

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

Data Report 2011

January 2013

Network Center for EANET

Table of Contents

	Page
1. Introduction	1
2. Network Description	5
3. Wet Deposition Monitoring	13
3.1 Method	15
3.1.1 Field Operation	16
3.1.2 Laboratory Operation	16
3.1.3 Data Management	16
3.1.4 Meteorological Measurements	17
3.1.5 Overview of the Statistics and Definitions	18
3.1.6 Terms and Abbreviations	21
3.1.7 Monitoring Sites	22
3.2 Results of Monitoring	25
4. Dry Deposition (Air Concentration) Monitoring	141
4.1 Method	143
4.1.1 Automatic Monitoring Method	143
4.1.2 Filter Pack Method	143
4.1.3 Monitoring Sites	143
4.2 Results of Monitoring	148
5. Soil and Vegetation Monitoring	199
5.1 Method	201
5.1.1 Field Operation	201
5.1.2 Laboratory Operation	203
5.1.3 Monitoring Sites	204
5.2 Results of Monitoring	204
6. Inland Aquatic Environment Monitoring	241
6.1 Method	243
6.1.1 Selection of Sampling Sites	243
6.1.2 Field Operation	243
6.1.3 Laboratory Operation	244
6.1.4 Monitoring Sites	245
6.2 Results of Monitoring	246

	Page
7. Catchment-scale Monitoring	285
7.1 Method	287
7.1.1 Field Operation	287
7.1.2 Laboratory Operation	288
7.1.3 Data Management	289
7.1.4 Monitoring Sites	289
7.2 Results of Monitoring	291
Appendix I Overview of Data Report 2011	295
Appendix II Meteorological Statistics at the Monitoring Sites	301

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/vegetation, inland aquatic environment and catchment-scale has been carried out to assess adverse impacts on terrestrial and aquatic ecosystems. The 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 in their respective countries 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 2011, which contains the monitoring data from the participating countries at the Twelfth Session of Scientific Advisory Committee (SAC12), held in October 2012. The draft Data Report was considered at SAC12 by the experts from the participating countries. Following the comments and guidance at the SAC12, the NC has elaborated and finalized the report.

The Data Report 2011 contains the data obtained from monitoring activities carried out in 2011.

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: survey sites and ecosystem analysis sites. The criteria used for classification of the sites are presented 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 and 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 monitoring and Inland aquatic 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 2011

Thirteen EANET countries, namely, Cambodia, China, Indonesia, Japan, Lao PDR, Malaysia, Mongolia, Myanmar, Philippines, Republic of Korea, Russia, Thailand and Vietnam participated in monitoring of acid deposition in 2011. The data on wet deposition monitoring were submitted from a total of 54 monitoring sites, including 20 remote, 13 rural and 21 urban sites. A map showing the location of these sites with the classification information is provided in Figure 2.1. The details on the location of the monitoring sites are presented in Table 2.2 and Table 2.3.



Figure 2.1 Locations of EANET deposition monitoring sites in 2011

Table 2.2 Locations of EANET deposition monitoring sites

Country	Name of sites	Classification	Latitude*	Longitude*	Altitude*/ m
Cambodia	Phnom Penh	Urban	11°33'N	104°50'E	10
China	Chongqing -Haifu	Urban	29°37'N	106°30'E	317
	-Jinyunshan	Rural	29°49'N	106°22'E	800
	Xi'an - Shizhan	Urban	34°14'N	108°57'E	400
	- Jiwozi	Remote	33°50'N	108°48'E	1,800
	Xiamen - Hongwen	Urban	24°28'N	118°08'E	50
	- Xiaoping	Remote	24°51'N	118°02'E	686
	Zhuhai - Xiang Zhou	Urban	22°16'N	113°34'E	40
	- Zhuxiandong	Urban	22°12'N	113°31'E	45
Indonesia	Jakarta	Urban	6°11' S	106°50' E	7
	Serpong	Rural	6°15' S	106°34' E	46
	Kototabang	Remote	0°12' S	100°19' E	864
	Bandung	Urban	6°54' S	107°35' E	743
	Maros	Rural	4°55' S	119°34' E	11
Japan	Rishiri	Remote	45°07'11" N	141°12'33" E	40
	Ochiishi	Remote	43°09'43" N	145°29'50" E	49
	Tappi	Remote	41°15'06" N	140°20'59" E	106
	Sado-seki	Remote	38°14'59" N	138°24'00" E	136
	Happo	Remote	36°41'48" N	137°47'53" E	1,850
	Ijira	Rural	35°34'20" N	136°41'38" E	140
	Oki	Remote	36°17'19" N	133°11'06" E	90
	Banryu	Urban	34°40'54" N	131°47'59" E	53
	Yusuhara	Remote	33°22'45" N	132°56'05" E	790
	Hedo	Remote	26°51'58" N	128°14'55" E	60
	Ogasawara	Remote	27°05'30" N	142°12'58" E	230
	Tokyo	Urban	35°41'18" N	139°45'22" E	26
Lao PDR	Vientiane	Urban	17° N	102° E	
Malaysia	Petaling Jaya	Urban	03°06' N	101°39' E	87
	Tanah Rata	Remote	04°28' N	101°23' E	1,470
	Danum Valley	Remote	04°59' N	117°51' E	427
	Kuching	Urban	01°29' N	110°28' E	22
Mongolia	Ulaanbaatar	Urban	47°54' N	106°49' E	1,282
	Terelj	Remote	47°59' N	107°29' E	1,540
Myanmar	Yangon	Urban	16°30' N	96°07' E	22
Philippines	Metro Manila	Urban	14°38' N	121°04' E	54
	Los Banos	Rural	14°11' N	121°15' E	35
	Mt. Sto. Tomas	Remote	16°25' N	120°36' E	1,500
Republic of Korea	Kanghwa	Rural	37°42' N	126°17' E	150
	Cheju (Kosan)	Remote	33°18' N	126°10' E	72
	Imsil	Rural	35°36' N	127°11' E	

* The latitude, longitude and altitude information corresponded to the wet deposition monitoring sites

Table 2.2 Locations of EANET deposition monitoring sites (continued)

Country	Name of sites	Classification	Latitude*	Longitude*	Altitude*/ m
Russia	Mondy	Remote	51° 40' N	101°00' E	2,000
	Listvyanka	Rural	51° 51' N	104°54' E	700
	Irkutsk	Urban	52° 14' N	104°15' E	400
	Primorskaya	Rural	43° 42' N	132°07' E	84
Thailand	Bangkok	Urban	13° 46' N	100°32' E	2
	Samutprakarn	Urban	13° 44' N	100°34' E	2
	Pathumthani	Rural	14° 02' N	100°46' E	2
	Khanchanaburi	Remote	14° 46' N	98°35' E	170
	(Vachiralongkorn Dam)				
	Chiang Mai (Mae Hia)	Rural	18° 46' N	98°56' E	350
	Nakhon Ratchasima	Rural	14° 27' N	101°53' E	418
Vietnam	Hanoi	Urban	21° 01' N	105°51' E	5
	Hoa Binh	Rural	20° 49' N	105°20' E	23
	Cuc Phuong	Remote	20°15' N	105°43' E	155
	Da Nang	Urban	16°02'34" N	108°12'23" E	60

* The latitude, longitude and altitude information corresponded to the wet deposition monitoring sites

The filter-pack method is used at 36 sites for measurements of air concentrations of pollutants for determining of dry deposition. Automatic or manual gas monitors is also used for the monitoring of ozone concentration. Concentrations of particulate matter as PM₁₀ are measured by automatic or manual instruments at 23 sites.

The current situation on basic survey sites for ecological monitoring and the nearest deposition monitoring sites was shown in Table 2.3. Soil and vegetation monitoring and monitoring on inland aquatic environment are conducted at 28 plots in 10 countries and 18 lakes/rivers in 10 countries, respectively, although the former is conducted in Republic of Korea and the latter is conducted in Lao PDR instead. Most of the ecological monitoring sites are corresponded to the deposition monitoring sites. Moreover, both soil and vegetation monitoring and monitoring on inland aquatic environment are conducted in the vicinity of 4 deposition monitoring sites in China, 2 sites in Japan, 1 site in Malaysia, 2 sites in Philippines, 2 sites in Russia, 1 site in Thailand, and 1 site in Vietnam. It is expected that the deposition data collected in the 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 the nearest deposition sites

Country	Site for deposition monitoring	Plot for soil and vegetation monitoring	Site for monitoring on inland aquatic environment
China	Jinyunshan (Chongqing)	Jinyunshan	Jinyunshan Lake
	Jiwozi (Xi'an)	Dabagou	Jiwozi River
	Xiaoping (Xiamen)	Xiaoping	Xiaoping Dam
	Zhuxiandong (Zhuhai)	Zhuxiandong	Zhuxiandong Stream
Indonesia	Serpong	Bogor Research Forest (Dramaga Experimental Forest)	-
	Bandung	-	Patengang Lake
	-	-	Gunung Lake
Japan	Ijira	Ijira Yamato	Ijira Lake
	Banryu	Banryu-2 ^{*1} Iwami "rinku" Factory Park ^{*1}	Banryu Lake
Lao PDR	Vientiane	-	Nam Hum Lake
Malaysia	-	Pasoh Reserve Forest	-
	Petaling Jaya	Sungai Lalang Reserve Forest	Semenyih Dam
	Danum Valley	-	Tembaling River
	-	UPMKB (University of Putra Malaysia Bintulu Campus)	-
Mongolia	Ulaanbaatar	Bogdkhan Mountain	-
	Terelj	-	Terelj River
Philippines	Los Banos	Mt. Makiling UP Quezon, Land Grant	Pandin Lake
	Metro Manila	La Mesa Watershed	-
	Mt. Sto Tomas	Boneco Long Term Ecological Research Site	Ambulalakao Lake
Republic of Korea	Imsil	Mt. Naejang	-
Russia	Irkutsk	Irkutsk	-
	Listvyanka	Bolshie Koty Pereemnaya river catchment	Pereemnaya River
	Mondy	Ilchir Lake	-
		Okinskoe Lake	
		Solar Observatory	
	Primorskaya	Primorskaya	Komarovka River
Thailand	Khanchanaburi (Vachiralongkorn Dam)	Vachiralongkorn Dam ^{*2} Vachiralongkorn Puye	Vachiralongkorn Dam
Vietnam	Hoa Binh	Cave of Heaven	Hoa Binh Reservoir
		Thang Ranh	

*1. The sites around Banryu deposition site were relocated in 2001; *2. Kao Lam Dam was renamed to Vachiralongkorn Dam.

The implementation of the catchment scale monitoring at one site in Japan was shown in Table 2.4. This table contained the site information which is under preparation at this moment.

