.07	<1	<1	1.34	8.63	<1	<1	1.46
Russia	Mondy	--	--	<1	--	<1	<1	<1	<1	<1	<1	--	--	<1
	Listvyanka	<1	--	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Irkutsk	<1	1.39	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Wet deposition amount unit: $\text{mmol m}^{-2}\text{month}^{-1}$ or $\text{mmol m}^{-2}\text{year}^{-1}$														
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Japan	Yusuhara	0.0138	0.0327	0.0617	0.0512	0.102	0.101	0.283	0.0528	0.0738	0.0325	0.0114	0.0235	0.839
	Ogasawara	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0105
	Tokyo	0.0345	0.0710	0.138	0.0835	0.0577	0.142	0.154	0.0826	0.0774	0.215	0.154	0.104	1.31
Philippines	Metro Manila	*	*	0.0636	<0.01	0.108	0.511	0.279	0.256	0.535	1.54	0.138	<0.01	3.46
Russia	Mondy	0.00	0.00	<0.01	0.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.00	0.00	0.0144
	Listvyanka	<0.01	0.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0195
	Irkutsk	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0479
Data completeness %TP														
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Japan	Yusuhara	100	99.6	100	100	100	100	100	100	99.9	100	98.9	100	100
	Ogasawara	92.9	97.4	99.9	96.7	84.4	99.5	99.4	99.2	99.8	70.7	98.8	100	91.4
	Tokyo	97.3	99.3	99.3	100	99.8	100	100	97.8	99.9	100	99.4	99.3	99.7
Philippines	Metro Manila	0.0	0.0	100	100	100	100	100	100	100	100	100	97.1	99.5
Russia	Mondy	--	--	100	--	100	100	100	100	100	100	--	--	100
	Listvyanka	100	--	100	100	100	100	100	100	100	100	100	100	100
	Irkutsk	100	100	100	100	100	100	100	100	100	100	100	100	100

Terms and abbreviations are given in Table 3.5.

Table 3.102 Concentration, deposition and data completeness of PO₄³⁻

Precipitation amount-weighted average concentration/ Precipitation amount														
unit : $\mu\text{mol L}^{-1}$														
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Japan	Yusuhara	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Russia	Mondy	--	--	<1	--	<1	<1	<1	<1	<1	<1	--	--	<1
	Listvyanka	<1	--	<1	<1	<1	<1	<1	<1	<1	1.17	<1	<1	<1
	Irkutsk	<1	<1	<1	<1	1.77	<1	<1	<1	1.14	1.65	<1	<1	<1
Thailand	Bangkok	--	--	--	--	<1	--	<1	<1	<1	<1	--	--	<1
	Samutprakarn	--	--	--	<1	<1	<1	<1	<1	<1	<1	--	--	<1
	Pathumthani	--	--	<1	<1	<1	14.9	<1	<1	<1	<1	<1	--	2.58
	Khanchanaburi	--	--	--	--	--	<1	<1	<1	<1	--	--	--	<1
	Mae Hia	--	--	--	<1	3.06	2.27	<1	1.33	<1	<1	<1	<1	1.15
	Sakaerat	--	<1	<1	<1	<1	<1	<1	<1	<1	<1	--	--	<1
Wet deposition amount														
unit: $\text{mmol m}^{-2}\text{month}^{-1}$ or $\text{mmol m}^{-2}\text{year}^{-1}$														
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Japan	Yusuhara	<0.01	<0.01	<0.01	0.0107	<0.01	0.0173	0.0135	0.0231	<0.01	<0.01	0.0369	<0.01	0.137
Russia	Mondy	0.00	0.00	<0.01	0.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.00	0.00	0.0133
	Listvyanka	<0.01	0.00	<0.01	<0.01	<0.01	<0.01	<0.01	0.0326	0.0257	0.0135	<0.01	<0.01	0.0933
	Irkutsk	<0.01	<0.01	<0.01	<0.01	0.0156	0.0154	<0.01	0.0100	0.0577	0.0354	<0.01	<0.01	0.150
Thailand	Bangkok	0.00	0.00	0.00	0.00	<0.01	0.00	<0.01	0.0210	0.0315	<0.01	0.00	0.00	0.0667
	Samutprakarn	0.00	0.00	0.00	<0.01	<0.01	<0.01	<0.01	0.0141	<0.01	<0.01	0.00	0.00	0.0257
	Pathumthani	0.00	0.00	<0.01	<0.01	<0.01	2.03	0.0366	<0.01	<0.01	<0.01	<0.01	0.00	2.08
	Khanchanaburi	0.00	0.00	0.00	0.00	0.00	<0.01	0.0151	0.0260	<0.01	0.00	0.00	0.00	0.0457
	Mae Hia	0.00	0.00	0.00	<0.01	0.334	0.182	<0.01	0.294	0.0228	0.0251	<0.01	<0.01	0.870
	Sakaerat	0.00	<0.01	<0.01	<0.01	<0.01	<0.01	0.0456	0.0298	0.0382	0.0198	0.00	0.00	0.152
Data completeness														
%TP														
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Japan	Yusuhara	100	99.6	100	100	100	100	100	100	99.9	100	98.9	100	100
Russia	Mondy	--	--	100	--	100	100	100	100	100	100	--	--	100
	Listvyanka	100	--	100	100	100	100	100	100	100	100	100	100	100
	Irkutsk	100	100	100	100	100	100	100	100	100	100	100	100	100
Thailand	Bangkok	--	--	--	--	100	--	100	100	100	100	--	--	100
	Samutprakarn	--	--	--	100	100	100	100	100	100	100	--	--	100
	Pathumthani	--	--	100	100	100	100	100	100	100	100	100	--	100
	Khanchanaburi	--	--	--	--	--	100	100	100	100	--	--	--	100
	Mae Hia	--	--	--	100	100	100	100	100	99.8	100	100	100	100
	Sakaerat	--	100	100	100	100	100	100	100	99.7	100	--	--	99.9

Terms and abbreviations are given in Table 3.5.

Table 3.103 Concentration, deposition and data completeness of Formic Acid

Precipitation amount-weighted average concentration/ Precipitation amount unit : $\mu\text{mol L}^{-1}$														
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Thailand	Bangkok	--	--	--	--	<1	--	<1	<1	3.60	<1	--	--	1.69
	Samutprakarn	--	--	--	<1	<1	<1	<1	<1	<1	<1	--	--	<1
	Pathumthani	--	--	<1	6.01	<1	<1	2.46	<1	<1	<1	<1	--	1.53
	Khanchanaburi	--	--	--	--	--	<1	<1	<1	<1	--	--	--	<1
	Mae Hia	--	--	--	14.7	1.73	2.54	<1	2.89	5.31	<1	<1	<1	2.50
	Sakaerat	--	1.54	1.35	1.06	<1	1.31	<1	<1	<1	<1	--	--	<1
Wet deposition amount unit: $\text{mmol m}^{-2} \text{month}^{-1}$ or $\text{mmol m}^{-2} \text{year}^{-1}$														
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Thailand	Bangkok	0.00	0.00	0.00	0.00	<0.01	0.00	<0.01	0.0956	0.939	0.0250	0.00	0.00	1.07
	Samutprakarn	0.00	0.00	0.00	<0.01	0.0203	0.0184	0.0221	<0.01	0.0270	0.0496	0.00	0.00	0.152
	Pathumthani	0.00	0.00	<0.01	0.869	<0.01	0.0533	0.255	<0.01	0.0423	<0.01	<0.01	0.00	1.23
	Khanchanaburi	0.00	0.00	0.00	0.00	0.00	0.0181	0.0127	0.0544	0.0162	0.00	0.00	0.00	0.101
	Mae Hia	0.00	0.00	0.00	0.133	0.189	0.204	<0.01	0.637	0.630	0.0943	<0.01	<0.01	1.88
	Sakaerat	0.00	0.0270	0.0973	0.0670	0.0362	0.224	0.157	0.138	0.212	0.0847	0.00	0.00	1.04
Data completeness %TP														
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Thailand	Bangkok	--	--	--	--	100	--	100	100	100	100	--	--	100
	Samutprakarn	--	--	--	100	100	100	100	100	100	100	--	--	100
	Pathumthani	--	--	100	100	100	100	100	100	99.9	99.4	100	--	99.9
	Khanchanaburi	--	--	--	--	--	100	100	100	100	--	--	--	100
	Mae Hia	--	--	--	100	98.7	100	100	100	98.7	100	100	100	99.6
	Sakaerat	--	100	100	97.9	95.9	99.5	99.8	99.3	99.7	100	--	--	99.4

Terms and abbreviations are given in Table 3.5.

Table 3.104 Concentration, deposition and data completeness of Acetic Acid

Precipitation amount-weighted average concentration/ Precipitation amount unit : $\mu\text{mol L}^{-1}$														
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Thailand	Bangkok	--	--	--	--	<1	--	5.47	<1	2.59	<1	--	--	2.12
	Samutprakarn	--	--	--	<1	<1	<1	<1	<1	<1	<1	--	--	<1
	Pathumthani	--	--	<1	<1	<1	<1	3.43	<1	<1	<1	<1	--	<1
	Khanchanaburi	--	--	--	--	--	<1	<1	<1	<1	--	--	--	<1
	Mae Hia	--	--	--	<1	3.21	<1	1.62	<1	1.32	<1	<1	<1	1.06
	Sakaerat	--	11.1	4.37	2.90	7.10	9.89	7.08	6.84	4.65	5.77	--	--	6.34
Wet deposition amount unit: $\text{mmol m}^{-2} \text{month}^{-1}$ or $\text{mmol m}^{-2} \text{year}^{-1}$														
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Thailand	Bangkok	0.00	0.00	0.00	0.00	0.0207	0.00	0.515	0.0991	0.677	0.0227	0.00	0.00	1.33
	Samutprakarn	0.00	0.00	0.00	0.0164	0.0432	0.0602	0.0237	0.0222	0.0203	0.0267	0.00	0.00	0.213
	Pathumthani	0.00	0.00	<0.01	0.0705	<0.01	0.121	0.356	0.0139	0.0286	0.0123	<0.01	0.00	0.609
	Khanchanaburi	0.00	0.00	0.00	0.00	0.00	0.0169	0.0633	0.0942	<0.01	0.00	0.00	0.00	0.183
	Mae Hia	0.00	0.00	0.00	<0.01	0.351	0.0332	0.155	0.0802	0.156	0.0274	<0.01	<0.01	0.800
	Sakaerat	0.00	0.194	0.316	0.184	0.278	1.70	1.27	1.17	1.39	0.737	0.00	0.00	7.24
Data completeness %TP														
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Thailand	Bangkok	--	--	--	--	100	--	100	100	100	100	--	--	100
	Samutprakarn	--	--	--	100	100	100	100	100	100	100	--	--	100
	Pathumthani	--	--	100	100	100	100	100	100	99.9	99.4	100	--	99.9
	Khanchanaburi	--	--	--	--	--	100	100	100	100	--	--	--	100
	Mae Hia	--	--	--	100	98.7	100	100	100	98.7	100	100	100	99.6
	Sakaerat	--	100	100	97.9	95.9	99.5	99.8	99.3	99.7	100	--	--	99.4

Terms and abbreviations are given in Table 3.5.

CHAPTER 4

Dry Deposition Monitoring (Air Concentration)

4. Dry Deposition (Air Concentration) Monitoring

4.1 Method

Automatic monitoring and manual monitoring methods were used to implement dry deposition (air concentration) monitoring in 2019. The monitoring items were selected taking into account the priority chemical species defined in *Strategy Paper for Future Direction of Dry Deposition Monitoring of EANET (2016-2020 Edition, 2015)*.

4.1.1 Automatic Monitoring Method

The priority chemical species of SO₂, O₃, NO, NO₂, PM₁₀ and PM_{2.5} are monitored by automatic monitoring methods. The criteria and quality assurance/quality control (QA/QC) for automatic monitoring methods are described in the Chapter 3 of *Technical Manual for Air Concentration Monitoring in East Asia* (Technical Manual).

4.1.2 Manual Monitoring Method

Filter pack and passive sampler are used for manual monitoring in EANET. The filter pack method is used to determine gaseous substances (SO₂, HNO₃, HCl, NH₃) and particulate matter components (SO₄²⁻, NO₃⁻, Cl⁻, NH₄⁺, Na⁺, K⁺, Mg²⁺, Ca²⁺), which are identified as the priority chemical species in EANET. The passive sampler method is also used to determine gaseous species of SO₂, NH₃, NO₂, and O₃. The recommended monitoring method by means of the four-stage filter pack is explained in the Technical Manual. The basic flow chart of the four-stage filter pack method is shown in Figure 4.1. The QA/QC for the manual monitoring methods is described in the Chapter 4 of the Technical Manual.

4.1.3 Monitoring Sites

The measurement methods and parameters at each monitoring site for dry deposition (air concentration) monitoring in 2019 are shown in Table 4.1.1. Automatic monitors were used in Cambodia, China, Indonesia, Japan, Lao PDR, Mongolia, Myanmar, Philippines, Republic of Korea, Thailand, and Vietnam. The methods of automatic monitors are shown in Table 4.1.2. The filter pack method was used in Cambodia, Indonesia, Japan, Lao PDR, Malaysia, Mongolia, Myanmar, Philippines, Republic of Korea, Russia, Thailand and Vietnam, and the passive sampler method was used in Indonesia and Russia in 2019.

Preparation of filter pack

Stage	Specification of filter	Collected species
1 st (F0)	PTFE filter (pore size: 0.8 μm , diameter: 47 mm)	Aerosols
2 nd (F1)	Polyamide filter (pore size: 0.45 μm , diameter: 47 mm)	HNO ₃ , SO ₂ , HCl, NH ₃
3 rd (F2)	Impregnated cellulose filter Solution: 6% K ₂ CO ₃ + 2% glycerin	SO ₂ , HCl
4 th (F3)	Impregnated cellulose filter Solution: 5% H ₃ PO ₄ + 2% glycerin	NH ₃



Sampling on site

Air flow rate: approximately 1 or 2 liter/minute
Sampling period: one week or two weeks



Extraction of filter pack

Stage	Solvent	Extracted species
F0	Extraction with 20 mL of deionized water	SO ₄ ²⁻ , NO ₃ ⁻ , Cl ⁻ , NH ₄ ⁺ , Na ⁺ , K ⁺ , Mg ²⁺ , Ca ²⁺
F1	Extraction with 20 mL of deionized water	SO ₄ ²⁻ , NO ₃ ⁻ , Cl ⁻ , NH ₄ ⁺
F2	Extraction with 20mL of 0.05% H ₂ O ₂	SO ₄ ²⁻ , Cl ⁻
F3	Extraction with 20mL of deionized water	NH ₄ ⁺



Chemical analysis

By ion chromatography or other suitable analytical methods

Figure 4.1 Flow chart of the four-stage filter pack method

Table 4.1.1 Sampling methods and parameters for dry deposition (air concentration) monitoring in 2019

Country	Site	Method	Parameter
Cambodia	Phnom Penh	AT* ² FP* ¹	O ₃ , PM _{2.5} SO ₂ , HNO ₃ , HCl, NH ₃ , PMC
China	Chongqing	AT	SO ₂ , NO, NO _x *, PM ₁₀
	- Jinyunshan		
	Xiamen		
	- Hongwen		
	Zhuhai		
	- Haibin-Park		
Indonesia	Wuzhishan* ³	AT	SO ₂ , NO ₂ , PM ₁₀
	Lijiang* ³	AT	SO ₂ , NO ₂ , PM ₁₀
	Jakarta	AT	PM _{2.5}
		FP	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC
		PS	SO ₂ , NO ₂
	Serpong	FP	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC
Japan	Kototabang	PS	SO ₂ , NO ₂
	Bandung	AT	O ₃
		FP	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC
		PS	SO ₂ , NO ₂ , NH ₃ , O ₃
	Rishiri	AT	SO ₂ , NO, NO _x *, O ₃ , PM ₁₀ , PM _{2.5}
		FP	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC
	Ochiichi	AT	SO ₂ , NO, NO _x *, O ₃ , PM ₁₀ , PM _{2.5}
		FP	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC
	Sado-seki	AT	SO ₂ , NO, NO _x *, O ₃ , PM ₁₀ , PM _{2.5}
		FP	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC
	Happo	AT	SO ₂ , NO, NO _x *, O ₃ , PM ₁₀ , PM _{2.5}
		FP	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC
	Ijira	AT	SO ₂ , NO, NO _x *, O ₃ , PM ₁₀ , PM _{2.5}
		FP	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC
	Oki	AT	SO ₂ , NO, NO _x *, O ₃ , PM ₁₀ , PM _{2.5}
		FP	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC
	Yusuhara	AT	SO ₂ , NO, NO _x *, O ₃ , PM ₁₀ , PM _{2.5}
		FP	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC
	Hedo	AT	SO ₂ , NO, NO _x *, O ₃ , PM ₁₀ , PM _{2.5}
		FP	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC
	Ogasawara	AT	SO ₂ , NO, NO _x *, O ₃ , PM ₁₀ , PM _{2.5}
		FP	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC
	Tokyo	FP	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC
	Niigata-maki* ³	AT	SO ₂ , NO, NO _x *, O ₃
	Tsushima* ³	AT	O ₃ , PM ₁₀ , PM _{2.5}
Lao PDR	Vientiane	AT	NO, NO ₂ , NO _x , PM ₁₀ , PM _{2.5}
		FP* ¹	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC

Table 4.1.1 Sampling methods and parameters for dry deposition (air concentration) monitoring in 2019 (continued)

Country	Site	Method	Parameter
Malaysia	Petaling Jaya	FP* ¹	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC
	Tanah Rata	FP* ¹	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC
	Danum Valley	FP* ¹	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC
Mongolia	Ulaanbaatar	AT	SO ₂ , NO, NO ₂ , NO _x , O ₃ , PM ₁₀ , PM _{2.5}
		FP	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC
	Terelj	FP	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC
Myanmar	Yangon	AT	PM _{2.5}
		FP	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC
	Mandalay	AT	PM _{2.5}
Philippines	Metro Manila	AT	NO, NO ₂ , NO _x , O ₃ , PM ₁₀ , PM _{2.5}
		FP	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC
	Los Baños	FP* ¹	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC
	Mt. Sto. Tomas	FP* ¹	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC
Republic of Korea	Kanghwa	AT	SO ₂ , NO ₂ , O ₃ , PM ₁₀ , PM _{2.5}
		FP	HNO ₃ , HCl, NH ₃ , PMC in PM _{2.5}
	Cheju	AT	SO ₂ , NO ₂ , O ₃ , PM ₁₀ , PM _{2.5}
	(Kosan)	FP	HNO ₃ , HCl, NH ₃ , PMC in PM _{2.5}
	Imsil	AT* ²	SO ₂ , NO ₂ , O ₃ , PM ₁₀ , PM _{2.5}
		FP	HNO ₃ , HCl, NH ₃ , PMC in PM _{2.5}
Russia	Mondy	FP	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC
		PS	O ₃
	Listvyanka	FP	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC
		PS	O ₃
	Irkutsk	FP	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC
		PS	O ₃
	Primorskaya	FP	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC
Thailand	Bangkok	AT	NO, NO ₂ , NO _x , O ₃ , PM ₁₀ , PM _{2.5}
		FP	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC
	Samutprakarn	AT	SO ₂ , NO, NO ₂ , NO _x , O ₃ , PM ₁₀ , PM _{2.5}
	Pathumthani	FP* ¹	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC
	Khanchanaburi* ⁴	AT	SO ₂ , NO, NO _x *, O ₃ , PM ₁₀ , PM _{2.5}
	(Vajiralongkorn Dam)	FP	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC
	Chiang Mai		
	- Mae Hia	FP	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC
	- Chang Phueak	AT	SO ₂ , NO, NO ₂ , NO _x , O ₃ , PM ₁₀ , PM _{2.5}
	- Si Phum	AT	SO ₂ , NO, NO ₂ , NO _x , PM ₁₀ , PM _{2.5}
	Nakhon Ratchasima		
	- Sakaerat	FP	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC
	- Nai Mueang	AT* ²	SO ₂ , NO, NO ₂ , NO _x , O ₃ , PM ₁₀ , PM _{2.5}

Table 4.1.1 Sampling methods and parameters for dry deposition (air concentration) monitoring in 2019 (continued)

Country	Site	Method	Parameter
Vietnam	Hanoi	FP	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC
	Hoa Binh	AT	PM _{2.5}
		FP	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC
	Can Tho	FP	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC
	Ho Chi Minh	FP	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC
	Yen Bai	FP	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC

AT: Automatic monitor, PS: Passive sampler, FP: Filter pack, PMC: particulate matter components.

NOx*: NOx measured by CLD in remote or rural sites.

Note:

- *1 FP monitoring data of 2019 at Phnom Penh, Vientiane, Petaling Jaya, Tanh Rata, Danum Valley, Los Baños, Mt. Sto. Tomas and Pathumthani sites were not submitted.
- *2 PM_{2.5} monitoring started at Nai Nueang and Imsil sites, and O₃ monitoring started at Phnom Penh site in 2019.
- *3 Auto monitoring started at Wuzhishan, Lijiang, Niigata-maki, and Tsushima sites in 2019, ended at Tappi and Banryu sites in 2018, and FP monitoring ended at Hongwen site in 2018.
- *4 2-week intensive monitoring at Khanchanaburi site was implemented 3 times per year due to monitoring availability in the remote area.

Table 4.1.2 Methods of automatic monitors in 2019

Country	Site	Parameter				
		SO ₂	NO _x	O ₃	PM ₁₀	PM _{2.5}
Cambodia	Phnom Penh	–	–	UVP	–	β-ray
China	Jinyunshan	UVF	CLD	–	β-ray	–
	Hongwen	DOAS	DOAS	–	TEOM	–
	Haibin-Park	DOAS	DOAS	–	TEOM	–
	Wuzhishan	UVF	CLD		β-ray	
	Lijiang	UVF	CLD		β-ray	
Indonesia	Jakarta	–	–	–	–	β-ray
	Bandung	–	–	UVP	–	–
Japan	Rishiri	UVF	CLD	UVP	β-ray	β-ray
	Ochiishi	UVF	CLD	UVP	β-ray	β-ray
	Sado-seki	UVF	CLD	UVP	β-ray	β-ray
	Happo	UVF	CLD	UVP	β-ray	β-ray
	Ijira	UVF	CLD	UVP	β-ray	β-ray
	Okii	UVF	CLD	UVP	β-ray	β-ray
	Yusuhara	UVF	CLD	UVP	β-ray	β-ray
	Hedo	UVF	CLD	UVP	β-ray	β-ray
	Ogasawara	UVF	CLD	UVP	β-ray	β-ray
	Niigata-maki	UVF	CLD	UVP		
	Tsushima			UVP	β-ray	β-ray

Table 4.1.2 Methods of automatic monitors in 2019 (continued)

Country	Site	Parameter				
		SO ₂	NO _x	O ₃	PM ₁₀	PM _{2.5}
Lao PDR	Vientiane	–	CLD	–	β-ray	β-ray
Mongolia	Ulaanbaatar	UVF	CLD	UVP	β-ray	β-ray
Myanmar	Yangon Mandalay	–	–	–	–	β-ray β-ray
Philippines	Metro Manila	–	CLD	UVP	LS	β-ray
Republic of Korea	Kanghwa	UVF	CLD	UVP	β-ray	β-ray
	Cheju (Kosan)	UVF	CLD	UVP	β-ray	β-ray
	Imsil	UVF	CLD	UVP	β-ray	β-ray
Thailand	Bangkok	–	CLD	UVP	β-ray	β-ray
	Samutprakarn	UVF	CLD	UVP	β-ray	β-ray
	Khanchanaburi	UVF	CLD	UVP	β-ray	β-ray
	(Vajiralongkorn Dam)					
	Chiang Mai					
	- Chang Phueak	UVF	CLD	UVP	β-ray	β-ray
	- Si Phum	UVF	CLD		β-ray	β-ray
	Nakhon Ratchasima - Nai Mueang	UVF	CLD	UVP	β-ray	β-ray
Vietnam	Hoa Binh	–	–	–	–	β-ray

UVF: Ultraviolet fluorescent method, CLD: Chemiluminescence detection method, UVP: Ultraviolet photometric method, β-ray: β-ray absorption method, TEOM: Tapered element oscillating microbalance method, LS: Light scattering method, DOAS: Differential optical absorption spectroscopy method.

4.2 Results of Monitoring

Monitoring data were summarized into monthly averaged values accompanied with maximum, minimum and data completeness on a monthly basis. Summarized data in 2019 are presented in Table 4.3 through Table 4.20. Some sites have monitored SO₂, NH₃, and/or O₃ with 2 methods. On data report 2019, those values are all shown in each table. The terms and abbreviations are given in Table 4.2.

Table 4.2 Terms and abbreviations

Term/Abbreviation	Definition
Mean	Monthly or annual arithmetic average values
Max-d	Maximum values of daily data
Min-d	Minimum values of daily data
Max-10d	Maximum values of 10-day sampling data
Min-10d	Minimum values of 10-day sampling data

Table 4.2 Terms and abbreviations (continued)

Term/Abbreviation	Definition
Max-w	Maximum values of weekly data
Min-w	Minimum values of weekly data
Max-2w	Maximum values of biweekly data
Min-2w	Minimum values of biweekly data
Max-m	Maximum values of monthly data
Min-m	Minimum values of monthly data
%	Percentages of monthly or annual data completeness
[<1]	The monthly or the annual value was lower than their reporting limits of O ₃ , PM ₁₀ or PM _{2.5} .
[<0.1]	The monthly or the annual value was lower than their reporting limits of gaseous substances (SO ₂ , HNO ₃ , HCl, NH ₃).
[<0.01]	The monthly or the annual value was lower than their reporting limits of particular matter components (PMC).
()	Reference data
[***]	No data or no measurement
Data in hatched cell ()	Annual data completeness was not satisfied with EANET criteria. (<70%)
Black cell ()	Monitoring was not carried out.

For information on long-term trends of air concentrations, annual averages of gases and particulate matter concentrations from 2005 to 2019 are summarized in Table 4.21 through Table 4.38.

Monthly and annual dry deposition amounts of gaseous and particulate substances in 2019 are summarized in Table 4.39 through Table 4.47. The Inferential Method is adopted to estimate the dry depositions of EANET priority chemical species. Dry deposition amounts of gaseous and particulate substances are estimated by the product of an atmospheric concentration and a deposition velocity expressed as, $F_{\text{dry}} = V_d \times C$, where F_{dry} , V_d , and C denote the dry deposition flux, the calculated deposition velocity, and the measured atmospheric concentrations, respectively for each species and type of surface. The V_d was calculated by meteorological parameters at the site and parameterization described in the “*Technical Manual on Dry Deposition Flux Estimation in East Asia (Network Center for EANET, 2010)*”. Since V_d of gases and particulate matter are different in different types of land surfaces, the V_d at each site was first calculated for forest and grass surfaces, and the weighted-average of V_d was then estimated according to the land-use ratio of forest and grass within 1 km square from the site. The estimation of dry deposition flux was made only for the sites in which hourly meteorological

data and land use data are available.

In Table 4.3 through Table 4.38, ppb unit is used for gases and $\mu\text{g}/\text{m}^3$ unit for particulate matter concentrations. In Table 4.39 through Table 4.47, mmol m^{-2} unit is used for monthly or annual dry deposition amounts. For comparing the other networks' data, conversion ratios from ppb to $\mu\text{g}/\text{m}^3$, which are based on 20 °C, 1 atm, are provided in Table 4.48.

Reporting limits for individual species depend on specifications of instruments and/or procedures of sampling and analyzing. The NC sets up the reporting limits as shown in Table 4.49 taking into account methods adopted by each country. The data that air concentrations were less than the reporting limit are specified in the summarized tables. Regarding the particulate matter components measured by the filter pack method, their detection limits for particulate matter components were determined as $0.01 \mu\text{g}/\text{m}^3$ for sampled air volume of 20.16 m^3 considering the value of 3σ , where σ is the standard deviation of blank values obtained at Japan sites in 2003.

Table 4.3 SO₂

Unit : ppb

Country	Site		2019												Annual
	Method		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Cambodia	Phnom Penh FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
China	Jinyunshan AT	Mean	3.2	2.8	3.3	3.1	2.4	2.5	2.7	3.2	3.8	2.8	2.3	3.1	2.9
		%	100	96	100	100	100	97	97	100	97	100	97	94	98
		Max-d	6.4	6.0	5.6	5.6	4.9	4.9	4.1	4.9	6.0	5.3	4.5	6.8	6.8
		Min-d	1.9	1.9	1.9	1.5	1.1	1.9	1.9	2.3	1.9	1.1	0.8	1.1	0.8
	Hongwen AT	Mean	2.1	1.4	1.9	1.9	2.0	1.3	1.1	1.2	1.5	4.2	2.9	1.9	2.0
		%	100	100	90	100	100	93	100	94	97	100	100	100	98
		Max-d	3.4	3.0	3.0	2.6	3.8	2.6	1.5	1.9	3.4	5.6	4.5	4.1	5.6
		Min-d	0.4	0.8	0.8	1.1	0.8	0.8	0.4	0.8	0.8	2.3	1.1	1.1	0.4
	Haibin-Park AT	Mean	1.9	1.0	1.2	1.3	1.3	1.2	1.1	1.5	1.9	1.9	2.3	2.1	1.6
		%	100	100	100	100	100	100	100	97	100	100	97	100	99
		Max-d	3.0	1.5	1.9	1.9	1.9	1.9	2.3	3.4	4.5	3.8	3.8	4.1	4.5
		Min-d	0.8	0.8	0.4	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1.1	0.8	0.4
	Wuzhishan AT	Mean	<0.1	<0.1	<0.1	0.1	<0.1	0.1	0.2	0.1	0.2	0.1	0.4	0.5	0.2
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-d	0.2	<0.1	0.2	0.3	0.2	0.3	0.3	0.3	0.9	0.2	1.5	2.3	2.3
		Min-d	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Lijiang AT	Mean	<0.1	<0.1	<0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1
		%	97	96	97	100	100	97	100	100	100	97	97	100	98
		Max-d	0.2	0.1	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.4	0.5	0.5
		Min-d	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indonesia	Jakarta FP	Mean	***	***	***	0.8	***	***	3.1	4.4	0.6	0.6	1.4	1.3	1.8
		%	***	***	***	100	***	***	100	100	100	100	100	100	61
		Max-2w	***	***	***	1.6	***	***	4.5	4.9	0.7	0.6	3.5	2.0	4.9
		Min-2w	***	***	***	<0.1	***	***	0.5	3.9	0.5	0.5	0.2	0.7	<0.1
	Jakarta PS	Mean	5.8	6.2	6.4	7.8	8.6	7.4	6.8	6.0	5.8	6.1	6.0	4.8	6.5
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-m	5.8	6.2	6.4	7.8	8.6	7.4	6.8	6.0	5.8	6.1	6.0	4.8	8.6
		Min-m	5.8	6.2	6.4	7.8	8.6	7.4	6.8	6.0	5.8	6.1	6.0	4.8	4.8
	Serpong FP	Mean	0.9	0.4	0.1	0.1	0.3	0.3	0.2	0.2	0.3	0.4	0.6	1.5	0.4
		%	67	100	100	56	100	100	100	100	100	100	100	100	92
		Max-2w	1.4	0.4	0.2	0.1	0.5	0.3	0.2	0.2	0.3	0.5	0.7	1.8	1.8
		Min-2w	0.3	0.3	<0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.4	0.5	1.2	<0.1
	Kototabang PS	Mean	0.3	1.6	1.4	2.7	0.9	1.3	0.9	0.8	0.7	0.8	1.0	1.0	1.1
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-m	0.3	1.6	1.4	2.7	0.9	1.3	0.9	0.8	0.7	0.8	1.0	1.0	2.7
		Min-m	0.3	1.6	1.4	2.7	0.9	1.3	0.9	0.8	0.7	0.8	1.0	1.0	0.3
	Bandung FP	Mean	3.8	6.1	5.8	5.3	3.9	3.1	4.2	4.1	3.9	2.6	4.0	3.6	4.2
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	4.2	6.2	6.3	5.4	5.7	3.2	4.3	4.4	4.9	2.8	4.4	4.0	6.3
		Min-2w	3.4	6.0	5.3	5.3	2.0	3.0	4.0	3.8	2.9	2.3	3.5	3.3	2.0
	Bandung PS	Mean	2.8	1.9	3.7	3.4	3.3	2.3	0.4	4.1	3.4	3.7	2.3	1.9	2.8
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-m	2.8	1.9	3.7	3.4	3.3	2.3	0.4	4.1	3.4	3.7	2.3	1.9	4.1
		Min-m	2.8	1.9	3.7	3.4	3.3	2.3	0.4	4.1	3.4	3.7	2.3	1.9	0.4
Japan	Rishiri AT	Mean	0.2	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.3	<0.1
		%	98	98	92	98	98	98	98	98	85	98	45	98	92
		Max-d	0.4	0.5	0.2	0.6	0.3	0.2	0.1	0.3	0.2	0.2	0.3	0.6	0.6
		Min-d	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1
	Rishiri FP	Mean	0.2	0.2	0.1	0.2	0.3	0.2	0.2	0.2	0.3	0.2	***	0.4	0.2
		%	100	100	100	100	100	100	100	50	100	100	***	100	88
		Max-2w	0.3	0.3	0.1	0.3	0.5	0.2	0.3	0.2	0.4	0.2	***	0.6	0.6
		Min-2w	0.2	0.2	<0.1	0.2	0.2	0.2	0.1	0.2	0.1	0.2	***	0.4	<0.1
	Ochiishi AT	Mean	0.2	***	***	***	<0.1	0.1	<0.1	<0.1	0.1	0.1	0.2	0.2	0.1
		%	54	***	***	***	21	86	96	95	96	96	86	96	61
		Max-d	0.6	***	***	***	0.1	0.5	0.2	0.3	0.3	0.3	0.4	0.4	0.6
		Min-d	<0.1	***	***	***	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Ochiishi FP	Mean	0.4	0.3	0.2	0.3	0.4	0.5	0.3	0.2	0.2	0.2	0.3	0.3	0.3
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.6	0.4	0.2	0.3	0.6	1.0	0.4	0.2	0.2	0.3	0.3	0.3	1.0
		Min-2w	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.1	0.2	0.2	0.2	0.3	0.1

Table 4.3 SO₂ (continued)

Unit : ppb

Country	Site		2019												Annual
	Method		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Japan	Sado-seki AT	Mean	0.2	0.2	0.3	0.2	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.2	0.2
		%	98	98	98	98	98	98	97	89	97	98	98	55	93
		Max-d	0.6	0.6	1.0	0.6	1.4	0.3	0.9	0.3	0.2	0.8	0.3	0.7	1.4
		Min-d	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Sado-seki FP	Mean	***	***	0.3	0.2	0.4	0.1	0.1	0.5	0.2	0.1	0.2	0.3	0.3
		%	***	***	100	100	100	100	100	100	100	100	100	100	85
		Max-2w	***	***	0.3	0.2	0.6	0.2	0.2	0.7	0.3	0.2	0.2	0.4	0.7
		Min-2w	***	***	0.3	<0.1	0.2	<0.1	<0.1	0.3	0.2	0.1	0.2	0.3	<0.1
	Happo AT	Mean	0.1	0.2	0.2	0.2	0.3	<0.1	<0.1	<0.1	0.1	<0.1	0.2	<0.1	0.1
		%	98	98	98	98	97	98	98	98	87	97	98	98	97
		Max-d	0.5	0.4	0.9	0.6	0.8	0.5	0.5	0.3	0.5	0.4	1.0	0.5	1.0
		Min-d	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Happo FP	Mean	0.3	0.5	0.6	0.6	0.5	0.4	0.4	0.3	0.4	0.3	0.4	0.3	0.4
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.3	0.7	0.8	0.7	0.5	0.4	0.5	0.3	0.4	0.4	0.4	0.3	0.8
		Min-2w	0.3	0.2	0.5	0.6	0.5	0.4	0.3	0.3	0.3	0.3	0.4	0.2	0.2
	Ijira AT	Mean	***	***	***	***	***	***	***	***	0.3	<0.1	0.1	<0.1	0.1
		%	***	***	***	***	***	***	***	***	60	99	98	89	29
		Max-d	***	***	***	***	***	***	***	***	0.5	0.3	1.0	0.2	1.0
		Min-d	***	***	***	***	***	***	***	***	<0.1	<0.1	<0.1	<0.1	<0.1
	Ijira FP	Mean	<0.1	<0.1	0.2	0.2	0.3	0.2	0.2	0.2	0.1	0.1	<0.1	<0.1	0.2
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	<0.1	0.1	0.2	0.2	0.4	0.2	0.2	0.3	0.2	0.1	0.1	<0.1	0.4
		Min-2w	<0.1	<0.1	0.2	0.2	0.3	0.2	0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1
	Oki AT	Mean	0.4	0.3	0.4	0.3	0.5	0.2	0.2	0.2	<0.1	<0.1	0.3	0.3	0.3
		%	94	85	98	98	98	98	98	98	98	97	98	98	96
		Max-d	1.4	1.0	1.8	1.3	1.4	1.4	0.8	0.7	0.5	0.7	1.1	1.7	1.8
		Min-d	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Oki FP	Mean	0.6	0.4	0.3	0.3	0.4	0.4	0.4	0.3	0.3	0.4	0.4	0.3	0.4
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.7	0.5	0.3	0.3	0.5	0.7	0.7	0.5	0.6	0.6	0.4	0.3	0.7
		Min-2w	0.5	0.4	0.3	0.3	0.4	0.1	0.1	0.2	<0.1	0.2	0.4	0.3	<0.1
	Yusuhara AT	Mean	1.3	1.1	0.8	0.8	0.9	0.7	0.6	0.5	0.6	0.6	0.7	2.0	0.9
		%	98	98	98	94	98	98	98	93	83	93	98	98	96
		Max-d	6.9	8.4	3.1	4.6	3.5	2.6	3.8	1.5	2.6	5.7	5.0	21.5	21.5
		Min-d	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Yusuhara FP	Mean	1.2	0.7	0.5	0.6	0.6	0.5	0.5	0.3	0.2	0.3	0.7	1.0	0.6
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	1.3	0.8	0.7	0.7	0.6	0.7	0.8	0.4	0.2	0.4	1.1	2.2	2.2
		Min-2w	1.0	0.6	0.4	0.6	0.6	0.4	0.2	0.2	0.1	0.3	0.3	0.3	0.1
	Hedo AT	Mean	0.1	0.1	0.2	0.1	0.2	<0.1	<0.1	<0.1	<0.1	0.2	0.6	0.4	0.2
		%	98	74	98	97	98	98	94	98	95	97	98	98	95
		Max-d	0.3	0.5	0.9	0.4	1.5	0.1	0.1	0.2	0.2	1.6	2.9	2.4	2.9
		Min-d	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Hedo FP	Mean	0.2	0.1	0.2	0.2	0.4	0.3	<0.1	0.2	0.3	0.5	1.1	0.7	0.4
		%	100	100	100	100	100	100	100	50	100	100	100	100	96
		Max-2w	0.2	0.1	0.3	0.2	0.5	0.4	0.1	0.2	0.4	0.8	1.6	0.8	1.6
		Min-2w	0.1	0.1	0.2	0.1	0.3	0.2	<0.1	0.2	0.2	0.2	0.6	0.5	<0.1
	Ogasawara AT	Mean	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.5	<0.1
		%	98	90	97	98	98	99	96	98	97	41	56	99	89
		Max-d	0.1	0.4	0.3	0.5	0.1	0.1	0.1	<0.1	<0.1	0.4	<0.1	3.3	3.3
		Min-d	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Ogasawara FP	Mean	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	***	***	<0.1
		%	100	100	100	100	100	100	100	100	100	59	***	***	80
		Max-2w	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	***	***	<0.1
		Min-2w	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	***	***	<0.1
	Tokyo FP	Mean	1.0	0.7	1.0	1.3	1.6	1.9	1.7	1.7	1.2	0.8	0.9	0.5	1.2
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	1.1	1.0	1.1	1.6	1.8	2.0	2.6	2.1	1.3	0.9	1.2	0.6	2.6
		Min-2w	0.9	0.5	1.0	1.0	1.3	1.8	1.1	1.2	1.1	0.6	0.7	0.5	0.5
	Niigata -maki AT	Mean	0.2	0.2	0.3	0.2	0.3	<0.1	0.2	<0.1	0.1	<0.1	<0.1	0.2	0.2
		%	98	98	88	98	98	98	98	98	98	98	98	98	97
		Max-d	0.4	0.4	0.9	0.7	1.3	0.5	0.5	0.5	0.3	0.3	0.3	0.6	1.3
		Min-d	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lao PDR	Vientiane FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-m	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-m	***	***	***	***	***	***	***	***	***	***	***	***	***

Table 4.3 SO₂ (continued)

															Unit : ppb
Country	Site		2019												Annual
	Method		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Malaysia	Petaling Jaya FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***
	Tanah Rata FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***
	Danum Valley FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
Mongolia	Ulaanbaatar AT	Mean	19.3	15.7	8.6	5.7	2.9	1.6	1.2	1.0	2.2	7.7	10.2	***	6.9
		%	100	100	99	93	99	72	77	99	100	100	15	***	79
		Max-d	32.4	26.6	18.7	10.6	5.6	2.5	2.7	4.5	7.3	16.5	14.8	***	32.4
		Min-d	6.4	4.5	2.1	2.6	0.9	0.6	0.6	0.1	0.2	0.7	5.4	***	0.1
	Ulaanbaatar FP	Mean	11.4	6.5	5.3	2.4	1.3	0.9	0.7	0.8	1.7	4.6	7.9	16.4	5.0
		%	100	100	100	100	100	75	100	100	100	100	100	100	98
		Max-w	18.0	12.1	11.8	2.9	2.1	1.8	1.0	1.5	4.4	7.8	13.8	19.8	19.8
		Min-w	5.2	1.4	<0.1	1.7	0.9	0.3	0.5	0.4	<0.1	1.9	5.1	12.1	<0.1
	Terelj FP	Mean	0.3	0.3	0.1	0.2	<0.1	***	***	***	***	0.5	0.4	0.4	0.3
		%	100	100	100	100	54	***	***	***	***	82	100	100	62
		Max-2w	0.3	0.4	0.2	0.3	<0.1	***	***	***	***	0.9	0.4	0.5	0.9
		Min-2w	0.3	<0.1	<0.1	0.1	<0.1	***	***	***	***	0.2	0.4	0.3	<0.1
Myanmar	Yangon FP	Mean	0.4	0.2	1.4	1.3	1.6	0.8	0.2	0.4	0.2	1.1	0.9	1.1	0.8
		%	50	100	50	100	100	100	100	100	100	100	100	67	89
		Max-2w	0.4	0.3	1.4	2.8	2.1	0.8	0.5	0.5	0.3	1.4	1.7	1.6	2.8
		Min-2w	0.4	0.1	1.4	0.3	1.0	0.8	<0.1	0.3	<0.1	0.8	0.2	0.7	<0.1
Philippines	Metro Manila FP	Mean	***	***	0.2	0.6	0.5	0.3	0.2	0.3	0.3	0.7	0.7	0.4	0.4
		%	***	***	100	100	20	16	93	78	100	100	100	100	69
		Max-w	***	***	0.3	0.7	0.5	0.3	0.2	0.5	0.4	1.4	1.2	0.6	1.4
		Min-w	***	***	<0.1	0.5	0.5	0.3	0.2	0.2	0.2	<0.1	0.3	0.2	<0.1
	Los Baños FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***
	Mt. Sto. Tomas FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***
Republic of Korea	Kanghwa AT	Mean	1.4	2.2	2.4	2.3	3.1	2.6	2.3	1.7	1.5	1.6	2.1	2.3	2.1
		%	98	97	98	99	98	95	97	97	96	98	94	98	97
		Max-d	2.5	3.3	4.8	4.3	4.8	4.3	3.4	2.5	2.2	2.1	3.0	3.5	4.8
		Min-d	0.8	0.7	1.6	1.6	2.1	1.9	1.3	1.3	1.1	1.2	1.2	1.5	0.7
	Cheju (Kosan) AT	Mean	1.8	1.4	0.8	0.8	1.5	0.8	0.4	1.2	0.6	0.7	0.7	0.7	1.0
		%	97	100	65	99	98	97	98	99	98	95	99	99	95
		Max-d	5.1	2.7	1.3	1.4	3.4	2.1	1.5	2.3	1.8	1.6	2.6	1.3	5.1
		Min-d	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Imsil AT	Mean	6.5	***	1.3	1.2	1.6	1.2	1.1	1.2	1.5	1.6	***	***	1.5
		%	25	***	38	90	98	93	96	96	98	5	***	***	54
		Max-d	7.5	***	1.8	1.8	2.6	1.7	1.3	1.7	2.1	1.6	***	***	7.5
		Min-d	5.4	***	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.6	***	***	1.0
Russia	Mondy FP	Mean	0.5	<0.1	<0.1	<0.1	<0.1	0.7	0.2	<0.1	<0.1	0.5	0.5	0.1	0.3
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-m	0.8	<0.1	<0.1	<0.1	<0.1	0.8	0.3	<0.1	<0.1	1.5	0.9	0.1	1.5
		Min-m	0.2	<0.1	<0.1	<0.1	<0.1	0.6	0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1
	Listvyanka FP	Mean	3.7	6.5	3.4	1.3	1.5	0.7	2.0	0.3	0.5	0.3	2.7	4.3	2.2
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	6.8	9.9	4.9	1.5	2.3	1.1	2.8	0.3	1.0	0.7	3.1	12.0	12.0
		Min-w	0.2	2.7	2.8	1.1	1.0	0.3	0.9	0.2	<0.1	0.2	2.3	0.2	<0.1
	Irkutsk FP	Mean	1.1	5.8	1.7	1.9	2.6	0.7	0.8	0.3	1.1	0.7	4.0	4.5	2.1
		%	100	100	100	100	100	100	100	100	100	100	94	100	99
		Max-w	3.4	13.6	2.6	2.8	3.4	1.0	1.1	1.1	3.5	0.9	7.1	7.0	13.6
		Min-w	0.2	1.3	1.2	1.3	2.0	0.5	0.3	0.1	0.1	0.5	1.9	2.5	0.1
	Primorskaya FP	Mean	0.2	0.3	0.3	0.2	0.3	0.1	0.2	0.1	0.2	0.3	0.2	0.3	0.2
		%	100	100	100	100	100	100	100	100	100	100	50	100	96
		Max-2w	0.4	0.5	0.4	0.3	0.4	0.2	0.4	0.2	0.2	0.4	0.2	0.3	0.5
		Min-2w	0.1	0.1	0.3	0.2	<0.1	<0.1	<0.1	<0.1	0.2	0.2	0.2	0.2	<0.1

Table 4.3 SO₂ (continued)

Unit : ppb

Country	Site		2019												Annual
	Method		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Thailand	Bangkok FP	Mean	0.9	0.2	1.3	1.1	0.8	0.5	0.6	0.6	1.1	0.6	0.8	1.0	0.8
		%	100	100	100	67	100	100	100	100	100	100	100	100	97
		Max-10d	1.3	0.3	1.9	1.6	1.0	0.7	0.7	0.8	1.6	0.9	0.9	1.2	1.9
		Min-10d	0.2	0.1	0.1	0.6	0.6	0.2	0.5	0.4	0.7	0.4	0.7	0.8	0.1
	Samutprakarn AT	Mean	2.9	0.2	0.1	0.6	0.2	0.1	0.8	0.9	1.0	1.1	1.8	1.9	1.0
		%	88	95	96	86	95	95	96	95	95	96	96	95	94
		Max-d	6.8	1.4	1.0	1.8	0.9	0.7	1.5	2.4	2.6	2.0	3.2	3.1	6.8
		Min-d	1.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.4	0.8	1.0	<0.1
	Pathumthani FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
	Khanchanaburi (Vachiralongkorn Dam) AT	Mean	***	***	2.0	1.2	***	***	<0.1	0.5	***	***	***	***	0.7
		%	***	***	14	64	***	***	67	1	***	***	***	***	12
		Max-d	***	***	3.5	5.2	***	***	0.3	0.5	***	***	***	***	5.2
		Min-d	***	***	0.3	<0.1	***	***	<0.1	0.5	***	***	***	***	<0.1
	Khanchanaburi (Vachiralongkorn Dam) FP	Mean	***	***	***	0.5	***	***	<0.1	***	***	***	<0.1	***	0.2
		%	***	***	***	81	***	***	71	***	***	***	68	***	21
		Max-d	***	***	***	0.5	***	***	<0.1	***	***	***	<0.1	***	0.5
		Min-d	***	***	***	0.5	***	***	<0.1	***	***	***	<0.1	***	<0.1
	Mae Hia FP	Mean	***	0.1	0.2	0.4	0.2	<0.1	<0.1	<0.1	***	***	***	***	0.1
		%	***	96	97	97	97	97	97	97	***	***	***	***	56
		Max-10d	***	0.2	0.3	0.6	0.2	0.2	<0.1	<0.1	***	***	***	***	0.6
		Min-10d	***	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	***	***	***	***	<0.1
	Chang Phueak AT	Mean	1.7	0.4	0.9	0.8	0.2	0.4	1.2	0.3	<0.1	<0.1	0.4	0.8	0.6
		%	95	95	95	92	95	95	95	94	95	93	95	95	94
		Max-d	2.4	0.7	2.0	1.5	1.1	1.0	2.0	2.0	0.2	0.2	0.9	1.0	2.4
		Min-d	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.4	<0.1
	Si Phum AT	Mean	1.3	1.5	2.0	1.7	1.0	0.9	1.0	0.8	1.0	0.9	1.0	1.0	1.2
		%	95	95	94	95	95	95	96	95	96	95	95	95	95
		Max-d	1.7	1.8	3.4	2.5	1.6	1.0	1.2	1.1	1.1	2.0	1.4	1.4	3.4
		Min-d	1.0	1.0	1.1	1.1	0.7	0.3	1.0	<0.1	0.8	0.6	0.6	0.8	<0.1
	Sakaerat FP	Mean	***	0.6	1.7	1.2	1.0	0.2	0.3	0.3	0.2	0.1	***	***	0.6
		%	***	96	100	100	100	100	100	100	100	100	***	***	75
		Max-10d	***	0.7	2.0	1.7	1.5	0.2	0.4	0.4	0.2	0.2	***	***	2.0
		Min-10d	***	0.5	1.2	0.9	0.5	0.2	0.2	0.3	0.1	0.1	***	***	0.1
	Nai Mueang AT	Mean	1.3	1.8	1.8	1.6	2.0	0.8	0.7	0.5	0.2	0.2	0.3	0.8	0.9
		%	96	96	78	31	6	9	96	95	95	96	96	96	74
		Max-d	2.2	2.8	2.5	2.0	2.1	1.0	1.2	1.0	0.6	0.7	0.9	2.0	2.8
		Min-d	0.5	1.3	1.2	1.3	1.9	0.7	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Vietnam	Hanoi FP	Mean	0.3	0.3	0.4	0.5	0.5	0.5	0.5	0.6	0.6	0.4	0.4	0.4	0.4
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.6	0.4	0.5	0.8	0.5	0.6	0.6	0.7	0.8	0.5	0.4	0.5	0.8
		Min-w	0.2	0.2	0.3	0.4	0.4	0.4	0.4	0.5	0.4	0.4	0.3	0.3	0.2
	Hoa Binh FP	Mean	0.3	0.3	0.5	0.5	0.5	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.6	0.4	0.7	0.6	0.7	0.5	0.3	0.3	0.2	0.2	0.3	0.5	0.7
		Min-w	0.2	0.3	0.4	0.4	0.3	0.1	0.2	0.2	0.2	0.1	0.2	<0.1	<0.1
	Can Tho FP	Mean	0.5	0.5	0.6	0.5	0.5	0.5	0.6	0.7	0.4	0.4	0.5	0.5	0.5
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.6	0.6	0.7	0.6	0.6	0.6	0.6	0.8	0.5	0.5	0.6	0.6	0.8
		Min-w	0.4	0.3	0.5	0.4	0.4	0.4	0.5	0.7	0.3	0.3	0.4	0.4	0.3
	Ho Chi Minh FP	Mean	0.6	0.6	0.5	0.5	0.6	0.7	0.6	0.6	0.6	0.5	0.6	0.7	0.6
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.7	0.7	0.6	0.6	0.8	0.9	0.7	0.7	0.7	0.6	0.7	0.8	0.9
		Min-w	0.5	0.4	0.5	0.4	0.4	0.6	0.5	0.5	0.6	0.4	0.4	0.7	0.4
	Yen Bai FP	Mean	0.4	0.3	0.4	0.5	0.6	0.9	0.6	0.5	0.6	0.5	0.8	0.5	0.5
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.6	0.4	0.5	0.6	0.7	1.0	0.7	0.5	0.9	0.6	1.9	0.6	1.9
		Min-w	0.3	0.3	0.3	0.4	0.5	0.8	0.5	0.4	0.5	0.4	0.3	0.3	0.3

Terms and abbreviations are given in Table 4.2.

Table 4.4 HNO₃

Unit : ppb

Country	Site		2019												Annual
	Method		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Cambodia	Phnom Penh FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
Indonesia	Jakarta FP	Mean	***	***	***	1.3	***	***	0.8	1.3	1.1	1.1	0.4	0.5	0.9
		%	***	***	***	100	***	***	100	100	100	100	100	100	61
		Max-2w	***	***	***	1.7	***	***	1.4	1.4	1.1	1.7	1.1	0.9	1.7
		Min-2w	***	***	***	1.0	***	***	<0.1	1.2	1.0	0.5	<0.1	0.2	<0.1
	Serpong FP	Mean	0.6	0.4	0.5	0.8	1.2	1.6	1.6	1.6	1.5	1.5	1.2	0.8	1.1
		%	67	100	100	56	100	100	100	100	100	100	100	100	92
		Max-2w	1.0	0.7	0.7	0.8	1.5	1.7	1.7	1.7	1.8	2.1	1.3	0.9	2.1
		Min-2w	0.1	0.1	0.3	0.8	1.0	1.4	1.5	1.5	1.0	1.0	1.0	0.7	0.1
	Bandung FP	Mean	0.5	0.9	0.7	0.9	0.8	0.8	0.8	0.8	1.0	0.9	1.2	1.5	0.9
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.6	1.1	0.9	0.9	0.9	1.5	0.9	0.9	1.1	0.9	1.3	1.6	1.6
		Min-2w	0.4	0.8	0.4	0.9	0.8	0.2	0.7	0.8	0.9	0.9	1.0	1.3	0.2
Japan	Rishiri FP	Mean	<0.1	<0.1	<0.1	<0.1	0.2	0.1	0.2	<0.1	<0.1	<0.1	***	<0.1	<0.1
		%	100	100	100	100	100	100	100	50	100	100	***	100	88
		Max-2w	<0.1	<0.1	<0.1	0.1	0.3	0.1	0.3	<0.1	<0.1	<0.1	***	<0.1	0.3
		Min-2w	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	***	<0.1	<0.1
	Ochiishi FP	Mean	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2
		Min-2w	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Sado-seki FP	Mean	***	***	0.1	<0.1	0.2	0.2	0.3	0.1	0.1	<0.1	<0.1	<0.1	0.1
		%	***	***	100	100	100	100	100	100	100	100	100	100	85
		Max-2w	***	***	0.1	0.1	0.2	0.3	0.4	0.1	0.2	<0.1	<0.1	<0.1	0.4
		Min-2w	***	***	0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Happo FP	Mean	<0.1	0.1	0.3	0.2	0.5	0.2	0.2	0.3	0.2	<0.1	0.1	<0.1	0.2
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	<0.1	0.2	0.4	0.2	0.5	0.2	0.3	0.4	0.2	0.1	0.1	<0.1	0.5
		Min-2w	<0.1	<0.1	0.1	0.2	0.5	0.2	0.2	0.3	0.2	<0.1	0.1	<0.1	<0.1
	Ijira FP	Mean	<0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.1	<0.1	<0.1	<0.1	0.2
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	<0.1	0.2	0.2	0.2	0.3	0.4	0.4	0.5	0.2	0.1	0.1	<0.1	0.5
		Min-2w	<0.1	<0.1	<0.1	0.2	0.2	0.3	0.2	0.2	0.1	<0.1	<0.1	<0.1	<0.1
	Oki FP	Mean	<0.1	<0.1	0.1	0.1	0.2	0.2	0.2	0.1	<0.1	<0.1	<0.1	<0.1	0.1
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	<0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.1	<0.1	<0.1	<0.1	<0.1	0.3
		Min-2w	<0.1	<0.1	0.1	<0.1	0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Yusuhara FP	Mean	0.2	0.1	0.1	0.4	0.4	0.3	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.2
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.2	0.2	0.2	0.5	0.5	0.3	0.2	0.1	0.1	0.1	0.2	0.1	0.5
		Min-2w	0.1	<0.1	<0.1	0.4	0.3	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Hedo FP	Mean	0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
		%	100	100	100	100	100	100	100	50	100	100	100	100	96
		Max-2w	0.2	<0.1	0.2	0.3	0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1	0.3
		Min-2w	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Ogasawara FP	Mean	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	***	***	<0.1
		%	100	100	100	100	100	100	100	100	100	59	***	***	80
		Max-2w	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	***	***	<0.1
		Min-2w	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	***	***	<0.1
	Tokyo FP	Mean	0.2	0.3	0.5	0.5	0.7	0.5	0.9	0.7	0.7	0.4	0.5	0.2	0.5
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.2	0.3	0.5	0.5	0.8	0.6	1.3	1.1	1.0	0.6	0.6	0.2	1.3
		Min-2w	0.2	0.3	0.5	0.5	0.7	0.5	0.6	0.4	0.4	0.2	0.3	0.2	0.2

Table 4.4 HNO₃ (continued)

Unit : ppb

Country	Site	Method	2019												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Lao PDR	Vientiane FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-m	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-m	***	***	***	***	***	***	***	***	***	***	***	***	***
Malaysia	Petaling Jaya FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***
	Tanah Rata FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***
	Danum Valley FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
Mongolia	Ulaanbaatar FP	Mean	0.2	0.3	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	0.1	<0.1	<0.1	0.1	0.1
		%	100	100	100	100	100	75	100	100	100	100	100	100	98
		Max-w	0.4	0.6	0.2	<0.1	0.2	0.3	0.2	0.3	0.3	<0.1	0.2	0.4	0.6
		Min-w	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Terej FP	Mean	<0.1	<0.1	<0.1	<0.1	<0.1	***	***	***	***	<0.1	<0.1	<0.1	<0.1
		%	100	100	100	100	54	***	***	***	***	82	100	100	62
		Max-2w	<0.1	<0.1	<0.1	<0.1	<0.1	***	***	***	***	<0.1	<0.1	<0.1	<0.1
		Min-2w	<0.1	<0.1	<0.1	<0.1	<0.1	***	***	***	***	<0.1	<0.1	<0.1	<0.1
Myanmar	Yangon FP	Mean	<0.1	0.3	0.2	0.9	0.7	0.4	0.1	0.1	<0.1	0.1	0.1	0.4	0.3
		%	50	100	50	100	100	100	100	100	100	100	100	67	89
		Max-2w	<0.1	0.3	0.2	1.7	0.9	0.4	0.4	0.2	<0.1	0.2	0.1	0.8	1.7
		Min-2w	<0.1	0.3	0.2	<0.1	0.4	0.4	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1
Philippines	Metro Manila FP	Mean	***	***	0.1	0.2	0.2	<0.1	<0.1	<0.1	0.2	0.3	0.2	<0.1	0.1
		%	***	***	100	100	20	16	93	78	100	100	100	100	69
		Max-w	***	***	0.3	0.4	0.2	<0.1	0.2	<0.1	0.3	0.6	0.4	<0.1	0.6
		Min-w	***	***	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Los Baños FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***
	Mt. Sto. Tomas FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***
Republic of Korea	Kanghwa FP with PM _{2.5} cyclone	Mean	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1
		%	16	18	16	17	13	13	16	16	17	16	17	16	16
		Max-d	<0.1	0.1	0.2	0.2	<0.1	<0.1	<0.1	0.2	<0.1	0.1	<0.1	0.1	0.2
		Min-d	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Cheju (Kosan) FP with PM _{2.5} cyclone	Mean	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1
		%	10	20	12	7	10	10	10	6	13	13	17	13	11
		Max-d	0.1	0.1	0.2	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	0.2	0.2	0.2
		Min-d	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Imsil FP with PM _{2.5} cyclone	Mean	0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
		%	13	18	10	7	16	13	13	16	7	13	13	16	13
		Max-d	0.2	0.1	0.2	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	0.2
		Min-d	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Russia	Mondy FP	Mean	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.8	<0.1	<0.1	<0.1	<0.1
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-m	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.8	<0.1	<0.1	<0.1	0.8
		Min-m	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.8	<0.1	<0.1	<0.1	<0.1
	Listvyanka FP	Mean	<0.1	0.1	0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.1	0.2	0.2	0.2	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2
		Min-w	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Irkutsk FP	Mean	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.9	0.2	0.3	<0.1	<0.1	0.2
		%	100	100	100	100	100	100	100	100	100	100	94	100	99
		Max-w	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	4.3	0.4	0.3	<0.1	0.1	4.3
		Min-w	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1
	Primorskaya FP	Mean	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
		%	100	100	100	100	100	100	100	100	100	100	50	100	96
		Max-2w	<0.1	<0.1	<0.1	0.1	0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1
		Min-2w	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

Table 4.4 HNO₃ (continued)

Unit : ppb

Country	Site		2019												Annual
	Method		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Thailand	Bangkok FP	Mean	0.9	0.3	0.5	1.0	0.4	0.1	0.1	<0.1	0.6	0.9	0.7	1.1	0.5
		%	100	100	100	67	100	100	100	100	100	100	100	100	97
		Max-10d	1.5	0.5	0.9	1.7	0.5	0.1	0.2	<0.1	0.9	1.2	0.9	1.7	1.7
		Min-10d	0.5	0.2	<0.1	0.4	0.3	<0.1	<0.1	<0.1	0.4	0.7	0.6	0.7	<0.1
	Pathumthani FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
	Khanchanaburi (Vachiralongkorn Dam) FP	Mean	***	***	***	1.1	***	***	<0.1	***	***	***	0.3	***	0.5
		%	***	***	***	81	***	***	71	***	***	***	68	***	21
		Max-2w	***	***	***	1.1	***	***	<0.1	***	***	***	0.3	***	1.1
		Min-2w	***	***	***	1.1	***	***	<0.1	***	***	***	0.3	***	<0.1
	Mae Hia FP	Mean	***	0.4	0.3	0.5	0.2	<0.1	0.1	<0.1	***	***	***	***	0.2
		%	***	96	97	97	97	97	97	***	***	***	***	***	56
		Max-10d	***	0.7	0.4	0.9	0.3	0.2	0.2	<0.1	***	***	***	***	0.9
		Min-10d	***	0.1	0.2	0.4	0.1	<0.1	<0.1	<0.1	***	***	***	***	<0.1
	Sakaerat FP	Mean	***	0.5	0.7	0.3	0.4	<0.1	0.2	0.2	0.2	<0.1	***	***	0.3
		%	***	96	100	100	100	100	100	100	100	100	***	***	75
		Max-10d	***	0.6	0.8	0.3	0.6	<0.1	0.2	0.3	0.3	<0.1	***	***	0.8
		Min-10d	***	0.4	0.5	0.2	0.2	<0.1	0.1	0.2	0.1	<0.1	***	***	<0.1
Vietnam	Hanoi FP	Mean	0.2	0.5	0.3	0.7	0.6	0.7	0.5	0.5	0.4	0.3	0.4	0.3	0.4
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.2	0.8	0.4	0.8	0.8	0.9	0.6	0.6	0.5	0.4	0.5	0.4	0.9
		Min-w	0.2	0.3	0.2	0.4	0.4	0.4	0.3	0.3	0.4	<0.1	0.3	0.2	<0.1
	Hoa Binh FP	Mean	0.4	0.4	0.4	0.6	0.6	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.6	0.5	0.6	0.8	0.8	0.3	0.3	0.3	0.2	0.3	0.3	0.4	0.8
		Min-w	0.3	0.3	0.3	0.4	0.4	0.1	0.2	0.2	0.2	0.2	0.3	<0.1	<0.1
	Can Tho FP	Mean	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.1	0.2	0.2	<0.1	0.2	0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1	0.2
		Min-w	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Ho Chi Minh FP	Mean	0.2	0.2	0.3	0.3	0.2	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.3
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.2	0.3	0.4	0.4	0.3	0.5	0.5	0.6	0.5	0.5	0.4	0.6	0.6
		Min-w	0.2	0.1	0.2	0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.2	0.3	0.1
	Yen Bai FP	Mean	0.3	0.4	0.4	0.4	0.5	0.7	0.5	0.3	0.4	0.4	0.6	0.3	0.4
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.4	0.6	0.4	0.6	0.9	1.0	0.6	0.4	0.5	0.5	1.6	0.5	1.6
		Min-w	0.1	0.3	0.2	0.3	0.1	0.6	0.4	0.3	0.3	0.3	0.2	0.2	0.1

Terms and abbreviations are given in Table 4.2.

Table 4.5 HCl

Unit : ppb

Country	Site	Method	2019												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Cambodia	Phnom Penh FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
Indonesia	Jakarta FP	Mean	***	***	***	1.2	***	***	1.0	0.8	0.9	0.7	0.3	0.5	0.8
		%	***	***	***	100	***	***	100	100	100	100	100	100	61
		Max-2w	***	***	***	1.3	***	***	1.8	0.9	1.3	0.9	0.7	0.7	1.8
		Min-2w	***	***	***	1.1	***	***	0.4	0.7	0.6	0.5	0.1	0.4	0.1
	Serpong FP	Mean	1.3	0.8	0.7	0.9	1.3	1.5	1.5	1.7	1.8	1.7	1.2	1.1	1.3
		%	67	100	100	56	100	100	100	100	100	100	100	100	92
		Max-2w	1.4	1.0	0.7	0.9	1.7	1.6	1.7	1.7	2.0	1.8	1.4	1.3	2.0
		Min-2w	1.1	0.6	0.7	0.9	0.9	1.3	1.4	1.7	1.7	1.7	1.0	1.0	0.6
	Bandung FP	Mean	0.7	0.7	0.4	0.6	0.8	0.9	1.1	1.3	1.3	1.0	1.3	1.0	0.9
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.9	0.8	0.5	0.7	0.9	1.1	1.1	1.3	1.3	1.1	1.4	1.1	1.4
		Min-2w	0.5	0.6	0.3	0.5	0.6	0.7	1.1	1.3	1.2	0.9	1.2	0.9	0.3
Japan	Rishiri FP	Mean	0.3	0.3	0.3	0.7	1.5	1.3	1.2	0.8	0.6	0.8	***	0.5	0.8
		%	100	100	100	100	100	100	100	50	100	100	***	100	88
		Max-2w	0.3	0.4	0.3	0.9	2.1	1.3	1.3	0.8	0.8	0.9	***	0.6	2.1
		Min-2w	0.3	0.2	0.3	0.6	0.9	1.3	1.0	0.8	0.4	0.7	***	0.4	0.2
	Ochiishi FP	Mean	0.2	0.3	0.2	0.3	0.4	0.5	0.8	0.5	0.4	0.3	0.1	0.2	0.3
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.2	0.4	0.3	0.4	0.6	0.6	0.9	0.6	0.4	0.3	0.2	0.2	0.9
		Min-2w	<0.1	0.1	0.2	0.2	0.3	0.4	0.7	0.4	0.3	0.2	<0.1	0.1	<0.1
	Sado-seki FP	Mean	***	***	0.7	0.4	0.7	0.8	0.7	0.6	0.4	0.2	0.4	0.3	0.5
		%	***	***	100	100	100	100	100	100	100	100	100	100	85
		Max-2w	***	***	0.8	0.6	0.8	0.9	0.7	0.7	0.5	0.2	0.4	0.4	0.9
		Min-2w	***	***	0.6	0.2	0.5	0.6	0.5	0.6	0.2	0.2	0.3	0.3	0.2
	Happo FP	Mean	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.2	0.3	0.1	0.2	0.1	0.2
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.1	0.2	0.2	0.3	0.2	0.1	0.1	0.2	0.3	0.2	0.2	0.2	0.3
		Min-2w	0.1	0.1	0.2	0.2	0.2	0.1	<0.1	0.2	0.2	<0.1	0.2	0.1	<0.1
	Ijira FP	Mean	0.1	0.2	0.2	0.3	0.3	0.2	0.1	0.4	0.2	0.2	0.2	<0.1	0.2
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.1	0.2	0.2	0.3	0.5	0.2	0.2	0.6	0.2	0.2	0.2	0.1	0.6
		Min-2w	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.2	<0.1	0.1	<0.1	<0.1
	Okii FP	Mean	0.7	0.6	0.8	0.6	1.1	1.2	0.8	0.8	0.4	0.4	0.5	0.6	0.7
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.7	0.8	0.8	0.7	1.3	1.3	0.9	0.8	0.5	0.4	0.6	0.7	1.3
		Min-2w	0.7	0.4	0.7	0.5	0.9	1.0	0.7	0.8	0.4	0.4	0.5	0.4	0.4
	Yusuhara FP	Mean	0.3	0.3	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.4	0.3	0.3	0.3	0.3	0.2	0.3	0.2	0.2	0.3	0.3	0.4	0.4
		Min-2w	0.3	0.2	0.2	0.3	0.2	0.2	<0.1	0.2	0.2	0.2	0.1	<0.1	<0.1
	Hedo FP	Mean	1.2	0.8	1.1	1.0	0.9	0.5	0.4	0.9	0.5	1.3	1.3	0.8	0.9
		%	100	100	100	100	100	100	100	50	100	100	100	100	96
		Max-2w	1.3	0.9	1.3	1.5	1.1	0.6	0.8	0.9	0.6	1.7	1.7	1.3	1.7
		Min-2w	1.1	0.7	0.9	0.5	0.8	0.5	0.2	0.9	0.5	0.9	0.8	0.2	0.2
	Ogasawara FP	Mean	0.4	0.5	0.6	0.5	0.3	0.3	0.2	0.2	0.2	0.3	***	***	0.4
		%	100	100	100	100	100	100	100	100	100	59	***	***	80
		Max-2w	0.5	0.6	0.7	0.9	0.4	0.3	0.2	0.3	0.2	0.3	***	***	0.9
		Min-2w	0.3	0.4	0.5	0.2	0.2	0.2	0.1	0.2	0.1	0.3	***	***	0.1
	Tokyo FP	Mean	0.3	0.5	0.6	0.9	1.2	1.0	0.8	1.7	1.5	0.9	0.6	0.4	0.8
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.3	0.5	0.7	1.1	1.5	1.0	1.3	1.9	1.9	0.9	0.8	0.5	1.9
		Min-2w	0.3	0.4	0.6	0.7	0.8	1.0	0.6	1.4	1.1	0.8	0.4	0.4	0.3

Table 4.5 HCl (continued)

Unit : ppb

Country	Site	Method	2019												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Lao PDR	Vientiane FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-m	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-m	***	***	***	***	***	***	***	***	***	***	***	***	***
Malaysia	Petalang Jaya FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***
	Tanah Rata FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***
	Danum Valley FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
Mongolia	Ulaanbaatar FP	Mean	0.6	0.2	0.2	0.1	0.2	0.5	0.4	0.3	0.7	0.4	0.4	0.5	0.4
		%	100	100	100	100	100	75	100	100	100	100	100	100	98
		Max-w	1.4	0.3	0.2	0.1	0.2	0.7	0.7	0.4	1.0	0.6	0.5	0.9	1.4
		Min-w	<0.1	<0.1	0.1	<0.1	<0.1	0.2	0.2	0.2	0.4	0.3	0.4	0.3	<0.1
	Terej FP	Mean	<0.1	<0.1	<0.1	<0.1	0.2	***	***	***	***	0.2	0.2	0.2	0.1
		%	100	100	100	100	54	***	***	***	***	82	100	100	62
		Max-2w	<0.1	<0.1	<0.1	0.2	0.2	***	***	***	***	0.2	0.2	0.4	0.4
		Min-2w	<0.1	<0.1	<0.1	<0.1	0.2	***	***	***	***	0.2	0.2	0.1	<0.1
Myanmar	Yangon FP	Mean	0.2	0.2	0.2	1.7	1.1	1.0	0.3	0.6	0.2	0.6	0.5	0.4	0.6
		%	50	100	50	100	100	100	100	100	100	100	100	67	89
		Max-2w	0.2	0.3	0.2	2.1	1.3	1.0	0.8	0.8	0.2	0.6	0.7	0.7	2.1
		Min-2w	0.2	0.2	0.2	1.1	0.9	1.0	<0.1	0.4	0.2	0.6	0.3	<0.1	<0.1
Philippines	Metro Manila FP	Mean	***	***	0.5	1.1	0.5	1.1	0.8	0.2	0.6	0.6	0.6	0.5	0.6
		%	***	***	100	100	20	16	93	78	100	100	100	100	69
		Max-w	***	***	0.8	1.7	0.5	1.1	0.9	0.3	0.9	1.0	0.9	1.0	1.7
		Min-w	***	***	0.1	0.5	0.5	1.1	0.6	<0.1	0.3	0.2	0.4	<0.1	<0.1
	Los Banos FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***
	Mt. Sto. Tomas FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***
Republic of Korea	Kanghwa FP with PM _{2.5} cyclone	Mean	<0.1	0.2	0.4	1.2	1.5	1.2	1.0	0.4	0.1	0.9	0.5	0.3	0.7
		%	16	18	16	17	13	13	16	16	17	16	17	16	16
		Max-d	0.2	0.3	0.7	1.7	2.3	2.1	2.3	0.5	0.3	2.7	0.9	0.5	2.3
		Min-d	<0.1	0.1	0.2	0.7	0.8	0.3	0.4	0.2	<0.1	0.3	0.3	0.3	<0.1
	Cheju (Kosan) FP with PM _{2.5} cyclone	Mean	1.1	0.4	1.3	2.1	2.8	1.7	0.6	0.3	0.1	0.7	0.5	1.4	1.1
		%	10	20	12	7	10	10	10	6	13	13	17	13	11
		Max-d	2.4	0.8	2.9	2.8	4.0	2.7	0.8	0.3	0.2	1.4	1.4	2.0	4.0
		Min-d	0.3	<0.1	0.3	1.4	2.1	0.3	0.3	0.3	<0.1	0.3	0.2	0.4	<0.1
	Imsil FP with PM _{2.5} cyclone	Mean	0.3	0.1	1.5	1.5	1.9	2.3	1.2	0.6	2.0	0.7	0.2	0.1	1.2
		%	13	18	10	7	16	13	13	16	7	13	13	16	13
		Max-d	0.4	0.3	2.1	1.8	4.7	3.1	2.8	0.9	3.8	1.4	0.3	0.2	4.7
		Min-d	0.2	<0.1	1.0	1.1	0.9	1.6	0.2	0.2	0.1	0.3	0.1	<0.1	<0.1
Russia	Mondy FP	Mean	3.4	0.1	1.6	0.7	0.5	0.2	0.2	0.1	0.4	0.8	1.7	1.7	1.0
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-m	4.6	0.1	3.0	1.0	0.6	0.3	0.2	0.1	0.4	1.6	1.8	1.7	4.6
		Min-m	2.2	0.1	0.2	0.4	0.3	<0.1	0.2	<0.1	0.4	0.4	1.6	1.7	<0.1
	Listvyanka FP	Mean	7.5	12.2	15.8	11.2	12.2	12.5	3.8	0.4	1.4	1.1	5.6	1.7	7.0
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	11.8	15.8	19.1	17.6	16.0	13.9	9.2	0.6	2.2	4.1	6.3	3.7	19.1
		Min-w	0.3	9.9	11.5	8.4	7.7	10.4	0.5	0.3	<0.1	<0.1	4.5	0.7	<0.1
	Irkutsk FP	Mean	1.7	3.5	8.9	2.7	1.1	0.7	0.6	0.3	0.2	0.7	0.2	0.3	1.8
		%	100	100	100	100	100	100	100	100	100	100	94	100	99
		Max-w	5.7	8.8	10.6	8.8	1.6	1.2	0.7	0.7	0.2	1.6	0.3	0.5	10.6
		Min-w	0.3	0.6	6.7	0.4	0.8	0.4	0.5	<0.1	0.1	0.1	<0.1	0.2	<0.1
	Primorskaya FP	Mean	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.1	0.1	<0.1	0.1
		%	100	100	100	100	100	100	100	100	100	100	50	100	96
		Max-2w	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.1	0.1	<0.1	0.2
		Min-2w	0.2	0.2	0.1	0.2	0.2	<0.1	0.1	0.1	0.1	0.1	0.1	<0.1	<0.1

Table 4.5 HCl (continued)

Unit : ppb

Country	Site		2019												Annual
	Method		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Thailand	Bangkok FP	Mean	0.4	0.5	1.3	1.2	0.5	0.8	0.9	0.8	1.3	1.0	0.9	1.7	0.9
		%	100	100	100	67	100	100	100	100	100	100	100	100	97
		Max-10d	0.5	0.6	3.1	1.8	0.9	1.7	1.1	1.1	2.0	1.3	1.3	2.0	3.1
		Min-10d	0.4	0.4	0.3	0.7	0.3	0.2	0.7	0.6	0.8	0.6	0.7	1.5	0.2
	Pathumthani FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
	Khanchanaburi (Vachiralongkorn Dam) FP	Mean	***	***	***	0.8	***	***	0.3	***	***	***	0.3	***	0.5
		%	***	***	***	81	***	***	71	***	***	***	68	***	21
		Max-2w	***	***	***	0.8	***	***	0.3	***	***	***	0.3	***	0.8
		Min-2w	***	***	***	0.8	***	***	0.3	***	***	***	0.3	***	0.3
	Mae Hia FP	Mean	***	0.1	0.7	1.6	0.4	0.1	0.2	<0.1	***	***	***	***	0.4
		%	***	96	97	97	97	97	97	97	***	***	***	***	56
		Max-10d	***	0.2	0.9	2.4	0.4	0.2	0.2	<0.1	***	***	***	***	2.4
		Min-10d	***	<0.1	0.5	0.9	0.3	<0.1	<0.1	<0.1	***	***	***	***	<0.1
	Sakaerat FP	Mean	***	0.3	0.4	0.2	0.3	0.2	0.4	0.2	0.2	0.1	***	***	0.3
		%	***	96	100	100	100	100	100	100	100	100	***	***	75
		Max-10d	***	0.4	0.4	0.2	0.4	0.3	0.4	0.2	0.3	0.2	***	***	0.4
		Min-10d	***	0.2	0.3	0.2	0.3	<0.1	0.4	0.1	0.1	<0.1	***	***	<0.1
Vietnam	Hanoi FP	Mean	0.7	1.2	1.1	1.6	1.3	1.1	1.3	1.2	1.2	0.8	0.7	0.6	1.1
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.8	1.6	1.3	1.7	1.4	1.2	2.1	1.5	1.5	0.9	0.8	0.7	2.1
		Min-w	0.6	0.9	1.0	1.3	1.2	0.9	0.8	1.0	0.9	0.8	0.6	0.5	0.5
	Hoa Binh FP	Mean	0.8	0.9	1.3	1.4	1.7	1.8	1.1	1.3	1.9	1.5	0.8	0.9	1.3
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.9	1.0	1.7	1.5	2.5	2.6	1.5	1.9	2.8	1.7	1.0	0.9	2.8
		Min-w	0.7	0.7	1.0	1.4	1.3	1.2	0.8	1.0	1.3	1.0	0.7	0.9	0.7
	Can Tho FP	Mean	2.0	1.4	1.5	1.5	1.9	1.5	1.6	1.7	2.0	1.7	1.8	1.4	1.7
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	2.4	1.6	1.8	1.7	2.1	2.0	1.8	2.1	2.2	2.1	2.2	1.6	2.4
		Min-w	1.4	1.1	1.2	1.3	1.7	1.3	1.5	1.1	1.8	1.1	1.5	1.2	1.1
	Ho Chi Minh FP	Mean	0.9	25.7	1.3	1.6	1.4	1.7	1.9	1.5	1.7	1.3	1.4	1.4	3.3
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	1.1	98.7	1.4	2.0	1.6	2.1	2.2	2.2	2.1	1.5	1.7	1.6	98.7
		Min-w	0.7	1.3	1.2	1.3	1.2	1.3	1.7	0.8	0.9	1.0	1.3	1.0	0.7
	Yen Bai FP	Mean	0.8	0.9	1.2	1.2	1.6	2.4	2.1	1.6	1.4	1.2	1.0	1.1	1.4
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	1.0	1.0	1.8	1.3	2.1	2.6	2.5	2.2	1.6	1.6	1.1	1.3	2.6
		Min-w	0.7	0.9	0.8	1.1	1.3	2.2	1.9	1.1	1.2	1.0	0.8	0.7	0.7

Terms and abbreviations are given in Table 4.2.