Table 2.4 Site for catchment-scale monitoring

Country	Name of site	Note
Japan	Lake Ijira catchment	
Philippines	La Mesa Watershed	Under preparation

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 the *Guidelines for Acid Deposition Monitoring in East Asia, Technical Documents on Wet Deposition Monitoring in East Asia* and related QA/QC documents, which were adopted at The Second Interim Scientific Advisory Group Meeting in March 2000 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.

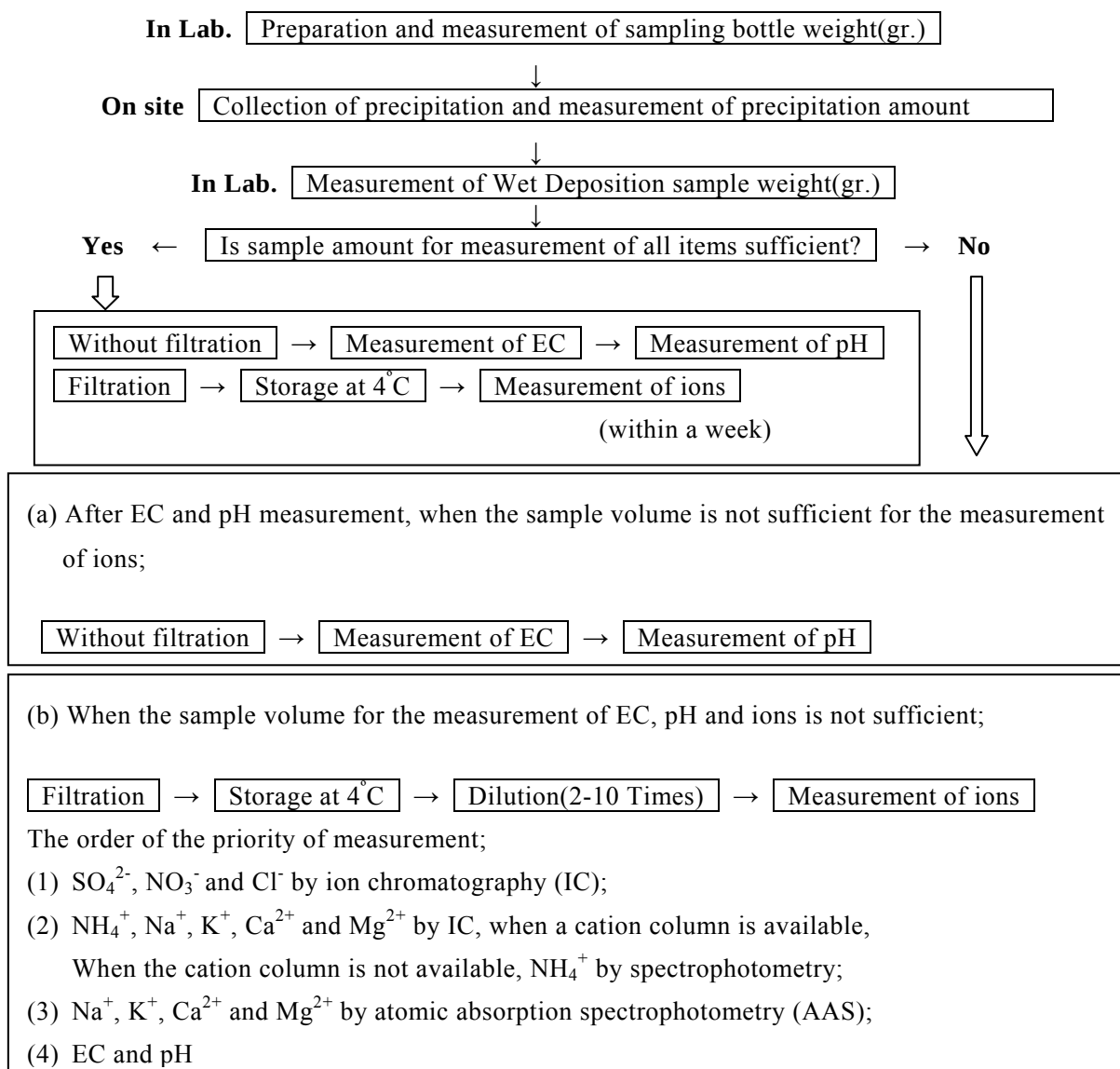


Figure 3.1 Flow chart of sampling and chemical analysis of Wet Deposition

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 Documents for Wet Deposition Monitoring in East Asia (2000) 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 spectrometry for Na⁺, K⁺, Ca²⁺, and Mg²⁺, and spectrophotometry for NH₄⁺ 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.

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 the EANET document on “Quality Assurance/Quality Control (QA/QC) Program for Wet Deposition Monitoring in East Asia” adopted at the Second Interim Scientific Advisory Group Meeting in March 2000 in details on the data management.

3.1.4 Meteorological Measurements

Wind direction/velocity, temperature, relative humidity, precipitation amount and solar radiation in relation to the sampling period of wet deposition have to be measured at the nearest meteorological station in accordance with the measurement frequencies and methods of the meteorological monitoring system of each country. The meteorological data should be submitted together with the data on wet and dry deposition (air concentration) and ecological surveys information.

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

Analysis	Method
Electric conductivity (EC)	Conductivity cell method
pH	Glass electrode method (preferably with the electrode of non-leak inner cell)
Cl^- , NO_3^- , SO_4^{2-} , NO_2^- , F^- , PO_4^{3-}	Ion chromatography (preferably with suppressor) Spectrophotometry
NH_4^+	Ion chromatography Spectrophotometry (Indophenol Blue)*
Na^+ , K^+ , Ca^{2+} , Mg^{2+}	Ion chromatography Atomic absorption/emission spectrometry
Heavy metals, Al, Hg	Atomic absorption spectrometry with graphite furnace, ICP emission spectrometry, ICP/MS, Mercury analyzer with a gold trap
Organic acids	Ion chromatography

* Indophenol Blue method was not recommended if a biocide, such as thymol, is used in the sample collection.

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.

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

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

(Na^+ : $468.3 \text{ mmol L}^{-1}$, SO_4^{2-} : $28.23 \text{ mmol L}^{-1}$, Ca^{2+} : $10.12 \text{ mmol L}^{-1}$; 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:

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

- (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:

$$\%PCL \geq 80\%, \text{ and } \%TP \geq 80\%$$

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 (R_1):

Calculated as:

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

where C : total cation equivalent concentration ($\mu\text{eq L}^{-1}$)

A : total anion equivalent concentration ($\mu\text{eq L}^{-1}$)

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

where C_{Ci} : the concentration of i-th cation ($\mu\text{mol L}^{-1}$)

V_i : the valence of the given ion

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

where C_{Ai} : the concentration of i-th anion ($\mu\text{mol L}^{-1}$)

Required criteria for R_1 :

The required ion balances of precipitation analyses are given in Table 3.2.

Table 3.2 Required criteria for R_1

$(C+A) (\mu\text{eq L}^{-1})$	$R_1 (\%)$
<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)

$$\Lambda_{\text{calc}} = \{349.7 \times 10^{(6-\text{pH})} + 80.0 \times 2c(\text{SO}_4^{2-}) + 71.5c(\text{NO}_3^-) + 76.3c(\text{Cl}^-) + 73.5c(\text{NH}_4^+) + 50.1c(\text{Na}^+) + 73.5c(\text{K}^+) + 59.8 \times 2c(\text{Ca}^{2+}) + 53.3 \times 2c(\text{Mg}^{2+})\} / 10000$$

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

Required criteria for R₂ :

The required conductivity comparison criteria are given in Table 3.3.

Table 3.3 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 indicate the followings:

- Data in hatched column (■) : Rejected monthly (annual) value by the criteria:
[%PCL<80% and/or %TP<80%]
- [--] : Precipitation was 0 mm.
- [*] : The constituent was not measured although precipitation was not 0 mm.
[%TP=0%]
- [**]: Precipitation was not measured. [%PCL=0%]
- [***]: No data or not measured
- Black column (■) : Monitoring was not carried out.

precipitation amount weighted average concentrations / precipitation

- Max: Maximum monitoring data for a year
- Min: Minimum monitoring data for a year

For concentration of ions except for H^+ ,

- [<0.2], [<0.3], [<0.4], [<1] : The values were lower than each Recommended Minimum Detectable Amount (MDA) given by the Technical Documents for Wet Deposition Monitoring in East Asia;
 - SO_4^{2-} , nss- SO_4^{2-} , NO_3^- , Cl^- , NH_4^+ , Na^+ : <1 $\mu mol L^{-1}$
 - K^+ : <0.3 $\mu mol L^{-1}$ - Mg^{2+} : <0.4 $\mu mol L^{-1}$
 - Ca^{2+} , nss- Ca^{2+} : <0.2 $\mu mol L^{-1}$

For deposition,

- [0.00] : Deposition amount was zero. (Precipitation was 0 mm.)
- [<0.01] : Calculated deposition amount was lower than 0.01mmol m^{-2} .

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 36 out of 54 sites, while weekly and 10days collection are performed at 18 sites, as presented in [Table 3.4](#). The analytical methods used in the laboratories for measuring the precipitation samples are presented in [Table 3.5](#).

Table 3.4 Sampling Frequencies for Wet Deposition Monitoring

Country	Name of sites	Characteristics of sites	Sampling Interval	Starting Month
Cambodia	Phnom Penh	Urban	Weekly	April '04
China	Haifu (Chongqing)	Urban	Daily	January '08
	Jinyunshan (Chongqing)	Rural	Daily	April '99
	Shizhan (Xi'an)	Urban	Daily	April '99
	Jiwozi (Xi'an)	Remote	Daily	April '99
	Hongwen (Xiamen)	Urban	Daily	April '99
	Xiaoping (Xiamen)	Remote	Daily	April '99
	Xiang Zhou (Zhuhai)	Urban	Daily	April '99
	Zhuxiandong (Zhuhai)	Urban	Daily	December '99
Indonesia	Jakarta	Urban	Weekly	April '98
	Serpong	Rural	Daily	April '98
	Kototabang	Remote	Weekly	April '98
	Bandung	Urban	Daily	January '99
	Maros	Rural	Weekly	January '08
Japan	Rishiri	Remote	Daily	April '98
	Ochiishi	Remote	Daily	January '03
	Tappi	Remote	Daily	April '98
	Sado-seki	Remote	Daily	April '99
	Happo	Remote	Daily	April '98
	Ijira	Rural	Weekly	June '99
	Oki	Remote	Daily	April '98
	Banryu	Urban	Weekly	May '99
	Yusuhara	Remote	Daily	December '99
	Hedo	Remote	Daily	December '99
	Ogasawara	Remote	Daily	May '99
	Tokyo	Urban	Daily	April '07
Lao PDR	Vientiane	Urban	Daily	October '03
Malaysia	Petaling Jaya	Urban	Weekly	April '98
	Tanah Rata	Remote	Weekly	January '99
	Danum Valley	Remote	Weekly	January '05
	Kuching	Urban	Weekly	January '08
Mongolia	Ulaanbaatar	Urban	Daily	August '98
	Terelj	Remote	Daily	September '98
Myanmar	Yangon	Urban	Weekly	January '07
Philippines	Metro Manila	Urban	Weekly	April '99
	Los Banos	Rural	Weekly	April '99
	Mt. Sto. Tomas	Remote	Weekly	October '06
Republic of Korea	Kanghwa	Rural	Daily	March '99
	Cheju (Kosan)	Remote	Daily	April '99
	Imsil	Rural	Daily	January '01

Table 3.4 Sampling Frequencies for Wet Deposition Monitoring (continued)

Country	Name of sites	Characteristics of sites	Sampling Interval	Starting Month
Russia	Mondy	Remote	Daily	May '99
	Listvyanka	Rural	Daily	January '00
	Irkutsk	Urban	Daily	January '00
	Primorskaya	Rural	Daily	February '02
Thailand	Bangkok	Urban	Daily	April '99
	Samutprakarn	Urban	Daily	January '04
	Pathumthani	Rural	Daily	March '99
	Khanchanaburi	Remote	Daily	April '99
	Chiang Mai (Mae Hia)	Rural	Daily	January '01
	Nakhon Ratchasima	Rural	Daily	January '06
Vietnam	Hanoi	Urban	Weekly	August '99
	Hoa Binh	Rural	Weekly	August '99
	Cuc Phuong	Remote	10 days	January '09
	Da Nang	Urban	10 days	January '09

Table 3.5 Analytical methods used for Wet Deposition Monitoring

Country	Name of sites	Characteristics of sites	Anion Analysis	Cation Analysis	
				NH ₄ ⁺	Other Cations
Cambodia	Phnom Penh	Urban	IC	IC	IC
China	Haifu (Chongqing)	Urban	IC	IC	IC
	Jinyunshan (Chongqing)	Rural	IC	IC	IC
	Shizhan (Xi'an)	Urban	IC	IC	IC
	Jiwozi (Xi'an)	Remote	IC	IC	IC
	Hongwen (Xiamen)	Urban	IC	IC	IC
	Xiaoping (Xiamen)	Remote	IC	IC	IC
	Xiang Zhou (Zhuhai)	Urban	IC	IC	IC
	Zhuxiandong (Zhuhai)	Urban	IC	IC	IC
Indonesia	Jakarta	Urban	IC	IC	IC
	Serpong	Rural	IC	IC	IC
	Kototabang	Remote	IC	IC	IC
	Bandung	Urban	IC	IC	IC
	Maros	Rural	IC	IC	IC
Japan	Rishiri	Remote	IC	IC	IC
	Ochiishi	Remote	IC	IC	IC
	Tappi	Remote	IC	IC	IC
	Sado-seki	Remote	IC	IC	IC
	Happo	Remote	IC	IC	IC
	Ijira	Rural	IC	IC	IC
	Oki	Remote	IC	IC	IC
	Banryu	Urban	IC	IC	IC
	Yusuhara	Remote	IC	IC	IC
	Hedo	Remote	IC	IC	IC
	Ogasawara	Remote	IC	IC	IC
	Tokyo	Urban	IC	IC	IC
Lao PDR	Vientiane	Urban	IC	IC	IC

Table 3.5 Analytical methods used for Wet Deposition Monitoring (continued)

Country	Name of sites	Characteristics of sites	Anion Analysis	Cation Analysis	
				NH ₄ ⁺	Other Cations
Malaysia	Petaling Jaya	Urban	IC	IC	IC
	Tanah Rata	Remote	IC	IC	IC
	Danum Valley	Remote	IC	IC	IC
	Kuching	Urban	IC	IC	IC
Mongolia	Ulaanbaatar	Urban	IC	IC	IC
	Terelj	Remote	IC	IC	IC
Myanmar	Yangon	Urban	IC	IC	IC
Philippines	Metro Manila	Urban	IC	IC	IC
	Los Banos	Rural	IC	IC	IC
	Mt. Sto. Tomas	Remote	IC	IC	IC
Republic of Korea	Kanghwa	Rural	IC	IC	IC
	Cheju (Kosan)	Remote	IC	IC	IC
	Imsil	Rural	IC	IC	IC
Russia	Mondy	Remote	IC	SP	AES
	Listvyanka	Rural	IC	SP	AES
	Irkutsk	Urban	IC	SP	AES
	Primorskaya	Rural	SP, TI, NP	SP	AAS, AES
Thailand	Bangkok	Urban	IC	IC	IC
	Samutprakarn	Urban	IC	IC	IC
	Pathumthani	Rural	IC	IC	IC
	Khanchanaburi	Remote	IC	IC	IC
	Chiang Mai (Mae Hia)	Rural	IC	IC	IC
	Nakhon Ratchasima	Rural	IC	IC	IC
Vietnam	Hanoi	Urban	IC	IC	IC
	Hoa Binh	Rural	IC	IC	IC
	Cuc Phuong	Remote	IC	IC	IC
	Da Nang	Urban	IC	IC	IC

AAS: Atomic absorption spectrometry, AES: Atomic emission spectrometry,

IC: Ion chromatography, SP: Spectrophotometry, TI: Titration, NP: Nephelometry

3.2 Results of Monitoring

The monthly summaries of each monitoring site in 2011 are shown in [Table 3.6](#) through [Table 3.55](#). The annual summaries of wet deposition monitoring in 2011 are shown in [Table 3.56](#) through [Table 3.58](#).

Results of ion balance (R_1) and the conductivity agreement (R_2) of each monitoring site are shown in [Table 3.59](#). [Figure 3.2](#) to [Figure 3.51](#) 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

R_1 and R_2 were calculated for some sites including the following items:

- Haifu, Jinyushan, Hongwen and Xiaoping (China), Hanoi and Hoa Binh (Vietnam): F^-
- Metro Manila and Los Baños (Philippines): HCO_3^- , PO_4^{3-} , Br^-
- Mondy and Primorskaya (Russia): HCO_3^- , NO_2^- , Br^-
- Listvyanka (Russia): HCO_3^- , NO_2^- , Br^- , F^-
- Irkutsk (Russia): HCO_3^- , NO_2^-
- Cuc Phuong and Da Nang (Vietnam): HCO_3^-
- Bangkok, Samutprakarn, Khanchanaburi, Chiang Mai and Nakhon Ratchasima (Thailand): PO_4^{3-}
- Pathumthani (Thailand): NO_2^- , Br^- , F^- , PO_4^{3-}

The summaries of annual data from 2000 to 2011 are shown in [Table 3.60](#) through [Table 3.84](#). The site identification codes are given in [Table 3.85](#). Note that the data in 2000 is obtained during the preparatory-phase activities of EANET. The summaries contain the precipitation amount weighted average, data completeness (%PCL, %TP) and the wet deposition amount.

The monitoring data in 2011 at Kanghwa, Cheju and Imsil in Republic of Korea will be described in Data Report 2012 because of the late submission. The monitoring data in 2011 at Vientiane site in Lao PDR could not be submitted because of the malfunction of the analytical instruments in its laboratory.

Table 3.6 Monthly results

Site: Phnom Penh

Country: Cambodia

Precipitation amount-weighted average concentration/ Precipitation amount

2011	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.
	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	11.2	10.4	19.7	16.0	49.0	12.9	7.92	34.9	34.6	7.04	0.415	6.38	1.41	19.2
Apr	13.1	12.9	18.6	6.25	48.2	3.05	2.34	5.65	5.59	<0.4	1.51	5.82	1.47	115
May	13.3	12.9	15.2	7.88	37.0	6.25	3.81	11.5	11.4	3.90	1.45	5.84	1.25	151
June	8.35	7.99	7.75	7.85	12.3	5.91	1.20	13.8	13.7	1.57	1.01	5.99	0.823	126
July	12.9	12.7	8.97	5.55	24.0	2.62	0.734	12.2	12.1	1.28	1.99	5.70	0.974	161
Aug	8.24	8.04	8.18	5.98	22.0	3.43	0.459	9.55	9.48	0.515	0.668	6.18	0.704	283
Sept	7.11	7.00	3.60	4.28	9.74	1.93	<0.3	6.94	6.90	0.811	0.849	6.07	0.484	185
Oct	6.20	6.05	5.86	4.75	14.5	2.60	<0.3	7.33	7.28	0.540	1.15	5.94	0.595	124
Nov	2.46	2.36	3.09	3.03	5.35	1.56	<0.3	2.06	2.03	0.565	0.667	6.18	0.334	105
Dec	3.49	3.35	6.64	4.63	11.5	2.35	0.435	3.32	3.27	0.946	0.490	6.31	0.530	10.0
Annual	9.04	8.83	8.85	5.89	21.9	3.55	1.15	9.30	9.23	1.22	1.10	5.96	0.820	1277
Max.	18.3	17.2	28.0	27.8	89.9	21.9	18.0	42.5	42.1	17.8	3.55	6.56	1.99	
Min.	2.22	2.09	2.37	2.06	1.50	<1	<0.3	0.821	0.789	<0.4	0.275	5.45	0.310	

Wet deposition amount

2011	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	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	0.215	0.200	0.378	0.308	0.940	0.247	0.152	0.670	0.665	0.135	<0.01
Apr	1.51	1.48	2.14	0.721	5.56	0.352	0.269	0.652	0.644	<0.01	0.174
May	2.00	1.95	2.28	1.19	5.57	0.941	0.574	1.73	1.71	0.587	0.219
June	1.05	1.00	0.974	0.986	1.54	0.742	0.151	1.73	1.72	0.197	0.127
July	2.07	2.04	1.44	0.891	3.85	0.420	0.118	1.96	1.95	0.205	0.319
Aug	2.33	2.27	2.31	1.69	6.21	0.970	0.130	2.70	2.68	0.146	0.189
Sept	1.31	1.29	0.664	0.789	1.80	0.356	0.0272	1.28	1.27	0.150	0.157
Oct	0.770	0.750	0.727	0.590	1.80	0.322	0.0359	0.910	0.903	0.0670	0.142
Nov	0.258	0.248	0.324	0.318	0.560	0.164	0.0131	0.216	0.213	0.0593	0.0699
Dec	0.0349	0.0335	0.0666	0.0464	0.115	0.0235	<0.01	0.0333	0.0327	<0.01	<0.01
Annual	11.5	11.3	11.3	7.52	28.0	4.54	1.47	11.9	11.8	1.55	1.41