Table 4.6 NH₃

Unit : ppb

Country	Site		2019												Annual
	Method		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Cambodia	Phnom Penh FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
Indonesia	Jakarta FP	Mean	***	***	***	***	***	***	2.4	3.4	0.4	2.9	1.7	3.7	2.4
		%	***	***	***	***	***	***	100	100	100	100	100	100	61
		Max-2w	***	***	***	***	***	***	3.4	3.5	0.6	3.1	3.6	5.6	5.6
		Min-2w	***	***	***	***	***	***	0.4	3.3	0.2	2.6	0.6	1.8	0.2
	Serpong FP	Mean	12.5	7.1	3.6	8.8	6.8	5.3	13.0	1.8	1.6	0.2	2.3	3.6	5.2
		%	67	100	100	56	100	100	100	100	100	100	100	100	92
		Max-2w	13.1	11.3	6.3	8.8	12.3	8.7	13.6	1.9	2.5	0.4	4.1	4.4	13.6
		Min-2w	11.9	2.8	0.9	8.8	1.3	1.9	12.4	1.8	0.2	<0.1	0.4	2.7	<0.1
	Bandung FP	Mean	5.8	6.6	7.0	7.1	8.1	10.7	10.5	11.1	15.6	13.5	17.6	12.2	10.5
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	7.0	6.8	7.3	7.4	8.2	14.8	11.3	12.4	16.3	14.3	21.3	15.3	21.3
		Min-2w	4.6	6.3	6.7	6.9	8.0	6.6	9.7	9.8	14.9	12.7	13.9	9.1	4.6
	Bandung PS	Mean	8.5	10.2	10.0	9.1	12.9	12.4	13.7	14.7	15.6	3.0	16.0	16.2	11.9
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-m	8.5	10.2	10.0	9.1	12.9	12.4	13.7	14.7	15.6	3.0	16.0	16.2	16.2
		Min-m	8.5	10.2	10.0	9.1	12.9	12.4	13.7	14.7	15.6	3.0	16.0	16.2	3.0
Japan	Rishiri FP	Mean	0.3	0.3	0.5	1.2	1.9	1.8	2.1	1.7	1.4	1.4	***	0.2	1.1
		%	100	100	100	100	100	100	100	50	100	100	***	100	88
		Max-2w	0.3	0.4	0.6	1.6	2.5	1.9	2.4	1.7	1.5	1.6	***	0.2	2.5
		Min-2w	0.2	0.3	0.5	0.8	1.4	1.7	1.7	1.7	1.2	1.3	***	<0.1	<0.1
	Ochiishi FP	Mean	0.1	0.1	0.2	0.4	0.4	0.5	0.6	0.5	0.6	0.6	0.5	0.3	0.4
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.2	0.1	0.3	0.5	0.4	0.7	0.7	0.7	0.6	0.7	0.7	0.3	0.7
		Min-2w	<0.1	<0.1	0.2	0.2	0.4	0.3	0.5	0.3	0.5	0.5	0.3	0.2	<0.1
	Sado-seki FP	Mean	***	***	0.9	0.9	1.3	1.0	0.9	0.9	0.5	0.4	0.3	0.2	0.7
		%	***	***	100	100	100	100	100	100	100	100	100	100	85
		Max-2w	***	***	1.2	1.5	1.7	1.2	1.1	1.1	0.7	0.5	0.3	0.2	1.7
		Min-2w	***	***	0.6	0.3	0.8	0.8	0.8	0.8	0.4	0.3	0.3	<0.1	<0.1
	Happo FP	Mean	0.3	0.5	0.9	0.8	1.1	0.6	0.6	0.5	0.5	0.3	0.3	0.2	0.5
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.3	0.7	1.4	0.8	1.1	0.6	0.7	0.6	0.6	0.4	0.3	0.2	1.4
		Min-2w	0.3	0.4	0.4	0.8	1.1	0.6	0.4	0.4	0.4	0.2	0.3	0.1	0.1
	Ijira FP	Mean	0.3	0.4	0.7	1.0	1.4	1.6	1.5	1.9	1.7	1.2	0.8	0.3	1.0
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.3	0.4	0.8	1.1	1.8	1.6	1.7	2.4	2.0	1.2	0.8	0.4	2.4
		Min-2w	0.3	0.3	0.6	0.8	1.1	1.6	1.2	1.5	1.4	1.1	0.8	0.2	0.2
	Okii FP	Mean	0.5	0.7	1.0	1.0	1.4	1.5	1.1	1.3	0.8	0.7	0.8	0.4	0.9
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.5	0.9	1.1	1.0	1.6	1.6	1.5	1.5	0.9	0.7	0.9	0.4	1.6
		Min-2w	0.4	0.5	1.0	1.0	1.1	1.5	0.9	1.2	0.7	0.7	0.6	0.3	0.3
	Yusuhara FP	Mean	0.2	0.2	0.4	0.7	1.0	0.7	0.5	0.7	0.7	0.4	0.4	0.2	0.5
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.2	0.2	0.5	0.9	1.3	0.7	0.6	0.8	0.7	0.5	0.4	0.3	1.3
		Min-2w	0.2	0.2	0.3	0.6	0.7	0.7	0.4	0.5	0.6	0.3	0.3	0.2	0.2
	Hedo FP	Mean	1.0	1.0	1.9	1.5	1.5	1.3	1.2	2.2	1.7	2.2	1.7	0.9	1.4
		%	100	100	100	100	100	100	100	50	100	100	100	100	96
		Max-2w	1.1	1.1	2.4	2.1	1.6	1.4	1.4	2.2	1.8	2.6	1.8	1.6	2.6
		Min-2w	0.8	0.9	1.4	1.0	1.4	1.2	0.9	2.2	1.5	1.8	1.7	0.5	0.5
	Ogasawara FP	Mean	0.3	0.5	0.7	0.7	0.5	0.6	0.6	0.6	0.5	0.5	***	***	0.5
		%	100	100	100	100	100	100	100	100	100	59	***	***	80
		Max-2w	0.3	0.6	0.8	1.0	0.6	0.6	0.7	0.6	0.6	0.5	***	***	1.0
		Min-2w	0.2	0.4	0.5	0.4	0.4	0.5	0.5	0.6	0.4	0.5	***	***	0.2
	Tokyo FP	Mean	3.3	3.3	3.1	3.3	3.9	3.9	4.6	5.1	4.5	3.5	3.8	3.6	3.8
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	3.5	3.6	3.3	3.8	4.3	4.3	5.7	5.7	4.9	3.7	4.0	3.9	5.7
		Min-2w	3.0	2.9	2.9	2.8	3.5	3.6	4.0	4.6	4.1	3.2	3.5	3.2	2.8

Table 4.6 NH₃ (continued)

Unit : ppb

Country	Site	Method	2019												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Lao PDR	Vientiane FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-m	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-m	***	***	***	***	***	***	***	***	***	***	***	***	***
Malaysia	Petaling Jaya FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***
	Tanah Rata FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***
	Danum Valley FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
Mongolia	Ulaanbaatar FP	Mean	8.5	8.0	8.8	7.6	6.9	9.8	7.0	6.1	6.4	6.4	4.1	4.6	7.0
		%	100	100	100	100	100	75	100	100	100	100	100	100	98
		Max-w	10.9	11.5	12.1	8.8	8.9	12.8	8.1	6.9	9.1	8.5	5.7	5.1	12.8
		Min-w	6.7	3.6	2.7	6.1	5.2	8.1	6.3	5.4	2.6	5.5	3.2	3.9	2.6
	Terej FP	Mean	0.9	1.0	0.7	2.2	2.0	***	***	***	***	1.4	1.1	1.0	1.3
		%	100	100	100	100	54	***	***	***	***	82	100	100	62
		Max-2w	1.1	1.1	1.4	4.0	2.0	***	***	***	***	1.7	1.4	1.0	4.0
		Min-2w	0.7	0.9	<0.1	1.1	2.0	***	***	***	***	1.1	0.9	1.0	<0.1
Myanmar	Yangon FP	Mean	<0.1	2.2	0.2	5.3	1.0	1.1	3.1	4.5	2.1	0.2	<0.1	0.7	2.1
		%	50	100	50	100	100	100	100	100	100	100	100	67	89
		Max-2w	<0.1	3.8	0.2	8.1	1.1	1.1	5.5	5.0	4.2	0.5	<0.1	1.3	8.1
		Min-2w	<0.1	0.5	0.2	2.3	0.9	1.1	0.3	4.0	<0.1	<0.1	<0.1	<0.1	<0.1
Philippines	Metro Manila FP	Mean	***	***	10.4	25.1	10.1	11.2	5.2	0.4	10.3	11.4	15.8	22.8	13.2
		%	***	***	100	100	20	16	93	78	100	100	100	100	69
		Max-w	***	***	13.3	68.0	10.1	11.2	5.8	0.5	18.7	18.9	19.5	55.4	68.0
		Min-w	***	***	6.0	<0.1	10.1	11.2	4.1	0.2	5.7	4.5	9.9	8.3	<0.1
	Los Banos FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***
	Mt. Sto. Tomas FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***
Republic of Korea	Kanghwa FP with PM _{2.5} cyclone	Mean	1.3	1.3	3.1	4.3	5.3	7.5	5.3	4.2	2.6	4.1	1.3	3.3	3.8
		%	16	18	16	17	13	13	16	16	17	16	17	16	16
		Max-d	2.1	2.2	4.0	5.8	7.9	8.8	6.9	9.0	4.1	8.3	3.5	3.8	8.8
		Min-d	0.3	0.2	2.3	2.6	4.0	5.4	4.0	2.7	1.3	0.8	0.4	2.3	0.2
	Cheju (Kosan) FP with PM _{2.5} cyclone	Mean	9.8	2.7	5.7	6.8	6.7	7.2	8.6	18.5	5.1	8.2	4.6	6.2	7.2
		%	10	20	12	7	10	10	10	6	13	13	17	13	11
		Max-d	11.4	3.3	6.7	7.4	7.5	8.3	10.0	20.3	6.9	11.3	6.2	7.0	20.3
		Min-d	8.6	1.7	4.6	6.2	5.4	5.7	7.4	16.8	2.4	6.4	3.4	5.6	1.7
	Imsil FP with PM _{2.5} cyclone	Mean	3.6	5.1	10.3	7.3	11.0	14.7	18.9	24.5	23.0	7.8	7.9	5.3	10.8
		%	13	18	10	7	16	13	13	16	7	13	13	16	13
		Max-d	5.6	6.2	10.9	8.2	15.1	16.6	37.3	27.7	29.0	9.5	8.7	7.8	37.3
		Min-d	1.8	4.2	9.5	6.5	8.4	11.5	10.8	19.3	17.0	6.5	7.3	3.7	1.8
Russia	Mondy FP	Mean	1.8	0.7	0.8	1.2	1.2	2.5	1.0	0.9	0.5	1.2	1.7	4.0	1.4
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-m	2.1	0.7	1.3	1.4	1.2	4.7	1.7	1.0	0.5	1.8	2.4	4.0	4.7
		Min-m	1.5	0.7	0.3	1.1	1.1	0.4	0.3	0.8	0.5	0.6	0.9	4.0	0.3
	Listvyanka FP	Mean	2.3	1.3	1.9	1.0	0.7	1.3	1.9	2.0	4.3	4.7	7.7	5.6	2.9
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	3.3	2.7	3.9	1.2	1.2	1.9	2.8	2.7	6.4	10.8	11.3	11.1	11.3
		Min-w	0.7	0.6	0.8	0.6	<0.1	0.9	1.1	1.6	1.1	0.1	1.4	1.1	<0.1
	Irkutsk FP	Mean	2.4	1.4	2.5	3.5	3.0	0.8	1.8	1.6	0.7	3.6	7.0	5.6	2.8
		%	100	100	100	100	100	100	100	100	100	100	94	100	99
		Max-w	4.6	1.9	3.2	4.7	3.4	2.5	2.6	3.1	2.6	4.4	10.9	10.9	10.9
		Min-w	1.1	1.0	1.9	2.3	2.5	<0.1	1.4	0.7	<0.1	2.1	3.5	0.9	<0.1
	Primorskaya FP	Mean	0.3	0.3	1.2	2.6	9.4	13.1	8.6	17.9	8.3	9.6	3.5	0.3	6.4
		%	100	100	100	100	100	100	100	100	100	100	50	100	96
		Max-2w	0.5	0.4	1.6	3.1	16.5	16.1	9.8	23.3	8.6	12.8	3.5	0.4	23.3
		Min-2w	0.1	0.1	0.8	2.0	2.4	10.2	7.4	12.5	8.1	6.4	3.5	0.3	0.1

Table 4.6 NH₃ (continued)

Unit : ppb

Country	Site		2019												Annual
	Method		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Thailand	Bangkok FP	Mean	10.4	6.3	9.9	8.5	5.0	4.3	5.5	4.8	6.4	6.5	6.4	7.7	6.8
		%	100	100	100	67	100	100	100	100	100	100	100	100	97
		Max-10d	12.0	7.0	17.7	12.2	6.4	5.6	5.9	6.6	7.3	7.4	7.5	9.4	17.7
		Min-10d	8.0	5.0	4.3	4.8	4.1	2.2	5.2	3.9	6.0	5.6	5.2	4.5	2.2
	Pathumthani FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
	Khanchanaburi (Vachiralongkorn Dam) FP	Mean	***	***	***	5.8	***	***	1.3	***	***	***	2.2	***	3.1
		%	***	***	***	81	***	***	71	***	***	***	68	***	21
		Max-2w	***	***	***	5.8	***	***	1.3	***	***	***	2.2	***	5.8
		Min-2w	***	***	***	5.8	***	***	1.3	***	***	***	2.2	***	1.3
	Mae Hia FP	Mean	***	4.6	5.9	7.5	4.6	3.9	3.8	3.4	***	***	***	***	4.8
		%	***	96	97	97	97	97	97	97	***	***	***	***	56
		Max-10d	***	5.2	7.8	8.7	7.5	4.3	4.3	4.5	***	***	***	***	8.7
		Min-10d	***	3.8	3.4	6.7	2.5	3.6	3.3	2.7	***	***	***	***	2.5
	Sakaerat FP	Mean	***	6.8	9.4	7.2	7.1	3.9	5.5	3.2	5.1	3.9	***	***	5.8
		%	***	96	100	100	100	100	100	100	100	100	***	***	75
		Max-10d	***	7.6	11.0	8.3	8.7	5.0	6.9	3.7	6.8	5.2	***	***	11.0
		Min-10d	***	5.5	6.7	6.0	4.7	3.4	4.2	2.8	3.7	2.9	***	***	2.8
Vietnam	Hanoi Filter pack FP	Mean	2.1	2.2	2.2	2.0	1.9	2.0	2.3	2.3	2.3	2.1	1.8	2.0	2.1
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	2.4	2.5	2.4	2.6	2.0	2.2	3.2	2.4	2.4	2.4	1.9	2.1	3.2
		Min-w	1.9	1.9	2.1	1.8	1.7	1.8	2.0	2.2	2.1	1.8	1.7	1.9	1.7
	Hoa Binh FP	Mean	1.3	1.4	1.4	1.3	1.3	1.2	1.4	1.4	1.5	1.4	1.2	1.5	1.4
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	1.6	1.6	1.6	1.5	1.5	1.3	1.7	1.7	1.5	1.5	1.3	1.6	1.7
		Min-w	1.1	1.2	1.1	1.1	1.1	1.1	1.3	1.2	1.4	1.3	1.1	1.5	1.1
	Can Tho FP	Mean	5.9	4.8	4.8	4.3	5.7	5.4	5.7	3.9	7.4	6.1	5.3	5.6	5.4
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	7.2	5.3	7.1	5.1	6.6	6.4	5.9	4.3	8.4	6.6	6.3	6.2	8.4
		Min-w	4.4	4.3	3.0	3.4	4.7	4.9	5.2	3.4	6.7	5.8	4.6	5.2	3.0
	Ho Chi Minh FP	Mean	3.4	4.1	4.3	4.0	3.6	4.0	4.7	4.7	3.7	3.8	4.2	4.4	4.1
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	3.9	4.8	4.5	4.6	4.4	5.1	6.1	5.6	4.7	4.2	4.4	4.8	6.1
		Min-w	2.7	3.5	3.7	3.7	2.7	3.0	3.7	2.8	3.0	3.3	4.0	3.9	2.7
	Yen Bai FP	Mean	3.1	3.2	3.8	3.3	3.4	3.7	3.5	3.1	4.0	3.3	3.2	3.0	3.4
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	3.4	3.8	4.1	3.7	3.9	4.2	4.0	3.4	4.1	3.9	3.5	3.2	4.2
		Min-w	2.9	2.7	3.3	3.0	2.9	3.2	2.8	2.5	3.8	2.8	3.0	2.8	2.5

Terms and abbreviations are given in Table 4.2.

Table 4.7 NO

Unit : ppb

Country	Site	Method	2019												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
China	Jinyunshan AT	Mean	8.4	5.7	6.1	4.3	4.6	4.8	3.5	4.7	5.0	4.9	8.7	11.7	6.0
		%	100	93	97	100	97	93	97	97	97	100	97	94	97
		Max-d	15.9	10.4	11.0	6.9	7.7	5.8	5.8	12.5	13.2	10.5	20.6	28.0	28.0
		Min-d	4.7	3.9	3.6	2.5	2.8	1.7	1.7	1.6	1.7	2.5	4.9	7.1	1.6
Japan	Rishiri AT	Mean	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.2	0.1	<0.1	<0.1	***	***	<0.1
		%	98	97	91	97	98	98	98	97	84	98	***	***	80
		Max-d	0.1	0.1	0.1	<0.1	0.3	0.6	0.5	0.2	0.1	0.1	***	***	0.6
		Min-d	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	***	***	<0.1
	Ochiishi AT	Mean	<0.1	***	***	***	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
		%	55	***	***	***	52	96	96	92	96	96	87	96	64
		Max-d	<0.1	***	***	***	0.2	0.8	0.6	0.5	0.2	<0.1	<0.1	0.1	0.8
		Min-d	<0.1	***	***	***	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Sado-seki AT	Mean	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
		%	96	97	94	97	97	97	96	88	96	97	97	54	92
		Max-d	<0.1	0.1	0.1	0.2	0.1	<0.1	0.2	0.1	0.2	0.2	0.1	0.2	0.2
		Min-d	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Happo AT	Mean	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1
		%	97	97	97	97	96	98	97	97	86	96	98	98	96
		Max-d	0.2	0.1	0.2	0.3	0.2	0.2	0.2	0.1	0.3	0.2	0.1	0.2	0.3
		Min-d	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Ijira AT	Mean	0.2	<0.1	0.2	0.2	0.7	0.8	0.7	0.8	0.3	0.2	0.5	1.0	0.5
		%	98	98	84	77	15	97	90	87	91	98	80	89	83
		Max-d	0.4	0.4	0.8	0.8	1.7	2.0	2.6	2.5	1.4	0.4	1.2	2.7	2.7
		Min-d	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1
	Okii AT	Mean	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.1	<0.1	0.2	<0.1	0.1	<0.1	<0.1
		%	8	74	97	98	98	98	98	98	98	97	98	98	88
		Max-d	<0.1	0.1	0.3	0.3	0.1	0.3	0.4	0.3	0.3	0.3	0.3	0.2	0.4
		Min-d	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Yusu-hara AT	Mean	<0.1	0.1	<0.1	<0.1	0.1	<0.1	0.1	<0.1	0.2	***	***	***	<0.1
		%	98	98	97	93	98	98	97	59	8	***	***	***	62
		Max-d	0.3	0.3	0.3	0.2	0.2	0.1	0.2	0.4	0.5	***	***	***	0.5
		Min-d	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	***	***	***	<0.1
	Hedo AT	Mean	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
		%	98	73	98	97	97	98	93	97	97	97	97	97	95
		Max-d	<0.1	0.2	0.2	0.1	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.3
		Min-d	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Ogasawara AT	Mean	<0.1	<0.1	***	***	***	***	***	***	<0.1	<0.1	<0.1	<0.1	<0.1
		%	98	73	***	***	***	***	***	***	30	32	56	99	32
		Max-d	0.2	0.2	***	***	***	***	***	***	<0.1	<0.1	<0.1	0.2	0.2
		Min-d	<0.1	<0.1	***	***	***	***	***	***	<0.1	<0.1	<0.1	<0.1	<0.1
	Niigata-maki AT	Mean	<0.1	0.1	0.1	<0.1	0.2	0.2	0.1	0.1	0.1	0.1	<0.1	0.1	0.1
		%	95	96	86	96	96	97	96	96	96	96	96	97	95
		Max-d	0.4	0.6	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.9	0.5	0.9
		Min-d	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lao PDR	Vientiane AT	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-d	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-d	***	***	***	***	***	***	***	***	***	***	***	***	***
Mongolia	Ulaanbaatar AT	Mean	38.1	20.2	11.4	6.1	2.9	1.9	2.8	3.9	15.6	28.8	47.7	***	15.2
		%	100	100	100	93	99	72	11	100	100	100	15	***	74
		Max-d	95.8	74.1	28.0	15.0	12.4	4.9	3.6	13.5	41.1	65.7	73.4	***	95.8
		Min-d	3.2	1.8	0.5	0.4	0.3	0.1	2.2	0.1	3.8	6.5	21.8	***	0.1
Philippines	Metro Manila AT	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-d	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-d	***	***	***	***	***	***	***	***	***	***	***	***	***

Table 4.7 NO (continued)

Unit : ppb

Country	Site Method		2019												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Thailand	Bangkok AT	Mean	9.0	1.3	1.4	2.2	3.2	4.1	6.9	4.6	7.3	4.4	4.9	3.8	4.4
		%	95	95	96	96	96	94	94	95	95	95	96	95	95
		Max-d	27.8	5.8	6.8	8.7	12.2	14.2	33.9	16.2	18.9	17.7	20.6	16.8	33.9
		Min-d	1.0	0.1	0.5	0.8	0.8	0.8	0.9	0.8	1.2	0.7	0.8	0.3	0.1
	Samutprakarn AT	Mean	11.3	1.7	1.4	1.7	4.8	5.8	12.7	10.7	14.0	6.3	6.8	5.1	7.0
		%	95	95	96	86	93	94	96	95	95	96	96	96	94
		Max-d	55.4	9.1	6.5	8.8	18.6	21.1	32.6	23.1	38.6	32.8	22.6	20.7	55.4
		Min-d	1.6	0.2	<0.1	<0.1	0.6	0.7	0.5	1.7	0.5	0.1	0.2	0.3	<0.1
	Khanchanaburi (Vachiralongkorn Dam) AT	Mean	***	***	1.0	1.1	***	***	1.8	1.0	***	***	0.1	0.2	1.0
		%	***	***	18	77	***	***	67	1	***	***	60	3	19
		Max-d	***	***	1.1	1.4	***	***	22.5	1.0	***	***	0.4	0.2	22.5
		Min-d	***	***	1.0	1.0	***	***	1.0	1.0	***	***	<0.1	0.2	<0.1
	Chang Phueak AT	Mean	3.2	2.4	1.3	1.1	0.5	0.9	1.4	1.6	1.4	1.4	2.2	2.5	1.6
		%	95	95	95	92	95	95	95	94	95	93	95	95	95
		Max-d	5.7	6.7	3.3	2.7	1.2	1.9	3.1	4.8	4.0	2.2	4.6	5.7	6.7
		Min-d	1.5	0.8	0.2	0.2	<0.1	0.2	<0.1	<0.1	0.4	0.4	0.6	0.4	<0.1
	Si Phum AT	Mean	11.4	12.0	7.9	6.5	6.0	6.5	6.5	7.2	5.9	4.4	8.9	11.9	7.9
		%	95	94	94	94	95	94	95	95	96	93	95	94	95
		Max-d	20.0	16.6	15.2	14.0	10.9	10.3	12.4	11.0	9.7	18.5	14.2	19.7	20.0
		Min-d	7.3	7.6	3.8	3.3	3.2	3.4	3.2	3.7	3.5	2.2	4.9	4.1	2.2
	Nai Mueang AT	Mean	***	***	***	***	***	11.9	12.2	11.0	11.7	10.0	9.6	13.8	11.4
		%	***	***	***	***	***	9	80	95	96	95	95	93	47
		Max-d	***	***	***	***	***	13.2	19.1	15.7	23.3	25.6	30.5	32.3	32.3
		Min-d	***	***	***	***	***	11.1	5.9	5.1	3.7	2.8	2.8	4.6	2.8

Terms and abbreviations are given in Table 4.2.

Table 4.8 NO₂

Unit : ppb

Country	Site Method		2019												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
China	Hongwen AT	Mean	13.8	7.9	15.9	13.0	10.5	6.7	9.0	11.8	10.1	8.3	10.4	16.4	11.2
		%	100	100	100	100	100	93	100	94	97	100	100	100	99
		Max-d	23.5	18.8	29.8	27.2	19.9	13.1	20.4	18.8	18.3	12.0	19.3	34.0	34.0
		Min-d	6.3	3.1	4.7	4.7	5.2	2.1	1.6	5.2	4.7	4.7	5.8	8.4	1.6
	Haibin-Park AT	Mean	26.3	13.8	19.9	13.4	12.3	8.3	5.2	6.9	9.1	7.9	13.3	22.2	13.3
		%	100	100	100	100	100	100	97	97	100	97	97	100	99
		Max-d	47.6	24.6	35.0	23.5	19.3	15.7	9.9	12.6	13.6	18.8	32.9	46.0	47.6
		Min-d	11.5	6.3	8.4	7.3	6.3	3.1	2.1	1.0	4.7	3.7	5.8	9.4	1.0
	Wuzhishan AT	Mean	1.2	0.6	1.0	0.4	0.4	0.5	0.5	0.3	0.9	0.8	2.1	2.3	0.9
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-d	2.9	0.9	2.2	0.9	0.7	2.4	0.8	0.6	2.5	2.2	3.9	5.1	5.1
		Min-d	0.5	0.4	0.5	0.1	0.2	<0.1	0.2	0.2	0.1	0.2	0.2	0.7	<0.1
	Lijiang AT	Mean	0.4	0.4	0.6	0.6	0.9	0.7	0.4	0.5	0.5	0.7	0.7	0.7	0.6
		%	94	93	94	100	97	97	100	100	100	94	100	100	97
		Max-d	0.9	0.9	1.3	2.3	1.4	1.6	1.0	1.0	1.2	0.9	1.5	2.4	2.4
		Min-d	<0.1	0.2	0.1	<0.1	0.3	0.1	0.1	<0.1	0.2	0.4	0.3	<0.1	<0.1
Indonesia	Jakarta PS	Mean	18.0	21.4	20.4	24.0	22.8	21.0	21.8	21.0	18.6	20.1	25.0	23.2	21.4
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-m	18.0	21.4	20.4	24.0	22.8	21.0	21.8	21.0	18.6	20.1	25.0	23.2	25.0
		Min-m	18.0	21.4	20.4	24.0	22.8	21.0	21.8	21.0	18.6	20.1	25.0	23.2	18.0
	Kototabang PS	Mean	1.0	1.0	0.6	0.8	0.7	0.9	0.9	1.1	1.2	1.1	0.7	0.8	0.9
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-m	1.0	1.0	0.6	0.8	0.7	0.9	0.9	1.1	1.2	1.1	0.7	0.8	1.2
		Min-m	1.0	1.0	0.6	0.8	0.7	0.9	0.9	1.1	1.2	1.1	0.7	0.8	0.6
	Bandung PS	Mean	34.5	35.2	38.4	30.8	41.8	28.3	40.0	34.5	33.9	40.4	34.6	38.5	35.9
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-m	34.5	35.2	38.4	30.8	41.8	28.3	40.0	34.5	33.9	40.4	34.6	38.5	41.8
		Min-m	34.5	35.2	38.4	30.8	41.8	28.3	40.0	34.5	33.9	40.4	34.6	38.5	28.3
Lao PDR	Vientiane AT	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-d	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-d	***	***	***	***	***	***	***	***	***	***	***	***	***
Mongolia	Ulaanbaatar AT	Mean	46.0	34.1	32.7	30.3	25.8	24.0	28.0	21.9	37.4	44.8	46.9	***	33.5
		%	100	100	100	92	99	72	11	100	100	100	15	***	74
		Max-d	58.9	55.6	43.5	36.9	38.1	30.6	31.0	32.2	50.2	54.3	50.5	***	58.9
		Min-d	25.9	15.4	18.3	17.5	16.8	14.6	25.5	12.6	27.6	30.5	43.7	***	12.6
Philippines	Metro Manila AT	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-d	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-d	***	***	***	***	***	***	***	***	***	***	***	***	***
Republic of Korea	Kanghwa AT	Mean	7.8	6.1	7.8	5.1	5.8	2.8	2.4	2.1	3.3	4.2	7.0	10.0	5.4
		%	99	97	98	99	98	95	97	97	96	98	93	98	97
		Max-d	24.0	16.6	18.4	11.5	10.3	5.9	4.7	4.8	11.7	8.1	21.0	27.1	27.1
		Min-d	2.2	2.0	3.8	2.1	2.8	1.3	1.3	0.8	1.2	2.2	2.4	2.0	0.8
	Cheju (Kosan) AT	Mean	4.4	4.9	6.6	5.0	5.1	4.9	3.1	4.1	3.9	3.8	4.7	4.7	4.6
		%	97	99	99	99	98	48	97	99	98	95	98	98	94
		Max-d	9.0	10.3	13.1	8.5	9.5	7.7	6.0	8.6	8.5	6.3	8.1	10.4	13.1
		Min-d	1.4	1.7	2.0	2.4	2.0	2.1	1.1	2.0	1.3	1.7	2.5	2.2	1.1
	Imsil AT	Mean	6.9	6.3	5.3	4.5	3.6	2.8	2.8	2.6	3.0	3.8	***	***	4.2
		%	96	90	84	90	98	93	96	89	98	5	***	***	70
		Max-d	12.0	12.6	8.6	7.8	5.3	4.4	4.4	4.3	4.8	4.0	***	***	12.6
		Min-d	3.2	2.8	2.4	2.7	1.3	1.1	1.8	0.2	1.4	3.6	***	***	0.2
Thailand	Bangkok AT	Mean	34.9	11.5	11.9	11.3	13.6	13.0	12.3	11.3	17.8	20.9	25.7	25.2	17.5
		%	95	95	96	96	96	94	94	95	95	95	96	95	95
		Max-d	60.5	22.0	21.8	19.0	23.7	26.6	17.5	18.3	31.3	31.9	43.6	36.9	60.5
		Min-d	16.7	7.6	7.5	4.7	7.0	6.7	7.3	5.6	9.5	12.5	16.8	14.7	4.7
	Samutprakarn AT	Mean	36.4	7.4	6.0	6.4	15.9	11.4	13.4	11.8	20.8	22.3	29.6	28.2	17.7
		%	95	95	96	86	93	94	96	95	95	96	96	96	94
		Max-d	58.2	22.1	13.6	14.4	30.4	24.9	27.0	17.9	37.5	43.3	46.7	51.3	58.2
		Min-d	11.8	2.4	1.7	1.7	5.7	5.6	4.7	2.6	7.8	9.0	16.4	15.8	1.7
	Chang Phueak AT	Mean	11.0	14.3	15.6	12.1	7.4	5.3	5.6	5.8	4.1	6.9	9.1	12.3	9.1
		%	95	95	95	92	95	95	95	94	95	93	95	95	95
		Max-d	15.2	17.4	23.0	21.6	11.2	7.6	11.6	9.1	8.6	10.7	15.3	17.7	23.0
		Min-d	8.3	9.5	7.2	5.9	4.3	2.5	1.9	2.7	1.0	4.1	5.8	5.5	1.0
	Si Phum AT	Mean	18.7	24.6	25.9	21.3	14.2	7.8	6.4	8.9	9.5	10.7	15.8	20.8	15.3
		%	95	94	94	94	95	94	95	95	96	93	95	94	95
		Max-d	22.5	31.4	40.5	33.8	23.1	13.2	12.9	11.6	14.1	22.7	22.7	30.8	40.5
		Min-d	15.1	18.3	13.3	8.8	8.7	3.6	3.4	6.5	5.9	7.9	9.7	10.8	3.4
	Nai Mueang AT	Mean	***	***	***	***	***	8.7	8.4	11.9	16.0	16.6	19.2	25.0	16.2
		%	***	***	***	***	***	9	80	95	96	95	95	93	47
		Max-d	***	***	***	***	***	9.5	14.0	17.0	25.0	25.1	28.6	43.4	43.4
		Min-d	***	***	***	***	***	8.0	3.9	1.8	8.2	11.2	11.3	10.7	1.8

Terms and abbreviations are given in Table 4.2.

Table 4.9 NOx

Unit : ppb

Country	Site		2019												Annual
	Method		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
China	Jinyunshan (NOx*) AT	Mean	20.5	13.9	15.1	10.3	11.6	11.6	8.8	10.7	11.9	11.6	19.1	23.9	14.1
		%	100	93	97	100	97	93	97	97	97	100	97	94	97
		Max-d	33.7	22.4	25.7	16.8	19.2	17.6	13.6	24.1	28.9	25.7	33.7	50.5	50.5
		Min-d	12.0	9.6	8.8	5.6	6.4	4.8	4.8	3.2	4.8	5.6	11.2	14.4	3.2
Japan	Rishiri (NOx*) AT	Mean	0.5	0.7	0.9	0.4	0.5	0.5	0.6	0.3	0.4	0.5	***	***	0.5
		%	98	97	91	97	98	98	98	97	84	98	***	***	80
		Max-d	1.2	2.1	4.3	1.1	0.8	2.2	1.4	0.8	0.7	1.0	***	***	4.3
		Min-d	0.3	0.2	0.3	<0.1	0.1	<0.1	0.1	<0.1	0.1	0.2	***	***	<0.1
	Ochiishi (NOx*) AT	Mean	0.7	***	***	***	1.6	1.3	1.2	0.8	0.8	0.8	0.7	0.8	0.9
		%	55	***	***	***	52	96	96	92	96	96	87	96	64
		Max-d	1.3	***	***	***	2.4	2.9	3.1	2.1	1.6	1.5	1.2	2.4	3.1
		Min-d	0.4	***	***	***	0.7	0.3	0.6	0.4	0.4	0.4	0.4	0.5	0.3
	Sado-seki (NOx*) AT	Mean	0.8	1.2	1.4	1.1	0.9	0.6	0.6	0.5	0.5	0.6	0.7	0.8	0.8
		%	96	97	94	97	97	97	96	88	97	97	97	56	92
		Max-d	1.6	2.5	3.1	2.3	2.1	1.3	1.2	1.0	1.3	1.9	1.4	1.4	3.1
		Min-d	0.3	0.5	0.7	<0.1	0.3	0.2	0.2	0.2	0.2	0.2	0.4	0.3	<0.1
	Happo (NOx*) AT	Mean	0.6	0.7	0.9	0.8	0.8	0.6	0.5	0.5	0.5	0.5	0.6	0.5	0.6
		%	97	97	97	97	96	98	97	97	86	96	98	98	96
		Max-d	1.7	1.5	2.0	1.6	1.4	1.2	1.0	1.4	0.7	0.9	1.0	1.0	2.0
		Min-d	0.1	0.3	0.3	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	0.2	0.2	0.1	<0.1
	Ijira (NOx*) AT	Mean	1.0	1.2	1.4	0.8	2.7	2.6	2.4	3.5	1.8	1.3	1.5	1.8	1.8
		%	98	98	84	80	14	93	95	97	97	98	86	88	86
		Max-d	2.7	3.4	4.6	3.5	7.0	5.6	6.6	10.1	4.5	3.6	4.6	6.1	10.1
		Min-d	0.2	0.2	<0.1	<0.1	0.2	<0.1	0.9	0.1	0.3	<0.1	<0.1	0.4	<0.1
	Okie (NOx*) AT	Mean	1.6	1.3	1.6	1.0	1.0	0.7	0.6	0.8	0.7	0.8	1.1	1.2	1.0
		%	8	74	97	98	98	98	98	98	98	97	98	98	88
		Max-d	2.2	2.6	3.7	2.7	1.7	1.5	1.4	1.8	1.4	2.6	2.3	2.3	3.7
		Min-d	0.9	0.1	0.5	0.1	<0.1	<0.1	0.2	0.3	0.2	0.2	0.4	0.5	<0.1
	Yusuhara (NOx*) AT	Mean	2.3	1.7	2.0	1.4	1.2	0.9	0.7	1.1	0.4	***	***	***	1.4
		%	98	98	97	93	98	98	97	59	8	***	***	***	62
		Max-d	3.7	2.7	4.0	3.4	3.3	1.6	1.4	3.8	0.5	***	***	***	4.0
		Min-d	0.8	0.8	0.5	0.2	0.2	0.2	<0.1	0.1	0.2	***	***	***	<0.1
	Hedo (NOx*) AT	Mean	0.9	0.8	0.9	0.6	0.4	0.4	0.6	0.3	0.3	0.6	0.9	0.9	0.6
		%	98	73	98	97	97	98	93	97	97	97	97	97	95
		Max-d	1.5	1.3	2.8	2.3	0.8	1.0	1.5	0.7	0.8	1.2	1.6	1.6	2.8
		Min-d	0.5	0.5	0.3	<0.1	<0.1	<0.1	0.2	<0.1	0.1	<0.1	0.3	0.4	<0.1
	Ogasawara (NOx*) AT	Mean	0.7	0.4	***	***	***	***	***	***	<0.1	<0.1	0.2	0.3	0.4
		%	98	73	***	***	***	***	***	***	30	32	56	99	32
		Max-d	2.6	1.1	***	***	***	***	***	***	0.2	0.3	0.9	2.6	2.6
		Min-d	0.2	<0.1	***	***	***	***	***	***	<0.1	<0.1	<0.1	<0.1	<0.1
	Niigata-maki (NOx*) AT	Mean	2.0	2.8	2.2	2.2	2.0	2.0	2.0	1.6	2.2	2.1	2.0	2.7	2.1
		%	95	96	86	96	96	97	96	96	96	96	96	97	95
		Max-d	6.0	8.3	5.8	4.5	3.4	4.4	3.6	3.7	3.8	4.2	8.5	7.5	8.5
		Min-d	0.6	0.8	0.9	0.7	1.1	0.5	0.9	0.9	0.9	0.6	0.7	0.7	0.5
Lao PDR	Vientiane AT	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-d	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-d	***	***	***	***	***	***	***	***	***	***	***	***	***
Mongolia	Ulaanbaatar AT	Mean	84.0	54.3	44.1	36.4	28.7	25.8	30.8	25.8	53.1	73.6	94.7	***	48.7
		%	100	100	100	92	99	72	11	100	100	100	15	***	74
		Max-d	154.5	129.8	71.5	49.9	49.4	33.9	33.3	45.6	91.3	116.7	123.4	***	154.5
		Min-d	29.1	17.1	18.8	17.7	17.1	15.4	29.1	12.7	32.7	38.9	66.8	***	12.7
Philippines	Metro Manila AT	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-d	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-d	***	***	***	***	***	***	***	***	***	***	***	***	***

Table 4.9 NOx (continued)

Unit : ppb

Country	Site Method		2019												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Thailand	Bangkok AT	Mean	43.9	12.9	13.4	13.4	16.7	17.0	19.3	15.9	25.1	25.3	30.7	29.1	22.0
		%	95	95	96	96	96	94	94	95	95	95	96	95	95
		Max-d	85.0	23.7	23.1	27.5	35.1	37.1	50.6	29.1	42.8	44.4	56.0	45.6	85.0
		Min-d	17.7	8.1	8.2	5.6	7.9	8.7	8.8	6.5	13.5	13.4	18.0	15.3	5.6
	Samutprakarn AT	Mean	47.7	9.1	7.4	8.1	20.7	17.2	26.1	22.5	34.8	28.7	36.4	33.4	24.6
		%	95	95	96	86	93	94	96	95	95	96	96	96	94
		Max-d	110.7	31.2	17.8	22.6	47.5	38.6	51.5	38.6	58.5	72.0	67.7	72.1	110.7
		Min-d	14.0	2.9	1.7	1.7	6.4	6.6	5.3	4.1	15.7	9.3	17.4	16.6	1.7
	Khanchanaburi(NOx*) (Vachiralongkorn Dam) AT	Mean	***	***	3.7	4.6	***	***	2.6	1.5	***	***	1.3	1.2	3.0
		%	***	***	18	77	***	***	67	1	***	***	60	3	19
		Max-d	***	***	5.0	8.3	***	***	23.1	1.5	***	***	2.0	1.2	23.1
		Min-d	***	***	2.6	2.7	***	***	1.3	1.5	***	***	0.7	1.2	0.7
	Chang Phueak AT	Mean	14.2	16.8	16.9	13.1	7.9	6.2	7.0	7.3	5.5	8.3	11.3	14.5	10.7
		%	95	95	95	92	95	95	95	94	95	93	95	95	95
		Max-d	19.1	23.8	24.3	23.2	11.9	9.2	13.0	12.0	10.4	12.3	17.3	22.0	24.3
		Min-d	10.6	10.6	9.3	6.1	4.9	2.7	2.3	2.4	2.0	5.0	7.0	6.7	2.0
	Si Phum AT	Mean	29.9	36.5	33.8	27.7	20.0	14.1	12.7	16.1	15.0	15.0	24.6	32.6	23.1
		%	95	94	94	94	95	94	95	95	96	93	95	94	95
		Max-d	35.1	44.3	54.9	42.4	33.9	23.1	24.6	21.3	21.8	32.3	36.0	49.9	54.9
		Min-d	22.9	29.3	20.0	13.1	13.0	7.6	7.8	10.8	9.4	10.2	16.3	16.8	7.6
	Nai Mueang AT	Mean	***	***	***	***	***	20.2	20.5	22.8	27.6	26.6	28.7	38.8	27.5
		%	***	***	***	***	***	9	80	95	96	95	95	93	47
		Max-d	***	***	***	***	***	21.3	28.6	31.3	41.4	48.5	55.6	72.7	72.7
		Min-d	***	***	***	***	***	18.7	10.2	6.7	14.8	17.7	19.8	15.2	6.7

NOx* : NOx measured by CLD in remote or rural sites

Terms and abbreviations are given in Table 4.2.

Table 4.10 O₃

Unit : ppb

Country	Site		2019												Annual
	Method		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Cambodia	Phnom Penh AT	Mean								14	17	25	29	31	24
		%								63	100	100	100	100	39
		Max-d								21	37	40	51	46	51
		Min-d								11	9	15	15	18	9
Indonesia	Bandung AT	Mean	12	12	8	7	7	9	7	5	6	6	14	***	8
		%	98	98	98	98	97	98	98	87	92	85	86	***	86
		Max-d	22	24	19	11	11	13	12	9	9	9	42	***	42
		Min-d	7	5	4	3	5	3	3	<1	1	4	3	***	<1
	Bandung PS	Mean	9	9	7	7	7	10	8	9	9	18	16	17	10
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-m	9	9	7	7	7	10	8	9	9	18	16	17	18
		Min-m	9	9	7	7	7	10	8	9	9	18	16	17	7
Japan	Rishiri AT	Mean	38	42	38	39	40	25	18	19	27	34	34	35	32
		%	99	99	92	99	99	99	99	99	85	99	44	99	93
		Max-d	46	54	52	60	70	44	27	31	40	42	38	40	70
		Min-d	34	35	34	29	28	15	10	10	20	24	31	29	10
	Ochiishi AT	Mean	36	***	***	***	48	33	26	29	30	35	32	33	33
		%	57	***	***	***	56	100	100	100	100	100	93	100	68
		Max-d	42	***	***	***	80	57	35	39	41	43	39	40	80
		Min-d	32	***	***	***	38	21	19	21	21	27	28	27	19
	Sado-seki AT	Mean	40	44	51	52	62	48	33	36	38	40	38	39	44
		%	99	98	98	99	99	99	99	91	99	99	99	58	95
		Max-d	44	50	58	69	95	67	46	51	47	55	44	46	95
		Min-d	37	38	44	44	45	35	14	22	28	32	34	35	14
	Happo AT	Mean	45	51	62	65	73	61	45	43	36	41	43	44	51
		%	99	99	99	99	99	99	99	99	89	98	99	99	98
		Max-d	50	61	73	78	92	80	70	64	53	53	53	50	92
		Min-d	40	41	53	52	52	37	18	27	25	29	34	39	18
	Ijira AT	Mean	16	30	34	38	43	22	9	16	19	20	23	20	24
		%	99	99	98	99	99	99	99	100	99	100	99	90	98
		Max-d	22	47	49	54	63	53	31	30	37	32	37	27	63
		Min-d	11	14	21	18	20	5	1	4	7	9	8	9	1
	Oki AT	Mean	42	45	54	55	66	49	33	35	36	42	42	40	45
		%	96	88	100	99	100	100	100	100	100	99	91	100	98
		Max-d	52	56	76	71	97	74	58	67	55	57	57	52	97
		Min-d	37	39	46	43	46	23	11	16	16	32	34	33	11
	Yusuhara AT	Mean	41	42	50	53	58	42	25	19	24	33	39	38	39
		%	99	99	99	96	99	99	99	99	90	87	99	99	97
		Max-d	48	55	66	80	105	56	44	49	40	48	53	44	105
		Min-d	34	35	42	37	26	15	9	5	3	14	23	32	3
	Hedo AT	Mean	44	44	55	49	49	30	16	16	22	40	40	39	37
		%	99	74	99	99	99	99	92	99	99	99	99	99	97
		Max-d	55	58	74	77	71	60	28	50	44	57	53	50	77
		Min-d	35	37	34	15	27	12	8	5	5	9	19	25	5
	Ogasawara AT	Mean	42	46	55	53	***	***	***	***	***	***	39	35	45
		%	99	78	80	80	***	***	***	***	***	***	54	100	41
		Max-d	47	58	66	66	***	***	***	***	***	***	50	44	66
		Min-d	38	22	35	32	***	***	***	***	***	***	33	22	22
	Niigata-maki AT	Mean	36	39	46	48	54	42	30	32	31	33	33	33	38
		%	88	99	93	99	99	99	99	98	99	99	99	99	98
		Max-d	41	47	58	63	80	60	45	48	39	43	43	41	80
		Min-d	29	27	28	33	41	28	15	17	19	20	17	21	15
	Tsushima AT	Mean	43	51	62	60	68	48	31	36	37	45	42	40	47
		%	99	99	89	99	99	96	98	99	87	96	99	99	97
		Max-d	53	69	80	83	99	83	60	67	53	58	72	51	99
		Min-d	36	39	50	39	39	20	10	14	15	18	32	31	10
Mongolia	Ulaanbaatar AT	Mean	5	6	9	11	13	23	21	13	11	9	6	***	12
		%	100	100	100	99	99	72	77	98	100	100	15	***	80
		Max-d	11	13	16	16	18	42	35	23	22	19	11	***	42
		Min-d	2	3	5	8	7	11	4	5	4	3	3	***	2.0
Philippines	Metro Manila AT	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-d	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-d	***	***	***	***	***	***	***	***	***	***	***	***	***

Table 4.10 O₃ (continued)

Unit : ppb

Country	Site		2019												Annual
	Method		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Republic of Korea	Kanghwa AT	Mean	36	44	54	56	68	58	47	49	39	41	32	29	46
		%	99	97	98	99	98	95	97	97	96	98	94	98	97
		Max-d	49	57	83	71	108	74	84	86	61	63	50	40	108
		Min-d	27	30	37	41	36	43	21	22	13	27	15	13	13
	Cheju (Kosan) AT	Mean	43	47	57	55	64	50	35	37	36	45	41	37	46
		%	100	100	100	100	100	98	99	100	98	93	100	99	99
		Max-d	57	66	76	81	105	65	64	77	58	66	82	54	105
		Min-d	33	40	47	35	41	29	13	12	12	20	29	30	12
	Imsil AT	Mean	28	35	46	47	51	42	27	23	28	17	***	***	36
		%	97	92	84	90	98	93	96	96	97	5	***	***	70
		Max-d	37	62	64	64	79	58	44	43	52	17	***	***	79
		Min-d	16	20	17	25	34	14	9	10	7	17	***	***	7
Russia	Mondy PS	Mean	59	***	62	***	49	54	63	40	29	***	19	***	50
		%	100	***	84	***	100	100	100	100	100	***	74	***	71
		Max	65	***	69	***	49	54	63	40	29	***	19	***	69
		Min	53	***	54	***	49	54	63	40	29	***	19	***	19
	Listvyanka PS	Mean	53	47	56	61	50	***	25	49	18	22	***	***	45
		%	100	100	100	100	96	***	74	100	100	100	***	***	74
		Max-2w	56	54	58	61	50	***	25	49	18	22	***	***	61
		Min-2w	51	40	54	61	50	***	25	49	18	22	***	***	18
	Irkutsk PS	Mean	16	17	30	36	34	32	22	15	22	21	***	***	24
		%	100	100	100	100	100	100	100	100	100	93	***	***	83
		Max-2w	21	20	32	36	34	32	22	15	22	21	***	***	36
		Min-2w	11	15	28	36	34	32	22	15	22	21	***	***	11
Thailand	Bangkok AT	Mean	30	34	33	27	28	20	16	13	21	29	31	34	26
		%	95	95	95	96	96	95	93	95	95	95	96	95	95
		Max-d	43	56	45	41	38	35	25	20	53	46	50	51	56
		Min-d	11	21	22	17	10	12	4	8	6	12	14	20	4
	Samutprakarn AT	Mean	27	29	29	20	18	11	9	12	18	21	26	29	21
		%	94	95	96	95	95	95	96	95	95	96	96	96	95
		Max-d	44	48	39	29	25	21	16	19	48	33	46	46	48
		Min-d	11	18	20	12	9	5	3	7	4	10	13	18	3
	Khanchanaburi (Vachiralongkorn Dam) AT	Mean	***	***	36	40	***	***	15	18	***	***	20	20	26
		%	***	***	19	76	***	***	67	1	***	***	60	3	19
		Max-d	***	***	43	65	***	***	23	18	***	***	29	20	65
		Min-d	***	***	16	27	***	***	4	18	***	***	4	20	4
	Chang Phueak AT	Mean	30	37	47	47	41	24	20	15	25	31	30	33	31
		%	95	95	93	93	96	95	95	91	95	93	95	95	94
		Max-d	41	44	59	58	63	33	37	28	42	43	40	43	63
		Min-d	15	28	30	34	19	16	7	8	12	15	18	22	7
	Nai Mueang AT	Mean	24	32	34	35	35	21	21	15	20	21	32	27	25
		%	96	96	78	31	6	9	96	95	96	96	96	96	74
		Max-d	33	42	45	43	39	23	30	20	43	40	44	43	45
		Min-d	15	20	23	23	32	19	12	10	6	5	14	13	5

Terms and abbreviations are given in Table 4.2.

Table 4.11 PM₁₀Unit : $\mu\text{g}/\text{m}^3$

Country	Site	Method	2019												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
China	Jinyunshan AT	Mean	66	54	39	36	37	21	26	35	34	23	39	54	39
		%	100	86	94	100	100	93	97	100	97	100	93	94	96
		Max-d	137	107	69	55	69	63	48	68	66	65	75	97	137
		Min-d	16	18	14	17	13	4	7	14	9	8	14	16	4
	Hongwen AT	Mean	45	30	38	35	38	23	26	29	35	50	49	41	37
		%	100	96	100	100	100	97	100	97	93	100	97	97	98
		Max-d	76	110	69	57	74	45	43	45	50	131	82	65	131
		Min-d	18	9	15	18	11	9	11	15	14	28	21	15	9
	Haibin-Park AT	Mean	62	31	34	26	26	17	22	23	37	44	64	62	37
		%	100	100	97	100	100	100	100	97	100	97	100	100	99
		Max-d	100	54	55	62	39	32	50	61	83	75	95	111	111
		Min-d	37	15	13	12	7	10	8	4	10	19	38	33	4
	Wuzhishan AT	Mean	11	14	19	13	14	10	10	7	18	15	22	16	14
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-d	27	23	29	24	24	15	20	13	47	28	48	34	48
		Min-d	3	9	11	5	5	5	2	<1	<1	2	1	<1	<1
	Lijiang AT	Mean	6	7	13	11	15	6	5	8	5	5	7	8	8
		%	97	96	100	100	100	97	97	100	100	90	50	100	94
		Max-d	15	24	31	35	39	14	11	18	16	9	16	24	39
		Min-d	<1	3	3	4	3	1	<1	1	1	1	<1	2	<1
Japan	Rishiri AT	Mean	15	24	33	25	32	18	16	15	22	24	20	20	22
		%	100	100	100	99	100	100	100	96	99	100	100	99	99
		Max-d	45	94	131	70	75	54	30	51	75	61	54	46	131
		Min-d	7	6	5	5	8	5	8	5	7	5	8	5	5
	Ochiishi AT	Mean	11	16	20	15	21	14	12	17	14	19	14	13	15
		%	99	99	100	98	99	98	99	99	99	99	100	99	99
		Max-d	24	44	68	40	52	41	25	36	32	45	31	20	68
		Min-d	5	6	7	5	6	4	3	9	5	7	5	8	3
	Sado-seki AT	Mean	31	32	32	27	26	19	19	25	17	23	19	19	24
		%	100	100	99	100	100	100	100	100	93	99	100	100	99
		Max-d	66	55	57	63	57	52	41	66	36	65	43	36	66
		Min-d	10	12	14	6	3	5	4	6	6	5	4	6	3
	Happo AT	Mean	3	6	10	10	12	7	5	9	5	6	5	3	6
		%	71	96	96	80	23	90	92	97	93	99	98	97	86
		Max-d	9	22	27	32	26	18	24	21	14	35	18	5	35
		Min-d	1	2	<1	<1	<1	<1	<1	<1	<1	<1	1	<1	<1
	Ijira AT	Mean	8	13	14	16	19	16	23	26	16	12	9	7	15
		%	100	100	100	100	100	100	100	87	100	100	100	100	99
		Max-d	15	25	29	42	43	39	56	66	27	41	31	11	66
		Min-d	3	6	4	2	4	5	7	10	4	3	3	3	2
	Oki AT	Mean	32	37	39	30	32	28	25	28	20	29	28	29	30
		%	100	100	100	100	100	99	99	99	89	99	92	94	98
		Max-d	54	63	81	68	73	64	46	50	47	85	62	52	85
		Min-d	8	16	18	3	4	10	10	11	10	11	12	13	3
	Yusuhara AT	Mean	15	15	17	15	16	16	11	11	7	11	12	10	13
		%	100	100	100	99	100	100	100	100	94	97	100	100	99
		Max-d	28	26	36	37	37	37	27	28	14	39	30	23	39
		Min-d	6	6	3	<1	<1	2	<1	2	1	2	3	<1	<1
	Hedo AT	Mean	23	24	29	25	30	26	30	35	34	31	35	25	29
		%	100	100	100	99	100	100	96	100	100	100	94	100	99
		Max-d	38	43	55	45	63	42	59	91	70	70	64	43	91
		Min-d	12	15	17	9	13	14	10	10	14	17	21	13	9
	Ogasawara AT	Mean	15	20	24	19	19	12	13	24	22	29	26	18	20
		%	100	100	99	100	99	100	100	99	100	82	99	100	98
		Max-d	29	46	37	43	57	23	26	58	41	100	44	33	100
		Min-d	8	12	13	4	1	5	6	5	9	10	13	5	1
	Tsushima AT	Mean	28	30	36	31	29	19	15	20	13	18	22	15	23
		%	100	98	96	100	100	97	99	100	100	96	100	100	99
		Max-d	63	55	71	119	62	41	31	51	22	59	84	31	119
		Min-d	10	9	16	6	12	2	5	2	3	6	8	6	2
Lao PDR	Vientiane AT	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-d	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-d	***	***	***	***	***	***	***	***	***	***	***	***	***

Table 4.11 PM₁₀ (continued)Unit : $\mu\text{g}/\text{m}^3$

Country	Site Method		2019												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Mongolia	Ulaanbaatar AT	Mean	275	200	122	87	75	60	56	122	124	109	136	***	126
		%	100	100	100	99	99	72	77	85	80	100	15	***	77
		Max-d	578	344	201	177	149	134	162	933	221	219	203	***	933
		Min-d	86	83	41	41	23	15	8	24	48	23	77	***	8
Philippines	Metro Manila AT	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-d	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-d	***	***	***	***	***	***	***	***	***	***	***	***	***
Republic of Korea	Kanghwa AT	Mean	63	55	64	40	50	26	28	30	31	41	44	45	43
		%	98	95	98	98	98	95	88	94	97	98	95	98	96
		Max-d	139	109	194	73	102	46	62	50	63	122	94	97	194
		Min-d	29	29	24	8	17	13	9	11	9	15	16	21	8
	Cheju (Kosan) AT	Mean	37	46	56	39	44	29	22	33	34	40	50	35	39
		%	97	98	91	90	90	86	83	87	58	85	88	97	87
		Max-d	85	114	142	101	116	39	45	52	51	103	206	64	206
		Min-d	17	12	20	11	5	13	8	13	19	27	22	21	5
	Imsil AT	Mean	72	75	81	48	43	39	28	29	28	29	***	***	49
		%	89	97	84	90	93	93	95	95	92	5	***	***	69
		Max-d	136	150	193	115	68	61	48	43	47	35	***	***	193
		Min-d	39	38	32	14	16	12	15	18	11	18	***	***	11
Thailand	Bangkok AT	Mean	65	34	32	27	33	20	22	21	30	35	42	51	34
		%	100	99	99	99	99	99	98	99	100	100	100	100	99
		Max-d	102	71	45	48	59	28	31	28	81	65	66	74	102
		Min-d	34	17	22	15	17	12	14	16	16	23	27	26	12
	Samutprakarn AT	Mean	79	36	35	26	39	23	31	23	37	41	52	60	40
		%	100	99	99	99	98	99	99	100	100	100	100	100	99
		Max-d	129	75	52	50	67	36	48	34	91	90	79	81	129
		Min-d	33	18	22	14	13	15	14	11	17	28	26	36	11
	Khanchanaburi (Vachiralongkorn Dam) AT	Mean	***	***	40	60	***	***	16	16	***	***	16	15	33
		%	***	***	17	80	***	***	69	2	***	***	62	3	19
		Max-d	***	***	71	113	***	***	22	16	***	***	23	15	113
		Min-d	***	***	22	22	***	***	12	16	***	***	10	15	10
	Chang Phueak AT	Mean	48	72	132	111	65	29	29	27	33	35	41	54	56
		%	99	100	99	99	99	99	99	99	97	99	99	99	99
		Max-d	71	110	269	191	106	38	40	39	54	45	57	89	269
		Min-d	32	41	59	56	26	22	22	18	21	26	30	42	18
	Si Phum AT	Mean	36	60	103	83	50	27	31	29	34	37	47	59	50
		%	100	100	100	99	99	98	99	100	99	99	99	100	99
		Max-d	62	100	230	135	83	40	43	40	54	53	67	88	230
		Min-d	20	31	41	37	19	15	22	20	21	26	35	42	15
	Nai Mueang AT	Mean	71	78	63	46	35	14	16	14	40	44	54	75	49
		%	70	100	95	52	6	10	99	100	100	100	100	100	78
		Max-d	100	114	84	57	38	14	22	21	81	74	81	109	114
		Min-d	48	51	48	33	31	13	12	10	18	31	26	36	10

Terms and abbreviations are given in Table 4.2.

Table 4.12 PM_{2.5}Unit : $\mu\text{g}/\text{m}^3$

Country	Site Method		2019												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Cambodia	Phnom Penh AT	Mean	31	26	28	22	21	15	17	12	14	16	20	27	21
		%	100	100	99	99	93	96	78	57	90	99	99	99	92
		Max-d	48	36	38	29	28	28	23	17	24	28	39	50	50
		Min-d	19	18	19	15	13	8	10	8	7	9	8	13	7
Indonesia	Jakarta AT	Mean	22	30	24	***	33	48	45	45	42	46	36	39	38
		%	100	96	76	***	8	100	78	80	88	100	25	10	63
		Max-d	41	50	58	***	39	80	60	56	56	57	52	54	80
		Min-d	8	10	4	***	10	17	<1	<1	<1	34	21	<1	<1
Japan	Rishiri AT	Mean	6	11	15	9	11	7	7	7	6	8	7	8	8
		%	100	100	100	99	100	100	100	96	100	100	100	99	100
		Max-d	16	51	88	21	33	13	12	32	17	19	17	13	88
		Min-d	3	2	2	2	4	2	3	1	3	1	3	3	1
	Ochiishi AT	Mean	5	9	11	7	10	6	6	7	4	6	5	5	7
		%	99	100	100	98	99	98	99	99	99	99	100	99	99
		Max-d	10	33	59	17	28	14	15	26	8	15	11	9	59
		Min-d	1	3	3	3	2	1	<1	2	2	2	2	3	<1
	Sado-seki AT	Mean	9	12	12	9	11	8	8	10	7	8	7	8	9
		%	100	100	99	100	100	100	100	100	93	99	100	100	99
		Max-d	20	27	27	22	24	15	18	16	13	21	12	16	27
		Min-d	3	4	5	3	2	2	3	2	4	2	3	5	2
	Happo AT	Mean	3	5	7	6	7	7	6	8	4	3	2	1	5
		%	71	96	96	80	23	90	92	97	93	99	98	97	86
		Max-d	7	11	18	17	12	16	23	18	9	13	8	3	23
		Min-d	1	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Ijira AT	Mean	5	9	10	8	11	9	8	9	6	6	6	5	8
		%	100	100	100	100	100	100	100	100	87	100	100	100	99
		Max-d	12	17	18	20	30	24	19	27	12	22	18	8	30
		Min-d	2	3	2	<1	<1	2	<1	3	<1	<1	1	1	<1
	Oki AT	Mean	11	14	16	9	13	11	9	10	6	9	8	9	10
		%	100	100	100	100	100	99	99	99	99	99	92	100	99
		Max-d	26	32	36	19	24	31	19	19	11	24	18	16	36
		Min-d	4	7	7	<1	1	2	2	4	3	3	3	4	<1
	Yusuhara AT	Mean	12	12	13	11	11	13	9	9	6	8	8	8	10
		%	100	100	100	99	100	100	100	100	95	97	100	100	99
		Max-d	21	19	26	27	25	31	21	24	11	19	20	15	31
		Min-d	6	6	3	<1	<1	2	1	2	2	2	2	<1	<1
	Hedo AT	Mean	11	11	13	10	11	7	6	8	9	12	13	10	10
		%	100	100	100	99	100	100	96	100	100	100	94	100	99
		Max-d	19	20	25	24	22	19	13	18	18	23	19	21	25
		Min-d	6	6	6	2	4	3	2	4	4	5	4	4	2
	Ogasawara AT	Mean	7	7	10	7	6	2	3	7	4	6	7	7	6
		%	100	100	99	100	100	100	100	99	100	82	99	100	98
		Max-d	16	11	14	17	21	6	5	16	7	20	14	16	21
		Min-d	2	4	5	1	<1	1	1	1	2	2	3	1	<1
	Tsushima AT	Mean	16	17	19	12	16	12	7	11	5	7	10	9	12
		%	100	99	96	100	100	97	100	100	100	96	100	100	99
		Max-d	43	36	40	29	30	31	21	31	11	21	32	20	43
		Min-d	6	3	5	<1	5	1	1	<1	<1	2	4	4	<1
Lao PDR	Vientiane AT	Mean	44	55	80	44	22	13	12	9	23	25	30	44	32
		%	77	100	83	82	100	100	93	99	99	100	100	100	94
		Max-d	75	91	172	124	45	22	24	15	56	50	49	80	172
		Min-d	25	29	38	19	12	7	4	3	4	12	13	13	3
Mongolia	Ulaanbaatar AT	Mean	124	70	35	20	12	17	17	15	21	20	35	67	39
		%	100	100	100	100	53	80	100	100	100	100	100	100	94
		Max-d	241	114	63	43	29	102	86	41	252	33	55	148	252
		Min-d	20	30	13	10	8	5	6	7	7	10	18	25	5
Myanmar	Yangon AT	Mean	43	48	38	34	23	11	10	10	13	12	17	20	24
		%	99	100	93	96	88	90	97	98	92	88	84	47	89
		Max-d	63	72	55	50	37	18	17	16	29	24	32	27	72
		Min-d	15	30	17	21	10	7	6	7	5	5	5	13	5
	Mandalay AT	Mean	44	53	53	40	21	39	86	16	20	28	36	69	41
		%	92	75	73	75	91	79	23	11	50	56	31	44	58
		Max-d	75	84	102	107	52	78	98	20	63	77	63	100	107
		Min-d	2	17	14	5	5	18	35	3	4	17	23	20	2

Table 4.12 PM_{2.5} (continued)Unit : $\mu\text{g}/\text{m}^3$

Country	Site Method		2019												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Philippines	Metro Manila AT	Mean	19	15	18	16	19	13	14	14	20	16	17	12	16
		%	69	97	100	100	90	100	83	86	22	88	100	94	86
		Max-d	84	22	41	31	29	23	20	21	26	26	25	25	84
		Min-d	7	7	9	8	8	7	8	8	9	8	8	6	6
Republic of Korea	Kanghwa AT	Mean	30	28	37	21	26	18	18	17	16	19	21	29	23
		%	98	84	88	91	97	91	85	89	94	96	89	96	92
		Max-d	88	47	115	39	56	31	42	30	36	39	31	53	115
		Min-d	14	14	13	8	11	10	7	8	7	9	9	14	7
	Cheju (Kosan) AT	Mean	21	25	32	19	24	21	15	16	14	15	17	16	20
		%	92	95	96	86	87	78	79	85	72	83	77	94	85
		Max-d	53	58	99	67	49	33	37	32	31	28	59	35	99
		Min-d	7	7	8	8	6	10	5	5	6	8	4	6	4
	Imsil AT	Mean		33	37	18	14	13	7	9	12	16	20	24	19
		%		97	84	88	96	85	77	91	98	81	79	94	81
		Max-d		70	92	50	26	25	18	17	25	26	31	40	92
		Min-d		17	16	4	3	1	<1	1	3	6	11	15	<1
Thailand	Bangkok AT	Mean	43	20	21	16	19	11	11	11	18	21	27	33	21
		%	100	99	99	98	97	98	97	98	100	100	100	100	99
		Max-d	70	50	32	30	32	17	16	18	59	43	43	51	70
		Min-d	23	7	11	8	7	5	5	8	7	13	13	13	5
	Samutprakarn AT	Mean	45	17	19	14	18	12	15	10	19	23	31	35	22
		%	100	99	100	99	97	98	99	99	100	100	100	100	99
		Max-d	79	45	33	30	33	23	24	16	61	52	51	52	79
		Min-d	15	5	11	6	5	7	6	4	4	15	13	17	4
	Khanchanaburi (Vachiralongkorn Dam) AT	Mean	***	***	***	***	***	***	10	11	***	***	3	6	7
		%	***	***	***	***	***	***	69	2	***	***	60	3	11
		Max-d	***	***	***	***	***	***	14	11	***	***	6	6	14
		Min-d	***	***	***	***	***	***	7	11	***	***	1	6	1
	Chang Phueak AT	Mean	29	48	97	78	39	15	15	15	19	19	26	36	36
		%	99	99	99	99	100	100	99	99	97	100	100	99	99
		Max-d	47	82	228	147	71	20	23	20	36	26	40	70	228
		Min-d	18	20	30	33	14	11	11	10	11	14	17	26	10
	Si Phum AT	Mean	25	44	83	67	33	12	10	10	15	15	22	33	31
		%	100	99	97	99	98	98	99	100	99	99	98	100	99
		Max-d	47	74	210	119	63	20	19	17	33	24	39	70	210
		Min-d	13	18	23	20	8	5	6	5	5	9	13	22	5
	Nai Mueang AT	Mean						14	16	14	22	24	30	43	24
		%						10	99	100	100	100	100	100	51
		Max-d						14	22	21	52	46	49	73	73
		Min-d						13	12	10	10	15	17	18	10
Vietnam	Hoa Binh AT	Mean	***	***	***	***	***	7	5	42	36	26	44	51	34
		%	***	***	***	***	***	34	55	43	26	66	100	99	36
		Max-d	***	***	***	***	***	17	17	143	55	47	87	98	143
		Min-d	***	***	***	***	***	<1	<1	13	6	12	11	16	<1

Terms and abbreviations are given in Table 4.2.

Table 4.13 Particulate matter component: SO₄²⁻Unit : $\mu\text{g}/\text{m}^3$

Country	Site	Method	2019												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Cambodia	Phnom Penh FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
Indonesia	Jakarta FP	Mean	***	***	***	4.95	***	***	9.28	4.44	7.54	6.80	3.06	1.95	5.52
		%	***	***	***	100	***	***	100	100	100	100	100	100	61
		Max-2w	***	***	***	6.06	***	***	13.02	7.50	9.26	7.94	6.95	3.69	13.02
		Min-2w	***	***	***	3.83	***	***	7.26	1.37	5.82	5.67	0.43	0.22	0.22
	Serpong FP	Mean	5.31	3.31	2.88	5.34	2.17	7.78	7.30	6.92	6.93	8.19	9.22	6.44	6.05
		%	67	100	100	56	100	100	100	100	100	100	100	100	92
		Max-2w	7.84	4.31	2.94	5.34	3.41	8.04	7.71	7.38	9.00	9.55	10.89	7.03	10.89
		Min-2w	2.79	2.30	2.82	5.34	0.93	7.52	6.90	6.45	3.57	6.82	7.56	5.85	0.93
	Bandung FP	Mean	5.61	7.85	5.87	8.12	7.58	11.73	6.99	7.76	8.21	7.73	9.96	9.55	8.08
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	6.66	8.47	6.22	8.31	8.52	12.18	7.13	8.18	8.50	7.80	10.36	10.89	12.18
		Min-2w	4.57	7.24	5.52	7.93	6.64	11.28	6.84	7.34	7.92	7.66	9.57	8.21	4.57
Japan	Rishiri FP	Mean	1.93	2.41	2.74	4.69	6.24	4.46	4.64	2.55	3.02	4.32	***	3.91	3.82
		%	100	100	100	100	100	100	100	50	100	100	***	100	88
		Max-2w	2.09	3.24	3.25	5.82	8.59	4.70	5.16	2.55	3.24	4.57	***	4.97	8.59
		Min-2w	1.78	1.58	2.22	3.55	3.89	4.21	3.67	2.55	2.80	4.08	***	3.04	1.58
	Ochiishi FP	Mean	1.54	2.58	2.43	1.69	2.32	2.09	3.53	2.33	1.89	1.36	1.77	1.36	2.05
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	1.77	3.48	2.69	2.81	2.33	2.77	3.64	2.75	1.99	2.01	2.39	2.00	3.64
		Min-2w	1.36	1.68	2.17	0.58	2.31	1.27	3.43	1.90	1.79	0.70	1.15	0.72	0.58
	Sado-seki FP	Mean	***	***	3.29	1.93	2.66	2.64	2.77	3.30	3.21	0.86	2.36	2.05	2.50
		%	***	***	100	100	100	100	100	100	100	100	100	100	85
		Max-2w	***	***	3.37	2.56	3.69	3.20	4.09	3.56	4.45	0.92	2.45	2.36	4.45
		Min-2w	***	***	3.20	1.30	1.62	2.08	1.63	3.04	1.96	0.81	2.28	1.73	0.81
	Happo FP	Mean	0.44	0.57	1.03	1.89	2.07	2.23	2.34	1.49	1.19	0.41	0.54	0.59	1.24
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.44	1.33	1.31	1.93	2.07	2.23	4.57	2.01	1.53	0.64	0.54	0.61	4.57
		Min-2w	0.44	0.17	0.74	1.85	2.07	2.23	1.13	0.98	0.85	0.18	0.54	0.57	0.17
	Ijira FP	Mean	1.72	2.52	2.64	3.05	2.89	3.47	3.88	3.52	1.89	1.53	1.75	1.24	2.51
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	1.76	2.74	3.20	3.46	3.26	3.70	6.35	3.53	2.08	1.90	2.24	1.61	6.35
		Min-2w	1.69	2.30	2.08	2.64	2.52	3.23	1.71	3.50	1.71	1.16	1.25	1.02	1.02
	Oki FP	Mean	4.00	4.43	4.76	3.54	4.19	5.07	3.81	4.00	2.17	2.52	2.55	3.10	3.68
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	4.48	4.91	4.98	4.02	4.67	5.46	4.79	4.20	2.27	3.01	2.79	3.47	5.46
		Min-2w	3.52	3.95	4.54	3.07	3.71	4.68	2.70	3.81	2.07	2.04	2.30	2.72	2.04
	Yusuhara FP	Mean	2.79	3.83	2.92	3.97	3.05	4.91	3.13	2.66	1.53	2.34	2.32	1.63	2.88
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	2.97	4.04	3.54	5.06	3.11	5.99	4.42	3.39	1.68	2.66	3.09	2.44	5.99
		Min-2w	2.61	3.62	2.30	2.89	2.99	3.82	2.01	1.93	1.39	2.03	1.56	0.88	0.88
	Hedo FP	Mean	5.01	4.07	4.80	3.76	4.47	2.39	2.15	4.59	2.78	5.18	4.84	3.49	3.84
		%	100	100	100	100	100	100	100	50	100	100	100	100	96
		Max-2w	5.46	4.11	5.15	5.21	4.75	2.53	3.66	4.59	3.49	6.46	6.24	4.89	6.46
		Min-2w	4.57	4.03	4.46	2.30	4.19	2.26	1.10	4.59	2.07	3.90	3.43	1.68	1.10
	Ogasawara FP	Mean	2.41	2.65	3.42	2.15	1.82	0.97	0.73	1.87	1.01	1.92	***	***	1.86
		%	100	100	100	100	100	100	100	100	100	59	***	***	80
		Max-2w	2.68	3.09	3.62	3.37	2.54	1.01	0.86	2.54	1.01	1.92	***	***	3.62
		Min-2w	1.96	2.21	3.21	0.93	1.09	0.93	0.54	1.20	1.00	1.92	***	***	0.54
	Tokyo FP	Mean	1.93	2.80	2.96	3.31	3.59	4.30	4.65	5.31	2.54	2.47	1.98	1.54	3.11
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	2.08	3.26	3.05	4.06	4.39	4.36	6.83	5.45	2.66	3.05	2.36	2.31	6.83
		Min-2w	1.79	2.34	2.87	2.57	2.79	4.25	3.29	5.17	2.41	1.90	1.60	1.09	1.09

Table 4.13 Particulate matter component: SO₄²⁻ (continued)Unit : $\mu\text{g}/\text{m}^3$

Country	Site	Method	2019												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Lao PDR	Vientiane FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-m	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-m	***	***	***	***	***	***	***	***	***	***	***	***	***
Malaysia	Petaling Jaya FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***
	Tanah Rata FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***
	Danum Valley FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
Mongolia	Ulaanbaatar FP	Mean	3.14	0.76	2.28	0.94	0.30	0.09	0.55	0.46	0.09	0.11	1.40	3.53	1.15
		%	100	100	100	100	100	75	100	100	100	100	100	100	98
		Max-w	13.38	1.69	5.69	1.52	0.85	0.16	0.92	0.99	0.21	0.18	3.47	5.60	13.38
		Min-w	0.05	0.01	<0.01	<0.01	0.07	0.04	0.30	0.10	<0.01	0.04	0.16	0.68	<0.01
	Terelj FP	Mean	0.16	0.15	0.08	0.20	0.14	***	***	***	***	0.14	0.16	0.10	0.15
		%	100	100	100	100	54	***	***	***	***	82	100	100	62
		Max-2w	0.30	0.28	0.14	0.34	0.14	***	***	***	***	0.16	0.19	0.14	0.34
		Min-2w	0.03	0.01	0.02	0.08	0.14	***	***	***	***	0.12	0.13	0.05	0.01
	Yangon FP	Mean	0.19	1.54	0.84	7.51	0.42	0.08	0.06	0.21	0.14	0.71	0.25	2.17	1.51
		%	50	100	50	100	100	100	100	100	100	100	100	67	89
Philippines	Metro Manila FP	Mean	***	***	2.4	3.2	2.8	1.8	1.3	1.6	3.0	2.0	2.4	2.4	2.4
		%	***	***	100	100	20	16	93	78	100	100	100	100	69
		Max-w	***	***	4.4	4.5	2.8	1.8	1.7	2.7	4.3	5.2	3.3	4.5	5.2
		Min-w	***	***	0.8	2.3	2.8	1.8	0.7	0.2	1.3	0.0	1.6	0.8	0.0
	Los Banos FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***
	Mt. Sto. Tomas FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***
Republic of Korea	Kanghwa FP with PM _{2.5} cyclone	Mean	1.48	2.77	4.21	4.10	3.65	3.92	4.79	4.02	1.31	2.83	1.56	5.00	3.37
		%	16	18	16	17	13	13	16	16	17	16	17	16	16
		Max-d	1.65	4.76	8.75	5.58	5.18	4.78	8.57	8.45	1.66	5.07	2.31	9.91	8.75
		Min-d	1.33	1.16	1.48	3.02	2.08	2.20	2.31	1.87	0.90	1.42	1.12	2.34	1.16
	Cheju (Kosan) FP with PM _{2.5} cyclone	Mean	7.40	4.32	4.39	2.59	3.66	5.10	5.04	4.81	1.10	1.28	1.57	2.85	4.35
		%	10	20	12	7	10	10	10	6	13	13	17	13	11
		Max-d	14.89	8.13	7.32	3.54	5.54	8.07	6.72	6.27	2.64	2.90	3.41	3.59	14.89
		Min-d	3.14	0.47	3.19	1.64	0.74	3.34	2.47	3.34	0.02	0.43	0.74	2.14	0.31
	Imsil FP with PM _{2.5} cyclone	Mean	2.35	3.73	4.44	2.42	4.00	5.26	3.20	3.46	4.75	3.57	2.28	2.15	3.77
		%	13	18	10	7	16	13	13	16	7	13	13	16	13
		Max-d	3.25	5.02	6.28	2.71	7.90	8.10	4.32	5.37	7.54	6.59	3.05	3.92	8.10
		Min-d	1.60	1.65	1.90	2.12	1.50	3.32	1.06	2.36	1.95	2.31	1.37	1.21	1.06
Russia	Mondy FP	Mean	0.21	0.12	0.16	0.17	0.06	0.08	0.45	0.78	0.10	0.11	0.09	0.10	0.21
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-m	0.25	0.12	0.17	0.18	0.06	0.09	0.86	1.18	0.10	0.13	0.09	0.10	1.18
		Min-m	0.17	0.12	0.14	0.16	0.05	0.07	0.04	0.38	0.10	0.08	0.09	0.10	0.04
	Listvyanka FP	Mean	0.48	0.99	1.23	0.66	0.47	0.46	0.77	0.33	0.09	0.27	0.34	0.34	0.53
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.93	1.14	1.74	0.83	0.59	1.41	1.27	0.46	0.22	0.62	0.52	0.56	1.74
		Min-w	0.16	0.86	0.82	0.54	0.39	0.15	0.15	0.18	<0.01	0.05	0.16	0.13	<0.01
	Irkutsk FP	Mean	1.96	1.67	0.57	0.72	0.94	0.44	0.77	1.57	0.51	1.33	1.88	1.49	1.15
		%	100	100	100	100	100	100	100	100	100	100	94	100	99
		Max-w	2.91	3.10	0.90	1.24	1.05	0.59	1.22	2.59	0.75	1.98	3.05	2.37	3.10
		Min-w	1.31	0.40	0.24	0.34	0.80	0.37	0.55	0.53	0.34	0.75	1.15	0.48	0.24
	Primorskaya FP	Mean	0.77	0.68	0.50	0.53	0.26	0.23	0.27	0.11	0.11	0.11	0.08	0.80	0.38
		%	100	100	100	100	100	100	100	100	100	100	50	100	96
		Max-2w	1.36	1.11	0.84	0.79	0.39	0.29	0.34	0.12	0.12	0.14	0.08	1.34	1.36
		Min-2w	0.19	0.24	0.16	0.26	0.12	0.18	0.20	0.11	0.10	0.08	0.08	0.26	0.08

Table 4.13 Particulate matter component: SO₄²⁻ (continued)

 Unit : $\mu\text{g}/\text{m}^3$

Country	Site Method		2019												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Thailand	Bangkok FP	Mean	3.37	3.14	3.49	7.78	2.97	1.22	1.53	0.83	2.79	4.24	3.67	3.67	3.10
		%	100	100	100	67	100	100	100	100	100	100	100	100	97
		Max-10d	3.78	5.06	9.70	11.51	4.37	1.70	1.64	1.27	4.17	5.24	4.25	5.50	11.51
		Min-10d	2.87	1.66	0.07	4.05	1.34	0.47	1.39	0.18	1.30	3.35	2.62	1.84	0.07
	Pathumthani FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
	Khanchanaburi (Vachiralongkorn Dam) FP	Mean	***	***	***	6.65	***	***	1.06	***	***	***	3.44	***	3.71
		%	***	***	***	81	***	***	71	***	***	***	68	***	21
		Max-2w	***	***	***	6.65	***	***	1.06	***	***	***	3.44	***	6.65
		Min-2w	***	***	***	6.65	***	***	1.06	***	***	***	3.44	***	1.06
	Mae Hia FP	Mean	***	1.57	1.15	2.51	1.73	0.17	0.54	0.49	***	***	***	***	1.17
		%	***	96	97	97	97	97	97	97	***	***	***	***	56
		Max-10d	***	4.04	2.79	4.94	3.00	0.27	0.86	0.53	***	***	***	***	4.94
		Min-10d	***	0.10	0.21	0.42	0.09	0.10	0.26	0.44	***	***	***	***	0.09
	Sakaerat FP	Mean	***	5.57	1.42	0.43	1.95	2.15	2.80	0.69	3.10	1.38	***	***	2.17
		%	***	96	100	100	100	100	100	100	100	100	***	***	75
		Max-10d	***	7.01	3.47	0.72	3.75	2.78	3.29	1.34	6.47	1.99	***	***	7.01
		Min-10d	***	4.49	0.24	0.13	0.16	1.62	2.11	0.08	1.28	1.02	***	***	0.08
Vietnam	Hanoi FP	Mean	8.07	6.39	7.47	6.14	5.08	3.15	3.11	3.47	3.95	3.82	7.03	4.73	5.19
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	13.88	7.29	9.18	8.85	5.65	3.95	3.96	5.32	4.32	5.28	8.01	6.83	13.88
		Min-w	3.73	5.83	5.27	4.30	3.92	1.00	1.72	2.50	3.36	2.30	6.60	2.45	1.00
	Hoa Binh FP	Mean	3.54	3.06	5.88	3.99	3.73	2.92	2.07	1.74	2.72	2.10	1.64	1.51	2.90
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	5.22	3.29	7.72	5.22	6.66	3.33	2.84	2.45	3.32	2.35	1.99	1.65	7.72
		Min-w	1.09	2.85	3.26	2.39	2.56	2.42	1.46	1.14	1.91	1.65	1.36	1.33	1.09
	Can Tho FP	Mean	5.35	6.17	5.66	6.06	5.85	5.33	6.38	6.33	5.76	5.89	6.01	5.11	5.83
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	6.07	7.00	6.05	6.27	6.96	5.83	7.20	6.75	6.79	6.13	6.35	5.83	7.20
		Min-w	4.76	5.63	5.32	5.81	5.18	5.10	5.81	5.89	4.90	5.63	5.62	4.64	4.64
	Ho Chi Minh FP	Mean	8.19	8.45	7.34	7.95	6.87	7.18	6.06	6.74	6.80	6.46	6.80	6.57	7.11
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	8.99	9.94	8.27	8.43	8.23	8.13	8.02	7.74	7.54	7.20	7.60	7.08	9.94
		Min-w	7.68	7.48	6.41	7.40	6.03	5.32	4.78	5.02	6.09	5.44	5.65	6.03	4.78
	Yen Bai FP	Mean	7.23	6.22	6.56	7.57	5.41	4.05	3.66	3.78	3.15	5.29	5.68	4.84	5.30
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	9.61	6.51	7.84	8.52	6.29	4.76	4.54	5.29	3.57	5.94	6.72	6.36	9.61
		Min-w	5.14	5.66	5.81	6.15	4.52	3.69	2.78	2.54	2.54	4.43	4.38	3.59	2.54

Terms and abbreviations are given in Table 4.2.

Table 4.14 Particulate matter component: NO₃⁻Unit : $\mu\text{g}/\text{m}^3$

Country	Site	Method	2019												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Cambodia	Phnom Penh FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
Indonesia	Jakarta FP	Mean	***	***	***	1.21	***	***	6.57	2.63	2.77	0.03	1.71	0.68	2.47
		%	***	***	***	100	***	***	100	100	100	100	100	100	61
		Max-2w	***	***	***	1.47	***	***	10.99	4.31	4.27	0.05	4.67	1.30	10.99
		Min-2w	***	***	***	0.96	***	***	4.23	0.96	1.27	0.01	0.15	0.07	0.01
	Serpong FP	Mean	1.07	0.47	0.48	0.48	0.79	1.56	1.40	2.42	1.88	1.08	1.16	1.15	1.22
		%	67	100	100	56	100	100	100	100	100	100	100	100	92
		Max-2w	1.23	0.94	0.70	0.48	1.22	1.77	1.63	2.49	2.31	1.11	1.24	1.31	2.49
		Min-2w	0.92	<0.01	0.26	0.48	0.36	1.34	1.16	2.35	1.57	1.04	1.07	0.98	<0.01
	Bandung FP	Mean	1.88	1.33	1.62	1.13	1.12	2.33	2.48	2.04	2.50	2.36	2.41	1.79	1.92
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	2.41	1.42	1.63	1.16	1.16	2.75	3.07	2.15	2.89	2.54	2.99	2.13	3.07
		Min-2w	1.36	1.24	1.60	1.09	1.08	1.92	1.89	1.93	2.10	2.18	1.83	1.46	1.08
Japan	Rishiri FP	Mean	0.49	1.29	1.05	2.67	3.64	1.82	0.83	0.38	1.15	1.61	***	1.35	1.49
		%	100	100	100	100	100	100	100	50	100	100	***	100	88
		Max-2w	0.51	2.01	1.22	3.76	4.85	2.29	1.01	0.38	1.16	2.00	***	2.13	4.85
		Min-2w	0.46	0.58	0.88	1.57	2.42	1.35	0.56	0.38	1.13	1.22	***	0.82	0.38
	Ochiishi FP	Mean	0.41	1.44	0.93	1.01	1.79	0.51	0.64	0.44	0.87	0.39	0.58	0.30	0.75
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.49	2.13	1.31	1.89	1.87	0.65	0.97	0.48	0.93	0.68	0.85	0.45	2.13
		Min-2w	0.29	0.74	0.56	0.13	1.71	0.24	0.31	0.39	0.81	0.09	0.32	0.15	0.09
	Sado-seki FP	Mean	***	***	1.79	1.03	1.51	0.95	0.52	1.08	0.64	0.26	1.10	0.61	0.91
		%	***	***	100	100	100	100	100	100	100	100	100	100	85
		Max-2w	***	***	1.92	1.47	2.13	1.23	0.65	1.20	0.66	0.41	1.36	0.70	2.13
		Min-2w	***	***	1.66	0.60	0.88	0.68	0.44	0.95	0.63	0.12	0.83	0.50	0.12
	Happo FP	Mean	0.10	0.10	0.43	0.76	0.29	0.52	0.10	0.09	0.06	0.03	0.17	0.05	0.20
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.10	0.16	0.53	0.78	0.29	0.52	0.23	0.09	0.09	0.03	0.17	0.06	0.78
		Min-2w	0.10	0.05	0.32	0.74	0.29	0.52	0.02	0.09	0.03	0.03	0.17	0.04	0.02
	Ijira FP	Mean	0.49	0.62	0.93	1.03	0.78	0.23	0.11	0.36	0.47	0.28	0.62	0.28	0.49
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.49	0.82	1.27	1.30	1.01	0.29	0.20	0.68	0.62	0.33	0.74	0.46	1.30
		Min-2w	0.49	0.41	0.59	0.75	0.54	0.16	0.03	0.04	0.32	0.23	0.50	0.16	0.03
	Oki FP	Mean	2.84	2.56	3.34	2.09	2.38	1.56	1.00	1.39	0.88	1.24	1.90	1.70	1.87
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	2.95	3.32	3.77	2.15	2.75	1.76	1.15	1.53	1.05	1.54	2.08	1.97	3.77
		Min-2w	2.73	1.79	2.90	2.02	2.01	1.36	0.74	1.25	0.72	0.94	1.72	1.43	0.72
	Yusuhara FP	Mean	1.58	1.06	1.43	0.37	0.64	0.04	<0.01	0.18	0.13	0.39	0.81	0.44	0.56
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	1.83	1.15	1.71	0.66	1.00	0.04	<0.01	0.33	0.16	0.52	0.97	0.70	1.83
		Min-2w	1.33	0.97	1.16	0.08	0.29	0.04	<0.01	0.03	0.10	0.26	0.66	0.22	<0.01
	Hedo FP	Mean	2.38	1.58	3.00	1.81	2.02	0.84	0.67	1.70	0.69	1.98	1.77	1.34	1.60
		%	100	100	100	100	100	100	100	50	100	100	100	100	96
		Max-2w	2.82	1.80	3.58	2.62	2.04	0.89	1.18	1.70	0.76	2.56	2.18	2.07	3.58
		Min-2w	1.93	1.36	2.42	1.00	2.00	0.78	0.33	1.70	0.62	1.41	1.37	0.72	0.33
	Ogasawara FP	Mean	0.78	0.96	1.34	0.73	0.62	0.29	0.16	0.24	0.14	0.20	***	***	0.56
		%	100	100	100	100	100	100	100	100	100	59	***	***	80
		Max-2w	0.96	1.13	1.44	1.10	0.90	0.36	0.20	0.27	0.15	0.20	***	***	1.44
		Min-2w	0.64	0.79	1.24	0.36	0.34	0.22	0.09	0.21	0.13	0.20	***	***	0.09
	Tokyo FP	Mean	2.81	4.24	3.46	3.40	3.48	3.49	2.45	3.19	2.49	2.35	2.96	3.20	3.10
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	3.18	4.92	3.60	4.50	4.32	3.91	2.77	3.87	3.40	2.86	3.65	4.52	4.92
		Min-2w	2.44	3.57	3.32	2.31	2.65	3.08	2.21	2.51	1.57	1.84	2.27	2.24	1.57

Table 4.14 Particulate matter component: NO₃⁻ (continued)Unit : $\mu\text{g}/\text{m}^3$

Country	Site		2019													Annual
	Method		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
Lao PDR	Vientiane FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***	
		%	***	***	***	***	***	***	***	***	***	***	***	***	***	
		Max-m	***	***	***	***	***	***	***	***	***	***	***	***	***	
		Min-m	***	***	***	***	***	***	***	***	***	***	***	***	***	
Malaysia	Petaling Jaya FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***	
		%	***	***	***	***	***	***	***	***	***	***	***	***	***	
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***	
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***	
	Tanah Rata FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***	
		%	***	***	***	***	***	***	***	***	***	***	***	***	***	
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***	
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***	
	Danum Valley FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***	
		%	***	***	***	***	***	***	***	***	***	***	***	***	***	
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***	
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***	
Mongolia	Ulaanbaatar FP	Mean	0.43	0.05	0.45	0.34	0.07	0.03	0.25	0.13	0.03	0.02	0.03	0.10	0.16	
		%	100	100	100	100	100	75	100	100	100	100	100	100	98	
		Max-w	2.04	0.13	1.18	0.61	0.16	0.05	0.41	0.17	0.11	0.03	0.05	0.20	2.04	
		Min-w	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.17	0.05	<0.01	0.01	0.01	0.03	<0.01	
	Terelj FP	Mean	0.05	0.02	<0.01	<0.01	<0.01	***	***	***	***	0.02	<0.01	<0.01	0.01	
		%	100	100	100	100	54	***	***	***	***	82	100	100	62	
		Max-2w	0.09	0.02	<0.01	<0.01	<0.01	***	***	***	***	0.04	<0.01	<0.01	0.09	
		Min-2w	<0.01	0.01	<0.01	<0.01	<0.01	***	***	***	***	<0.01	<0.01	<0.01	<0.01	
Myanmar	Yangon FP	Mean	<0.01	0.37	0.06	1.60	0.20	0.09	0.03	0.10	0.05	2.26	0.37	1.00	0.60	
		%	50	100	50	100	100	100	100	100	100	100	100	67	89	
		Max-2w	<0.01	0.43	0.06	2.95	0.27	0.09	0.10	0.19	0.07	4.36	0.58	1.94	4.36	
		Min-2w	<0.01	0.31	0.06	<0.01	0.13	0.09	<0.01	0.01	0.03	0.16	0.16	0.07	<0.01	
Philippines	Metro Manila FP	Mean	***	***	1.2	1.4	1.4	0.9	0.8	0.7	1.6	1.1	2.2	1.6	1.4	
		%	***	***	100	100	20	16	93	78	100	100	100	100	69	
		Max-w	***	***	1.6	2.4	1.4	0.9	1.0	1.3	2.4	2.2	2.7	2.0	2.7	
		Min-w	***	***	0.3	0.7	1.4	0.9	0.5	0.1	0.6	<0.01	1.5	0.9	<0.01	
	Los Banos FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***	
		%	***	***	***	***	***	***	***	***	***	***	***	***	***	
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***	
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***	
	Mt. Sto. Tomas FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***	
		%	***	***	***	***	***	***	***	***	***	***	***	***	***	
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***	
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***	
Republic of Korea	Kanghwa FP with PM _{2.5} cyclone	Mean	2.21	3.07	6.28	5.70	1.18	0.45	0.11	0.05	0.09	0.49	2.05	13.35	3.10	
		%	16	18	16	17	13	13	16	16	17	16	17	16	16	
		Max-d	3.05	4.61	25.62	11.30	1.93	1.58	0.37	0.09	0.15	0.86	4.48	26.04	25.62	
		Min-d	1.05	1.18	0.01	1.24	0.59	<0.01	<0.01	<0.01	0.01	0.27	0.60	1.78	<0.01	
	Cheju (Kosan) FP with PM _{2.5} cyclone	Mean	2.13	1.70	1.60	2.34	1.26	0.39	0.03	0.18	0.26	1.38	0.56	0.32	1.15	
		%	10	20	12	7	10	10	10	6	13	13	17	13	11	
		Max-d	4.48	3.68	2.85	3.75	1.74	0.55	0.06	0.30	0.43	3.11	0.73	0.57	4.48	
		Min-d	0.33	0.38	0.34	0.92	0.46	0.17	0.01	0.06	0.09	0.22	0.34	0.07	0.01	
	Imsil FP with PM _{2.5} cyclone	Mean	3.95	5.40	5.23	1.56	1.13	0.89	0.14	0.24	0.80	2.25	1.59	3.77	2.56	
		%	13	18	10	7	16	13	13	16	7	13	13	16	13	
		Max-d	6.55	8.20	12.58	1.69	1.68	1.19	0.24	0.30	1.54	4.95	3.48	9.46	12.58	
		Min-d	2.54	2.10	1.06	1.43	0.70	0.12	0.01	0.16	0.06	0.02	0.82	1.44	0.01	
Russia	Mondy FP	Mean	0.02	<0.01	<0.01	<0.01	<0.01	0.02	0.05	0.20	<0.01	<0.01	<0.01	<0.01	0.03	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	
		Max-m	0.03	<0.01	0.01	0.01	<0.01	0.02	0.10	0.33	<0.01	0.02	<0.01	<0.01	0.33	
		Min-m	0.02	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	0.06	<0.01	<0.01	<0.01	<0.01	<0.01	
	Listvyanka FP	Mean	0.09	0.03	0.06	0.03	0.04	0.03	0.04	0.02	0.09	0.07	0.05	0.04	0.05	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	
		Max-w	0.23	0.06	0.16	0.11	0.08	0.05	0.06	0.04	0.24	0.19	0.09	0.08	0.24	
		Min-w	0.01	<0.01	<0.01	<0.01	0.01	0.01	0.02	0.01	0.02	0.01	<0.01	0.01	<0.01	
	Irkutsk FP	Mean	0.62	0.48	0.10	0.11	0.13	0.06	0.13	0.13	0.18	0.05	0.55	0.46	0.25	
		%	100	100	100	100	100	100	100	100	100	100	94	100	99	
		Max-w	1.25	1.01	0.24	0.26	0.19	0.09	0.19	0.67	0.51	0.08	0.96	0.76	1.25	
		Min-w	<0.01	0.10	<0.01	<0.01	<0.01	0.03	0.09	<0.01	<0.01	0.02	0.37	0.34	<0.01	
	Primorskaya FP	Mean	0.63	0.89	0.42	0.24	0.02	0.01	<0.01	<0.01	0.02	0.43	0.62	1.52	0.39	
		%	100	100	100	100	100	100	100	100	100	100	50	100	96	
		Max-2w	1.26	1.74	0.84	0.44	0.03	0.02	<0.01	<0.01	0.04	0.75	0.62	2.06	2.06	
		Min-2w	<0.01	0.04	<0.01	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	0.12	0.62	0.97	<0.01	

Table 4.14 Particulate matter component: NO₃⁻ (continued)Unit : $\mu\text{g}/\text{m}^3$

Country	Site Method		2019												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Thailand	Bangkok FP	Mean	3.33	2.01	2.60	4.40	1.86	1.14	1.42	0.85	2.35	2.13	2.87	3.18	2.29
		%	100	100	100	67	100	100	100	100	100	100	100	100	97
		Max-10d	4.93	2.71	7.18	5.97	2.36	1.56	1.74	1.35	3.16	2.18	3.75	3.78	7.18
		Min-10d	2.40	1.25	0.02	2.83	1.36	0.40	1.03	0.25	1.23	2.08	2.34	2.54	0.02
	Pathumthani FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
	Khanchanaburi (Vachiralongkorn Dam) FP	Mean	***	***	***	0.30	***	***	0.19	***	***	***	0.06	***	0.19
		%	***	***	***	81	***	***	71	***	***	***	68	***	21
		Max-2w	***	***	***	0.30	***	***	0.19	***	***	***	0.06	***	0.30
		Min-2w	***	***	***	0.30	***	***	0.19	***	***	***	0.06	***	0.06
	Mae Hia FP	Mean	***	0.29	0.27	0.85	0.38	0.06	0.32	0.28	***	***	***	***	0.35
		%	***	96	97	97	97	97	97	97	***	***	***	***	56
		Max-10d	***	0.62	0.59	1.13	0.76	0.10	0.45	0.34	***	***	***	***	1.13
		Min-10d	***	0.12	0.07	0.41	<0.01	<0.01	0.10	0.22	***	***	***	***	<0.01
	Sakaerat FP	Mean	***	0.73	0.32	0.08	0.35	0.81	1.31	0.28	0.40	0.21	***	***	0.50
		%	***	96	100	100	100	100	100	100	100	100	***	***	75
		Max-10d	***	0.92	0.63	0.12	0.51	0.93	1.48	0.52	0.47	0.29	***	***	1.48
		Min-10d	***	0.43	0.16	0.04	0.11	0.73	1.22	0.10	0.33	0.10	***	***	0.04
Vietnam	Hanoi FP	Mean	8.05	5.67	6.43	4.84	3.95	3.03	2.52	2.41	2.49	3.03	7.28	4.43	4.50
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	14.77	7.51	7.58	6.70	4.64	3.95	3.59	2.99	2.75	4.80	7.85	6.40	14.77
		Min-w	2.98	4.72	4.80	3.56	3.14	1.22	1.33	1.96	2.24	1.64	6.47	1.61	1.22
	Hoa Binh FP	Mean	2.25	1.49	4.64	1.52	1.89	1.55	2.14	2.72	2.13	2.44	2.47	1.29	2.22
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	3.33	1.67	5.83	2.27	3.78	2.19	2.33	3.13	2.84	3.06	2.92	2.07	5.83
		Min-w	1.00	1.18	3.05	0.40	0.56	0.92	1.91	2.13	1.77	1.73	1.92	0.82	0.40
	Can Tho FP	Mean	2.52	2.35	2.35	2.56	1.94	2.43	2.18	1.59	2.17	1.99	1.92	1.92	2.15
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	3.29	2.66	2.60	2.96	3.02	3.08	2.76	2.46	2.66	2.32	2.50	2.46	3.29
		Min-w	1.85	2.08	1.77	1.88	1.61	1.51	1.37	1.03	1.71	1.67	1.49	1.67	1.03
	Ho Chi Minh FP	Mean	7.74	6.32	6.36	5.77	4.75	6.20	5.00	5.59	7.29	5.96	4.98	3.91	5.84
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	8.25	8.45	8.23	8.41	6.27	6.77	5.83	7.06	9.11	6.65	5.20	4.29	9.11
		Min-w	7.28	5.04	4.92	4.54	3.65	5.30	4.03	4.21	5.32	5.24	4.82	3.45	3.45
	Yen Bai FP	Mean	7.67	5.28	5.31	5.41	2.98	2.55	2.30	3.18	2.19	3.37	3.48	2.76	3.91
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	10.99	5.83	6.64	6.03	3.21	3.09	3.76	3.60	3.14	4.29	5.38	4.06	10.99
		Min-w	5.28	4.80	4.37	4.70	2.75	2.06	1.34	2.36	0.94	2.34	2.53	1.76	0.94

Terms and abbreviations are given in Table 4.2.

Table 4.15 Particulate matter component: CF

Unit : $\mu\text{g}/\text{m}^3$

Country	Site Method		2019												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Cambodia	Phnom Penh FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
Indonesia	Jakarta FP	Mean	***	***	***	0.41	***	***	5.45	0.39	0.22	0.15	0.35	0.09	1.25
		%	***	***	***	100	***	***	100	100	100	100	100	100	61
		Max-2w	***	***	***	0.44	***	***	14.99	0.63	0.28	0.18	0.82	0.18	14.99
		Min-2w	***	***	***	0.38	***	***	0.38	0.16	0.16	0.12	0.06	<0.01	<0.01
	Serpong FP	Mean	0.39	0.11	0.26	0.08	0.32	0.20	0.10	0.18	0.28	0.21	0.17	0.33	0.23
		%	67	100	100	56	100	100	100	100	100	100	100	100	92
		Max-2w	0.74	0.11	0.40	0.08	0.41	0.31	0.11	0.22	0.40	0.31	0.20	0.40	0.74
		Min-2w	0.03	0.10	0.12	0.08	0.23	0.09	0.08	0.14	0.19	0.11	0.15	0.27	0.03
	Bandung FP	Mean	0.17	0.13	0.15	0.16	0.10	0.35	0.19	0.22	0.33	0.24	0.30	0.19	0.21
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.17	0.15	0.18	0.26	0.11	0.35	0.19	0.22	0.37	0.33	0.40	0.20	0.40
		Min-2w	0.16	0.12	0.11	0.07	0.10	0.34	0.19	0.22	0.28	0.15	0.20	0.18	0.07
Japan	Rishiri FP	Mean	3.33	3.09	3.75	5.59	5.87	4.16	0.61	0.46	7.07	6.69	***	7.65	4.54
		%	100	100	100	100	100	100	100	50	100	100	***	100	88
		Max-2w	3.93	3.85	5.17	7.82	5.97	6.10	0.89	0.46	9.28	9.37	***	9.10	9.37
		Min-2w	2.73	2.34	2.32	3.36	5.76	2.22	0.35	0.46	4.87	4.01	***	6.05	0.35
	Ochiishi FP	Mean	3.35	3.22	5.73	2.87	4.34	2.20	0.66	3.71	4.23	5.63	6.75	5.13	3.89
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	4.76	3.85	5.93	3.76	5.49	5.39	0.72	4.30	5.79	7.69	9.05	7.81	9.05
		Min-2w	2.13	2.59	5.53	1.98	3.19	0.23	0.61	3.13	2.66	3.57	4.46	2.45	0.23
	Sado-seki FP	Mean	***	***	5.97	2.83	0.23	1.02	0.16	2.08	14.71	3.23	7.83	6.09	4.30
		%	***	***	100	100	100	100	100	100	100	100	100	100	85
		Max-2w	***	***	6.36	3.00	0.25	1.58	0.23	2.74	28.45	4.44	8.65	7.12	28.45
		Min-2w	***	***	5.59	2.66	0.21	0.46	0.07	1.41	0.98	2.03	7.00	4.47	0.07
	Happo FP	Mean	0.01	0.01	0.03	0.03	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	0.02	0.01	0.01
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.01	0.02	0.06	0.04	<0.01	0.02	<0.01	<0.01	<0.01	0.01	0.02	0.01	0.06
		Min-2w	0.01	<0.01	<0.01	0.02	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01
	Ijira FP	Mean	0.16	0.07	0.10	0.11	0.07	0.01	0.01	0.01	0.06	0.07	0.14	0.14	0.08
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.18	0.08	0.13	0.13	0.11	0.02	0.03	0.02	0.10	0.08	0.20	0.17	0.20
		Min-2w	0.14	0.07	0.08	0.08	0.02	<0.01	<0.01	<0.01	0.02	0.06	0.09	0.12	<0.01
	Oki FP	Mean	9.92	3.56	6.59	2.77	1.66	1.47	0.72	1.98	2.68	6.86	5.85	6.70	4.09
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	12.25	5.30	7.13	4.02	1.75	1.76	1.02	2.80	3.39	11.24	7.33	6.71	12.25
		Min-2w	7.58	1.81	6.04	1.52	1.56	1.18	0.46	1.17	1.97	2.49	4.37	6.70	0.46
	Yusuhara FP	Mean	0.21	0.06	0.19	0.03	0.01	<0.01	<0.01	0.12	<0.01	0.21	0.14	0.04	0.08
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.30	0.07	0.23	0.03	0.02	<0.01	<0.01	0.24	0.01	0.39	0.17	0.06	0.39
		Min-2w	0.12	0.05	0.16	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.11	0.03	<0.01
	Hedo FP	Mean	6.91	6.01	7.72	3.96	4.98	4.07	5.44	11.48	7.45	8.65	7.47	7.34	6.57
		%	100	100	100	100	100	100	100	50	100	100	100	100	96
		Max-2w	7.85	6.71	8.36	4.37	5.90	4.55	7.55	11.48	7.98	9.10	8.51	12.80	12.80
		Min-2w	5.96	5.31	7.09	3.55	4.05	3.60	3.42	11.48	6.92	8.21	6.44	3.60	3.42
	Ogasawara FP	Mean	3.97	3.71	5.16	3.24	5.22	1.58	2.22	6.51	4.18	8.08	***	***	4.09
		%	100	100	100	100	100	100	100	100	100	59	***	***	80
		Max-2w	4.50	3.97	5.96	3.73	7.44	2.11	3.88	11.79	4.64	8.08	***	***	11.79
		Min-2w	3.49	3.46	4.36	2.76	2.99	1.06	1.22	1.23	3.73	8.08	***	***	1.06
	Tokyo FP	Mean	0.55	0.63	0.67	0.70	0.67	0.36	0.14	1.18	0.58	0.86	0.61	0.68	0.62
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.65	0.67	1.02	0.95	1.00	0.39	0.18	2.25	0.68	0.96	0.68	1.15	2.25
		Min-2w	0.45	0.59	0.32	0.44	0.33	0.32	0.10	0.10	0.49	0.76	0.55	0.32	0.10

Table 4.15 Particulate matter component: CF (continued)

Unit : $\mu\text{g}/\text{m}^3$

Country	Site		2019													Annual
	Method		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
Lao PDR	Vientiane FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***	
		%	***	***	***	***	***	***	***	***	***	***	***	***	***	
		Max-m	***	***	***	***	***	***	***	***	***	***	***	***	***	
		Min-m	***	***	***	***	***	***	***	***	***	***	***	***	***	
Malaysia	Petaling Jaya FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***	
		%	***	***	***	***	***	***	***	***	***	***	***	***	***	
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***	
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***	
	Tanah Rata FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***	
		%	***	***	***	***	***	***	***	***	***	***	***	***	***	
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***	
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***	
	Danum Valley FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***	
		%	***	***	***	***	***	***	***	***	***	***	***	***	***	
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***	
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***	
Mongolia	Ulaanbaatar FP	Mean	1.30	0.09	0.23	0.08	0.05	0.03	0.06	0.08	0.05	0.04	0.10	0.08	0.20	
		%	100	100	100	100	100	75	100	100	100	100	100	100	98	
		Max-w	5.91	0.17	0.44	0.13	0.07	0.04	0.10	0.11	0.11	0.07	0.27	0.15	5.91	
		Min-w	0.03	0.03	0.02	0.02	0.03	0.02	0.02	0.04	0.02	0.03	0.03	0.03	0.02	
	Terelj FP	Mean	0.01	0.04	0.02	0.05	0.02	***	***	***	***	0.03	<0.01	<0.01	0.02	
		%	100	100	100	100	54	***	***	***	***	82	100	100	62	
		Max-2w	0.01	0.06	0.02	0.11	0.02	***	***	***	***	0.03	<0.01	<0.01	0.11	
		Min-2w	0.01	0.01	0.02	<0.01	0.02	***	***	***	***	0.02	<0.01	<0.01	<0.01	
Myanmar	Yangon FP	Mean	0.13	0.43	<0.01	0.49	0.10	0.18	0.01	0.30	0.09	0.45	0.04	0.37	0.23	
		%	50	100	50	100	100	100	100	100	100	100	100	67	89	
		Max-2w	0.13	0.79	<0.01	0.91	0.14	0.18	0.04	0.50	0.15	0.85	0.07	0.61	0.91	
		Min-2w	0.13	0.07	<0.01	0.25	0.06	0.18	<0.01	0.09	0.03	0.06	<0.01	0.12	<0.01	
Philippines	Metro Manila FP	Mean	***	***	0.7	0.4	0.2	0.6	0.2	0.6	0.7	0.5	1.3	1.7	0.8	
		%	***	***	100	100	20	16	93	78	100	100	100	100	69	
		Max-w	***	***	1.2	0.8	0.2	0.6	0.3	0.9	1.1	1.0	3.4	2.9	3.4	
		Min-w	***	***	0.1	0.1	0.2	0.6	0.1	0.2	0.2	0.0	0.5	0.4	0.0	
	Los Banos FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***	
		%	***	***	***	***	***	***	***	***	***	***	***	***	***	
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***	
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***	
	Mt. Sto. Tomas FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***	
		%	***	***	***	***	***	***	***	***	***	***	***	***	***	
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***	
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***	
Republic of Korea	Kanghwa FP with PM _{2.5} cyclone	Mean	0.05	0.14	0.13	0.06	0.13	0.01	0.06	0.12	0.14	0.05	0.06	0.68	0.09	
		%	16	18	16	17	13	13	16	16	17	16	17	16	16	
		Max-d	0.12	0.48	0.29	0.12	0.14	0.01	0.07	0.13	0.16	0.11	0.10	1.35	0.48	
		Min-d	0.01	0.02	<0.01	0.01	0.10	0.01	0.04	0.10	0.12	0.01	<0.01	0.04	<0.01	
	Cheju (Kosan) FP with PM _{2.5} cyclone	Mean	0.24	0.27	0.15	0.03	0.06	0.08	0.76	0.09	0.24	0.05	0.23	0.03	0.23	
		%	10	20	12	7	10	10	10	6	13	3	17	13	11	
		Max-d	0.31	0.32	0.34	0.04	0.15	0.14	2.10	0.12	0.38	0.05	0.26	0.05	2.10	
		Min-d	0.20	0.22	0.05	0.02	0.01	0.02	0.08	0.05	0.17	0.05	0.20	0.02	0.01	
	Imsil FP with PM _{2.5} cyclone	Mean	0.49	0.52	0.13	0.05	0.04	0.10	0.04	0.03	0.05	0.04	0.21	0.16	0.20	
		%	13	18	10	7	16	13	13	16	7	13	13	16	13	
		Max-d	0.65	0.76	0.20	0.06	0.09	0.20	0.05	0.04	0.07	0.07	0.25	0.32	0.76	
		Min-d	0.32	0.24	0.02	0.03	0.01	0.02	0.02	<0.01	0.02	0.01	0.17	0.09	0.01	
Russia	Mondy FP	Mean	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.28	0.43	0.05	0.03	<0.01	<0.01	0.07	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	
		Max-m	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.55	0.49	0.05	0.05	<0.01	<0.01	0.55	
		Min-m	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	0.36	0.05	<0.01	<0.01	<0.01	<0.01	
	Listvyanka FP	Mean	0.01	0.01	0.01	<0.01	<0.01	0.01	0.05	0.15	0.03	0.04	<0.01	0.01	0.03	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	
		Max-w	0.01	0.02	0.02	0.01	0.01	0.02	0.18	0.26	0.07	0.06	0.01	0.02	0.26	
		Min-w	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	0.02	<0.01	<0.01	<0.01	
	Irkutsk FP	Mean	0.12	0.19	0.08	0.05	0.05	0.04	0.05	0.29	0.18	0.02	0.11	0.11	0.11	
		%	100	100	100	100	100	100	100	100	100	100	94	100	99	
		Max-w	0.24	0.40	0.24	0.06	0.07	0.13	0.14	0.66	0.39	0.06	0.14	0.29	0.66	
		Min-w	0.06	0.05	0.02	0.02	0.04	0.01	0.02	<0.01	<0.01	<0.01	0.06	0.03	<0.01	
	Primorskaya FP	Mean	0.03	0.23	0.04	0.04	0.01	<0.01	<0.01	0.01	<0.01	0.30	0.33	0.17	0.09	
		%	100	100	100	100	100	100	100	100	100	100	50	100	96	
		Max-2w	0.06	0.44	0.07	0.06	0.02	<0.01	<0.01	0.02	<0.01	0.52	0.33	0.20	0.52	
		Min-2w	<0.01	0.02	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	0.08	0.33	0.14	<0.01	

Table 4.15 Particulate matter component: CF (continued)

Unit : $\mu\text{g}/\text{m}^3$

Country	Site Method		2019												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Thailand	Bangkok FP	Mean	0.14	0.38	0.27	0.59	0.25	0.40	0.51	0.45	0.12	0.08	0.11	0.11	0.28
		%	100	100	100	67	100	100	100	100	100	100	100	100	97
		Max-10d	0.21	0.52	0.71	0.59	0.42	0.57	0.77	0.63	0.16	0.11	0.16	0.17	0.77
		Min-10d	0.01	0.22	<0.01	0.59	0.09	0.16	0.28	0.16	0.07	0.05	0.01	0.06	<0.01
	Pathumthani FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
	Khanchanaburi (Vachiralongkorn Dam) FP	Mean	***	***	***	0.04	***	***	0.27	***	***	***	<0.01	***	0.10
		%	***	***	***	81	***	***	71	***	***	***	68	***	21
		Max-2w	***	***	***	0.04	***	***	0.27	***	***	***	<0.01	***	0.27
		Min-2w	***	***	***	0.04	***	***	0.27	***	***	***	<0.01	***	<0.01
	Mae Hia FP	Mean	***	0.03	0.18	0.90	0.02	0.12	0.14	0.13	***	***	***	***	0.22
		%	***	96	97	97	97	97	97	97	***	***	***	***	56
		Max-10d	***	0.06	0.27	1.42	0.06	0.21	0.17	0.26	***	***	***	***	1.42
		Min-10d	***	<0.01	0.08	0.22	<0.01	0.06	0.11	0.06	***	***	***	***	<0.01
	Sakaerat FP	Mean	***	0.02	0.08	0.03	0.01	0.29	0.24	0.07	0.06	0.04	***	***	0.09
		%	***	96	100	100	100	100	100	100	100	100	***	***	75
		Max-10d	***	0.03	0.12	0.04	0.02	0.37	0.45	0.14	0.14	0.06	***	***	0.45
		Min-10d	***	<0.01	0.02	0.02	<0.01	0.21	0.12	0.02	0.01	0.03	***	***	<0.01
Vietnam	Hanoi FP	Mean	1.91	1.77	1.69	1.33	0.70	1.26	2.93	0.84	1.04	1.93	4.20	1.37	1.72
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	3.43	2.04	1.96	1.58	0.85	2.44	4.29	2.00	1.88	2.54	4.93	2.31	4.93
		Min-w	0.96	1.50	1.51	0.82	0.57	0.62	1.44	0.20	0.42	0.66	3.46	0.98	0.20
	Hoa Binh FP	Mean	3.67	2.99	2.16	2.65	2.97	2.93	2.81	2.93	2.69	2.71	3.16	1.55	2.79
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	5.20	3.56	2.27	3.33	3.49	3.25	3.33	3.61	2.79	3.49	3.62	3.20	5.20
		Min-w	2.61	2.47	1.97	1.92	1.67	2.57	1.89	1.80	2.55	2.10	2.90	0.71	0.71
	Can Tho FP	Mean	2.54	2.17	1.78	2.56	2.36	2.32	1.47	1.77	2.55	2.44	2.66	2.13	2.23
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	3.21	2.50	1.90	3.65	3.25	2.66	1.67	2.50	2.96	2.72	2.96	2.56	3.65
		Min-w	1.94	1.77	1.67	1.43	1.67	1.88	1.21	1.47	1.88	1.87	2.06	1.67	1.21
	Ho Chi Minh FP	Mean	5.01	4.67	4.87	4.50	5.37	4.26	4.68	3.04	4.26	4.08	3.57	4.79	4.42
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	5.99	6.03	5.63	4.88	6.79	5.04	6.03	4.31	4.78	5.24	4.33	5.24	6.79
		Min-w	4.11	4.09	4.33	4.29	4.29	3.85	3.65	2.10	3.25	2.90	2.92	4.35	2.10
	Yen Bai FP	Mean	3.97	2.27	2.32	1.93	2.68	2.69	2.46	2.69	2.04	2.34	5.17	2.68	2.78
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	4.94	2.64	3.06	3.80	3.66	3.97	4.11	3.35	2.71	2.77	13.46	3.05	13.46
		Min-w	1.23	1.97	0.81	0.90	1.67	2.03	1.66	1.81	1.48	1.53	1.49	2.40	0.81

Terms and abbreviations are given in Table 4.2.

Table 4.16 Particulate matter component: NH₄⁺Unit : $\mu\text{g}/\text{m}^3$

Country	Site		2019												Annual
	Method		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Cambodia	Phnom Penh FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
Indonesia	Jakarta FP	Mean	***	***	***	1.07	***	***	1.41	0.76	1.72	1.26	0.63	0.36	1.03
		%	***	***	***	100	***	***	100	100	100	100	100	100	61
		Max-2w	***	***	***	1.25	***	***	1.53	1.08	2.17	1.27	1.71	0.62	2.17
		Min-2w	***	***	***	0.89	***	***	1.29	0.44	1.27	1.25	0.07	0.10	0.07
	Serpong FP	Mean	0.59	0.63	0.45	0.53	0.57	1.48	0.77	0.42	0.97	0.64	1.34	1.91	0.88
		%	67	100	100	56	100	100	100	100	100	100	100	100	92
		Max-2w	0.88	1.02	0.66	0.53	0.88	1.63	1.01	0.50	1.26	0.92	1.99	2.05	2.05
		Min-2w	0.30	0.24	0.24	0.53	0.26	1.33	0.53	0.34	0.64	0.36	0.68	1.77	0.24
	Bandung FP	Mean	1.25	1.47	1.05	1.49	1.23	2.04	0.85	0.72	1.19	1.09	1.90	2.29	1.38
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	1.57	1.71	1.09	1.56	1.68	2.35	1.11	0.83	1.32	1.13	2.03	2.79	2.79
		Min-2w	0.92	1.23	1.01	1.42	0.78	1.73	0.59	0.61	1.07	1.05	1.76	1.79	0.59
Japan	Rishiri FP	Mean	0.38	0.83	0.63	1.02	1.11	0.67	0.79	0.34	0.50	0.66	***	0.81	0.73
		%	100	100	100	100	100	100	100	50	100	100	***	100	88
		Max-2w	0.41	1.27	0.72	1.17	1.61	0.75	0.99	0.34	0.68	0.75	***	1.20	1.61
		Min-2w	0.35	0.38	0.53	0.87	0.62	0.59	0.62	0.34	0.33	0.57	***	0.51	0.33
	Ochiishi FP	Mean	0.32	0.90	0.46	0.33	0.54	0.27	0.49	0.18	0.19	0.15	0.23	0.15	0.35
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.35	1.37	0.61	0.59	0.64	0.38	0.51	0.26	0.29	0.25	0.29	0.21	1.37
		Min-2w	0.25	0.42	0.32	0.07	0.44	0.19	0.48	0.10	0.10	0.05	0.17	0.10	0.05
	Sado-seki FP	Mean	***	***	0.71	0.32	0.66	0.47	0.47	0.56	0.25	0.07	0.19	0.22	0.39
		%	***	***	100	100	100	100	100	100	100	100	100	100	85
		Max-2w	***	***	0.74	0.47	0.91	0.59	0.88	0.56	0.34	0.13	0.24	0.24	0.91
		Min-2w	***	***	0.68	0.18	0.41	0.35	0.07	0.56	0.17	0.02	0.13	0.19	0.02
	Happo FP	Mean	0.12	0.15	0.33	0.44	0.45	0.86	0.60	0.43	0.32	0.11	0.06	0.13	0.33
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.12	0.37	0.40	0.44	0.45	0.86	0.97	0.57	0.42	0.17	0.06	0.14	0.97
		Min-2w	0.12	0.04	0.26	0.44	0.45	0.86	0.34	0.29	0.22	0.04	0.06	0.13	0.04
	Ijira FP	Mean	0.54	0.79	0.85	0.73	0.70	0.89	1.07	0.72	0.42	0.35	0.36	0.34	0.65
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.55	0.88	1.07	0.89	0.72	0.98	1.76	0.97	0.44	0.41	0.44	0.41	1.76
		Min-2w	0.53	0.70	0.63	0.58	0.68	0.81	0.44	0.46	0.40	0.29	0.28	0.30	0.28
	Oki FP	Mean	0.78	1.29	1.25	0.70	0.78	0.99	0.73	0.78	0.38	0.29	0.34	0.63	0.74
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.85	1.67	1.36	0.90	0.83	1.17	0.98	0.82	0.41	0.37	0.38	0.73	1.67
		Min-2w	0.70	0.91	1.13	0.51	0.73	0.81	0.39	0.74	0.34	0.21	0.31	0.53	0.21
	Yusuhara FP	Mean	0.92	1.07	0.87	0.94	0.84	1.27	0.67	0.60	0.29	0.51	0.54	0.48	0.74
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.97	1.16	1.09	1.12	0.86	1.62	0.80	0.78	0.30	0.54	0.76	0.63	1.62
		Min-2w	0.87	0.97	0.65	0.75	0.81	0.93	0.43	0.42	0.29	0.49	0.32	0.27	0.27
	Hedo FP	Mean	0.64	0.53	0.56	0.43	0.55	0.29	0.12	0.38	0.19	0.50	0.47	0.37	0.41
		%	100	100	100	100	100	100	100	50	100	100	100	100	96
		Max-2w	0.68	0.59	0.61	0.62	0.56	0.33	0.17	0.38	0.26	0.62	0.71	0.63	0.71
		Min-2w	0.60	0.47	0.52	0.24	0.53	0.25	0.06	0.38	0.13	0.37	0.23	0.23	0.06
	Ogasawara FP	Mean	0.31	0.30	0.36	0.10	0.12	0.07	0.08	0.16	0.05	0.07	***	***	0.17
		%	100	100	100	100	100	100	100	100	100	59	***	***	80
		Max-2w	0.36	0.33	0.40	0.15	0.18	0.07	0.12	0.19	0.07	0.07	***	***	0.40
		Min-2w	0.24	0.27	0.32	0.05	0.05	0.07	0.03	0.13	0.04	0.07	***	***	0.03
	Tokyo FP	Mean	1.05	1.62	1.21	0.85	0.95	1.14	1.30	1.09	0.50	0.50	0.74	1.06	1.02
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	1.18	1.80	1.24	0.97	1.08	1.15	1.50	1.17	0.64	0.59	0.85	1.47	1.80
		Min-2w	0.92	1.44	1.18	0.73	0.82	1.13	1.10	1.00	0.36	0.42	0.64	0.77	0.36

Table 4.16 Particulate matter component: NH₄⁺ (continued)Unit : $\mu\text{g}/\text{m}^3$

Country	Site		2019													Annual
	Method		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
Lao PDR	Vientiane FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***	
		Max-m	***	***	***	***	***	***	***	***	***	***	***	***	***	
		Min-m	***	***	***	***	***	***	***	***	***	***	***	***	***	
Malaysia	Petaling Jaya FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***	
		%	***	***	***	***	***	***	***	***	***	***	***	***		
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***		
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***		
	Tanah Rata FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***	
		%	***	***	***	***	***	***	***	***	***	***	***	***		
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***		
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***		
	Danum Valley FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***	
		%	***	***	***	***	***	***	***	***	***	***	***	***		
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***		
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***		
Mongolia	Ulaanbaatar FP	Mean	1.09	0.34	0.73	0.27	0.11	0.02	0.09	0.07	0.02	0.02	0.32	0.69	0.32	
		%	100	100	100	100	100	75	100	100	100	100	100	98		
		Max-w	4.28	0.75	1.91	0.44	0.36	0.05	0.11	0.17	0.05	0.05	0.80	1.06	4.28	
		Min-w	0.03	0.03	<0.01	<0.01	<0.01	0.01	0.03	0.03	<0.01	<0.01	0.03	0.31	<0.01	
	Terelj FP	Mean	0.05	0.04	0.04	0.03	0.07	***	***	***	***	0.05	0.07	0.04	0.05	
		%	100	100	100	100	54	***	***	***	***	82	100	100	62	
		Max-2w	0.10	0.08	0.08	0.07	0.07	***	***	***	***	0.05	0.10	0.06	0.10	
		Min-2w	<0.01	<0.01	<0.01	<0.01	0.07	***	***	***	***	0.05	0.04	0.01	<0.01	
Myanmar	Yangon FP	Mean	0.10	0.68	0.17	0.96	0.16	2.81	0.25	0.08	0.03	0.02	<0.01	0.26	0.40	
		%	50	100	50	100	100	100	100	100	100	100	100	67	89	
		Max-2w	0.10	1.05	0.17	1.78	0.21	2.81	0.68	0.17	0.05	0.04	<0.01	0.41	2.81	
		Min-2w	0.10	0.30	0.17	0.03	0.11	2.81	0.03	<0.01	0.02	<0.01	<0.01	0.10	<0.01	
Philippines	Metro Manila FP	Mean	***	***	0.2	3.2	0.7	0.2	0.3	0.2	0.5	0.1	0.1	0.1	0.6	
		%	***	***	100	100	20	16	93	78	100	100	100	100	69	
		Max-w	***	***	0.5	10.7	0.7	0.2	0.3	0.5	0.8	0.2	0.3	0.2	10.7	
		Min-w	***	***	0.0	0.4	0.7	0.2	0.1	<0.01	0.2	<0.01	0.0	<0.01	<0.01	
	Los Banos FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***	
		%	***	***	***	***	***	***	***	***	***	***	***	***	***	
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***	
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***	
	Mt. Sto. Tomas FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***	
		%	***	***	***	***	***	***	***	***	***	***	***	***	***	
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***	
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***	
Republic of Korea	Kanghwa FP with PM _{2.5} cyclone	Mean	0.97	1.58	3.18	3.23	1.59	1.38	1.76	1.29	0.41	0.91	1.01	6.18	1.99	
		%	16	18	16	17	13	13	16	16	17	16	17	16	16	
		Max-d	1.15	2.49	10.34	5.59	2.12	1.93	3.15	2.78	0.49	1.67	2.03	12.02	10.34	
		Min-d	0.63	0.69	0.43	1.31	1.13	0.58	0.84	0.58	0.29	0.43	0.42	1.18	0.43	
	Cheju (Kosan) FP with PM _{2.5} cyclone	Mean	3.03	1.65	1.90	1.26	1.36	1.19	1.84	1.45	0.28	0.54	0.75	1.10	1.59	
		%	10	20	12	7	10	10	10	6	13	13	17	13	11	
		Max-d	5.62	3.37	3.32	1.95	1.79	2.04	3.64	1.90	0.60	0.72	1.32	1.39	5.62	
		Min-d	1.33	0.19	1.26	0.57	0.51	0.44	0.53	1.00	0.03	0.35	0.49	0.83	0.10	
	Imsil FP with PM _{2.5} cyclone	Mean	2.10	2.48	2.82	1.06	1.49	1.88	1.04	1.07	1.48	2.03	1.22	1.59	1.86	
		%	13	18	10	7	16	13	13	16	7	13	13	16	13	
		Max-d	3.10	3.66	5.27	1.14	3.24	2.82	1.37	1.57	2.27	3.57	1.74	3.45	5.27	
		Min-d	1.29	0.80	0.99	0.97	0.72	1.46	0.46	0.70	0.69	1.25	0.99	0.58	0.46	
Russia	Mondy FP	Mean	0.03	0.01	0.02	0.04	0.04	0.01	0.09	0.07	0.03	0.02	0.01	<0.01	0.03	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	
		Max-m	0.04	0.01	0.02	0.04	0.05	0.01	0.16	0.09	0.03	0.03	0.02	<0.01	0.16	
		Min-m	0.03	0.01	0.02	0.03	0.03	0.01	<0.01	0.06	0.03	<0.01	0.01	<0.01	<0.01	
	Listvyanka FP	Mean	0.07	0.12	0.18	0.13	0.12	0.16	0.34	0.13	0.02	0.05	0.10	0.14	0.13	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	
		Max-w	0.15	0.15	0.28	0.17	0.16	0.59	0.58	0.27	0.06	0.13	0.18	0.22	0.59	
		Min-w	0.03	0.10	0.08	0.09	0.08	<0.01	0.06	0.07	<0.01	<0.01	0.03	0.05	<0.01	
	Irkutsk FP	Mean	1.03	0.44	0.06	0.07	0.15	0.13	0.31	0.41	0.16	0.17	0.78	0.48	0.35	
		%	100	100	100	100	100	100	100	100	100	100	94	100	99	
		Max-w	1.58	1.03	0.12	0.07	0.18	0.28	0.42	0.78	0.25	0.32	1.24	0.60	1.58	
		Min-w	0.80	0.04	0.03	0.06	0.12	0.04	0.26	0.13	0.01	0.05	0.31	0.17	0.01	
	Primorskaya FP	Mean	0.47	0.47	0.26	0.16	0.02	0.02	0.05	0.02	0.02	0.24	0.26	1.20	0.27	
		%	100	100	100	100	100	100	100	100	100	100	50	100	96	
		Max-2w	0.94	0.91	0.51	0.29	0.03	0.03	0.10	0.02	0.03	0.43	0.26	1.63	1.63	
		Min-2w	0.01	0.02	<0.01	0.03	0.02	<0.01	0.01	0.01	0.01	0.06	0.26	0.76	<0.01	

Table 4.16 Particulate matter component: NH₄⁺ (continued)Unit : $\mu\text{g}/\text{m}^3$

Country	Site	Method	2019												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Thailand	Bangkok FP	Mean	0.49	0.46	0.70	1.28	0.63	0.26	0.21	0.08	0.69	0.99	1.00	0.95	0.63
		%	100	100	100	67	100	100	100	100	100	100	100	100	97
		Max-10d	0.70	0.61	1.84	1.62	1.05	0.36	0.25	0.11	1.00	1.45	1.26	1.31	1.84
		Min-10d	0.35	0.35	0.09	0.94	0.31	0.16	0.17	0.06	0.44	0.74	0.67	0.62	0.06
	Pathumthani FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
	Khanchanaburi (Vachiralongkorn Dam) FP	Mean	***	***	***	1.22	***	***	0.10	***	***	***	0.19	***	0.50
		%	***	***	***	81	***	***	71	***	***	***	68	***	21
		Max-2w	***	***	***	1.22	***	***	0.10	***	***	***	0.19	***	1.22
		Min-2w	***	***	***	1.22	***	***	0.10	***	***	***	0.19	***	0.10
	Mae Hia FP	Mean	***	0.31	0.26	0.77	0.34	<0.01	<0.01	0.02	***	***	***	***	0.24
		%	***	96	97	97	97	97	97	97	***	***	***	***	56
		Max-10d	***	0.45	0.63	1.38	0.58	<0.01	0.02	0.06	***	***	***	***	1.38
		Min-10d	***	0.14	<0.01	0.10	0.01	<0.01	<0.01	<0.01	***	***	***	***	<0.01
	Sakaerat FP	Mean	***	2.87	0.95	0.51	1.20	1.36	1.35	0.55	2.17	1.28	***	***	1.36
		%	***	96	100	100	100	100	100	100	100	100	***	***	75
		Max-10d	***	3.74	2.01	0.78	2.10	1.49	1.51	0.88	4.08	1.69	***	***	4.08
		Min-10d	***	2.30	0.25	0.22	0.15	1.28	1.25	0.14	0.90	0.96	***	***	0.14
Vietnam	Hanoi FP	Mean	1.67	1.28	1.29	0.72	0.53	0.11	0.25	0.24	0.56	0.36	0.70	0.84	0.71
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	4.26	1.48	1.71	1.13	1.31	0.12	0.42	0.38	0.66	0.69	0.91	1.55	4.26
		Min-w	0.62	1.00	0.69	0.40	0.16	0.08	0.15	0.12	0.35	0.14	0.47	0.44	0.08
	Hoa Binh FP	Mean	1.31	1.04	2.25	0.86	1.00	0.66	0.80	0.87	0.74	0.83	0.70	0.40	0.96
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	1.96	1.25	2.94	1.29	1.61	0.69	1.05	1.02	1.01	1.01	0.85	0.89	2.94
		Min-w	0.59	0.89	0.96	0.54	0.58	0.63	0.64	0.62	0.43	0.62	0.49	0.07	0.07
	Can Tho FP	Mean	1.47	0.95	0.79	1.35	1.31	1.01	0.72	0.94	0.97	1.29	1.43	1.05	1.12
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	1.61	1.11	0.87	1.71	1.65	1.43	1.01	1.15	1.13	1.47	1.63	1.27	1.71
		Min-w	1.31	0.56	0.73	0.95	0.93	0.65	0.48	0.73	0.83	0.71	1.31	0.87	0.48
	Ho Chi Minh FP	Mean	1.79	2.11	1.35	1.06	0.80	1.21	1.13	1.43	1.43	1.19	1.47	0.98	1.33
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	2.24	2.32	1.63	1.92	1.47	1.71	1.45	1.85	2.08	1.47	1.63	1.23	2.32
		Min-w	1.47	1.73	1.03	0.42	0.32	0.81	0.83	0.93	0.56	0.97	1.39	0.73	0.32
	Yen Bai FP	Mean	2.62	2.03	1.80	2.18	1.45	0.72	0.47	0.63	0.71	1.20	1.43	0.85	1.35
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	4.40	2.18	1.98	2.53	1.63	1.26	0.60	0.83	0.89	1.67	2.90	1.27	4.40
		Min-w	1.21	1.87	1.66	1.92	1.24	0.12	0.34	0.39	0.56	0.85	0.66	0.60	0.12

Terms and abbreviations are given in Table 4.2.

Table 4.17 Particulate matter component: Na⁺Unit : $\mu\text{g}/\text{m}^3$

Country	Site		2019												Annual
	Method		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Cambodia	Phnom Penh FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
Indonesia	Jakarta FP	Mean	***	***	***	0.49	***	***	2.74	1.13	0.92	0.24	0.40	0.28	0.97
		%	***	***	***	100	***	***	100	100	100	100	100	100	61
		Max-2w	***	***	***	0.6	***	***	5.0	1.9	1.1	0.4	1.2	0.5	5.0
		Min-2w	***	***	***	0.41	***	***	1.62	0.35	0.78	0.11	<0.01	0.03	<0.01
	Serpong FP	Mean	0.63	0.18	0.20	0.42	0.09	0.32	0.91	1.16	0.92	0.77	0.24	0.34	0.54
		%	67	100	100	56	100	100	100	100	100	100	100	100	92
		Max-2w	0.64	0.21	0.22	0.42	0.18	0.64	0.93	1.16	1.62	0.77	0.48	0.46	1.62
		Min-2w	0.62	0.16	0.17	0.42	<0.01	<0.01	0.89	1.15	<0.01	0.77	<0.01	0.22	<0.01
	Bandung FP	Mean	0.56	0.58	0.15	0.29	0.64	0.61	0.44	0.29	0.56	0.35	0.83	0.64	0.49
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.59	0.75	0.16	0.31	0.77	0.72	0.59	0.32	0.87	0.37	0.84	0.84	0.87
		Min-2w	0.54	0.40	0.13	0.28	0.51	0.50	0.29	0.25	0.24	0.32	0.83	0.44	0.13
Japan	Rishiri FP	Mean	2.12	1.92	2.38	4.07	4.97	4.22	1.42	1.00	4.70	4.92	***	5.02	3.43
		%	100	100	100	100	100	100	100	50	100	100	***	100	88
		Max-2w	2.46	2.33	3.13	5.54	5.65	5.87	1.45	1.00	5.72	6.66	***	5.92	6.66
		Min-2w	1.78	1.51	1.63	2.59	4.30	2.57	1.40	1.00	3.68	3.18	***	4.05	1.00
	Ochiishi FP	Mean	2.01	2.13	3.65	1.99	3.03	1.76	1.37	2.72	2.88	3.32	3.99	3.03	2.60
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	2.76	2.62	3.71	2.84	3.71	3.56	1.37	2.90	3.63	4.59	5.41	4.63	5.41
		Min-2w	1.28	1.65	3.60	1.14	2.35	0.39	1.37	2.54	2.13	2.05	2.56	1.44	0.39
	Sado-seki FP	Mean	***	***	3.81	1.93	0.70	1.19	0.70	1.91	8.23	1.88	4.63	3.69	2.81
		%	***	***	100	100	100	100	100	100	100	100	100	100	85
		Max-2w	***	***	4.00	1.98	0.93	1.34	0.79	2.39	15.47	2.46	5.00	4.21	15.47
		Min-2w	***	***	3.61	1.89	0.47	1.03	0.60	1.43	0.99	1.30	4.27	2.80	0.47
	Happo FP	Mean	0.03	0.02	0.06	0.19	0.10	0.05	0.03	0.06	0.05	0.02	0.09	0.06	0.06
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.03	0.04	0.07	0.23	0.10	0.05	0.05	0.06	0.06	0.02	0.09	0.07	0.23
		Min-2w	0.03	<0.01	0.06	0.16	0.10	0.05	0.01	0.06	0.05	0.02	0.09	0.04	<0.01
	Ijira FP	Mean	0.26	0.26	0.32	0.49	0.42	0.22	0.13	0.48	0.31	0.25	0.34	0.23	0.30
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.27	0.30	0.39	0.60	0.60	0.23	0.16	0.84	0.37	0.31	0.38	0.33	0.84
		Min-2w	0.26	0.22	0.25	0.39	0.25	0.21	0.10	0.13	0.25	0.19	0.30	0.16	0.10
	Oki FP	Mean	6.43	2.74	4.53	2.32	2.07	2.05	1.27	2.07	1.99	4.37	3.83	4.30	3.09
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	7.85	3.62	4.80	2.98	2.22	2.33	1.32	2.66	2.29	6.78	4.60	4.43	7.85
		Min-2w	5.01	1.85	4.25	1.67	1.92	1.78	1.25	1.49	1.69	1.95	3.06	4.16	1.25
	Yusuvara FP	Mean	0.41	0.33	0.45	0.30	0.27	0.23	0.13	0.34	0.25	0.47	0.36	0.20	0.30
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.49	0.36	0.51	0.36	0.33	0.24	0.24	0.45	0.29	0.69	0.40	0.27	0.69
		Min-2w	0.33	0.31	0.38	0.23	0.21	0.21	0.08	0.24	0.20	0.26	0.32	0.11	0.08
	Hedo FP	Mean	5.10	4.31	5.56	3.30	3.88	2.85	3.53	7.30	4.71	6.16	5.22	4.81	4.58
		%	100	100	100	100	100	100	100	50	100	100	100	100	96
		Max-2w	5.71	4.59	6.04	3.50	4.21	3.09	5.14	7.30	5.09	6.46	5.29	7.64	7.64
		Min-2w	4.48	4.02	5.07	3.10	3.55	2.61	2.18	7.30	4.33	5.86	5.15	2.36	2.18
	Ogasawara FP	Mean	2.77	2.71	3.76	2.56	3.36	1.16	1.42	3.97	2.54	4.79	***	***	2.74
		%	100	100	100	100	100	100	100	100	100	59	***	***	80
		Max-2w	3.06	3.01	4.10	3.27	4.75	1.39	2.32	6.97	2.77	4.79	***	***	6.97
		Min-2w	2.60	2.41	3.42	1.84	1.96	0.93	0.94	0.97	2.32	4.79	***	***	0.93
	Tokyo FP	Mean	0.38	0.48	0.80	1.26	1.35	1.07	0.73	1.90	1.21	1.23	0.78	0.45	0.94
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.38	0.58	1.03	1.76	1.90	1.11	1.16	2.83	1.37	1.43	0.99	0.70	2.83
		Min-2w	0.38	0.38	0.57	0.75	0.80	1.03	0.50	0.97	1.04	1.03	0.57	0.23	0.23

Table 4.17 Particulate matter component: Na⁺ (continued)Unit : $\mu\text{g}/\text{m}^3$

Country	Site	Method	2019												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Lao PDR	Vientiane FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-m	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-m	***	***	***	***	***	***	***	***	***	***	***	***	***
Malaysia	Petaling Jaya FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***
	Tanah Rata FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***
	Danum Valley FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
Mongolia	Ulaanbaatar FP	Mean	0.86	0.10	0.24	0.12	0.07	0.06	0.11	0.14	0.08	0.04	0.22	0.50	0.22
		%	100	100	100	100	100	75	100	100	100	100	100	100	98
		Max-w	3.88	0.19	0.50	0.19	0.09	0.10	0.20	0.31	0.19	0.05	0.43	0.97	3.88
		Min-w	0.03	0.03	0.02	0.05	0.04	0.04	0.06	0.04	0.02	0.03	0.03	0.07	0.02
	Terelj FP	Mean	0.07	0.04	0.02	0.02	0.02	***	***	***	***	0.02	0.02	<0.01	0.03
		%	100	100	100	100	54	***	***	***	***	82	100	100	62
		Max-2w	0.12	0.05	0.02	0.03	0.02	***	***	***	***	0.02	0.02	<0.01	0.12
		Min-2w	0.02	0.02	0.02	0.02	0.02	***	***	***	***	0.02	0.02	<0.01	<0.01
Myanmar	Yangon FP	Mean	0.07	0.52	0.13	0.90	0.10	0.28	0.05	0.17	0.12	0.29	0.08	0.13	0.27
		%	50	100	50	100	100	100	100	100	100	100	100	67	89
		Max-2w	0.07	0.80	0.13	1.33	0.12	0.28	0.08	0.25	0.20	0.51	0.09	0.23	1.33
		Min-2w	0.07	0.24	0.13	0.26	0.08	0.28	<0.01	0.08	0.04	0.07	0.07	0.02	<0.01
Philippines	Metro Manila FP	Mean	***	***	0.6	0.8	0.4	0.7	0.3	0.5	0.4	0.6	1.1	1.1	0.7
		%	***	***	100	100	20	16	93	78	100	100	100	100	69
		Max-w	***	***	1.0	1.0	0.4	0.7	0.4	0.9	0.8	1.3	2.1	1.5	2.1
		Min-w	***	***	0.3	0.5	0.4	0.7	0.2	0.1	<0.01	<0.01	0.5	0.6	<0.01
	Los Banos FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***
	Mt. Sto. Tomas FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***
Republic of Korea	Kanghwa FP with PM _{2.5} cyclone	Mean	0.22	0.26	0.33	0.28	0.25	0.24	0.21	0.20	0.16	0.27	0.16	0.29	0.26
		%	16	18	16	17	13	13	16	16	17	16	17	16	16
		Max-d	0.24	0.41	0.45	0.58	0.37	0.30	0.29	0.25	0.21	0.46	0.23	0.61	0.58
		Min-d	0.19	0.04	0.26	0.08	0.12	0.17	0.14	0.09	0.11	0.14	0.12	0.13	0.04
	Cheju (Kosan) FP with PM _{2.5} cyclone	Mean	0.30	0.33	0.36	0.22	0.18	0.34	0.22	0.42	0.28	0.21	0.16	0.20	0.30
		%	10	20	12	7	10	10	10	6	13	13	17	13	11
		Max-d	0.47	0.44	0.41	0.22	0.19	0.60	0.46	0.43	0.48	0.25	0.29	0.23	0.60
	Imsil FP with PM _{2.5} cyclone	Min-d	0.21	0.17	0.30	0.21	0.17	0.18	0.05	0.41	0.10	0.18	0.04	0.19	0.05
		Mean	0.34	0.37	0.11	0.15	0.12	0.19	0.11	0.21	0.24	0.11	0.14	0.22	0.21
		%	13	18	10	7	16	13	13	16	7	13	13	16	13
Russia	Mondy FP	Max-d	0.45	0.46	0.16	0.16	0.20	0.26	0.14	0.23	0.28	0.23	0.19	0.27	0.46
		Min-d	0.26	0.25	0.07	0.14	0.08	0.10	0.06	0.18	0.19	0.01	0.09	0.18	0.06
	Listvyanka FP	Mean	0.01	<0.01	<0.01	<0.01	0.02	0.02	0.06	0.04	0.04	0.01	<0.01	<0.01	0.02
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-m	0.02	<0.01	<0.01	<0.01	0.04	0.03	0.12	0.04	0.04	0.02	<0.01	<0.01	0.12
		Min-m	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	0.04	0.04	<0.01	<0.01	<0.01	<0.01
	Irkutsk FP	Mean	0.02	0.04	0.02	0.01	0.01	0.02	0.03	0.03	0.01	0.02	0.02	0.02	0.02
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.04	0.06	0.04	0.03	0.01	0.02	0.04	0.07	0.02	0.04	0.02	0.03	0.07
		Min-w	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	0.02	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Primorskaya FP	Mean	0.10	0.20	0.15	0.16	0.11	0.03	0.13	0.09	0.05	0.12	0.13	0.08	0.11
		%	100	100	100	100	100	100	100	100	100	100	94	100	99
		Max-w	0.14	0.39	0.41	0.37	0.19	0.05	0.43	0.15	0.10	0.24	0.17	0.13	0.43
		Min-w	0.08	0.04	0.02	0.04	0.04	0.02	0.02	0.07	0.02	0.04	0.07	0.03	0.02
	Primorskaya FP	Mean	0.02	0.06	0.03	0.07	0.01	0.02	<0.01	<0.01	<0.01	0.02	0.04	0.07	0.03
		%	100	100	100	100	100	100	100	100	100	100	50	100	96
		Max-2w	0.03	0.10	0.04	0.12	0.02	0.03	0.01	0.01	<0.01	0.03	0.04	0.09	0.12
		Min-2w	<0.01	0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.04	0.05	<0.01

Table 4.17 Particulate matter component: Na⁺ (continued)Unit : $\mu\text{g}/\text{m}^3$

Country	Site Method		2019												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Thailand	Bangkok FP	Mean	0.33	0.74	0.55	1.13	0.52	0.44	0.40	0.30	0.28	0.48	0.53	0.56	0.51
		%	100	100	100	67	100	100	100	100	100	100	100	100	97
		Max-10d	0.90	1.11	1.35	1.35	0.83	0.70	0.72	0.45	0.49	0.69	0.63	0.87	1.35
		Min-10d	<0.01	0.48	<0.01	0.92	0.28	0.20	<0.01	0.07	0.10	0.21	0.38	0.39	<0.01
	Pathumthani FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
	Khanchanaburi (Vachiralongkorn Dam) FP	Mean	***	***	***	0.02	***	***	0.26	***	***	***	0.19	***	0.16
		%	***	***	***	81	***	***	71	***	***	***	68	***	21
		Max-2w	***	***	***	0.02	***	***	0.26	***	***	***	0.19	***	0.26
		Min-2w	***	***	***	0.02	***	***	0.26	***	***	***	0.19	***	0.02
	Mae Hia FP	Mean	***	0.14	0.53	0.54	0.55	0.09	0.21	0.29	***	***	***	***	0.33
		%	***	96	97	97	97	97	97	97	***	***	***	***	56
		Max-10d	***	0.19	1.22	1.47	1.10	0.26	0.31	0.45	***	***	***	***	1.47
		Min-10d	***	0.09	0.16	<0.01	0.10	<0.01	0.08	0.14	***	***	***	***	<0.01
	Sakaerat FP	Mean	***	0.92	0.46	0.17	0.28	0.87	0.89	0.28	0.50	0.32	***	***	0.52
		%	***	96	100	100	100	100	100	100	100	100	***	***	75
		Max-10d	***	1.16	0.65	0.26	0.44	1.23	1.16	0.50	1.21	0.43	***	***	1.23
		Min-10d	***	0.46	0.36	0.11	0.07	0.27	0.72	0.14	0.09	0.25	***	***	0.07
Vietnam	Hanoi FP	Mean	0.68	0.56	0.48	0.42	0.45	0.41	0.53	0.47	0.52	0.54	0.40	0.27	0.48
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	1.13	0.75	0.51	0.46	0.52	0.44	0.78	1.03	0.58	0.63	0.46	0.32	1.13
		Min-w	0.44	0.43	0.45	0.37	0.42	0.35	0.35	0.21	0.45	0.45	0.35	0.25	0.21
	Hoa Binh FP	Mean	1.30	0.75	1.06	0.89	0.77	0.99	0.78	0.81	0.65	0.74	0.75	0.45	0.84
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	2.15	0.87	1.14	1.21	1.28	1.50	1.06	1.09	0.84	1.01	0.96	0.70	2.15
		Min-w	0.48	0.51	0.96	0.71	0.46	0.49	0.52	0.64	0.51	0.41	0.49	0.19	0.19
	Can Tho FP	Mean	0.12	0.15	0.08	0.04	0.17	0.11	0.20	0.08	0.10	0.07	0.33	0.11	0.13
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.22	0.28	0.14	0.14	0.42	0.18	0.48	0.16	0.16	0.16	0.42	0.14	0.48
		Min-w	0.02	0.04	<0.01	<0.01	0.02	0.06	0.08	<0.01	<0.01	<0.01	0.18	0.08	<0.01
	Ho Chi Minh FP	Mean	1.27	1.20	1.15	1.05	1.64	1.16	1.06	1.19	1.84	1.40	2.14	1.17	1.36
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	1.49	1.41	1.41	1.27	1.90	1.37	1.67	1.47	2.30	2.50	2.30	1.47	2.50
		Min-w	1.01	1.03	0.87	0.85	1.47	0.97	0.69	1.01	1.47	0.83	1.87	0.69	0.69
	Yen Bai FP	Mean	0.95	0.63	1.56	1.13	1.20	0.96	0.81	0.92	1.06	0.46	0.57	0.55	0.90
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	1.44	0.67	1.90	1.55	1.41	1.45	1.18	1.42	1.27	0.49	0.81	0.84	1.90
		Min-w	0.57	0.60	1.36	0.61	0.61	0.56	0.52	0.64	0.53	0.41	0.45	0.40	0.40

Terms and abbreviations are given in Table 4.2.

Table 4.18 Particulate matter component: K⁺Unit : $\mu\text{g}/\text{m}^3$

Country	Site		2019												Annual
	Method		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Cambodia	Phnom Penh FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
Indonesia	Jakarta FP	Mean	***	***	***	0.45	***	***	1.54	0.59	0.74	0.99	0.33	0.10	0.71
		%	***	***	***	100	***	***	100	100	100	100	100	100	61
		Max-2w	***	***	***	0.45	***	***	2.45	0.94	0.84	1.64	0.54	0.20	2.45
		Min-2w	***	***	***	0.44	***	***	1.05	0.23	0.64	0.35	0.13	<0.01	<0.01
	Serpong FP	Mean	0.67	0.34	0.34	0.42	0.47	1.08	0.69	0.91	0.94	0.56	0.50	0.08	0.61
		%	67	100	100	56	100	100	100	100	100	100	100	100	92
		Max-2w	0.99	0.54	0.39	0.42	0.87	1.28	0.97	0.94	1.09	0.65	0.90	0.09	1.28
		Min-2w	0.36	0.14	0.29	0.42	0.07	0.87	0.41	0.88	0.68	0.48	0.09	0.07	0.07
	Bandung FP	Mean	0.36	0.46	0.41	0.43	0.50	0.87	0.64	0.94	1.34	0.99	1.18	0.64	0.73
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.38	0.48	0.41	0.43	0.53	1.00	0.72	1.03	1.79	1.10	1.38	0.83	1.79
		Min-2w	0.34	0.43	0.41	0.42	0.47	0.73	0.55	0.84	0.89	0.87	0.98	0.46	0.34
Japan	Rishiri FP	Mean	0.23	0.28	0.17	0.30	0.34	0.25	0.58	0.15	0.35	0.30	***	0.30	0.31
		%	100	100	100	100	100	100	100	50	100	100	***	100	88
		Max-2w	0.30	0.40	0.21	0.40	0.42	0.35	0.69	0.15	0.49	0.35	***	0.34	0.69
		Min-2w	0.16	0.16	0.13	0.20	0.25	0.15	0.53	0.15	0.22	0.26	***	0.22	0.13
	Ochiishi FP	Mean	0.09	0.18	0.18	0.11	0.17	0.06	0.05	0.11	0.11	0.12	0.15	0.11	0.12
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.11	0.25	0.18	0.18	0.17	0.12	0.05	0.11	0.14	0.18	0.21	0.17	0.25
		Min-2w	0.06	0.12	0.17	0.04	0.16	0.02	0.05	0.11	0.09	0.07	0.09	0.05	0.02
	Sado-seki FP	Mean	***	***	0.20	0.10	0.08	0.07	0.04	0.08	0.33	0.08	0.21	0.15	0.13
		%	***	***	100	100	100	100	100	100	100	100	100	100	85
		Max-2w	***	***	0.21	0.11	0.12	0.07	0.05	0.09	0.60	0.10	0.21	0.17	0.60
		Min-2w	***	***	0.19	0.08	0.05	0.06	0.04	0.07	0.06	0.06	0.21	0.11	0.04
	Happo FP	Mean	<0.01	0.01	0.02	0.06	0.05	0.05	0.03	0.02	0.02	<0.01	0.01	<0.01	0.02
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	<0.01	0.03	0.03	0.06	0.05	0.05	0.03	0.03	0.02	<0.01	0.01	<0.01	0.06
		Min-2w	<0.01	<0.01	0.02	0.05	0.05	0.05	0.02	0.01	0.02	<0.01	0.01	<0.01	<0.01
	Ijira FP	Mean	0.07	0.13	0.10	0.11	0.11	0.10	0.12	0.13	0.08	0.07	0.09	0.04	0.09
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.07	0.16	0.12	0.11	0.14	0.11	0.12	0.14	0.08	0.08	0.11	0.07	0.16
		Min-2w	0.07	0.10	0.08	0.11	0.08	0.09	0.11	0.11	0.07	0.07	0.07	0.03	0.03
	Oki FP	Mean	0.33	0.32	0.28	0.21	0.16	0.14	0.10	0.14	0.11	0.20	0.20	0.20	0.19
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.39	0.38	0.28	0.27	0.20	0.15	0.12	0.14	0.12	0.27	0.21	0.20	0.39
		Min-2w	0.26	0.26	0.27	0.16	0.13	0.14	0.07	0.14	0.10	0.12	0.20	0.19	0.07
	Yusuhara FP	Mean	0.07	0.11	0.30	0.07	0.10	0.06	0.03	0.04	0.04	0.05	0.06	0.03	0.08
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.09	0.12	0.36	0.08	0.14	0.07	0.04	0.04	0.04	0.06	0.09	0.04	0.36
		Min-2w	0.06	0.10	0.24	0.06	0.05	0.06	0.02	0.04	0.03	0.04	0.03	0.01	0.01
	Hedo FP	Mean	0.27	0.27	0.30	0.21	0.22	0.19	0.20	0.34	0.21	0.28	0.24	0.21	0.24
		%	100	100	100	100	100	100	100	50	100	100	100	100	96
		Max-2w	0.32	0.30	0.33	0.24	0.24	0.22	0.27	0.34	0.24	0.30	0.24	0.31	0.34
		Min-2w	0.22	0.24	0.27	0.17	0.21	0.16	0.12	0.34	0.18	0.26	0.23	0.11	0.11
	Ogasawara FP	Mean	0.11	0.13	0.18	0.12	0.14	0.07	0.07	0.17	0.13	0.19	***	***	0.12
		%	100	100	100	100	100	100	100	100	100	59	***	***	80
		Max-2w	0.13	0.15	0.19	0.16	0.19	0.09	0.10	0.28	0.13	0.19	***	***	0.28
		Min-2w	0.10	0.12	0.18	0.08	0.08	0.05	0.04	0.06	0.12	0.19	***	***	0.04
	Tokyo FP	Mean	0.11	0.19	0.14	0.14	0.14	0.13	0.11	0.19	0.13	0.13	0.14	0.12	0.14
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.12	0.23	0.14	0.16	0.19	0.16	0.16	0.22	0.14	0.14	0.16	0.15	0.23
		Min-2w	0.10	0.16	0.13	0.13	0.10	0.10	0.08	0.17	0.13	0.12	0.12	0.09	0.08

Table 4.18 Particulate matter component: K⁺ (continued)Unit : $\mu\text{g}/\text{m}^3$

Country	Site		2019													Annual
	Method		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
Lao PDR	Vientiane FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***	
		%	***	***	***	***	***	***	***	***	***	***	***	***	***	
		Max-m	***	***	***	***	***	***	***	***	***	***	***	***	***	
		Min-m	***	***	***	***	***	***	***	***	***	***	***	***	***	
Malaysia	Petaling Jaya FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***	
		%	***	***	***	***	***	***	***	***	***	***	***	***	***	
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***	
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***	
	Tanah Rata FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***	
		%	***	***	***	***	***	***	***	***	***	***	***	***	***	
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***	
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***	
	Danum Valley FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***	
		%	***	***	***	***	***	***	***	***	***	***	***	***	***	
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***	
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***	
Mongolia	Ulaanbaatar FP	Mean	0.05	0.05	0.07	0.05	0.03	0.04	0.06	0.05	0.05	0.02	0.02	0.06	0.05	
		%	100	100	100	100	100	75	100	100	100	100	100	100	98	
		Max-w	0.20	0.13	0.18	0.08	0.05	0.07	0.11	0.09	0.15	0.03	0.04	0.10	0.20	
		Min-w	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.03	<0.01	<0.01	<0.01	<0.01	0.03	<0.01	
	Terelj FP	Mean	0.03	0.02	<0.01	0.01	0.01	***	***	***	***	<0.01	<0.01	<0.01	0.01	
		%	100	100	100	100	54	***	***	***	***	82	100	100	62	
		Max-2w	0.05	0.03	<0.01	0.02	0.01	***	***	***	***	0.01	<0.01	<0.01	0.05	
		Min-2w	0.01	0.01	<0.01	<0.01	0.01	***	***	***	***	<0.01	<0.01	<0.01	<0.01	
Myanmar	Yangon FP	Mean	<0.01	0.74	1.90	0.78	0.03	0.23	0.03	0.11	1.43	8.84	1.93	0.73	1.40	
		%	50	100	50	100	100	100	100	100	100	100	100	67	89	
		Max-2w	<0.01	1.11	1.90	1.26	0.03	0.23	0.09	0.11	2.74	15.31	2.68	1.30	15.31	
		Min-2w	<0.01	0.38	1.90	0.03	0.03	0.23	<0.01	0.10	0.11	2.37	1.18	0.16	<0.01	
Philippines	Metro Manila FP	Mean	***	***	3.5	0.3	0.1	0.1	0.1	0.1	0.3	0.2	0.4	0.5	0.7	
		%	***	***	100	100	20	16	93	78	100	100	100	100	69	
		Max-w	***	***	4.7	0.4	0.1	0.1	0.2	0.1	0.9	0.3	0.8	1.3	4.7	
		Min-w	***	***	2.8	0.1	0.1	0.1	0.0	<0.01	0.1	0.0	0.3	0.2	<0.01	
	Los Banos FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***	
		%	***	***	***	***	***	***	***	***	***	***	***	***	***	
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***	
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***	
	Mt. Sto. Tomas FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***	
		%	***	***	***	***	***	***	***	***	***	***	***	***	***	
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***	
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***	
Republic of Korea	Kanghwa FP with PM _{2.5} cyclone	Mean	0.15	0.30	0.31	0.16	0.09	0.05	0.03	0.06	0.06	0.08	0.19	0.27	0.17	
		%	16	18	16	17	13	13	16	16	17	16	17	16	16	
		Max-d	0.23	0.83	0.63	0.21	0.15	0.11	0.05	0.11	0.09	0.22	0.25	0.47	0.83	
		Min-d	0.07	0.14	0.06	0.09	0.01	0.02	0.01	0.03	0.02	0.02	0.11	0.11	0.01	
	Cheju (Kosan) FP with PM _{2.5} cyclone	Mean	0.13	0.14	0.13	0.06	0.09	0.09	0.02	0.04	0.02	0.05	0.02	0.06	0.09	
		%	10	20	12	7	10	10	10	6	7	13	17	13	10	
		Max-d	0.27	0.27	0.20	0.07	0.17	0.12	0.04	0.05	0.03	0.08	0.04	0.06	0.27	
		Min-d	0.04	0.01	0.07	0.04	0.02	0.06	0.01	0.03	0.01	0.03	0.01	0.05	0.01	
	Imsil FP with PM _{2.5} cyclone	Mean	0.12	0.23	0.23	0.12	0.10	0.19	0.02	0.03	0.03	0.08	0.12	0.12	0.14	
		%	13	18	10	7	16	13	13	16	7	13	13	16	13	
		Max-d	0.16	0.60	0.38	0.13	0.25	0.34	0.03	0.06	0.05	0.15	0.26	0.25	0.60	
		Min-d	0.07	0.06	0.14	0.11	0.03	0.03	0.01	<0.01	0.01	0.01	0.05	0.06	0.01	
Russia	Mondy FP	Mean	<0.01	<0.01	<0.01	<0.01	0.02	0.05	0.06	0.23	0.03	0.07	0.03	0.02	0.05	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	
		Max-m	<0.01	<0.01	<0.01	0.01	0.03	0.08	0.11	0.29	0.03	0.12	0.04	0.02	0.29	
		Min-m	<0.01	<0.01	<0.01	<0.01	0.01	0.01	<0.01	0.17	0.03	0.04	0.03	0.02	<0.01	
	Listvyanka FP	Mean	0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.04	0.19	0.08	0.06	<0.01	<0.01	0.04	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	
		Max-w	0.02	0.03	<0.01	<0.01	<0.01	0.04	0.09	0.60	0.12	0.10	0.01	0.02	0.60	
		Min-w	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.02	0.05	<0.01	<0.01	<0.01	<0.01	
	Irkutsk FP	Mean	0.15	0.03	0.06	0.01	0.02	0.05	0.09	0.28	0.07	0.12	0.27	0.11	0.11	
		%	100	100	100	100	100	100	100	100	100	100	94	100	99	
		Max-w	0.22	0.07	0.25	0.06	0.06	0.08	0.22	0.50	0.11	0.17	0.55	0.22	0.55	
		Min-w	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.15	0.05	0.09	0.07	0.05	<0.01	
	Primorskaya FP	Mean	0.08	0.11	<0.01	0.07	0.02	0.05	0.04	0.04	0.02	0.03	0.05	0.10	0.05	
		%	100	100	100	100	100	100	100	100	100	100	50	100	96	
		Max-2w	0.16	0.22	<0.01	0.10	0.03	0.07	0.05	0.04	0.04	0.06	0.05	0.12	0.22	
		Min-2w	<0.01	<0.01	<0.01	0.05	0.02	0.04	0.04	0.03	<0.01	<0.01	0.05	0.09	<0.01	

Table 4.18 Particulate matter component: K⁺ (continued)Unit : $\mu\text{g}/\text{m}^3$

Country	Site Method		2019												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Thailand	Bangkok FP	Mean	0.25	0.21	0.22	0.54	0.36	0.35	0.38	0.22	0.48	0.43	0.60	0.96	0.41
		%	100	100	100	67	100	100	100	100	100	100	100	100	97
		Max-10d	0.31	0.36	0.49	0.69	0.51	0.70	0.53	0.39	0.97	0.50	0.70	1.13	1.13
		Min-10d	0.20	0.11	<0.01	0.38	0.23	0.07	0.30	0.03	0.10	0.33	0.46	0.70	<0.01
	Pathumthani FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
	Khanchanaburi (Vachiralongkorn Dam) FP	Mean	***	***	***	0.79	***	***	0.11	***	***	***	0.44	***	0.44
		%	***	***	***	81	***	***	71	***	***	***	68	***	21
		Max-2w	***	***	***	0.79	***	***	0.11	***	***	***	0.44	***	0.79
		Min-2w	***	***	***	0.79	***	***	0.11	***	***	***	0.44	***	0.11
	Mae Hia FP	Mean	***	0.32	0.18	0.41	0.21	<0.01	0.09	0.28	***	***	***	***	0.21
		%	***	96	97	97	97	97	97	97	***	***	***	***	56
		Max-10d	***	0.78	0.26	0.74	0.49	<0.01	0.16	0.38	***	***	***	***	0.78
		Min-10d	***	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	0.17	***	***	***	***	<0.01
	Sakaerat FP	Mean	***	1.31	0.60	0.23	0.24	0.69	0.59	0.27	0.59	0.32	***	***	0.54
		%	***	96	100	100	100	100	100	100	100	100	***	***	75
		Max-10d	***	1.49	0.82	0.26	0.37	0.76	0.74	0.44	0.70	0.44	***	***	1.49
		Min-10d	***	1.19	0.46	0.20	0.03	0.55	0.47	0.14	0.45	0.24	***	***	0.03
Vietnam	Hanoi FP	Mean	0.31	0.36	0.38	0.34	0.30	0.29	0.30	0.24	0.26	0.31	0.61	1.20	0.40
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.63	0.50	0.43	0.41	0.49	0.47	0.34	0.51	0.35	0.51	0.73	1.80	1.80
		Min-w	0.11	0.30	0.33	0.30	0.22	0.18	0.20	0.11	0.13	0.10	0.47	0.34	0.10
	Hoa Binh FP	Mean	0.14	0.13	0.19	0.19	0.11	0.18	0.08	0.11	0.15	0.17	0.19	0.11	0.14
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.24	0.19	0.27	0.31	0.22	0.28	0.11	0.26	0.22	0.23	0.24	0.19	0.31
		Min-w	0.05	0.09	0.10	0.09	0.04	0.08	0.05	0.03	0.08	0.09	0.13	0.03	0.03
	Can Tho FP	Mean	0.16	0.30	0.15	0.12	0.16	0.20	0.17	0.27	0.15	0.21	0.47	0.44	0.23
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.24	0.36	0.26	0.20	0.26	0.34	0.26	0.38	0.30	0.28	0.56	0.48	0.56
		Min-w	0.08	0.24	0.04	0.06	0.10	0.04	0.08	0.20	0.08	0.12	0.28	0.32	0.04
	Ho Chi Minh FP	Mean	1.15	1.05	1.13	1.39	1.31	0.86	0.68	0.72	1.16	0.90	1.02	1.11	1.04
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	1.57	1.15	1.57	1.73	1.63	1.07	0.87	0.95	1.61	1.27	1.21	1.81	1.81
		Min-w	0.91	0.89	0.50	1.21	0.67	0.69	0.50	0.42	0.85	0.67	0.75	0.42	0.42
	Yen Bai FP	Mean	0.39	0.30	0.15	0.23	0.19	0.19	0.32	0.13	0.15	0.16	0.77	0.30	0.27
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.61	0.48	0.17	0.26	0.32	0.48	0.55	0.21	0.22	0.32	1.99	0.73	1.99
		Min-w	0.28	0.17	0.13	0.19	0.07	0.08	0.16	0.08	0.06	0.08	0.17	0.11	0.06

Terms and abbreviations are given in Table 4.2.