Data completeness

2011	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.
	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%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	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

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m⁻² because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET

(%PCL<80% or %TP<80%)

Table 3.7 Monthly results

Site: Haifu

Country: China

Precipitation amount-weighted average concentration/ Precipitation amount

2011	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.
	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	334	333	313	40.3	381	16.3	27.2	210	210	18.4	122	3.91	16.2	17.8
Feb	441	439	237	41.6	470	31.6	32.1	158	157	25.9	202	3.69	19.5	9.70
Mar	202	202	125	22.7	154	15.8	10.3	133	132	19.4	41.9	4.38	8.29	41.1
Apr	179	179	96.2	17.0	178	9.08	12.3	79.9	79.8	10.5	101	3.99	8.50	102
May	157	155	73.9	15.7	176	31.7	10.5	65.2	64.5	13.4	32.6	4.49	5.97	93.9
June	82.9	82.5	43.1	6.37	92.5	6.81	5.86	38.0	37.8	3.91	37.7	4.42	3.69	155
July	155	155	77.5	13.3	108	2.77	9.40	96.7	96.6	8.55	45.8	4.34	6.19	45.2
Aug	124	124	38.5	12.6	76.4	4.03	11.0	38.3	38.2	6.79	86.7	4.06	5.59	32.0
Sept	113	113	61.9	17.6	92.7	4.43	4.88	50.8	50.7	4.87	96.2	4.02	6.33	64.7
Oct	88.5	88.3	52.2	8.53	91.5	3.57	4.83	38.4	38.3	4.56	61.4	4.21	4.63	135
Nov	157	156	94.8	15.0	174	7.40	12.2	74.1	73.9	9.61	69.1	4.16	7.25	78.7
Dec	240	240	221	25.2	320	5.63	15.3	136	136	10.8	99.9	4.00	12.2	35.5
Annual	142	142	83.1	14.3	145	9.87	9.38	68.5	68.2	8.61	65.9	4.18	6.55	810
Max.	664	663	765	222	1019	184	60.6	600	600	164	363	7.48	38.4	
Min.	10.6	10.6	5.16	1.41	8.87	<1	0.767	7.24	7.22	0.411	0.0331	3.44	0.630	

Wet deposition amount

2011	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	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	5.95	5.94	5.57	0.717	6.79	0.290	0.484	3.74	3.73	0.328	2.17
Feb	4.28	4.26	2.30	0.403	4.56	0.307	0.312	1.53	1.53	0.251	1.96
Mar	8.32	8.28	5.15	0.931	6.33	0.647	0.424	5.45	5.43	0.799	1.72
Apr	18.2	18.2	9.79	1.73	18.1	0.923	1.25	8.13	8.11	1.06	10.3
May	14.7	14.5	6.94	1.47	16.5	2.97	0.983	6.12	6.06	1.26	3.06
June	12.8	12.8	6.67	0.985	14.3	1.05	0.907	5.88	5.85	0.605	5.84
July	7.00	6.99	3.50	0.600	4.89	0.125	0.425	4.37	4.37	0.386	2.07
Aug	3.98	3.97	1.23	0.404	2.44	0.129	0.354	1.23	1.22	0.217	2.78
Sept	7.31	7.30	4.00	1.14	6.00	0.287	0.316	3.28	3.28	0.315	6.22
Oct	12.0	11.9	7.05	1.15	12.4	0.483	0.653	5.19	5.18	0.617	8.30
Nov	12.3	12.3	7.46	1.18	13.7	0.583	0.960	5.83	5.82	0.757	5.44
Dec	8.54	8.52	7.86	0.895	11.4	0.200	0.542	4.82	4.81	0.383	3.55
Annual	115	115	67.4	11.6	117	7.99	7.60	55.5	55.3	6.98	53.4

Data completeness

2011	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.
	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%PCL
Jan	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
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mar	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
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	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
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	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	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	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	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

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m⁻² because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET

(%PCL<80% or %TP<80%)

Table 3.8 Monthly results

Site: Jinyunshan

Country: China

Precipitation amount-weighted average concentration/ Precipitation amount

2011	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.
	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	402	401	282	34.0	338	15.5	24.6	193	192	13.1	247	3.61	21.7	30.4
Feb	511	509	225	40.3	357	31.3	33.4	214	214	18.1	195	3.71	23.5	11.1
Mar	220	219	115	23.8	136	12.6	11.9	116	116	11.9	137	3.86	10.9	43.2
Apr	156	155	68.9	10.8	115	6.20	8.95	42.7	42.6	4.74	143	3.85	8.28	115
May	116	116	53.7	8.33	96.7	6.58	9.85	50.3	50.1	6.02	69.5	4.16	5.32	135
June	67.5	67.4	30.6	5.19	40.4	1.93	16.3	29.7	29.6	2.60	39.4	4.40	3.36	123
July	150	149	66.9	10.8	91.4	12.4	5.60	104	104	6.50	67.0	4.17	6.56	41.0
Aug	110	110	60.9	7.51	78.0	1.51	5.74	46.0	46.0	4.81	120	3.92	6.85	27.3
Sept	113	113	56.0	9.87	58.6	2.38	3.79	72.0	72.0	3.47	104	3.98	6.25	73.8
Oct	88.5	88.3	52.2	8.53	91.5	3.57	4.83	38.4	38.3	4.56	61.4	4.21	4.63	135
Nov	157	156	94.8	15.0	174	7.40	12.2	74.1	73.9	9.61	69.1	4.16	7.25	78.7
Dec	240	240	221	25.2	320	5.63	15.3	136	136	10.8	99.9	4.00	12.2	35.5
Annual	141	140	77.5	11.9	117	6.12	10.4	65.1	64.9	6.13	90.9	4.04	7.09	848
Max.	1720	1715	881	124	1234	78.7	139	688	686	64.6	832	6.48	71.7	
Min.	10.6	10.6	5.16	1.69	4.99	<1	<0.3	7.24	7.22	0.411	0.331	3.08	0.630	

Wet deposition amount

2011	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	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	12.2	12.2	8.57	1.03	10.3	0.471	0.747	5.86	5.85	0.398	7.50
Feb	5.67	5.65	2.50	0.448	3.97	0.348	0.371	2.38	2.37	0.201	2.17
Mar	9.50	9.47	4.98	1.03	5.87	0.543	0.514	5.01	5.00	0.515	5.93
Apr	17.8	17.8	7.89	1.24	13.2	0.709	1.03	4.89	4.87	0.543	16.3
May	15.7	15.6	7.25	1.12	13.0	0.888	1.33	6.79	6.77	0.813	9.38
June	8.29	8.27	3.76	0.636	4.96	0.237	1.99	3.64	3.64	0.319	4.83
July	6.14	6.11	2.74	0.443	3.75	0.508	0.230	4.27	4.26	0.267	2.75
Aug	3.01	3.01	1.66	0.205	2.13	0.0412	0.157	1.26	1.26	0.131	3.28
Sept	8.32	8.31	4.13	0.729	4.32	0.176	0.280	5.32	5.31	0.256	7.67
Oct	12.0	11.9	7.05	1.15	12.4	0.483	0.653	5.19	5.18	0.617	8.30
Nov	12.3	12.3	7.46	1.18	13.7	0.583	0.960	5.83	5.82	0.757	5.44
Dec	8.54	8.52	7.86	0.895	11.4	0.200	0.542	4.82	4.81	0.383	3.55
Annual	119	119	65.8	10.1	98.8	5.19	8.80	55.2	55.1	5.20	77.1

Data completeness

2011	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.
	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%PCL
Jan	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
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	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	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	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	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	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	100
Annual	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

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m⁻² because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET

(%PCL<80% or %TP<80%)

Table 3.9 Monthly results

Site: Shizhan

Country: China

Precipitation amount-weighted average concentration/ Precipitation amount

2011	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.
	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	436	435	38.5	18.7	48.2	10.4	28.0	309	309	28.1	0.0229	7.64	16.0	9.70
Apr	--	--	--	--	--	--	--	--	--	--	--	--	--	0
May	126	123	24.5	24.6	76.4	45.1	9.86	114	113	21.8	0.164	6.78	4.56	83.5
June	169	169	31.2	29.2	32.5	8.81	26.7	193	193	17.9	0.0817	7.09	6.67	30.0
July	88.5	87.3	16.1	14.1	44.9	19.8	12.2	87.3	86.9	13.3	0.218	6.66	4.16	86.7
Aug	136	135	18.0	4.22	39.3	16.1	39.8	121	121	8.60	0.618	6.21	5.01	66.4
Sept	69.5	69.3	9.75	4.54	45.6	3.58	7.88	52.2	52.1	5.17	0.806	6.09	2.63	302
Oct	116	116	26.9	8.18	152	3.67	9.91	61.6	61.5	7.54	0.473	6.33	4.92	30.7
Nov	214	210	31.1	14.3	153	66.3	11.6	147	146	8.44	0.365	6.44	8.70	46.5
Dec	441	433	99.7	51.6	46.8	138	5.68	496	493	5.14	0.347	6.46	18.1	3.40
Annual	110	109	17.5	10.7	60.8	17.7	13.4	91.2	90.8	9.94	0.535	6.27	4.31	659
Max.	470	469	99.7	51.6	377	163	64.4	496	493	41.8	2.40	7.64	18.1	
Min.	21.6	21.6	3.42	2.82	<1	<1	<0.3	12.5	12.5	<0.4	0.0229	5.62	1.06	

Wet deposition amount

2011	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	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	4.23	4.22	0.374	0.181	0.468	0.101	0.272	3.00	2.99	0.272	<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	10.5	10.3	2.04	2.05	6.38	3.77	0.823	9.48	9.40	1.82	0.0137
June	5.08	5.06	0.937	0.875	0.974	0.264	0.801	5.80	5.79	0.537	<0.01
July	7.67	7.57	1.40	1.22	3.89	1.71	1.06	7.57	7.54	1.15	0.0189
Aug	9.01	8.94	1.19	0.280	2.61	1.07	2.64	8.06	8.03	0.571	0.0410
Sept	21.0	20.9	2.94	1.37	13.8	1.08	2.38	15.8	15.7	1.56	0.243
Oct	3.55	3.55	0.827	0.251	4.66	0.113	0.304	1.89	1.89	0.231	0.0145
Nov	9.93	9.74	1.45	0.664	7.11	3.08	0.540	6.85	6.78	0.392	0.0170
Dec	1.50	1.47	0.339	0.175	0.159	0.470	0.0193	1.69	1.67	0.0175	<0.01
Annual	72.5	71.8	11.5	7.07	40.0	11.7	8.83	60.1	59.8	6.55	0.352