Table 4.19 Particulate matter component: Mg²⁺Unit : $\mu\text{g}/\text{m}^3$

Country	Site		2019												Annual
	Method		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Cambodia	Phnom Penh FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
Indonesia	Jakarta FP	Mean	***	***	***	0.07	***	***	0.38	0.16	0.28	0.26	0.12	0.06	0.20
		%	***	***	***	100	***	***	100	100	100	100	100	100	61
		Max-2w	***	***	***	0.08	***	***	0.63	0.28	0.34	0.30	0.32	0.11	0.63
		Min-2w	***	***	***	0.07	***	***	0.25	0.04	0.22	0.21	0.02	<0.01	<0.01
	Serpong FP	Mean	0.14	0.05	0.06	0.10	0.09	0.18	0.18	0.22	0.21	0.20	0.21	0.12	0.15
		%	67	100	100	56	100	100	100	100	100	100	100	100	92
		Max-2w	0.16	0.06	0.06	0.10	0.16	0.23	0.19	0.23	0.25	0.21	0.23	0.14	0.25
		Min-2w	0.11	0.04	0.06	0.10	0.02	0.13	0.17	0.21	0.19	0.19	0.20	0.10	0.02
	Bandung FP	Mean	0.14	0.16	0.10	0.13	0.16	0.22	0.21	0.33	0.23	0.21	0.26	0.14	0.19
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.15	0.17	0.10	0.15	0.18	0.25	0.23	0.42	0.26	0.22	0.32	0.15	0.42
		Min-2w	0.12	0.16	0.09	0.11	0.15	0.19	0.19	0.24	0.21	0.20	0.20	0.13	0.09
Japan	Rishiri FP	Mean	0.30	0.25	0.32	0.51	0.61	0.49	0.16	0.12	0.59	0.62	***	0.64	0.43
		%	100	100	100	100	100	100	100	50	100	100	***	100	88
		Max-2w	0.35	0.30	0.41	0.70	0.71	0.69	0.18	0.12	0.74	0.85	***	0.70	0.85
		Min-2w	0.24	0.20	0.22	0.33	0.52	0.30	0.15	0.12	0.43	0.39	***	0.53	0.12
	Ochiishi FP	Mean	0.24	0.25	0.41	0.22	0.35	0.21	0.16	0.32	0.34	0.39	0.47	0.34	0.30
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.33	0.30	0.42	0.33	0.42	0.43	0.16	0.34	0.42	0.54	0.64	0.52	0.64
		Min-2w	0.15	0.19	0.40	0.11	0.28	0.04	0.16	0.29	0.25	0.24	0.30	0.17	0.04
	Sado-seki FP	Mean	***	***	0.45	0.23	0.10	0.15	0.09	0.24	0.98	0.24	0.53	0.40	0.33
		%	***	***	100	100	100	100	100	100	100	100	100	100	85
		Max-2w	***	***	0.48	0.25	0.14	0.16	0.09	0.30	1.83	0.32	0.55	0.45	1.83
		Min-2w	***	***	0.42	0.22	0.06	0.14	0.08	0.19	0.13	0.15	0.51	0.31	0.06
	Happo FP	Mean	<0.01	<0.01	0.01	0.04	0.03	0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	0.01
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	<0.01	0.01	0.01	0.04	0.03	0.01	0.01	0.01	<0.01	<0.01	0.01	<0.01	0.04
		Min-2w	<0.01	<0.01	0.01	0.04	0.03	0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01
	Ijira FP	Mean	0.03	0.04	0.05	0.08	0.06	0.04	0.02	0.06	0.03	0.03	0.06	0.03	0.04
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.03	0.05	0.06	0.09	0.08	0.05	0.03	0.10	0.04	0.03	0.08	0.04	0.10
		Min-2w	0.03	0.03	0.04	0.07	0.04	0.03	0.01	0.02	0.03	0.02	0.05	0.02	0.01
	Oki FP	Mean	0.79	0.37	0.53	0.28	0.26	0.25	0.15	0.25	0.23	0.52	0.48	0.51	0.38
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.97	0.46	0.56	0.36	0.28	0.28	0.16	0.31	0.27	0.80	0.57	0.53	0.97
		Min-2w	0.61	0.28	0.50	0.21	0.24	0.22	0.15	0.18	0.20	0.25	0.38	0.50	0.15
	Yusuhara FP	Mean	0.06	0.07	0.07	0.05	0.05	0.04	0.02	0.05	0.03	0.06	0.07	0.02	0.05
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.07	0.08	0.08	0.06	0.06	0.04	0.03	0.05	0.04	0.09	0.08	0.04	0.09
		Min-2w	0.04	0.07	0.06	0.04	0.04	0.03	0.01	0.04	0.03	0.04	0.06	0.01	0.01
	Hedo FP	Mean	0.69	0.60	0.77	0.48	0.53	0.41	0.50	0.98	0.65	0.83	0.72	0.66	0.63
		%	100	100	100	100	100	100	100	50	100	100	100	100	96
		Max-2w	0.77	0.65	0.84	0.49	0.58	0.44	0.71	0.98	0.66	0.86	0.75	1.04	1.04
		Min-2w	0.61	0.55	0.71	0.46	0.48	0.37	0.32	0.98	0.63	0.80	0.70	0.34	0.32
	Ogasawara FP	Mean	0.33	0.35	0.48	0.30	0.40	0.14	0.17	0.48	0.31	0.58	***	***	0.33
		%	100	100	100	100	100	100	100	100	100	59	***	***	80
		Max-2w	0.37	0.39	0.50	0.38	0.56	0.17	0.28	0.84	0.34	0.58	***	***	0.84
		Min-2w	0.31	0.31	0.45	0.21	0.23	0.12	0.12	0.12	0.28	0.58	***	***	0.12
	Tokyo FP	Mean	0.11	0.08	0.12	0.17	0.18	0.15	0.11	0.26	0.17	0.16	0.11	0.07	0.14
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.12	0.10	0.14	0.23	0.24	0.17	0.18	0.37	0.19	0.18	0.14	0.10	0.37
		Min-2w	0.10	0.06	0.09	0.11	0.12	0.14	0.07	0.15	0.15	0.13	0.09	0.04	0.04

Table 4.19 Particulate matter component: Mg²⁺ (continued)Unit : $\mu\text{g}/\text{m}^3$

Country	Site		2019												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Lao PDR	Vientiane FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-m	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-m	***	***	***	***	***	***	***	***	***	***	***	***	***
Malaysia	Petaling Jaya FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***
	Tanah Rata FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***
	Danum Valley FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
Mongolia	Ulaanbaatar FP	Mean	0.03	<0.01	0.05	0.03	0.01	<0.01	0.02	0.02	0.01	<0.01	0.01	0.03	0.02
		%	100	100	100	100	100	75	100	100	100	100	100	100	98
		Max-w	0.12	0.02	0.11	0.05	0.02	0.02	0.04	0.04	0.02	<0.01	0.03	0.05	0.12
		Min-w	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Terelj FP	Mean	<0.01	<0.01	<0.01	<0.01	<0.01	***	***	***	***	<0.01	<0.01	<0.01	<0.01
		%	100	100	100	100	54	***	***	***	***	82	100	100	62
		Max-2w	<0.01	<0.01	<0.01	<0.01	<0.01	***	***	***	***	<0.01	<0.01	<0.01	<0.01
		Min-2w	<0.01	<0.01	<0.01	<0.01	<0.01	***	***	***	***	<0.01	<0.01	<0.01	<0.01
Myanmar	Yangon FP	Mean	0.01	0.25	<0.01	0.15	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	0.02	0.08	0.05
		%	50	100	50	100	100	100	100	100	100	100	100	67	89
		Max-2w	0.01	0.44	<0.01	0.22	0.01	<0.01	<0.01	0.02	<0.01	<0.01	0.03	0.15	0.44
		Min-2w	0.01	0.06	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Philippines	Metro Manila FP	Mean	***	***	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.1	0.1
		%	***	***	100	100	20	16	93	78	100	100	100	100	69
		Max-w	***	***	0.0	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2
		Min-w	***	***	<0.01	<0.01	0.1	0.1	0.1	<0.01	0.1	0.0	0.1	<0.01	<0.01
	Los Banos FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***
	Mt. Sto. Tomas FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***
Republic of Korea	Kanghwa FP with PM _{2.5} cyclone	Mean	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01
		%	16	18	16	17	13	13	16	16	17	16	17	16	16
		Max-d	<0.01	0.01	0.04	0.02	0.01	<0.01	0.01	<0.01	<0.01	0.01	<0.01	0.02	0.04
		Min-d	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Cheju (Kosan) FP with PM _{2.5} cyclone	Mean	0.02	0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	0.02	0.03	0.01	<0.01	<0.01
		%	10	20	12	7	10	10	10	6	13	13	17	13	11
		Max-d	0.03	0.02	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	0.02	0.04	0.01	<0.01	0.03
		Min-d	0.02	0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	0.02	0.03	0.01	<0.01	<0.01
	Imsil FP with PM _{2.5} cyclone	Mean	0.02	0.02	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	0.04	0.01	<0.01	<0.01
		%	13	18	10	7	16	13	13	16	7	13	13	16	13
		Max-d	0.02	0.02	0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	0.06	0.02	<0.01	0.02
		Min-d	0.02	0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.01	<0.01	<0.01
Russia	Mondy FP	Mean	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-m	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
		Min-m	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Listvyanka FP	Mean	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.01	<0.01	<0.01	<0.01	0.01	<0.01	0.02	<0.01	<0.01	0.02	<0.01	<0.01	0.02
		Min-w	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Irkutsk FP	Mean	0.02	0.02	<0.01	<0.01	0.02	<0.01	0.02	0.04	0.02	0.03	0.04	0.01	0.02
		%	100	100	100	100	100	100	100	100	100	100	94	100	99
		Max-w	0.02	0.03	0.01	0.01	0.03	0.02	0.03	0.06	0.04	0.04	0.05	0.02	0.06
		Min-w	0.01	<0.01	<0.01	<0.01	0.01	<0.01	0.01	<0.01	<0.01	0.02	0.03	<0.01	<0.01
	Primorskaya FP	Mean	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
		%	100	100	100	100	100	100	100	100	100	100	50	100	96
		Max-2w	0.01	0.02	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.02
		Min-2w	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

Table 4.19 Particulate matter component: Mg²⁺ (continued)Unit : $\mu\text{g}/\text{m}^3$

Country	Site Method		2019												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Thailand	Bangkok FP	Mean	0.06	0.14	0.10	0.22	0.09	0.07	0.08	0.06	0.06	0.11	0.11	0.10	0.10
		%	100	100	100	67	100	100	100	100	100	100	100	100	97
		Max-10d	0.19	0.21	0.25	0.29	0.14	0.09	0.09	0.08	0.08	0.15	0.11	0.15	0.29
		Min-10d	<0.01	0.07	0.01	0.15	0.04	0.03	0.07	0.02	0.02	0.10	0.10	0.05	<0.01
	Pathumthani FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
	Khanchanaburi (Vachiralongkorn Dam) FP	Mean	***	***	***	0.09	***	***	0.05	***	***	***	0.21	***	0.12
		%	***	***	***	81	***	***	71	***	***	***	68	***	21
		Max-2w	***	***	***	0.09	***	***	0.05	***	***	***	0.21	***	0.21
		Min-2w	***	***	***	0.09	***	***	0.05	***	***	***	0.21	***	0.05
	Mae Hia FP	Mean	***	0.04	0.05	0.03	0.13	<0.01	0.06	0.02	***	***	***	***	0.05
		%	***	96	97	97	97	97	97	97	***	***	***	***	56
		Max-10d	***	0.07	0.09	0.06	0.23	<0.01	0.11	0.05	***	***	***	***	0.23
		Min-10d	***	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	***	***	***	***	<0.01
	Sakaerat FP	Mean	***	1.26	0.23	0.10	0.11	0.37	0.45	0.24	0.27	0.20	***	***	0.36
		%	***	96	100	100	100	100	100	100	100	100	***	***	75
		Max-10d	***	2.50	0.31	0.13	0.17	0.46	0.59	0.31	0.34	0.28	***	***	2.50
		Min-10d	***	0.57	0.19	0.04	0.02	0.27	0.38	0.18	0.23	0.15	***	***	0.02
Vietnam	Hanoi FP	Mean	0.17	0.24	0.30	0.25	0.16	0.12	0.11	0.09	0.11	0.15	0.23	0.10	0.17
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.32	0.29	0.35	0.30	0.18	0.14	0.12	0.13	0.16	0.21	0.27	0.17	0.35
		Min-w	0.08	0.18	0.25	0.21	0.12	0.08	0.10	0.05	0.06	0.10	0.21	0.01	0.01
	Hoa Binh FP	Mean	0.10	0.07	0.09	0.05	0.09	0.04	0.06	0.06	0.07	0.05	0.06	0.06	0.07
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.14	0.08	0.21	0.06	0.14	0.05	0.09	0.10	0.08	0.09	0.08	0.11	0.21
		Min-w	0.06	0.06	0.04	0.03	0.02	0.03	0.02	0.03	0.06	0.02	0.05	0.02	0.02
	Can Tho FP	Mean	0.54	0.54	0.56	0.48	0.33	0.42	0.36	0.42	0.51	0.36	0.31	0.26	0.42
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.73	0.62	0.63	0.63	0.52	0.60	0.56	0.52	0.58	0.62	0.38	0.32	0.73
		Min-w	0.36	0.48	0.48	0.34	0.14	0.28	0.28	0.34	0.42	0.24	0.22	0.22	0.14
	Ho Chi Minh FP	Mean	0.61	0.61	0.52	0.57	0.50	0.66	0.56	0.57	0.65	0.63	0.51	0.55	0.58
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.75	0.81	0.67	0.67	0.63	0.81	0.69	0.71	0.75	0.83	0.56	0.71	0.83
		Min-w	0.48	0.38	0.36	0.38	0.44	0.54	0.32	0.48	0.54	0.52	0.48	0.38	0.32
	Yen Bai FP	Mean	0.14	0.14	0.10	0.13	0.15	0.10	0.42	0.56	0.06	0.11	0.14	0.11	0.18
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.21	0.15	0.10	0.19	0.22	0.13	1.44	1.48	0.08	0.15	0.22	0.17	1.48
		Min-w	0.07	0.11	0.09	0.10	0.10	0.08	0.07	0.14	0.03	0.06	0.07	0.04	0.03

Terms and abbreviations are given in Table 4.2.

Table 4.20 Particulate matter component: Ca²⁺Unit : $\mu\text{g}/\text{m}^3$

Country	Site Method		2019												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Cambodia	Phnom Penh FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
Indonesia	Jakarta FP	Mean	***	***	***	0.98	***	***	3.54	0.02	0.62	0.29	1.01	0.21	1.12
		%	***	***	***	100	***	***	100	100	100	100	100	100	61
		Max-2w	***	***	***	1.07	***	***	8.79	0.04	0.62	0.34	2.30	0.42	8.79
		Min-2w	***	***	***	0.89	***	***	0.01	<0.01	0.61	0.24	0.33	<0.01	<0.01
	Serpong FP	Mean	0.25	0.43	0.57	0.81	0.21	0.03	0.89	1.92	1.02	1.74	1.48	0.85	0.86
		%	67	100	100	56	100	100	100	100	100	100	100	100	92
		Max-2w	0.49	0.57	0.64	0.81	0.42	0.05	1.77	1.95	1.59	1.85	1.58	0.92	1.95
		Min-2w	<0.01	0.28	0.50	0.81	<0.01	0.01	<0.01	1.89	<0.01	1.63	1.39	0.77	<0.01
	Bandung FP	Mean	1.18	1.47	1.21	1.09	1.14	1.95	1.52	2.06	1.57	1.53	2.36	1.28	1.53
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	1.25	1.55	1.31	1.18	1.23	2.25	1.70	2.34	1.73	1.63	3.19	1.46	3.19
		Min-2w	1.10	1.40	1.11	0.99	1.06	1.64	1.34	1.79	1.41	1.43	1.53	1.11	0.99
Japan	Rishiri FP	Mean	0.24	0.15	0.20	0.49	0.47	0.27	0.09	0.07	0.29	0.38	***	0.30	0.27
		%	100	100	100	100	100	100	100	50	100	100	***	100	88
		Max-2w	0.29	0.18	0.23	0.78	0.64	0.39	0.11	0.07	0.37	0.40	***	0.33	0.78
		Min-2w	0.18	0.12	0.17	0.19	0.31	0.16	0.08	0.07	0.20	0.36	***	0.24	0.07
	Ochiishi FP	Mean	0.11	0.13	0.18	0.14	0.20	0.07	0.06	0.11	0.13	0.15	0.20	0.13	0.13
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.13	0.14	0.19	0.23	0.20	0.14	0.06	0.11	0.18	0.21	0.27	0.20	0.27
		Min-2w	0.09	0.13	0.17	0.05	0.19	0.02	0.05	0.10	0.09	0.09	0.13	0.07	0.02
	Sado-seki FP	Mean	***	***	0.32	0.27	0.26	0.14	0.07	0.13	0.28	0.12	0.36	0.21	0.21
		%	***	***	100	100	100	100	100	100	100	100	100	100	85
		Max-2w	***	***	0.35	0.34	0.36	0.18	0.09	0.16	0.49	0.13	0.38	0.22	0.49
		Min-2w	***	***	0.29	0.19	0.17	0.10	0.05	0.11	0.07	0.10	0.34	0.17	0.05
	Happo FP	Mean	<0.01	0.02	0.06	0.21	0.16	0.04	0.02	0.02	0.02	<0.01	0.06	0.01	0.05
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	<0.01	0.04	0.08	0.25	0.16	0.04	0.03	0.03	0.03	<0.01	0.06	0.01	0.25
		Min-2w	<0.01	0.01	0.04	0.16	0.16	0.04	<0.01	0.02	0.02	<0.01	0.06	0.01	<0.01
	Ijira FP	Mean	0.09	0.13	0.12	0.20	0.23	0.12	0.10	0.13	0.12	0.08	0.19	0.04	0.12
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.10	0.14	0.16	0.22	0.27	0.15	0.12	0.20	0.14	0.08	0.24	0.05	0.27
		Min-2w	0.08	0.12	0.08	0.18	0.19	0.08	0.08	0.06	0.11	0.07	0.13	0.03	0.03
	Oki FP	Mean	0.52	0.36	0.40	0.36	0.33	0.16	0.08	0.13	0.11	0.32	0.41	0.22	0.27
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.66	0.37	0.40	0.40	0.39	0.19	0.10	0.14	0.12	0.32	0.47	0.23	0.66
		Min-2w	0.38	0.34	0.40	0.31	0.27	0.13	0.06	0.12	0.10	0.31	0.34	0.22	0.06
	Yusuhara FP	Mean	0.13	0.17	0.19	0.16	0.25	0.09	0.03	0.04	0.03	0.06	0.21	0.04	0.11
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.16	0.18	0.23	0.17	0.36	0.11	0.05	0.05	0.04	0.07	0.25	0.07	0.36
		Min-2w	0.09	0.17	0.15	0.15	0.14	0.07	0.01	0.04	0.02	0.05	0.18	0.02	0.01
	Hedo FP	Mean	0.53	0.32	0.80	0.39	0.49	0.20	0.22	0.39	0.25	0.35	0.47	0.31	0.38
		%	100	100	100	100	100	100	100	50	100	100	100	100	96
		Max-2w	0.70	0.36	0.96	0.55	0.55	0.23	0.32	0.39	0.29	0.39	0.53	0.41	0.96
		Min-2w	0.36	0.28	0.64	0.22	0.43	0.16	0.13	0.39	0.22	0.31	0.42	0.16	0.13
	Ogasawara FP	Mean	0.15	0.23	0.30	0.16	0.18	0.07	0.07	0.17	0.10	0.21	***	***	0.16
		%	100	100	100	100	100	100	100	100	100	59	***	***	80
		Max-2w	0.21	0.24	0.35	0.22	0.26	0.07	0.10	0.26	0.11	0.21	***	***	0.35
		Min-2w	0.12	0.23	0.25	0.09	0.10	0.07	0.05	0.09	0.09	0.21	***	***	0.05
	Tokyo FP	Mean	0.54	0.49	0.54	0.54	0.56	0.51	0.41	0.49	0.38	0.37	0.48	0.34	0.46
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.57	0.52	0.66	0.61	0.65	0.58	0.62	0.59	0.39	0.42	0.54	0.43	0.66
		Min-2w	0.51	0.45	0.41	0.48	0.47	0.44	0.29	0.39	0.36	0.32	0.42	0.28	0.28

Table 4.20 Particulate matter component: Ca²⁺ (continued)Unit : $\mu\text{g}/\text{m}^3$

Country	Site Method		2019												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Lao PDR	Vientiane FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-m	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-m	***	***	***	***	***	***	***	***	***	***	***	***	***
Malaysia	Petaling Jaya FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***
	Tanah Rata FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***
	Danum Valley FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
Mongolia	Ulaanbaatar FP	Mean	0.59	0.30	1.55	1.26	0.32	0.23	0.61	0.41	0.16	0.14	0.28	0.79	0.54
		%	100	100	100	100	100	75	100	100	100	100	100	100	98
		Max-w	2.34	0.42	3.26	2.03	0.57	0.36	0.76	0.89	0.29	0.16	0.58	1.94	3.26
		Min-w	0.11	0.17	0.11	0.23	0.12	0.14	0.40	0.11	0.05	0.10	0.07	0.10	0.05
	Terelj FP	Mean	0.11	0.11	0.05	0.07	0.03	***	***	***	***	0.05	0.03	0.02	0.06
		%	100	100	100	100	54	***	***	***	***	82	100	100	62
		Max-2w	0.16	0.13	0.05	0.08	0.03	***	***	***	***	0.06	0.03	0.02	0.16
		Min-2w	0.05	0.10	0.04	0.06	0.03	***	***	***	***	0.03	0.03	0.01	0.01
Myanmar	Yangon FP	Mean	0.08	0.23	<0.01	1.02	0.20	0.08	0.06	0.12	<0.01	<0.01	0.08	0.76	0.27
		%	50	100	50	100	100	100	100	100	100	100	100	67	89
		Max-2w	0.08	0.45	<0.01	1.49	0.24	0.08	0.17	0.23	<0.01	<0.01	0.15	1.47	1.49
		Min-2w	0.08	<0.01	<0.01	0.25	0.17	0.08	<0.01	<0.01	<0.01	<0.01	0.02	0.04	<0.01
Philippines	Metro Manila FP	Mean	***	***	0.1	0.3	0.5	0.5	0.3	0.3	0.7	1.2	1.5	0.9	0.7
		%	***	***	100	100	20	16	93	78	100	100	100	100	69
		Max-w	***	***	0.3	0.6	0.5	0.5	0.4	0.5	1.5	1.7	1.8	2.0	2.0
		Min-w	***	***	<0.01	<0.01	0.5	0.5	0.1	<0.01	0.2	0.5	1.0	0.4	<0.01
	Los Banos FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***
	Mt. Sto. Tomas FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-w	***	***	***	***	***	***	***	***	***	***	***	***	***
Republic of Korea	Kanghwa FP with PM _{2.5} cyclone	Mean	0.01	0.02	0.04	0.02	0.02	0.03	<0.01	0.02	<0.01	0.03	0.02	0.05	0.02
		%	16	18	16	17	13	13	16	16	17	16	17	16	16
		Max-d	0.02	0.03	0.12	0.03	0.04	0.09	0.02	0.04	0.01	0.05	0.03	0.09	0.12
		Min-d	<0.01	<0.01	0.01	0.01	<0.01	<0.01	<0.01	0.01	<0.01	0.01	0.01	0.01	<0.01
	Cheju (Kosan) FP with PM _{2.5} cyclone	Mean	0.07	0.08	0.11	0.05	<0.01	0.16	<0.01	0.06	0.02	0.09	0.01	0.02	0.07
		%	10	20	12	7	10	10	10	6	7	13	17	13	10
		Max-d	0.11	0.15	0.31	0.05	0.01	0.25	0.01	0.10	0.03	0.13	0.01	0.03	0.31
		Min-d	0.05	0.04	<0.01	0.04	<0.01	0.09	<0.01	0.02	0.01	0.01	0.01	0.01	<0.01
	Imsil FP with PM _{2.5} cyclone	Mean	0.10	0.07	0.02	0.06	0.08	0.03	<0.01	0.08	0.03	0.08	0.02	0.01	0.06
		%	13	18	10	7	16	13	13	16	7	13	13	16	13
		Max-d	0.24	0.12	0.04	0.11	0.32	0.04	0.01	0.16	0.03	0.13	0.04	0.03	0.32
		Min-d	0.05	0.05	0.01	0.01	<0.01	0.01	<0.01	<0.01	0.02	0.02	0.01	0.01	<0.01
Russia	Mondy FP	Mean	<0.01	0.03	0.02	0.02	0.01	0.01	0.03	0.01	0.02	<0.01	<0.01	<0.01	0.01
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-m	<0.01	0.03	0.02	0.02	0.01	0.01	0.06	0.01	0.02	0.01	<0.01	<0.01	0.06
		Min-m	<0.01	0.03	0.01	0.01	<0.01	0.01	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01
	Listvyanka FP	Mean	0.05	0.07	0.07	0.06	0.05	0.03	0.07	0.02	0.03	0.06	0.03	0.02	0.05
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.10	0.09	0.10	0.09	0.06	0.06	0.15	0.04	0.04	0.17	0.07	0.04	0.17
		Min-w	0.02	0.05	0.04	0.03	0.04	0.01	0.02	<0.01	0.01	0.01	0.01	<0.01	<0.01
	Irkutsk FP	Mean	0.16	0.15	0.06	0.17	0.32	0.08	0.14	0.23	0.12	0.31	0.21	0.10	0.17
		%	100	100	100	100	100	100	100	100	100	94	100	99	99
		Max-w	0.21	0.21	0.12	0.20	0.47	0.13	0.18	0.34	0.20	0.38	0.32	0.17	0.47
		Min-w	0.11	0.06	0.03	0.13	0.23	0.04	0.10	0.04	0.04	0.24	0.13	0.04	0.03
	Primorskaya FP	Mean	0.08	0.13	0.09	0.09	0.05	0.03	0.02	0.02	0.01	0.03	0.08	0.11	0.06
		%	100	100	100	100	100	100	100	100	100	100	50	100	96
		Max-2w	0.12	0.18	0.12	0.12	0.08	0.04	0.03	0.02	0.01	0.06	0.08	0.15	0.18
		Min-2w	0.04	0.08	0.06	0.06	0.03	0.02	0.01	<0.01	<0.01	<0.01	0.08	0.07	<0.01

Table 4.20 Particulate matter component: Ca²⁺ (continued)

 Unit : $\mu\text{g}/\text{m}^3$

Country	Site		2019												Annual
	Method		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Thailand	Bangkok FP	Mean	0.55	0.47	0.50	4.03	0.96	0.51	0.90	0.64	1.15	1.39	1.57	1.43	1.09
		%	100	100	100	67	100	100	100	100	100	100	100	100	97
		Max-10d	0.77	0.79	1.38	6.89	1.37	0.70	1.07	1.05	1.77	1.53	1.70	2.08	6.89
		Min-10d	0.36	0.23	<0.01	1.18	0.63	0.17	0.72	0.21	0.55	1.26	1.36	0.69	<0.01
	Pathumthani FP	Mean	***	***	***	***	***	***	***	***	***	***	***	***	***
		%	***	***	***	***	***	***	***	***	***	***	***	***	***
		Max-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
		Min-2w	***	***	***	***	***	***	***	***	***	***	***	***	***
	Khanchanaburi (Vachiralongkorn Dam) FP	Mean	***	***	***	0.31	***	***	0.14	***	***	***	0.73	***	0.39
		%	***	***	***	81	***	***	71	***	***	***	68	***	21
		Max-2w	***	***	***	0.31	***	***	0.14	***	***	***	0.73	***	0.73
		Min-2w	***	***	***	0.31	***	***	0.14	***	***	***	0.73	***	0.14
	Mae Hia FP	Mean	***	0.58	0.02	0.17	0.51	0.09	0.35	0.41	***	***	***	***	0.30
		%	***	96	97	97	97	97	97	97	***	***	***	***	56
		Max-10d	***	0.92	0.03	0.34	0.88	0.28	0.53	0.71	***	***	***	***	0.92
		Min-10d	***	0.38	<0.01	<0.01	0.04	<0.01	0.04	0.25	***	***	***	***	<0.01
	Sakaerat FP	Mean	***	1.58	0.57	0.16	0.83	1.15	1.83	0.81	0.64	0.76	***	***	0.93
		%	***	96	100	100	100	100	100	100	100	100	***	***	75
		Max-10d	***	1.84	0.65	0.28	1.06	1.80	2.08	1.48	0.69	1.04	***	***	2.08
		Min-10d	***	1.37	0.42	0.07	0.39	0.53	1.62	0.31	0.56	0.55	***	***	0.07
Vietnam	Hanoi FP	Mean	4.34	2.95	4.00	3.11	2.59	2.37	2.73	1.72	1.72	2.33	6.01	2.31	2.99
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	6.92	3.68	5.16	4.06	3.15	3.50	4.00	2.76	1.83	3.69	6.74	3.41	6.92
		Min-w	1.73	2.58	2.89	2.23	2.21	0.92	1.06	1.11	1.60	1.31	5.22	0.80	0.80
	Hoa Binh FP	Mean	1.61	1.47	1.49	1.70	1.82	1.57	1.35	1.47	1.68	1.39	1.64	0.79	1.50
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	2.24	1.69	2.04	2.22	2.53	1.77	1.67	1.99	1.88	1.75	1.90	1.03	2.53
		Min-w	1.22	1.17	1.10	1.32	1.06	1.44	0.96	1.18	1.43	1.11	1.19	0.55	0.55
	Can Tho FP	Mean	1.65	2.09	2.16	1.86	1.85	1.82	2.45	2.11	2.38	2.17	2.15	1.36	2.00
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	2.11	2.37	2.33	2.51	2.15	2.07	2.82	2.35	2.66	2.56	3.00	1.67	3.00
		Min-w	1.23	1.89	1.87	1.51	1.49	1.53	1.73	1.71	2.11	1.75	1.67	0.76	0.76
	Ho Chi Minh FP	Mean	2.65	1.78	3.27	2.94	2.93	3.02	2.86	2.39	2.97	3.24	1.72	2.59	2.71
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	3.26	2.31	4.10	3.92	3.66	4.06	3.78	2.84	4.29	4.27	2.11	3.06	4.29
		Min-w	2.11	1.27	2.11	2.11	2.45	2.17	1.83	1.27	0.68	2.27	1.21	2.07	0.68
	Yen Bai FP	Mean	3.34	2.52	2.04	2.00	1.96	2.15	1.71	1.48	0.98	2.58	3.68	2.59	2.26
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	4.66	2.68	3.71	3.10	2.69	2.88	1.97	1.90	1.37	2.83	4.85	2.85	4.85
		Min-w	2.50	2.31	1.22	1.33	1.47	1.85	1.44	1.11	0.08	2.21	2.84	2.32	0.08

Terms and abbreviations are given in Table 4.2.

Table 4.21 Annual SO₂ concentration from 2005 to 2019

unit: ppb

Country	Site	Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019		
																	AT	FP	PS
Cambodia	Phnom Penh							1.8	1.5	1.3	1.1	0.8	0.5	0.6	1.3	***	***	--	--
China	Jinyunshan	17.8	17.2	12.2	13.3	12.5	12.9	9.3	9.8	8.6	7.5	5.3	3.3	3.6	2.6	2.9	--	--	
	Weishuiyuan	11.7	15.4																
	Hongwen	8.2	9.4	10.9	9.1	5.2	4.9	5.8	7.2	5.6	6.3	2.4	3.3	3.6	3.3	2.0	--	--	
	Xiang Zhou	6.3	8.2	6.3	6.6	5.9	5.9	5.6											
	Haibin-Park								3.2	3.9	3.9	3.1	3.8	2.9	2.6	1.6	--	--	
	Wuzhishan															0.2	--	--	
Lijiang															0.1	--			
Indonesia	Jakarta			11.0	7.4	8.3	6.3	5.0	5.7	5.3	5.6	5.4	2.5	1.7	2.7	--	1.8	6.5	
	Serpong	1.4	0.5	1.5	1.6	1.1	0.8	1.4	0.9	0.8	0.7	1.5	0.7	0.8	1.0	--	0.4	--	
	Kototabang			3.3	6.3	7.9	11.7	2.2	***	1.8	3.5	6.7	2.0	1.3	1.3	--	--	1.1	
	Bandung				2.7	4.7	4.2	4.0	4.0	4.0	4.4	1.3	1.9	1.7	4.3	--	4.2	2.8	
Japan	Rishiri	0.1	0.2	0.3	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.2	<0.1	0.1	<0.1	0.2	--	
	Ochiishi				0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.1	0.1	0.3	--	
	Tappi	0.5	0.5	0.5	0.6	***	***	0.4	0.4	0.5	0.5	0.3	0.3	0.3	0.3				
	Sado-seki	0.6	0.5	0.6	0.4	0.4	0.3	0.4	0.3	0.4	0.4	0.3	0.2	0.2	0.2	0.2	0.3	--	
	Happo	0.7	0.6	(0.8)	0.6	0.4	0.8	0.4	0.4	0.4	0.4	0.3	0.2	0.2	0.2	0.1	0.4	--	
	Ijira	0.4	0.2	0.4	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.1	<0.1	0.2	0.1	0.2	--	
	Oki	0.7	0.7	0.9	0.8	0.6	0.6	0.6	0.5	0.6	0.5	0.4	0.3	0.4	0.4	0.3	0.4	--	
	Banryu	1.0	0.6	1.1	1.0	0.6	0.6	0.5	0.6	0.5	0.4	0.3	0.3	0.3	0.2				
	Yusuhara	1.1	0.9	1.2	1.0	0.9	1.6	0.9	0.9	0.9	1.0	0.6	0.6	0.6	0.6	0.9	0.6	--	
	Hedo	0.4	0.3	0.4	0.3	0.2	0.3	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.1	0.2	0.4	--	
	Ogasawara	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	--
	Tokyo			2.2	2.2	2.0	1.8	1.6	1.4	1.6	1.5	1.3	1.3	1.4	1.3	--	1.2	--	
	Niigata-maki															0.2	--	--	
Lao PDR	Vientiane											0.4	0.4	***	***	***	--	--	
Malaysia	Petaling Jaya	3.8	6.3	2.0	1.9	1.8	1.4	2.0	1.8	1.3	1.6	1.2	1.2	1.1	1.3	--	***	--	
	Tanah Rata	<0.1	0.1	3.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	--	***	--	
	Danum Valley		0.1	0.1	<0.1	0.1	<0.1	<0.1	0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	--	***	--	
Mongolia	Ulaanbaatar	4.3	4.8	4.3	1.8	4.3	9.1	6.1	***	***	8.9	9.8	10.0	11.5	7.3	6.9	5.0	--	
	Terelj	0.5	0.5	1.4	0.5	0.7	0.6	0.7	***	***	***	***	0.6	0.2	0.1	--	0.3	--	
Myanmar	Yangon							1.6	2.9	1.3	1.2	0.5	0.4	0.5	0.7	--	0.8	--	
Philippines	Metro Manila	3.1	2.1	2.7	1.2	***	2.2	***	***	***	***	***	***	***	***	--	0.4	--	
	Los Banos	0.2	0.3	0.4	0.3	***	***	***	***	***	***	***	***	***	***	--	***	--	
	Mt. Sto. Tomas		<0.1	<0.1	0.4	<0.1	1.1	***	0.2	0.1	0.1	0.1	0.2	***	***	--	***	--	
Republic of Korea	Kanghwa	2.8	3.4	2.8	2.9	3.2	2.9	4.1	4.4	3.4	2.8	2.2	2.8	1.9	2.3	2.1	--	--	
	Cheju	2.2	3.4	2.3	2.2	2.7	2.5	2.5	0.9	0.6	0.5	0.5	0.5	0.5	0.8	1.0	--	--	
	Imsil	2.5	1.8	2.1	2.3	1.4	2.7	4.8	1.3	1.8	2.3	1.7	1.7	2.3	5.0	1.5	--	--	
Russia	Mondy	1.2	0.7	0.4	0.3	0.1	0.6	0.1	0.6	0.1	0.1	0.1	<0.1	0.2	0.2	--	0.3	--	
	Listvyanka	6.0	3.5	1.1	1.2	4.0	4.5	2.8	5.2	2.6	1.1	2.8	4.1	2.9	2.2	--	2.2	--	
	Irkutsk	5.1	4.0	2.4	2.2	4.6	7.3	5.6	7.2	4.2	1.6	3.5	5.5	4.6	4.3	--	2.1	--	
	Primorskaya	1.6	1.2	0.7	0.9	1.0	1.7	1.2	1.2	0.7	0.4	0.7	0.8	0.4	0.1	--	0.2	--	
Thailand	Bangkok	8.8	4.1	0.8	2.1	1.9	1.6	1.6	1.5	1.9	1.4	0.6	0.8	0.8	0.9	--	0.8	--	
	Samutprakarn	6.6	6.5	5.8	4.8	4.9	4.6	2.6	2.5	3.0	3.7	3.0	2.0	1.5	2.0	1.0	--	--	
	Pathumthani	1.6	2.7	1.8	0.5	1.1	1.2	0.6	***	***	***	***	***	***	***	--	***	--	
	Khanchanaburi	1.2	1.3	1.3	1.6	1.2	1.6	1.3	0.6	1.0	1.8	1.2	1.7	1.4	1.4	0.7	0.2	--	
	Mae Hia	0.4	0.8	0.3	0.3	0.3	0.3	0.3	0.2	0.2	<0.1	<0.1	0.2	0.2	<0.1	--	0.1	--	
	Chang Phueak	1.0	0.8	0.9	0.8	0.6	0.8	0.6	0.9	1.3	0.9	1.3	0.8	0.8	0.9	0.6	--	--	
	Si Phum									1.4	1.7	1.4	1.1	1.1	1.2	1.2	--	--	
	Sakaerat		0.3	0.4	0.2	0.2	0.2	0.2	0.3	0.2	0.4	0.4	0.4	0.2	0.7	--	0.6	--	
	Nai Mueang				2.7	***	1.3	1.4	1.1	1.2	1.0	2.9	3.2	0.7	0.7	0.9	--	--	
Vietnam	Hanoi	2.4	3.9	1.7	1.3	1.3	1.4	1.9	2.2	2.1	3.2	4.5	1.8	1.0	0.5	--	0.4	--	
	Hoa Binh	2.7	2.0	1.2	1.0	0.9	0.7	1.2	1.2	1.1	2.8	3.6	1.3	0.6	0.5	--	0.3	--	
	Can Tho										1.2	1.0	0.3	0.2	0.6	--	0.5	--	
	Ho Chi Minh										1.6	1.5	0.5	0.4	0.6	--	0.6	--	
	Yen Bai											4.2	1.5	0.8	0.8	--	0.5	--	

Terms and abbreviations are given in Table 4.2.

-- : The site was not monitored by this measurement method.

Table 4.22 Annual HNO₃ concentration from 2005 to 2019

unit: ppb

Country	Site	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Cambodia	Phnom Penh						0.3	0.3	0.3	0.5	0.4	0.5	0.4	0.5	***	***
China	Hongwen			0.9	1.7	1.1	1.0	2.1	***	***	***	***	1.2	1.1	***	***
Indonesia	Jakarta										3.1	1.4	1.0	1.0	1.4	0.9
	Serpong	0.5	0.2	0.4	0.2	0.3	0.3	0.8	0.9	0.6	0.9	1.1	0.8	0.8	1.5	1.1
	Bandung										0.7	0.5	0.5	0.4	0.8	0.9
Japan	Rishiri	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Ochiishi				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Tappi	0.1	0.1	0.2	0.2	<0.1	0.2	0.2	0.2	0.1	0.2	<0.1	<0.1	0.1	0.1	
	Sado-seki	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.3	0.1
	Happo	0.2	0.3	0.4	0.4	<0.1	<0.1	<0.1	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2
	Ijira	0.4	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
	Oki	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1
	Banryu	0.4	0.3	0.4	0.3	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.1	0.2	
	Yusuhara	0.5	0.5	0.5	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.3	0.2	0.2	0.2	0.2
	Hedo	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1
	Ogasawara	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Tokyo			1.1	1.0	0.8	0.8	0.6	0.6	0.8	0.8	0.7	0.6	0.7	0.6	0.5
Lao PDR	Vientiane											0.3	0.2	***	***	***
Malaysia	Petaling Jaya	0.7	1.8	0.7	0.8	1.0	0.7	0.7	0.5	0.7	0.8	0.7	0.4	0.5	0.9	***
	Tanah Rata	0.1	<0.1	0.2	0.1	0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1	<0.1	<0.1	<0.1	***
	Danum Valley		<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	***
Mongolia	Ulaanbaatar	<0.1	0.1	0.2	0.2	0.2	0.3	0.2	***	***	***	***	0.1	<0.1	<0.1	0.1
	Terelj	<0.1	<0.1	0.1	0.1	<0.1	<0.1	0.1	***	***	***	***	<0.1	<0.1	<0.1	<0.1
Myanmar	Yangon							0.4	0.4	0.3	0.2	0.2	0.2	0.2	0.3	0.3
Philippines	Metro Manila	0.4	0.3	0.4	0.4	***	0.2	***	***	***	***	***	***	***	***	0.1
	Los Banos	<0.1	<0.1	0.2	<0.1	***	***	***	***	***	***	***	***	***	***	***
	Mt. Sto. Tomas		<0.1	<0.1	0.3	<0.1	0.4	***	0.2	<0.1	0.1	<0.1	<0.1	***	***	***
Republic of Korea	Kanghwa	***	0.4	0.7	0.5	0.5	0.4	***	***	0.4	0.5	0.3	0.4	0.1	0.1	<0.1
	Cheju	***	0.5	***	0.7	0.6	0.5	***	***	0.4	0.8	0.5	0.6	0.3	0.4	<0.1
	Imsil	***	0.6	0.4	0.4	0.5	0.3	***	***	0.6	0.6	0.4	0.7	0.6	0.4	<0.1
Russia	Mondy	<0.1	<0.1	<0.1	<0.1	<0.1	2.9	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Listvyanka	<0.1	0.2	<0.1	<0.1	<0.1	0.4	0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1
	Irkutsk	0.4	<0.1	0.2	0.2	0.2	1.9	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2
	Primorskaya	<0.1	0.5	<0.1	0.1	0.1	0.7	<0.1	0.1	0.3	0.2	0.2	0.3	0.2	<0.1	<0.1
Thailand	Bangkok	0.5	1.0	0.5	0.5	0.5	0.6	0.5	0.6	0.4	0.9	0.7	0.4	0.3	0.8	0.5
	Pathumthani	0.3	0.6	0.8	0.3	0.7	0.9	0.3	***	***	***	***	***	***	***	***
	Khanchanaburi	<0.1	0.2	<0.1	0.2	0.5	<0.1	<0.1	0.3	0.1	0.2	0.3	1.7	0.2	0.4	0.5
	Mae Hia	0.4	0.2	0.5	0.4	0.7	1.9	0.1	0.2	0.2	<0.1	<0.1	0.2	0.2	0.1	0.2
	Sakaerat		0.3	0.3	0.2	0.2	0.2	<0.1	0.2	<0.1	0.3	0.3	0.4	0.2	0.3	0.3
Vietnam	Hanoi	1.0	0.9	1.0	0.5	0.9	0.8	0.9	1.0	0.7	0.5	0.7	0.9	1.6	0.4	0.4
	Hoa Binh	0.8	0.3	0.4	0.4	0.3	0.3	0.3	0.4	0.3	0.4	0.5	0.7	0.9	0.4	0.3
	Can Tho										0.5	0.4	0.2	<0.1	<0.1	<0.1
	Ho Chi Minh										0.6	0.6	0.2	0.4	0.4	0.3
	Yen Bai											0.7	0.6	1.3	0.5	0.4

Terms and abbreviations are given in Table 4.2.

Table 4.23 Annual HCl concentration from 2005 to 2019

unit: ppb

Country	Site	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Cambodia	Phnom Penh						0.5	0.4	0.7	1.3	1.1	1.3	1.2	1.6	***	***
China	Hongwen			1.5	1.2	1.5	14.5	13.3	***	***	***	***	1.8	1.5	***	***
Indonesia	Jakarta										3.2	1.9	0.9	1.1	1.5	0.8
	Serpong	1.1	0.5	1.7	0.5	0.4	0.8	0.7	0.8	0.7	0.8	1.0	0.7	0.9	1.3	1.3
	Bandung										0.8	0.5	1.1	0.9	0.9	0.9
Japan	Rishiri	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.8
	Ochiishi				0.4	0.4	0.4	0.6	0.6	0.5	0.4	0.8	0.4	0.4	0.3	0.3
	Tappi	0.5	0.5	0.6	0.6	0.5	1.5	0.7	0.6	0.6	0.7	0.5	0.5	0.5	0.4	
	Sado-seki	1.1	0.9	0.9	0.8	0.9	0.7	0.8	0.9	0.8	0.9	1.2	0.7	0.8	1.0	0.5
	Happo	0.2	0.2	0.2	0.2	<0.1	<0.1	<0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
	Ijira	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2
	Oki	0.9	0.9	1.1	0.9	0.8	0.8	1.0	0.9	1.0	0.9	0.9	0.8	0.8	0.7	0.7
	Banryu	0.9	0.8	0.9	0.7	0.8	0.7	0.8	0.7	0.8	0.7	0.7	0.6	0.7	0.6	
	Yusuhara	0.4	0.4	0.4	0.3	0.3	0.3	0.4	0.3	0.4	0.3	0.3	0.3	0.2	0.3	0.2
	Hedo	0.9	0.9	1.0	0.9	0.9	0.5	0.4	0.6	1.0	1.1	1.1	1.0	0.9	0.9	0.9
	Ogasawara	0.5	0.4	0.7	0.6	0.5	0.4	0.4	0.4	0.6	0.6	0.5	0.4	0.4	0.3	0.4
	Tokyo			1.0	0.8	0.8	0.7	0.8	0.7	0.8	0.7	0.8	0.7	0.7	0.8	0.8
Lao PDR	Vientiane											0.3	0.2	***	***	***
Malaysia	Petaling Jaya	0.9	1.6	0.7	1.1	0.7	0.5	0.8	1.2	1.3	1.1	0.7	2.8	0.3	1.5	***
	Tanah Rata	0.1	<0.1	0.1	0.4	0.1	<0.1	0.2	0.4	0.3	0.3	0.4	0.7	0.2	<0.1	***
	Danum Valley		0.2	0.2	0.3	0.5	0.3	0.2	0.5	1.0	0.4	0.3	0.3	0.1	0.2	***
Mongolia	Ulaanbaatar	0.7	1.0	0.9	0.7	0.7	1.7	1.1	***	***	***	***	11.3	1.7	0.8	0.4
	Terelj	0.4	0.4	0.5	0.4	0.3	0.5	0.5	***	***	***	***	4.3	0.5	0.3	0.1
Myanmar	Yangon							1.5	1.5	0.6	0.7	0.7	0.2	0.4	0.5	0.6
Philippines	Metro Manila	0.9	0.5	0.7	0.7	***	0.8	***	***	***	***	***	***	***	***	0.6
	Los Banos	0.3	0.3	0.8	0.4	***	***	***	***	***	***	***	***	***	***	***
	Mt. Sto. Tomas		0.2	<0.1	0.6	0.2	1.2	***	0.2	0.2	0.2	0.7	<0.1	***	***	***
Republic of Korea	Kanghwa	***	0.2	0.2	<0.1	0.1	0.2	***	***	0.3	0.2	0.1	<0.1	<0.1	<0.1	0.7
	Cheju	***	0.2	***	0.2	0.2	0.2	***	***	0.2	0.2	0.2	0.2	0.2	0.2	1.1
	Imsil	***	0.3	0.2	0.1	0.2	0.1	***	***	0.2	0.2	0.2	0.2	0.2	0.2	1.2
Russia	Mondy	<0.1	<0.1	<0.1	<0.1	<0.1	0.5	0.4	0.7	0.7	0.8	1.9	1.6	2.7	2.6	1.0
	Listvyanka	<0.1	0.2	<0.1	0.1	0.2	0.6	1.8	9.8	2.1	2.6	7.4	9.0	6.0	5.3	7.0
	Irkutsk	0.2	0.1	0.2	0.2	0.2	0.5	1.4	2.6	1.7	1.4	7.0	3.2	4.7	5.3	1.8
	Primorskaya	0.1	0.2	0.2	0.2	0.2	0.7	1.1	1.0	0.5	0.4	0.4	0.8	0.6	0.2	0.1
Thailand	Bangkok	1.5	1.5	0.7	0.8	0.9	0.7	0.7	0.7	0.6	1.2	0.7	1.5	0.7	1.0	0.9
	Pathumthani	0.6	1.1	1.2	0.4	0.9	0.7	0.5	***	***	***	***	***	***	***	***
	Khanchanaburi	0.1	0.3	0.2	0.3	0.2	<0.1	0.2	0.2	0.2	0.3	0.2	1.4	0.3	0.3	0.5
	Mae Hia	0.4	0.5	0.2	0.2	0.3	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.4	0.4
	Sakaerat		0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.5	0.4	0.2	0.2	0.3
Vietnam	Hanoi	2.9	2.5	2.5	1.8	1.5	2.0	2.0	2.1	1.6	3.0	2.0	3.3	2.0	1.1	1.1
	Hoa Binh	2.3	1.5	2.1	1.8	1.2	1.5	1.6	1.7	1.6	3.2	1.8	2.4	1.6	1.2	1.3
	Can Tho										1.7	1.4	1.2	0.9	1.8	1.7
	Ho Chi Minh										1.6	1.1	1.5	1.3	1.6	3.3
	Yen Bai											2.4	2.4	2.3	1.8	1.4

Terms and abbreviations are given in Table 4.2.

Table 4.24 Annual NH₃ concentration from 2005 to 2019

unit: ppb

Country	Site	Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	
																	FP	PS
Cambodia	Phnom Penh							14.3	11.5	9.9	9.4	6.9	7.3	6.8	7.5	***	***	--
China	Hongwen			7.9	8.1	11.2	12.2	9.5	***	***	***	***	10.7	9.3	***	***	***	--
Indonesia	Jakarta											38.3	13.7	10.5	4.1	15.2	2.4	--
	Serpong	11.2	6.2	8.5	6.3	5.9	5.4	11.0	16.1	11.7		11.8	18.3	11.1	5.8	8.3	5.2	--
	Bandung											8.4	9.4	6.6	8.6	8.7	10.5	11.9
Japan	Rishiri	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.4	0.5	0.5	1.1	--
	Ochiishi				0.6	1.0	0.4	0.4	0.4	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.4	--
	Tappi	0.3	0.3	0.4	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.5	0.5	0.4	0.4	0.4		--
	Sado-seki	0.6	0.6	0.6	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.8	0.6	0.7	1.0	0.7	--
	Happo	0.6	0.4	0.3	0.4	0.2	0.3	0.2	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.6	0.5	--
	Ijira	1.1	1.3	1.2	1.1	1.0	1.1	1.0	1.0	1.3	0.9	1.0	0.8	0.9	1.1	1.0	1.0	--
	Oki	0.8	0.7	0.8	1.0	1.0	0.8	0.7	0.5	0.6	0.6	0.7	0.9	0.6	0.9	0.9	0.9	--
	Banryu	1.2	1.1	1.0	1.0	1.0	1.0	0.9	0.8	0.7	0.7	0.7	1.0	0.7	1.2			--
	Yusuhara	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.5	0.6	0.6	0.5	0.5	0.5	--
	Hedo	0.8	0.9	1.0	1.2	1.2	1.2	0.9	1.3	1.1	1.1	1.3	1.2	1.3	1.1	1.4		--
	Ogasawara	0.9	0.5	0.5	0.5	0.5	0.5	0.7	0.5	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	--
	Tokyo			6.1	5.2	5.0	4.9	4.4	3.9	4.6	4.6	4.2	4.2	4.2	3.8	3.8		--
Lao PDR	Vientiane											2.6	2.7	***	***	***	--	
Malaysia	Petaling Jaya	10.4	16.9	7.5	6.1	7.3	6.7	6.7	6.5	8.6	10.0	9.2	11.2	7.6	10.4	***		--
	Tanah Rata	1.3	1.2	0.9	1.0	0.8	0.9	1.2	0.9	1.2	2.2	3.0	2.3	1.8	<0.1	***		--
	Danum Valley		1.2	0.9	0.9	1.9	1.5	0.9	0.7	3.8	1.2	1.4	1.4	1.1	1.0	***		--
Mongolia	Ulaanbaatar	9.2	10.3	10.4	10.7	7.4	14.8	8.7	***	***	***	***	***	***	9.7	7.3	7.0	--
	Terelj	1.4	1.6	1.3	1.2	1.9	1.4	1.5	***	***	***	***	***	1.7	2.1	1.3		--
Myanmar	Yangon							15.5	10.2	6.2	8.9	7.6	7.1	5.8	2.0	2.1		--
Philippines	Metro Manila	12.5	3.8	6.6	9.2	***	7.5	***	***	***	***	***	***	***	***	***	13.2	--
	Los Banos	4.5	2.0	2.7	3.1	***	***	***	***	***	***	***	***	***	***	***	***	--
	Mt. Sto. Tomas		0.2	0.9	6.4	0.4	2.5	***	1.0	1.1	2.2	1.9	1.9	***	***	***	--	
Republic of Korea	Kanghwa	***	4.8	9.7	3.4	3.2	4.6	***	***	7.4	3.7	4.3	0.8	0.4	0.5	3.8	--	
	Cheju	***	***	***	3.7	4.9	7.0	***	***	3.2	6.9	7.5	4.0	7.0	7.1	7.2	--	
	Imsil	***	5.9	5.0	5.0	6.0	6.5	***	***	3.0	6.3	5.6	4.3	8.4	9.4	10.8	--	
Russia	Mondy	0.8	1.9	0.8	0.7	0.4	0.4	0.4	0.7	0.6	0.4	0.8	1.5	1.0	1.2	1.4	--	
	Listvyanka	0.8	4.4	2.5	2.7	2.4	2.8	0.8	0.6	1.3	2.4	2.8	3.9	2.9	1.7	2.9	--	
	Irkutsk	1.8	3.7	3.8	3.3	2.9	2.2	1.7	1.4	1.5	4.8	2.8	3.0	2.3	3.1	2.8	--	
	Primorskaya	1.2	2.7	3.6	2.9	1.8	2.2	4.2	1.3	1.1	1.3	1.4	2.5	0.8	1.4	6.4	--	
Thailand	Bangkok	7.8	10.1	10.2	8.2	8.7	7.9	8.8	8.3	8.7	14.6	9.2	9.7	6.4	12.2	6.8	--	
	Pathumthani	6.3	7.0	9.2	3.1	8.1	7.8	5.2	***	***	***	***	***	***	***	***	--	
	Khanchanaburi	1.9	2.1	3.2	2.3	2.6	1.6	1.5	2.4	3.4	4.8	3.0	7.9	4.2	3.8	3.1	--	
	Mae Hia	3.0	3.2	4.7	3.8	5.8	9.0	5.3	4.4	3.5	1.5	0.9	5.0	4.6	4.6	4.8	--	
	Sakaerat		2.8	2.4	2.6	2.3	2.0	1.8	3.3	2.9	3.5	3.9	4.6	3.5	4.6	5.8	--	
Vietnam	Hanoi	4.0	2.8	4.1	5.0	4.8	5.7	6.4	4.8	1.4	1.6	2.6	4.3	3.9	2.4	2.1	--	
	Hoa Binh	3.8	2.7	2.3	4.0	3.9	2.1	2.4	2.6	1.7		1.4	1.2	1.3	1.8	1.4	--	
	Can Tho											2.6	2.5	3.3	3.4	4.9	--	
	Ho Chi Minh											3.0	2.8	4.3	5.6	4.6	--	
	Yen Bai												2.9	2.8	3.5	3.2	--	

Terms and abbreviations are given in Table 4.2.

-- : The site was not monitored by this measurement method.

Table 4.25 Annual NO concentration from 2005 to 2019

unit: ppb

Country	Site	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
China	Jinyunshan	1.0	2.6	1.5	6.7	3.3	2.0	1.6	2.1	1.6	1.7	1.5	3.3	8.7	7.6	6.0
	Weishuiyuan	5.1	9.8													
Japan	Rishiri	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Ochiishi				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Tappi	<0.1	<0.1	<0.1	<0.1	***	***	0.2	0.1	0.1	<0.1	<0.1	0.2	0.1	<0.1	
	Sado-seki	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Happo	<0.1	<0.1	(<0.1)	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Ijira	0.3	0.3	0.3	0.2	0.2	0.3	0.2	0.1	0.2	0.2	0.5	0.3	0.1	0.3	0.5
	Oki	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1
	Banryu	0.3	0.3	0.2	0.2	0.2	0.2	<0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	
	Yusuhara	0.3	0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Hedo	0.2	<0.1	<0.1	0.1	<0.1	<0.1	0.2	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Ogasawara	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Niigata-maki															0.1
Lao PDR	Vientiane										8.4	10.9	***	***	***	***
Malaysia	Tanah Rata			10.1	***	***	***	***	***	***	***	***	***	***	***	***
Mongolia	Ulaanbaatar										21.8	27.8	22.7	19.4	12.7	15.2
Philippines	Metro Manila											17.6	13.9	***	***	***
Thailand	Bangkok	11.7	11.1	11.5	13.6	11.6	8.8	10.3	9.5	8.5	6.5	6.2	5.0	6.6	6.0	4.4
	Samutprakarn	14.4	16.4	16.7	15.3	15.2	13.3	15.1	17.1	12.6	11.6	9.5	8.5	7.3	7.1	7.0
	Khanchanaburi	1.0	0.6	1.8	0.7	0.2	0.3	1.1	0.5	3.3	7.0	1.0	0.1	0.5	2.9	1.0
	ChangPhueak	2.9	2.5	3.1	2.0	2.1	3.0	2.0	4.3	1.9	2.3	3.5	2.8	2.4	2.0	1.6
	Si Phum									6.9	7.0	11.8	13.5	9.1	7.7	7.9
	Nai Mueang				5.9	***	15.3	16.5	15.6	15.4	11.7	11.3	13.6	13.0	10.3	11.4

Terms and abbreviations are given in Table 4.2.

Table 4.26 Annual NO₂ concentration from 2005 to 2019

unit: ppb

		Year															2019	
Country	Site	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	AT	PS
China	Jinyunshan																	
	Weishuiyuan																	
	Hongwen	16.4	23.8	22.9	19.9	18.8	21.1	20.2	20.0	19.5	18.6	14.8	16.1	14.7	13.5	11.2	--	--
	Xiang Zhou	18.8	20.7	19.5	21.1	15.4	17.0	18.6										
	Haibin-Park								13.8	17.6	18.7	15.6	16.9	15.9	15.5	13.3	--	--
	Wuzhishan															0.9	--	--
	Lijiang														0.6	--	--	
Indonesia	Jakarta			4.2	32.8	48.5	31.2	***	16.3	26.5	25.9	25.7	26.5	28.4	22.8	--	21.4	
	Serpong																	
	Kototabang			0.7	1.9	3.5	0.5	***	***	2.5	0.7	1.2	1.0	1.2	1.0	--	0.9	
	Bandung				11.3	13.3	31.5	39.0	42.8	41.0	40.6	54.4	74.6	36.0	30.3	--	35.9	
Japan	Banryu	3.4	2.5	3.3	3.4	2.8	2.6	2.5	1.9	1.7	1.8	1.6	1.8	2.0	1.7			
Lao PDR	Vientiane										10.0	11.4	***	***	***	***	--	
Malaysia	Petaling Jaya																	
Mongolia	Ulanbaatar										26.9	30.3	35.9	42.9	34.3	33.5	--	
Philippines	Metro Manila											15.5	12.9	***	***	***	--	
Republic of Korea	Kanghwa			5.3	6.9	7.1	6.4	5.4	5.0	5.7	5.9	7.4	6.8	5.7	4.9	5.4	--	
	Cheju			4.3	2.9	3.1	4.1	4.4	3.0	3.4	3.3	3.7	3.1	2.7	3.6	4.6	--	
	Imsil			4.2	4.1	4.5	5.1	5.0	4.6	5.1	4.0	4.4	4.6	4.0	4.1	4.2	--	
Thailand	Bangkok	21.8	23.6	16.4	20.5	23.6	21.2	24.5	24.7	25.3	20.3	14.4	16.1	17.6	19.1	17.5	--	
	Samutprakarn	16.9	19.3	19.5	16.4	19.0	15.5	21.5	17.1	15.1	12.4	10.5	13.4	15.6	17.4	17.7	--	
	ChangPhueak	7.6	8.3	9.7	8.5	8.8	9.5	9.6	11.2	12.3	11.2	10.2	9.3	8.4	5.8	9.1	--	
	Si Phum									16.1	14.9	18.1	18.9	14.5	19.0	15.3	--	
	Nai Mueang				11.0	***	17.9	17.6	18.7	19.4	15.6	15.0	17.7	22.7	19.0	16.2	--	

Terms and abbreviations are given in Table 4.2.

-- : The site was not monitored by this measurement method.

Table 4.27 Annual NOx concentration from 2005 to 2019

unit: ppb

Country	Site	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
China	Jinyunshan (NOx*)	7.2	8.7	8.1	11.8	8.2	11.4	10.0	8.4	9.1	8.9	9.6	13.5	18.5	17.9	14.1
	Weishuiyuan (NOx*)	14.7	26.8													
Japan	Rishiri (NOx*)	0.9	1.0	1.0	1.0	0.9	0.8	0.6	0.7	0.6	0.7	0.5	0.6	0.6	0.6	0.5
	Ochiishi (NOx*)				1.0	1.1	1.0	1.1	1.0	0.8	0.9	0.9	0.9	0.9	0.9	0.9
	Tappi (NOx*)	1.4	1.2	1.3	1.6	***	***	1.1	1.2	1.4	1.5	1.4	1.4	1.3	1.2	
	Sado-seki (NOx*)	1.3	1.3	1.2	1.1	0.9	0.8	0.7	0.7	0.8	0.7	0.7	0.7	0.7	0.7	0.8
	Happo (NOx*)	2.2	1.9	(2.3)	2.1	1.3	1.2	1.1	1.1	0.9	1.1	0.9	0.7	0.7	0.8	0.6
	Ijira (NOx*)	3.5	3.1	3.2	2.2	2.5	2.3	2.0	2.2	1.7	1.7	2.4	1.6	1.4	1.9	1.8
	Oki (NOx*)	1.6	1.5	1.5	1.5	1.3	1.3	1.3	1.0	1.1	1.3	1.1	1.0	1.0	1.1	1.0
	Banryu	4.0	2.8	3.5	3.6	3.0	2.8	2.5	2.0	1.9	2.0	1.8	1.9	2.1	1.8	
	Yusuhara (NOx*)	1.8	1.5	1.3	1.3	1.1	1.8	1.3	1.4	1.4	1.2	1.3	1.3	1.5	1.2	1.4
	Hedo (NOx*)	0.7	0.8	0.5	0.7	0.7	0.7	0.7	0.5	0.9	0.7	0.7	0.6	0.7	0.7	0.6
	Ogasawara (NOx*)	0.6	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.4	0.3	0.4	0.3	0.4	0.3	0.4
	Niigata-miki (NOx*)															2.1
Lao PDR	Vientiane										18.4	22.4	***	***	***	***
Malaysia	Tanah Rata (NOx*)			12.2	***	***	***	***	***	***	***	***	***	***	***	***
Mongolia	Ulaanbaatar										48.7	58.2	58.6	62.3	47.0	48.7
Philippines	Metro Manila											33.2	26.9	***	***	***
Thailand	Bangkok	33.4	34.6	28.1	34.4	35.2	30.2	35.0	34.5	34.0	27.0	20.6	21.2	24.2	25.1	22.0
	Samutprakarn	30.7	35.6	36.2	31.5	34.1	28.7	36.7	34.1	27.7	24.0	20.0	21.8	22.8	24.5	24.6
	Khanchanaburi (NOx*)	5.5	2.8	3.0	1.2	1.4	3.1	4.1	2.0	4.7	11.6	3.0	2.7	1.4	6.1	3.0
	Chang Phueak	10.2	10.4	12.6	10.4	10.8	12.5	11.6	15.5	14.2	13.5	13.7	12.1	10.7	7.9	10.7
	Si Phum									23.0	21.9	29.8	32.3	23.5	26.6	23.1
	Nai Mueang				16.9	***	33.2	34.0	34.2	34.6	27.3	26.2	31.3	35.7	29.3	27.5

Terms and abbreviations are given in Table 4.2.

Table 4.28 Annual O₃ concentration from 2005 to 2019

unit: ppb

Country	Site	Year															2019	
		2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	FP	PS
Cambodia	Phnom Penh																18	--
Indonesia	Bandung											26	10	11	15		8	10
Japan	Rishiri	42	43	46	42	42	40	37	34	37	39	40	39	37	36	32		--
	Ochiishi				38	37	38	35	39	39	42	40	38	42	40	33		--
	Tappi	51	51	54	60	***	***	38	41	40	39	38	41	45	45			--
	Sado-seki	48	48	48	47	49	53	49	46	46	47	45	45	45	44	44		--
	Happo	58	59	(63)	50	52	48	53	49	49	48	48	47	47	50	51		--
	Ijira	23	17	35	20	21	19	20	24	26	28	26	25	28	28	24		--
	Oki	45	44	45	45	46	45	46	46	48	47	47	46	47	46	45		--
	Banryu	37	34	34	35	36	35	33	33	33	33	33	33	35	32			--
	Yusuhara	43	42	40	40	41	36	33	34	39	40	40	37	41	39	39		--
	Hedo	35	40	38	39	39	38	33	35	38	40	39	36	36	29	37		--
	Ogasawara	33	31	32	28	30	38	29	32	37	33	35	29	36	30	45		--
	Niigata-maki															38		--
	Tsushima															47		--
Malaysia	Tanah Rata			15	***	***	***	***	***	***	***	***	***	***	***	***	***	--
Mongolia	Ulanbaatar										12	13	12	9	11	12		--
Philippines	Metro Manila											7	10	***	***	***		--
Republic of Korea	Kanghwa	41	27	43	41	43	43	39	44	46	50	47	45	43	41	46		--
	Cheju	40	35	38	42	44	42	35	39	41	45	46	39	47	42	46		--
	Imsil	30	30	30	20	33	30	30	33	31	31	36	36	29	28	36		--
Russia	Mondy	42	45	39	35	45	44	40	38	38	35	40	43	27	42	--		50
	Listvyanka										39	39	35	25	36	--		45
	Irkutsk												30	14	22	--		24
Thailand	Bangkok				10	17	17	19	17	21	19	43	21	22	22	26		--
	Samutprakarn	14	14	14	18	18	15	17	19	20	22	23	16	17	20	21		--
	Khanchanaburi	17	10	7	16	14	23	12	16	13	22	20	19	18	25	26		--
	ChangPhueak	20	19	23	22	26	24	25	21	21	20	22	25	22	29	31		--
	Si Phum									22	19	***	***	***	***	***		--
	Nai Mueang				22	***	17	***	19	22	22	21	22	26	22	25		--

Terms and abbreviations are given in Table 4.2.

-- : The site was not monitored by this measurement method.

Table 4.29 Annual PM₁₀ concentration from 2005 to 2019

unit: µg/m³

Country	Site	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
China	Jinyunshan	60	78	65	50	40	51	45	43	64	57	48	56	50	48	39
	Weishuiyuan	118	121													
	Hongwen	66	97	71	59	60	63	61	59	58	54	43	42	43	41	37
	Xiang Zhou	40	47	50	51	48	48	49								
	Haibin-Park								44	54	46	50	41	42	40	37
	Wuzhishan															14
	Lijiang															8
Japan	Rishiri	14	15	14	16	16	18	15	13	12	26	19	16	17	17	22
	Ochiishi				30	24	22	23	20	16	26	22	18	16	15	15
	Tappi	19	18	17	22	16	28	18	17	18	20	20	18	16	16	
	Sado-seki	24	24	22	23	22	21	21	19	20	23	24	20	21	22	24
	Happo	15	13	12	14	12	12	12	11	11	12	10	10	7	9	6
	Ijira	21	22	22	20	18	18	19	16	18	17	17	16	18	17	15
	Okii	28	30	29	26	26	29	25	23	27	31	32	29	28	29	30
	Banryu	29	31	31	27	26	28	24	22	25	25	24	22	24	22	
	Yusuhara	20	20	19	18	18	18	16	15	17	15	16	14	14	15	13
	Hedo	35	37	29	27	28	31	28	27	26	27	31	28	29	31	29
	Ogasawara	12	13	13	10	12	12	10	11	12	11	18	19	19	20	20
	Tsushima															23
Lao PDR	Vientiane										72	72	***	***	***	***
Malaysia	Petaling Jaya															
Mongolia	Ulaanbaatar										211	106	97	102	121	126
Philippines	Metro Manila											33	29	***	***	***
Republic of Korea	Kanghwa	58	46	52	48	51	51	44	45	48	49	52	51	49	42	43
	Cheju	39	51	54	50	43	47	42	37	45	47	45	42	37	39	39
	Imsil	54	57	43	59	34	40	38	36	39	44	43	42	39	37	49
Thailand	Bangkok	43	44	45	43	39	38	38	37	41	37	32	35	36	36	34
	Samutprakarn				45	43	38	54	39	44	41	35	38	38	42	40
	Khanchanaburi	60	37	31	37	28	46	23	10	28	90	23	34	17	35	33
	ChangPhueak	51	41	52	38	42	45	33	42	41	45	43	48	43	50	56
	Si Phum									47	47	49	52	45	41	50
	Nai Mueang				47	***	44	***	54	59	51	45	55	54	53	49

Terms and abbreviations are given in Table 4.2.

Table 4.30 Annual PM_{2.5} concentration from 2005 to 2019

unit: µg/m³

Country	Site	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Cambodia	Phnom Penh													13	19	28
Indonesia	Jakarta												***	39	46	38
Japan	Rishiri	8	8	8	9	8	9	8	8	7	8	8	7	8	7	8
	Ochiishi				16	12	12	10	9	7	7	9	8	7	6	7
	Tappi											10	9	8	9	
	Sadoseki										11	10	10	10	9	9
	Happo											7	6	6	6	5
	Ijira											11	9	11	8	8
	Oki	15	15	15	14	12	12	14	13	15	13	13	12	11	12	10
	Banryu											13	12	13	11	
	Yuahara											11	10	10	10	10
	Hedo											10	10	11	11	10
	Ogasawara											7	6	6	6	6
	Tsushima															12
Lao PDR	Vientiane														31	32
Mongolia	Ulaanbaatar										50	50	53	48	43	39
Myanmar	Yangon														24	24
	Mandalay											47	33	37	16	41
Philippines	Metro Manila											22	20	18	17	16
Republic of Korea	Kanghwa												28	25	22	23
	Cheju												21	16	16	20
	Imsil															19
Thailand	Bangkok											18	23	25	21	21
	Samutprakarn												28	24	23	22
	Khanchanaburi											24	***	7	27	7
	ChangPhueak												24	30	29	36
	Si Phum									35	33	33	32	23	30	31
	Nai Mueang															24
Vietnam	Hoa Binh											40	49	37	37	34

Terms and abbreviations are given in Table 4.2.

Table 4.31 Annual SO₄²⁻ in PM concentration from 2005 to 2019

unit: µg/m³

Country	Site	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Cambodia	Phnom Penh						2.85	2.95	2.63	2.91	2.11	2.20	1.54	2.11	***	***
China	Hongwen			10.58	13.38	12.72	14.10	17.60	***	***	***	***	10.92	9.08	***	***
Indonesia	Jakarta										11.44	6.76	3.53	4.23	6.68	5.52
	Serpong	1.50	0.56	0.50	0.71	0.79	0.50	0.65	4.03	3.54	3.69	5.16	3.41	4.43	6.42	6.05
	Bandung										6.93	2.69	2.73	2.28	7.52	8.08
Japan	Rishiri	2.61	2.39	2.44	2.94	2.50	2.74	2.71	2.32	2.72	2.21	2.52	2.05	2.13	2.05	3.82
	Ochiishi				2.73	2.61	2.31	2.13	1.95	2.19	2.52	2.05	1.98	2.38	2.03	2.05
	Tappi	3.92	4.10	4.02	4.67	4.29	4.12	3.99	3.76	3.83	5.38	4.30	3.08	3.02	2.56	
	Sado-seki	4.08	3.07	3.64	4.17	3.58	3.20	3.50	3.53	3.71	3.54	4.03	2.88	2.82	3.73	2.50
	Happo	2.59	2.79	2.58	2.52	0.59	0.86	1.02	2.36	2.50	2.49	2.16	1.80	1.57	1.56	1.24
	Ijira	5.07	4.89	4.76	4.78	3.88	3.25	3.55	2.52	2.88	3.84	2.84	2.91	2.50	2.45	2.51
	Oki	6.29	5.73	5.21	4.54	4.29	4.43	4.76	4.90	5.56	5.25	4.69	4.84	4.31	4.12	3.68
	Banryu	6.33	6.55	6.41	5.11	5.44	4.37	4.55	5.05	5.56	4.99	4.60	4.24	3.52	3.59	
	Yusuhara	6.15	5.81	6.44	4.54	5.16	4.46	4.03	4.44	5.28	4.72	3.75	3.29	3.16	2.94	2.88
	Hedo	5.32	6.51	5.95	5.69	5.62	3.53	2.48	4.28	5.43	5.39	5.12	4.57	4.37	4.37	3.84
	Ogasawara	0.87	1.65	3.91	2.72	2.64	2.17	2.46	2.41	3.10	2.58	2.69	1.93	1.94	1.67	1.86
	Tokyo			5.36	5.15	4.62	4.28	4.06	3.14	4.38	4.11	3.79	3.16	3.08	3.28	3.11
Lao PDR	Vientiane											4.75	3.77	***	***	***
Malaysia	Petaling Jaya	2.26	2.60	3.00	3.32	3.01	2.94	4.22	3.24	3.17	4.81	4.19	2.96	2.77	4.72	***
	Tanah Rata	1.07	1.38	1.37	1.59	1.39	0.95	1.18	1.52	1.48	2.59	3.29	2.01	1.28	0.15	***
	Danum Valley		0.69	0.76	1.12	3.64	1.73	0.86	0.38	0.78	1.11	1.80	1.10	0.75	1.05	***
Mongolia	Ulaanbaatar	5.10	5.68	4.20	1.33	2.24	4.70	4.11	***	***	***	***	2.10	2.23	1.25	1.15
	Terelj	0.85	1.40	1.41	1.42	1.07	0.61	1.06	***	***	***	***	1.70	0.11	0.07	0.15
Myanmar	Yangon							3.77	3.59	1.40	1.56	0.90	0.54	1.70	1.52	1.51
Philippines	Metro Manila	3.31	2.63	3.15	2.37	***	1.43	***	***	***	***	***	***	***	***	2.4
	Los Banos	1.71	1.52	2.29	1.86	***	***	***	***	***	***	***	***	***	***	***
	Mt. Sto. Tomas		0.14	0.22	0.91	0.16	1.40	***	0.15	0.17	0.38	0.27	0.30	***	***	***
Republic of Korea	Kanghwa	6.56	3.43	2.35	3.11	6.04	6.19	***	***	7.43	7.17	6.12	6.11	4.20	3.37	3.37
	Cheju	7.11	8.05	6.75	5.51	4.68	3.82	***	***	4.37	7.81	5.62	4.75	2.01	3.45	4.35
	Imsil	9.29	10.31	5.90	4.18	4.66	5.03	***	***	5.61	5.86	4.66	5.07	3.55	3.30	3.77
Russia	Mondy	0.34	0.49	0.22	0.38	0.39	0.14	0.19	0.22	0.22	0.05	0.29	0.45	0.58	0.35	0.21
	Listvyanka	0.79	1.16	1.57	1.02	1.58	0.89	1.00	1.09	0.67	1.00	0.86	0.88	0.85	0.78	0.53
	Irkutsk	2.67	2.13	2.91	2.55	2.36	2.29	2.28	3.07	1.71	2.14	2.18	2.03	1.85	2.28	1.15
	Primorskaya	3.77	4.11	4.89	3.59	3.71	4.04	3.60	3.27	3.66	3.62	3.24	2.23	1.08	0.52	0.38
Thailand	Bangkok	2.13	4.71	2.97	2.65	2.71	3.63	3.31	2.26	2.80	4.38	2.64	4.10	1.47	3.77	3.10
	Pathumthani	1.39	3.14	4.69	1.41	3.12	3.78	1.64	***	***	***	***	***	***	***	***
	Khanchanaburi	0.15	2.74	3.24	2.54	1.32	0.29	2.08	2.34	1.40	3.19	1.97	15.58	1.82	3.27	3.71
	Mae Hia	1.11	2.22	2.60	1.75	1.97	1.29	1.34	1.12	0.39	0.10	0.08	0.86	0.87	0.83	1.17
	Sakaerat		3.64	4.80	3.78	3.44	2.12	2.74	2.44	2.89	3.31	2.70	2.79	2.35	3.26	2.17
Vietnam	Hanoi	20.33	16.46	20.35	9.53	8.77	15.63	14.40	7.82	11.54	8.47	10.83	8.84	7.96	4.50	5.19
	Hoa Binh	12.41	7.80	8.38	4.51	2.49	2.26	3.81	1.59	2.58	4.95	6.38	5.78	3.24	4.43	2.90
	Can Tho										1.40	1.22	1.42	5.58	5.40	5.83
	Ho Chi Minh										2.08	2.42	2.15	7.68	6.75	7.11
	Yen Bai											8.68	6.49	6.61	7.14	5.30

Terms and abbreviations are given in Table 4.2.

Table 4.32 Annual NO₃⁻ in PM concentration from 2005 to 2019

unit: µg/m³

Country	Site	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Cambodia	Phnom Penh						1.32	1.27	1.20	1.18	1.22	2.03	1.37	1.58	***	***
China	Hongwen			5.81	8.10	7.98	11.66	11.66	***	***	***	***	7.62	8.26	***	***
Indonesia	Jakarta										4.67	2.37	1.34	1.36	2.78	2.47
	Serpong	1.55	0.37	0.17	0.18	0.13	0.21	0.57	1.09	0.53	0.86	1.12	0.82	1.05	1.54	1.22
	Bandung										1.92	1.19	1.00	0.73	1.57	1.92
Japan	Rishiri	0.53	0.58	0.60	0.76	0.64	0.77	0.66	0.63	0.60	0.51	0.75	0.63	0.70	0.74	1.49
	Ochiishi				0.71	0.67	0.55	0.67	0.43	0.42	0.71	0.57	0.67	0.82	0.82	0.75
	Tappi	0.92	1.17	1.18	1.23	1.29	1.24	1.27	0.98	1.04	1.45	1.29	1.23	1.27	1.18	
	Sado-seki	0.68	0.80	0.96	1.07	1.05	0.82	1.13	0.90	0.92	1.06	1.23	1.02	1.10	1.42	0.91
	Happo	0.27	0.25	0.20	0.22	0.10	0.11	0.14	0.31	0.36	0.58	0.34	0.39	0.36	0.42	0.20
	Ijira	0.48	0.54	0.49	0.39	0.40	0.40	0.47	0.25	0.30	0.42	0.39	0.46	0.41	0.47	0.49
	Oki	1.26	1.28	1.34	1.22	1.31	1.50	1.85	1.51	1.82	1.79	1.66	2.10	2.70	1.98	1.87
	Banryu	1.43	1.54	1.57	1.35	1.43	1.53	1.68	1.51	1.65	1.45	1.47	1.67	2.13	1.72	
	Yusuhara	0.59	0.59	0.55	0.29	0.52	0.66	0.61	0.41	0.66	0.55	0.50	0.54	0.56	0.57	0.56
	Hedo	1.11	1.65	1.48	1.52	1.63	1.09	0.80	1.27	1.62	1.72	1.87	1.59	1.75	1.58	1.60
	Ogasawara	0.12	0.36	0.74	0.57	0.60	0.53	0.53	0.53	0.60	0.48	0.71	0.52	0.55	0.48	0.56
	Tokyo			3.86	4.03	3.85	3.80	3.76	2.73	3.13	3.13	3.55	3.19	2.99	3.34	3.10
Lao PDR	Vientiane											0.47	0.40	***	***	***
Malaysia	Petaling Jaya	0.97	0.81	1.18	1.17	1.22	1.25	1.14	1.23	1.65	1.53	1.70	1.46	1.29	1.77	***
	Tanah Rata	0.18	0.18	0.13	0.16	0.15	0.12	0.13	0.18	0.34	0.40	0.54	0.26	0.13	0.01	***
	Danum Valley		0.05	0.04	0.06	0.21	0.36	0.04	0.08	0.09	0.11	0.11	0.10	0.08	0.06	***
Mongolia	Ulaanbaatar	1.61	1.74	1.66	0.90	0.93	1.25	1.81	***	***	***	***	0.10	0.18	0.18	0.16
	Terelj	0.18	0.19	0.71	0.65	0.24	0.11	0.29	***	***	***	***	<0.01	0.01	0.01	0.01
Myanmar	Yangon							0.31	0.92	0.54	0.33	0.44	0.48	1.65	0.82	0.60
Philippines	Metro Manila	1.11	1.03	1.27	0.99	***	0.85	***	***	***	***	***	***	***	***	1.4
	Los Banos	0.42	0.29	0.39	0.27	***	***	***	***	***	***	***	***	***	***	***
	Mt. Sto. Tomas		0.02	0.07	1.15	0.12	0.78	***	0.19	0.14	0.26	0.27	0.14	***	***	***
Republic of Korea	Kanghwa	1.85	2.03	1.03	1.92	2.38	3.50	***	***	3.51	2.54	3.40	3.25	2.82	2.74	3.10
	Cheju	0.27	0.39	0.57	0.34	0.49	0.67	***	***	0.74	1.10	0.79	0.75	1.92	1.41	1.15
	Imsil	1.56	3.99	3.05	2.86	2.67	3.82	***	***	2.95	2.82	1.93	1.17	2.72	3.17	2.56
Russia	Mondy	0.02	0.06	0.01	0.13	0.02	0.19	0.02	0.03	0.02	<0.01	0.03	0.01	0.04	0.03	0.03
	Listvyanka	0.17	0.19	0.19	0.20	0.25	0.17	0.25	0.12	0.09	0.18	0.27	0.20	0.07	0.10	0.05
	Irkutsk	0.68	0.69	0.61	0.89	0.83	0.91	0.88	0.92	0.49	0.80	0.66	0.67	0.63	0.75	0.25
	Primorskaya	1.24	1.18	1.04	1.03	1.10	0.79	0.27	0.68	1.17	1.37	1.15	0.77	0.53	0.19	0.39
Thailand	Bangkok	2.83	1.60	1.51	1.44	1.62	1.86	2.00	1.91	1.41	2.77	2.20	1.98	1.28	2.68	2.29
	Pathumthani	1.13	0.81	2.02	0.77	1.73	1.93	0.92	***	***	***	***	***	***	***	***
	Khanchanaburi	0.06	0.09	0.10	0.15	3.55	0.06	0.04	0.10	0.11	0.17	0.20	0.83	0.24	0.20	0.19
	Mae Hia	0.38	0.67	0.62	0.36	0.66	10.25	0.24	0.31	0.30	0.11	0.13	0.18	0.18	0.20	0.35
	Sakaerat		0.52	0.48	0.41	0.34	0.18	0.31	0.28	0.41	0.58	0.32	0.30	0.27	0.38	0.50
Vietnam	Hanoi	10.52	5.34	6.21	2.89	3.52	7.81	6.82	5.57	6.73	5.86	7.26	6.58	11.14	4.19	4.50
	Hoa Binh	1.71	1.09	1.46	1.24	0.49	0.61	1.14	0.92	1.11	1.88	2.95	3.21	3.28	2.95	2.22
	Can Tho										0.67	0.55	0.66	2.19	2.16	2.15
	Ho Chi Minh										1.09	1.07	2.06	5.67	5.80	5.84
	Yen Bai											3.19	4.36	8.00	5.89	3.91

Terms and abbreviations are given in Table 4.2.

Table 4.33 Annual CI⁺ in PM concentration from 2005 to 2019unit: $\mu\text{g}/\text{m}^3$

Country	Site	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Cambodia	Phnom Penh						0.20	0.24	0.24	0.40	0.26	0.54	0.56	0.32	***	***
China	Hongwen			2.07	1.85	1.73	2.28	1.51	***	***	***	***	0.99	0.95	***	***
Indonesia	Jakarta										1.35	0.51	0.41	0.54	0.84	1.25
	Serpong	1.07	0.21	0.46	0.10	0.09	0.25	0.10	0.16	0.20	0.18	0.28	0.29	0.23	0.25	0.23
	Bandung										0.31	0.27	0.20	0.57	0.17	0.21
Japan	Rishiri	2.35	2.03	2.25	2.20	2.42	2.79	2.31	1.94	2.00	2.95	3.57	2.21	2.66	2.93	4.54
	Ochiishi				4.44	6.88	4.34	3.28	3.06	4.58	4.12	4.46	3.89	3.81	3.97	3.89
	Tappi	6.02	8.08	6.51	8.26	8.97	6.01	5.93	8.15	5.91	15.78	12.97	5.79	5.70	5.54	
	Sado-seki	3.08	3.56	3.30	4.61	3.38	3.78	3.06	3.02	3.43	3.00	4.39	3.77	3.52	5.80	4.30
	Happo	0.02	0.03	0.02	0.01	0.02	0.03	0.02	0.02	0.02	0.03	0.02	0.02	0.03	0.03	0.01
	Ijira	0.04	0.05	0.05	0.04	0.06	0.05	0.04	0.02	0.03	0.06	0.05	0.06	0.06	0.10	0.08
	Oki	2.55	2.42	2.36	2.71	3.69	4.54	4.29	4.20	4.98	4.96	4.58	5.25	10.45	5.07	4.09
	Banryu	1.43	1.47	0.97	1.13	1.59	1.38	1.53	0.99	1.52	1.60	1.40	0.78	2.79	1.45	
	Yusuhara	0.07	0.08	0.04	0.03	0.21	0.10	0.08	0.17	0.06	0.06	0.07	0.07	0.06	0.06	0.08
	Hedo	7.29	6.35	5.79	4.40	6.02	4.62	3.09	6.02	7.27	7.61	5.86	7.53	7.16	7.69	6.57
	Ogasawara	0.94	2.69	3.82	3.04	3.93	3.44	3.79	3.55	3.51	3.50	4.32	3.83	3.71	3.59	4.09
	Tokyo			0.62	0.63	0.68	0.66	0.70	0.49	0.59	0.53	0.53	0.57	0.43	0.66	0.62
Lao PDR	Vientiane											0.06	0.06	***	***	***
Malaysia	Petaling Jaya	0.18	0.10	0.13	0.09	0.11	0.19	0.11	0.13	0.16	0.23	0.15	0.21	0.13	0.13	***
	Tanah Rata	0.03	0.04	0.03	0.02	0.03	0.05	0.03	0.03	0.07	0.10	0.11	0.09	0.04	<0.01	***
	Danum Valley		0.04	0.02	0.04	0.15	0.33	0.04	0.02	0.11	0.13	0.11	0.07	0.08	0.02	***
Mongolia	Ulaanbaatar	1.06	1.25	0.87	0.47	1.84	1.06	1.18	***	***	***	***	0.08	0.20	0.14	0.20
	Terelj	0.30	0.19	0.36	0.24	0.22	0.18	0.23	***	***	***	***	0.02	0.03	0.02	0.02
Myanmar	Yangon							0.59	0.56	0.21	0.27	0.63	0.57	0.13	0.52	0.23
Philippines	Metro Manila	0.39	0.62	0.62	0.59	***	0.66	***	***	***	***	***	***	***	***	0.8
	Los Banos	0.58	0.67	1.15	0.82	***	***	***	***	***	***	***	***	***	***	***
	Mt. Sto. Tomas		0.03	0.07	0.35	0.05	0.32	***	0.05	0.04	0.10	0.08	0.04	***	***	***
Republic of Korea	Kanghwa	0.18	0.15	0.19	0.19	0.64	0.44	***	***	0.47	0.13	0.13	0.10	0.28	0.11	0.09
	Cheju (Kosan)	0.14	0.13	0.30	0.32	0.29	0.46	***	***	1.12	0.72	0.37	0.60	0.54	0.62	0.23
	Imsil	0.12	0.29	0.38	0.50	0.45	0.61	***	***	0.48	0.25	0.38	0.31	0.39	0.41	0.20
Russia	Mondy	<0.01	0.03	0.01	<0.01	<0.01	0.33	0.04	0.24	0.14	0.04	0.05	0.01	0.03	0.02	0.07
	Listvyanka	0.03	0.08	0.12	0.11	0.11	0.11	0.04	0.26	0.06	0.09	0.12	0.06	0.05	0.04	0.03
	Irkutsk	0.12	0.19	0.30	0.32	0.40	0.31	0.43	0.46	0.24	0.26	0.17	0.23	0.19	0.15	0.11
	Primorskaya	0.21	0.12	0.19	0.17	0.14	0.20	0.09	0.29	0.28	0.14	0.15	0.10	0.12	0.03	0.09
Thailand	Bangkok	0.59	0.19	0.29	0.18	0.26	0.28	0.32	0.26	0.16	0.31	0.19	0.34	0.09	0.27	0.28
	Pathumthani	0.31	0.09	0.39	0.07	0.20	0.14	0.15	***	***	***	***	***	***	***	***
	Khanchanaburi	0.02	0.08	0.02	0.06	0.04	0.10	0.05	<0.01	0.05	0.04	0.08	0.26	0.22	0.03	0.10
	Mae Hia	0.09	0.29	0.11	0.05	0.09	0.16	0.12	0.13	0.12	0.08	0.06	0.21	0.15	0.13	0.22
	Sakaerat		0.09	0.06	0.06	0.07	0.02	0.06	0.10	0.12	0.16	0.08	0.21	0.04	0.08	0.09
Vietnam	Hanoi	3.10	2.90	2.81	0.79	0.58	1.66	1.33	1.11	1.75	1.34	1.94	2.32	4.04	2.33	1.72
	Hoa Binh	1.41	0.65	0.58	0.64	0.11	0.35	0.27	0.43	0.59	1.18	0.79	1.18	1.04	1.88	2.79
	Can Tho										0.56	0.46	1.78	1.08	2.14	2.23
	Ho Chi Minh										0.74	0.59	1.29	1.40	4.03	4.42
	Yen Bai											1.01	1.25	3.58	3.52	2.78

Terms and abbreviations are given in Table 4.2.

Table 4.34 Annual NH₄⁺ in PM concentration from 2005 to 2019

unit: µg/m³

Country	Site	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Cambodia	Phnom Penh						0.61	0.50	0.34	0.57	0.52	0.54	0.54	0.38	***	***
China	Hongwen			3.66	5.55	5.48	6.72	5.85	***	***	***	***	3.68	2.83	***	***
Indonesia	Jakarta										0.57	0.71	0.40	0.32	1.11	1.03
	Serpong	0.25	0.08	0.24	0.08	0.11	0.14	0.32	0.78	0.38	0.47	0.67	0.55	0.50	1.07	0.88
	Bandung										1.20	1.17	1.42	1.13	1.60	1.38
Japan	Rishiri	0.44	0.41	0.39	0.53	0.45	0.47	0.47	0.41	0.45	0.35	0.46	0.40	0.42	0.43	0.73
	Ochiishi				0.40	0.40	0.29	0.37	0.32	0.28	0.38	0.24	0.32	0.38	0.35	0.35
	Tappi	0.57	0.63	0.64	0.77	0.66	0.68	0.64	0.53	0.58	0.69	0.46	0.48	0.49	0.42	
	Sado-seki	0.83	0.48	0.54	0.68	0.53	0.50	0.56	0.54	0.62	0.61	0.69	0.48	0.44	0.56	0.39
	Happo	0.69	0.64	0.65	0.66	0.15	0.22	0.26	0.64	0.63	0.80	0.59	0.53	0.47	0.43	0.33
	Ijira	1.45	1.39	1.32	1.36	1.06	0.87	0.95	0.69	0.81	1.11	0.76	0.82	0.68	0.64	0.65
	Oki	1.27	1.19	1.07	0.97	0.86	0.92	0.93	0.94	1.10	1.05	0.90	1.13	0.77	0.83	0.74
	Banryu	1.43	1.51	1.60	1.32	1.30	1.02	1.06	1.24	1.40	1.22	1.11	1.17	0.93	0.90	
	Yusuhara	1.40	1.41	1.53	1.12	1.25	1.00	0.96	1.06	1.25	1.10	0.91	0.86	0.89	0.72	0.74
	Hedo	0.67	0.80	0.88	0.98	0.86	0.42	0.43	0.71	0.69	0.61	0.66	0.51	0.53	0.46	0.41
	Ogasawara	0.08	0.17	0.46	0.24	0.21	0.17	0.22	0.22	0.31	0.23	0.25	0.19	0.22	0.16	0.17
	Tokyo			1.82	1.96	1.83	1.71	1.57	1.10	1.44	1.42	1.40	1.18	1.16	1.11	1.02
Lao PDR	Vientiane											1.22	1.12	***	***	***
Malaysia	Petaling Jaya	0.59	0.76	0.76	0.82	0.73	0.80	1.12	0.75	0.94	1.37	1.18	0.92	0.74	1.28	***
	Tanah Rata	0.23	0.40	0.32	0.35	0.29	0.25	0.49	0.46	0.39	0.63	1.11	0.46	0.32	<0.01	***
	Danum Valley		0.10	0.08	0.12	0.39	0.12	0.13	0.08	0.13	0.12	0.25	0.10	0.09	0.14	***
Mongolia	Ulaanbaatar	1.60	1.95	1.96	0.23	0.95	1.69	1.80	***	***	***	***	0.67	0.58	0.34	0.32
	Terelj	0.28	0.43	0.40	0.37	0.28	0.12	0.43	***	***	***	***	0.06	0.04	<0.01	0.05
Myanmar	Yangon							0.34	0.38	0.30	0.50	0.45	0.37	0.80	0.33	0.40
Philippines	Metro Manila	0.73	0.25	0.43	0.42	***	0.14	***	***	***	***	***	***	***	***	0.6
	Los Banos	0.67	0.23	0.28	0.34	***	***	***	***	***	***	***	***	***	***	***
	Mt. Sto. Tomas		0.03	0.09	0.33	0.03	0.10	***	<0.01	0.01	0.10	0.05	<0.01	***	***	***
Republic of Korea	Kanghwa	2.23	1.38	0.85	1.34	2.51	2.93	***	***	3.54	3.58	3.48	3.20	2.50	2.13	1.99
	Cheju	2.05	2.39	2.15	1.61	1.54	1.32	***	***	1.80	2.83	2.30	1.86	1.19	1.38	1.59
	Imsil	2.66	3.67	2.37	1.82	2.34	2.54	***	***	2.82	2.87	2.36	2.02	1.96	1.92	1.86
Russia	Mondy	0.12	0.09	0.02	0.09	0.07	0.01	0.02	0.04	<0.01	0.02	0.03	0.09	0.12	0.05	0.03
	Listvyanka	0.37	0.27	0.33	0.21	0.24	0.15	0.22	0.22	0.10	0.35	0.20	0.21	0.32	0.10	0.13
	Irkutsk	0.69	0.46	0.93	0.80	0.66	0.49	0.62	0.80	0.40	0.55	0.70	0.93	0.57	0.73	0.35
	Primorskaya	1.10	1.32	1.43	0.94	0.99	0.75	0.77	0.70	1.06	0.88	1.04	0.80	0.45	0.13	0.27
Thailand	Bangkok	0.42	1.30	1.29	1.15	0.70	0.69	0.60	0.53	0.79	1.27	0.65	0.75	1.02	0.77	0.63
	Pathumthani	0.38	0.86	1.37	0.71	1.50	0.84	0.26	***	***	***	***	***	***	***	***
	Khanchanaburi	0.04	0.65	0.91	1.10	0.83	0.18	0.46	0.07	0.30	0.67	0.60	2.73	0.58	0.57	0.50
	Mae Hia	0.75	0.67	0.74	0.49	0.58	3.70	0.31	0.23	0.09	0.09	0.11	0.38	0.25	0.18	0.24
	Sakaerat		1.13	1.37	1.13	0.87	0.73	0.96	0.84	0.90	1.01	0.88	0.80	0.77	1.62	1.36
Vietnam	Hanoi	7.30	3.18	3.99	2.20	1.68	3.28	4.50	2.83	3.32	2.46	2.06	2.32	3.41	1.37	0.71
	Hoa Binh	4.27	2.29	2.24	0.84	0.90	0.64	1.55	0.66	0.90	1.76	1.99	1.90	1.03	1.42	0.96
	Can Tho										0.63	1.08	0.77	1.39	1.21	1.12
	Ho Chi Minh										1.00	1.35	1.44	1.23	1.37	1.33
	Yen Bai											2.00	2.62	3.17	2.58	1.35

Terms and abbreviations are given in Table 4.2.

Table 4.35 Annual Na⁺ in PM concentration from 2005 to 2019unit: µg/m³

Country	Site	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Cambodia	Phnom Penh						0.53	0.63	0.57	0.67	0.59	0.81	0.64	0.63	***	***
China	Hongwen			1.39	1.40	1.55	1.76	1.62	***	***	***	***	1.61	1.58	***	***
Indonesia	Jakarta										1.84	0.97	0.56	0.49	1.10	0.97
	Serpong	0.22	0.32	0.11	0.06	0.10	0.09	0.16	0.45	0.37	0.40	0.69	0.36	0.32	0.70	0.54
	Bandung										0.57	0.64	0.41	0.49	0.67	0.49
Japan	Rishiri	1.76	1.62	1.78	1.82	1.91	2.14	1.84	1.58	1.64	2.13	2.44	1.65	1.88	2.08	3.43
	Ochiishi				3.09	4.37	2.87	2.45	2.15	3.00	2.72	2.86	2.56	2.64	2.64	2.60
	Tappi	4.18	5.23	4.30	5.31	6.01	4.24	3.97	5.12	4.05	9.88	7.92	3.81	3.77	3.58	
	Sado-seki	2.22	2.52	2.53	3.32	2.56	2.67	2.43	2.38	2.56	2.34	3.17	2.68	2.57	3.91	2.81
	Happo	0.08	0.08	0.08	0.10	0.03	0.03	0.05	0.09	0.09	0.09	0.09	0.09	0.08	0.10	0.06
	Ijira	0.27	0.26	0.29	0.25	0.25	0.22	0.25	0.16	0.16	0.21	0.23	0.24	0.25	0.28	0.30
	Oki	2.38	2.26	2.21	2.26	2.75	3.35	3.28	3.25	3.80	3.74	3.40	3.89	6.68	3.66	3.09
	Banryu	1.61	1.68	1.33	1.32	1.64	1.41	1.59	1.29	1.62	1.60	1.46	1.07	2.23	1.46	
	Yusuhara	0.43	0.45	0.43	0.26	0.54	0.41	0.42	0.39	0.45	0.34	0.30	0.30	0.28	0.32	0.30
	Hedo	5.22	4.85	4.54	3.77	4.63	3.38	2.28	4.34	5.27	4.79	4.43	5.21	5.03	5.29	4.58
	Ogasawara	0.68	1.78	2.95	2.38	2.80	2.38	2.61	2.45	2.65	2.54	3.06	2.54	2.50	2.40	2.74
	Tokyo			0.99	0.80	0.94	0.91	0.89	0.71	0.87	0.77	0.87	0.86	0.76	0.98	0.94
Lao PDR	Vientiane											0.28	0.25	***	***	***
Malaysia	Petaling Jaya	0.18	0.21	0.32	0.34	0.24	0.26	0.32	0.27	0.42	0.47	0.53	0.36	0.30	0.44	***
	Tanah Rata	0.09	0.13	0.14	0.13	0.10	0.10	0.12	0.12	0.16	0.21	0.24	0.20	0.08	<0.01	***
	Danum Valley		0.13	0.13	0.16	0.59	0.72	0.17	0.05	0.16	0.32	0.35	0.25	0.18	0.19	***
Mongolia	Ulaanbaatar	0.47	0.38	0.32	0.09	0.08	0.21	0.20	***	***	***	***	0.20	0.31	0.18	0.22
	Terelj	0.14	0.11	0.12	0.08	0.11	0.02	0.09	***	***	***	***	0.03	0.03	0.02	0.03
Myanmar	Yangon							0.59	0.74	0.21	0.34	0.12	0.31	0.19	0.58	0.27
Philippines	Metro Manila	0.62	0.61	0.79	0.97	***	0.54	***	***	***	***	***	***	***	***	0.7
	Los Banos	0.65	0.70	0.98	0.67	***	***	***	***	***	***	***	***	***	***	***
	Mt. Sto. Tomas		0.05	0.05	0.38	0.16	0.52	***	0.07	0.10	0.31	0.58	0.24	***	***	***
Republic of Korea	Kanghwa	0.33	0.25	0.26	0.34	0.52	0.40	***	***	0.51	0.30	0.26	0.25	0.23	0.20	0.26
	Cheju	0.35	0.40	0.39	0.41	0.51	0.45	***	***	0.64	0.57	0.28	0.39	0.38	0.39	0.30
	Imsil	0.44	0.39	0.42	0.46	0.54	0.40	***	***	0.24	0.20	0.21	0.24	0.26	0.26	0.21
Russia	Mondy	0.02	0.04	<0.01	0.02	0.03	0.36	<0.01	0.08	0.06	0.01	0.06	0.02	0.16	0.03	0.02
	Listvyanka	0.05	0.06	0.07	0.12	0.16	0.08	0.04	0.24	0.05	0.06	0.06	0.13	0.24	0.05	0.02
	Irkutsk	0.21	0.17	0.12	0.23	0.50	0.26	0.28	0.28	0.14	0.16	0.13	0.14	0.45	0.16	0.11
	Primorskaya	0.22	0.22	0.25	0.26	0.25	0.26	0.11	0.22	0.27	0.79	0.18	0.14	0.10	0.05	0.03
Thailand	Bangkok	0.48	0.68	0.38	0.33	0.57	0.54	0.54	0.43	0.47	1.03	0.53	0.71	0.15	0.49	0.51
	Pathumthani	0.27	0.34	0.40	0.27	0.38	0.30	0.22	***	***	***	***	***	***	***	***
	Khanchanaburi	0.01	0.17	0.12	0.17	0.09	0.06	0.09	0.07	0.13	0.25	0.19	1.49	0.20	0.09	0.16
	Mae Hia	0.11	0.21	0.23	0.15	0.48	0.17	0.10	0.16	0.11	0.07	0.08	0.29	0.25	0.21	0.33
	Sakaerat		0.17	0.28	0.24	0.21	0.16	0.17	0.18	0.13	0.27	0.43	0.33	0.18	0.37	0.52
Vietnam	Hanoi	1.95	1.99	1.64	0.56	0.58	1.03	0.67	0.70	0.75	0.58	1.23	1.58	1.44	0.66	0.48
	Hoa Binh	0.92	0.52	0.25	0.24	0.13	0.28	0.23	0.31	0.44	0.26	0.78	1.21	0.54	0.49	0.84
	Can Tho										0.24	0.31	0.24	0.48	0.24	0.13
	Ho Chi Minh										0.26	0.37	0.38	1.08	1.05	1.36
	Yen Bai											0.83	1.18	0.88	0.78	0.90

Terms and abbreviations are given in Table 4.2.

Table 4.36 Annual K⁺ in PM concentration from 2005 to 2019unit: µg/m³

Country	Site	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Cambodia	Phnom Penh						0.63	0.59	0.46	0.73	0.67	0.75	0.50	0.56	***	***
China	Hongwen			0.57	0.62	0.68	3.46	0.72	***	***	***	***	0.55	0.51	***	***
Indonesia	Jakarta										0.96	0.48	0.32	0.22	0.71	0.71
	Serpong	0.25	0.11	0.05	0.07	0.08	0.14	0.37	0.45	0.37	0.40	0.45	0.39	0.28	0.71	0.61
	Bandung										0.55	0.74	0.48	0.47	0.64	0.73
Japan	Rishiri	0.13	0.15	0.13	0.16	0.14	0.15	0.14	0.10	0.10	0.15	0.16	0.12	0.13	0.15	0.31
	Ochiishi				0.16	0.18	0.13	0.12	0.10	0.12	0.13	0.15	0.14	0.11	0.12	0.12
	Tappi	0.21	0.28	0.25	0.26	0.31	0.28	0.23	0.24	0.19	0.38	0.31	0.19	0.19	0.18	
	Sado-seki	0.14	0.15	0.16	0.19	0.18	0.17	0.17	0.14	0.15	0.16	0.18	0.14	0.14	0.19	0.13
	Happo	0.06	0.06	0.05	0.05	0.02	0.01	0.02	0.04	0.04	0.05	0.03	0.03	0.03	0.03	0.02
	Ijira	0.18	0.17	0.15	0.14	0.13	0.09	0.11	0.06	0.07	0.11	0.09	0.09	0.10	0.11	0.09
	Oki	0.26	0.23	0.21	0.18	0.20	0.22	0.24	0.22	0.24	0.24	0.20	0.54	0.29	0.20	0.19
	Banryu	0.21	0.25	0.21	0.19	0.21	0.16	0.19	0.16	0.18	0.17	0.15	0.27	0.17	0.12	
	Yusuhara	0.21	0.21	0.18	0.11	0.16	0.12	0.15	0.09	0.12	0.13	0.09	0.08	0.07	0.06	0.08
	Hedo	0.29	0.32	0.31	0.27	0.29	0.21	0.12	0.25	0.26	0.28	0.24	0.26	0.25	0.25	0.24
	Ogasawara	0.03	0.08	0.16	0.16	0.16	0.13	0.13	0.12	0.13	0.12	0.18	0.11	0.12	0.10	0.12
	Tokyo			0.20	0.19	0.21	0.18	0.17	0.12	0.16	0.16	0.16	0.13	0.13	0.14	0.14
Lao PDR	Vientiane											0.36	0.36	***	***	***
Malaysia	Petaling Jaya	0.23	0.19	0.25	0.23	0.23	0.27	0.34	0.27	0.37	0.45	0.41	0.24	0.28	0.42	***
	Tanah Rata	0.21	0.10	0.08	0.09	0.08	0.08	0.12	0.11	0.13	0.18	0.22	0.12	0.08	<0.01	***
	Danum Valley		0.09	0.09	0.12	0.43	0.29	0.16	0.06	0.14	0.20	0.21	0.17	0.15	0.16	***
Mongolia	Ulaanbaatar	0.61	0.60	0.25	0.12	0.16	0.22	0.29	***	***	***	***	0.08	0.15	0.06	0.05
	Terelj	0.20	0.13	0.14	0.09	0.16	0.04	0.08	***	***	***	***	0.03	0.03	0.02	0.01
Myanmar	Yangon							1.24	0.76	0.24	0.55	0.94	0.40	0.47	0.40	1.40
Philippines	Metro Manila	0.26	0.46	0.41	0.43	***	0.22	***	***	***	***	***	***	***	***	0.7
	Los Banos	0.22	0.22	0.28	0.17	***	***	***	***	***	***	***	***	***	***	***
	Mt. Sto. Tomas		0.03	0.06	0.39	0.14	0.15	***	0.01	0.01	0.07	0.06	0.10	***	***	***
Republic of Korea	Kanghwa	0.48	0.33	0.30	0.25	0.49	0.20	***	***	0.29	0.29	0.21	0.20	0.17	0.09	0.17
	Cheju	0.45	0.46	0.40	0.33	0.21	0.12	***	***	0.15	0.25	0.11	0.15	0.10	0.07	0.09
	Imsil	0.55	0.50	0.32	0.37	0.35	0.25	***	***	0.16	0.16	0.13	0.15	0.15	0.13	0.14
Russia	Mondy	0.02	0.04	0.01	0.02	0.02	0.04	0.02	0.08	0.08	0.01	0.03	0.03	0.08	0.04	0.05
	Listvyanka	0.09	0.05	0.06	0.09	0.11	0.07	0.06	0.28	0.06	0.05	0.05	0.07	0.28	0.05	0.04
	Irkutsk	0.18	0.10	0.11	0.21	0.16	0.13	0.25	0.32	0.15	0.16	0.09	0.15	0.53	0.16	0.11
	Primorskaya	0.28	0.37	0.44	0.37	0.37	0.44	0.27	0.30	0.40	0.20	0.23	0.19	0.14	0.06	0.05
Thailand	Bangkok	0.28	0.65	0.43	0.36	0.43	0.39	0.41	0.37	0.47	0.85	0.49	0.87	0.21	0.47	0.41
	Pathumthani	0.47	0.48	1.82	0.26	0.54	0.47	0.24	***	***	***	***	***	***	***	***
	Khanchanaburi	0.99	0.34	0.16	0.19	0.27	0.06	0.13	0.06	0.19	0.43	0.27	1.78	6.90	0.35	0.44
	Mae Hia	0.32	0.86	0.58	0.37	0.47	0.42	0.27	0.21	0.17	0.05	0.07	0.26	0.19	0.23	0.21
	Sakaerat		0.25	0.37	0.34	0.31	0.18	0.64	0.51	0.16	0.33	0.30	0.25	0.22	0.64	0.54
Vietnam	Hanoi	2.61	1.70	2.04	1.00	0.79	1.15	0.85	1.36	2.34	0.64	0.98	1.09	0.96	0.55	0.40
	Hoa Binh	2.37	1.19	1.41	0.94	0.70	0.65	0.32	0.56	1.30	0.83	0.70	0.90	0.31	0.35	0.14
	Can Tho										0.89	0.19	0.30	0.29	0.24	0.23
	Ho Chi Minh										0.53	0.34	0.58	0.66	0.97	1.04
	Yen Bai											1.11	0.94	0.91	0.85	0.27

Terms and abbreviations are given in Table 4.2.

Table 4.37 Annual Mg²⁺ in PM concentration from 2005 to 2019

unit: µg/m³

Country	Site	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Cambodia	Phnom Penh						0.12	0.14	0.11	0.14	0.13	0.17	0.12	0.16	***	***
China	Hongwen			0.28	0.31	0.33	0.48	0.31	***	***	***	***	0.25	0.30	***	***
Indonesia	Jakarta										0.34	0.16	0.09	0.07	0.18	0.20
	Serpong	0.08	0.04	0.05	0.03	0.02	0.02	0.05	0.09	0.08	0.09	0.07	0.06	0.05	0.11	0.15
	Bandung										0.14	0.21	0.17	0.15	0.17	0.19
Japan	Rishiri	0.21	0.20	0.22	0.24	0.24	0.26	0.22	0.19	0.19	0.25	0.29	0.19	0.23	0.26	0.43
	Ochiishi				0.44	0.56	0.34	0.30	0.25	0.35	0.33	0.34	0.28	0.30	0.31	0.30
	Tappi	0.49	0.63	0.52	0.56	0.68	0.48	0.46	0.60	0.49	1.11	0.90	0.43	0.44	0.42	
	Sado-seki	0.31	0.28	0.31	0.39	0.31	0.32	0.30	0.29	0.31	0.29	0.38	0.32	0.32	0.48	0.33
	Happo	0.02	0.02	0.03	0.03	<0.01	<0.01	0.01	0.02	0.03	0.03	0.02	0.02	0.01	0.02	0.01
	Ijira	0.04	0.04	0.05	0.04	0.04	0.04	0.04	0.02	0.02	0.04	0.03	0.03	0.03	0.04	0.04
	Oki	0.31	0.30	0.29	0.28	0.34	0.44	0.36	0.39	0.46	0.44	0.40	0.47	0.79	0.44	0.38
	Banryu	0.23	0.26	0.22	0.17	0.20	0.20	0.21	0.17	0.22	0.22	0.20	0.14	0.28	0.19	
	Yusuhara	0.08	0.09	0.09	0.05	0.08	0.08	0.07	0.06	0.08	0.06	0.05	0.05	0.04	0.05	0.05
	Hedo	0.67	0.60	0.58	0.47	0.58	0.44	0.29	0.53	0.63	0.67	0.55	0.65	0.65	0.69	0.63
	Ogasawara	0.08	0.22	0.37	0.33	0.36	0.30	0.32	0.31	0.33	0.31	0.36	0.31	0.31	0.29	0.33
	Tokyo			0.15	0.12	0.13	0.12	0.13	0.11	0.14	0.13	0.13	0.12	0.12	0.13	0.14
Lao PDR	Vientiane											0.05	0.05	***	***	***
Malaysia	Petaling Jaya	0.03	0.03	0.09	0.05	0.03	0.05	0.04	0.03	0.07	0.08	0.08	0.04	0.04	0.06	***
	Tanah Rata	0.01	0.02	0.04	0.02	0.01	0.02	0.02	0.02	0.03	0.04	0.04	0.02	<0.01	<0.01	***
	Danum Valley		0.01	0.04	0.05	0.07	0.10	0.02	<0.01	0.01	0.04	0.05	0.03	0.02	0.03	***
Mongolia	Ulaanbaatar	0.35	0.26	0.19	0.11	0.04	0.18	0.38	***	***	***	***	0.04	0.05	0.04	0.02
	Terelj	0.06	0.06	0.02	0.02	0.04	0.04	0.05	***	***	***	***	0.01	<0.01	<0.01	<0.01
Myanmar	Yangon							0.18	0.13	0.04	0.09	0.15	0.20	0.04	0.06	0.05
Philippines	Metro Manila	0.11	0.24	0.14	0.17	***	0.10	***	***	***	***	***	***	***	***	0.1
	Los Banos	0.06	0.09	0.14	0.11	***	***	***	***	***	***	***	***	***	***	***
	Mt. Sto. Tomas		0.01	<0.01	0.07	<0.01	0.06	***	0.03	0.04	0.03	0.04	0.04	***	***	***
Republic of Korea	Kanghwa	0.01	0.01	<0.01	0.01	0.03	0.04	***	***	0.08	0.02	<0.01	<0.01	<0.01	<0.01	<0.01
	Cheju	0.01	0.02	0.09	0.02	<0.01	0.04	***	***	0.04	0.04	0.03	0.07	0.03	0.03	<0.01
	Imsil	0.03	0.04	0.03	0.01	0.02	0.05	***	***	0.03	0.03	0.03	0.08	0.03	0.02	<0.01
Russia	Mondy	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01
	Listvyanka	0.02	0.02	0.03	0.02	0.03	0.02	0.02	0.01	<0.01	<0.01	<0.01	0.04	0.02	0.01	<0.01
	Irkutsk	0.07	0.08	0.09	0.13	0.08	0.08	0.09	0.06	0.04	0.05	0.04	0.06	0.04	0.26	0.02
	Primorskaya	0.08	0.07	0.07	0.08	0.07	0.08	0.07	0.06	0.08	0.20	0.05	0.07	0.01	<0.01	<0.01
Thailand	Bangkok	0.10	0.13	0.09	0.08	0.09	0.14	0.09	0.07	0.11	0.20	0.13	0.12	0.07	0.13	0.10
	Pathumthani	0.05	0.05	0.08	0.06	0.07	0.05	0.04	***	***	***	***	***	***	***	***
	Khanchanaburi	<0.01	0.04	0.04	0.10	0.03	<0.01	0.03	0.03	0.03	0.06	0.05	0.41	0.03	0.05	0.12
	Mae Hia	0.02	0.22	0.07	0.04	0.04	0.04	0.02	0.03	0.03	0.01	0.02	0.04	0.04	0.08	0.05
	Sakaerat		0.05	0.06	0.05	0.04	0.02	0.01	0.01	<0.01	0.02	0.03	0.22	0.05	0.29	0.36
Vietnam	Hanoi	0.67	0.52	0.44	0.18	0.32	0.48	0.35	0.41	0.46	0.41	0.57	0.50	0.38	0.26	0.17
	Hoa Binh	0.49	0.13	0.15	0.09	0.11	0.11	0.08	0.14	0.28	0.19	0.21	0.25	0.14	0.22	0.07
	Can Tho										0.15	0.20	0.22	0.40	0.37	0.42
	Ho Chi Minh										0.23	0.46	0.72	0.44	0.68	0.58
	Yen Bai											0.19	2.26	0.13	0.22	0.18

Terms and abbreviations are given in Table 4.2.

Table 4.38 Annual Ca²⁺ in PM concentration from 2005 to 2019

unit: µg/m³

Country	Site	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Cambodia	Phnom Penh						0.87	0.82	0.76	0.87	0.71	1.32	1.07	1.17	***	***
China	Hongwen			2.84	2.79	2.73	9.44	1.59	***	***	***	***	1.56	1.80	***	***
Indonesia	Jakarta										3.18	1.14	0.83	0.59	1.13	1.12
	Serpong	0.28	0.36	0.26	0.13	0.07	0.09	0.18	0.59	0.51	0.54	0.68	0.43	0.41	0.94	0.86
	Bandung										1.32	1.61	1.28	1.09	1.51	1.53
Japan	Rishiri	0.14	0.13	0.14	0.17	0.16	0.18	0.13	0.13	0.14	0.13	0.18	0.12	0.15	0.16	0.27
	Ochiishi				0.15	0.24	0.14	0.14	0.10	0.17	0.24	0.14	0.12	0.15	0.15	0.13
	Tappi	0.27	0.35	0.30	0.30	0.39	0.36	0.29	0.27	0.26	0.45	0.41	0.24	0.24	0.21	
	Sado-seki	0.22	0.23	0.25	0.29	0.25	0.24	0.25	0.19	0.25	0.25	0.31	0.23	0.22	0.30	0.21
	Happo	0.15	0.17	0.14	0.12	0.07	0.05	0.04	0.11	0.19	0.18	0.13	0.10	0.07	0.12	0.05
	Ijira	0.16	0.18	0.17	0.13	0.14	0.15	0.17	0.08	0.09	0.13	0.11	0.12	0.11	0.13	0.12
	Oki	0.33	0.29	0.28	0.22	0.30	0.47	0.38	0.25	0.30	0.30	0.28	0.35	0.45	0.32	0.27
	Banryu	0.27	0.31	0.30	0.22	0.29	0.44	0.26	0.20	0.25	0.21	0.21	0.23	0.26	0.23	
	Yusuhara	0.25	0.27	0.28	0.14	0.36	0.33	0.21	0.15	0.26	0.19	0.12	0.12	0.12	0.16	0.11
	Hedo	0.37	0.48	0.43	0.34	0.43	0.48	0.18	0.32	0.42	0.41	0.40	0.38	0.38	0.43	0.38
	Ogasawara	0.04	0.13	0.22	0.16	0.20	0.23	0.17	0.15	0.16	0.14	0.29	0.14	0.15	0.14	0.16
	Tokyo			0.56	0.52	0.51	0.59	0.49	0.36	0.52	0.49	0.45	0.40	0.43	0.46	0.46
Lao PDR	Vientiane											0.22	0.22	***	***	***
Malaysia	Petaling Jaya	0.20	0.39	0.68	0.47	0.34	0.46	0.37	0.38	0.47	0.81	0.81	0.44	0.35	0.55	***
	Tanah Rata	0.06	0.07	0.10	0.08	0.07	0.07	0.07	0.09	0.28	0.42	0.18	0.12	0.05	<0.01	***
	Danum Valley		0.02	0.03	0.02	0.04	0.07	0.02	0.02	0.04	0.07	0.04	0.03	0.02	0.04	***
Mongolia	Ulaanbaatar	4.86	4.64	3.69	3.38	1.43	1.45	3.35	***	***	***	***	0.55	0.74	0.83	0.54
	Terelj	0.27	0.30	0.43	0.42	0.32	0.16	0.32	***	***	***	***	0.40	0.06	0.08	0.06
Myanmar	Yangon							1.82	1.03	0.29	0.51	3.11	1.69	0.40	0.24	0.27
Philippines	Metro Manila	0.75	1.09	1.18	0.87	***	0.66	***	***	***	***	***	***	***	***	0.7
	Los Banos	0.14	0.13	0.23	0.27	***	***	***	***	***	***	***	***	***	***	***
	Mt. Sto. Tomas		0.02	0.07	0.77	0.22	0.50	***	0.35	0.29	0.39	0.48	0.18	***	***	***
Republic of Korea	Kanghwa	0.10	0.04	0.05	0.07	0.17	0.07	***	***	0.14	0.11	0.02	0.03	0.05	0.03	0.02
	Cheju	0.08	0.05	0.09	0.11	0.08	0.07	***	***	0.09	0.10	0.08	0.12	0.05	0.08	0.07
	Imsil	0.11	0.12	0.28	0.11	0.08	0.09	***	***	0.08	0.07	0.09	0.14	0.08	0.08	0.06
Russia	Mondy	0.03	0.07	0.03	0.05	0.05	0.04	0.04	0.05	<0.01	<0.01	0.03	0.08	0.06	0.05	0.01
	Listvyanka	0.07	0.13	0.22	0.15	0.19	0.12	0.10	0.14	0.06	0.08	0.15	0.21	0.07	0.10	0.05
	Irkutsk	0.46	0.47	0.62	0.82	0.49	0.59	0.35	0.49	0.36	0.42	0.44	0.38	0.23	0.27	0.17
	Primorskaya	0.36	0.38	0.40	0.45	0.37	0.41	0.28	0.41	0.35	0.35	0.44	0.34	0.09	0.05	0.06
Thailand	Bangkok	1.20	1.39	1.07	0.80	0.88	0.94	1.03	0.74	1.29	2.09	0.97	1.01	0.49	1.29	1.09
	Pathumthani	0.47	0.65	0.93	0.36	0.90	0.98	0.50	***	***	***	***	***	***	***	***
	Khanchanaburi	0.06	0.18	0.12	0.22	0.12	0.04	0.12	0.28	0.12	0.23	0.14	1.65	0.07	0.16	0.39
	Mae Hia	0.31	0.61	0.57	0.44	0.72	0.53	0.22	0.47	0.46	0.12	0.15	0.42	0.27	0.18	0.30
	Sakaerat		0.17	0.23	0.28	0.22	0.09	0.16	0.14	0.11	0.16	0.22	0.31	0.22	1.36	0.93
Vietnam	Hanoi	8.47	8.97	7.59	2.83	2.87	7.75	8.67	4.07	6.23	4.11	5.99	4.76	3.01	1.92	2.99
	Hoa Binh	4.51	2.39	2.19	1.27	1.27	1.24	1.62	1.50	3.12	1.62	1.84	2.04	0.94	1.36	1.50
	Can Tho										1.52	1.53	1.74	1.36	1.41	2.00
	Ho Chi Minh										1.18	1.05	1.78	2.88	2.63	2.71
	Yen Bai											4.08	0.17	2.42	2.63	2.26

Terms and abbreviations are given in Table 4.2.

Table 4.39 Monthly and annual dry deposition amounts of gaseous and particulate substances

Site: Rishiri

Country: Japan

2019	Gases				Particulate matter components							
	SO ₂	HNO ₃	NH ₃	NO ₂ ^{*1}	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Mg ²⁺	Ca ²⁺
	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²
Jan	0.25	0.06	0.11	0.01	0.07	0.04	2.93	0.10	2.86	0.19	0.38	0.19
Feb	0.15	0.08	0.11	0.01	0.07	0.07	1.43	0.14	1.39	0.10	0.18	0.07
Mar	0.06	0.08	0.24	0.07	0.10	0.10	2.07	0.18	2.03	0.10	0.26	0.10
Apr	0.05	0.13	0.63	0.12	0.15	0.19	2.08	0.23	2.36	0.10	0.28	0.15
May	0.02	0.13	0.63	0.03	0.09	0.12	1.19	0.12	1.57	0.06	0.18	0.08
June	0.03	0.15	1.16	0.10	0.13	0.11	1.54	0.14	2.55	0.12	0.28	0.09
July	0.00	0.20	1.29	0.10	0.12	0.05	0.19	0.13	0.71	0.17	0.08	0.03
Aug	0.00	0.10	0.81	0.06	0.07	0.02	0.16	0.06	0.60	0.07	0.07	0.02
Sept	0.03	0.07	0.74	0.08	0.08	0.09	3.58	0.12	3.61	0.16	0.43	0.13
Oct	0.04	0.15	0.53	0.04	0.14	0.12	4.54	0.16	5.06	0.17	0.61	0.20
Nov	0.11	0.01	0.01	0.02	0.01	0.01	0.72	0.02	0.72	0.02	0.08	0.02
Dec	0.11	0.13	0.09	0.03	0.15	0.14	6.77	0.25	6.84	0.24	0.82	0.23
Annual	0.86	1.30	6.35	0.67	1.19	1.07	27.19	1.65	30.28	1.51	3.63	1.30

Table 4.40 Monthly and annual dry deposition amounts of gaseous and particulate substances

Site: Ochiishi

Country: Japan

2019	Gases				Particulate matter components							
	SO ₂	HNO ₃	NH ₃	NO ₂ ^{*1}	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Mg ²⁺	Ca ²⁺
	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²
Jan	0.12	0.16	0.05	0.01	0.06	0.04	1.82	0.10	1.70	0.04	0.19	0.05
Feb	--	0.14	0.05	0.01	0.10	0.11	1.11	0.22	1.11	0.05	0.12	0.04
Mar	--	0.14	0.14	0.07	0.10	0.11	2.43	0.18	2.40	0.07	0.25	0.07
Apr	--	0.12	0.47	0.15	0.07	0.10	1.05	0.11	1.11	0.04	0.12	0.04
May	0.03	0.36	0.96	0.16	0.11	0.20	1.67	0.21	1.83	0.06	0.20	0.07
June	0.27	0.26	1.04	0.18	0.08	0.04	1.01	0.07	1.14	0.02	0.13	0.03
July	0.18	0.30	1.21	0.19	0.13	0.05	0.20	0.12	0.58	0.01	0.06	0.01
Aug	0.20	0.08	0.74	0.15	0.08	0.04	1.33	0.05	1.54	0.04	0.17	0.03
Sept	0.19	0.08	0.64	0.20	0.07	0.09	1.89	0.06	1.95	0.04	0.22	0.05
Oct	0.18	0.15	0.59	0.06	0.04	0.05	3.93	0.06	3.57	0.08	0.39	0.09
Nov	0.14	0.12	0.24	0.04	0.05	0.06	4.09	0.08	3.69	0.08	0.41	0.10
Dec	0.17	0.12	0.25	0.05	0.03	0.03	2.20	0.04	2.01	0.04	0.22	0.05
Annual	1.48	2.04	6.38	1.25	0.91	0.91	22.73	1.30	22.62	0.58	2.48	0.64

Table 4.41 Monthly and annual dry deposition amounts of gaseous and particulate substances

Site: Sado-seki

Country: Japan

2019	Gases				Particulate matter components							
	SO ₂	HNO ₃	NH ₃	NO ₂ ^{*1}	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Mg ²⁺	Ca ²⁺
	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²
Jan	0.41	--	--	0.01	--	--	--	--	--	--	--	--
Feb	0.24	--	--	0.01	--	--	--	--	--	--	--	--
Mar	0.21	0.45	0.37	0.12	0.11	0.14	2.11	0.18	2.07	0.06	0.23	0.10
Apr	0.13	0.19	0.38	0.17	0.06	0.07	0.86	0.07	0.89	0.03	0.10	0.07
May	0.25	0.43	0.55	0.17	0.14	0.13	0.07	0.19	0.28	0.02	0.04	0.05
June	0.07	0.33	0.58	0.15	0.08	0.04	0.28	0.08	0.45	0.01	0.05	0.02
July	0.08	0.41	0.49	0.17	0.06	0.02	0.03	0.06	0.16	0.01	0.02	0.01
Aug	0.05	0.32	0.50	0.16	0.13	0.07	0.46	0.15	0.68	0.02	0.08	0.03
Sept	0.05	0.17	0.23	0.17	0.03	0.03	2.66	0.04	2.28	0.05	0.26	0.05
Oct	0.04	0.17	0.12	0.06	0.02	0.03	1.64	0.02	1.46	0.04	0.17	0.05
Nov	0.12	0.11	0.07	0.04	0.05	0.06	2.93	0.04	2.64	0.07	0.28	0.11
Dec	0.11	0.11	0.06	0.05	0.05	0.05	2.81	0.06	2.62	0.06	0.27	0.08
Annual	1.76	2.69	3.33	1.27	0.72	0.64	13.82	0.88	13.54	0.36	1.50	0.57

1 NO₂ = NOx - NO

Table 4.42 Monthly and annual dry deposition amounts of gaseous and particulate substances**Site: Happo****Country: Japan**

2019	Gases				Particulate matter components							
	SO ₂	HNO ₃	NH ₃	NO ₂ ^{*1}	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Mg ²⁺	Ca ²⁺
	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²
Jan	0.09	0.31	0.09	0.01	0.02	0.01	0.01	0.02	0.02	0.00	0.00	0.01
Feb	0.11	0.27	0.17	0.01	0.01	0.00	0.00	0.02	0.01	0.00	0.00	0.00
Mar	0.10	0.77	0.34	0.07	0.05	0.03	0.01	0.08	0.05	0.01	0.01	0.02
Apr	0.11	0.51	0.48	0.12	0.09	0.06	0.02	0.12	0.15	0.03	0.03	0.08
May	0.17	0.77	0.60	0.15	0.09	0.03	0.00	0.11	0.04	0.01	0.01	0.04
June	0.10	0.44	0.67	0.13	0.06	0.02	0.00	0.10	0.02	0.01	0.00	0.01
July	0.07	0.26	0.45	0.14	0.06	0.00	0.00	0.07	0.01	0.00	0.00	0.00
Aug	0.08	0.53	0.52	0.14	0.06	0.01	0.00	0.09	0.03	0.01	0.00	0.01
Sept	0.08	0.19	0.39	0.14	0.03	0.00	0.00	0.04	0.01	0.00	0.00	0.00
Oct	0.07	0.16	0.36	0.06	0.01	0.00	0.00	0.01	0.02	0.00	0.00	0.00
Nov	0.17	0.20	0.16	0.04	0.02	0.01	0.00	0.01	0.03	0.00	0.00	0.01
Dec	0.06	0.17	0.06	0.04	0.02	0.00	0.00	0.02	0.03	0.00	0.00	0.00
Annual	1.23	4.58	4.29	1.03	0.52	0.18	0.06	0.70	0.41	0.08	0.07	0.19

Table 4.43 Monthly and annual dry deposition amounts of gaseous and particulate substances**Site: Ijira****Country: Japan**

2019	Gases				Particulate matter components							
	SO ₂	HNO ₃	NH ₃	NO ₂ ^{*1}	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Mg ²⁺	Ca ²⁺
	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²
Jan	--	0.02	0.04	0.01	0.02	0.01	0.01	0.03	0.02	0.00	0.00	0.00
Feb	--	0.03	0.05	0.01	0.03	0.01	0.00	0.05	0.02	0.00	0.00	0.00
Mar	--	0.05	0.14	0.09	0.04	0.02	0.01	0.08	0.03	0.01	0.00	0.01
Apr	--	0.09	0.20	0.12	0.05	0.03	0.01	0.07	0.05	0.01	0.01	0.01
May	--	0.11	0.31	0.11	0.05	0.02	0.00	0.07	0.04	0.01	0.01	0.01
June	--	0.11	0.38	0.10	0.05	0.00	0.00	0.07	0.02	0.00	0.00	0.01
July	--	0.06	0.27	0.07	0.03	0.00	0.00	0.04	0.00	0.00	0.00	0.00
Aug	--	0.12	0.51	0.08	0.06	0.01	0.00	0.06	0.05	0.01	0.01	0.01
Sept	0.05	0.05	0.39	0.10	0.02	0.01	0.00	0.03	0.02	0.00	0.00	0.00
Oct	0.03	0.03	0.21	0.04	0.01	0.00	0.00	0.02	0.02	0.00	0.00	0.00
Nov	0.06	0.02	0.12	0.03	0.02	0.01	0.01	0.02	0.02	0.00	0.00	0.01
Dec	0.02	0.01	0.05	0.03	0.01	0.00	0.01	0.02	0.01	0.00	0.00	0.00
Annual	0.16	0.70	2.67	0.77	0.39	0.13	0.04	0.55	0.29	0.05	0.04	0.07

Table 4.44 Monthly and annual dry deposition amounts of gaseous and particulate substances**Site: Oki****Country: Japan**

2019	Gases				Particulate matter components							
	SO ₂	HNO ₃	NH ₃	NO ₂ ^{*1}	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Mg ²⁺	Ca ²⁺
	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²
Jan	0.48	0.34	0.31	0.01	0.11	0.23	3.33	0.20	3.34	0.10	0.39	0.16
Feb	0.30	0.22	0.45	0.01	0.13	0.16	2.17	0.23	2.28	0.10	0.27	0.13
Mar	0.48	0.51	0.77	0.12	0.20	0.29	2.29	0.37	2.48	0.10	0.28	0.14
Apr	0.25	0.34	0.80	0.18	0.15	0.19	1.12	0.19	1.36	0.07	0.16	0.11
May	0.59	0.63	0.82	0.17	0.20	0.20	0.45	0.23	0.87	0.04	0.10	0.08
June	0.28	0.58	1.83	0.17	0.19	0.10	0.29	0.22	0.66	0.03	0.08	0.03
July	0.36	0.46	1.47	0.19	0.14	0.07	0.23	0.15	0.56	0.02	0.06	0.02
Aug	0.37	0.37	1.35	0.15	0.17	0.11	0.73	0.20	1.21	0.05	0.14	0.04
Sept	0.12	0.17	0.86	0.19	0.08	0.07	0.96	0.09	1.10	0.04	0.12	0.04
Oct	0.12	0.12	0.62	0.06	0.07	0.11	3.00	0.08	2.92	0.08	0.33	0.12
Nov	0.39	0.22	0.45	0.04	0.08	0.16	2.78	0.10	2.76	0.08	0.32	0.16
Dec	0.54	0.13	0.23	0.05	0.07	0.10	2.11	0.11	2.10	0.06	0.24	0.06
Annual	4.27	4.07	9.96	1.33	1.60	1.77	19.46	2.16	21.65	0.76	2.49	1.07

1 NO₂ = NOx - NO

Table 4.45 Monthly and annual dry deposition amounts of gaseous and particulate substances**Site: Yusuhara****Country: Japan**

2019	Gases				Particulate matter components							
	SO ₂	HNO ₃	NH ₃	NO ₂ ^{*1}	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Mg ²⁺	Ca ²⁺
	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²
Jan	0.17	0.34	0.52	0.01	0.16	0.16	2.05	0.15	2.35	0.07	0.30	0.13
Feb	0.18	0.15	1.04	0.01	0.11	0.10	2.14	0.10	2.36	0.09	0.31	0.11
Mar	0.24	0.39	1.34	0.13	0.16	0.23	2.70	0.14	3.01	0.10	0.39	0.24
Apr	0.17	0.37	1.59	0.18	0.13	0.13	1.48	0.10	1.88	0.07	0.26	0.12
May	0.18	0.19	1.25	0.16	0.13	0.14	1.57	0.12	1.81	0.06	0.24	0.13
June	0.09	0.11	1.56	0.15	0.06	0.05	1.91	0.05	2.02	0.08	0.27	0.08
July	0.09	0.07	1.62	0.20	0.07	0.06	2.25	0.03	2.27	0.07	0.30	0.08
Aug	0.12	0.07	3.96	0.18	0.10	0.10	4.08	0.08	4.00	0.11	0.54	0.13
Sept	0.09	0.06	2.74	0.20	0.09	0.07	4.86	0.06	4.75	0.13	0.62	0.15
Oct	0.34	0.22	1.62	0.06	0.19	0.17	2.65	0.14	2.90	0.08	0.37	0.10
Nov	0.62	0.27	1.03	0.04	0.15	0.13	3.54	0.11	3.51	0.09	0.46	0.17
Dec	0.55	0.18	0.80	0.05	0.12	0.12	4.70	0.11	4.65	0.12	0.60	0.17
Annual	2.84	2.42	19.08	1.36	1.47	1.47	33.92	1.20	35.52	1.06	4.67	1.61

Table 4.46 Monthly and annual dry deposition amounts of gaseous and particulate substances**Site: Hedo****Country: Japan**

2019	Gases				Particulate matter components							
	SO ₂	HNO ₃	NH ₃	NO ₂	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Mg ²⁺	Ca ²⁺
	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²
Jan	0.09	0.29	0.51	0.02	0.26	0.30	6.84	0.24	7.79	0.24	1.00	0.46
Feb	0.08	0.11	0.63	0.01	0.15	0.17	5.36	0.15	5.92	0.21	0.77	0.29
Mar	0.23	0.30	1.11	0.11	0.23	0.39	8.84	0.21	9.85	0.32	1.29	0.80
Apr	0.09	0.27	0.83	0.07	0.17	0.20	2.88	0.14	3.89	0.14	0.52	0.29
May	0.18	0.12	0.77	0.06	0.15	0.16	3.51	0.13	4.10	0.14	0.53	0.29
June	0.05	0.06	0.69	0.06	0.06	0.05	3.01	0.05	3.16	0.12	0.43	0.12
July	0.04	0.03	0.77	0.06	0.04	0.05	3.83	0.02	3.90	0.13	0.52	0.14
Aug	0.04	0.02	0.82	0.04	0.05	0.06	4.99	0.04	4.89	0.13	0.62	0.15
Sept	0.03	0.02	1.05	0.04	0.05	0.05	4.34	0.04	4.25	0.11	0.55	0.13
Oct	0.17	0.12	1.03	0.03	0.18	0.19	5.41	0.14	6.06	0.16	0.77	0.21
Nov	0.28	0.13	0.78	0.05	0.14	0.14	6.29	0.10	6.31	0.16	0.82	0.30
Dec	0.21	0.10	0.52	0.05	0.12	0.14	6.33	0.11	6.44	0.17	0.84	0.24
Annual	1.48	1.55	9.53	0.61	1.61	1.90	61.63	1.38	66.55	2.04	8.68	3.41

Table 4.47 Monthly and annual dry deposition amounts of gaseous and particulate substances**Site: Ogasawara****Country: Japan**

2019	Gases				Particulate matter components							
	SO ₂	HNO ₃	NH ₃	NO ₂ ^{*1}	nss-SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Mg ²⁺	Ca ²⁺
	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²	mmol m ⁻²
Jan	0.02	0.03	0.08	0.02	0.08	0.07	3.34	0.08	3.63	0.08	0.41	0.12
Feb	0.11	0.04	0.22	0.02	0.10	0.10	3.02	0.09	3.36	0.10	0.41	0.16
Mar	0.10	0.08	0.45	0.12	0.17	0.19	8.19	0.14	9.10	0.25	1.08	0.40
Apr	0.09	0.08	0.34	0.16	0.10	0.10	4.41	0.04	5.13	0.14	0.57	0.18
May	0.06	0.03	0.36	0.13	0.08	0.10	6.22	0.06	6.28	0.15	0.70	0.20
June	0.06	0.02	0.39	0.17	0.05	0.05	2.64	0.04	2.80	0.10	0.33	0.09
July	0.04	0.01	0.43	0.19	0.03	0.02	2.50	0.04	2.50	0.07	0.29	0.07
Aug	0.01	0.02	0.63	0.16	0.06	0.04	13.30	0.08	12.24	0.29	1.39	0.28
Sept	0.02	0.01	0.50	0.18	0.03	0.03	7.65	0.03	7.15	0.21	0.82	0.17
Oct	0.03	0.01	0.25	0.05	0.04	0.03	13.03	0.02	11.91	0.28	1.37	0.30
Nov	0.00	--	--	0.04	--	--	--	--	--	--	--	--
Dec	0.48	--	--	0.04	--	--	--	--	--	--	--	--
Annual	1.01	0.33	3.67	1.27	0.74	0.73	64.31	0.61	64.09	1.69	7.37	1.96

1 NO₂ = NO_x - NO

Table 4.48 Conversion ratios from ppb to $\mu\text{g}/\text{m}^3$ (20°C, 1 atm)

Species	SO ₂	HNO ₃	HCl	NH ₃	NO	NO ₂	O ₃
Ratio	x 2.66	x 2.62	x 1.52	x 0.71	x 1.25	x 1.91	x 2.00

Table 4.49 Reporting limits for summarizing air concentration data

Species	Reporting limit
SO ₂	0.1 ppb
HNO ₃	0.1 ppb
HCl	0.1 ppb
NH ₃	0.1 ppb
NO, NO ₂ , NO _x	0.1 ppb
O ₃	1 ppb
PM	1 $\mu\text{g}/\text{m}^3$
Particulate matter components	0.01 $\mu\text{g}/\text{m}^3$

CHAPTER 5

Soil and Vegetation Monitoring

5. Soil and Vegetation Monitoring

5.1 Method

The basic survey was principally carried out for the initial objectives (namely, establishment of baseline data and early detection of possible impact) in the participating countries in accordance with the *Technical Documents for Soil and Vegetation Monitoring in East Asia (2000)*. General items are described in the Table 5.1 but actual implementation of item sets was dependent on respective site.

Table 5.1 Basic survey for soil and forest

Item	Parameters
Soil	- pH(H₂O), pH(KCl), Exchangeable base cations (Na, K, Ca, and Mg), Exchangeable acidity, Effective cation exchange capacity (ECEC), Carbonate content (if pH > 7) - Exchangeable Al and H, Total C content, Total N content (optional) - Available P, Sulfate (voluntary) - Physical properties (Fine earth bulk density, and Penetration resistance) (optional)
Forest	- General description of the forest (Description of trees, and Understory vegetation) - Observation of tree decline - Photographic record of tree decline, Estimation of decline causes (optional)

5.1.1 Field Operation

Basically, two forest areas, whose soils have different sensitivities to acid deposition, are recommended to be selected in an area. Several plots (at least two) of areas from 5 m x 5 m to 10 m x 10 m should be chosen randomly at each forest area (each soil type). Five subplots with 1 m x 1 m square of each are set up for soil sampling at the center and along the diagonal lines of the plot (Figure 5.1).

Three coaxial round plots are established for general description of trees with areas of 1000, 400 and 200 square meters respectively (Figure 5.2). Observation of tree decline is carried out basically for selected twenty dominant trees in four directions. The Sub-Manual on Forest Vegetation Monitoring, which was endorsed in 2006, recommended that the observation should be done at least once a year to detect possible effects of meteorological events. Decline symptoms of the observation trees were recorded according to the decline scale shown in Table 5.2.

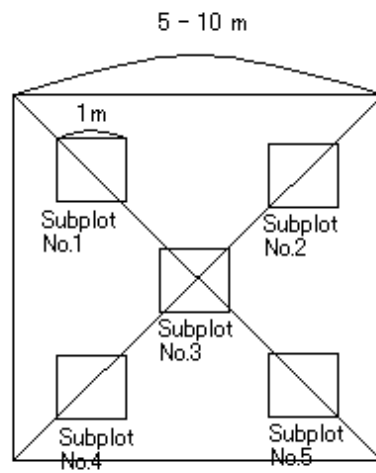


Figure 5.1 Plot for soil sampling

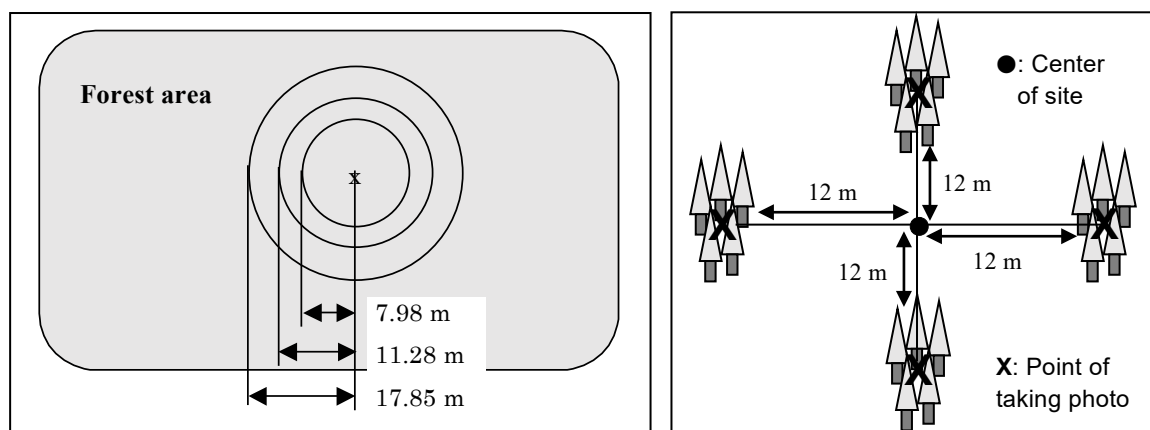


Figure 5.2 Plots for description of trees (Left) and selection of observation trees (Right)

Table 5.2 Observation items and decline scale

Items	Decline scale and observations
Vitality of tree	0. No damage, 1. Slightly damaged, 2. Evidently damaged, 3. Severely damaged, 4. Dead
Form of tree	0. Normal, 1. Some branches lacking, 2. Evidently wanting, 3. Severely wanting, 4. Dead or almost dead
Branch growth	0. Normal growth, 1. Somewhat reduced, 2. Short and slender, 3. Extremely short
Dieback of stem	0. Not found, 1. Slightly dieback, 2. Evidently dieback, 3. Severe dieback if found, 4. Completely dead
Defoliation of crown ^{*1}	0. Not defoliated (0–10%), 1. Slightly defoliated (>10–25%), 2. Moderately defoliated (>25–60%), 3. Severely defoliated (>60%), 4. Dead
Deformation of leaves	0. Normal, 1. Slightly deformed, 2. Evidently deformed, 3. Completely deformed
Size of leaves	0. Normal, 1. Somewhat small, 2. Evidently small, 3. Very small
Discoloration of leaves ^{*1}	0. None (0–10%), 1. Slight (>10–25%), 2. Moderate (>25–60%), 3. Severe (>60%)
Injury of leaves	0. No symptoms, 1. Slightly injured, 2. Evidently injured, 3. Severely injured

^{*1}. Definition of the scale was updated in the Sub-Manual on Forest Vegetation Monitoring (2006).

5.1.2 Laboratory Operation

Analytical methods recommended in the Manual are presented in Table 5.3.

Table 5.3 Analytical equipment and methods for soil monitoring

Parameters	Equipment/methods
<i>Chemical Properties of Soil</i>	
a) Moisture Content	Drying oven, Balance
b) pH(H ₂ O) and pH(KCl)	Glass electrode
c) Exchangeable Base Cations (Ca, Mg, K and Na)	AAS or ICP-AES (CH ₃ COONH ₄ -Extraction)
d) Exchangeable Acidity	Titration (KCl-Extraction)
e) Exchangeable Al, H	ibid.
f) Effective Cation Exchange Capacity (ECEC)	Calculation (as sum of exchangeable cations)
g) Carbonate Content (for calcareous soil)	Volumetric calcimeter
h) Total Carbon Content	Titration (Walkley-Black method) or CN-analyzer
i) Total Nitrogen Content	Titration (Kjeldahl method) or CN-analyzer
j) Available Phosphate	Spectrophotometry (Bray-1 test)
k) Sulfate	Turbidimetry, IC or ICP-AES
<i>Physical Properties of Soil</i>	
a) Fine Earth Bulk Density	Metal sampling cylinder, Drying oven, Balance
b) Penetration Resistance (in the fieldwork)	Pocket penetrometer

5.1.3 Monitoring Sites

Soil and vegetation monitoring data were submitted from 6 areas of 3 countries this year. The list of monitoring sites and reported items in 2019 is shown in Table 5.4.1. Observation of the tree decline was conducted at 7 plots. The survey on soil monitoring were carried out in Indonesia. The number of soil and vegetation plots in each monitoring site is shown in Table 5.4.2 with the number of survey until 2019.

Table 5.4.1 Outline of the Monitoring Sites in 2019

Country	Nearest deposition monitoring site	Site: Name of forests EANET site code	Soil type	Items ^{*1}
China	Jinyunshan (Chongqing)	Jinyunshan CNS004	Acidi-Udic Argosols	F ₁
	Jiwozi (Xi'an)	Dabagou CNS007	Brown soil	F ₁
	Xiaoping (Xiamen)	Xiaoping CNS009	Red soil	F ₁
Indonesia	Serpong	Bogor Research Forest (Dramaga Experimental Forest) IDS002	Typic Dystrudepts	S
Japan	Happo	Sekido-san JPS005	Cambisols	F ₁
		Horyu-zan JPS105	Acrisols	F ₁
	Ijira	Ijira JPS006	Dystric Cambisols	F ₁
		Yamato JPS106	Andosols	F ₁

^{*1} S, Soil chemical analysis; F₁, Observation of tree decline; F₂, Description of trees and understory vegetation survey

Table 5.4.2 Site locations and number of plots and surveys conducted until 2019

Country	Area (Nearest acid deposition monitoring site)	Soil and vegetation monitoring site	EANET site code	Number of plots		Start year	Latest survey	Number of surveys until 2019			
				Forest plot	Soil plot			Tree decline	Forest survey	Understory survey	Soil survey
China	Jinyunshan (Chongqing)	Jinyunshan	CNS004	2	2	2000	2019	14	5	5	6
	Jiwozi (Xi'an)	Dabagou	CNS007	1	2	2001	2019	14	5	5	6
	Xiaoping (Xiamen)	Xiaoping	CNS009	1	1	2000	2019	13	5	4	5
	Zhuxiandong (Zhuhai)	Zhuxiandong	CNS011	3	3	2001	2016	7	7	7	6
Indonesia	Serpong	Bogor Research Forest (Dramaga Experimental Forest)	IDS002	1	1	2001	2019	7	1	1	5
Japan	Happo*	Sekido-san	JPS005	1	2	2001	2019	17	4	4	4
		Horyu-zan	JPS105	1	2	2001	2019	17	4	4	4
	Ijira	Ijira	JPS006	1	2	2000	2019	17	4	4	4
		Yamato	JPS106	1	2	2003	2019	17	3	3	3
	Banryu*	Banryu-2	JPS008	1	2	2000	2018	17	4	4	4
		Iwami "rinku" Factory Park	JPS108	1	2	2001	2018	17	4	4	4
Malaysia	Petaling Jaya	Pasoh Reserve Forest 1	MYS001	0	1	2000	2018				3
		Pasoh Reserve Forest 2	MYS101	0	1	2014	2018				2
	(Bintulu)	UPMKB Rehabilitated Forest Planted in 1991	MYS005	0	2	2009	2012				2
		UPMKB Rehabilitated Forest Planted in 2008	MYS105	0	2	2009	2012				2
Mongolia	Ulaanbaatar	Bogdkhan Mountain	MNS001	1	2	2005	2017	1	1	0	2
	Terej	Terej Mountain	MNS002	0	2	2014	2017				2
Philippines	Los Banos	Mt. Makiling	PHS002	1	2	2000	2008	2	3	3	3
		UP Quezon, Land Grant	PHS102	1	2	2000	2008	3	2	3	4
	Metro Manila	La Mesa Watershed	PHS001	1	2	2007	2010	2	2	2	2
	Mt. Sto Tomas	Boneco Long Term Ecological Research Site	PHS003	1	2	2008	2008	1	1	1	1
Republic of Korea	Imsil	Mt. Naejang	KRS003	1	2	2001	2004	2	2	2	2
Russia	Irkutsk	Irkutsk	RUS003	1	1	2001	2013	2	2	2	2
	Listvyanka	Bolshie Koty	RUS002	1	2	2000	2013	1	1	1	2
		Pereemnya river catchment	RUS102	1	2	2005	2005	1	1	1	1
	Mondy	Ilchir Lake	RUS001	0	2	1999	1999				1
		Okinskoe Lake	RUS101	0	1	1999	1999				1
		Solar Observatory	RUS201	1	2	1999	2014	1	1	1	2
	Primorskaya	Primorskaya	RUS004	1	1	2006	2013	1	1	1	2
Thailand	Vajiralongkorn Dam (old name: Kao Lam Dam)	Vajiralongkorn Dam	THS004	1	2	2000	2012	2	4	3	6
		Vajiralongkorn Puye	THS104	1	1	2002	2012	2	5	4	4
Vietnam	Hoa Binh	Cave of Heaven	VNS002	0	2	1999	1999				1
		Thang Ranh	VNS102	0	2	1999	1999				1

Bold letters indicate that soil and/or vegetation monitoring was conducted in 2019.

*Banryu was closed in 2018, and Happo was added alternatively (Japan).

5.2 Results of Monitoring

Results of basic survey for soil and forest were reported in the following tables:

➤ **Table 5.5: Soil chemical analysis**

Table 5.5.1: Bogor Research Forest (Dramaga Experimental Forest) (Indonesia)
IDS002

➤ **Table 5.6: Observation of tree decline**

Table 5.6.1: Jinyunshan-1 (China) CNS004

Table 5.6.2: Jinyunshan-2 (China) CNS004

Table 5.6.3: Dabagou (China) CNS007

Table 5.6.4: Xiaoping (China) CNS009

Table 5.6.5: Sekido-san (Japan) JPS005

Table 5.6.6: Horyu-zan (Japan) JPS105

Table 5.6.7: Ijira (Japan) JPS006

Table 5.6.8: Yamato (Japan) JPS106

Table 5.5.1 Soil chemical analysis: Bogor Research Forest (Dramaga Experimental Forest) (Indonesia) INS002
Soil sampling date : 19 March 2019
Name of analysis laboratory: EMC Serpong

Location	Soil type	Plot No.	Subplot No.	Layer analyzed (cm)	Repeat analysis	Water content (%)	pH		Exchangeable base cations (B)			Ex-acidity		Ex-acid cations		ECEC (A) + (B)	Total		Available P (mg kg ⁻¹)	
							H ₂ O	KCl	Ca	Mg	K	Na	(A)	Al	H		C	N		
																				(cmol _c kg ⁻¹)
Bogor Research Forest (Dramaga Experimental Forest) INS002	Typic Dystrudepts	1	1		1		4.2	3.6	1.36	0.94	0.08	0.05	6.16	4.98	1.18	8.59				
			2		1		4.3	3.6	1.87	0.96	0.11	0.03	5.97	4.98	0.99	8.94				
			3	0-10	1		4.4	3.7	1.70	0.80	0.08	0.03	6.23	5.32	0.91	8.84				
			4		1		4.4	3.8	1.03	1.93	0.07	0.05	1.31	0.89	0.42	4.39				
			5		1		4.4	3.7	1.37	2.25	0.07	0.04	5.59	4.47	1.12	9.32				
			1		1	-		4.2	3.6	1.26	0.95	0.08	0.04	6.69	5.73	0.96	9.02	-	-	-
		2		1			4.4	3.6	1.97	0.86	0.10	0.04	6.59	5.44	1.15	9.56				
		3	10-20	1			4.4	3.8	1.49	3.16	0.07	0.03	6.56	5.63	0.93	11.31				
		4		1			4.4	3.8	1.36	1.62	0.04	0.05	1.32	0.85	0.47	4.39				
		5		1			4.4	3.7	1.97	2.93	0.10	0.04	5.67	4.32	1.35	10.71				

Field soil moisture content was not determined.

Table 5.6.1 Observation of tree decline: Jinyunshan-1 (China) CNS004

Plot name: Jinyunshan-1
Date: 14 November 2019
Surveyor: Lixianyuan

Individual No.	1 (3)	2 (2)	3 (58)	4 (101)	5 (105)	6 (70)	7 (102)	8 (72)	9 (103)	10 (104)
Direction (E, W, S, or N)	E	E	E	S	S	W	S	W	N	N
Plant Name	<i>Cunninghamia lanceolata</i>	<i>Symplocos setchuensis</i>	<i>Symplocos setchuensis</i>	<i>Symplocos setchuensis</i>	<i>Symplocos setchuensis</i>	<i>Symplocos setchuensis</i>	<i>Symplocos setchuensis</i>	<i>Symplocos setchuensis</i>	<i>Symplocos setchuensis</i>	<i>Symplocos setchuensis</i>
Relative height	Null									
Tree height (m)	19.5	10.5	8.0	14.6	14.1	9.4		11.4	13.2	13.1
DBH (cm)	19.1	16.2	13.1	14.9	15.6	10.8		13.2	13.8	10.5
Vitality of tree	Dead in 2016									
Form of tree										
Branch growth										
Dieback of stem										
Defoliation of crown										
Deformation of leaves										
Size of leaves										
Discoloration of leaves										
Injury of leaves										
Damage class*1										
Estimated cause of decline:	Unspecified									

Note: *1. Damage class will be decided based on combination of defoliation and discoloration classes.
Blank cells indicate "0" (no damage).

Table 5.6.2 Observation of tree decline: Jinyunshan-2 (China) CNS004

Plot name: Jinyunshan-2
Date: 14 November 2019
Surveyor: Lixianyuan

Individual No.	1 (67)	2 (68)	3 (74)	4 (76)	6 (41)	8 (71)	9 (70)	10 (69)
Direction (E, W, S, or N)	E	E	S	S	W	N	N	N
Plant Name	<i>Symplocos setchuensis</i>	<i>Symplocos setchuensis</i>	<i>Adinandra hookiana</i>	<i>Symplocos setchuensis</i>	<i>Adinandra hookiana</i>	<i>Symplocos lancifolia</i>	<i>Elaeocarpus japonicus</i>	<i>Michilus pingii</i>
Relative height	Null						Null	
Tree height (m)	11.8	10.9		17.8	21.0	15.4	19.0	
DBH (cm)	13.8	17.1		26.4	21.5	17.6	40.7	
Vitality of tree	Dead in 2017						Dead in 2015	
Form of tree								
Branch growth								
Dieback of stem								
Defoliation of crown								
Deformation of leaves								
Size of leaves								
Discoloration of leaves								
Injury of leaves								
Damage class*1								
Estimated cause of decline:	Unspecified							

Note: *1. Damage class will be decided based on combination of defoliation and discoloration classes.
Blank cells indicate "0" (no damage).

Table 5.6.3 Observation of tree decline: Dabagou (China) CNS007

Plot name: Dabagou

Date: 30 October 2019

Surveyor: Wu Yu

Individual No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Direction (E, W, S, or N)	E	E	E	E	E	S	S	S	S	S	W	W	W	W	W	N	N	N	N	N
Plant Name	<i>Pinus armandi Fanch</i>	<i>Pinus armandi Fanch</i>	<i>Pinus armandi Fanch</i>	<i>Pinus armandi Fanch</i>	<i>Pinus armandi Fanch</i>	<i>Pinus armandi Fanch</i>	<i>Pinus armandi Fanch</i>	<i>Pinus armandi Fanch</i>	<i>Pinus armandi Fanch</i>	<i>Pinus armandi Fanch</i>	<i>Pinus armandi Fanch</i>	<i>Pinus armandi Fanch</i>	<i>Pinus armandi Fanch</i>	<i>Pinus armandi Fanch</i>	<i>Pinus armandi Fanch</i>	<i>Pinus armandi Fanch</i>	<i>Pinus armandi Fanch</i>	<i>Pinus armandi Fanch</i>	<i>Pinus armandi Fanch</i>	
Relative height																				
Tree height (m)	17.2	14.4	12.2	14.8	12.0	12.0	9.8	9.0	10.9	14.8	14.6	12.6	10.9	15.4	11.2	13.2	11.9	13.7	11.4	8.8
DBH (cm)	25.9	25.8	17.0	21.6	24.8	17.8	12.7	19.0	15.9	19.2	28.7	24.1	15.1	24.1	16.5	24.4	16.4	24.3	16.0	9.2
Vitality of tree	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Form of tree	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Branch growth	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Dieback of stem	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Defoliation of crown	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Deformation of leaves																				
Size of leaves																				
Discoloration of leaves																				
Injury of leaves																				
Damage class*1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Estimated cause of decline: Too much density

Note: *1. Damage class was decided based on combination of defoliation and discoloration classes.

Blank cells indicate "0" (no damage).

Table 5.6.4 Observation of tree decline: Xiaoping (China) CNS009

Plot name: XPZ-01

Date: 15 October 2019

Surveyor: Zhang Yashuang

Individual No.	120	210	211	116	203	225	227	301	220	221	337	334	333	313	314	310	309	308
Direction (E, W, S, or N)	E	E	E	E	S	S	S	S	W	W	W	W	W	N	N	N	N	N
Plant Name	<i>Michelia. Macclurei Dandy</i>	<i>Michelia. Macclurei Dandy</i>	<i>Michelia. Macclurei Dandy</i>	<i>Michelia. Macclurei Dandy</i>	<i>Michelia. Macclurei Dandy</i>	<i>Michelia. Macclurei Dandy</i>	<i>Michelia. Macclurei Dandy</i>	<i>Michelia. Macclurei Dandy</i>	<i>Michelia. Macclurei Dandy</i>	<i>Michelia. Macclurei Dandy</i>	<i>Michelia. Macclurei Dandy</i>	<i>Michelia. Macclurei Dandy</i>	<i>Michelia. Macclurei Dandy</i>	<i>Michelia. Macclurei Dandy</i>	<i>Michelia. Macclurei Dandy</i>	<i>Michelia. Macclurei Dandy</i>	<i>Michelia. Macclurei Dandy</i>	<i>Michelia. Macclurei Dandy</i>
Relative height																		
Tree height (m)	16.7	17.4	18.6	17.5	16.6	17.6	18.5	18.0	17.9	18.6	18.0	17.8	18.8	17.0	17.2	17.3	17.3	19.5
DBH (cm)	17.4	20.9	19.9	20.0	21.7	24.8	21.6	20.4	18.3	22.7	20.7	20.4	18.9	21.8	20.6	20.4	21.6	29.9
Vitality of tree																		
Form of tree																		
Branch growth																		
Dieback of stem																		
Defoliation of crown																		
Deformation of leaves																		
Size of leaves																		
Discoloration of leaves																		
Injury of leaves																		
Damage class*1																		

Estimated cause of decline:

Note: *1. Damage class was decided based on combination of defoliation and discoloration classes.

Blank cells indicate "0" (no damage).

Table 5.6.5 Observation of tree decline: Sekido-san (Japan) JPS005

Plot name: Sekido-san, Happo
Date: 10 September 2019
Surveyor: Yo Sengi

Individual No.	1	2	3	4	5	6	7	8-2	9	10	11	58	13	14	15	16	17	18	19	20
Direction (E, W, S, or N)	N	N	N	N	N	W	W	W	W	S	S	S	S	S	S	E	E	E	E	E
Plant Name	<i>Fagus crenata</i>	<i>Betula grossa</i>	<i>Acer mono</i>	<i>Fagus crenata</i>	<i>Fagus crenata</i>	<i>Fagus crenata</i>	<i>Carpinus ischonoskii</i>	<i>Fagus crenata</i>	<i>Betula grossa</i>	<i>Acer mono</i>	<i>Fagus crenata</i>	<i>Acer mono</i>	<i>Fagus crenata</i>	<i>Fagus crenata</i>	<i>Fagus crenata</i>	<i>Quercus mongolica</i> ssp. <i>Crispula</i>	<i>Prunus jamasakura</i>	<i>Fagus crenata</i>	<i>Fagus crenata</i>	<i>Fagus crenata</i>
Relative height	+	+	−	+				−				−								
Tree height (m)	30.3	35.0		31.6	25	24.8	23.8	16.6	21.6	20.4	26.0	15.7	26.5	24.0	26.5	26.1	21.2	19.5	26.8	21.0
DBH (cm)	41.9	57.4	42.2	64.8	51.9	54.9	54.8	29.8	40.5	33.5	59.9	23.4	65.9	37.7	47.9	46.5	66.2	36.4	57.9	42.8
Vitality of tree																				
Form of tree										1		1				1	1			
Branch growth																				
Dieback of stem																				
Defoliation of crown																				
Deformation of leaves																				
Size of leaves																				
Discoloration of leaves																				
Injury of leaves																				
Damage class																				

Estimated cause of decline: 17, Form of tree is disturbed due to broken lower branch.
Trees located in east aspect are shielded by lower tree species.
+ :Significantly taller taller than other trees. − : Significantly shorter than other trees.
Blank cells indicate "0" (no damage).