Data completeness

2011	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.
	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%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	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

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m⁻² because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET

(%PCL<80% or %TP<80%)

Table 3.10 Monthly results

Site: Jiwozi

Country: China

Precipitation amount-weighted average concentration/ Precipitation amount

2011	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.
	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	80.3	79.8	10.3	10.8	49.9	8.44	12.7	128	128	13.9	0.0388	7.41	4.10	10.3
May	63.9	63.0	5.84	18.1	33.0	14.7	9.69	134	134	18.1	0.161	6.79	4.08	171
June	56.4	55.7	13.1	18.4	22.1	11.6	13.6	61.6	61.4	14.0	0.389	6.41	2.43	116
July	37.5	37.4	9.63	4.85	<1	1.64	9.74	47.7	47.7	7.23	3.66	5.44	1.61	179
Aug	49.4	49.3	4.67	5.68	3.23	<1	2.91	54.7	54.7	3.85	1.42	5.85	1.83	67.4
Sept	81.5	81.0	8.62	9.04	35.0	8.07	4.36	118	118	7.41	0.148	6.83	3.89	362
Oct	44.2	43.8	3.39	14.7	11.8	6.43	2.77	40.1	39.9	4.09	3.38	5.47	1.58	65.0
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Annual	62.6	62.1	8.24	11.1	23.1	7.86	7.28	91.6	91.4	9.65	1.13	5.95	3.04	971
Max.	161	160	55.7	105	149	35.4	30.4	269	269	34.4	14.5	7.91	7.60	
Min.	8.80	8.67	<1	<1	<1	<1	1.36	14.1	14.1	<0.4	0.0123	4.84	0.528	

Wet deposition amount

2011	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	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	0.827	0.822	0.106	0.112	0.514	0.0870	0.131	1.32	1.31	0.143	<0.01
May	11.0	10.8	1.00	3.10	5.65	2.52	1.66	22.9	22.9	3.10	0.0276
June	6.55	6.47	1.52	2.14	2.57	1.35	1.58	7.15	7.13	1.62	0.0452
July	6.71	6.69	1.72	0.867	0.0827	0.294	1.74	8.55	8.54	1.29	0.655
Aug	3.33	3.32	0.315	0.383	0.217	0.0420	0.196	3.69	3.69	0.259	0.0954
Sept	29.5	29.3	3.12	3.27	12.7	2.92	1.58	42.7	42.6	2.68	0.0535
Oct	2.87	2.85	0.221	0.956	0.766	0.418	0.180	2.60	2.59	0.266	0.220
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	60.7	60.3	8.01	10.8	22.5	7.63	7.07	88.9	88.8	9.37	1.10

Data completeness

2011	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.
	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%PCL
Jan	**	**	**	**	**	**	**	**	**	**	**	**	**	0
Feb	**	**	**	**	**	**	**	**	**	**	**	**	**	0
Mar	**	**	**	**	**	**	**	**	**	**	**	**	**	0
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	75.3

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m⁻² because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET

(%PCL<80% or %TP<80%)

Table 3.11 Monthly results

Site: Hongwen

Country: China

Precipitation amount-weighted average concentration/ Precipitation amount

2011	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.
	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	66.3	65.3	40.8	31.0	63.1	16.0	4.31	21.7	21.3	3.73	50.5	4.30	4.66	19.4
Mar	100.0	97.2	71.8	59.8	136	45.1	7.18	25.2	24.2	7.64	108	3.97	7.69	32.1
Apr	112	110	92.4	49.0	138	21.2	8.21	50.9	50.4	9.66	70.8	4.15	6.00	8.21
May	51.4	50.3	52.7	25.5	52.1	17.8	3.24	14.1	13.7	3.76	47.0	4.33	3.43	93.0
June	34.5	32.2	18.5	51.9	35.5	38.8	2.23	10.5	9.71	5.50	16.0	4.80	2.55	149
July	17.3	16.1	3.71	25.2	8.95	19.4	1.66	19.1	18.7	7.71	4.31	5.37	1.23	170
Aug	19.5	19.1	22.9	7.81	60.9	6.36	1.33	5.29	5.15	0.932	22.5	4.65	1.54	167
Sept	49.3	48.7	49.6	25.7	70.6	9.70	1.98	8.45	8.24	2.33	60.3	4.22	3.75	22.1
Oct	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Nov	20.7	20.3	15.4	12.5	30.5	7.08	0.617	16.5	16.3	2.61	7.65	5.12	1.13	184
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Annual	31.3	30.2	23.6	25.4	42.3	18.1	1.99	14.1	13.7	4.22	22.5	4.65	2.18	843
Max.	112	110	92.4	258	148	202	9.75	50.9	50.4	22.6	129	7.33	8.54	
Min.	6.28	6.00	1.87	6.11	<1	2.31	<0.3	2.08	1.90	0.500	0.0468	3.89	0.695	

Wet deposition amount

2011	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	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	1.29	1.27	0.790	0.602	1.22	0.311	0.0835	0.420	0.413	0.0722	0.979
Mar	3.21	3.12	2.30	1.92	4.36	1.45	0.231	0.808	0.777	0.245	3.46
Apr	0.916	0.905	0.759	0.402	1.13	0.174	0.0674	0.418	0.414	0.0793	0.581
May	4.78	4.68	4.90	2.37	4.85	1.66	0.301	1.31	1.27	0.350	4.37
June	5.13	4.78	2.75	7.72	5.27	5.77	0.332	1.57	1.44	0.817	2.38
July	2.94	2.74	0.629	4.28	1.52	3.29	0.282	3.24	3.17	1.31	0.733
Aug	3.25	3.19	3.82	1.30	10.2	1.06	0.222	0.881	0.858	0.155	3.74
Sept	1.09	1.08	1.10	0.569	1.56	0.214	0.0437	0.187	0.182	0.0516	1.33
Oct	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nov	3.80	3.72	2.82	2.30	5.59	1.30	0.113	3.02	3.00	0.480	1.40
Dec	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	26.4	25.5	19.9	21.5	35.7	15.2	1.68	11.9	11.5	3.56	19.0

Data completeness

2011	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.
	%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	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
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

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m⁻² because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET

(%PCL<80% or %TP<80%)

Table 3.12 Monthly results

Site: Xiaoping

Country: China

Precipitation amount-weighted average concentration/ Precipitation amount

2011	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.
	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	56.3	55.5	47.8	24.8	66.7	13.6	12.1	12.1	11.8	3.39	70.6	4.15	4.75	33.7
Mar	19.4	18.8	17.3	9.82	30.8	9.89	1.92	14.2	13.9	2.27	20.8	4.68	1.76	38.1
Apr	107	105	122	50.1	316	24.0	10.7	49.1	48.6	5.25	46.9	4.33	5.90	18.7
May	32.8	32.3	39.2	16.4	58.1	7.33	5.44	14.1	13.9	1.60	22.7	4.64	2.11	221
June	21.7	20.9	16.5	19.7	31.6	13.1	0.744	3.24	2.95	1.87	14.8	4.83	1.75	410
July	16.9	16.0	6.55	20.9	13.7	15.0	3.60	4.84	4.52	2.64	15.8	4.80	1.59	363
Aug	27.9	27.5	32.3	9.24	54.4	6.75	1.92	22.0	21.8	1.64	1.44	5.84	1.61	263
Sept	75.5	74.3	63.2	44.4	156	20.5	4.65	19.5	19.1	4.35	56.1	4.25	5.41	24.7
Oct	20.5	20.1	25.5	13.4	26.2	6.92	1.89	39.5	39.4	5.75	1.12	5.95	1.45	49.8
Nov	8.74	8.59	8.26	4.73	<1	2.55	0.743	15.1	15.1	1.72	6.35	5.20	0.507	109
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Annual	24.9	24.2	22.6	17.1	38.9	10.9	2.80	11.7	11.5	2.21	15.3	4.82	1.82	1531
Max.	115	114	135	70.9	334	45.8	29.2	81.3	81.0	6.02	100	6.59	6.84	
Min.	5.21	5.21	2.74	1.41	<1	<1	<0.3	1.30	1.18	<0.4	0.257	4.00	0.417	

Wet deposition amount

2011	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	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	1.90	1.87	1.61	0.838	2.25	0.459	0.407	0.407	0.397	0.114	2.38
Mar	0.738	0.715	0.661	0.374	1.17	0.377	0.0733	0.539	0.531	0.0866	0.794
Apr	2.00	1.97	2.28	0.937	5.91	0.449	0.200	0.919	0.910	0.0984	0.878
May	7.23	7.13	8.65	3.62	12.8	1.62	1.20	3.11	3.08	0.352	5.00
June	8.89	8.56	6.76	8.07	13.0	5.38	0.305	1.33	1.21	0.767	6.06
July	6.14	5.82	2.38	7.59	4.98	5.43	1.31	1.76	1.64	0.959	5.73
Aug	7.34	7.24	8.51	2.43	14.3	1.78	0.504	5.78	5.74	0.431	0.378
Sept	1.87	1.84	1.56	1.10	3.85	0.506	0.115	0.483	0.472	0.108	1.39
Oct	1.02	0.999	1.27	0.665	1.31	0.345	0.0939	1.97	1.96	0.286	0.0559
Nov	0.952	0.935	0.900	0.515	<0.01	0.277	0.0808	1.65	1.64	0.187	0.692
Dec	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	38.1	37.1	34.6	26.1	59.6	16.6	4.29	17.9	17.6	3.39	23.4

Data completeness

2011	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.
	%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	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

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m⁻² because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET

(%PCL<80% or %TP<80%)