Table 5.6.6 Observation of tree decline: Horyu-zan (Japan) JPS105

Plot name: Horyu-zan, Happo
Date: 10 September 2019
Surveyor: Yo Sengi

Individual No.	1	2	3	4	5	6	7	8	9	10	95	12	13	14	15	16	17	18	19	20
Direction	N	N	N	N	N	W	W	W	W	S	S	S	S	S	S	E	E	E	E	E
Plant Name	<i>Fagus crenata</i>	<i>Fagus crenata</i>	<i>Fagus crenata</i>	<i>Fagus crenata</i>	<i>Fagus crenata</i>	<i>Pinus densiflora</i>	<i>Fagus crenata</i>	<i>Fagus crenata</i>	<i>Fagus crenata</i>	<i>Fagus crenata</i>	<i>Fagus crenata</i>	<i>Fagus crenata</i>	<i>Fagus crenata</i>	<i>Fagus crenata</i>	<i>Fagus crenata</i>	<i>Fagus crenata</i>	<i>Fagus crenata</i>	<i>Carpinus laxiflora</i>	<i>Fagus crenata</i>	<i>Fagus crenata</i>
Relative height			+			+	−									−		−		+
Tree height (m)	18.4	17.6	20.9	15.1	17.8	19.4	12.4	15.8	17.4	17.9	16.3	15.9	17.7	15.3	15.2	11.1	17.2	13.6	17.8	19.8
DBH (cm)	23.9	22.2	40.0	19.0	24.3	40.0	13.9	19.4	22.6	24.8	24.6	18	24.5	15.3	21.6	12.6	19.8	16.5	24.3	31.4
Vitality of tree																		1		
Form of tree																				
Branch growth							1									1		1		
Dieback of stem																				
Defoliation of crown																				
Deformation of leaves																				
Size of leaves																				
Discoloration of leaves																				
Injury of leaves																				
Damage class																				

Estimated cause of decline: 7, 16, 18, Tree height is lowered by suppression of surrounding trees.
+ :Significantly taller taller than other trees. − : Significantly shorter than other trees.
Blank cells indicate "0" (no damage).

Table 5.6.7 Observation of tree decline: Ijira (Japan) JPS006

Plot name: Ijira, Ijira

Date: 3 October 2019

Surveyor: Yoshizumi Hisada

Individual No.	1	2	3-2	4	5-2	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Direction (E, W, S, or N)	N	N	N	N	N	E	E	E	E	E	S	S	S	S	S	W	W	W	W	W
Plant Name	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Cryptomeria japonica</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>
Relative height		—		—			+					—	—	+				—	—	—
Tree height (m)	15.8	15.1	16.4	13.2	16.9	18.0	18.9	17.9	16.9	16.2	18.5	16.0	15.8	19.0	17.8	13.9	15.5	12.6	13.9	13.8
DBH (cm)	22.8	16.6	18.4	15.6	18.9	25.5	28.1	23.2	18.5	19.5	16.2	16.3	16.6	22.0	20.6	22.5	17.5	11.4	12.2	18.6
Vitality of tree																		1	1	1
Form of tree		1		1	1			1		1	1	1	1	1	1		1	1	1	1
Branch growth																				
Dieback of stem				1				1		1		1						1		
Defoliation of crown																				
Deformation of leaves																				
Size of leaves																				
Discoloration of leaves																				
Injury of leaves																				
Damage class																				
Estimated cause of decline: No.2, 4, 5-2, 8, 11, 12, 14, 15 and 17, bent stem; No. 10, bent stem and head; No. 13, bent stem and dichotomy; No. 18 and 19, suppression by other surrounding trees and bent stem; No. 20 suppression by other surrounding trees and dichotomy.																				
+ :Significantly taller taller than other trees. - : Significantly shorter than other trees.																				
Blank cells indicate "0" (no damage).																				

Table 5.6.8 Observation of tree decline: Yamato (Japan) JPS106

Plot name: Yamato, Ijira

Date: 10 October 2019

Surveyor: Yoshizumi Hisada

Individual No.	1	2	3	4	5	5-2	6	7-2	8	9-2	10	10-2	11-2	12-3	13-2	14-2	15	16	16-2	17	18-2	19-2	20
Direction	N	N	N	N	N	N	E	E	E	E	E	E	S	S	S	S	S	W	W	W	W	W	W
Plant Name	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	
Relative height					Null	—					Null			—				Null		—			—
Tree height (m)	32.6	28.9	31.9	29.9		27.0	32.0	29.9	31.9	31.1		29.1	29.0	26.0	29.5	28.9	30.0		29.4	28.1	31.9	31.3	26.0
DBH (cm)	40.2	39.8	45.0	44.3		31.4	46.1	41.7	37.9	41.8		42.5	34.6	32.5	47.5	35.9	43.6		35.5	35.0	47.4	46.2	34.7
Vitality of tree																							1
Form of tree							1		1				1	1						1	1		1
Branch growth																							
Dieback of stem				1	Dead in 2018						Dead in 2018							Dead in 2018					
Defoliation of crown																							
Deformation of leaves																							
Size of leaves																							
Discoloration of leaves																							
Injury of leaves																							
Damage class																							
Estimated cause of decline: No. 6, 20, bent stem; No. 8, 12-3 and 17, bent stem and head; No. 11-2, bent head and dichotomy; No. 18-2, bent head and insect damage; No. 5, 10 and 16, dead by typhoon.																							
+ :Significantly taller taller than other trees. - : Significantly shorter than other trees.																							
Blank cells indicate "0" (no damage).																							

CHAPTER 6

Inland Aquatic Environment

Monitoring

6. Inland Aquatic Environment Monitoring

6.1 Method

There were evidences over Northern Europe and North America that the lake water pH levels decreased in the 1970's compared to the levels in the 1930's and the damages noted as results of this decrease, including decline of fish population. The cause of this pH decline is believed to be the deposition of acidic substances into lakes in excess amounts of their neutralization or buffering capacity. In general, inland bodies of water with low alkalinity and low electric conductivities are prone to be sensitive to acidification by acid deposition. Therefore, it is important to conduct continuous monitoring of water bodies and aquatic fauna and so on.

Items specified in the technical manual (2000) include water temperature, pH, electric conductivity (EC), alkalinity and concentration of SO_4^{2-} , NO_3^- , Cl^- , NH_4^+ , Na^+ , K^+ , Ca^{2+} , and Mg^{2+} of targeted lakes/rivers at least four times a year (seasonally), and transparency, water color, DOC (if impossible, COD), NO_2^- , and PO_4^{3-} more than once a year while some other optional items are specified to be monitored. In near future, it is expected that some additional items (*i.e.* Chlorophyll a, T-P, T-N, DO) will be adopted as mandatory parameters according to the new manual (2010) at each laboratory.

6.1.1 Selection of Sampling Sites

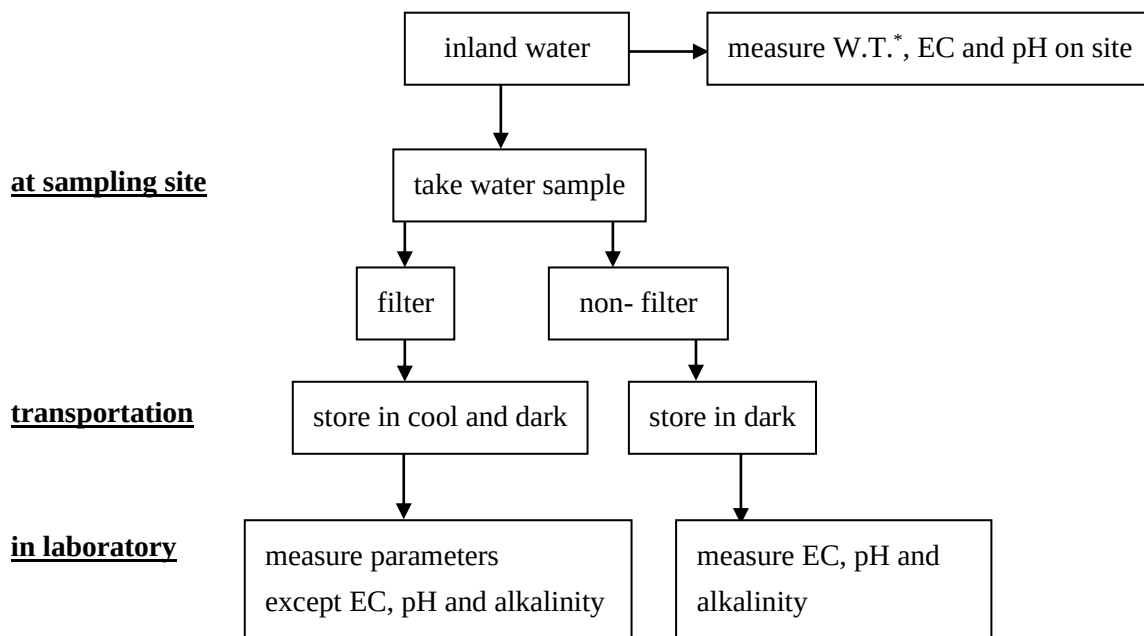
According to the technical manual (2010), the lakes chosen for monitoring should be harmonic type lakes, preferably with depths of approximately 10 m or less, a water residence time of 1 year or less, an area of 1 ha or more, with low alkalinity and electric conductivity, minimal anthropogenic water pollution and no coverage of the surface with aquatic organisms. If appropriate lakes are not available, rivers (streams) that are potentially susceptible to acidification and have little artificial influence should be selected.

For the monitoring sites, it is desirable to locate in nature protection areas, and human activities such as deforestation, and cultivation should be few and far between in the upstream area.

6.1.2 Field Operation

Surface water is sampled at one location at the center of the lake or river. In principle, measurements of pH and electric conductivity (EC) are conducted at the site before a more precise measurement is taken in the laboratory. Water samples for further analyses are kept in a tightly stoppered polyethylene bottle and stored in a cool dark place. The samples are

shipped to the laboratory for chemical analysis. The water samples for analysis of chemical components other than pH, EC and alkalinity are filtered at the sampling site with a glass fiber filter. An example of treatment procedure is described in Figure 6.1.



W.T.* : Water Temperature

Figure 6.1 Example of treatment procedure of inland water sample

6.1.3 Laboratory Operation

Collected samples are analyzed by analytical methods specified in Table 6.1 immediately, otherwise they are stored in a refrigerator. In addition, with regard to alkalinity, the Gran's plot titration method is adopted newly and recommended as a measurement parallel to the end-point pH 4.8 method in the latest version of the manual 2010.

Cations weren't analyzed in Nam Houm Lake.

Table 6.1 Parameters and recommended analytical methods

Parameter	Analytical method
pH	pH meter (glass electrode)
Electric conductivity	Conductivity meter
Alkalinity	Titration by burette or digital burette with pH meter
NH ₄ ⁺ , NO ₃ ⁻ , NO ₂ ⁻ , PO ₄ ³⁻	Ion Chromatography or spectrometry
K ⁺ , Mg ²⁺ , Ca ²⁺ , Na ⁺	Ion Chromatography or atomic absorption spectrometry
SO ₄ ²⁻	Ion Chromatography or turbidimetry
DOC	Combustion-infrared method or wet-oxidation method

6.1.4 Monitoring Sites

As described in Table 6.2, the monitoring sites were established in 13 lakes/reservoirs and 6 rivers/streams. In 2019, 9 countries (China, Indonesia, Japan, Lao PDR, Mongolia, Philippines, Russia, Thailand and Vietnam) carried out the monitoring. The data from the rest of countries have not been submitted yet. Properties of all the monitoring sites are shown in Table 6.3. However, more information should be appended to these tables in the future. Futago-ike Lake in Japan is newly added as the EANET site in this data report.

Table 6.2 Outline of Inland Aquatic Environment Monitoring of 2019

Country	Site	Distance from the site	Nearest deposition monitoring site	Start year	Interval
Cambodia	Sras Srang Lake (Kampong Speu province)	-	Remote	2012	-
China	Jinyunshan Lake (Chongqing)	-	Rural	2001	4 times/yr.
	Xiaoping Dam (Xiamen)	-	Remote	2001	4 times/yr.
	Jiwozi River (Xi'an)	-	Remote	2001	4 times/yr.
	Zhuxiandong Stream (Zhuhai)	-	Urban	2004	4 times/yr.
	Patengang Lake (Bandung)	47 km	Urban	2001	4 times/yr.
Indonesia	Gunung Lake (Sukabumi)	-	-	2008	4 times/yr.
Japan	Ijira Lake (Gifu Pref.)	1.1 km	Rural/Ecolog. (Ijira)	2001	4 times/yr.
	Futago-ike Lake (Nagano Pref.)	82 km	Remote (Happo)	2019	3 times/yr.

Table 6.2 Outline of Inland Aquatic Environment Monitoring of 2019 (continued)

Country	Site	Distance from the site	Nearest deposition monitoring site	Start year	Interval
Lao PDR	Nam Houm Lake (Vientiane province)	-	Vientiane	2009	4 times/yr.
Malaysia	Semenyih Dam	26 km	Urban (Petaling Jaya)	2005	-
	Tembaling River (Sabah)	-	Remote (Danum Valley)	2007	-
Mongolia	Terelj River	-	Remote (Terelj)	2002	6 times/yr.
Philippines	Pandin Lake	30 km	Rural (Mt. Makiling)	2004	3 times/yr.
	Ambulalakaw Lake	-	Remote (Mt. Sto. Tomas)	2005	-
Russia	Pereemnaya River (Listvyanka)	48 km	Rural (Listvyanka)	2004	4 times/yr.
	Komarovka River (Primorskaya)	0.5 km	Rural (Primorskaya)	2005	5 times/yr.
Thailand	Vajiralongkorn Dam (Kanchanaburi Province)	-	Remote	2002	3 times/yr.
Vietnam	Hoa Binh Reservoir	-	Rural	2001	4 times/yr.

6.2 Results of Monitoring

The results of monitoring of each parameter are shown in Table 6.4.1 to Table 6.4.8. Data within or exceeded the criteria of R_1 and R_2 are judged and marked as “O” or “×” in these tables respectively according to *QA/QC Program for Monitoring on Inland Aquatic Environment in East Asia*. The annual mean values of each monitoring sites are summarized in Table 6.4.9.

There were 2 sites (Patengang Lake in Indonesia and Terelj River in Mongolia) which have results exceeding allowable range of R_1 and/or R_2 . However, those main reasons could not be identified.

The annual mean values of each parameter from 2001 to 2019 are shown in Table 6.5.1 to Table 6.5.21.

As for Pandin Lake in Philippines, the data collected in 2017 and 2018 were also available in Appendices.

Table 6.3.1 Properties of lakes or streams

Lake Name: Sras Srang Lake

Country	Cambodia
Location	KIRIRUM national Park, Kampong Speu province
Latitude and longitude	11° 19' 69.29" N, 104° 2' 22.97" E
Altitude	800 m
Origin	-
Area and shape	10,403 m ²
Shore line length	-
Lake hydrologic type	-
Lake trophic type	-
Water depth	-
Water volume	-
Annual water level fluctuation	-
Annual air temperature	-
Precipitation	-
Sunshine duration	-
Solar radiation	-
Wind speed	-
Wind direction	-
Residence time of water	-
Lake utilization	-
River (inflow)	-
Amount of inlet water	-
Amount of outlet water	-
Nearest meteorological station	-

Watershed area	-
Surface geology	-
Vegetation (dominant plants)	-
Land use	-

- : no information

Table 6.3.2 Properties of lakes or streams

Lake Name: Jinyunshan Lake

Country	China
Location	Chongqing Prefecture
Latitude and longitude	-
Altitude	-
Origin	Artificial lake
Area and shape	9,990 m ²
Shore line length	About 2 km
Lake hydrologic type	Reservoir
Lake trophic type	Oligotrophic to Mesotrophic
Water depth	6-13 m
Water volume	60,000 m ³
Annual water level fluctuation	2-4 m
Annual air temperature	-
Precipitation	-
Sunshine duration	-
Solar radiation	-
Wind speed	-
Wind direction	-
Residence time of water	-
Lake utilization	For drink, Irrigation water
River (inflow)	-
Amount of inlet water	-
Amount of outlet water	-
Nearest meteorological station	-

Watershed area	-
Surface geology	-
Vegetation (dominant plants)	-
Land use	-

- : no information

Table 6.3.3 Properties of lakes or streams

Lake Name: Xiaoping Dam

Country	China
Location	Xiaoping, Xiamen
Latitude and longitude	-
Altitude	595 m
Origin	Artificial lake
Area and shape	264,000 m ²
Shore line length	100 m
Lake hydrologic type	Natural
Lake trophic type	Normal
Water depth	57.5 m
Water volume	4,080,000 m ³
Annual water level fluctuation	-
Annual air temperature	21.3 °C (mean) *1
Precipitation	1,084.5 mm/year *1
Sunshine duration	164.3 hrs/month (mean) *1
Solar radiation	-
Wind speed	2.4 m/s (mean) *1
Wind direction	E and ENE (dominant) *1
Residence time of water	15 days
Lake utilization	Water power
River (inflow)	Dingxi lake
Amount of inlet water	-
Amount of outlet water	-
Nearest meteorological station	-

Watershed area	18.1 km ²
Surface geology	-
Vegetation (dominant plants)	-
Land use	-

- : no information

*1 Xiamen, 2014

Table 6.3.4 Properties of lakes or streams

Stream Name: Jiwozi River

Country	China
Location	Xi'an
Latitude and longitude	-
Altitude	-
Origin	Natural stream
Water depth	-
Water discharge	-
River length	-
Drainage area	-
The mean height of the river basin	-
Annual air temperature	15.4 °C (mean) *1
Precipitation	593.0 mm/year *1
Sunshine duration	146.0 hrs/month (mean) *1
Solar radiation	-
Wind speed	Mean 2.2 m/s *1
Wind direction	NE (dominant) *1
Lake (flows into)	-
River (meet in 10m from sampling point)	-

Watershed area	-
Surface geology	-
Soil type Mountain	-
Vegetation (dominant plants)	-
Population	-

- : no information

*1 Xi'an, 2019

Table 6.3.5 Properties of lakes or streams

Stream Name: Zhuxiandong Stream

Country	China
Location	Zhuhai
Latitude and longitude	-
Altitude	-
Origin	Natural stream
Water depth	-
Water discharge	-
River length	-
Drainage area	-
The mean height of the river basin	-
Annual air temperature	24.1 °C (mean) *1
Precipitation	1984.4 mm *1
Sunshine duration	143.6 hrs/month (mean) *1
Solar radiation	-
Wind speed	Mean 2.6 m/s *1
Wind direction	ESE (dominant) *1
Lake (flows into)	-
River (meet in 10m from sampling point)	-

Watershed area	-
Surface geology	-
Soil type Mountain	-
Vegetation (dominant plants)	-
Population	-

- : no information

*1 Zhuhai, 2019

The monitoring had conducted between 2001 and 2003 at Zhuxiandong reservoir, after that, Zhuxiandong Stream was selected as a new site for inland water monitoring in 2004. This site is located in the upper stream of Zhuxiandong Reservoir. Therefore continuous monitoring has been conducted since 2004 at Zhuxiandong Stream.

Table 6.3.6 Properties of lakes or streams

Lake Name: Patengang Lake

Country	Indonesia
Location	Bandung
Latitude and longitude	-
Altitude	1600-1700 m
Origin	Natural lake
Area and shape	0.45 km ²
Shore line length	-
Lake hydrologic type	-
Lake trophic type	Oligotrophic
Water depth	8 m (max)
Water volume	4.98 x 10 ⁶ m ³
Annual water level fluctuation	1.42 m-4.20 m
Annual air temperature	24.0 °C (mean) *1
Precipitation	6,728.8 mm *1
Sunshine duration	-
Solar radiation	408.1 MJ/m ² /month (mean) *1
Wind speed	Mean 1.7 m/s *1
Wind direction	W (dominant) *1
Residence time of water	-
Lake utilization	Tourism
River (inflow)	1
Amount of inlet water	-
Amount of outlet water	-
Nearest meteorological station	LAPAN Bandung

Watershed area	650 km ²
Surface geology	-
Vegetation (dominant plants)	Strawberry, tea
Land use	-

- : no information

*1 Bandung, 2017

Table 6.3.7 Properties of lakes or streams

Lake Name: Gunung Lake

Country	Indonesia
Location	Sukabumi, West Java
Latitude and longitude	-
Altitude	950-1036 m
Origin	Natural lake
Area and shape	95,000 m ²
Shore line length	-
Lake hydrologic type	Reservoir
Lake trophic type	Eutrophic
Water depth	Ave 2.75 m (< 10 m)
Water volume	-
Annual water level fluctuation	-
Annual air temperature	-
Precipitation	-
Sunshine duration	-
Solar radiation	-
Wind speed	-
Wind direction	-
Residence time of water	-
Lake utilization	Irrigation
River (inflow)	1
Amount of inlet water	-
Amount of outlet water	-
Nearest meteorological station	Serpong

Watershed area	1.2 km ²
Surface geology	-
Vegetation (dominant plants)	Pine Tree, <i>Agathis Damara</i>
Land use	Agricultural area (5%), Residential area (1%, population < 500)

- : no information

Table 6.3.8 Properties of lakes or streams

Lake Name: Ijira Lake

Country	Japan
Location	Gifu prefecture
Latitude and longitude	-
Altitude	110 m
Origin	Artificial (dam-made lake)
Area and shape	0.1 km ²
Shore line length	1.8 km
Lake hydrologic type	Reservoir
Lake trophic type	Oligotrophic or mesotrophic
Water depth	Ave. 5.4 m (Max 10.9 m)
Water volume	0.00054 km ³
Annual water level fluctuation	0-0.74 m (Ave. 0.22 m)
Annual air temperature	17.0 °C (mean) *1
Precipitation	1798.0 mm/year *1
Sunshine duration	183.0 hrs/month (mean) *1
Solar radiation	-
Wind speed	Mean 2.6 m/s *1
Wind direction	NW (dominant) *1
Residence time of water	23 days
Lake utilization	Irrigation and fishing
River (inflow)	Kamagatani River, Kobora River
Amount of inlet water	-
Amount of outlet water	-
Nearest meteorological station	Gifu Local Meteorological Observatory

Watershed area	5.4 km ²
Surface geology	Chert
Vegetation (dominant plants)	<i>Pinus densiflora</i> , <i>Chamaecyparis obtuse</i> , <i>Cryptomeria japonica</i>
Land use	-

- : no information

*1 Gifu Local Meteorological Observatory, 2019

Table 6.3.9 Properties of lakes or streams

Lake Name: Futago-ike Lake (Oike and Meike)

Site	Oike	Meike
Country	Japan	
Location	Nagano prefecture	
Latitude and longitude	36° 05' 42" N, 138° 20' 05" E	36° 05' 52" N, 138° 19' 57" E
Altitude	2050 m	2050 m
Origin	Dammed lake	Dammed lake
Area and shape	0.019 km ²	0.017 km ²
Shore line length	0.64 km	0.55 km
Lake hydrologic type	Dammed lake	Dammed lake
Lake trophic type	Extreme oligotrophic	Oligotrophic
Water depth	Ave. 3.82 m	Ave. 2.65 m
Water volume	73369 m ³	45002 m ³
Annual water level fluctuation	0-4 m	0-1 m
Annual air temperature	10.1 °C (mean) *1	
Precipitation	1297.5 mm/year *1	
Sunshine duration	179.3 hrs/month (mean) *1	
Solar radiation	-	
Wind speed	Mean 2.1 m/s *1	
Wind direction	S (dominant) *1	
Residence time of water	-	
Lake utilization	Sightseeing	
River (inflow)	None	None
Amount of inlet water	-	-
Amount of outlet water	-	-
Nearest meteorological station	Haramura AMeDAS of Japan Meteorological Agency	

Watershed area	0.488 km ²	0.338 km ²
Surface geology	Lava bed	
Vegetation (dominant plants)	<i>Abies veitchii</i> , <i>Larix kaempferi</i>	
Land use	-	

- : no information

*1 Haramura AMeDAS of Japan Meteorological Agency, 2019

Table 6.3.10 Properties of lakes or streams

Lake Name: Nam Houm Lake

Country	Lao PDR
Location	-
Latitude and longitude	-
Altitude	-
Origin	-
Area and shape	-
Shore line length	-
Lake hydrologic type	-
Lake trophic type	-
Water depth	Mean: 5 m, Maximum: 10 m
Water volume	-
Annual water level fluctuation	-
Annual air temperature	-
Precipitation	-
Sunshine duration	-
Solar radiation	-
Wind speed	-
Wind direction	-
Residence time of water	-
Lake utilization	Irrigation
River (inflow)	-
Amount of inlet water	-
Amount of outlet water	-
Nearest meteorological station	-

Watershed area	-
Surface geology	-
Vegetation (dominant plants)	-
Land use	-

- : no information

Table 6.3.11 Properties of lakes or streams

Lake Name: Semenyih Dam

Country	Malaysia
Location	-
Latitude and longitude	-
Altitude	30 m
Origin	Dam
Area and shape	3.6 km ²
Shore line length	800 m
Lake hydrologic type	Reservoir
Lake trophic type	-
Water depth	Mean: 110 m
Water volume	-
Annual water level fluctuation	-
Annual air temperature	-
Precipitation	-
Sunshine duration	-
Solar radiation	-
Wind speed	-
Wind direction	-
Residence time of water	More than 1 year
Lake utilization	-
River (inflow)	-
Amount of inlet water	-
Amount of outlet water	-
Nearest meteorological station	-

Watershed area	-
Surface geology	-
Vegetation (dominant plants)	-
Land use	-

- : no information

Table 6.3.12 Properties of lakes or streams

Stream Name: Tembaling River

Country	Malaysia
Location	Danum Valley, Sabah
Latitude and longitude	04° 57' N, 117° 48' E
Altitude	-
Origin	Natural stream
Water depth	-
Water discharge	-
River length	-
Drainage area	-
The mean height of the river basin	-
Annual air temperature	-
Precipitation	-
Sunshine duration	-
Solar radiation	-
Wind speed	-
Wind direction	-
Lake (flows into)	-
River (meet in 10m from sampling point)	Segama river

Watershed area	-
Surface geology	-
Soil type Mountain	-
Vegetation (dominant plants)	-
Population	-

- : no information

Table 6.3.13 Properties of lakes or streams

Stream Name: Terelj River

Country	Mongolia
Location	Terelj
Latitude and longitude	48° 00' 06.12" N, 107° 27' 17.06 " E
Altitude	-
Origin	Natural stream
Water depth	-
Water discharge	Mean: 7.96 m ³ sec ⁻¹
River length	65 km
Drainage area	1220 km ²
The mean height of the river basin	-
Annual air temperature	-
Precipitation	-
Sunshine duration	-
Solar radiation	-
Wind speed	-
Wind direction	-
Lake (flows into)	-
River (meet in 10m from sampling point)	-

Watershed area	-
Surface geology	Main type of bed rocks is granite and drainage area is forest steppe
Soil type Mountain	Brown, marshy
Vegetation (dominant plants)	Grazing crop, Plantain
Population	3400

- : no information

Table 6.3.14 Properties of lakes or streams

Lake Name: Pandin Lake

Country	Philippines
Location	San Pablo City
Latitude and longitude	-
Altitude	200m
Origin	Natural lake
Area and shape	0.24 km ²
Shore line length	-
Lake hydrologic type	-
Lake trophic type	oligatrophic
Water depth	61.75 m (mean), 63 m (max)
Water volume	6600 m ³
Annual water level fluctuation	-
Annual air temperature	-
Precipitation	-
Sunshine duration	-
Solar radiation	-
Wind speed	-
Wind direction	-
Residence time of water	-
Lake utilization	domestic, electric power and tourism
River (inflow)	-
Amount of inlet water	-
Amount of outlet water	-
Nearest meteorological station	-

Watershed area	-
Surface geology	-
Vegetation (dominant plants)	-
Land use	-

- : no information

Table 6.3.15 Properties of lakes or streams

Lake Name: Ambulalakao Lake

Country	Philippines
Location	Kabayan, Benguet
Latitude and longitude	-
Altitude	2400 m
Origin	Natural lake
Area and shape	0.006087 km ²
Shore line length	-
Lake hydrologic type	-
Lake trophic type	-
Water depth	1.5 m (mean), 4.0 m (max), 0.2 m (min)
Water volume	11476 m ³
Annual water level fluctuation	-
Annual air temperature	-
Precipitation	-
Sunshine duration	-
Solar radiation	-
Wind speed	-
Wind direction	-
Residence time of water	-
Lake utilization	Tourism
River (inflow)	-
Amount of inlet water	-
Amount of outlet water	-
Nearest meteorological station	-

Watershed area	-
Surface geology	-
Vegetation (dominant plants)	-
Land use	-

- : no information

Table 6.3.16 Properties of lakes or streams

Stream Name: Pereemnaya River

Country	Russia
Location	Southern Baikal
Latitude and longitude	51°56'N, 105°17'E
Altitude	460 m-1500 m
Origin	Natural stream
Water depth	0.9 m (mean), 2 m (max)
Water discharge	-
River length	42 km
Drainage area	About 360 km ²
The mean height of the river basin	1,260 m
Annual air temperature	-3.4°C
Precipitation	About 800 mm/year
Sunshine duration	-
Solar radiation	-
Wind speed	Mean: 2.5 m/sec
Wind direction	SW
Lake (flows into)	Lake Baikal
River (meet in 10m from sampling point)	-

Watershed area	About 360 km ²
Surface geology	Archaean rocks, presented mainly by gneisses, crystal schists, and pegmatites
Soil type Mountain	-
Vegetation (dominant plants)	The larger part of the basin belongs to the zone of mountain-taiga soils. The lower taiga border begins from the lake's shore, and the upper border rises up to 900-1800 m depending on the slopes exposition. Above, within loach zone, waste-mountain landscapes with undersized motley grass and lichens prevail. Coniferous forest
Population	-

- : no information

Table 6.3.17 Properties of lakes or streams

Stream Name: Komarovka River

Country	Russia
Location	Primorskli Kray, Ussuriyskii district, near Kamenushka settlement
Latitude and longitude	43°42' N, 132°07'E
Altitude	386 m
Origin	Natural stream
Water depth	Mean 0.8 m Maximum 2 m
Water discharge	Mean:1.55 m ³ /sec, Min:0.66, Max:3.79
River length	67 km
Drainage area	-
The mean height of the river basin	-
Annual air temperature	3.4°C
Precipitation	737 mm/year (2005)
Sunshine duration	-
Solar radiation	-
Wind speed	1.1-2.2 (mean 1.7) m/s (2005)
Wind direction	E, NE
Lake (flows into)	River Razdolnaya, Amurskiy Bay
River (meet in 10m from sampling point)	-

Watershed area	About 1490 km ²
Surface geology	Rocks, sandstones, clayey schist
Soil type Mountain	Mountain- forest brown type of soil
Vegetation (dominant plants)	Komarovka valley is situated near Komarovskiy reserve surrounded by hills which protect the site from winds. The valley is covered by the mixed forest from broad-leaves to conifer.
Population	About 2000

- : no information

Table 6.3.18 Properties of lakes or streams

Lake Name: Vajiralongkorn Dam

Country	Thailand
Location	Tha Khanon sub-district, Thongpaphum District, Khanchanaburi Province 71180
Latitude and longitude	14°46' N, 98°35' E
Altitude	170 m
Origin	Artificial (Lake by Dam Reservoir area)
Area and shape	3,720 km ² , Multi-shape
Shore line length	-
Lake hydrologic type	Reservoir
Lake trophic type	-
Water depth	141.8-153.9m (mean: 148.3 m) (2018)
Water volume	4.5649-8.4538 km ³ (mean: 6.5415 km ³) (2018)
Annual water level fluctuation	Depth: 4.2 m (2010)
Annual air temperature	-
Precipitation	-
Sunshine duration	-
Solar radiation	-
Wind speed	0.02-0.26 (Ave. 0.07) m/s (2011)
Wind direction	-
Residence time of water	165 days
Lake utilization	Irrigation, Electric power generation, Fishery, Flooding protection and Sight seeing
River (inflow)	-
Amount of inlet water	Annual : 7,949.8 x 10 ⁶ m ³ /year, daily : 21.8 x 10 ⁶ m ³ /day
Amount of outlet water	Annual : 6,687.4 x 10 ⁶ m ³ /year, daily : 18.3 x 10 ⁶ m ³ /day
Nearest meteorological station	Vajiralongkorn Dam (0.3 km from the site)

Watershed area	3,720 km ²
Surface geology	Ferric Acrisols, USA Texonomy: Hapluf Talff / FAO : Luvisols
Vegetation (dominant plants)	banana, pine apple, pomelo, para rubber tree, tapioca, corn, rice , rambutan, longon, durien (2008)
Land use	Agriculture area 183,832 km ² (8.7 %) Residential area 21,941 km ² (1.0%) Forest area 1,788,561 km ² (84.6%) Others 118,807 km ² (5.6%) (2010)

- : no information

Table 6.3.19 Properties of lakes or streams

Lake Name: Hoa Binh Reservoir

Country	Vietnam
Location	Hoa Binh Province
Latitude and longitude	-
Altitude	23 m
Origin	Artificial (dam-made lake)
Area and shape	208 km ² -25 km ² *1
Shore line length	208 km-16.7 km *1
Lake hydrologic type	Reservoir
Lake trophic type	Mesotrophic
Water depth	60 m (max: 120 m)
Water volume	9.45 km ³ -2.5 km ³ *1
Annual water level fluctuation	80 m-120 m (Ave.100 m)
Annual air temperature	24.7 °C (mean) *2
Precipitation	1289.9 mm *2
Sunshine duration	115.1 hrs/month (mean) *2
Solar radiation	-
Wind speed	Mean 1.5 m/s *2
Wind direction	NE (dominant) *2
Residence time of water	365 days
Lake utilization	Electric power and flood control
River (inflow)	Da River
Amount of inlet water	-
Amount of outlet water	-
Nearest meteorological station	-

Watershed area	51,700 km ² -13,700 km ² *1
Surface geology	-
Vegetation (dominant plants)	-
Land use	-

- : no information

*1 Second value is in affected area of reservoir.

*2 Hoa Binh, 2019

Table 6.4.1 Result of Inland Aquatic Environment Monitoring

Duration: 2019.1-2019.11

Country: China

Lake/Stream: (See below)

Mandatory Parameters : 4 times/year													
Site	Sampling Date	Temp. (°C)	pH	EC (mS/m)	Alkalinity (meq/L)	SO ₄ ²⁻ (mg/L)	NO ₃ ⁻ (mg/L)	Cl ⁻ (mg/L)	NH ₄ ⁺ (mg/L)	Na ⁺ (mg/L)	K ⁺ (mg/L)	Ca ²⁺ (mg/L)	Mg ²⁺ (mg/L)
Chongqing -Jinyunshan Lake	05-Mar-19	12.0	6.65	11.40	0.228	28.62	7.70	2.43	0.04	2.88	1.82	10.89	3.15
	27-Jun-19	22.0	6.18	10.70	0.081	26.45	13.28	1.96	0.00	2.14	1.77	10.20	3.15
	09-Sep-19	28.0	6.72	10.10	0.178	26.00	8.45	1.89	0.08	2.22	1.88	9.10	3.18
	10-Nov-19	17.0	6.44	10.30	0.101	25.07	13.60	2.10	0.01	2.69	1.90	9.63	4.15
	mean*2	19.8	6.44	10.63	0.147	26.54	10.76	2.10	0.03	2.48	1.84	9.96	3.41
Xiamen -Xiaoping Dam	04-Mar-19	15.3	7.22	5.42	0.256	2.27	3.19	2.62	0.06	3.21	2.51	4.36	0.67
	13-May-19	22.1	7.36	5.77	0.278	2.43	1.98	2.93	0.11	3.14	2.32	3.88	0.62
	03-Sep-19	26.8	7.13	5.22	0.256	2.61	2.41	2.84	0.05	3.71	2.16	3.66	0.61
	01-Nov-19	18.6	7.26	6.01	0.284	2.35	2.66	2.65	0.07	3.53	2.66	3.92	0.66
	mean*2	20.7	7.23	5.61	0.269	2.42	2.56	2.76	0.07	3.40	2.41	3.96	0.64
Xi'an -Jiwozi River	02-Jan-19	4.0	7.73	5.21	0.290	4.40	2.30	0.33	0.33	1.16	0.75	6.34	0.79
	18-Apr-19	5.0	7.65	8.21	0.280	11.53	9.45	2.69	0.07	2.97	0.88	10.05	1.48
	05-Sep-19	12.5	7.99	4.85	0.300	3.83	1.69	1.00	0.37	1.47	1.04	5.01	0.71
	27-Nov-19	8.0	7.43	6.61	0.310	7.44	6.98	0.87	0.34	1.94	1.32	8.53	1.26
	mean*2	7.4	7.65	6.22	0.295	6.80	5.10	1.22	0.28	1.89	0.99	7.48	1.06
Zhuhai -Zhuxiandong Stream	12-Feb-19	18.0	7.00	8.59	0.610	2.50	1.74	5.43	0.00	8.13	1.13	5.54	2.06
	01-Apr-19	21.6	7.07	8.08	0.566	2.19	1.89	5.53	0.00	7.62	1.24	5.38	2.00
	01-Jul-19	30.2	7.10	7.67	0.410	2.73	4.16	5.59	0.00	6.48	1.37	4.48	1.84
	09-Oct-19	27.2	7.32	7.87	0.510	2.18	2.69	5.97	0.00	7.04	1.68	5.02	2.05
	mean*2	24.3	7.11	8.05	0.524	2.40	2.62	5.63	0.00	7.32	1.36	5.11	1.99

Mandatory Parameters : Once /year						
Site	Sampling Date	Transparency (m)	Water Color	PO ₄ ³⁻ (mg/l)	NO ₂ ⁻ (mg/l)	COD (mg/l)
Chongqing -Jinyunshan Lake	05-Mar-19	0.8	-	-	-	-
	27-Jun-19	3.8	-	-	-	-
	09-Sep-19	2.5	-	-	-	-
	10-Nov-19	2.0	-	0.000	0.000	<10*1
	mean*2	2.3	-	0.000	0.000	<10*1
Xiamen -Xiaoping Dam	04-Mar-19	1.2	-	-	0.210	2.1
	13-May-19	0.7	-	-	0.225	1.6
	03-Sep-19	0.9	-	-	0.120	1.9
	01-Nov-19	0.8	-	0.028	0.070	2.5
	mean*2	0.9	-	0.032	0.156	2.0
Xi'an -Jiwozi River	02-Jan-19	-	-	-	-	-
	18-Apr-19	-	-	-	-	-
	05-Sep-19	-	-	-	-	-
	27-Nov-19	-	-	<0.01*1	<0.003*1	<0.5*1
	mean*2	-	-	<0.01*1	<0.003*1	<0.5*1
Zhuhai -Zhuxiandong Stream	12-Feb-19	-	-	-	-	-
	01-Apr-19	-	-	0.020	0.003	2.1
	01-Jul-19	-	-	-	-	-
	09-Oct-19	-	-	-	-	-
	mean*2	-	-	0.020	0.003	2.1

note

- : Items were not analyzed.

*1: Less than determination limit.

*2: Mean of pH takes an average of hydrogen ion.

When the value is under detection limit, it considers "0". Then the average and R1R2 were calculated by using it.

		Anion	Cation	R1	Judge	Acalc	R2	Judge
Chongqing -Jinyunshan Lake	5-Mar-19	1017	977	-2.0	O	12.8	5.8	O
	27-Jun-19	901	907	0.3	O	12.0	5.6	O
	9-Sep-19	909	865	-2.5	O	11.5	6.4	O
	10-Nov-19	902	988	4.6	O	12.3	8.8	O
Xiamen -Xiaoping	4-Mar-19	433	480	5.1	O	5.3	-1.4	O
	13-May-19	448	447	-0.2	O	5.1	-5.9	O
	3-Sep-19	432	452	2.3	O	5.1	-1.4	O
	1-Nov-19	453	475	2.4	O	5.3	-6.2	O
Xi'an -Jiwozi	2-Jan-19	428	469	4.6	O	5.1	-0.8	O
	18-Apr-19	748	779	2.0	O	9.3	6.4	O
	5-Sep-19	435	420	-1.8	O	4.9	0.1	O
	27-Nov-19	602	667	5.1	O	7.5	6.5	O
Zhuhai -Zhuxiandong Stream	12-Feb-19	843	828	-0.9	O	9.0	2.6	O
	1-Apr-19	799	796	-0.2	O	8.7	3.6	O
	1-Jul-19	692	692	0.0	O	7.8	0.7	O
	9-Oct-19	767	768	0.1	O	8.5	3.7	O

Table 6.4.2 Result of Inland Aquatic Environment Monitoring

Duration: 2019.3-2019.11

Country: Indonesia

Lake/Stream: (See below)

Mandatory Parameters: 4 times/year													
Site	Sampling Date	Temp. (°C)	pH	EC (mS/m)	Alkalinity (meq/L)	SO ₄ ²⁻ (mg/L)	NO ₃ ⁻ (mg/L)	Cl ⁻ (mg/L)	NH ₄ ⁺ (mg/L)	Na ⁺ (mg/L)	K ⁺ (mg/L)	Ca ²⁺ (mg/L)	Mg ²⁺ (mg/L)
Patengang Lake	5-Mar-19	22.8	7.84	5.05	0.456	2.23	0.39	0.71	0.11	2.90	1.21	5.43	1.66
	20-Jun-19	23.0	8.11	6.08	0.425	6.18	3.19	0.35	0.03	3.37	1.42	6.05	1.76
	19-Sep-19	23.0	8.44	6.13	0.441	7.16	0.20	2.84	3.53	4.66	1.59	6.15	1.88
	21-Nov-19	23.0	7.71	7.04	0.405	8.62	0.11	2.16	0.05	4.80	1.56	5.70	1.97
	mean*1	23.0	7.94	6.07	0.432	6.05	0.97	1.51	0.93	3.93	1.44	5.83	1.82
Gunung Lake	4-Mar-19	25.8	7.90	4.51	0.382	1.41	0.06	0.93	0.07	1.79	1.12	5.73	1.40
	19-Jun-19	26.0	7.45	5.81	0.353	4.76	0.19	1.40	0.07	2.09	2.25	4.81	1.56
	18-Sep-19	26.1	7.85	6.09	0.544	1.15	0.13	1.10	0.05	2.65	0.50	7.64	1.83
	19-Nov-19	26.2	8.16	5.90	0.465	2.68	0.17	0.92	2.04	0.19	0.04	7.39	1.76
	mean*1	26.0	7.76	5.58	0.436	2.50	0.14	1.09	0.56	1.68	0.98	6.39	1.64

Mandatory Parameters: Once/year						
Site	Sampling Date	Transparency (m)	Water Color (PtCo unit)	PO ₄ ³⁻ (mg/L)	NO ₂ ⁻ (mg/L)	DOC (mg/L)
Patengang Lake	5-Mar-19	1.8	-	-	-	-
	20-Jun-19	1.6	-	-	-	-
	19-Sep-19	1.8	-	-	-	-
	21-Nov-19	1.6	-	-	-	-
	mean*1	1.7	-	-	-	-
Gunung Lake	4-Mar-19	0.8	-	-	-	-
	19-Jun-19	1.5	-	-	-	-
	18-Sep-19	1.5	-	-	-	-
	19-Nov-19	1.5	-	-	-	-
	mean*1	1.3	-	-	-	-

note

- : Items were not analyzed.

*1: Mean of pH takes an average of hydrogen ion.

		Anion	Cation	R1	Judge			
Patengang Lake	5-Mar-19	528.3	570.5	3.8	O	5.85	7.4	O
	20-Jun-19	614.9	630.6	1.3	O	6.95	6.7	O
	19-Sep-19	673.4	900.2	14.4	×	9.20	20.0	×
	21-Nov-19	646.6	697.5	3.8	O	7.64	4.1	O
Gunung Lake	4-Mar-19	438.9	511.5	7.6	O	5.10	6.2	O
	19-Jun-19	494.2	520.7	2.6	O	5.71	-0.8	O
	18-Sep-19	600.7	662.3	4.9	O	6.63	4.3	O
	19-Nov-19	548.9	636.3	7.4	O	6.59	5.5	O

Table 6.4.3 Result of Inland Aquatic Environment Monitoring

Duration: 2019.4-2020.1
Country: Japan
Lake/Stream: Ijira Lake

Mandatory Parameters : 4times/year														
	Sampling Date	Temp. (degreeC)	pH	EC (mS/m)	Alkalinity (meq/L)	Gran's ANC (meq/L)	SO ₄ ²⁻ (mg/L)	NO ₃ ⁻ (mg/L)	Cl ⁻ (mg/L)	NH ₄ ⁺ (mg/L)	Na ⁺ (mg/L)	K ⁺ (mg/L)	Ca ²⁺ (mg/L)	Mg ²⁺ (mg/L)
Center (Surface)	11-Apr-19	13.6	7.24	4.09	0.186	0.170	5.38	0.41	2.03	0.03	2.05	0.19	3.51	1.18
	09-Jul-19	21.9	7.02	3.42	0.141	0.128	4.37	1.13	1.76	<0.01*1	1.83	0.26	2.39	1.20
	08-Oct-19	22.8	7.18	3.74	0.170	0.152	4.48	0.71	1.86	<0.01*1	1.93	0.29	2.78	1.21
	21-Jan-20	8.9	7.23	4.11	0.207	0.191	5.01	0.69	1.87	<0.01*1	1.99	0.23	3.65	1.22
	mean*2	16.8	7.16	3.84	0.176	0.160	4.81	0.74	1.88	<0.01*1	1.95	0.24	3.08	1.20
Center (near bottom)	11-Apr-19	11.7	7.16	4.17	0.193	0.169	5.38	0.36	2.05	<0.01*1	2.07	0.20	3.58	1.22
	09-Jul-19	18.5	6.44	3.74	0.163	0.146	4.57	1.13	1.79	0.07	1.84	0.29	2.65	1.32
	08-Oct-19	20.4	7.22	3.96	0.194	0.179	4.38	0.85	1.86	0.18	1.88	0.32	2.89	1.35
	21-Jan-20	8.1	7.22	4.13	0.206	0.190	4.98	0.69	1.86	<0.01*1	1.98	0.23	3.64	1.22
	mean*2	14.7	6.86	4.00	0.189	0.171	4.83	0.76	1.89	0.06	1.94	0.26	3.19	1.28
Kamagatani River (Input)	11-Apr-19	10.2	7.14	4.48	0.138	0.129	7.47	2.05	2.05	<0.01*1	2.06	0.26	3.18	1.57
	09-Jul-19	18.3	7.02	3.71	0.142	0.123	5.26	1.29	1.86	<0.01*1	1.89	0.27	2.56	1.31
	08-Oct-19	18.3	7.13	4.23	0.145	0.124	6.30	2.32	1.98	<0.01*1	2.09	0.34	2.93	1.44
	21-Jan-20	8.0	7.14	4.10	0.131	0.114	7.24	1.42	1.86	<0.01*1	2.05	0.22	2.84	1.42
	mean*2	13.7	7.10	4.13	0.139	0.122	6.57	1.77	1.94	<0.01*1	2.02	0.27	2.88	1.43
Kobora River (Input)	11-Apr-19	9.8	7.00	3.76	0.116	0.098	4.87	2.68	2.18	<0.01*1	2.25	0.24	2.05	1.43
	09-Jul-19	18.1	6.94	3.35	0.139	0.114	4.18	0.90	1.93	<0.01*1	2.13	0.26	1.84	1.27
	*3	-	-	-	-	-	-	-	-	-	-	-	-	-
	*3	-	-	-	-	-	-	-	-	-	-	-	-	-
	mean*2	14.0	7.14	3.55	0.127	0.106	4.52	1.79	2.06	<0.01	2.19	0.25	1.95	1.35

Mandatory Parameters : Once/year								Optional Parameters
Site	Sampling Date	Transparency (m)	Water Color (Forel-Ule Scale)	Water Color (sample)	PO ₄ ³⁻ (mg/L)	NO ₂ ⁻ (mg/L)	DOC (mg/L)	Chl-a (µg/L)
Center (Surface)	11-Apr-19	2.9	16	clear, colorless	<0.02*1	<0.01*1	3.0	8.4
	09-Jul-19	4.4	15	clear, colorless	-	<0.01*1	-	3.5
	08-Oct-19	4.3	5	clear, colorless	-	0.02	-	10.9
	21-Jan-20	1.6	19	clear, colorless	-	<0.01*1	-	8.3
	mean	3.3	-	-	<0.02*1	<0.01*1	3.0	7.8
Center (near bottom)	11-Apr-19	-	-	clear, colorless	<0.02*1	<0.01*1	3.2	20.7
	09-Jul-19	-	-	clear, colorless	-	<0.01*1	-	9.2
	08-Oct-19	-	-	clear, colorless	-	0.04	-	5.4
	21-Jan-20	-	-	clear, colorless	-	<0.01*1	-	10.3
	mean	-	-	-	<0.02*1	<0.01*1	3.2	11.4
Kamagatani River (Input)	11-Apr-19	-	-	clear, colorless	<0.02*1	<0.01*1	2.0	-
	09-Jul-19	-	-	clear, colorless	-	<0.01*1	-	-
	08-Oct-19	-	-	clear, colorless	-	<0.01*1	-	-
	21-Jan-20	-	-	clear, colorless	-	<0.01*1	-	-
	mean	-	-	-	<0.02*1	<0.01*1	2.0	-
Kobora River (Input)	11-Apr-19	-	-	clear, colorless	<0.02*1	<0.01*1	1.9	-
	09-Jul-19	-	-	clear, colorless	-	<0.01*1	-	-
	*3	-	-	-	-	-	-	-
	*3	-	-	-	-	-	-	-
	mean	-	-	-	<0.02*1	<0.01*1	1.9	-

note

- : Items were not analyzed.

*1: Less than detection limit.

*2: Mean of pH takes an average of hydrogen ion.

*3: No sample because of no river flow.

When the value is under detection limit, it considers "0". Then the average and R1R2 were calculated by using it.

Annual precipitation is 1798.0 mm/year in 2019 (Gifu pref. Meteorological observatory).

		Anion	Cation	R1	Judge				Acalc	R2	Judge
Center (Surface)	11-Apr-19	362	368	0.8	O				4.27	2.2	O
	09-Jul-19	299	304	0.7	O				3.55	1.8	O
	08-Oct-19	327	329	0.3	O				3.82	1.1	O
	21-Jan-20	375	374	-0.1	O				4.34	2.7	O
Center (near bottom)	11-Apr-19	369	374	0.7	O				4.33	1.9	O
	09-Jul-19	327	331	0.7	O				3.86	1.6	O
	08-Oct-19	351	355	0.4	O				4.09	1.7	O
	21-Jan-20	373	373	0.0	O				4.32	2.3	O
Kamagatani River (Input)	11-Apr-19	384	384	0.0	O				4.67	2.1	O
	09-Jul-19	324	324	0.0	O				3.86	2.0	O
	08-Oct-19	369	364	-0.8	O				4.41	2.1	O
	21-Jan-20	357	353	-0.5	O				4.31	2.5	O
Kobora River (Input)	11-Apr-19	322	324	0.3	O				3.88	1.6	O
	09-Jul-19	295	295	0.1	O				3.45	1.6	O
	*3	-	-	-	-				-	-	-
	*3	-	-	-	-				-	-	-

Table 6.4.4 Result of Inland Aquatic Environment Monitoring

Duration: 2019.6-2019.10

Country: Japan

Lake/Stream: Futago-ike Lake (Oike and Meike)

Mandatory Parameters : 3 times/year														
Site	Sampling Date	Temp. (°C)	pH	EC (mS/m)	Alkalinity (meq/L)	Gran's ANC (meq/L)	SO ₄ ²⁻ (mg/L)	NO ₃ ⁻ (mg/L)	Cl ⁻ (mg/L)	NH ₄ ⁺ (mg/L)	Na ⁺ (mg/L)	K ⁺ (mg/L)	Ca ²⁺ (mg/L)	Mg ²⁺ (mg/L)
Oike (center) surface	01-Jun-19	11.4	6.99	1.77	0.123	0.102	1.18	0.70	0.32	<0.02*1	1.09	0.24	2.05	0.17
	30-Jul-19	17.5	7.00	1.79	0.127	0.115	1.16	0.76	0.31	<0.02*1	1.05	0.25	1.98	0.18
	09-Oct-19	10.2	7.05	2.01	0.138	0.120	1.24	0.95	0.38	<0.02*1	1.25	0.28	2.28	0.21
	mean*2	13.0	7.01	1.86	0.129	0.112	1.19	0.80	0.33	<0.02*1	1.13	0.25	2.10	0.19
Oike (center) near bottom	01-Jun-19	9.7	6.96	1.84	0.129	0.111	1.18	0.77	0.33	<0.02*1	1.12	0.25	2.17	0.19
	30-Jul-19	8.7	6.96	2.12	0.146	0.133	1.30	1.06	0.37	<0.02*1	1.28	0.28	2.38	0.22
	09-Oct-19	7.2	6.86	2.16	0.149	0.132	1.34	1.05	0.39	<0.02*1	1.35	0.29	2.48	0.23
	mean*2	8.5	6.93	2.04	0.141	0.125	1.27	0.96	0.36	<0.02*1	1.25	0.27	2.34	0.21
Meike (center) surface	01-Jun-19	14.0	5.89	0.54	0.024	0.008	0.79	0.13	0.33	<0.02*1	0.29	0.15	0.33	0.08
	30-Jul-19	22.0	5.83	0.56	0.027	0.011	0.86	0.16	0.28	<0.02*1	0.30	0.16	0.34	0.08
	09-Oct-19	13.5	6.20	0.52	0.027	0.009	0.88	<0.10*1	0.31	0.02	0.36	0.15	0.30	0.07
	mean*2	16.5	5.95	0.54	0.026	0.009	0.84	0.10	0.31	<0.02*1	0.32	0.15	0.32	0.08
Meike (center) near bottom	01-Jun-19	12.8	5.89	0.55	0.024	0.008	0.77	0.13	0.34	<0.02*1	0.28	0.15	0.33	0.08
	30-Jul-19	20.6	5.90	0.57	0.028	0.011	0.82	0.14	0.28	<0.02*1	0.31	0.16	0.35	0.08
	09-Oct-19	13.0	6.09	0.52	0.026	0.006	0.88	<0.10*1	0.31	<0.02*1	0.36	0.15	0.28	0.07
	mean*2	15.5	5.95	0.55	0.026	0.008	0.82	0.11	0.31	<0.02*1	0.31	0.15	0.32	0.08

Mandatory Parameters : Once/year							Optional Parameters			
Site	Sampling Date	Transparency (m)	Water Color (Lake)	Water Color (Sample)	PO ₄ ³⁻ (mg/L)	NO ₂ ⁻ (mg/L)	DOC (mg/L)	COD (mg/L)	D-Al (mg/L)	Chl-a (µg/L)
Oike (center) surface	01-Jun-19	8.2	bluish green	clear, colorless	<0.01*1	<0.01*1	0.8	1.3	0.01	0.4
	30-Jul-19	8.2	green	clear, colorless	<0.01*1	<0.01*1	0.9	1.4	0.02	0.0
	09-Oct-19	8.3	bluish green	clear, colorless	<0.01*1	<0.01*1	1.0	1.7	0.02	0.4
	mean	8.2	-	-	<0.01*1	<0.01*1	0.9	1.5	0.02	0.3
Oike (center) near bottom	01-Jun-19	-	-	clear, colorless	<0.01*1	<0.01*1	0.9	1.3	0.01	0.6
	30-Jul-19	-	-	clear, colorless	<0.01*1	<0.01*1	1.1	1.6	0.02	0.5
	09-Oct-19	-	-	clear, colorless	<0.01*1	<0.01*1	1.1	1.7	0.02	0.6
	mean	-	-	-	<0.01*1	<0.01*1	1.0	1.5	0.02	0.6
Meike (center) surface	01-Jun-19	3.8	bluish green	clear, colorless	<0.01*1	<0.01*1	1.3	1.9	0.04	0.4
	30-Jul-19	5.4	green	clear, colorless	<0.01*1	<0.01*1	1.1	1.5	0.03	0.3
	09-Oct-19	5.3	bluish green	clear, colorless	<0.01*1	<0.01*1	0.8	1.2	0.01	0.3
	mean	4.8	-	-	<0.01*1	<0.01*1	1.1	1.5	0.03	0.3
Meike (center) near bottom	01-Jun-19	-	-	clear, colorless	<0.01*1	<0.01*1	1.3	2.0	0.04	0.4
	30-Jul-19	-	-	clear, colorless	<0.01*1	<0.01*1	1.0	1.7	0.03	0.8
	09-Oct-19	-	-	clear, colorless	<0.01*1	<0.01*1	0.8	1.3	0.01	1.1
	mean	-	-	-	<0.01*1	<0.01*1	1.0	1.6	0.03	0.8

- : Items were not analyzed.

*1: Less than determination limit.

*2: Mean of pH takes an average of hydrogen ion.

When the value is under detection limit, it considers "0". Then the average and R1R2 were calculated by using it.

Annual precipitation is 1297.5 mm/year in 2019 (Hara village Meteorological observatory).

		Anion	Cation	R1	Judge			
Oike (center) surface	01-Jun-19	168	170	0.6	O	1.9	2.7	O
	30-Jul-19	172	165	-2.0	O	1.9	1.9	O
	09-Oct-19	189	193	1.0	O	2.1	2.4	O
Oike (center) near bottom	01-Jun-19	175	179	1.0	O	2.0	2.9	O
	30-Jul-19	200	200	-0.2	O	2.2	2.0	O
	09-Oct-19	204	209	1.1	O	2.3	2.7	O
Meike (center) surface	01-Jun-19	52	41	-11.4	O	0.6	4.8	O
	30-Jul-19	55	42	-13.6	O	0.6	5.2	O
	09-Oct-19	54	42	-12.8	O	0.6	6.3	O
Meike (center) near bottom	01-Jun-19	51	40	-11.5	O	0.6	3.3	O
	30-Jul-19	55	43	-12.8	O	0.6	4.0	O
	09-Oct-19	54	40	-15.0	O	0.6	5.7	O

Table 6.4.5 Result of Inland Aquatic Environment Monitoring

Duration: 2019.3-2019.12
 Country: Lao PDR
 Lake/Stream: Nam Houm Lake

Mandatory Parameters: 4 times/year													
Site	Sampling Date	Temp. (°C)	pH	EC (mS/m)	Alkalinity (meq/L)	SO ₄ ²⁻ (mg/L)	NO ₃ ⁻ (mg/L)	Cl ⁻ (mg/L)	NH ₄ ⁺ (mg/L)	Na ⁺ (mg/L)	K ⁺ (mg/L)	Ca ²⁺ (mg/L)	Mg ²⁺ (mg/L)
Nam Houm Lake	13-Mar-19	26.1	7.95	3.30	0.300	3.34	0.01	0.48	-	-	-	-	-
	13-Jun-19	26.3	8.08	3.41	0.400	3.72	0.01	0.25	-	-	-	-	-
	13-Sep-19	29.8	8.15	3.39	0.310	3.90	0.01	0.48	-	-	-	-	-
	13-Dec-19	31.4	8.06	3.37	0.340	3.65	0.01	0.40	-	-	-	-	-
	mean*1	28.4	8.05	3.37	0.338	3.65	0.01	0.40	-	-	-	-	-

Mandatory Parameters: Once/year							Optional Parameters
Site	Sampling Date	Transparency (m)	Water Color (PtCo unit)	PO ₄ ³⁻ (mg/L)	NO ₂ ⁻ (mg/L)	COD (mg/L)	DO (mg/L)
Nam Houm Lake	13-Mar-19	0.5	-	0.01	-	29.9	8.6
	13-Jun-19	0.5	-	0.01	-	15.7	8.9
	13-Sep-19	0.5	-	0.01	-	12.5	8.6
	13-Dec-19	1.0	-	0.01	-	19.3	8.7
	mean*1	0.6	-	0.01	-	19.4	8.7

- : Items were not analyzed.

*1 : Mean of pH takes an average of hydrogen ion.

		Anion	Cation	R1	Judge	Δcalc	R2	Judge
Nam Houm Lake	13-Mar-19	384	-	-	-	-	-	-
	13-Jun-19	485	-	-	-	-	-	-
	13-Sep-19	405	-	-	-	-	-	-
	13-Dec-19	428	-	-	-	-	-	-

Table 6.4.6 Result of Inland Aquatic Environment Monitoring

Duration: 2019.5-2019.10

Country: Mongolia

Lake/Stream: Terelj River

Mandatory Parameters: 4 times/year													
Site	Sampling Date	Temp. (°C)	pH	EC (mS/m)	Alkalinity (meq/L)	SO ₄ ²⁻ (mg/L)	NO ₃ ⁻ (mg/L)	Cl ⁻ (mg/L)	NH ₄ ⁺ (mg/L)	Na ⁺ (mg/L)	K ⁺ (mg/L)	Ca ²⁺ (mg/L)	Mg ²⁺ (mg/L)
Terelj River	15-May-19	25.0	6.25	4.40	0.304	3.62	0.17	0.39	0.01	1.54	0.52	5.99	0.76
	12-Jun-19	25.0	6.20	5.00	0.344	4.33	0.83	0.42	0.00	1.81	0.50	6.80	0.85
	3-Jul-19	25.0	6.53	4.70	0.344	3.99	0.36	0.26	0.00	1.71	0.45	6.39	0.82
	7-Aug-19	25.0	6.80	3.98	0.243	3.62	nd*1	0.26	0.00	1.47	0.70	5.39	0.71
	4-Sep-19	25.0	6.69	4.83	0.324	4.15	0.31	0.32	0.00	1.71	0.47	6.70	0.85
	1-Oct-19	25.0	6.83	5.73	0.334	6.43	0.50	0.38	0.00	2.46	0.46	7.13	0.92
	mean*1	25.0	6.48	4.77	0.316	4.36	0.36	0.34	0.00	1.78	0.52	6.40	0.82

Mandatory Parameters : Once/year			
Site	Sampling Date	PO ₄ ³⁻ (mg/L)	NO ₂ ⁻ (mg/L)
Terelj River	15-May-19	-	-
	12-Jun-19	-	-
	3-Jul-19	-	-
	7-Aug-19	-	-
	4-Sep-19	-	-
	1-Oct-19	-	-
	mean*1	-	-

note

- : Items were not analyzed.

*1: Less than determination limit.

*2: Mean of pH takes an average of hydrogen ion.

		Anion	Cation	R1	Judge			
Terelj River	15-May-19	393	443	5.9	O	Acalc	R2	Judge
	12-Jun-19	459	501	4.4	O	4.64	2.6	O
	3-Jul-19	440	473	3.6	O	5.35	3.4	O
	7-Aug-19	326	409	11.4	×	5.03	3.4	O
	4-Sep-19	424	491	7.3	O	4.12	1.7	O
	1-Oct-19	487	550	6.2	O	5.08	2.5	O
						5.86	1.1	O

Table 6.4.7 Result of Inland Aquatic Environment Monitoring

Duration: 2019.4-2019.12

Country: Philippines

Lake/Stream: (See below)

Mandatory Parameters: 4 times/year													
Site	Sampling Date	Temp. (°C)	pH	EC (mS/m)	Alkalinity (meq/L)	SO ₄ ²⁻ (mg/L)	NO ₃ ⁻ (mg/L)	Cl ⁻ (mg/L)	NH ₄ ⁺ (mg/L)	Na ⁺ (mg/L)	K ⁺ (mg/L)	Ca ²⁺ (mg/L)	Mg ²⁺ (mg/L)
Ambulalakaw Lake	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-
	mean*1	-	-	-	-	-	-	-	-	-	-	-	-
Pandin Lake	26-Apr-19	-	9.34	18.30	1.790	0.686	0.035	4.11	0.000	8.24	4.52	23.1	6.58
	19-Sep-19	-	8.34	17.60	1.660	0.972	0.030	3.91	0.000	7.68	3.70	10.4	7.08
	26-Dec-19	17.1	8.41	18.20	1.650	0.884	0.022	3.74	0.008	8.23	3.84	17.5	7.21
	mean*1	-	8.53	18.03	1.700	0.847	0.029	3.92	0.003	8.05	4.02	17.0	6.96

Mandatory Parameters: Once/year					Optional Parameters
Site	Sampling Date	Transparency (m)	PO ₄ ³⁻ (mg/L)	NO ₂ ⁻ (mg/L)	DO (mg/L)
Ambulalakaw Lake	-	-	-	-	-
	-	-	-	-	-
	-	-	-	-	-
	mean*1	-	-	-	-
Pandin Lake	26-Apr-19	-	0.254	0.00	-
	19-Sep-19	-	0.365	0.00	-
	26-Dec-19	-	0.114	0.00	-
	mean*1	-	0.244	0.00	-

note

- : Items were not analyzed.

*1: Mean of pH takes an average of hydrogen ion.

		Anion	Cation	R1	Judge	Acalc	R2	Judge
Ambulalakaw Lake	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
Pandin Lake	26-Apr-19	1929	2168	5.8	O	21.4	7.9	O
	19-Sep-19	1802	1527	-8.3	×	17.0	-1.6	O
	26-Dec-19	1778	1922	3.9	O	19.2	2.7	O

note

Concerning "×" judging, it was not able to specify the main reasons.

Table 6.4.8 Result of Inland Aquatic Environment Monitoring

Duration: 2019.2-2019.11

Country: Russia

Lake/Stream: (See below)

Mandatory Parameters: 4 times/year													
Site	Sampling Date	Temp. (°C)	pH	EC (mS/m)	Alkalinity (meq/L)	SO ₄ ²⁻ (mg/L)	NO ₃ ⁻ (mg/L)	Cl ⁻ (mg/L)	NH ₄ ⁺ (mg/L)	Na ⁺ (mg/L)	K ⁺ (mg/L)	Ca ²⁺ (mg/L)	Mg ²⁺ (mg/L)
Pereemnaya River	10-Mar-19	0.4	6.63	5.01	0.139	13.64	0.89	0.30	0.01	1.25	0.67	5.70	0.98
	13-May-19	4.8	6.58	3.73	0.096	8.38	0.88	0.15	0.00	0.78	0.55	3.70	0.72
	11-Jul-19	19.3	6.85	5.10	0.150	11.58	0.43	0.11	0.00	1.04	0.84	4.39	1.14
	28-Sep-19	7.8	6.84	5.06	0.113	13.40	0.52	0.11	0.01	1.20	0.75	5.60	0.92
	mean*1	8.1	6.71	4.72	0.124	11.75	0.68	0.17	0.01	1.07	0.70	4.85	0.94
Komarovka River	19-Feb-19	0.1	6.35	8.65	0.300	13.12	5.16	3.20	0.11	4.05	0.70	9.23	2.38
	23-Apr-19	2.5	6.64	7.55	0.265	10.98	2.88	2.87	0.10	3.52	1.57	6.75	1.22
	18-Jun-19	12.1	6.95	7.26	0.261	13.23	1.59	3.47	0.11	4.18	0.90	5.77	1.20
	24-Sep-19	15.5	6.67	8.67	0.370	12.67	0.93	3.23	0.16	4.50	1.28	9.38	1.68
	19-Nov-19	0.1	6.85	8.31	0.320	14.85	1.68	3.23	0.08	3.52	0.90	10.95	0.60
mean*1	6.0	6.64	8.09	0.303	12.97	2.45	3.20	0.11	3.95	1.07	8.42	1.42	

Mandatory Parameters: Once/year										Optional Parameters	
Site	Sampling Date	Transparency (m)	Water color	COD (mg/L)	NO ₂ ⁻ (mg/L)	PO ₄ ³⁻ (mg/L)	Si (mg/L)	O ₂ (mg/L)	TP (mg/L)	Fe (mg/L)	
Pereemnaya River	10-Mar-19	-	colorless	0.7	0.001	0.003	3.28	13.23	0.005	-	
	13-May-19	-	colorless	1.0	0.001	0.002	2.52	12.52	0.004	-	
	11-Jul-19	-	colorless	0.7	0.001	0.004	2.59	10.01	0.004	-	
	28-Sep-19	-	colorless	1.4	0.001	0.003	3.21	11.72	0.003	-	
	mean*1	-	-	0.9	0.001	0.003	2.90	11.87	0.004	-	
Komarovka River	19-Feb-19	-	colorless	2.1	0.023	0.006	5.42	13.20	-	0.14	
	23-Apr-19	-	colorless	2.7	0.011	0.013	3.78	13.17	-	1.67	
	18-Jun-19	-	colorless	4.4	0.010	0.001	5.72	11.30	-	0.36	
	24-Sep-19	-	colorless	4.8	0.010	0.006	5.32	9.23	-	0.19	
	19-Nov-19	-	colorless	4.5	0.013	0.007	5.75	12.57	-	0.32	
mean*1	-	-	3.7	0.013	0.007	5.20	11.89	-	0.54		

note

- : Items were not analyzed.

*1: Mean of pH takes an average of hydrogen ion.

		Anion	Cation	R1	Judge			
Pereemnaya River	10-Mar-19	446	437	-1.1	O	Acalc	R2	Judge
	13-May-19	289	292	0.6	O	5.60	5.5	O
	11-Jul-19	401	380	-2.7	O	3.66	-0.9	O
	28-Sep-19	404	427	2.8	O	4.87	-2.3	O
Komarovka River	19-Feb-19	747	857	6.9	O	5.31	2.4	O
	23-Apr-19	621	636	1.2	O	9.7	5.7	O
	18-Jun-19	660	597	-5.0	O	7.6	0.5	O
	24-Sep-19	740	844	6.6	O	7.7	2.8	O
	19-Nov-19	748	776	1.9	O	9.4	4.0	O
						9.3	5.6	O

Table 6.4.9 Result of Inland Aquatic Environment Monitoring

Duration: 2019.2-2019.8
 Country: Thailand
 Lake/Stream: Vajiralongkorn Dam

Mandatory Parameters : 4 times/year													
Site	Sampling Date	Temp. (°C)	pH	EC (mS/m)	Alkalinity (meq/L)	SO ₄ ²⁻ (mg/L)	NO ₃ ⁻ (mg/L)	Cl ⁻ (mg/L)	NH ₄ ⁺ (mg/L)	Na ⁺ (mg/L)	K ⁺ (mg/L)	Ca ²⁺ (mg/L)	Mg ²⁺ (mg/L)
Station1 (Ban Pong Chang)	21-Feb-19	30.4	8.70	12.26	1.070	1.07	0.10	1.37	0.03	1.51	1.19	15.75	3.39
	16-May-19	31.7	8.30	13.22	1.120	1.21	0.10	1.07	0.02	1.29	1.07	15.00	3.59
	15-Aug-19	28.9	8.20	11.78	1.025	2.30	0.10	1.03	0.01	1.15	0.96	14.55	3.36
	mean*1	30.3	8.35	12.42	1.072	1.53	0.10	1.16	0.02	1.32	1.07	15.10	3.44
Station2 (Ban Pang Pueng)	21-Feb-19	28.6	9.00	11.30	1.000	1.26	0.10	1.54	0.01	1.72	1.25	15.45	2.96
	16-May-19	30.5	8.20	12.37	1.070	1.24	0.10	1.05	0.01	1.27	1.10	16.50	3.16
	15-Aug-19	28.4	8.80	11.89	1.045	2.99	0.10	1.06	0.03	1.14	1.00	15.55	2.94
	mean*1	29.2	8.53	11.85	1.038	1.83	0.10	1.22	0.02	1.37	1.11	15.83	3.02

Mandatory Parameters : Once/year						
Site	Sampling Date	Transparency (m)	Water color	PO ₄ ³⁻ (mg/L)	NO ₂ ⁻ (mg/L)	COD (mg/L)
Station1 (Ban Pong Chang)	21-Feb-19	5.0	light green	0.01	-	-
	16-May-19	3.0	light green	0.01	-	-
	15-Aug-19	3.5	light green	0.01	-	-
	mean*1	3.8	-	0.01	-	-
Station2 (Ban Pang Pueng)	21-Feb-19	7.0	light green	0.01	-	-
	16-May-19	4.0	light green	0.01	-	-
	15-Aug-19	4.0	light green	0.01	-	-
	mean*1	5.0	-	0.01	-	-

note

- : Items were not analyzed.

*1: Less than determination limit.

*2: Mean of pH takes an average of hydrogen ion.

	Date	Anion	Cation	R1	Judge	Acalc	R2	Judge
Station1 (Ban Pong Chang)	21-Feb-19	1133	1162	1.3	O	12.0	-1.1	O
	16-May-19	1177	1128	-2.2	O	12.0	-5.0	O
	15-Aug-19	1104	1077	-1.2	O	11.4	-1.5	O
Station2 (Ban Pang Pueng)	21-Feb-19	1072	1121	2.3	O	11.5	1.0	O
	16-May-19	1127	1167	1.7	O	12.0	-1.5	O
	15-Aug-19	1139	1094	-2.0	O	11.8	-0.5	O

Table 6.4.10 Result of Inland Aquatic Environment Monitoring

Duration: 2019.3-2019.12
 Country: Vietnam
 Lake/Stream: Hoa Binh Reservoir

Mandatory Parameters: 4 times/year													
Site	Sampling Date	Temp. (°C)	pH	EC (mS/m)	Alkalinity (meq/L)	SO ₄ ²⁻ (mg/L)	NO ₃ ⁻ (mg/L)	Cl ⁻ (mg/L)	NH ₄ ⁺ (mg/L)	Na ⁺ (mg/L)	K ⁺ (mg/L)	Ca ²⁺ (mg/L)	Mg ²⁺ (mg/L)
Hoa Binh Reservoir	15-Mar-19	22.7	7.93	16.70	1.460	4.48	0.83	2.31	0.03	3.52	1.34	23.16	3.51
	15-Jun-19	29.7	7.45	21.00	1.540	7.03	0.88	8.82	0.03	3.33	1.38	26.69	6.04
	15-Sep-19	28.6	7.57	18.60	1.520	4.56	2.09	4.61	0.03	5.37	3.90	24.36	3.49
	15-Dec-19	24.4	7.91	18.20	1.500	5.59	1.52	1.94	0.23	2.76	1.28	22.89	4.49
	mean*1	26.4	7.67	18.63	1.505	5.42	1.33	4.42	0.08	3.75	1.98	24.28	4.38

Mandatory Parameters: Once/year							
Site	Sampling Date	Transparency (m)	Water Color (PtCo unit)	F ⁻ (mg/L)	PO ₄ ³⁻ (mg/L)	NO ₂ ⁻ (mg/L)	COD (mg/L)
Hoa Binh Reservoir	15-Mar-19	1.2	-	0.02	0.104	0.018	4.8
	15-Jun-19	0.8	-	0.03	0.086	0.021	4.3
	15-Sep-19	1.2	-	0.02	0.135	0.016	3.8
	15-Dec-19	1.2	14	0.02	0.107	0.022	3.6
	mean*1	1.1	-	0.02	0.108	0.019	4.1

note

- : Items were not analyzed.

*1 : Mean of pH takes an average of hydrogen ion.

		Anion	Cation	R1	Judge			
Hoa Binh Reservoir	15-Mar-19	1636	1633	-0.1	O	Acalc	R2	Judge
	15-Jun-19	1953	2010	1.5	O	17.3	1.9	O
	15-Sep-19	1783	1837	1.5	O	21.7	1.5	O
	15-Dec-19	1699	1677	-0.7	O	19.5	2.4	O
						18.0	-0.7	O

Table 6.4.11 Summary of Inland Aquatic Environment Monitoring

Mandatory Parameters : 4 times/year														
Country	Location	Site	pH	EC (mS/m)	Alkalinity (meq/L)	Gran's ANC (meq/L)	SO ₄ ²⁺ (mg/L)	NO ₃ ⁻ (mg/L)	Cl ⁻ (mg/L)	NH ₄ ⁺ (mg/L)	Na ⁺ (mg/L)	K ⁺ (mg/L)	Ca ²⁺ (mg/L)	Mg ²⁺ (mg/L)
Cambodia	Kampong Speu province	Sras Srang Lake	-	-	-	-	-	-	-	-	-	-	-	-
China	Chongqing	Jinyunshan Lake	6.44	10.63	0.147	-	26.54	10.76	2.10	0.03	2.48	1.84	9.96	3.41
	Xiamen	Xiaoping Dam	7.23	5.61	0.269	-	2.42	2.56	2.76	0.07	3.40	2.41	3.96	0.64
	Xi'an	Jiwozi River	7.65	6.22	0.295	-	6.80	5.10	1.22	0.28	1.89	0.99	7.48	1.06
	Zhuhai	Zhuxiandong Stream	7.11	8.05	0.524	-	2.40	2.62	5.63	0.00	7.32	1.36	5.11	1.99
Indonesia	Bandung	Patengang Lake	7.94	6.07	0.432	-	6.05	0.97	1.51	0.93	3.93	1.44	5.83	1.82
	Sukabumi, West Java	Gunung Lake	7.76	5.58	0.436	-	2.50	0.14	1.09	0.56	1.68	0.98	6.39	1.64
Japan	Gifu pref.	Ijira Lake (Center, surface)	7.16	3.84	0.176	0.160	4.81	0.74	1.88	<0.01*1	1.95	0.24	3.08	1.20
	Nagano pref.	Futago-ike Lake(Oike) (Center, surface)	7.01	1.86	0.129	0.112	1.19	0.80	0.33	<0.02*1	1.13	0.25	2.10	0.19
		Futago-ike Lake(Meike) (Center, surface)	5.95	0.54	0.026	0.009	0.84	0.10	0.31	<0.02*1	0.32	0.15	0.32	0.08
Lao PDR	Vientiane province	Nam Houm Lake	8.05	3.37	0.338	-	3.65	0.01	0.40	-	-	-	-	-
Malaysia	Selangor	Semenyih Dam	-	-	-	-	-	-	-	-	-	-	-	-
	Sabah	Tembaling river	-	-	-	-	-	-	-	-	-	-	-	-
Mongolia	Terej	Terej River*6	6.48	4.77	0.316	-	4.36	0.36	0.34	0.00	1.78	0.52	6.40	0.82
Philippines	San Pablo City	Pandin Lake*3	8.53	18.03	1.700	-	0.85	0.03	3.92	0.00	8.05	4.02	16.98	6.96
	Benguet	Ambulalakaw Lake	-	-	-	-	-	-	-	-	-	-	-	-
Russia	Southern Baikal	Pereemnaya River	6.71	4.72	0.124	-	11.75	0.68	0.17	0.01	1.07	0.70	4.85	0.94
	Primorskaya	Komarovka River*5	6.64	8.09	0.303	-	12.97	2.45	3.20	0.11	3.95	1.07	8.42	1.42
Thailand	Kanchanaburi Province	Vajiralongkorn Dam*3 (Ban Pong Chang)	8.35	12.42	1.072	-	1.53	0.10	1.16	0.02	1.32	1.07	15.10	3.44
		Vajiralongkorn Dam*3 (Ban Pang Pueng)	8.53	11.85	1.038	-	1.83	0.10	1.22	0.02	1.37	1.11	15.83	3.02
Vietnam	Hoa Binh Province	Hoa Binh Reservoir	7.67	18.63	1.505	-	5.42	1.33	4.42	0.08	3.75	1.98	24.28	4.38

Mandatory Parameters : Once/year							
Country	Location	Site	Transparency (m)	PO ₄ ³⁻ (mg/L)	NO ₂ ⁻ (mg/L)	DOC (mg/L)	COD (mg/L)
Cambodia	Kampong Speu province	Sras Srang Lake	-	-	-	-	-
China	Chongqing	Jinyunshan Lake	2.3	0.000	0.000	-	<10*1
	Xiamen	Xiaoping Dam	0.9	0.032	0.156	-	2.0
	Xi'an	Jiwozi River	-	<0.01*1	<0.003*1	-	<0.5*1
	Zhuhai	Zhuxiandong Stream	-	0.020	0.003	-	2.1
Indonesia	Bandung	Patengang Lake	-	-	-	-	-
	Sukabumi, West Java	Gunung Lake	-	-	-	-	-
Japan	Gifu pref.	Ijira Lake*7 (Center, surface)	3.3	<0.02*1	<0.01*1	3.0	-
	Nagano pref.	Futago Lake(Oike)*3 (Center, surface)	8.2	<0.01*1	<0.01*1	0.9	1.5
		Futago Lake(Meike)*3 (Center, surface)	2.8	<0.01*1	<0.01*1	1.1	1.5
Lao PDR	Vientiane province	Nam Houm Lake	0.6	0.01	-	-	19.4
Malaysia	Selangor	Semenyih Dam	-	-	-	-	-
	Sabah	Tembaling river	-	-	-	-	-
Mongolia	Terej	Terej River	-	-	-	-	-
Philippines	San Pablo City	Pandin Lake*3	-	0.244	0.000	-	-
	Benguet	Ambulalakaw Lake	-	-	-	-	-
Russia	Southern Baikal	Pereemnaya River *4	-	0.003	0.004	-	0.9
	Primorskaya	Komarovka River*5	-	0.007	0.011	-	3.7
Thailand	Kanchanaburi Province	Vajiralongkorn Dam*3 (Ban Pong Chang)	3.8	0.010	-	-	-
		Vajiralongkorn Dam*3 (Ban Pang Pueng)	5.0	0.010	-	-	-
Vietnam	Hoa Binh Province	Hoa Binh Reservoir	1.1	0.108	0.019	-	4.1

note

- : Items were not analyzed.

*1: Less than determination/detection limit.

*2: Surveyed twice a year.

*3: Surveyed 3 times a year.

*4: Surveyed 4 times a year.

*5: Surveyed 5 times a year.

*6: Surveyed 6 times a year.

*7: NO₂⁻ was surveyed 4 times a year.

Table 6.5.1 Annual mean values of each parameters of 2012 to 2017 at Sras Srang Lake (Cambodia)

	Mandatory Parameters : 4 times/year												Mandatory Parameters : Once/year				
	pH	EC mS/m	Alkalinity meq/L	Gran's ANC (meq/L)	SO ₄ ²⁻ mg/L	NO ₃ ⁻ mg/L	Cl ⁻ mg/L	NH ₄ ⁺ mg/L	Na ⁺ mg/L	K ⁺ mg/L	Ca ²⁺ mg/L	Mg ²⁺ mg/L	Transparency m	PO ₄ ³⁻ mg/L	NO ₂ ⁻ mg/L	DOC mg/L	COD mg/L
2012	6.46	0.88	0.037	-	0.08	0.06	1.65	0.04	0.94	0.13	0.27	0.16	0.7	-	-	-	-
2013	5.74	0.93	0.034	-	0.05	0.28	1.39	0.02	0.94	0.12	0.29	0.13	0.7	-	-	-	-
2014	5.84	0.96	0.035	-	0.06	0.60	1.38	0.12	1.03	0.31	0.26	0.12	0.7	-	-	-	-
2015	5.81	0.98	0.040	-	0.09	0.22	1.17	0.07	0.80	0.19	0.37	0.22	0.8	-	-	-	-
2016	5.95	0.92	0.028	-	0.10	0.30	1.10	0.09	0.91	0.14	0.27	0.13	0.7	-	-	-	-
2017	6.04	0.97	0.034	-	0.07	0.06	1.12	0.01	0.67	0.08	0.17	0.09	0.8	-	-	-	-

Table 6.5.2 Annual mean values of each parameters from 2001 to 2019 at Jinyushan Lake (China)

	Mandatory Parameters : 4 times/year												Mandatory Parameters : Once/year				
	pH	EC mS/m	Alkalinity meq/L	Gran's ANC (meq/L)	SO ₄ ²⁻ mg/L	NO ₃ ⁻ mg/L	Cl ⁻ mg/L	NH ₄ ⁺ mg/L	Na ⁺ mg/L	K ⁺ mg/L	Ca ²⁺ mg/L	Mg ²⁺ mg/L	Transparency m	PO ₄ ³⁻ mg/L	NO ₂ ⁻ mg/L	DOC mg/L	COD mg/L
2001	7.50	9.05	-	-	26.05	7.68	2.58	0.65	1.78	1.58	6.63	2.63	-	-	-	-	-
2002	6.12	9.52	-	-	26.36	7.99	2.53	0.09	2.50	1.79	9.08	3.28	-	-	-	-	-
2003	6.55	9.79	0.210	-	23.21	5.16	2.68	0.21	2.60	1.72	9.03	3.30	0.9	-	-	-	-
2004	6.34	9.61	0.075	-	25.72	7.94	1.74	0.30	1.98	1.65	9.66	2.71	2.6	-	-	-	7.6
2005	6.04	10.21	0.073	-	28.12	8.16	2.63	0.04	2.70	1.82	9.36	3.22	3.7	*1	*1	-	2.9
2006	6.36	11.92	0.113	-	32.65	9.53	3.05	0.11	2.96	2.27	11.05	3.82	5.0	*1	*1	-	3.2
2007	6.24	12.35	0.086	-	37.19	10.21	3.12	0.12	2.81	2.18	11.24	3.81	3.0	*1	*1	-	4.4
2008	5.42	12.20	0.066	-	33.26	12.78	2.77	0.16	2.65	1.98	11.34	3.77	3.7	*1	*1	-	2.9
2009	5.84	11.18	0.048	-	29.27	8.29	2.95	0.23	2.59	1.96	10.15	3.63	2.3	*1	*1	-	<10*1
2010	5.76	12.79	0.157	-	34.55	10.62	3.00	0.14	2.90	2.07	11.72	3.98	3.4	*1	*1	-	<10*1
2011	5.25	14.17	0.064	-	39.63	15.15	3.76	0.12	2.71	2.27	12.77	3.90	4.5	*1	*1	-	<10*1
2012	5.47	13.54	0.052	-	40.79	9.88	3.71	0.14	3.08	2.38	12.79	3.98	3.1	*1	*1	-	<10*1
2013	6.03	7.12	0.082	-	20.74	3.93	0.68	0.12	0.75	0.77	8.75	0.98	3.5	*1	*1	-	<10*1
2014	5.41	12.39	0.040	-	34.94	14.30	2.65	0.09	2.54	2.14	11.84	3.77	6.3	*1	*1	-	-
2015	6.48	11.35	0.145	-	29.41	10.09	2.24	0.25	2.25	2.01	11.62	3.46	0.9	*1	*1	-	<10*1
2016	6.49	12.17	0.266	-	28.60	11.72	2.97	*1	2.91	2.30	12.66	3.59	2.5	*1	*1	-	<10*1
2017	6.48	11.16	0.122	-	27.27	11.84	2.70	0.02	2.63	1.98	11.32	3.24	2.0	*1	*1	-	<10*1
2018	6.74	10.99	0.223	-	26.04	7.25	2.28	0.62	2.48	1.81	9.96	3.00	2.2	*1	*1	-	<10*1
2019	6.44	10.63	0.147	-	26.54	10.76	2.10	0.03	2.48	1.84	9.96	3.41	2.3	*1	*1	-	<10*1

Table 6.5.3 Annual mean values of each parameters from 2001 to 2019 at Xiaoping Dam (China)

	Mandatory Parameters : 4 times/year												Mandatory Parameters : Once/year				
	pH	EC mS/m	Alkalinity meq/L	Gran's ANC (meq/L)	SO ₄ ²⁻ mg/L	NO ₃ ⁻ mg/L	Cl ⁻ mg/L	NH ₄ ⁺ mg/L	Na ⁺ mg/L	K ⁺ mg/L	Ca ²⁺ mg/L	Mg ²⁺ mg/L	Transparency m	PO ₄ ³⁻ mg/L	NO ₂ ⁻ mg/L	DOC mg/L	COD mg/L
2001	7.21	-	-	-	1.43	1.30	2.18	-	-	-	-	-	-	-	-	-	-
2002	7.39	7.00	-	-	4.67	6.66	2.82	0.20	7.29	2.14	2.29	0.82	-	-	-	-	-
2003	6.73	7.19	0.193	-	2.68	5.02	5.91	0.17	6.53	2.06	2.35	0.86	-	-	-	-	1.8
2004	7.34	5.57	0.242	-	2.68	7.83	4.35	0.18	6.70	2.18	2.92	0.64	-	0.020	0.008	-	2.1
2005	6.73	4.62	0.232	-	2.07	2.83	3.94	0.05	4.77	2.37	2.95	0.61	0.9	0.020	0.008	-	1.3
2006	6.81	5.27	0.190	-	2.46	2.52	5.13	0.19	6.02	2.33	3.19	0.66	0.9	0.020	0.008	-	0.7
2007	7.07	7.32	0.110	-	2.67	2.67	5.13	0.15	3.64	1.63	2.82	0.54	-	-	0.006	-	1.8
2008	6.73	5.66	0.124	-	4.49	2.67	12.95	0.14	4.97	2.46	3.90	0.56	-	0.010	0.007	-	1.9
2009	6.72	7.53	0.193	-	3.14	2.67	7.44	0.10	6.91	3.52	2.43	0.82	-	0.010	0.008	-	3.5
2010	6.63	6.19	0.190	-	2.70	3.70	5.54	0.11	5.80	2.53	2.51	0.69	1.1	0.020	0.015	-	1.9
2011	6.78	4.85	0.168	-	2.60	2.89	3.14	0.09	3.50	2.10	2.57	0.52	0.7	0.050	0.022	-	1.8
2012	6.94	5.08	0.155	-	2.92	3.46	3.10	0.06	3.78	2.50	2.51	0.68	1.2	0.030	0.031	-	2.5
2013	6.80	5.52	0.220	-	2.71	3.42	2.77	0.05	3.80	2.83	3.20	0.76	0.9	0.024	0.029	-	1.7
2014	7.18	5.79	0.219	-	3.71	3.53	2.64	0.05	3.09	2.61	3.70	0.84	0.9	0.041	0.020	-	1.5
2015	7.01	6.01	0.179	-	3.99	3.17	3.43	0.05	3.65	2.64	3.61	0.66	0.7	0.045	0.014	-	1.2
2016	6.65	5.98	0.280	-	2.39	2.61	2.87	0.11	4.43	2.36	3.52	0.66	1.2	0.042	0.017	-	0.9
2017	7.08	5.76	0.259	-	3.17	3.33	2.85	0.08	4.56	2.47	3.96	0.62	1.5	0.032	0.025	-	1.1
2018	7.31	5.68	0.287	-	2.17	2.53	2.32	0.29	3.99	2.19	3.54	0.57	0.8	0.032	0.049	-	1.9
2019	7.23	5.61	0.269	-	2.42	2.56	2.76	0.07	3.40	2.41	3.96	0.64	0.9	0.032	0.156	-	2.0

- : Items were not analyzed.

*1: Less than determination/detection limit.

Table 6.5.4 Annual mean values of each parameters from 2001 to 2019 at Jiwozi River (China)

	Mandatory Parameters : 4 times/year												Mandatory Parameters : Once/year				
	pH	EC mS/m	Alkalinity meq/L	Gran's ANC (meq/L)	SO ₄ ²⁻ mg/L	NO ₃ ⁻ mg/L	Cl ⁻ mg/L	NH ₄ ⁺ mg/L	Na ⁺ mg/L	K ⁺ mg/L	Ca ²⁺ mg/L	Mg ²⁺ mg/L	Transparency m	PO ₄ ³⁻ mg/L	NO ₂ ⁻ mg/L	DOC mg/L	COD mg/L
2001	7.11	4.50	0.225	-	10.03	1.47	1.06	0.04	1.90	0.70	8.83	1.38	-	-	-	-	-
2002	7.60	8.47	0.110	-	12.16	1.70	1.80	*1	2.80	1.20	12.73	1.72	-	-	-	-	-
2003	7.54	7.83	0.140	-	11.44	2.01	1.63	*1	2.08	0.95	12.03	1.59	-	-	-	-	-
2004	7.20	6.63	0.243	-	11.68	2.30	1.06	*1	1.79	0.68	9.04	1.35	-	*1	*1	-	3.2
2005	6.99	7.99	0.208	-	15.31	0.81	1.74	0.06	1.77	0.72	7.44	1.35	-	*1	0.090	-	1.6
2006	6.80	7.59	0.238	-	11.80	1.87	1.21	0.07	1.93	0.65	7.64	1.11	-	0.030	0.003	-	2.8
2007	7.32	8.86	0.250	-	16.68	3.46	1.31	0.13	2.09	0.96	11.00	0.96	-	*1	*1	-	2.2
2008	7.05	8.42	0.248	-	13.92	1.89	1.51	0.30	1.43	1.05	9.38	1.20	-	<0.01*1	<0.003*1	-	2.5
2009	6.98	8.28	0.278	-	15.51	2.07	1.34	0.14	1.88	1.04	9.85	1.38	-	<0.01*1	<0.003*1	-	2.5
2010	7.33	8.11	0.280	-	13.92	2.83	1.27	*1	1.22	0.81	10.49	1.35	-	<0.01*1	<0.003*1	-	3.0
2011	6.85	6.83	0.275	-	12.89	0.87	0.51	*1	0.74	0.84	8.09	2.01	-	<0.01*1	<0.003*1	-	3.0
2012	6.83	6.95	0.275	-	12.97	0.96	0.57	*1	0.70	0.83	7.80	2.01	-	<0.01*1	<0.003*1	-	4.0
2013	6.86	8.92	0.333	-	15.01	2.39	3.16	*1	3.50	1.37	11.07	1.69	-	<0.01*1	<0.003*1	-	5.0
2014	7.05	8.24	0.273	-	15.85	1.28	1.32	0.27	1.93	1.06	9.15	1.61	-	<0.01*1	<0.003*1	-	4.0
2015	7.09	7.27	0.263	-	11.32	6.45	1.55	*1	4.12	0.95	9.19	1.28	-	<0.01*1	<0.003*1	-	3.0
2016	7.10	7.60	0.295	-	11.70	2.86	0.82	*1	2.29	0.65	10.07	1.11	-	<0.01*1	<0.003*1	-	*1
2017	6.99	6.87	0.335	-	9.02	2.09	1.02	0.03	2.02	0.82	8.60	1.41	-	<0.01*1	<0.003*1	-	*1
2018	6.95	6.33	0.330	-	8.59	0.77	1.20	0.02	1.81	0.85	7.62	1.48	-	<0.01*1	<0.003*1	-	*1
2019	7.65	6.22	0.295	-	6.80	5.10	1.22	0.28	1.89	0.99	7.48	1.06	-	<0.01*1	<0.003*1	-	<0.5*1

Table 6.5.5 Annual mean values of each parameters from 2004 to 2019 at Zhuxiandong stream and from 2001 to 2003 at Zhuxiandong reservoir(China)

	Mandatory Parameters : 4 times/year												Mandatory Parameters : Once/year				
	pH	EC mS/m	Alkalinity meq/L	Gran's ANC (meq/L)	SO ₄ ²⁻ mg/L	NO ₃ ⁻ mg/L	Cl ⁻ mg/L	NH ₄ ⁺ mg/L	Na ⁺ mg/L	K ⁺ mg/L	Ca ²⁺ mg/L	Mg ²⁺ mg/L	Transparency m	PO ₄ ³⁻ mg/L	NO ₂ ⁻ mg/L	DOC mg/L	COD mg/L
2001	7.62	-	-	-	17.70	0.63	43.13	0.20	-	-	-	-	-	-	-	-	-
2002	7.93	6.70	0.963	-	19.89	0.83	23.80	0.23	7.27	1.57	17.00	2.50	-	-	-	-	-
2003	7.82	7.54	1.603	-	17.50	0.29	19.59	0.17	7.34	1.96	16.80	2.36	-	-	0.029	-	1.7
2004	7.12	8.49	0.645	-	5.47	1.90	6.03	*1	8.95	1.88	5.41	2.84	-	-	*1	-	1.1
2005	6.97	9.53	0.133	-	5.83	1.70	6.73	*1	8.90	1.60	4.63	2.65	1.3	*1	*1	-	0.9
2006	7.18	7.35	0.225	-	2.60	1.15	4.50	1.10	5.40	1.13	4.38	1.58	1.3	*1	*1	-	1.0
2007	7.28	7.80	0.240	-	3.61	1.77	5.09	0.10	6.01	1.22	3.65	1.38	1.3	*1	*1	-	1.1
2008	7.18	7.58	0.165	-	2.95	2.36	4.90	0.05	6.83	1.31	4.40	1.76	1.3	*1	*1	-	1.1
2009	7.16	7.74	0.367	-	2.97	4.20	6.30	0.06	7.86	1.57	2.77	1.96	1.1	*1	*1	-	1.3
2010	7.22	6.86	0.393	-	2.49	2.50	5.15	0.08	6.98	1.23	4.30	1.72	1.1	*1	*1	-	1.4
2011	7.16	7.42	0.467	-	1.95	1.00	4.33	0.09	7.70	1.15	4.68	1.69	1.1	*1	*1	-	1.3
2012	7.26	7.62	0.499	-	2.98	2.00	5.38	0.09	7.50	1.69	4.81	1.88	1.1	*1	*1	-	1.2
2013	7.20	7.87	0.500	-	3.81	4.11	4.66	0.07	6.95	1.77	4.91	1.91	1.2	*1	*1	-	1.1
2014	7.19	8.27	0.502	-	4.64	4.80	3.75	0.02	6.42	1.69	5.22	2.53	-	-	-	-	-
2015	6.38	6.73	0.496	-	2.47	1.31	2.50	0.44	7.48	1.84	2.84	1.14	-	-	-	-	-
2016	6.99	7.45	0.496	-	1.85	2.01	3.69	0.03	6.70	1.53	4.35	1.64	-	-	-	-	-
2017	7.29	15.17	0.492	-	8.15	3.33	14.38	0.15	11.32	1.76	14.03	2.87	-	-	-	-	-
2018	7.19	8.63	0.630	-	2.11	2.11	5.80	0.03	7.58	1.38	6.05	2.25	-	*1	-	-	8.5
2019	7.11	8.05	0.524	-	2.40	2.62	5.63	0.00	7.32	1.36	5.11	1.99	-	0.020	0.003	-	2.1

Table 6.5.6 Annual mean values of each parameters from 2001 to 2019 at Patenggag Lake (Indonesia)

	Mandatory Parameters : 4 times/year											Mandatory Parameters : Once/year					
	pH	EC mS/m	Alkalinity meq/L	Gran's ANC (meq/L)	SO ₄ ²⁻ mg/L	NO ₃ ⁻ mg/L	Cl ⁻ mg/L	NH ₄ ⁺ mg/L	Na ⁺ mg/L	K ⁺ mg/L	Ca ²⁺ mg/L	Mg ²⁺ mg/L	Transparency m	PO ₄ ³⁻ mg/L	NO ₂ ⁻ mg/L	DOC mg/L	COD mg/L
2001	7.90	7.28	0.488	-	4.33	0.07	8.19	0.13	4.90	0.54	6.32	2.18	-	-	-	-	-
2002	8.46	5.83	0.255	-	7.33	0.06	6.30	0.17	4.60	0.71	4.03	1.93	-	-	-	-	-
2003	7.34	6.58	0.460	-	7.76	0.19	7.50	0.53	4.30	0.49	5.17	2.53	0.6	0.207	*1	12.4	-
2004	7.29	5.89	0.340	-	2.65	0.03	3.85	0.02	2.10	0.85	5.75	2.20	0.6	0.014	*1	7.3	-
2005	7.19	6.71	0.459	-	8.83	0.23	2.30	0.43	4.04	1.87	5.70	2.70	0.1	0.010	*1	10.9	-
2006	7.49	5.74	0.414	-	3.80	0.47	2.58	0.39	2.87	1.70	5.70	1.43	0.1	0.085	0.016	8.1	-
2007	7.17	6.75	0.420	-	7.45	0.32	2.59	0.41	3.40	1.53	5.75	1.47	0.1	0.038	0.012	3.8	-
2008	6.76	6.43	0.448	-	7.89	0.07	2.18	0.05	2.84	1.29	6.18	2.39	0.9	0.202	0.019	10.2	-
2009	6.99	6.96	0.490	-	5.16	0.58	2.24	0.19	3.68	2.33	6.66	1.09	1.1	0.011	0.007	8.6	-
2010	6.66	6.75	0.512	-	4.93	0.01	2.33	0.17	3.43	1.52	6.87	2.12	1.1	0.031	0.006	7.5	-
2011	7.84	7.40	0.522	-	8.08	0.02	2.48	0.34	3.18	1.38	6.46	2.61	0.7	0.292	0.006	6.9	-
2012	7.72	6.09	0.403	-	7.40	*1	1.80	0.43	3.50	1.47	5.26	2.06	0.8	0.133	*1	7.6	-
2013	7.41	6.64	0.442	-	8.23	0.06	1.50	0.09	4.83	2.03	4.60	1.97	0.9	*1	0.009	12.1	-
2014	7.48	6.19	0.357	-	7.15	0.12	2.44	0.47	3.00	1.15	4.90	2.06	1.6	0.010	0.007	6.8	-
2015	7.75	7.03	0.375	-	9.96	0.12	2.06	0.06	3.12	1.50	5.74	2.22	-	-	-	-	-
2016	8.09	9.51	0.426	-	6.40	0.82	3.62	0.09	4.68	1.14	5.32	1.84	-	-	-	-	-
2017	7.88	6.56	0.493	-	6.65	0.48	2.24	0.07	3.07	1.53	6.58	1.80	1.4	-	-	-	-
2018	7.81	6.39	0.459	-	6.11	0.79	2.22	0.02	3.57	1.32	6.57	1.82	-	-	-	-	-
2019	7.94	6.07	0.432	-	6.05	0.97	1.51	0.93	3.93	1.44	5.83	1.82	-	-	-	-	-

- : Items were not analyzed.

*1: Less than determination/detection limit.

Table 6.5.7 Annual mean values of each parameters from 2008 to 2019 at Gunung Lake (Indonesia)

	Mandatory Parameters : 4 times/year												Mandatory Parameters : Once/year				
	pH	EC mS/m	Alkalinity meq/L	Gran's ANC (meq/L)	SO ₄ ²⁻ mg/L	NO ₃ ⁻ mg/L	Cl ⁻ mg/L	NH ₄ ⁺ mg/L	Na ⁺ mg/L	K ⁺ mg/L	Ca ²⁺ mg/L	Mg ²⁺ mg/L	Transparency m	PO ₄ ³⁻ mg/L	NO ₂ ⁻ mg/L	DOC mg/L	COD mg/L
2008	6.73	5.90	0.438	-	5.59	0.03	2.01	0.57	2.24	0.71	5.09	1.87	1.1	0.040	0.007	6.7	-
2009	6.69	5.54	0.460	-	3.48	0.06	1.30	0.16	3.14	1.02	4.62	2.20	1.0	0.014	0.005	10.8	-
2010	6.24	5.14	0.442	-	1.70	0.00	1.15	0.11	2.01	0.87	5.35	1.66	1.1	0.125	0.002	5.0	-
2011	7.38	5.15	0.414	-	4.04	0.07	1.00	0.12	2.36	0.84	5.04	2.02	0.7	0.037	0.004	10.2	-
2012	6.56	5.86	0.450	-	4.04	*1	1.10	*1	1.74	0.88	5.30	2.54	0.5	0.710	*1	9.5	-
2013	7.38	4.15	0.321	-	3.05	0.04	0.75	0.08	2.75	0.76	2.92	1.18	1.0	*1	0.002	5.3	-
2014	6.97	3.96	0.248	-	4.05	0.04	1.68	0.13	2.74	0.87	2.65	0.92	1.0	0.020	0.004	8.8	4.8
2015	7.33	4.91	0.274	-	6.74	0.05	1.96	0.03	1.74	0.49	4.46	2.00	-	-	-	-	-
2016	7.41	3.92	0.412	-	1.27	0.15	0.81	0.09	4.10	0.51	5.53	1.36	-	-	-	-	-
2017	7.88	4.47	0.318	-	1.59	0.13	0.82	0.09	1.87	0.92	5.07	1.17	0.8	-	-	-	-
2018	6.99	4.87	0.487	-	0.84	0.15	1.12	0.03	2.35	0.65	6.31	1.61	-	-	-	-	-
2019	7.76	5.58	0.436	-	2.50	0.14	1.09	0.56	1.68	0.98	6.39	1.64	-	-	-	-	-

Table 6.5.8 Annual mean values of each parameters from 2001 to 2019 at Ijira Lake (Japan)

	Mandatory Parameters : 4 times/year												Mandatory Parameters : Once/year				
	pH	EC mS/m	Alkalinity meq/L	Gran's ANC (meq/L)	SO ₄ ²⁻ mg/L	NO ₃ ⁻ mg/L	Cl ⁻ mg/L	NH ₄ ⁺ mg/L	Na ⁺ mg/L	K ⁺ mg/L	Ca ²⁺ mg/L	Mg ²⁺ mg/L	Transparency m	PO ₄ ³⁻ mg/L	NO ₂ ⁻ mg/L	DOC mg/L	COD mg/L
2001	6.85	4.33	0.138	-	4.66	2.31	2.19	0.07	2.37	0.40	3.51	1.61	-	<0.01*1	-	-	-
2002	6.72	4.52	0.173	-	5.63	2.01	2.27	0.09	2.23	0.38	3.39	1.37	2.2	<0.066*1	<0.01*1	3.2	-
2003	6.75	4.10	0.146	-	5.14	2.07	2.40	0.08	1.86	0.30	2.94	1.36	3.0	<0.01*1	<0.03*1	1.4	-
2004	7.17	4.05	0.145	-	4.79	1.88	2.34	0.12	2.15	0.23	2.71	1.23	2.8	<0.03*1	<0.02*1	1.1	-
2005	6.94	4.47	0.153	-	5.73	2.37	2.32	0.08	2.29	0.39	3.27	1.42	3.0	<0.03*1	0.068	0.7	-
2006	6.81	3.94	0.164	-	4.53	2.11	2.09	0.03	2.00	0.33	2.80	1.23	2.4	<0.1*1	<0.02*1	0.6	-
2007	7.09	4.58	0.206	-	5.77	1.22	2.27	0.03	2.24	0.30	3.57	1.46	2.7	<0.1*1	<0.02*1	1.0	-
2008	7.19	4.36	0.183	-	5.37	1.78	2.16	0.04	2.10	0.28	3.24	1.45	2.7	<0.1*1	<0.01*1	0.8	-
2009	7.04	4.26	0.176	-	5.18	1.47	2.13	0.01	2.08	0.26	3.03	1.35	2.7	<0.1*1	<0.01*1	0.7	-
2010	7.01	3.74	0.158	-	4.58	1.10	1.96	<0.01*1	1.88	0.25	2.61	1.18	2.3	<0.1*1	<0.01*1	0.5	-
2011	7.11	3.85	0.159	-	4.77	1.34	1.86	<0.01*1	1.89	0.23	3.05	1.22	1.8	<0.1*1	<0.01*1	0.8	-
2012	7.11	3.76	0.154	-	4.66	1.31	1.89	<0.01*1	1.85	0.23	2.78	1.23	2.3	<0.1*1	<0.01*1	0.5	-
2013	7.17	3.94	0.165	-	5.02	1.06	1.97	<0.01*1	1.97	0.24	2.73	1.25	2.4	<0.1*1	<0.01*1	0.5	-
2014	7.06	3.73	0.140	-	4.67	1.21	1.86	<0.01*1	1.82	0.27	2.34	1.12	1.9	<0.1*1	<0.01*1	0.5	-
2015	7.16	3.57	0.149	-	4.38	1.06	1.87	<0.01*1	1.79	0.27	2.12	1.05	2.2	<0.1*1	<0.01*1	0.6	-
2016	7.11	3.73	0.141	-	5.37	1.39	1.78	<0.01*1	1.89	0.27	2.39	1.20	4.8	<0.1*1	<0.01*1	0.6	-
2017	7.02	3.89	0.165	-	5.33	0.97	1.84	<0.01*1	1.96	0.26	2.82	1.31	3.3	<0.1*1	<0.01*1	0.6	-
2018	6.95	3.59	0.162	0.143	4.54	0.74	1.87	<0.01*1	1.82	0.26	2.75	1.16	2.6	<0.1*1	<0.01*1	2.4	-
2019	7.16	3.84	0.176	0.160	4.81	0.74	1.88	<0.01*1	1.95	0.24	3.08	1.20	3.3	<0.02*1	<0.01*1	3.0	-

Table 6.5.10 Annual mean values of each parameters in 2019 at Futago-ike Lake (Meike) (Japan)

	Mandatory Parameters : 4 times/year												Mandatory Parameters : Once/year				
	pH	EC	Alkalinity	Gran's ANC	SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	Mg ²⁺	Transparency	PO ₄ ³⁻	NO ₂ ⁻	DOC	COD
		mS/m	meq/L	(meq/L)	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	m	mg/L	mg/L	mg/L
2019	6.93	2.04	0.141	0.125	1.27	0.96	0.36	<0.02*1	1.25	0.27	2.34	0.21	4.8	<0.01*1	<0.01*1	1.1	1.5

Table 6.5.11 Annual mean values of each parameters of 2009 and 2019 at Nam Houm Lake (Lao PDR)

	Mandatory Parameters : 4 times/year												Mandatory Parameters : Once/year				
	pH	EC mS/m	Alkalinity meq/L	Gran's ANC (meq/L)	SO ₄ ²⁻ mg/L	NO ₃ ⁻ mg/L	Cl ⁻ mg/L	NH ₄ ⁺ mg/L	Na ⁺ mg/L	K ⁺ mg/L	Ca ²⁺ mg/L	Mg ²⁺ mg/L	Transparency m	PO ₄ ³⁻ mg/L	NO ₂ ⁻ mg/L	DOC mg/L	COD mg/L
2009	7.55	3.90	0.411	-	1.83	0.65	1.45	0.15	0.94	1.75	4.43	0.86	-	0.001	-	-	10.2
2014	7.18	4.12	0.438	-	-	-	-	-	-	-	-	-	0.8	0.013	-	-	23.1
2016	7.20	2.34	0.340	-	2.61	0.02	1.83	0.01	1.07	0.40	1.14	1.72	0.6	0.010	-	-	11.2
2017	7.54	3.39	0.303	-	3.76	0.01	0.48	-	-	-	-	-	0.6	0.010	-	-	3.7
2018	7.43	4.11	0.390	-	2.26	0.41	0.40	-	-	-	-	-	0.6	0.010	-	-	7.5
2019	8.05	3.37	0.338	-	3.65	0.01	0.40	-	-	-	-	-	0.6	0.010	-	-	19.4

Table 6.5.12 Annual mean values of each parameters from 2005 to 2015 at Semenyih Dam (Malaysia)

	Mandatory Parameters : 4 times/year												Mandatory Parameters : Once/year				
	pH	EC mS/m	Alkalinity meq/L	Gran's ANC (meq/L)	SO ₄ ²⁻ mg/L	NO ₃ ⁻ mg/L	Cl ⁻ mg/L	NH ₄ ⁺ mg/L	Na ⁺ mg/L	K ⁺ mg/L	Ca ²⁺ mg/L	Mg ²⁺ mg/L	Transparency m	PO ₄ ³⁻ mg/L	NO ₂ ⁻ mg/L	DOC mg/L	COD mg/L
2005	7.08	2.27	0.226	-	0.75	1.07	1.41	0.11	2.34	2.01	4.93	1.40	-	-	-	-	-
2006	7.24	3.03	0.688	-	5.04	0.87	7.03	0.29	14.55	16.83	14.39	2.70	-	-	-	-	-
2007	7.02	2.67	0.266	-	1.22	0.10	0.75	0.04	2.35	2.05	2.30	0.69	-	-	-	-	-
2008	6.94	1.53	0.265	-	1.73	0.18	0.83	0.06	2.46	2.08	2.54	0.66	-	-	-	-	-
2009	6.91	3.30	0.229	-	1.80	0.22	0.83	0.02	2.13	1.90	1.83	0.55	-	-	-	-	-
2010	6.92	2.77	0.225	-	2.40	0.05	0.81	0.02	2.18	2.00	2.43	0.65	-	<0.10*1	-	-	-
2011	6.99	2.69	0.270	-	2.85	0.54	0.96	0.05	2.15	2.01	2.53	0.60	-	-	-	-	-
2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2013	6.63	2.96	0.230	-	2.98	0.25	0.77	0.06	2.12	1.94	2.55	0.61	-	<0.10*1	-	-	5.3
2014	7.06	3.63	0.234	-	3.16	0.42	0.78	0.15	2.18	2.07	3.24	0.68	-	<0.10*1	-	-	4.9
2015	6.99	3.20	0.243	-	1.32	0.14	1.61	0.03	3.70	1.60	2.21	0.64	-	<0.10*1	-	-	7.6

Table 6.5.13 Annual mean values of each parameters from 2007 to 2017 at Tembaling River (Malaysia)

	Mandatory Parameters : 4 times/year												Mandatory Parameters : Once/year				
	pH	EC mS/m	Alkalinity meq/L	Gran's ANC (meq/L)	SO ₄ ²⁻ mg/L	NO ₃ ⁻ mg/L	Cl ⁻ mg/L	NH ₄ ⁺ mg/L	Na ⁺ mg/L	K ⁺ mg/L	Ca ²⁺ mg/L	Mg ²⁺ mg/L	Transparency m	PO ₄ ³⁻ mg/L	NO ₂ ⁻ mg/L	DOC mg/L	COD mg/L
2007	6.80	13.90	1.640	-	7.03	0.63	2.20	0.05	3.01	3.37	16.50	8.68	-	-	-	-	-
2008	7.07	18.62	1.850	-	8.10	0.75	1.20	0.01	5.83	0.40	22.00	10.40	-	-	-	-	-
2009	7.97	20.28	1.975	-	9.38	0.72	1.33	0.01	6.25	0.53	20.50	10.23	-	-	-	-	-
2010	8.11	21.81	2.070	-	9.94	0.59	1.55	0.03	6.99	0.81	18.38	15.98	-	<0.10*1	-	-	4.0
2011	8.18	17.43	1.626	-	7.23	1.19	1.35	0.01	4.99	0.40	16.32	7.50	-	<0.10*1	-	-	7.8
2012	8.06	17.82	1.796	-	6.11	0.29	1.18	0.01	4.71	0.25	19.37	9.20	-	<0.10*1	-	-	4.5
2013	8.05	19.16	1.905	-	5.50	0.38	1.20	0.04	5.73	0.38	20.35	10.67	-	<0.10*1	-	-	4.6
2014	7.82	20.77	1.996	-	7.79	0.47	1.02	0.04	6.39	0.57	21.51	11.03	-	<0.10*1	-	-	4.8
2015	8.02	23.37	2.210	-	11.33	0.54	2.33	0.03	9.37	0.64	24.03	12.06	-	<0.10*1	-	-	4.8
2016	7.77	18.17	1.587	-	9.26	0.55	3.73	0.06	7.77	1.73	17.78	8.50	-	<0.10*1	-	-	6.3
2017	7.97	17.07	1.525	-	7.39	0.95	2.27	0.00	7.44	0.51	16.05	7.91	-	<0.10*1	-	-	4.9

- : Items were not analyzed.

*1: Less than determination/detection limit.

Table 6.5.14 Annual mean values of each parameters from 2002 to 2019 at Tereji River (Mongolia)

	Mandatory Parameters : 4 times/year												Mandatory Parameters : Once/year				
	pH	EC mS/m	Alkalinity meq/L	Gran's ANC (meq/L)	SO ₄ ²⁻ mg/L	NO ₃ ⁻ mg/L	Cl ⁻ mg/L	NH ₄ ⁺ mg/L	Na ⁺ mg/L	K ⁺ mg/L	Ca ²⁺ mg/L	Mg ²⁺ mg/L	Transparency m	PO ₄ ³⁻ mg/L	NO ₂ ⁻ mg/L	DOC mg/L	COD mg/L
2002	7.23	4.84	0.098	-	3.47	1.11	0.43	0.04	1.87	0.52	7.17	0.87	-	-	-	-	-
2003	6.75	4.60	0.266	-	3.16	0.74	0.36	0.04	1.65	0.48	5.88	0.83	-	-	-	-	-
2004	6.80	4.44	0.296	-	2.76	0.70	0.54	0.06	1.60	0.72	5.93	0.89	-	-	-	-	-
2005	6.90	4.84	0.367	-	3.18	0.82	0.56	0.05	1.95	0.68	8.90	1.04	-	-	0.003	-	-
2006	6.99	5.07	0.327	-	3.60	0.79	0.46	0.11	2.07	0.62	9.04	1.07	-	-	0.003	-	-
2007	6.89	5.06	0.339	-	3.18	0.79	0.57	0.07	2.22	0.55	8.63	1.03	-	<0.005*1	0.003	-	-
2008	6.36	6.59	0.282	-	3.82	1.33	0.73	<0.01*1	1.93	0.60	13.70	1.00	-	0.007	<0.005*1	-	-
2009	7.13	4.70	0.331	-	3.47	0.49	0.41	<0.01*1	1.66	0.58	5.41	0.76	-	-	<0.005*1	-	-
2010	6.67	5.57	0.380	-	4.47	0.86	0.78	0.13	2.17	1.19	7.52	1.15	-	0.011	<0.005*1	-	-
2011	6.28	5.33	0.327	-	3.73	0.76	0.79	0.06	1.57	0.68	5.80	0.87	-	0.008	0.002	-	-
2012	7.24	4.55	0.318	-	-	-	-	-	-	-	-	-	-	0.008	0.006	-	-
2013	6.84	4.32	0.294	-	2.81	0.46	0.37	*1	1.46	1.01	6.13	0.83	-	-	-	-	-
2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2015	7.23	5.37	0.350	-	4.43	0.82	0.38	-	-	-	-	-	-	-	-	-	-
2016	6.59	4.39	0.277	-	3.42	0.34	0.35	*1	1.45	0.57	6.55	0.82	-	-	-	-	-
2017	6.73	5.09	0.346	-	4.72	0.85	0.48	0.01	1.89	0.52	6.90	0.88	-	-	-	-	-
2018	6.79	4.38	0.279	-	3.52	0.83	0.30	0.00	1.90	0.43	5.72	0.70	-	-	-	-	-
2019	6.48	4.77	0.316	-	4.36	0.36	0.34	0.00	1.78	0.52	6.40	0.82	-	-	-	-	-

Table 6.5.15 Annual mean values of each parameters from 2004 to 2019 at Pandin Lake (Philippines)

	Mandatory Parameters : 4 times/year												Mandatory Parameters : Once/year				
	pH	EC mS/m	Alkalinity meq/L	Gran's ANC (meq/L)	SO ₄ ²⁻ mg/L	NO ₃ ⁻ mg/L	Cl ⁻ mg/L	NH ₄ ⁺ mg/L	Na ⁺ mg/L	K ⁺ mg/L	Ca ²⁺ mg/L	Mg ²⁺ mg/L	Transparency m	PO ₄ ³⁻ mg/L	NO ₂ ⁻ mg/L	DOC mg/L	COD mg/L
2004	8.08	18.23	1.808	-	0.33	0.08	3.16	0.02	8.91	5.81	12.05	6.91	-	0.014	0.072	-	-
2005	7.96	18.14	1.723	-	1.11	0.58	3.76	0.69	8.18	4.89	14.33	7.84	-	0.005	0.295	-	-
2006	7.72	17.34	1.758	-	0.43	0.19	2.40	0.22	8.08	5.08	15.13	7.30	2.2	0.004	0.012	-	-
2007	7.76	17.57	1.708	-	0.52	0.10	3.37	0.26	7.28	6.29	12.10	9.03	-	0.002	0.013	-	-
2008	7.48	17.95	1.627	-	0.76	5.23	3.70	0.02	7.33	4.92	12.65	7.97	-	0.013	-	-	-
2009	7.68	18.70	1.813	-	0.66	5.72	3.78	1.02	8.61	4.35	14.10	7.32	1.8	0.087	-	-	-
2010	8.25	18.35	1.837	-	0.34	3.36	3.28	*1	8.79	5.59	13.07	8.49	-	0.060	-	-	-
2011	7.67	20.46	1.738	-	0.49	2.08	3.29	0.17	7.99	4.14	14.90	7.58	-	0.086	-	-	-
2012	7.95	17.56	1.683	-	1.53	0.48	3.45	0.06	8.19	4.43	14.15	7.59	-	*1	-	-	-
2013	7.29	17.71	1.725	-	0.56	0.16	3.19	0.10	8.17	4.24	15.55	7.89	-	0.004	*1	-	-
2014	7.64	20.51	2.145	-	0.22	0.14	2.54	0.04	7.00	3.70	19.13	9.09	-	-	*1	-	-
2015	7.65	19.48	2.104	-	0.85	0.67	3.26	0.12	10.77	8.46	21.04	3.91	-	0.470	*1	-	-
2016	7.18	18.74	1.744	-	0.84	0.32	3.48	0.32	8.58	4.41	15.77	8.29	-	0.110	*1	-	-
2017	8.02	17.38	1.729	-	0.86	0.15	3.44	0.41	8.68	4.07	16.36	7.91	-	0.274	0.000	-	-
2018	8.20	18.18	1.740	-	0.54	0.20	3.52	0.02	8.41	3.81	15.54	7.09	-	0.000	0.000	-	-
2019	8.65	18.03	1.700	-	0.85	0.03	3.92	0.00	8.05	4.02	16.98	6.96	-	0.244	0.000	-	-

Table 6.5.16 Annual mean values of each parameters from 2005 to 2016 at Ambulakao Lake (Philippines)

	Mandatory Parameters : 4 times/year												Mandatory Parameters : Once/year				
	pH	EC mS/m	Alkalinity meq/L	Gran's ANC (meq/L)	SO ₄ ²⁻ mg/L	NO ₃ ⁻ mg/L	Cl ⁻ mg/L	NH ₄ ⁺ mg/L	Na ⁺ mg/L	K ⁺ mg/L	Ca ²⁺ mg/L	Mg ²⁺ mg/L	Transparency m	PO ₄ ³⁻ mg/L	NO ₂ ⁻ mg/L	DOC mg/L	COD mg/L
2005	5.82	0.44	0.020	-	0.15	0.11	0.06	-	0.22	0.15	0.15	0.04	-	-	0.100	-	-
2007	5.49	0.53	0.031	-	0.46	0.12	0.25	0.02	0.37	0.13	0.40	0.10	-	*1	*1	-	-
2008	5.74	0.38	0.081	-	0.27	0.12	0.17	0.10	0.19	0.07	0.26	0.15	-	0.001	-	-	-
2009	5.72	30.33	0.275	-	23.14	14.75	9.27	0.13	6.54	0.33	32.58	2.84	-	-	-	-	-
2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2013	5.75	0.52	0.060	-	*1	*1	0.39	*1	0.56	0.13	0.49	0.11	-	-	-	-	-
2014	5.69	0.52	0.023	-	0.11	*1	0.20	0.21	0.46	0.35	0.59	0.12	-	-	-	-	-
2015	5.86	0.50	0.031	-	0.21	0.36	0.22	0.05	0.48	0.14	0.37	0.31	-	-	-	-	-
2016	5.81	0.51	0.026	-	0.11	0.02	0.18	0.00	0.46	0.12	0.26	0.10	-	-	-	-	-

- : Items were not analyzed.

*1: Less than determination/detection limit.

Table 6.5.17 Annual mean values of each parameters from 2004 to 2019 at Perecmnaya River (Russia)

	Mandatory Parameters : 4 times/year												Mandatory Parameters : Once/year				
	pH	EC mS/m	Alkalinity meq/L	Gran's ANC (meq/L)	SO ₄ ²⁻ mg/L	NO ₃ ⁻ mg/L	Cl ⁻ mg/L	NH ₄ ⁺ mg/L	Na ⁺ mg/L	K ⁺ mg/L	Ca ²⁺ mg/L	Mg ²⁺ mg/L	Transparency m	PO ₄ ³⁻ mg/L	NO ₂ ⁻ mg/L	DOC mg/L	COD mg/L
2004	6.55	3.93	0.135	-	7.18	0.76	0.23	0.03	1.10	0.77	3.23	0.94	2.0	0.008	0.002	-	-
2005	6.80	4.03	0.135	-	7.84	0.66	0.20	0.03	0.96	0.71	3.29	1.04	-	0.002	0.005	-	0.8
2006	6.74	3.95	0.140	-	7.49	0.81	0.20	0.04	1.07	0.75	3.36	1.02	-	0.004	0.002	1.5	1.1
2007	6.59	4.21	0.135	-	8.98	0.91	0.18	0.11	1.06	0.76	3.92	0.85	-	0.004	0.003	1.6	1.0
2008	6.68	4.87	0.155	-	9.77	1.03	0.13	0.03	0.93	0.60	4.78	1.05	-	0.007	0.002	1.0	0.8
2009	6.66	4.87	0.128	-	11.69	0.85	0.14	0.02	1.00	0.60	4.94	0.97	-	0.005	0.002	-	0.6
2010	6.88	5.14	0.127	-	12.87	0.79	0.20	0.03	0.99	0.66	5.18	1.05	-	0.007	0.002	-	1.1
2011	6.85	4.79	0.138	-	11.39	0.67	0.16	0.02	1.02	0.68	4.97	0.83	-	0.004	0.003	-	0.9
2012	6.61	4.21	0.139	-	9.49	0.38	0.17	0.09	0.95	0.63	4.42	0.67	-	0.005	0.002	-	1.2
2013	6.76	4.61	0.134	-	11.14	0.57	0.13	0.02	1.00	0.65	4.92	0.82	1.9	0.008	0.002	-	1.0
2014	6.69	4.66	0.142	-	11.19	0.58	0.19	0.01	1.30	0.78	4.87	0.78	1.9	0.009	0.002	-	1.2
2015	6.63	4.29	0.124	-	10.47	0.48	0.20	0.01	1.01	0.66	4.57	0.76	1.9	0.006	0.003	-	0.8
2016	6.78	4.53	0.142	-	11.14	0.70	0.14	0.01	1.06	0.66	4.90	0.85	1.9	0.004	0.002	-	0.9
2017	6.76	4.64	0.128	-	11.87	0.87	0.09	0.01	1.03	0.66	4.89	0.97	-	0.003	0.003	-	0.8
2018	6.68	4.30	0.109	-	11.20	0.74	0.25	0.01	1.06	0.59	4.43	0.80	-	0.007	0.004	-	1.1
2019	6.71	4.72	0.124	-	11.75	0.68	0.17	0.01	1.07	0.70	4.85	0.94	-	0.003	0.004	-	0.9

Table 6.5.18 Annual mean values of each parameters from 2005 to 2019 at Komarovka River (Russia)

	Mandatory Parameters : 4 times/year												Mandatory Parameters : Once/year				
	pH	EC mS/m	Alkalinity meq/L	Gran's ANC (meq/L)	SO ₄ ²⁻ mg/L	NO ₃ ⁻ mg/L	Cl ⁻ mg/L	NH ₄ ⁺ mg/L	Na ⁺ mg/L	K ⁺ mg/L	Ca ²⁺ mg/L	Mg ²⁺ mg/L	Transparency m	PO ₄ ³⁻ mg/L	NO ₂ ⁻ mg/L	DOC mg/L	COD mg/L
2005	7.24	8.75	0.495	-	11.18	0.33	3.09	0.15	3.34	0.60	9.07	2.25	-	*1	*1	-	-
2006	7.08	8.37	0.428	-	9.02	0.26	3.12	0.08	3.10	0.57	8.51	2.27	-	0.014	0.003	-	-
2007	7.15	8.68	0.395	-	10.51	0.26	4.03	0.09	3.39	0.65	8.04	2.34	-	0.010	0.025	-	4.3
2008	7.22	8.68	0.391	-	12.08	0.52	3.06	0.09	3.80	0.62	8.14	2.08	-	0.030	0.053	-	3.6
2009	7.02	8.64	0.351	-	12.59	1.11	3.69	0.22	3.57	0.60	8.21	2.07	-	0.041	0.067	-	4.4
2010	6.99	8.32	0.445	-	8.62	0.99	3.33	0.19	3.21	0.46	8.29	2.12	-	0.013	0.036	-	4.0
2011	7.09	8.86	0.405	-	12.67	1.63	3.11	0.27	3.88	0.74	8.58	2.22	-	0.010	0.018	-	4.4
2012	6.99	8.54	0.384	-	9.61	1.33	3.88	0.45	3.53	0.79	7.88	2.37	-	0.015	0.038	-	5.1
2013	6.84	8.45	0.372	-	11.87	1.27	3.61	0.16	3.44	0.64	7.71	2.66	-	0.006	0.027	-	4.1
2014	6.91	8.45	0.368	-	11.76	2.81	3.16	0.14	3.52	0.72	8.29	2.27	-	0.005	0.033	-	4.6
2015	6.98	8.75	0.404	-	13.46	1.27	3.06	0.12	3.45	0.58	8.73	2.20	-	0.005	0.026	-	4.4
2016	6.71	9.09	0.375	-	14.25	3.68	3.57	0.24	3.82	0.75	8.85	2.02	-	0.005	0.017	-	5.6
2017	6.93	8.93	0.425	-	11.48	3.97	4.36	0.19	4.39	0.87	10.00	1.91	-	0.005	0.016	-	3.3
2018	6.98	8.50	0.383	-	12.78	3.72	2.25	0.08	4.06	1.02	9.20	2.54	-	0.003	0.011	-	4.6
2019	6.64	8.09	0.303	-	12.97	2.45	3.20	0.11	3.95	1.07	8.42	1.42	-	0.007	0.011	-	3.7

Table 6.5.19 Annual mean values of each parameters from 2002 to 2019 at Vajiralongkorn Dam (Ban Pong Chang) (Thailand)

	Mandatory Parameters : 4 times/year												Mandatory Parameters : Once/year				
	pH	EC mS/m	Alkalinity meq/L	Gran's ANC (meq/L)	SO ₄ ²⁻ mg/L	NO ₃ ⁻ mg/L	Cl ⁻ mg/L	NH ₄ ⁺ mg/L	Na ⁺ mg/L	K ⁺ mg/L	Ca ²⁺ mg/L	Mg ²⁺ mg/L	Transparency m	PO ₄ ³⁻ mg/L	NO ₂ ⁻ mg/L	DOC mg/L	COD mg/L
2002	7.52	12.13	0.625	-	1.15	0.04	0.89	*1	1.14	1.01	13.27	2.98	5.3	0.024	*1	-	4.0
2003	7.45	10.75	0.625	-	1.29	0.01	0.84	*1	1.14	0.97	16.24	3.52	5.0	*1	*1	-	5.8
2004	7.77	11.53	1.050	-	1.27	0.20	0.98	0.05	1.18	0.97	15.68	3.26	5.6	0.023	0.010	-	7.5
2005	7.33	11.18	1.276	-	1.47	0.11	1.05	0.01	1.26	1.02	15.83	3.12	3.6	0.010	0.010	-	<4.0*1
2006	7.21	10.41	1.125	-	1.31	0.20	0.85	0.06	1.14	1.03	16.24	3.17	4.6	<0.01*1	<0.01*1	-	10.0
2007	7.80	10.41	1.090	-	1.17	0.20	0.75	0.01	1.21	0.96	16.50	3.26	5.1	0.010	0.010	-	5.2
2008	7.71	10.55	1.178	-	1.11	0.05	0.75	<0.01*1	1.16	0.97	16.25	3.23	4.4	<0.01*1	0.010	-	6.8
2009	7.79	10.83	1.111	-	1.33	0.06	0.74	-	1.16	0.95	16.09	3.39	4.4	0.010	<0.01*1	-	-
2010	7.70	11.80	1.176	-	1.55	0.06	0.83	0.01	1.24	1.01	16.59	3.62	3.6	0.010	0.010	-	4.7
2011	7.38	12.76	1.178	-	1.43	0.07	0.82	0.01	1.22	1.04	17.93	3.70	3.0	0.012	<0.01*1	-	5.7
2012	7.32	11.81	1.150	-	1.22	0.19	0.94	0.03	1.21	1.12	16.79	3.53	3.2	0.010	-	-	8.5
2013	7.67	13.53	1.186	-	1.10	0.10	0.87	0.01	1.21	1.02	16.99	3.81	2.8	0.010	-	-	-
2014	7.55	5.62	1.138	-	1.64	0.09	0.88	0.04	1.20	0.95	16.69	3.29	3.8	0.010	-	-	-
2015	7.50	5.33	1.066	-	1.44	0.11	0.93	0.04	1.18	0.86	15.78	3.10	3.0	0.010	-	-	-
2016	7.06	12.16	1.121	-	1.28	0.10	1.06	0.01	1.47	0.96	17.18	3.61	2.7	0.020	-	-	40.0
2017	7.07	11.94	1.193	-	1.57	0.09	1.15	0.01	1.44	1.06	17.91	3.45	2.9	0.018	-	-	-
2018	7.88	12.35	1.130	-	1.11	0.10	0.95	0.01	1.23	1.04	17.21	3.16	3.0	0.010	-	-	-
2019	8.35	12.42	1.072	-	1.53	0.10	1.16	0.02	1.32	1.07	15.10	3.44	3.8	0.010	-	-	-

- : Items were not analyzed.

*1: Less than determination/detection limit.

Table 6.5.20 Annual mean values of each parameters from 2002 to 2019 at Vajiralongkorn Dam (Ban Pang Pueng) (Thailand)

	Mandatory Parameters : 4 times/year												Mandatory Parameters : Once/year				
	pH	EC mS/m	Alkalinity meq/L	Gran's ANC (meq/L)	SO ₄ ²⁻ mg/L	NO ₃ ⁻ mg/L	Cl ⁻ mg/L	NH ₄ ⁺ mg/L	Na ⁺ mg/L	K ⁺ mg/L	Ca ²⁺ mg/L	Mg ²⁺ mg/L	Transparency m	PO ₄ ³⁻ mg/L	NO ₂ ⁻ mg/L	DOC mg/L	COD mg/L
2002	7.31	11.98	0.633	-	1.24	0.06	0.90	*1	1.19	0.99	13.28	2.90	5.5	0.034	*1	-	3.0
2003	7.87	10.50	0.590	-	1.41	0.01	0.84	*1	1.17	0.98	16.24	2.94	5.8	*1	*1	-	7.3
2004	7.24	11.12	1.005	-	1.54	0.20	0.95	0.05	1.21	1.03	16.01	2.83	8.1	0.020	0.010	-	5.0
2005	6.98	11.20	1.015	-	1.29	0.11	1.15	0.03	1.52	1.02	16.16	2.98	4.4	0.135	0.010	-	*1
2006	7.12	10.03	1.046	-	1.44	0.20	0.83	0.03	1.14	1.04	16.19	2.64	5.0	<0.01*1	<0.01*1	-	11.0
2007	7.84	10.21	1.050	-	1.25	0.20	0.70	0.01	1.13	0.98	16.75	2.98	5.3	0.010	0.010	-	4.0
2008	7.78	9.88	1.104	-	1.49	<0.06*1	0.75	<0.01*1	1.17	1.00	15.65	2.49	4.4	<0.01*1	0.010	-	4.7
2009	7.93	10.30	1.065	-	1.42	0.06	0.73	-	1.14	2.04	15.88	2.79	4.6	0.010	<0.01*1	-	-
2010	7.79	11.16	1.113	-	1.61	0.06	0.76	0.01	1.16	0.99	16.38	2.86	4.1	0.010	0.010	-	7.1
2011	7.41	11.79	1.098	-	1.51	0.07	0.79	0.02	1.18	0.98	16.93	2.92	3.5	0.010	<0.01*1	-	8.4
2012	7.30	9.41	1.048	-	1.85	0.08	0.86	0.03	1.17	1.08	16.25	2.80	3.8	0.010	-	-	6.9
2013	7.90	11.10	1.093	-	1.26	0.10	0.83	0.01	1.14	1.01	16.84	2.88	4.0	0.010	-	-	-
2014	7.75	5.46	1.091	-	1.46	0.07	0.89	0.03	1.22	0.96	16.49	2.70	4.0	0.011	-	-	-
2015	7.87	6.86	1.076	-	1.41	0.10	1.01	0.01	1.40	0.87	16.31	2.72	3.4	0.010	-	-	-
2016	7.28	11.83	1.119	-	1.55	0.11	1.09	0.01	1.51	0.92	17.78	3.15	2.9	0.020	-	-	40.0
2017	7.17	11.85	1.195	-	1.61	0.10	0.98	0.02	1.37	1.04	18.70	2.98	3.6	0.018	-	-	-
2018	7.99	11.42	1.109	-	1.29	0.10	0.89	0.01	1.21	1.03	16.94	2.69	3.8	0.010	-	-	-
2019	8.53	11.85	1.038	-	1.83	0.10	1.22	0.02	1.37	1.11	15.83	3.02	5.0	0.010	-	-	-

- : Items were not analyzed.

*1: Less than determination/detection limit.

Table 6.5.21 Annual mean values of each parameters from 2001 to 2019 at Hoa Binh Reservoir (Vietnam)

	Mandatory Parameters : 4 times/year												Mandatory Parameters : Once/year				
	pH	EC mS/m	Alkalinity meq/L	Gran's ANC (meq/L)	SO ₄ ²⁻ mg/L	NO ₃ ⁻ mg/L	Cl ⁻ mg/L	NH ₄ ⁺ mg/L	Na ⁺ mg/L	K ⁺ mg/L	Ca ²⁺ mg/L	Mg ²⁺ mg/L	Transparency	PO ₄ ³⁻	NO ₂ ⁻	DOC	COD
													m	mg/L	mg/L	mg/L	mg/L
2001	7.59	17.40	1.575	-	5.44	0.59	1.16	0.15	1.97	1.22	21.85	6.12	-	-	-	-	-
2002	7.88	17.14	1.613	-	3.90	0.46	1.35	0.21	1.70	1.16	22.53	5.49	-	-	-	-	-
2003	7.29	18.41	1.595	-	6.13	0.63	1.33	0.08	2.14	1.36	24.50	4.78	-	-	-	-	-
2004	6.55	19.27	1.675	-	4.51	1.16	1.38	0.17	2.45	1.11	27.22	4.11	-	-	-	-	-
2005	7.58	19.01	1.605	-	5.62	1.04	1.62	0.16	4.40	1.31	23.12	4.77	-	-	-	-	-
2006	7.22	19.08	1.605	-	7.71	0.87	1.41	0.12	3.62	1.46	25.22	4.87	0.7	0.005	0.006	-	2.2
2007	7.62	19.09	1.613	-	8.14	1.44	1.54	0.11	3.53	1.48	24.90	4.64	0.9	0.015	0.016	-	1.9
2008	7.73	18.26	1.533	-	7.36	1.04	1.65	0.04	2.33	0.91	22.90	5.01	1.5	0.021	0.025	-	2.2
2009	7.98	16.65	1.390	-	6.55	0.67	2.05	0.02	3.10	0.84	20.82	4.49	1.1	0.019	0.010	-	1.4
2010	7.80	17.66	1.420	-	7.26	1.66	2.07	0.11	4.20	1.56	23.30	2.94	1.0	0.013	0.014	-	0.9
2011	7.43	18.46	1.540	-	7.36	1.59	2.26	0.07	3.51	1.26	23.17	4.55	1.1	0.010	0.012	-	3.4
2012	7.10	17.71	1.518	-	4.67	1.52	2.13	0.12	3.59	1.39	23.08	4.25	1.0	0.010	0.016	-	4.3
2013	7.54	17.19	1.435	-	6.92	1.04	2.41	0.14	4.96	1.58	20.02	5.31	1.1	0.008	0.006	-	3.7
2014	7.65	17.22	1.500	-	5.13	0.80	1.64	0.02	3.05	1.31	22.29	4.50	1.1	0.019	0.012	-	3.5
2015	7.60	17.94	1.430	-	7.01	1.47	0.95	0.02	2.93	1.06	24.42	3.65	1.2	0.045	0.009	-	3.5
2016	7.39	18.75	1.545	-	6.70	1.61	1.24	0.00	3.01	1.24	21.84	6.28	1.2	0.038	0.056	-	4.0
2017	7.29	15.85	1.330	-	5.09	1.43	1.04	0.01	2.15	1.09	20.47	4.21	1.0	0.043	0.007	-	4.2
2018	7.81	16.25	1.320	-	4.54	2.13	4.15	0.16	5.82	1.60	18.26	4.56	1.0	0.082	0.006	-	3.9
2019	7.67	18.63	1.505	-	5.42	1.33	4.42	0.08	3.75	1.98	24.28	4.38	1.1	0.108	0.019	-	4.1

- : Items were not analyzed.

*1: Less than determination/detection limit.

CHAPTER 7

Catchment scale Monitoring

7. Catchment-scale Monitoring

7.1 Method

The Guideline for Catchment-scale Monitoring in East Asia (2010) recommended to measure input from atmosphere (total deposition), output from the catchment (discharge from the stream), and some biogeochemical processes in selected small forest catchments to discuss relationship between seasonal or annual changes in stream water chemistry and those in atmospheric deposition. Material/elemental input-output budget in the catchment can be calculated based on the atmospheric deposition chemistry, stream water chemistry, and water balance. Based on the catchment-scale dataset, the simulation model on biogeochemical cycles is expected to be developed.

7.1.1 Field Operation

Recommended methods and proposed frequency of major monitoring items in the field are summarized in Table 7.1. The existing EANET technical documents can be referred in the field operation for the items. Moreover, the existing EANET data on wet and dry deposition collected at the nearest the monitoring sites can be used to calculate total deposition. Similarly, the existing EANET data on soil and vegetation can be referred as the relevant information on biogeochemical processes.

Table 7.1 Methods and frequency of major monitoring items

Items		Recommended methods	Proposed frequency
Input (total deposition)	Precipitation amount	Rain gauge	Continuously or daily
	Wet deposition ^{*1}	Wet-only sampling	Daily or weekly
		Bulk sampling (when electricity is not available)	Weekly or biweekly
	Dry deposition ^{*1}	Inferential method: based on Filter pack data and Meteorological data	Weekly (for filter pack method)
		Automatic monitors (alternative for air concentration)	Continuously
	Total deposition	Wet + Dry	Biweekly or monthly
		Throughfall–Stemflow method (when electricity is not available)	Biweekly
Output (discharge from the stream)	Water discharge	Weir	Continuously or biweekly
		H-Q curve method (when a weir is not available)	
	Stream water chemistry	Periodical collection of stream water	Weekly or biweekly
		Intensive sampling	During heavy-rain or snow-melting events
	Chemical discharge	Calculation based on the water flux and the chemical concentration	Biweekly, monthly or annual
Soil	Soil chemistry ^{*1}	Collection from the permanent plots	Once for several years
Vegetation	Plant growth ^{*1}	Measurement of tree size (diameter at breast height, height of tree and name of species)	Once for several years

Note. ^{*1}, The relevant EANET data can be referred.

7.1.2 Laboratory Operation

Table 7.2 Chemical parameters for the respective items

Items	Parameters
Rainwater samples	<u>Mandatory:</u> SO_4^{2-} , NO_3^- , Cl^- , NH_4^+ , Ca^{2+} , Mg^{2+} , Na^+ , K^+ , Electric conductivity (EC), and pH <u>Optional:</u> Total organic nitrogen (TON), Total organic carbon (TOC)
Stream water samples	<u>Mandatory:</u> SO_4^{2-} , NO_3^- , Cl^- , NH_4^+ , Ca^{2+} , Mg^{2+} , Na^+ , K^+ , Electric conductivity (EC), pH, and Alkalinity (Gran's ANC and/or pH 4.8 endpoint) <u>Optional:</u> SiO_2 , TON, TOC, Total dissolved Al
Air concentrations (by filter pack method)	Cations: NH_4^+ , Ca^{2+} , Mg^{2+} , Na^+ , and K^+ , Anions: SO_4^{2-} , NO_3^- , and Cl^- , Gasses: SO_2 , HNO_3 , HCl , and NH_3
Soil chemistry	pH (H_2O), pH (KCl), Exchangeable Base Cations (Ca, Mg, K and Na), Exchangeable Acidity, Al and H, Effective Cation Exchangeable Capacity

Chemical parameters for the respective monitoring items are shown in Table 7.2. Basically, the parameters are same as those for other EANET monitoring items. The existing EANET technical documents can also be referred in the laboratory operation.

7.1.3 Data Management

Data quality was controlled and assured according to the EANET QA/QC program. In particular, for rainwater and stream water samples, ion balance (R_1) and conductivity check (R_2) can be applied to check the analytical results as same as monitoring on wet deposition and inland aquatic environment.

The data should be evaluated on a catchment scale. The input- output budget should be calculated based on the atmospheric deposition chemistry, stream water chemistry, and water balance to outline the material/elemental cycles in the catchment. The standard units should be used for the input and output. Recommended basic units for evaluation is as follows:

- Water flux (precipitation amount and stream water discharge): mm
- Chemical concentration: $\text{mol}_c \text{ L}^{-1}$ (ex. $\mu\text{mol}_c \text{ L}^{-1}$ or $\text{mmol}_c \text{ L}^{-1}$)
- Ion flux (deposition, discharge or soil/vegetation flux): $\text{mol}_c \text{ ha}^{-1}$ or $\text{mol}_c \text{ m}^{-2}$
- Elemental flux for N and S: $\text{kg ha}^{-1} \text{ y}^{-1}$ or $\text{g m}^{-2} \text{ y}^{-1}$

Based on the compiled data with the standard units on a water-year basis, initial evaluations should be done for the following items:

- Water balance on a catchment-scale: input, output and possible evapotranspiration
- Material/elemental balance on a catchment-scale: input-output budget

Dataset should be submitted to the Network Center after an initial evaluation is done by the national center. Since the catchment-scale data should be evaluated based on the water year, the dataset should be compiled on a water-year basis of the respective catchment sites.

7.1.4 Monitoring sites

Several EANET countries have the experience on catchment-scale analysis as research activities and/or national monitoring activities. Many research projects were conducted by universities and institutes in China and Japan. The case studies have been conducted in Japan, Malaysia and Thailand as the EANET joint research projects. Some countries may have an intention to start the regular catchment-scale monitoring as a part of the EANET activities.

Japan submitted the data of the Lake Ijira Catchment, which was started in 2007. Moreover, the Philippines has just started the regular monitoring in 2019. Site characteristics and the survey outline are shown in Table 7.3 and 7.4, respectively. The map of the Lake Ijira catchment site is shown in Figure 7.1.

Table 7.3 Site for the catchment-scale monitoring

Country	Site name (and name of river/stream)	Catchment area (km ²)	Geology and soil type	Coverage of forest (%)	Start year
Japan	Lake Ijira Catchment (IJR) , (Kamagatani River)	2.98 at Kamagata ni River	Chert, Cambisols (brown forest soils)	99.6%,	November 2007 (the water year here: from November to the next October)
Philippines	La Mesa Watershed (LMW), (Stream at Tower 1 Station)	0.186 at Tower 1 (La Mesa Watershed (LMW) total area: 26.59)	Clastic and volcanic rocks, Loamy-sand soil at Tower 1	For the whole LMW, 81.5%;	January 2019
Site	Major tree species				
IJR	Japanese cedar (<i>Cryptomeria japonica</i>), Japanese cypress (<i>Chamaecyparis obtusa</i>), and Japanese red pine (<i>Pinus densiflora</i>)				
LMW	Yemane (<i>Gmelina arborea</i> Roxb.), Auriculiformis (<i>Acacia auriculiformis</i> A. Cunn. Ex Berth.) , Mangium (<i>A. mangium</i> Willd.), Narra (<i>Pterpcarpus indicus</i> Willd. forma <i>indicus</i>), Mahogany (<i>Swietenia macrophylla</i> King), Teak (<i>Tectona grandis</i> L.f.), Ipil-ipil (<i>Leucaena leucocephala</i> De Wit), Kaatoan bangkal (<i>Anthocephalus chinensis</i> (Lam.) A. Rich. Ex Walp. And Alibangbang (<i>Bauhinia malabarica</i> Roxb.)				

Table 7.4 Survey outline for the catchment-scale monitoring

Site	Items	Detailed items
Lake Ijira Catchment	Input (total deposition)	1. Precipitation amount (at 3 different slope positions)* ¹ 2. Wet deposition: Ijira* ¹ 3. Dry deposition (Air concentration measurement for Inferential method): Ijira* ¹ 4. Total deposition (calculated as wet+dry)
	Output (chemical discharge)	1. Water discharge (by H-Q curve method) 2. Stream water chemistry: biweekly 3. Chemical discharge
	Soil* ²	Soil chemical properties: Lake Ijira
	Vegetation* ²	1. Plant growth: Lake Ijira 2. Species composition: Lake Ijira
La Mesa Watershed	Input (total deposition)	1. Precipitation amount (1 st , PAGASA-Science Garden Station; 2 nd , Manila Observatory (MO), Ateneo de Manila University (AdMU)) 2. Wet deposition: Metro Manila (MM) site located at the top of Ionosphere Office, MO, AdMU* ¹ 3. Dry deposition (Air concentration measurement for Inferential method): Metro Manila (MM) site (same location)* ¹ 4. Total deposition (calculated as wet+dry)
	Output (chemical discharge)	1. Water discharge: (using the Float Method) 2. Stream water chemistry: monthly 3. Chemical discharge: not determined yet
	Soil* ²	Soil chemical properties: La Mesa Watershed
	Vegetation* ²	3. Plant growth: La Mesa Watershed 4. Species composition: La Mesa Watershed

Note. *1, The data from the EANET deposition monitoring site will be used; *2, The data from the EANET soil and vegetation monitoring plots will be referred.

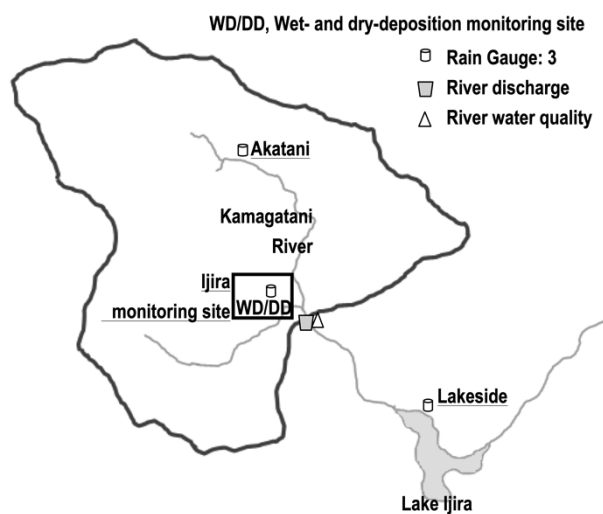


Figure 7.1 Catchment area and sampling design at the Lake Ijira catchment site

The area surrounded by a bold line indicates the catchment area for calculation of the material budget.

7.2 Results of Monitoring

The list of the dataset submitted to the NC is shown in Table 7.5.

Table 7.5 List of the dataset submitted for Data Report 2019

Site	Items	Detailed items	Water year
Lake Ijira Catchment	Input ^{*1}	1. Precipitation amount (at 3 different slope positions)	2018-2019 ^{*2}
	Output	1. Water discharge 2. Stream water chemistry: biweekly 3. Chemical discharge	2018-2019 ^{*2}
La Mesa Watershed	Input ^{*1}	1. Precipitation amount (observed at PAGASA-Science Garden Station)	2019
	Output	1. Stream water chemistry: monthly	2019

Note. ^{*1}, The data of wet deposition and dry deposition (air concentration) in the EANET deposition monitoring site for the same period can be found in Data Reports 2018 and/or 2019; ^{*2}, The water year was defined as the period from November to October in the following year at Lake Ijira Catchment. Soil chemical properties, plant growth and understory-species composition were surveyed as a part of soil and vegetation monitoring in 2016 and 2010 at Lake Ijira Catchment and La Mesa Watershed, respectively.

The submitted data above are summarized in the following tables.

Table 7.6: Water balance in the catchment

Table 7.7: Stream water chemistry

Table 7.8: Periodic chemical discharges from the stream

Table 7.9: Annual chemical discharges from the stream

As for La Mesa Watershed, the data collected in 2017 and 2018 were also available in Appendices.

Table 7.6a Water balance in the catchment: Lake Ijira Catchment

Fluxes ^{*1}	Points	Water year ^{*2}
		2018-2019
Input by precipitation, mm y ⁻¹	Akatani (260 m)	3146
	Ijira monitoring site (140 m)	2876
	Lakeside (110 m)	3043
	Mean	3021
Output by the stream, mm y ⁻¹	Outlet of Kamagatani River	2348
Runoff rate, %		78

Note. ^{*1}, Fluxes were calculated based on the catchment area, 2.98 km², at the outlet of Kamagatani River; ^{*2}, The water year: from November to the next October.

Table 7.6b Water balance in the catchment: La Mesa Watershed

Fluxes ^{*1}	Points	Year
		2019
Input by precipitation, mm y ⁻¹	Science Garden	2372
	Manila Observatory	1548
Output by the stream, mm y ⁻¹	Outlet of Tower 1 Stream	Not reported yet ^{*2}
Runoff rate, %		Not determined yet

Note. ^{*1}, Fluxes were calculated based on the catchment area, at the outlet of Tower 1 Stream. ^{*2}, Average of flow measured during the monitoring activities in April and in December 2019 in the dry season: 0.0231 m³ s⁻¹

Table 7.7a Stream water chemistry: Lake Ijira Catchment (Water year 2018-2019)

Collection date	alkalinity														Water level, m		
	pH	EC	pH4.8	Gran's ANC	SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	Na ⁺	Ca ²⁺	Mg ²⁺	K ⁺	NH ₄ ⁺⁺¹	H ⁺	Al		TOC	SiO ₂
	mS m ⁻¹			μmol L ⁻¹												mg L ⁻¹	mg-C L ⁻¹
2018/11/16	6.80	4.23	144	128	148	25.2	55.6	89.0	142	120	6.9	< 3.0	0.16	<0.02	0.27	8.7	0.23
2018/11/30	6.67	4.33	144	131	160	22.3	56.2	91.9	141	122	6.4	< 3.0	0.21	<0.02	0.2	8.5	0.23
2018/12/14	6.84	4.17	140	130	160	28.8	57.4	94.1	148	127	6.4	< 3.0	0.14	<0.02	0.2	8.6	0.23
2018/12/25	6.67	4.46	144	129	165	27.8	57.0	94.7	148	129	5.7	< 3.0	0.21	<0.02	0.2	8.4	0.22
2019/1/15	6.78	4.57	146	130	179	24.4	56.5	97.9	156	133	6.0	< 3.0	0.17	<0.02	0.2	8.4	0.22
2019/1/29	6.61	4.68	142	131	181	25.6	59.7	98.8	155	135	5.3	< 3.0	0.25	<0.02	0.2	8.2	0.23
2019/2/15	6.78	4.67	148	133	183	24.4	56.7	98.8	156	134	5.9	< 3.0	0.17	<0.02	0.2	8.4	0.22
2019/2/26	6.71	4.65	150	143	177	26.6	56.5	98.3	157	135	5.5	< 3.0	0.19	<0.02	0.2	8.4	0.22
2019/3/15	6.82	4.61	146	134	165	30.1	61.0	94.2	154	133	5.9	< 3.0	0.15	<0.02	0.3	8.7	0.26
2019/3/29	6.75	4.63	154	145	174	21.7	56.9	98.4	155	133	5.8	< 3.0	0.18	<0.02	0.2	7.7	0.24
2019/4/15	6.83	4.31	136	124	142	40.0	59.2	86.2	143	123	6.6	< 3.0	0.15	<0.02	0.6	7.6	0.31
2019/4/24	6.73	4.51	168	155	152	22.9	57.0	97.6	155	132	8.3	< 3.0	0.19	<0.02	0.7	7.7	0.30
2019/5/15	6.97	4.03	142	129	124	34.0	54.8	86.8	136	117	7.7	< 3.0	0.11	0.02	0.4	8.3	0.32
2019/5/31	6.84	4.12	156	145	133	23.4	55.0	89.5	135	118	6.9	< 3.0	0.14	<0.02	0.3	8.2	0.27
2019/6/14	7.05	4.19	160	152	133	26.4	52.6	92.1	142	121	7.7	< 3.0	0.09	<0.02	0.3	8.7	0.27
2019/6/28	6.91	4.15	152	142	127	37.1	49.9	85.8	138	120	6.8	< 3.0	0.12	<0.02	0.5	10.0	0.29
2019/7/16	6.95	3.81	152	136	116	23.0	53.2	83.9	127	113	6.6	< 3.0	0.11	<0.02	0.4	9.0	0.28
2019/7/31	6.91	3.50	138	131	101	20.6	55.5	81.3	115	101	6.4	< 3.0	0.12	<0.02	0.4	10.2	0.28
2019/8/13	6.95	4.07	156	152	126	22.5	56.2	92.7	138	118	7.7	< 3.0	0.11	<0.02	0.3	11.4	0.20
2019/8/30	6.73	2.97	108	106	90	30.0	42.0	66.9	103	85	7.0	< 3.0	0.19	0.08	1.1	7.7	0.40
2019/9/17	6.91	3.89	152	143	120	22.1	55.3	90.2	132	111	7.2	< 3.0	0.12	<0.02	0.3	9.3	0.22
2019/9/30	6.81	4.29	162	157	138	24.6	56.5	97.0	145	119	7.0	< 3.0	0.15	<0.02	0.3	9.5	0.19
2019/10/15	6.83	4.43	160	151	147	35.5	55.2	97.7	161	135	7.3	< 3.0	0.15	<0.02	0.3	9.1	0.19
2019/10/29	6.85	3.82	144	134	113	29.5	49.0	88.8	115	116	7.5	< 3.0	0.14	<0.02	0.6	8.8	0.24

Note. The water year was defined as the period from November to October in the following year. *1, The data was processed according to the determination limit decided by the data quality objectives (DQO) of EANET.

Table 7.7b Stream water chemistry: La Mesa Watershed (Year 2019)

Collection date	alkalinity												
	pH	EC	pH4.8	PO ₄ ³⁻	SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	Na ⁺	Ca ²⁺	Mg ²⁺	K ⁺	NH ₄ ⁺⁺¹	H ⁺
	mS m ⁻¹			μmol⋅L ⁻¹									
2019/1/29	8.11	26.9	2630	7.4	39.1	13.0	54.4	688	1667	795	36.1	0.0	0.01
2019/2/27	7.79	28.7	2910	11.3	36.6	7.6	47.6	675	1737	716	36.4	0.0	0.02
2019/3/27	7.47	31.8	3160	23.3	34.7	5.5	50.3	822	1561	618	44.8	0.0	0.03
2019/4/26	7.57	33.3	3450	18.1	38.2	9.9	50.8	758	1439	761	41.5	0.0	0.03
2019/6/4	7.36	25.9	2557	17.9	85.9	13.2	65.8	660	1497	760	40.5	19.9	0.04
2019/6/20	7.26	29.0	2910	20.0	70.7	15.2	56.0	754	1647	862	38.7	20.1	0.05
2019/7/24	8.64	18.6	3125	14.9	54.0	16.4	51.1	432	1060	543	29.2	0.0	0.00
2019/8/22	7.67	20.9	2380	17.9	43.4	11.1	60.4	499	1130	592	27.8	0.0	0.02
2019/9/18	7.90	17.2	2570	15.3	99.0	14.9	83.3	355	762	494	64.5	51.7	0.01
2019/10/23	7.65	23.8	2400	7.4	35.3	7.9	47.1	645	642	682	23.8	6.4	0.02
2019/11/27	7.79	26.0	2550	9.3	35.0	8.7	48.8	684	1226	755	23.8	0.9	0.02
2019/12/18	7.58	27.1	2630	12.6	38.4	10.5	49.9	711	1348	784	34.1	1.8	0.03

Table 7.8 Periodic chemical discharges from the stream: Lake Ijira Catchment (Water year 2018-2019)

Start date	End date	pH4.8	Gran's ANC	SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	Na ⁺	Ca ²⁺	Mg ²⁺	K ⁺	NH ₄ ⁺	H ⁺	Al	TOC	SiO ₂	Periodic discharge,
kmol _e ha ⁻¹												mg L ⁻¹ kg-C ha ⁻¹ kg-SiO ₂ ha ⁻¹ mm				
2018/10/30	2018/11/16	0.13	0.12	0.13	0.02	0.05	0.08	0.13	0.11	0.006	ND	1.56E-04	ND	0.24	8.09	92
2018/11/16	2018/11/30	0.09	0.08	0.10	0.02	0.04	0.06	0.09	0.08	0.004	ND	1.18E-04	ND	0.15	5.49	64
2018/11/30	2018/12/14	0.10	0.09	0.11	0.02	0.04	0.06	0.10	0.09	0.004	ND	1.21E-04	ND	0.16	5.90	69
2018/12/14	2018/12/25	0.07	0.06	0.08	0.01	0.03	0.05	0.07	0.06	0.003	ND	8.56E-05	ND	0.11	4.16	49
2018/12/25	2019/1/15	0.12	0.11	0.14	0.02	0.05	0.08	0.13	0.11	0.005	ND	1.59E-04	ND	0.18	7.03	84
2019/1/15	2019/1/29	0.08	0.07	0.10	0.01	0.03	0.05	0.09	0.07	0.003	ND	1.15E-04	ND	0.12	4.54	55
2019/1/29	2019/2/15	0.12	0.10	0.14	0.02	0.05	0.08	0.12	0.11	0.004	ND	1.67E-04	ND	0.16	6.58	79
2019/2/15	2019/2/26	0.08	0.07	0.10	0.01	0.03	0.05	0.08	0.07	0.003	ND	9.55E-05	ND	0.11	4.46	53
2019/2/26	2019/3/15	0.13	0.12	0.15	0.02	0.05	0.08	0.13	0.12	0.005	ND	1.46E-04	ND	0.22	7.35	86
2019/3/15	2019/3/29	0.13	0.12	0.15	0.02	0.05	0.08	0.13	0.11	0.005	ND	1.42E-04	ND	0.21	7.06	86
2019/3/29	2019/4/15	0.16	0.15	0.18	0.03	0.06	0.10	0.17	0.14	0.007	ND	1.85E-04	ND	0.43	8.55	112
2019/4/15	2019/4/24	0.11	0.10	0.11	0.02	0.04	0.07	0.11	0.09	0.005	ND	1.23E-04	ND	0.46	5.54	72
2019/4/24	2019/5/15	0.44	0.41	0.39	0.08	0.16	0.26	0.42	0.36	0.023	ND	4.28E-04	ND	1.61	22.9	286
2019/5/15	2019/5/31	0.28	0.25	0.24	0.05	0.10	0.16	0.25	0.22	0.014	ND	2.33E-04	ND	0.70	15.4	186
2019/5/31	2019/6/14	0.18	0.17	0.15	0.03	0.06	0.10	0.16	0.14	0.008	ND	1.32E-04	ND	0.37	9.67	115
2019/6/14	2019/6/28	0.21	0.20	0.17	0.04	0.07	0.12	0.19	0.16	0.010	ND	1.40E-04	ND	0.58	12.4	133
2019/6/28	2019/7/16	0.44	0.40	0.35	0.09	0.15	0.24	0.38	0.33	0.019	ND	3.30E-04	ND	1.28	27.3	287
2019/7/16	2019/7/31	0.39	0.36	0.29	0.06	0.15	0.22	0.32	0.29	0.017	ND	3.08E-04	ND	1.02	25.6	267
2019/7/31	2019/8/13	0.09	0.09	0.07	0.01	0.04	0.06	0.08	0.07	0.005	ND	7.39E-05	ND	0.23	6.95	64
2019/8/13	2019/8/30	0.29	0.28	0.23	0.06	0.11	0.17	0.26	0.22	0.016	ND	3.26E-04	ND	1.51	20.8	218
2019/8/30	2019/9/17	0.21	0.20	0.17	0.04	0.08	0.12	0.19	0.15	0.011	ND	2.45E-04	ND	1.06	13.4	158
2019/9/17	2019/9/30	0.07	0.07	0.06	0.01	0.03	0.04	0.06	0.05	0.003	ND	6.23E-05	ND	0.13	4.34	46
2019/9/30	2019/10/15	0.07	0.07	0.06	0.01	0.03	0.04	0.07	0.06	0.003	ND	6.74E-05	ND	0.14	4.18	45
2019/10/15	2019/10/29	0.14	0.13	0.12	0.03	0.05	0.09	0.13	0.12	0.007	ND	1.35E-04	ND	0.40	8.31	93

Note. Periodic chemical discharges were calculated based on the mean concentrations and the water discharge for the respective sampling intervals.