Table 3.13 Monthly results

Site: Xiang Zhou

Country: China

Precipitation amount-weighted average concentration/ Precipitation amount

2011	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.
	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	87.8	85.8	71.6	59.2	96.5	33.0	9.29	41.4	40.7	5.64	92.4	4.03	8.46	10.5
Feb	67.5	65.0	46.5	52.0	86.3	41.5	10.2	13.5	12.6	4.67	77.6	4.11	6.72	22.0
Mar	52.6	50.6	63.0	35.0	86.0	34.0	7.61	50.0	49.2	5.69	30.1	4.52	5.55	21.5
Apr	41.4	38.7	58.6	33.9	75.2	44.7	6.77	31.9	31.0	5.83	66.7	4.18	6.12	22.5
May	14.4	13.1	14.6	17.2	21.5	22.1	4.15	13.4	12.9	2.58	4.94	5.31	2.28	198
June	9.03	6.90	7.59	29.3	9.97	35.3	3.43	19.9	19.1	4.52	3.71	5.43	1.16	438
July	21.4	19.7	30.7	26.7	30.4	29.1	4.60	38.1	37.5	4.25	6.19	5.21	2.02	95.5
Aug	4.85	4.01	7.41	9.77	10.3	13.9	2.17	11.3	11.0	2.21	1.77	5.75	0.603	156
Sept	27.3	22.7	23.4	84.6	30.1	76.1	5.00	11.8	10.2	10.1	11.6	4.93	2.79	141
Oct	8.37	7.20	9.42	16.6	10.5	19.5	1.65	6.98	6.56	3.43	7.90	5.10	1.21	86.5
Nov	12.0	11.5	13.7	8.32	19.7	7.65	1.76	7.39	7.22	2.25	6.98	5.16	1.12	68.0
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Annual	15.5	13.5	15.7	29.8	20.7	32.3	3.74	17.5	16.8	4.39	8.81	5.05	1.84	1259
Max.	94.5	93.1	163	305	207	261	22.8	183	182	27.6	97.7	6.98	10.2	
Min.	1.70	1.36	2.30	3.90	1.70	4.30	1.28	3.24	2.75	0.820	0.105	4.01	0.487	

Wet deposition amount

2011	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	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	0.921	0.901	0.752	0.621	1.01	0.347	0.0976	0.435	0.427	0.0592	0.970
Feb	1.48	1.43	1.02	1.14	1.90	0.914	0.225	0.296	0.277	0.103	1.71
Mar	1.13	1.09	1.35	0.754	1.85	0.731	0.164	1.07	1.06	0.122	0.646
Apr	0.931	0.871	1.32	0.763	1.69	1.01	0.152	0.718	0.696	0.131	1.50
May	2.85	2.58	2.89	3.40	4.25	4.37	0.819	2.64	2.55	0.509	0.976
June	3.95	3.02	3.32	12.8	4.37	15.4	1.50	8.72	8.38	1.98	1.63
July	2.05	1.88	2.93	2.55	2.90	2.78	0.439	3.64	3.58	0.406	0.591
Aug	0.756	0.626	1.16	1.52	1.60	2.16	0.339	1.76	1.71	0.345	0.277
Sept	3.84	3.20	3.30	11.9	4.25	10.7	0.705	1.67	1.43	1.42	1.64
Oct	0.724	0.623	0.814	1.44	0.912	1.69	0.143	0.604	0.568	0.296	0.683
Nov	0.814	0.783	0.929	0.566	1.34	0.520	0.119	0.502	0.491	0.153	0.475
Dec	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	19.5	17.0	19.8	37.5	26.1	40.7	4.71	22.1	21.2	5.53	11.1

Data completeness

2011	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.
	%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
Annual	100	100	100	100	100	100	100	100	100	100	100	100	100	100

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m⁻² because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET

(%PCL<80% or %TP<80%)

Table 3.14 Monthly results

Site: Zhuxiandong

Country: China

Precipitation amount-weighted average concentration/ Precipitation amount

2011	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.
	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	77.7	76.0	57.9	57.9	102	27.0	7.68	35.3	34.7	5.36	76.0	4.12	7.28	19.0
Feb	65.7	63.5	44.5	44.5	111	36.5	10.5	31.7	30.9	6.58	22.9	4.64	4.75	16.0
Mar	68.0	66.0	76.9	76.9	118	32.4	7.74	30.4	29.7	5.44	49.3	4.31	6.07	9.00
Apr	67.1	63.6	95.6	95.6	91.0	58.8	6.96	40.0	38.7	9.62	50.0	4.30	5.30	33.0
May	12.3	11.3	10.6	10.6	18.6	16.8	5.78	13.1	12.8	3.46	9.73	5.01	1.63	176
June	14.7	11.5	10.5	10.5	14.9	53.5	5.97	23.5	22.3	6.77	15.2	4.82	1.34	403
July	18.3	16.7	23.0	23.0	30.2	25.7	9.73	12.7	12.1	4.27	6.39	5.19	1.97	102
Aug	10.6	6.75	10.9	10.9	13.0	67.2	8.46	27.3	25.8	13.5	6.58	5.18	1.02	89.0
Sept	30.9	26.1	24.3	24.3	21.9	80.3	4.33	12.1	10.3	10.7	33.4	4.48	3.35	161
Oct	13.2	12.1	13.6	13.6	17.4	19.3	2.08	11.5	11.1	3.87	4.36	5.36	1.14	83.0
Nov	19.3	18.7	25.2	25.2	39.3	10.0	2.48	12.5	12.3	2.73	7.98	5.10	1.48	55.5
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Annual	20.4	17.7	18.8	18.8	24.8	45.0	5.92	19.1	18.1	6.75	16.7	4.78	1.99	1146
Max.	98.8	96.9	127	127	271	307	94.6	112	106	69.9	97.7	6.89	7.84	
Min.	5.00	<1	4.35	4.35	1.11	3.91	1.28	3.74	3.53	1.23	0.129	4.01	0.633	

Wet deposition amount

2011	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	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	1.48	1.44	1.10	1.10	1.95	0.513	0.146	0.670	0.659	0.102	1.44
Feb	1.05	1.02	0.712	0.712	1.78	0.585	0.168	0.507	0.494	0.105	0.367
Mar	0.612	0.594	0.692	0.692	1.06	0.292	0.0697	0.274	0.267	0.0490	0.444
Apr	2.21	2.10	3.15	3.15	3.00	1.94	0.230	1.32	1.28	0.317	1.65
May	2.16	1.98	1.86	1.86	3.27	2.95	1.01	2.31	2.24	0.607	1.71
June	5.94	4.64	4.25	4.25	6.01	21.5	2.41	9.45	8.99	2.73	6.11
July	1.86	1.70	2.34	2.34	3.07	2.61	0.988	1.29	1.23	0.434	0.648
Aug	0.940	0.601	0.969	0.969	1.15	5.98	0.753	2.43	2.30	1.20	0.586
Sept	4.98	4.20	3.91	3.91	3.53	12.9	0.698	1.94	1.66	1.72	5.37
Oct	1.10	1.00	1.13	1.13	1.44	1.60	0.173	0.952	0.918	0.321	0.362
Nov	1.07	1.04	1.40	1.40	2.18	0.556	0.138	0.693	0.681	0.151	0.443
Dec	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	23.4	20.3	21.5	21.5	28.4	51.5	6.78	21.8	20.7	7.74	19.1

Data completeness

2011	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.
	%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
Annual	100	100	100	100	100	100	100	100	100	100	100	100	100	100

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m⁻² because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET

(%PCL<80% or %TP<80%)

Table 3.15 Monthly results

Site: Jakarta

Country: Indonesia

Precipitation amount-weighted average concentration/ Precipitation amount

2011	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.
	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	17.4	16.2	14.7	47.3	8.10	21.0	2.00	6.26	5.80	4.24	8.70	5.06	1.06	89.7
Feb	18.1	16.9	12.5	11.5	17.0	20.3	2.65	5.09	4.65	2.83	17.6	4.75	1.32	116
Mar	25.4	25.2	20.3	16.7	47.9	4.17	2.24	14.4	14.3	1.49	18.8	4.73	1.38	134
Apr	43.7	43.5	65.4	23.7	20.0	3.90	0.700	4.70	4.62	0.400	61.7	4.21	2.70	8.70
May	30.1	29.8	32.2	10.00	40.8	5.12	1.85	4.06	3.95	4.71	35.6	4.45	2.37	218
June	13.9	13.5	9.29	10.7	30.7	6.52	1.12	7.43	7.29	1.27	2.95	5.53	0.770	31.3
July	82.9	80.8	99.6	58.5	71.0	35.8	8.16	24.1	23.4	12.6	72.6	4.14	6.30	46.4
Aug	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Sept	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Oct	22.9	22.2	34.5	28.1	30.4	12.1	3.76	28.9	28.6	3.60	12.4	4.90	1.88	63.3
Nov	51.8	51.2	62.0	16.4	56.9	9.50	2.29	21.4	21.2	3.03	68.4	4.16	4.76	93.7
Dec	20.1	19.4	18.6	14.1	19.5	11.3	1.04	9.37	9.13	1.83	19.3	4.71	1.57	189
Annual	28.7	28.0	29.8	19.4	33.7	11.7	2.28	11.1	10.8	3.45	28.2	4.55	2.17	990
Max.	99.3	96.6	123	71.2	99.2	44.1	11.3	37.8	37.5	21.1	117	5.53	7.85	
Min.	13.5	11.7	4.53	7.77	5.60	2.60	0.420	1.10	1.00	0.400	2.95	3.93	0.770	

Wet deposition amount

2011	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	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	1.56	1.45	1.32	4.24	0.727	1.89	0.179	0.561	0.521	0.380	0.780
Feb	2.10	1.96	1.45	1.34	1.97	2.36	0.307	0.591	0.540	0.328	2.05
Mar	3.41	3.38	2.72	2.24	6.43	0.559	0.301	1.93	1.92	0.200	2.52
Apr	0.380	0.378	0.569	0.206	0.174	0.0339	<0.01	0.0409	0.0402	<0.01	0.536
May	6.54	6.48	7.00	2.17	8.87	1.11	0.402	0.883	0.859	1.03	7.74
June	0.436	0.423	0.291	0.333	0.960	0.204	0.0351	0.233	0.228	0.0398	0.0924
July	3.85	3.75	4.62	2.71	3.30	1.66	0.379	1.12	1.08	0.585	3.37
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	1.45	1.40	2.19	1.78	1.93	0.765	0.238	1.83	1.81	0.228	0.788
Nov	4.85	4.80	5.81	1.54	5.33	0.890	0.214	2.00	1.99	0.284	6.41
Dec	3.80	3.68	3.52	2.67	3.70	2.14	0.197	1.78	1.73	0.346	3.66
Annual	28.4	27.7	29.5	19.2	33.4	11.6	2.26	11.0	10.7	3.42	27.9

Data completeness

2011	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.
	%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	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

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m⁻² because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET

(%PCL<80% or %TP<80%)