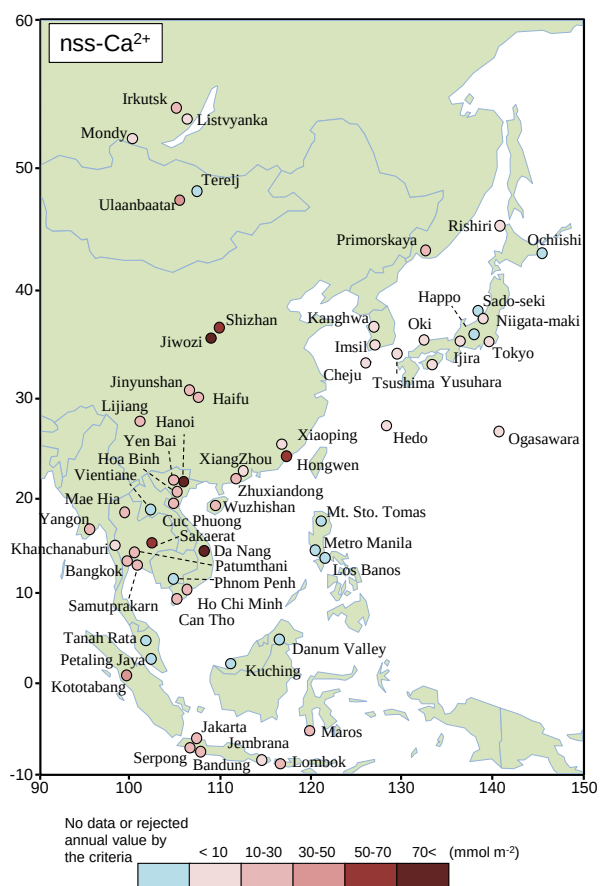
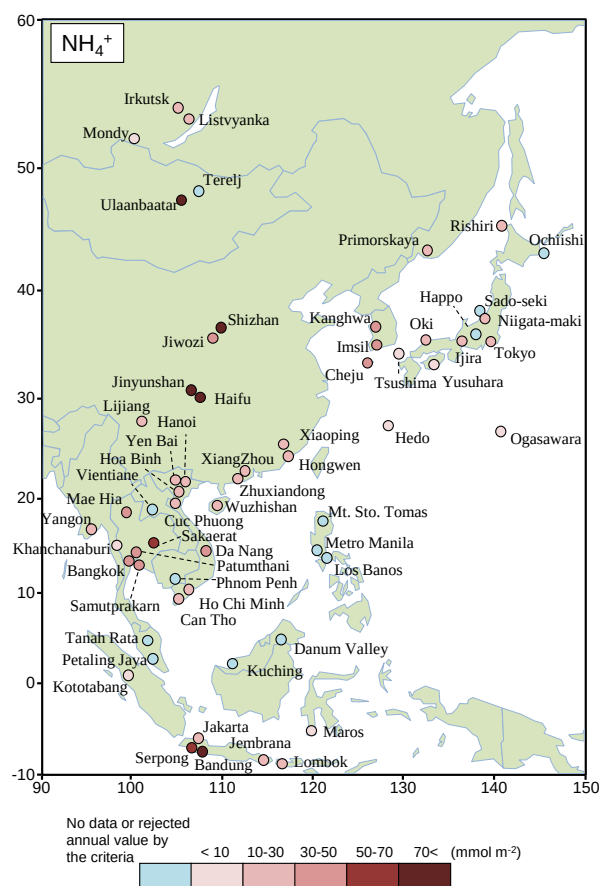
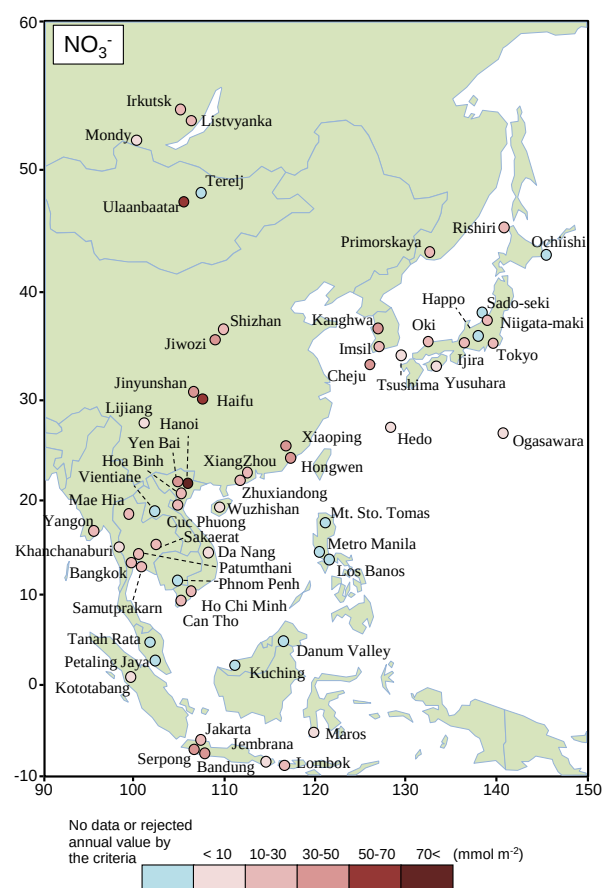
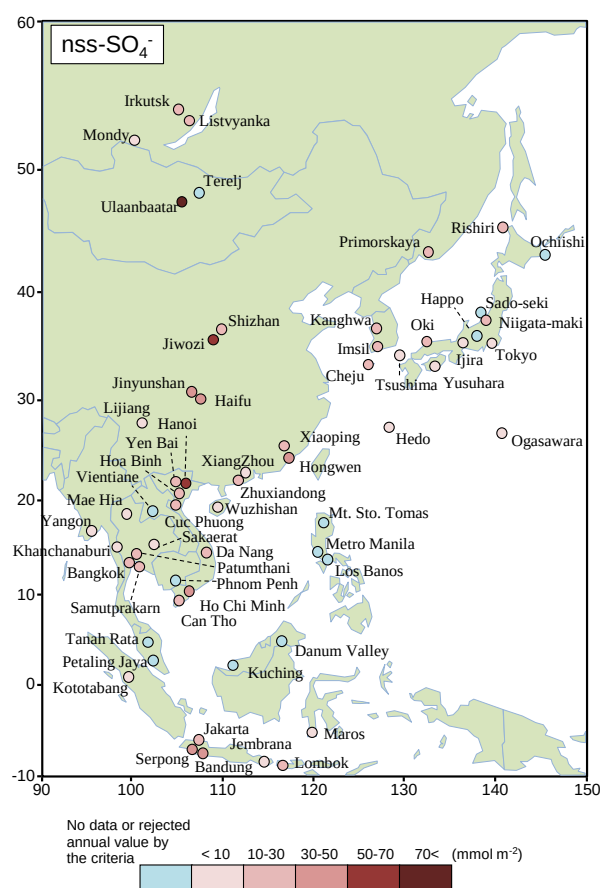
Table 7.9 Annual chemical discharges from the stream: Lake Ijira Catchment (Water year 2018-2019)

Water year	alkalinity											Al	TOC	SiO ₂
	pH4.8	Gran's ANC	SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	Na ⁺	Ca ²⁺	Mg ²⁺	K ⁺	NH ₄ ⁺	H ⁺			
	kmol _e ha ⁻¹													
2018 - 2019	3.5	3.2	3.2	0.6	1.3	2.1	3.2	2.8	0.2	ND	0.0	ND	9.7	207
(previous equation)	4.1	3.8	3.8	0.8	1.5	2.5	3.9	3.3	0.2	ND	0.0	ND	11.6	246

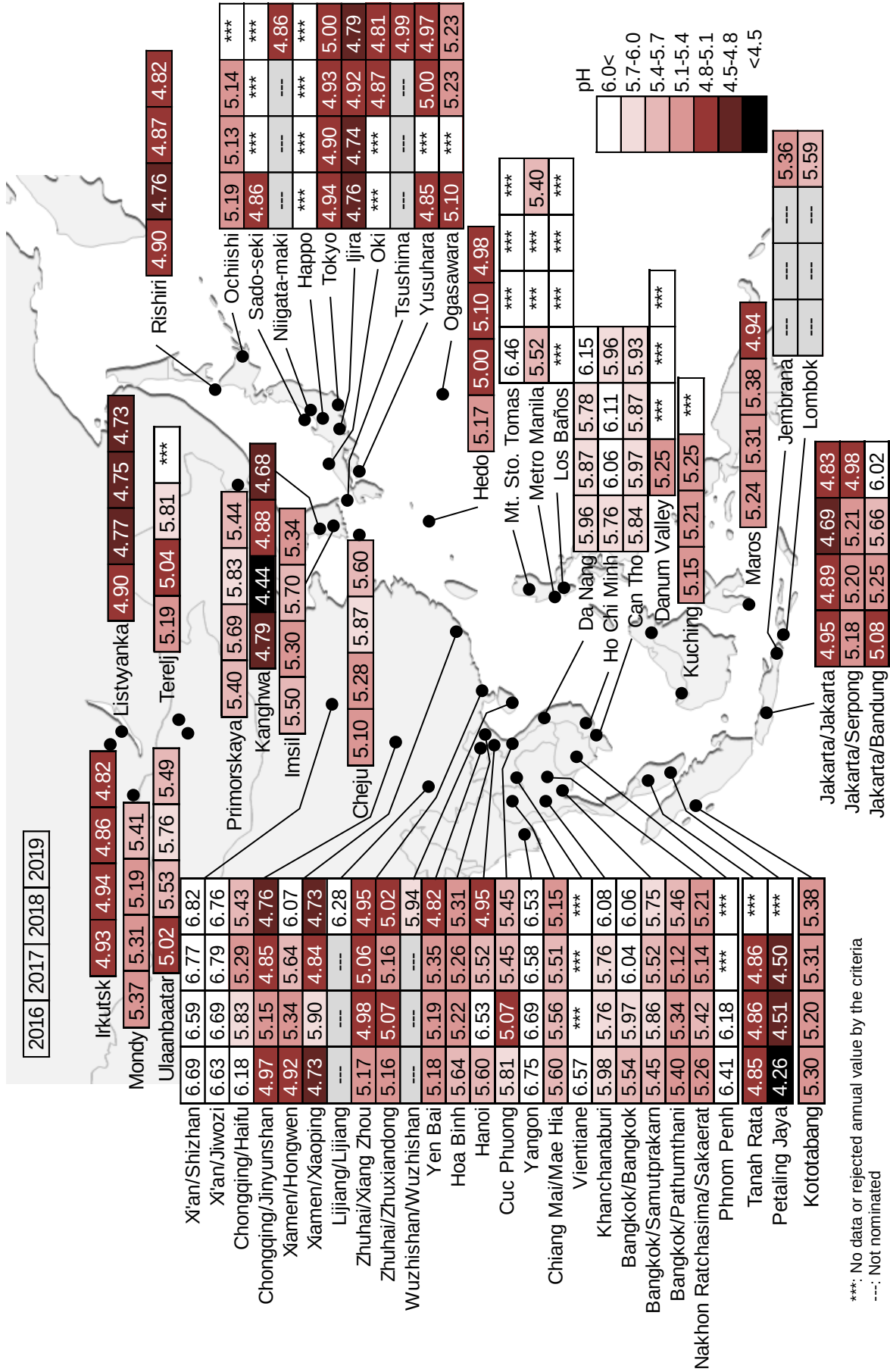
Note. The equation to estimate water discharge has been updated since WY 2018-2019. The values estimated using the previous equation is also shown for comparison.

Appendix 1

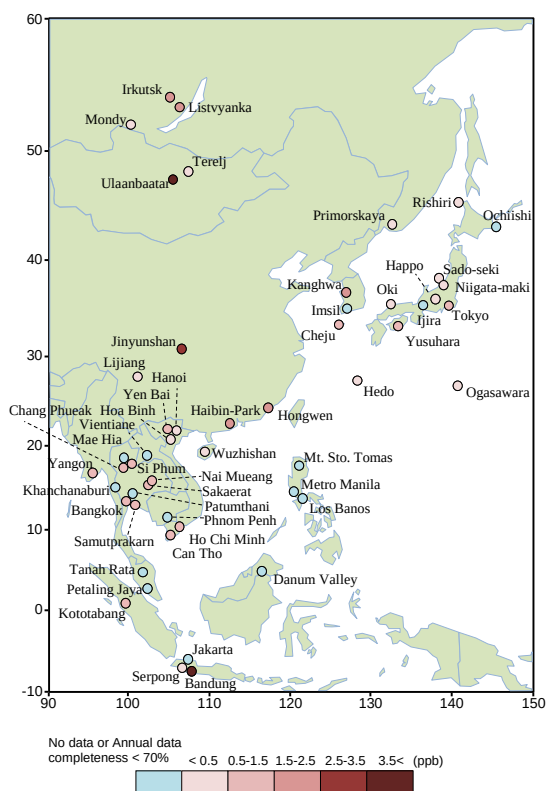
Overview of Data Report 2019



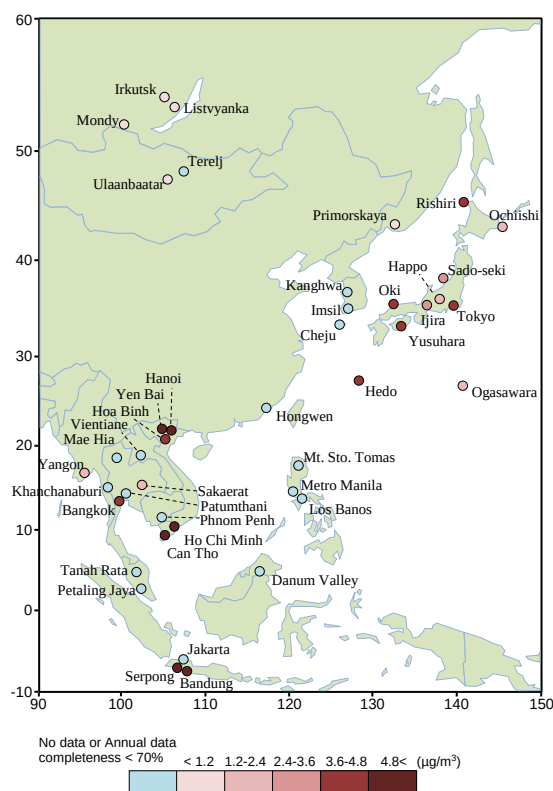
Appendix Fig. 1-1 Annual wet deposition levels of nss-SO₄²⁻, NO₃⁻, NH₄⁺ and nss-Ca²⁺ in 2019



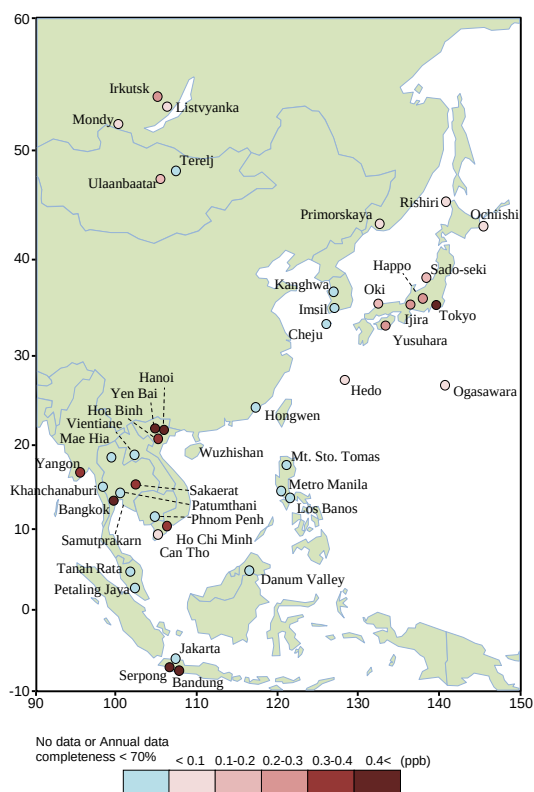
Appendix Fig. 1-2 Trends of pH in each EANET site from 2016 to 2019



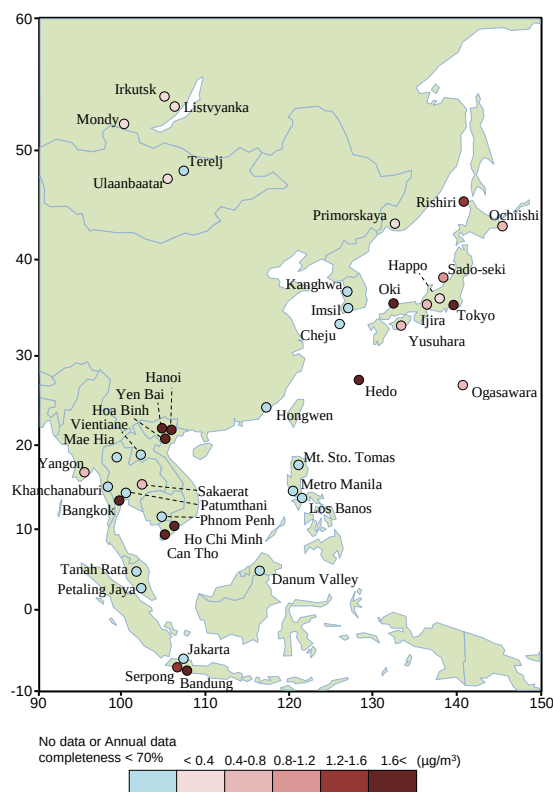
Appendix Fig. 1-3 Levels of annual SO_2 concentrations at EANET monitoring sites in 2019.



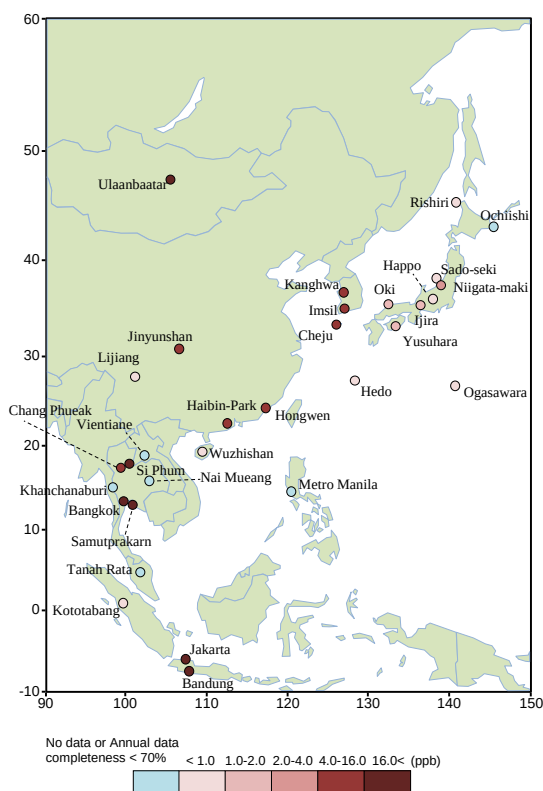
Appendix Fig. 1-4 Levels of annual particulate SO_4^{2-} concentrations at EANET monitoring sites in 2019.



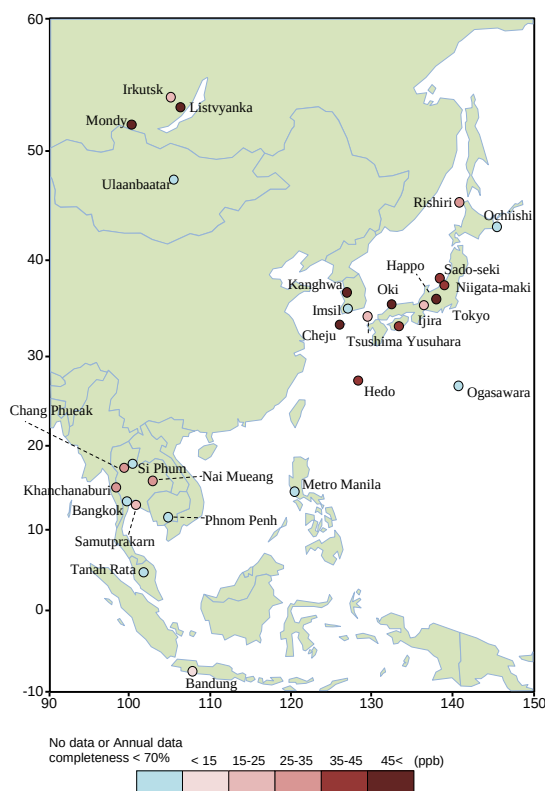
Appendix Fig. 1-5 Levels of annual HNO_3 concentrations at EANET monitoring sites in 2019.



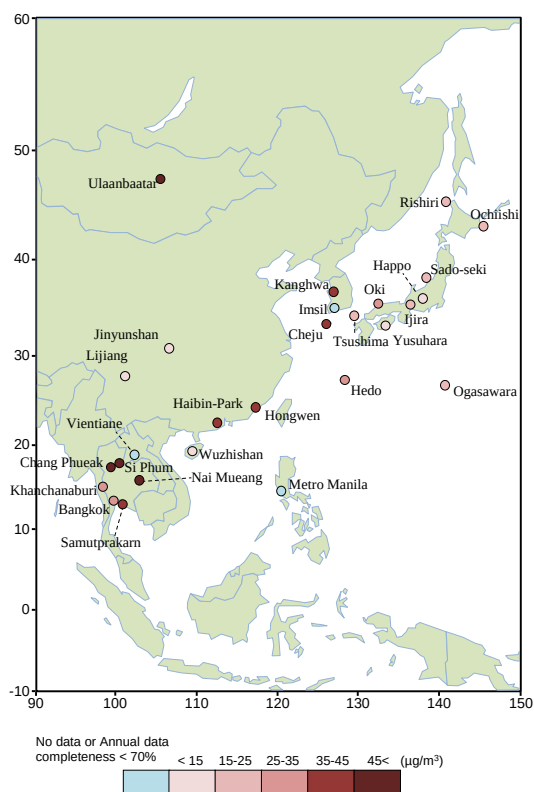
Appendix Fig. 1-6 Levels of annual particulate NO_3^- concentrations at EANET monitoring sites in 2019.



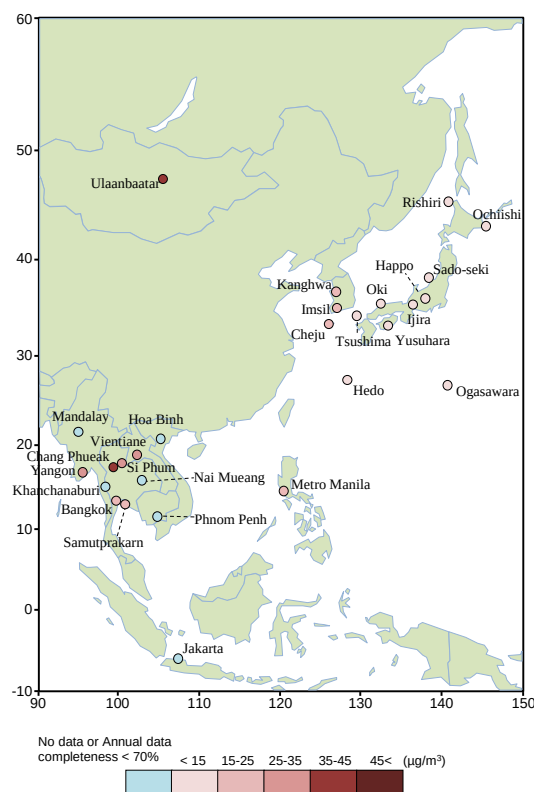
Appendix Fig. 1-7 Levels of annual NO_x or NO₂ concentrations at EANET monitoring sites in 2019.



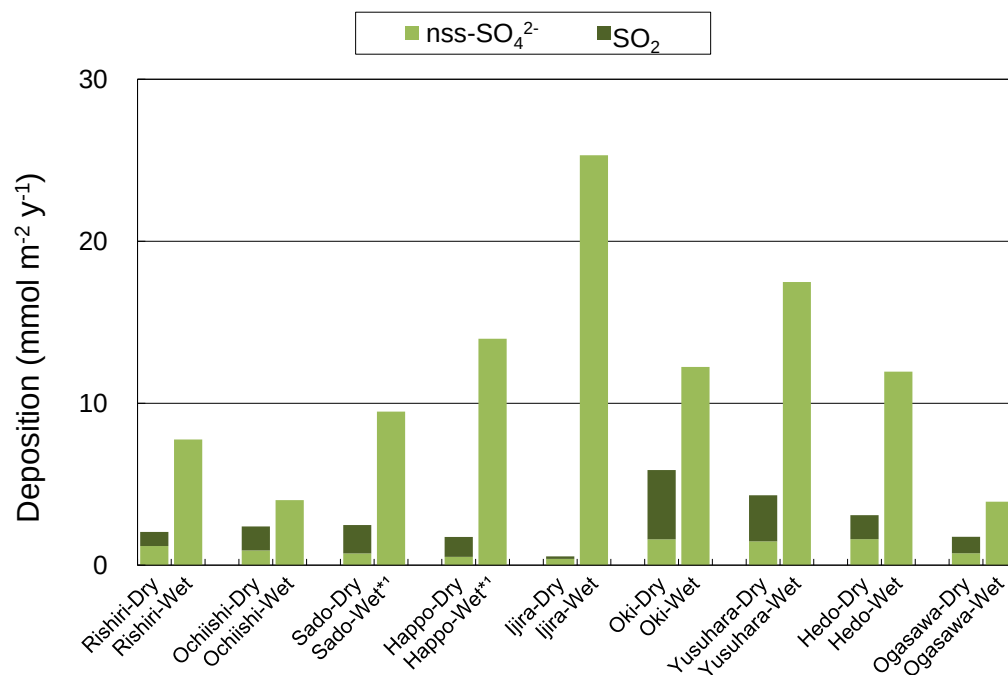
Appendix Fig. 1-8 Levels of annual O₃ concentrations at EANET monitoring sites in 2019.



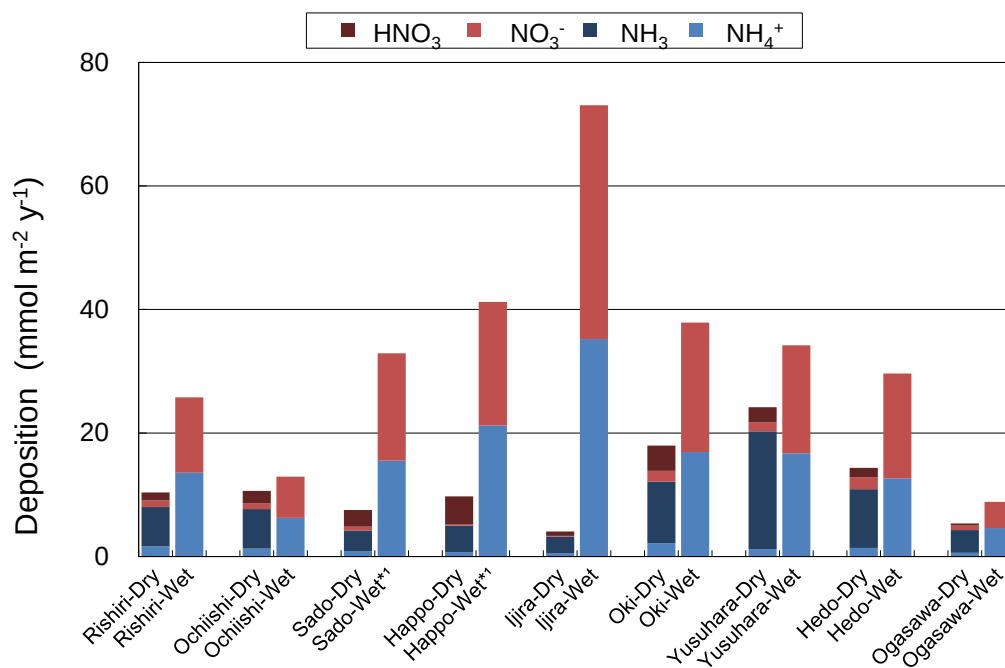
Appendix Fig. 1-9 Levels of annual PM₁₀ concentrations at EANET monitoring sites in 2019.



Appendix Fig. 1-10 Levels of annual PM_{2.5} concentrations at EANET monitoring sites in 2019.



Appendix Fig. 1-11 Annual dry and wet deposition amount of sulfur compounds at EANET sites in 2019.



Appendix Fig. 1-12 Annual dry and wet deposition amount of nitrogen compounds at EANET sites in 2019.

*1 The data completeness of wet deposition monitoring was less than 80% (EANET criteria).

Appendix 2

Meteorological Statistics at the Monitoring Sites

Appendix Table 2-1 Meteorological statistics at the monitoring site
Site : Xi'an*, China

2019													
Month	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	
Items													
Temperature (°C)	monthly mean	1.1	3.5	12.8	17.6	21.1	25.6	27.6	26.8	21.0	14.6	9.0	4.1
	max.daily mean	6.3	9.5	19.4	24.9	30.0	29.6	32.7	30.6	27.8	21.3	12.8	7.4
	min.daily mean	-3.4	-2.2	6.8	10.7	12.0	20.1	21.9	21.8	14.2	10.1	3.7	-2.0
Relative humidity (%)	monthly mean	53	62	39	58	53	59	62	65	75	80	70	57
	max.daily mean	--	--	--	--	--	--	--	--	--	--	--	--
	min.daily mean	15	17	6	7	8	9	17	18	37	21	22	16
Mean wind speed (m/s)	1.9	2.3	2.3	2.9	2.3	2.1	2.1	2.4	2.1	1.9	1.9	2.0	
Most frequent wind direction (bearings)	SSW	NE	NE	ENE	NE	SW	ENE	ENE	NE	NE	ENE	ENE	
Precipitation amount (mm/month)	7	9	1	57	21	113	56	81	164	75	10	0	
Sunshine duration (hours/month)	81	92	226	174	161	131	205	176	163	85	102	155	
Solar radiation (MJ/m ² /month)	--	--	--	--	--	--	--	--	--	--	--	--	
* Location of the meteorological monitoring:				Jinghe national basic meteorological station (Latitude: 34°26'41"N Longitude: 108°58'20"E Altitude: 411 m)									

Appendix Table 2-2 Meteorological statistics at the monitoring site
Site : Zhuhai*, China

2019													
Month		Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
Items													
Temperature (°C)	monthly mean	17.0	19.5	20.3	24.5	25.1	28.8	29.2	29.0	28.6	26.3	22.5	18.4
	max.daily mean	20.1	22.5	23.0	27.5	27.6	32.0	32.4	32.6	31.6	29.1	25.6	21.9
	min.daily mean	14.9	17.6	18.6	22.6	23.5	26.6	27.2	26.5	26.0	24.0	20.0	16.0
Relative humidity (%)	monthly mean	75	87	88	90	90	85	83	83	74	72	68	66
	max.daily mean	--	--	--	--	--	--	--	--	--	--	--	--
	min.daily mean	31	55	45	61	64	49	54	50	32	43	37	22
Mean wind speed (m/s)		2.0	2.7	2.2	2.6	2.8	2.7	3.1	3.0	2.6	2.6	2.6	2.3
Most frequent wind direction (bearings)		NNW	ESE	ENE	ESE	ESE	SSW	SW	ESE	NE	ESE	NE	NE
Precipitation amount (mm/month)		5	114	168	260	383	290	228	360	105	67	0	6
Sunshine duration (hours/month)		99	70	62	90	74	127	158	165	245	208	253	173
Solar radiation (MJ/m ² /month)		--	--	--	--	--	--	--	--	--	--	--	--
* Location of the meteorological monitoring:				Zhuhai Meteorological Bureau (Latitude: 22°16'30"N Longitude: 113°34'01"E Altitude: 51.4 m)									

Appendix Table 2-3 Meteorological statistics at the monitoring site
Site : Serpong, Indonesia

												2019	
Month		Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
Items													
Temperature (°C)	monthly mean	26.7	27.4	26.8	27.7	28.1	27.8	27.5	27.5	28.1	28.6	27.9	27.1
	max.daily mean	33.3	35.4	34.9	36.1	35.6	35.6	35.2	35.9	37.1	39.3	37.8	35.0
	min.daily mean	23.2	22.6	22.3	22.7	22.7	21.9	20.3	19.5	20.1	21.6	21.6	22.8
Relative humidity (%)	monthly mean	88	85	86	84	81	76	76	74	71	73	76	85
	max.daily mean	97	97	97	96	96	95	96	95	94	96	96	96
	min.daily mean	65	55	50	50	49	37	38	39	24	26	34	55
Mean wind speed (m/s)		0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2
Most frequent wind direction (bearings)		W	W	W	W	SE	W	ESE	ENE	ENE	E	W	WNW
Precipitation amount (mm/month)		--	--	--	--	--	--	--	--	--	--	--	--
Sunshine duration (hours/month)		--	--	--	--	--	--	--	--	--	--	--	--
Solar radiation (MJ/m ² /month)		--	--	--	--	--	--	--	--	--	--	--	--

Appendix Table 2-4 Meteorological statistics at the monitoring site
Site : Bandung, Indonesia

												2019	
Month		Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
Items													
Temperature (°C)	monthly mean	23.3	23.6	23.7	23.9	23.6	25.7	22.0	23.6	24.1	25.1	24.7	23.9
	max.daily mean	27.2	27.9	27.9	28.1	26.1	27.0	25.9	29.2	30.1	31.3	30.7	29.6
	min.daily mean	20.7	21.1	21.2	21.5	21.6	24.5	20.6	19.2	19.3	20.5	20.8	21.0
Relative humidity (%)	monthly mean	85	86	85	87	87	71	81	67	68	68	73	84
	max.daily mean	94	95	94	95	92	75	86	82	85	86	89	93
	min.daily mean	70	68	67	70	77	67	71	47	43	42	47	60
Mean wind speed (m/s)		2.1	1.9	2.3	2.3	2.0	1.7	1.5	1.9	1.9	2.3	2.1	1.8
Most frequent wind direction (bearings)		N	N	N	N	N	N	ENE	ENE	ENE	E	E	W
Precipitation amount (mm/month)		98	144	243	183	111	3	0	2	28	50	166	230
Sunshine duration (hours/month)		114	135	119	129	106	--	--	243	245	237	164	118
Solar radiation (MJ/m ² /month)		328	285	315	309	289	422	260	381	418	411	382	295

Appendix Table 2-5 Meteorological statistics at the monitoring site
Site : Rishiri, Japan

2019													
Month	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	
Items													
Temperature (°C)	monthly mean	-4.3	-4.5	-0.2	4.2	10.9	14.0	18.5	19.0	16.7	11.4	2.0	-3.0
	max.daily mean	1.9	2.1	3.6	12.1	16.8	17.7	21.0	24.6	24.3	18.7	8.9	4.7
	min.daily mean	-10.8	-15.1	-4.5	-0.9	5.2	10.3	13.4	15.5	11.3	5.7	-6.7	-9.3
Relative humidity (%)	monthly mean	65	60	71	72	78	84	89	87	80	74	66	69
	max.daily mean	79	78	88	90	95	95	98	98	95	91	87	89
	min.daily mean	54	47	46	50	60	61	75	70	49	52	54	51
Mean wind speed (m/s)	3.4	3.2	2.7	2.4	1.9	1.9	1.4	2.2	2.4	2.8	3.9	3.7	
Most frequent wind direction (bearings)	NNW	NW	NW	NNW	W	E	E	E	NW	W	NW	NW	
Precipitation amount (mm/month)	43	17	30	7	51	39	95	234	45	57	34	55	
Sunshine duration (hours/month)	--	--	--	--	--	--	--	--	--	--	--	--	
Solar radiation (MJ/m ² /month)	118	237	337	506	176	476	403	385	398	275	111	87	

Appendix Table 2-6 Meteorological statistics at the monitoring site
Site : Ochiishi, Japan

2019													
Month		Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
Items													
Temperature (°C)	monthly mean	-5.4	-5.8	-2.5	1.2	6.1	8.1	12.2	14.3	14.5	10.5	3.0	-2.0
	max.daily mean	-1.9	-1.1	0.1	5.4	10.1	10.7	17.2	17.3	18.2	15.0	8.7	4.6
	min.daily mean	-8.9	-12.1	-5.5	-2.9	2.9	6.6	7.8	11.1	12.2	7.0	-4.3	-7.8
Relative humidity (%)	monthly mean	65	71	80	81	88	93	95	92	82	77	62	68
	max.daily mean	89	97	100	100	100	100	100	100	100	96	98	98
	min.daily mean	53	49	59	58	68	79	80	79	61	60	45	41
Mean wind speed (m/s)		8.1	6.8	7.7	6.7	7.2	6.0	5.7	5.0	6.3	7.9	8.9	8.6
Most frequent wind direction (bearings)		NW	NW	WSW	WSW	WSW	ENE	S	SE	WSW	S	NW	NW
Precipitation amount (mm/month)		10	12	21	59	51	64	7	216	84	143	42	37
Sunshine duration (hours/month)		--	--	--	--	--	--	--	--	--	--	--	--
Solar radiation (MJ/m ² /month)		242	342	456	552	658	561	516	431	424	296	253	194

Appendix Table 2-7 Meteorological statistics at the monitoring site
Site : Sado-seki, Japan

2019												
Month	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
Items												
Temperature (°C)	monthly mean	--	--	--	--	--	--	--	--	--	--	--
	max.daily mean	--	--	--	--	--	--	--	--	--	--	--
	min.daily mean	--	--	--	--	--	--	--	--	--	--	--
Relative humidity (%)	monthly mean	--	--	--	--	--	--	--	--	--	--	--
	max.daily mean	--	--	--	--	--	--	--	--	--	--	--
	min.daily mean	--	--	--	--	--	--	--	--	--	--	--
Mean wind speed (m/s)	8.0	6.2	6.2	4.7	3.9	3.2	2.7	3.3	3.1	4.8	5.5	6.4
Most frequent wind direction (bearings)	W	W	W	WSW	WSW	WSW	WSW	WSW	ENE	ENE	W	WNW
Precipitation amount (mm/month)	44	41	49	52	40	128	63	187	42	184	61	58
Sunshine duration (hours/month)	--	--	--	--	--	--	--	--	--	--	--	--
Solar radiation (MJ/m ² /month)	93	193	332	486	752	541	565	588	444	290	194	119

Appendix Table 2-8 Meteorological statistics at the monitoring site
Site : Happo, Japan

2019												
Month	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
Items												
Temperature (°C)	monthly mean	-8.5	-6.4	-3.9	0.0	7.9	10.8	14.7	16.9	13.5	8.0	-3.2
	max.daily mean	-2.9	0.1	4.3	8.9	17.1	16.2	18.5	20.4	18.2	13.9	4.9
	min.daily mean	-12.5	-13.1	-10.0	-10.2	-1.6	7.3	12.0	12.1	7.7	3.3	-9.2
Relative humidity (%)	monthly mean	76	69	69	73	64	90	95	94	92	91	76
	max.daily mean	94	93	95	96	97	97	97	97	96	96	95
	min.daily mean	18	21	20	27	30	69	87	77	77	73	22
Mean wind speed (m/s)	5.8	4.4	4.8	4.8	2.6	2.3	1.9	2.6	2.0	2.6	2.8	3.8
Most frequent wind direction (bearings)	NW	NW	NW	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE
Precipitation amount (mm/month)	156	180	150	110	76	402	237	426	116	360	112	161
Sunshine duration (hours/month)	--	--	--	--	--	--	--	--	--	--	--	--
Solar radiation (MJ/m ² /month)	281	360	511	627	766	442	323	411	339	269	289	240

Appendix Table 2-9 Meteorological statistics at the monitoring site
Site : Ijira, Japan

2019													
Month	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	
Items													
Temperature (°C)	monthly mean	3.9	6.1	8.5	12.8	18.9	20.1	22.9	25.5	23.0	17.2	10.2	5.8
	max.daily mean	6.0	11.2	13.1	21.4	25.0	23.1	27.0	28.4	27.2	23.8	13.6	10.1
	min.daily mean	0.9	2.8	3.3	4.2	13.1	17.0	19.4	21.3	17.8	12.6	4.4	2.4
Relative humidity (%)	monthly mean	88	79	81	76	72	89	97	93	92	95	90	95
	max.daily mean	98	96	97	98	98	99	99	99	99	99	99	99
	min.daily mean	73	58	61	49	54	70	90	86	76	85	70	85
Mean wind speed (m/s)	0.4	0.5	0.5	0.6	0.6	0.5	0.3	0.5	0.4	0.4	0.4	0.4	0.4
Most frequent wind direction (bearings)	Calm	Calm	Calm	Calm	Calm	Calm	Calm	Calm	Calm	Calm	Calm	Calm	Calm
Precipitation amount (mm/month)	73	83	148	287	226	365	523	548	92	320	40	117	117
Sunshine duration (hours/month)	--	--	--	--	--	--	--	--	--	--	--	--	--
Solar radiation (MJ/m ² /month)	189	227	344	448	586	468	327	457	375	241	218	155	155

Appendix Table 2-10 Meteorological statistics at the monitoring site
Site : Oki, Japan

2019													
Month		Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
Items													
Temperature (°C)	monthly mean	6.2	6.4	9.0	11.8	18.2	19.8	23.6	26.3	23.0	17.9	12.5	9.2
	max.daily mean	8.9	10.9	14.0	18.1	22.7	23.3	27.5	29.4	28.9	23.7	17.0	14.3
	min.daily mean	2.1	2.1	5.4	5.0	12.7	17.0	20.9	23.3	18.6	13.0	6.9	4.7
Relative humidity (%)	monthly mean	72	76	75	75	74	91	95	91	90	87	80	79
	max.daily mean	85	93	93	98	94	98	98	98	98	99	93	97
	min.daily mean	60	61	56	52	46	73	89	81	72	74	66	66
Mean wind speed (m/s)		6.7	5.5	6.4	5.4	4.8	4.3	4.9	4.6	4.4	6.2	5.9	5.6
Most frequent wind direction (bearings)		N	N	SW	NNE	S	S	S	S	NNE	NNE	NNE	W
Precipitation amount (mm/month)		7	31	36	147	49	0	83	143	158	102	24	53
Sunshine duration (hours/month)		--	--	--	--	--	--	--	--	--	--	--	--
Solar radiation (MJ/m ² /month)		180	229	354	502	709	535	517	521	445	334	254	110

Appendix Table 2-11 Meteorological statistics at the monitoring site

Site : Yusuhara, Japan													2019
Month		Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
Items													
Temperature (°C)	monthly mean	2.4	3.9	6.0	10.5	15.2	18.0	21.1	22.2	20.5	15.8	9.7	5.2
	max.daily mean	5.2	8.8	13.1	17.3	21.9	21.4	25.0	24.3	24.5	21.2	13.4	10.3
	min.daily mean	-2.5	-1.1	1.4	1.1	10.5	14.4	18.2	18.0	15.6	11.7	3.3	1.6
Relative humidity (%)	monthly mean	70	77	70	69	67	86	93	91	91	84	76	78
	max.daily mean	93	96	96	97	97	98	98	98	98	98	96	98
	min.daily mean	48	52	41	42	35	70	84	76	67	63	50	57
Mean wind speed (m/s)		2.3	1.8	2.1	1.6	1.4	1.2	1.0	1.1	1.1	1.6	1.7	1.8
Most frequent wind direction (bearings)		N	N	N	N	NNW	NNW	NNW	SSE	NNW	NNW	NNW	N
Precipitation amount (mm/month)		43	124	156	160	206	347	664	579	364	148	46	126
Sunshine duration (hours/month)		--	--	--	--	--	--	--	--	--	--	--	--
Solar radiation (MJ/m ² /month)		316	295	461	563	611	469	408	439	428	382	318	233

Appendix Table 2-12 Meteorological statistics at the monitoring site

Apppendix 2-2
 Site : Hedo, Japan

2019													
Month	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	
Items													
Temperature (°C)	monthly mean	17.1	18.6	18.7	20.9	23.0	25.2	27.8	28.2	27.0	24.9	22.0	18.8
	max.daily mean	21.2	21.8	23.7	25.2	25.4	28.2	29.0	29.0	28.6	27.8	24.5	21.4
	min.daily mean	13.6	15.0	15.8	16.5	20.2	21.6	25.5	26.7	24.5	21.7	19.8	15.4
Relative humidity (%)	monthly mean	76	91	80	89	88	97	96	96	96	89	80	83
	max.daily mean	97	99	99	99	99	99	99	99	99	99	99	99
	min.daily mean	57	66	51	53	66	88	88	90	81	74	65	63
Mean wind speed (m/s)	4.9	4.5	4.8	4.6	4.0	4.1	4.2	4.5	5.5	4.8	5.9	5.7	
Most frequent wind direction (bearings)	NNW	NNW	NNW	E	E	SSW	SSW	ESE	E	N	NNE	NNE	
Precipitation amount (mm/month)	36	155	263	169	141	559	120	264	306	268	164	136	
Sunshine duration (hours/month)	--	--	--	--	--	--	--	--	--	--	--	--	
Solar radiation (MJ/m ² /month)	253	256	416	445	615	424	604	583	472	433	301	238	

Appendix Table 2-13 Meteorological statistics at the monitoring site
Site : Ogasawara, Japan

2019													
Month		Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
Items													
Temperature (°C)	monthly mean	15.6	17.4	17.6	18.4	20.1	24.4	26.0	26.0	26.2	25.1	22.9	20.4
	max.daily mean	18.2	20.2	20.0	22.4	24.3	26.9	27.0	27.1	27.2	26.3	24.5	22.7
	min.daily mean	11.5	13.5	14.6	13.4	17.1	20.6	24.5	25.1	25.2	23.3	18.4	17.0
Relative humidity (%)	monthly mean	73	83	83	83	92	95	93	95	96	91	83	84
	max.daily mean	85	93	97	98	98	99	99	99	99	99	99	99
	min.daily mean	58	68	68	58	75	89	85	87	92	73	62	63
Mean wind speed (m/s)		1.2	1.4	1.7	1.6	1.9	1.9	1.3	2.1	1.6	1.7	1.7	1.8
Most frequent wind direction (bearings)		WSW	SW	SW	SW	SSW	SSW	SSW	NE	NE	NE	NE	SSW
Precipitation amount (mm/month)		39	29	92	122	222	206	164	63	242	335	57	224
Sunshine duration (hours/month)		--	--	--	--	--	--	--	--	--	--	--	--
Solar radiation (MJ/m ² /month)		348	394	436	499	440	469	640	522	473	374	320	302

Appendix Table 2-14 Meteorological statistics at the monitoring site
Site : Niigata-maki, Japan

2019													
Month		Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
Items													
Temperature (°C)	monthly mean	2.5	3.6	6.8	10.3	17.8	20.5	24.9	27.2	23.0	17.0	10.4	6.2
	max.daily mean	4.3	8.3	11.1	18.2	24.0	23.9	29.2	32.2	29.5	22.3	16.3	9.7
	min.daily mean	0.5	-1.1	3.4	2.9	12.1	16.9	21.5	22.6	18.6	13.0	3.7	2.7
Relative humidity (%)	monthly mean	74	71	68	66	62	75	76	76	73	77	71	74
	max.daily mean	93	88	85	93	87	94	88	92	91	93	93	92
	min.daily mean	57	56	45	49	42	54	57	55	54	51	58	55
Mean wind speed (m/s)		6.1	4.9	4.7	4.1	3.4	3.4	3.0	3.0	3.2	4.2	4.7	5.3
Most frequent wind direction (bearings)		WNW	WNW	W	W	WSW	SE	SE	SE	SE	SE	SE	SE
Precipitation amount (mm/month)		155	78	121	92	61	204	92	239	59	187	114	120
Sunshine duration (hours/month)		--	--	--	--	--	--	--	--	--	--	--	--
Solar radiation (MJ/m ² /month)		157	222	413	495	780	567	615	610	449	292	229	164

Appendix Table 2-15 Meteorological statistics at the monitoring site
Site : Tsushima, Japan

2019												
Month	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
Items												
Temperature (°C)	monthly mean	--	--	--	--	--	--	--	--	--	--	--
	max.daily mean	--	--	--	--	--	--	--	--	--	--	--
	min.daily mean	--	--	--	--	--	--	--	--	--	--	--
Relative humidity (%)	monthly mean	--	--	--	--	--	--	--	--	--	--	--
	max.daily mean	--	--	--	--	--	--	--	--	--	--	--
	min.daily mean	--	--	--	--	--	--	--	--	--	--	--
Mean wind speed (m/s)	3.3	2.7	3.1	2.7	2.9	2.0	2.6	2.3	2.2	2.5	2.6	2.7
Most frequent wind direction (bearings)	ESE	ESE	ENE	WSW	WSW	NE	SW	WSW	ENE	ENE	ENE	NNW
Precipitation amount (mm/month)	31	89	82	126	59	198	486	314	487	124	69	88
Sunshine duration (hours/month)	--	--	--	--	--	--	--	--	--	--	--	--
Solar radiation (MJ/m ² /month)	--	--	--	--	--	--	--	--	--	--	--	--

Appendix Table 2-16 Meteorological statistics at the monitoring site
Site : Ulaanbaatar, Mongolia

2019												
Month	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
Items												
Temperature (°C)	monthly mean	-17.3	-16.1	-3.1	4.1	9.5	17.3	20.6	16.1	13.7	1.3	2.3
	max.daily mean	-10.0	-5.8	2.2	11.5	21.8	25.6	24.6	24.7	21.6	7.5	4.8
	min.daily mean	-23.8	-27.5	-8.0	-3.9	0.7	9.1	15.5	12.1	7.7	-6.4	0.1
Relative humidity (%)	monthly mean	55	47	41	35	35	47	51	62	47	47	49
	max.daily mean	66	57	58	60	64	66	77	84	68	75	52
	min.daily mean	42	35	27	22	22	25	37	37	33	22	46
Mean wind speed (m/s)	1.7	1.9	2.3	2.2	2.3	2.0	1.5	1.9	1.9	2.0	1.5	--
Most frequent wind direction (bearings)	E	NE	NE	NE	NE	NE	NE	ENE	ENE	ENE	NNE	--
Precipitation amount (mm/month)	0	0	0	0	7	101	83	141	16	1	0	--
Sunshine duration (hours/month)	--	--	--	--	--	--	--	--	--	--	--	--
Solar radiation (MJ/m ² /month)	--	--	--	--	--	--	--	--	--	--	--	--

Appendix Table 2-17 Meteorological statistics at the monitoring site
Site : Metro Manila*, Philippines

2019													
Month	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	
Items													
Temperature (°C)	monthly mean	26.3	26.2	28.0	30.2	30.0	30.0	28.6	28.1	28.0	28.3	27.9	27.5
	max.daily mean	28.1	28.0	29.4	31.8	32.1	31.5	30.6	30.0	29.9	29.4	29.3	28.9
	min.daily mean	24.7	24.0	26.4	28.1	28.0	26.8	26.5	25.7	24.8	26.9	25.8	25.2
Relative humidity (%)	monthly mean	69	64	59	58	71	73	78	82	80	76	77	73
	max.daily mean	82	84	70	75	84	91	94	94	94	96	90	83
	min.daily mean	62	55	48	46	62	57	65	74	68	67	68	64
Mean wind speed (m/s)	1.5	1.3	1.3	1.3	1.2	1.3	1.2	1.7	1.4	1.1	1.1	1.4	
Most frequent wind direction (bearings)	NE,E	SE	SE	SSE	W	WSW	W	W	SW	NE	N	NNE	
Precipitation amount (mm/month)	5	5	3	0	254	435	348	521	363	186	128	125	
Sunshine duration (hours/month)	--	--	--	--	--	--	--	--	--	--	--	--	
Solar radiation (MJ/m ² /month)	--	--	--	--	--	--	--	--	--	--	--	--	

* location of the meteorological monitoring : the PAGASA Science Garden

(Latitude: 14°38'41"N Longitude: 121°02'40"E Altitude: 43 m)

Data Source: Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA)-Department of Science and Technology (DOST)

Appendix Table 2-18 Meteorological statistics at the monitoring site
Site : Los Baños*, Philippines

2019													
Month		Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
Items													
Temperature (°C)	monthly mean	25.7	25.7	27.4	29.0	29.3	29.5	28.3	28.3	28.1	28.0	27.5	26.8
	max.daily mean	27.3	27.1	28.5	30.4	31.0	31.6	29.2	30.5	29.8	28.8	29.7	28.1
	min.daily mean	23.5	24.4	25.5	27.2	27.8	27.9	26.7	26.4	26.8	27.0	25.5	25.2
Relative humidity (%)	monthly mean	--	--	--	--	--	--	--	--	--	--	--	--
	max.daily mean	--	--	--	--	--	--	--	--	--	--	--	--
	min.daily mean	--	--	--	--	--	--	--	--	--	--	--	--
Mean wind speed (m/s)		3.3	3.2	3.2	3.2	1.8	1.8	1.8	3.5	2.8	2.6	1.4	2.6
Most frequent wind direction (bearings)		NE	E	E	ENE	SE	NNE, E	ESE	ESE	E,S	NE, ENE	Calm	ENE
Precipitation amount (mm/month)		27	12	3	38	164	133	232	200	167	109	180	247
Sunshine duration (hours/month)		--	--	--	--	--	--	--	--	--	--	--	--
Solar radiation (MJ/m ² /month)		--	--	--	--	--	--	--	--	--	--	--	--

* location of the meteorological monitoring : the PAGASA Agromet Station in UP Los Baños College

(Latitude: 14°10'20"N Longitude: 121°14'29"E Altitude: 21.7 m)

Data Source: Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA)-Department of Science and Technology (DOST)

Appendix Table 2-19 Meteorological statistics at the monitoring site
Site : Mondy, Russia

Saint Petersburg, Russia

2019													
Month		Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
Items													
Temperature (°C)	monthly mean	-18.8	-19.8	-5.3	1.1	5.6	13.5	15.5	13.5	8.3	-1.0	-11.1	-13.7
	max.daily mean	-9.3	-8.6	3.5	8.5	14.1	20.8	22.7	21.8	17.4	7.9	-2.9	-5.4
	min.daily mean	-25.6	-28.1	-13.8	-6.5	-3.4	6.4	9.0	6.2	1.3	-7.7	-16.6	-19.7
Relative humidity (%)	monthly mean	59	55	52	52	54	67	76	74	73	68	73	71
	max.daily mean	74	73	77	79	85	93	94	95	95	92	92	88
	min.daily mean	36	29	27	28	27	43	54	46	45	39	49	49
Mean wind speed (m/s)		1.9	1.5	2.6	3.1	2.7	2.6	2.1	2.0	2.1	2.4	2.1	2.4
Most frequent wind direction (bearings)		W	W	W	WNW	E	E	E	E	E	E	W	W
Precipitation amount (mm/month)		0	1	10	10	25	122	76	80	59	15	4	0
Sunshine duration (hours/month)		--	--	--	--	--	--	--	--	--	--	--	--
Solar radiation (MJ/m ² /month)		171	219	257	271	290	249	212	247	205	196	143	136

Appendix Table 2-20 Meteorological statistics at the monitoring site
Site : Listvyanka, Russia

Site 1: Estivanka, Russia

2019													
Month		Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
Items													
Temperature (°C)	monthly mean	-12.7	-16.9	-3.3	1.2	5.9	10.7	16.1	14.2	10.6	2.9	-8.2	-10.1
	max.daily mean	-8.0	-12.1	1.6	6.8	11.7	16.2	20.2	19.0	15.1	7.8	-4.0	-6.0
	min.daily mean	-16.4	-21.1	-7.2	-2.7	1.5	6.4	11.8	10.5	7.0	-1.2	-11.5	-13.3
Relative humidity (%)	monthly mean	78	74	75	61	59	82	84	86	82	71	80	83
	max.daily mean	--	--	--	--	--	--	--	--	--	--	--	--
	min.daily mean	67	65	56	41	39	67	71	72	66	51	68	72
Mean wind speed (m/s)		3.2	3.3	3.0	3.2	3.2	2.2	2.8	2.5	3.1	3.5	4.6	4.1
Most frequent wind direction (bearings)		N	N	N	N	N	SSE	N	N	N	N	N	N
Precipitation amount (mm/month)		8	0	27	14	22	100	156	62	63	13	15	14
Sunshine duration (hours/month)		--	--	--	--	--	--	--	--	--	--	--	--
Solar radiation (MJ/m ² /month)		--	--	--	--	--	--	--	--	--	--	--	--

Appendix Table 2-21 Meteorological statistics at the monitoring site
Site : Irkutsk, Russia

Site 1: Prutsk, Russia

2019													
Month		Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
Items													
Temperature (°C)	monthly mean	-15.1	-16.8	-1.6	4.4	10.1	16.7	19.7	16.6	11.6	2.8	-10.0	-12.9
	max.daily mean	-9.9	-9.1	4.1	11.4	17.9	24.4	25.4	23.2	18.1	8.9	-5.4	-9.0
	min.daily mean	-19.6	-22.4	-6.4	-1.4	2.9	10.8	14.8	11.3	7.0	-2.0	-14.0	-16.5
Relative humidity (%)	monthly mean	70	60	64	46	44	67	74	77	74	63	73	78
	max.daily mean	--	--	--	--	--	--	--	--	--	--	--	--
	min.daily mean	57	43	43	26	25	44	56	54	51	42	60	70
Mean wind speed (m/s)		1.6	1.8	1.8	2.4	2.4	1.7	1.6	1.4	1.5	2.0	1.7	1.4
Most frequent wind direction (bearings)		SE	SE	SE	SE	SE	SE	WNW	SE	SE	SE	NW	NW
Precipitation amount (mm/month)		7	2	29	11	14	97	141	74	55	15	14	22
Sunshine duration (hours/month)		257	277	367	417	487	501	504	454	381	330	265	241
Solar radiation (MJ/m ² /month)		105	259	352	621	713	662	582	522	295	260	133	90

Appendix Table 2-22 Meteorological statistics at the monitoring site
Site : Primorskaya, Russia

2019													
Month		Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
Items													
Temperature (°C)	monthly mean	-12.4	-9.1	-0.4	5.5	13.0	15.6	20.5	20.6	15.3	7.9	-4.5	-15.6
	max.daily mean	-4.2	-0.3	7.8	14.3	21.1	21.3	25.5	25.3	23.3	15.7	2.9	-11.5
	min.daily mean	-18.7	-16.1	-7.2	-1.9	6.3	11.2	17.2	17.8	9.7	1.8	-10.3	-19.9
Relative humidity (%)	monthly mean	58	46	54	55	63	76	80	83	76	70	68	59
	max.daily mean	77	65	79	83	83	92	87	94	93	88	90	85
	min.daily mean	21	30	33	34	45	63	69	72	62	60	47	30
Mean wind speed (m/s)		1.3	1.2	1.2	1.5	1.7	1.4	1.1	0.5	0.9	1.2	1.2	2.2
Most frequent wind direction (bearings)		E	E	E, Calm	E, Calm	SSE, Calm	SE, Calm	SE, Calm	Calm	E	E	E, Calm	N
Precipitation amount (mm/month)		1	0	19	6	186	54	66	286	76	99	71	7
Sunshine duration (hours/month)		--	--	--	--	--	--	--	--	--	--	--	--
Solar radiation (MJ/m ² /month)		--	--	--	--	--	--	--	--	--	--	--	--

Appendix Table 2-23 Meteorological statistics at the monitoring site
Site : Bangkok, Thailand

2019													
Month		Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
Items													
Temperature (°C)	monthly mean	27.4	29.3	30.1	31.8	30.8	29.5	29.1	28.3	27.8	28.8	28.2	26.9
	max.daily mean	29.4	30.2	31.4	37.3	33.2	32.5	30.6	30.1	30.5	31.0	30.0	29.3
	min.daily mean	24.6	28.5	27.6	29.8	26.8	27.1	25.1	26.2	24.8	26.5	25.2	22.5
Relative humidity (%)	monthly mean	61	70	68	65	62	70	67	73	77	72	60	56
	max.daily mean	86	77	80	76	89	85	92	85	96	84	85	69
	min.daily mean	40	63	54	58	51	58	53	62	57	52	48	42
Mean wind speed (m/s)		0.5	1.0	1.0	0.9	0.8	0.6	0.7	0.7	0.5	0.4	0.4	0.4
Most frequent wind direction (bearings)		NE	WSW	WSW	WSW	WNW	W	WNW	WNW	WNW	NE	NE	NE
Precipitation amount (mm/month)		3	0	0	37	98	259	154	123	293	108	41	0
Sunshine duration (hours/month)		--	--	--	--	--	--	--	--	--	--	--	--
Solar radiation (MJ/m ² /month)		--	--	--	--	--	--	--	--	--	--	--	--

Appendix Table 2-24 Meteorological statistics at the monitoring site
Site : Samutprakarn, Thailand

2019													
Month		Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
Items													
Temperature (°C)	monthly mean	27.4	28.8	29.5	31.0	31.9	--	--	--	28.4	29.3	28.3	26.9
	max.daily mean	29.2	29.6	30.4	32.7	32.9	--	--	--	30.8	31.2	30.2	29.6
	min.daily mean	25.3	28.3	26.8	28.4	30.3	--	--	--	25.7	26.7	25.3	22.4
Relative humidity (%)	monthly mean	64	77	76	74	63	--	--	--	79	74	63	60
	max.daily mean	87	84	90	82	69	--	--	--	98	90	87	82
	min.daily mean	44	71	65	66	58	--	--	--	58	51	48	42
Mean wind speed (m/s)		1.0	2.1	2.3	2.3	1.6	1.6	1.5	1.6	1.2	1.1	1.3	1.2
Most frequent wind direction (bearings)		ENE	S	S	S	WNW	SSW	SSW	SSW	WNW	E	ENE	E
Precipitation amount (mm/month)		1	0	3	57	142	126	152	71	188	140	12	0
Sunshine duration (hours/month)		--	--	--	--	--	--	--	--	--	--	--	--
Solar radiation (MJ/m ² /month)		--	--	--	--	--	--	--	--	--	--	--	--

Appendix Table 2-25 Meteorological statistics at the monitoring site
Site : Khanchanaburi, Thailand

2019													
Month		Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
Items													
Temperature (°C)	monthly mean	--	--	28.2	30.1	--	--	27.4	25.4	--	--	25.6	26.0
	max.daily mean	--	--	29.6	32.0	--	--	28.9	25.4	--	--	28.0	26.3
	min.daily mean	--	--	27.4	26.7	--	--	25.7	25.4	--	--	23.8	26.3
Relative humidity (%)	monthly mean	--	--	--	--	--	--	89	97	--	--	74	75
	max.daily mean	--	--	--	--	--	--	97	97	--	--	82	74
	min.daily mean	--	--	--	--	--	--	81	97	--	--	70	74
Mean wind speed (m/s)		--	--	1.4	1.4	--	--	1.0	0.9	--	--	0.5	0.4
Most frequent wind direction (bearings)		--	--	NNW	NNW	--	--	NNW	NNW	--	--	S	S
Precipitation amount (mm/month)		--	--	10	23	--	--	116	6	--	--	0	0
Sunshine duration (hours/month)		--	--	--	--	--	--	--	--	--	--	--	--
Solar radiation (MJ/m ² /month)		--	--	--	--	--	--	--	--	--	--	--	--

Appendix Table 2-26 Meteorological statistics at the monitoring site
Site : Chang Phueak, Thailand

2019													
Month		Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
Items													
Temperature (°C)	monthly mean	22.5	24.0	27.5	30.5	30.3	28.7	28.0	26.4	26.8	26.6	24.8	21.2
	max.daily mean	24.9	25.9	30.4	32.5	33.9	31.8	32.2	28.3	29.2	28.3	26.6	24.1
	min.daily mean	20.1	21.9	25.3	28.1	26.0	26.4	23.3	23.8	23.5	23.3	23.4	16.9
Relative humidity (%)	monthly mean	70	54	43	44	60	69	70	83	76	74	71	64
	max.daily mean	94	67	50	62	85	84	97	97	86	94	88	78
	min.daily mean	60	48	36	35	43	58	52	69	63	63	58	47
Mean wind speed (m/s)		0.5	0.4	0.5	0.5	0.6	0.7	0.5	0.5	0.5	0.4	0.4	0.4
Most frequent wind direction (bearings)		N	N	N,NW	NNW	S	S	S	S	NNW	NNW	NW	NNW
Precipitation amount (mm/month)		28	0	0	0	28	21	89	92	99	164	7	0
Sunshine duration (hours/month)		--	--	--	--	--	--	--	--	--	--	--	--
Solar radiation (MJ/m ² /month)		--	--	--	--	--	--	--	--	--	--	--	--

Appendix Table 2-27 Meteorological statistics at the monitoring site
Site : Si Phum, Thailand

2019													
Month		Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
Items													
Temperature (°C)	monthly mean	25.8	27.8	31.0	33.8	33.4	31.7	30.7	28.8	29.5	29.7	28.1	24.4
	max.daily mean	27.9	29.5	33.5	36.0	36.6	34.5	35.0	31.0	31.8	31.5	29.8	27.6
	min.daily mean	23.4	26.0	28.9	31.1	29.2	29.6	25.6	26.0	26.6	25.8	26.7	19.7
Relative humidity (%)	monthly mean	69	49	40	40	59	71	72	87	79	75	69	63
	max.daily mean	96	65	47	60	86	85	98	98	92	96	89	83
	min.daily mean	55	42	33	31	41	58	52	68	64	61	55	43
Mean wind speed (m/s)		0.3	0.3	0.4	0.4	0.5	0.4	0.3	0.3	0.4	0.4	0.4	0.3
Most frequent wind direction (bearings)		NE	NE	NE	SE	SE	SW	SE	SE	NNE	NNE	NNE	NNE
Precipitation amount (mm/month)		--	--	--	--	--	--	--	--	--	--	--	--
Sunshine duration (hours/month)		--	--	--	--	--	--	--	--	--	--	--	--
Solar radiation (MJ/m ² /month)		--	--	--	--	--	--	--	--	--	--	--	--

Appendix Table 2-28 Meteorological statistics at the monitoring site
Site : Nai Mueang, Thailand

Site : Nal Macung, Thailand												2019	
Month		Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
Items													
Temperature (°C)	monthly mean	25.7	30.0	31.0	31.4	33.6	29.5	29.2	28.1	27.0	26.9	25.7	23.7
	max.daily mean	28.0	31.8	32.4	33.5	33.6	29.8	31.2	29.9	28.9	29.5	28.3	27.7
	min.daily mean	22.3	26.1	29.5	28.7	33.6	29.3	22.6	23.3	23.9	20.7	23.4	18.7
Relative humidity (%)	monthly mean	56	52	49	56	49	59	61	68	73	71	62	55
	max.daily mean	66	65	63	67	49	61	91	94	92	93	82	61
	min.daily mean	45	47	31	48	49	57	52	57	63	57	50	45
Mean wind speed (m/s)		0.9	0.6	0.7	0.6	0.8	2.3	2.0	1.9	1.6	1.3	1.4	1.3
Most frequent wind direction (bearings)		E	SW	SW	SSW	SSW	W	W	W	W	E	ENE	ENE
Precipitation amount (mm/month)		0	0	0	0	0	0	52	211	268	102	0	0
Sunshine duration (hours/month)		--	--	--	--	--	--	--	--	--	--	--	--
Solar radiation (MJ/m ² /month)		--	--	--	--	--	--	--	--	--	--	--	--

Appendix Table 2-29 Meteorological statistics at the monitoring site
Site : Hanoi, Vietnam

2019													
Month	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	
Items													
Temperature (°C)	monthly mean	17.4	20.0	22.2	26.1	27.7	29.9	29.1	30.6	27.5	25.8	21.9	18.5
	max.daily mean	20.2	23.7	25.5	30.6	31.2	34.3	33.6	35.1	32.0	30.4	26.1	23.6
	min.daily mean	15.7	17.9	20.0	23.8	25.2	26.9	26.4	27.6	24.5	23.1	19.0	15.8
Relative humidity (%)	monthly mean	86	79	90	82	82	71	81	76	70	80	83	86
	max.daily mean	87	84	94	86	85	80	90	87	83	89	91	94
	min.daily mean	81	71	84	75	78	62	70	62	56	69	72	74
Mean wind speed (m/s)	1.4	1.8	1.6	1.8	1.5	1.5	1.3	1.3	1.3	1.4	1.3	1.3	
Most frequent wind direction (bearings)	NE	SE,	SE,	SE	SE,	SE	NW, SE	NW	NW	SE	N, NE	N, NE	
Precipitation amount (mm/month)	21	18	9	160	66	124	71	556	80	124	56	6	
Sunshine duration (hours/month)	24	89	41	97	84	151	135	157	202	145	128	129	
Solar radiation (MJ/m ² /month)	--	--	--	--	--	--	--	--	--	--	--	--	

Appendix Table 2-30 Meteorological statistics at the monitoring site
Site : Hoa Binh*, Vietnam

2019													
Month	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	
Items													
Temperature (°C)	monthly mean	18.0	22.5	22.7	27.6	27.3	30.5	30.4	28.9	27.6	25.2	22.1	18.2
	max.daily mean	23.4	26.9	27.6	31.6	33.6	34.8	33.2	32.6	30.2	28.9	26.1	23.8
	min.daily mean	12.5	16.1	18.2	22.7	22.5	24.4	28.0	25.8	24.9	21.0	18.9	13.0
Relative humidity (%)	monthly mean	84	83	82	78	83	79	79	85	81	84	81	81
	max.daily mean	94	91	91	88	92	91	88	97	96	94	95	95
	min.daily mean	74	75	73	57	65	65	66	67	72	74	77	65
Mean wind speed (m/s)	1.0	1.0	2.0	1.0	1.0	1.0	1.0	2.0	1.0	1.0	1.0	1.0	
Most frequent wind direction (bearings)	N	SE	N	N	N	NE	SE	N	NE	N	N	N	
Precipitation amount (mm/month)	15	22	8	66	329	154	162	448	91	194	39	3	
Sunshine duration (hours/month)	48	100	89	157	122	195	203	170	226	157	149	159	
Solar radiation (MJ/m ² /month)	--	--	--	--	--	--	--	--	--	--	--	--	

* Location of the meteorological monitoring: Latitude: 20°49'34"N Longitude: 105°20'19"E Altitude: 22 m

Appendix Table 2-31 Meteorological statistics at the monitoring site
Site : Cuc Phuong, Vietnam

2019													
Month	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	
Items													
Temperature (°C)	monthly mean	16.8	21.3	21.3	26.1	26.6	29.8	29.0	27.5	26.4	24.2	21.0	17.7
	max.daily mean	26.5	33.6	30.5	38.5	39.6	38.7	38.0	37.0	35.5	33.2	29.0	28.3
	min.daily mean	10.3	13.2	14.6	20.1	20.2	22.1	23.4	22.9	18.9	15.0	14.3	6.2
Relative humidity (%)	monthly mean	90	90	92	89	87	80	82	88	82	86	84	79
	max.daily mean	100	100	100	98	100	98	99	99	99	99	100	100
	min.daily mean	51	45	64	35	39	46	49	54	38	45	47	28
Mean wind speed (m/s)	1	1	1	1	1	1	1	1	1	1	1	1	1
Most frequent wind direction (bearings)	NE	SSW	NE	S	SW	SW	SW	NW	NW	N	NW	NE	
Precipitation amount (mm/month)	17	20	47	48	200	88	161	468	214	257	35	17	
Sunshine duration (hours/month)	24	78	46	106	120	194	165	142	204	148	131	137	
Solar radiation (MJ/m ² /month)	--	--	--	--	--	--	--	--	--	--	--	--	--

Appendix Table 2-32 Meteorological statistics at the monitoring site
Site : Da Nang, Vietnam

2019													
Month	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	
Items													
Temperature (°C)	monthly mean	22.3	25.0	26.3	28.1	29.9	31.4	30.9	30.3	27.9	27.2	25.3	22.7
	max.daily mean	25.4	28.9	30.0	32.4	35.2	36.6	36.4	35.3	32.2	30.7	28.6	26.0
	min.daily mean	21.1	22.7	24.2	25.5	26.6	28.1	27.6	27.5	25.1	24.6	23.2	20.5
Relative humidity (%)	monthly mean	86	83	83	80	74	70	69	71	80	81	82	81
	max.daily mean	96	89	92	87	81	78	85	93	94	91	93	93
	min.daily mean	79	76	74	72	63	58	56	54	72	72	74	61
Mean wind speed (m/s)	1	1	1	2	1	1	1	1	1	1	1	1	
Most frequent wind direction (bearings)	NNW	ESE	E	ESE	E	E	E	SSW	NNE	ENE	E	E	
Precipitation amount (mm/month)	270	1	34	0	53	11	65	174	304	641	462	127	
Sunshine duration (hours/month)	103	223	188	238	257	279	226	192	162	209	116	94	
Solar radiation (MJ/m ² /month)	--	--	--	--	--	--	--	--	--	--	--	--	

Appendix Table 2-33 Meteorological statistics at the monitoring site
Site : Can Tho, Vietnam

Site 1: Can Tho, Vietnam

												2019	
Month		Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
Items													
Temperature (°C)	monthly mean	26.7	27.1	27.8	29.8	28.9	28.0	28.0	27.3	27.3	28.1	27.5	27.9
	max.daily mean	34.2	34.7	34.9	36.7	35.7	35.2	34.6	34.1	35.2	34.4	34.0	34.5
	min.daily mean	23.1	23.4	24.0	24.7	23.7	23.0	22.5	22.0	23.3	24.0	23.0	23.5
Relative humidity (%)	monthly mean	73	75	76	74	83	85	84	85	85	81	80	82
	max.daily mean	84	91	89	90	92	95	91	91	87	85	92	90
	min.daily mean	43	42	42	41	50	52	51	53	46	52	47	49
Mean wind speed (m/s)		1.3	1.3	1.2	1.1	1.4	1.1	1.2	1.3	1.3	1.2	1.5	1.6
Most frequent wind direction (bearings)		NE	SE	SE	SE	SW	SW	SW	SW	SW	E	SE	SE
Precipitation amount (mm/month)		56	0	0	162	334	316	295	315	261	451	180	0
Sunshine duration (hours/month)		274	269	272	267	232	169	202	180	166	234	203	217
Solar radiation (MJ/m ² /month)		--	--	--	--	--	--	--	--	--	--	--	--

Appendix Table 2-34 Meteorological statistics at the monitoring site
Site : Ho Chi Minh*, Vietnam

2019													
Month		Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
Items													
Temperature (°C)	monthly mean	28.3	28.6	29.1	29.9	30.0	29.4	29.0	28.5	28.2	29.0	28.2	28.8
	max.daily mean	37.7	37.8	37.2	38.0	38.3	37.3	36.0	35.8	36.1	35.6	34.8	35.2
	min.daily mean	24.5	24.7	24.4	24.5	25.5	25.0	23.4	24.0	23.6	23.3	22.4	22.7
Relative humidity (%)	monthly mean	67	69	66	74	74	74	73	76	76	72	71	73
	max.daily mean	86	72	75	76	89	83	81	85	88	88	81	82
	min.daily mean	39	37	37	36	45	40	44	48	41	38	35	37
Mean wind speed (m/s)		1.3	1.2	1.1	1.1	1.0	1.2	1.2	1.1	1.1	1.1	1.1	1.1
Most frequent wind direction (bearings)		SE	SE	SE	SE	W	W	W	W	W	W	SE	SE
Precipitation amount (mm/month)		8	0	0	39	308	316	325	383	425	334	125	0
Sunshine duration (hours/month)		217	229	238	221	205	179	195	167	127	173	156	178
Solar radiation (MJ/m ² /month)		--	--	--	--	--	--	--	--	--	--	--	--

* Location of the meteorological monitoring: Tan Son Hoa
(Latitude: 10°47'47"N Longitude: 106°40'00"E Altitude: 2 m)

Appendix Table 2-35 Meteorological statistics at the monitoring site
Site : Yen Bai, Vietnam

												2019	
Month		Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
Items													
Temperature (°C)	monthly mean	17.6	21.7	21.9	26.6	26.8	29.8	29.4	28.9	27.2	25.1	22.0	17.9
	max.daily mean	20.2	25.1	25.1	29.9	30.3	34.4	34.0	34.2	32.7	29.4	25.8	23.0
	min.daily mean	15.9	19.6	19.8	24.2	24.4	26.6	26.6	25.7	23.7	22.5	19.7	14.8
Relative humidity (%)	monthly mean	88	87	87	88	89	86	87	86	85	88	87	84
	max.daily mean	96	97	95	96	99	98	99	98	98	98	98	98
	min.daily mean	78	75	75	73	76	71	72	67	64	71	70	69
Mean wind speed (m/s)		0.6	0.8	0.8	1.0	1.1	1.3	1.4	1.4	1.2	1.2	1.2	1.2
Most frequent wind direction (bearings)		ESE	SE	SE	NW	NW	SE	NW	NW	SE	ESE	SE	WNW
Precipitation amount (mm/month)		51	52	12	80	191	167	247	465	88	186	43	11
Sunshine duration (hours/month)		14	67	43	83	83	162	142	208	216	89	54	134
Solar radiation (MJ/m ² /month)		--	--	--	--	--	--	--	--	--	--	--	--

Appendix 3

Supplemental Data of Inland Aquatic Environment Monitoring from 2017 to 2018

Appendix Table 3.1 Result of Inland Aquatic Environment Monitoring

Duration: 2017.5-2017.12

Country: Philippines

Lake/Stream: (See below)

Mandatory Parameters: 4 times/year													
Site	Sampling Date	Temp. (°C)	pH	EC (mS/m)	Alkalinity (meq/L)	SO ₄ ²⁻ (mg/L)	NO ₃ ⁻ (mg/L)	Cl ⁻ (mg/L)	NH ₄ ⁺ (mg/L)	Na ⁺ (mg/L)	K ⁺ (mg/L)	Ca ²⁺ (mg/L)	Mg ²⁺ (mg/L)
Ambulalakaw Lake	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-
	mean*1	-	-	-	-	-	-	-	-	-	-	-	-
Pandin Lake	24-May-17	30.7	8.55	17.02	1.807	0.611	0.135	3.43	0.000	8.96	3.97	15.7	7.87
	23-Aug-17	29.7	8.77	17.37	1.692	0.885	0.170	3.51	1.187	8.32	4.07	16.0	7.76
	06-Dec-17	24.9	7.62	17.75	1.687	1.074	0.156	3.36	0.049	8.75	4.17	17.4	8.12
	mean*1	28.4	8.02	17.38	1.729	0.857	0.154	3.44	0.412	8.68	4.07	16.4	7.91

Mandatory Parameters: Once/year					Optional Parameters
Site	Sampling Date	Transparency (m)	PO ₄ ³⁻ (mg/L)	NO ₂ ⁻ (mg/L)	DO (mg/L)
Ambulalakaw Lake	-	-	-	-	-
	-	-	-	-	-
	-	-	-	-	-
	mean*1	-	-	-	-
Pandin Lake	24-May-17		0.000	0.00	-
	23-Aug-17		0.821	0.00	-
	6-Dec-17		0.000	0.00	-
	mean*1	-	0.274	0.00	-

note

- : Items were not analyzed.

*1: Mean of pH takes an average of hydrogen ion.

		Anion	Cation	R1	Judge	Acalc	R2	Judge
Ambulalakaw Lake	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
Pandin Lake	24-May-17	1919	1921	0.1	O	19.7	7.4	O
	23-Aug-17	1838	1970	3.5	O	19.9	6.7	O
	06-Dec-17	1807	2024	5.7	O	19.9	5.7	O

note

Concerning "x" judging, it was not able to specify the main reasons.

Appendix Table 3.2 Result of Inland Aquatic Environment Monitoring

Duration: 2018.2-2018.5

Country: Philippines

Lake/Stream: (See below)

Mandatory Parameters: 4 times/year													
Site	Sampling Date	Temp. (°C)	pH	EC (mS/m)	Alkalinity (meq/L)	SO ₄ ²⁻ (mg/L)	NO ₃ ⁻ (mg/L)	Cl ⁻ (mg/L)	NH ₄ ⁺ (mg/L)	Na ⁺ (mg/L)	K ⁺ (mg/L)	Ca ²⁺ (mg/L)	Mg ²⁺ (mg/L)
Ambulalakaw Lake	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-
	mean*1	-	-	-	-	-	-	-	-	-	-	-	-
Pandin Lake	27-Feb-18	-	8.24	18.43	1.751	0.755	0.161	3.54	0.048	8.94	4.07	17.2	8.04
	17-May-18	-	8.96	17.93	1.728	0.857	0.436	3.49	0.000	7.89	3.55	13.8	6.13
	-	-	-	-	-	-	-	-	-	-	-	-	-
	mean*1	-	8.20	18.18	1.740	0.537	0.199	3.52	0.024	8.41	3.81	15.5	7.09

Mandatory Parameters: Once/year					Optional Parameters
Site	Sampling Date	Transparency (m)	PO ₄ ³⁻ (mg/L)	NO ₂ ⁻ (mg/L)	DO (mg/L)
Ambulalakaw Lake	-	-	-	-	-
	-	-	-	-	-
	-	-	-	-	-
	mean*1	-	-	-	-
Pandin Lake	27-Feb-18	-	0.000	0.00	-
	17-May-18	-	0.000	0.00	-
	-	-	-	-	-
	mean*1	-	0.000	0.00	-

note

- : Items were not analyzed.

*1: Mean of pH takes an average of hydrogen ion.

		Anion	Cation	R1	Judge	Acalc	R2	Judge
Ambulalakaw Lake	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
Pandin Lake	27-Feb-18	1869	2018	3.8	O	20.1	4.3	O
	17-May-18	1851	1628	-6.4	O	17.8	-0.3	O
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-

note

Concerning "x" judging, it was not able to specify the main reasons.

Appendix 4

Supplemental Data of Catchment-scale Monitoring from 2017 to 2018

Appendix Table 4-1 Stream water chemistry: La Mesa Watershed (Year 2017)

Collection date	alkalinity												
	pH	EC	pH4.8	PO ₄ ³⁻	SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	Na ⁺	Ca ²⁺	Mg ²⁺	K ⁺	NH ₄ ⁺ *1	H ⁺
	mS m ⁻¹			μmol _c L ⁻¹									
2017/6/20	7.81	26.8	1802	14.5	43.3	9.5	44.3	714	698	397	39.6	0.0	0.02
2017/7/24	7.63	23.6	2371	15.0	44.0	7.9	42.0	681	641	371	43.1	0.0	0.02
2017/8/15	7.84	21.7	2235	4.9	40.1	7.0	43.6	640	617	368	40.7	2.8	0.01
2017/9/25	7.68	19.8	2027	13.1	39.7	10.3	42.7	562	552	337	37.1	21.0	0.02
2017/10/30	7.69	24.1	2425	9.1	40.0	4.6	46.5	716	670	387	34.4	0.0	0.02
2017/11/27	7.89	24.2	2438	10.1	40.7	4.1	41.9	722	687	392	33.1	0.0	0.01

Note. The water year was defined as the period from November to October in the following year.

*1, The data was processed according to the determination limit decided by the data quality objectives (DQO) of EANET.

Appendix Table 4-2 Stream water chemistry: La Mesa Watershed (Year 2018)

Collection date	alkalinity												
	pH	EC	pH4.8	PO ₄ ³⁻	SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	Na ⁺	Ca ²⁺	Mg ²⁺	K ⁺	NH ₄ ⁺ *1	H ⁺
	mS m ⁻¹		μmol L ⁻¹										
2018/4/30	7.85	34.5	3679	13.5	39.5	11.3	46.9	761	1517	741	20.9	0.0	0.01
2018/12/13	7.69	26.1	2550	12.4	36.7	11.6	48.0	687	1660	792	40.4	0.0	0.02

Note. The water year was defined as the period from November to October in the following year.

*1, The data was processed according to the determination limit decided by the data quality objectives (DQO) of EANET.

Appendix 5

Corrigenda of Dry Deposition Monitoring Data in 2018

Appendix 5 Corrigenda of Data Report 2018

The PM_{2.5} monitoring data of December, 2018 at Metro Manila site were submitted after publishing Data Report 2018. The page and table number correspond to those of Data Report 2018.

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Table 4.12 PM_{2.5} (continued)

Unit : µg/m3			2018												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Philippines	Metro Manila	Mean	19	19	16	15	16	15	***	***	***	***	***	***	17
		%	99	81	100	98	99	35	***	***	***	***	***	***	42
		Max-d	83	45	27	22	25	28	***	***	***	***	***	***	83
		Min-d	4	7	7	8	9	10	***	***	***	***	***	***	4

(Correction)

Table 4.12 PM_{2.5} (continued)

Unit : µg/m3			2018												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Philippines	Metro Manila	Mean	19	19	16	15	16	15	***	***	***	***	***	23	17
		%	99	81	100	98	99	35	***	***	***	***	***	66	48
		Max-d	83	45	27	22	25	28	***	***	***	***	***	37	83
		Min-d	4	7	7	8	9	10	***	***	***	***	***	5	4

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