Table 3.16 Monthly results

Site: Serpong

Country: Indonesia

Precipitation amount-weighted average concentration/ Precipitation amount

2011	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.
	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	22.3	21.6	8.10	16.6	19.8	12.0	1.86	4.93	4.67	2.94	17.6	4.75	1.46	120
Feb	37.0	36.5	20.4	13.9	45.5	7.58	3.47	6.27	6.10	3.51	32.4	4.49	2.43	67.2
Mar	21.5	21.2	33.2	10.6	42.6	5.11	2.12	8.35	8.24	3.37	22.9	4.64	1.91	68.0
Apr	47.3	47.1	43.3	12.8	85.7	4.50	3.78	11.2	11.1	3.02	37.8	4.42	3.27	53.4
May	38.5	37.9	45.6	15.6	91.9	8.63	4.67	12.7	12.5	3.92	14.7	4.83	2.37	73.6
June	31.8	30.5	36.9	16.1	86.0	21.7	4.51	7.33	6.86	4.01	5.27	5.28	1.94	65.8
July	40.2	39.3	49.3	22.1	88.2	14.9	2.34	6.92	6.77	1.59	20.9	4.68	2.71	76.0
Aug	38.2	37.1	52.2	25.2	81.5	18.7	3.40	16.9	16.5	1.70	12.9	4.89	2.53	3.60
Sept	62.2	61.1	87.2	27.9	109	17.7	5.63	26.5	26.1	5.10	37.4	4.43	4.75	33.4
Oct	24.1	23.2	24.8	18.9	60.9	14.7	4.11	12.8	12.5	3.22	0.910	6.04	1.58	80.8
Nov	41.1	40.9	51.1	9.93	67.0	4.21	2.96	19.0	18.9	3.01	26.4	4.58	2.93	145
Dec	15.2	14.9	12.2	7.12	24.5	3.83	0.683	5.32	5.24	1.47	7.00	5.15	0.986	43.4
Annual	33.6	33.0	35.5	15.1	62.2	10.1	3.15	10.9	10.7	3.12	19.7	4.70	2.31	830
Max.	205	197	320	122	359	136	32.5	116	113	14.9	93.3	7.18	11.4	
Min.	4.00	3.69	1.10	4.30	<1	1.10	<0.3	<0.2	<0.2	<0.4	0.0661	4.03	0.381	

Wet deposition amount

2011	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	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	2.68	2.59	0.973	2.00	2.38	1.44	0.224	0.593	0.562	0.353	2.12
Feb	2.49	2.45	1.37	0.934	3.06	0.510	0.233	0.421	0.410	0.236	2.18
Mar	1.46	1.44	2.26	0.722	2.90	0.348	0.144	0.568	0.560	0.229	1.55
Apr	2.53	2.51	2.31	0.684	4.58	0.240	0.202	0.599	0.593	0.161	2.02
May	2.83	2.79	3.36	1.15	6.76	0.635	0.344	0.937	0.923	0.289	1.08
June	2.09	2.01	2.43	1.06	5.66	1.43	0.297	0.482	0.451	0.264	0.347
July	3.06	2.99	3.75	1.68	6.71	1.13	0.178	0.526	0.514	0.121	1.59
Aug	0.138	0.133	0.188	0.0907	0.293	0.0673	0.0122	0.0608	0.0594	<0.01	0.0464
Sept	2.08	2.04	2.91	0.931	3.65	0.591	0.188	0.884	0.872	0.170	1.25
Oct	1.94	1.87	2.01	1.53	4.92	1.19	0.332	1.04	1.01	0.260	0.0735
Nov	5.94	5.91	7.39	1.43	9.68	0.609	0.427	2.74	2.73	0.435	3.82
Dec	0.658	0.648	0.528	0.309	1.06	0.166	0.0296	0.231	0.227	0.0638	0.304
Annual	27.9	27.4	29.5	12.5	51.6	8.36	2.61	9.08	8.91	2.59	16.4

Data completeness

2011	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.
	%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

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m⁻² because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET

(%PCL<80% or %TP<80%)

Table 3.17 Monthly results

Site: Kototabang

Country: Indonesia

Precipitation amount-weighted average concentration/ Precipitation amount

2011	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.
	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	11.0	10.4	3.46	14.1	25.9	9.18	4.29	6.17	5.97	1.73	5.25	5.28	0.599	112
Feb	8.44	8.10	7.43	28.6	16.0	5.66	2.07	3.35	3.22	0.816	8.62	5.06	0.533	115
Mar	5.89	5.34	8.83	13.6	7.88	9.12	1.40	6.53	6.33	0.928	4.80	5.32	0.588	216
Apr	6.66	6.44	2.32	13.8	3.95	3.75	2.57	3.76	3.68	0.571	29.4	4.53	1.29	200
May	6.51	6.08	1.31	10.8	3.51	7.19	7.15	9.74	9.59	1.27	8.79	5.06	0.798	172
June	9.92	9.34	<1	20.2	<1	9.70	7.50	32.7	32.5	1.83	1.00	6.00	0.980	45.0
July	7.00	6.48	<1	11.2	<1	8.62	4.17	20.2	20.0	1.51	1.02	5.99	0.795	82.5
Aug	14.4	13.8	9.07	16.7	23.3	11.0	5.21	10.9	10.7	1.82	7.69	5.11	1.13	278
Sept	7.23	6.87	4.59	13.8	22.4	5.91	3.04	3.11	3.01	<0.4	6.77	5.17	0.823	159
Oct	8.23	7.91	6.21	9.74	7.20	5.42	1.52	1.12	1.000	1.06	4.92	5.31	0.431	260
Nov	4.72	4.63	5.55	8.90	2.38	1.48	1.78	1.80	1.77	0.523	9.39	5.03	0.484	342
Dec	5.63	5.17	2.32	18.1	6.60	7.72	10.8	2.11	1.94	0.449	11.2	4.95	0.689	214
Annual	7.77	7.38	5.05	13.9	10.0	6.54	3.96	5.90	5.76	0.950	9.22	5.04	0.742	2193
Max.	23.8	22.8	28.1	66.9	68.2	95.4	51.9	101	99.5	11.9	50.1	6.10	3.29	
Min.	2.76	<1	<1	3.00	<1	<1	0.340	<0.2	<0.2	<0.4	0.794	4.30	0.300	

Wet deposition amount

2011	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	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	1.22	1.16	0.386	1.57	2.89	1.02	0.479	0.688	0.665	0.193	0.586
Feb	0.970	0.931	0.854	3.29	1.84	0.651	0.238	0.385	0.371	0.0938	0.992
Mar	1.27	1.15	1.90	2.94	1.70	1.97	0.303	1.41	1.36	0.200	1.03
Apr	1.33	1.29	0.462	2.76	0.788	0.748	0.512	0.751	0.735	0.114	5.87
May	1.12	1.05	0.226	1.86	0.604	1.24	1.23	1.68	1.65	0.218	1.51
June	0.446	0.420	<0.01	0.911	<0.01	0.437	0.338	1.47	1.46	0.0824	0.0450
July	0.578	0.535	<0.01	0.923	<0.01	0.711	0.344	1.67	1.65	0.125	0.0840
Aug	4.01	3.82	2.52	4.63	6.47	3.06	1.45	3.03	2.97	0.505	2.13
Sept	1.15	1.09	0.729	2.20	3.56	0.939	0.483	0.495	0.478	<0.01	1.08
Oct	2.14	2.05	1.61	2.53	1.87	1.41	0.394	0.290	0.259	0.276	1.28
Nov	1.61	1.58	1.90	3.04	0.815	0.505	0.610	0.615	0.604	0.179	3.21
Dec	1.21	1.11	0.497	3.88	1.41	1.65	2.31	0.451	0.416	0.0961	2.39
Annual	17.1	16.2	11.1	30.5	21.9	14.3	8.69	12.9	12.6	2.08	20.2

Data completeness

2011	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.
	%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

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m⁻² because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET

(%PCL<80% or %TP<80%)

Table 3.18 Monthly results

Site: Bandung

Country: Indonesia

Precipitation amount-weighted average concentration/ Precipitation amount

2011	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.
	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	14.3	13.9	9.10	8.16	13.8	7.36	4.10	13.3	13.1	3.11	3.13	5.50	0.976	60.1
Feb	16.7	16.2	10.2	6.54	26.6	7.51	3.98	11.8	11.6	2.95	0.739	6.13	0.995	64.7
Mar	36.5	35.8	23.0	12.7	60.9	12.8	5.54	24.9	24.6	9.51	0.534	6.27	1.85	59.9
Apr	29.5	29.0	20.1	8.04	38.2	8.10	3.42	18.2	18.0	5.44	8.03	5.10	1.56	261
May	11.7	11.0	25.5	11.7	71.1	11.5	4.11	13.6	13.3	3.87	0.124	6.91	1.51	157
June	35.0	34.4	33.7	12.0	74.2	9.54	3.85	15.2	15.0	3.41	10.7	4.97	2.06	130
July	81.8	79.1	62.7	30.1	131	44.6	13.0	44.9	43.9	16.7	12.8	4.89	4.23	64.3
Aug	27.7	24.9	53.3	36.0	142	46.5	17.7	52.4	51.4	15.4	0.0316	7.50	3.81	15.0
Sept	52.3	51.1	50.4	26.9	141	20.5	9.35	25.1	24.6	6.86	0.242	6.62	3.35	88.0
Oct	47.9	46.9	43.9	20.4	88.8	16.5	6.80	33.3	33.0	8.08	2.63	5.58	2.92	130
Nov	30.8	30.1	28.6	10.3	46.2	10.9	4.10	23.7	23.5	6.67	3.58	5.45	1.80	294
Dec	16.3	16.0	15.6	6.08	38.6	5.41	2.01	14.1	14.0	2.47	0.557	6.25	1.10	206
Annual	30.8	30.1	28.0	12.4	60.8	12.2	4.77	20.9	20.6	5.78	4.00	5.40	1.90	1530
Max.	145	142	145	92.6	169	98.0	28.3	114	113	38.8	79.4	7.50	7.22	
Min.	6.11	5.51	4.29	3.19	<1	2.82	1.42	7.28	7.17	1.63	0.0316	4.10	0.575	

Wet deposition amount

2011	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	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	0.859	0.833	0.547	0.490	0.828	0.442	0.246	0.798	0.788	0.187	0.188
Feb	1.08	1.05	0.661	0.423	1.72	0.486	0.257	0.764	0.754	0.191	0.0478
Mar	2.19	2.14	1.38	0.759	3.65	0.768	0.332	1.49	1.47	0.570	0.0320
Apr	7.70	7.57	5.25	2.10	9.98	2.12	0.893	4.74	4.70	1.42	2.10
May	1.84	1.73	4.00	1.84	11.2	1.81	0.646	2.13	2.09	0.608	0.0194
June	4.55	4.48	4.38	1.57	9.64	1.24	0.500	1.97	1.94	0.443	1.39
July	5.26	5.09	4.03	1.93	8.45	2.87	0.834	2.88	2.82	1.07	0.821
Aug	0.416	0.374	0.799	0.541	2.13	0.697	0.265	0.786	0.771	0.232	<0.01
Sept	4.61	4.50	4.43	2.37	12.4	1.80	0.823	2.20	2.17	0.603	0.0213
Oct	6.24	6.11	5.72	2.66	11.6	2.15	0.886	4.34	4.30	1.05	0.342
Nov	9.03	8.84	8.40	3.01	13.5	3.21	1.20	6.97	6.90	1.96	1.05
Dec	3.37	3.30	3.21	1.26	7.97	1.12	0.415	2.91	2.89	0.510	0.115
Annual	47.1	46.0	42.8	18.9	93.0	18.7	7.30	32.0	31.6	8.85	6.12

Data completeness

2011	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.
	%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

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m⁻² because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET

(%PCL<80% or %TP<80%)

Table 3.19 Monthly results

Site: Maros

Country: Indonesia

Precipitation amount-weighted average concentration/ Precipitation amount

2011	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.
	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	10.4	9.26	7.96	21.2	4.74	18.9	1.86	4.32	3.91	3.22	7.89	5.10	0.638	928
Feb	8.60	7.31	5.71	18.7	4.33	21.4	1.91	2.67	2.21	2.81	5.73	5.24	0.556	498
Mar	6.18	5.49	6.04	19.1	4.72	11.5	1.50	7.59	7.34	1.64	6.58	5.18	0.548	338
Apr	8.92	7.47	11.1	25.9	11.7	24.0	3.19	6.76	6.24	5.14	3.14	5.50	0.728	387
May	7.28	6.60	6.48	10.3	28.3	11.2	2.54	11.3	11.0	3.44	0.799	6.10	0.692	218
June	13.9	13.2	16.0	17.1	40.5	11.9	2.94	45.6	45.3	3.32	0.676	6.17	1.50	8.10
July	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Aug	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Sept	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Oct	11.7	10.8	11.1	14.6	25.2	15.7	2.96	25.0	24.7	1.69	2.17	5.66	1.06	188
Nov	7.32	6.87	7.75	6.44	16.8	7.43	1.41	7.89	7.73	1.08	2.36	5.63	0.478	303
Dec	5.76	5.37	6.20	7.68	6.25	6.45	0.991	4.08	3.94	0.937	1.52	5.82	0.324	764
Annual	8.26	7.36	7.51	16.1	9.30	14.9	1.86	6.49	6.17	2.50	4.43	5.35	0.576	3632
Max.	46.4	44.0	43.7	45.3	51.8	43.4	15.7	173	173	20.9	14.5	6.34	4.80	
Min.	4.70	3.75	3.82	4.50	<1	<1	0.500	<0.2	<0.2	<0.4	0.457	4.84	0.279	

Wet deposition amount

2011	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	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	9.65	8.59	7.39	19.7	4.40	17.5	1.73	4.01	3.63	2.98	7.32
Feb	4.29	3.65	2.85	9.31	2.16	10.7	0.951	1.33	1.10	1.40	2.86
Mar	2.09	1.85	2.04	6.45	1.59	3.89	0.506	2.56	2.48	0.554	2.22
Apr	3.45	2.89	4.30	10.0	4.51	9.30	1.24	2.62	2.42	1.99	1.22
May	1.59	1.44	1.41	2.24	6.16	2.45	0.555	2.46	2.40	0.751	0.174
June	0.112	0.107	0.129	0.138	0.328	0.0962	0.0238	0.369	0.367	0.0269	<0.01
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	2.21	2.03	2.09	2.75	4.75	2.96	0.558	4.72	4.65	0.319	0.408
Nov	2.22	2.08	2.35	1.95	5.09	2.25	0.427	2.39	2.34	0.327	0.714
Dec	4.39	4.10	4.74	5.87	4.77	4.92	0.756	3.11	3.01	0.715	1.16
Annual	30.0	26.7	27.3	58.4	33.8	54.1	6.74	23.6	22.4	9.07	16.1

Data completeness

2011	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.
	%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
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

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m⁻² because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET

(%PCL<80% or %TP<80%)

Table 3.20 Monthly results

Site: Rishiri

Country: Japan

Precipitation amount-weighted average concentration/ Precipitation amount

2011	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.
	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	31.9	14.6	7.06	316	6.66	286	6.54	8.01	1.82	31.7	20.9	4.68	5.78	54.0
Feb	57.1	34.8	43.1	405	35.8	371	9.27	12.4	4.41	42.2	52.1	4.28	9.04	21.7
Mar	47.1	27.4	39.8	372	33.4	327	7.50	24.2	17.2	37.0	19.8	4.70	7.16	58.5
Apr	18.4	13.7	15.0	89.1	17.1	79.0	2.10	6.48	4.77	9.27	14.9	4.83	2.46	84.0
May	18.9	15.4	13.0	66.8	16.0	59.3	1.76	5.48	4.20	7.16	18.0	4.74	2.23	123
June	29.8	29.4	25.1	9.19	43.3	7.01	1.84	2.38	2.23	1.46	34.3	4.46	2.52	84.0
July	9.91	9.56	9.47	7.37	9.01	5.76	<0.3	1.30	1.18	0.846	17.2	4.76	1.12	111
Aug	12.2	9.28	16.4	52.5	10.8	47.8	1.25	2.34	1.31	5.68	23.4	4.63	2.10	103
Sept	10.2	4.77	5.67	103	4.18	91.3	2.11	2.67	0.694	9.76	10.5	4.98	2.11	256
Oct	30.5	13.0	15.5	335	16.2	291	6.78	8.40	2.14	31.3	23.2	4.63	6.10	136
Nov	35.2	15.7	16.5	356	15.1	323	7.82	8.40	1.42	34.8	31.8	4.50	6.87	81.8
Dec	17.1	7.49	9.26	174	4.70	160	3.64	4.21	0.758	17.5	18.7	4.73	3.49	120
Annual	21.2	12.9	14.1	156	14.0	139	3.44	5.63	2.63	15.4	20.1	4.70	3.50	1232
Max.	175	173	269	2485	235	2140	48.8	95.5	82.7	242	204	6.49	36.7	
Min.	1.72	<1	<1	<1	<1	<1	<0.3	<0.2	<0.2	<0.4	0.324	3.69	0.373	

Wet deposition amount

2011	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	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	1.72	0.791	0.381	17.0	0.360	15.5	0.353	0.432	0.0984	1.71	1.13
Feb	1.24	0.754	0.935	8.77	0.777	8.03	0.201	0.269	0.0955	0.914	1.13
Mar	2.75	1.60	2.33	21.7	1.95	19.1	0.438	1.42	1.00	2.16	1.16
Apr	1.55	1.15	1.26	7.48	1.44	6.64	0.176	0.544	0.401	0.778	1.25
May	2.33	1.89	1.60	8.22	1.96	7.29	0.217	0.674	0.516	0.882	2.22
June	2.51	2.47	2.11	0.772	3.64	0.589	0.154	0.200	0.187	0.123	2.88
July	1.10	1.06	1.05	0.818	1.000	0.639	0.0330	0.145	0.131	0.0939	1.91
Aug	1.25	0.951	1.68	5.39	1.11	4.90	0.128	0.240	0.134	0.582	2.40
Sept	2.60	1.22	1.45	26.3	1.07	23.3	0.540	0.682	0.177	2.49	2.69
Oct	4.15	1.77	2.11	45.6	2.21	39.6	0.922	1.14	0.291	4.25	3.15
Nov	2.88	1.29	1.35	29.1	1.24	26.4	0.640	0.687	0.116	2.84	2.61
Dec	2.05	0.895	1.11	20.8	0.561	19.1	0.435	0.503	0.0906	2.09	2.24
Annual	26.1	15.8	17.4	192	17.3	171	4.24	6.93	3.24	18.9	24.8

Data completeness

2011	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.
	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%PCL
Jan	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
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	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
June	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
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	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
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	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

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m⁻² because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET

(%PCL<80% or %TP<80%)

Table 3.21 Monthly results

Site: Ochiishi

Country: Japan

Precipitation amount-weighted average concentration/ Precipitation amount

2011	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.
	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	5.63	<1	<1	121	2.10	101	3.04	5.87	3.69	11.7	6.52	5.19	1.94	13.9
Feb	27.1	11.9	19.9	283	17.0	254	7.03	9.96	4.46	29.5	19.3	4.71	5.23	24.3
Mar	18.8	5.88	19.1	247	12.5	214	5.34	15.7	11.1	26.0	9.77	5.01	4.33	10.2
Apr	27.1	10.8	11.3	320	16.3	271	6.46	8.95	3.28	31.3	15.8	4.80	5.33	47.0
May	17.2	12.2	16.3	93.6	16.8	81.6	2.46	7.03	5.27	10.6	16.4	4.79	2.46	99.5
June	17.0	16.1	17.6	19.1	26.3	14.5	1.82	2.82	2.50	2.47	21.3	4.67	1.72	69.3
July	9.00	8.65	8.65	8.18	9.89	5.67	0.327	0.915	0.793	0.959	15.0	4.82	1.02	50.7
Aug	8.66	7.68	10.5	19.5	7.93	16.3	0.784	1.53	1.18	2.07	15.6	4.81	1.18	117
Sept	9.50	1.57	3.24	188	4.69	161	3.60	4.52	1.04	19.5	6.86	5.16	2.96	200
Oct	9.55	2.78	6.60	137	6.38	116	2.66	3.65	1.16	13.8	10.4	4.98	2.40	120
Nov	26.0	10.7	21.0	290	12.6	263	6.85	8.81	3.13	32.5	27.4	4.56	5.66	19.6
Dec	45.6	<1	2.63	1014	13.0	870	16.8	18.9	0.348	101	6.00	5.22	14.2	46.0
Annual	15.2	6.73	9.58	180	11.0	155	3.70	5.42	2.11	18.5	13.1	4.88	3.28	818
Max.	137	99.1	104	2531	112	2170	44.0	47.5	25.1	258	124	5.95	35.2	
Min.	1.10	<1	<1	1.96	<1	1.04	<0.3	<0.2	<0.2	<0.4	1.13	3.91	0.204	

Wet deposition amount

2011	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	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	0.0784	<0.01	<0.01	1.68	0.0293	1.41	0.0423	0.0819	0.0514	0.163	0.0909
Feb	0.657	0.290	0.484	6.86	0.412	6.17	0.170	0.242	0.108	0.715	0.468
Mar	0.192	0.0600	0.195	2.52	0.128	2.19	0.0545	0.160	0.113	0.265	0.0997
Apr	1.27	0.508	0.529	15.0	0.767	12.7	0.303	0.421	0.154	1.47	0.742
May	1.71	1.22	1.62	9.31	1.67	8.11	0.245	0.699	0.524	1.06	1.63
June	1.18	1.12	1.22	1.33	1.83	1.00	0.126	0.195	0.173	0.172	1.47
July	0.456	0.439	0.438	0.415	0.501	0.287	0.0166	0.0464	0.0402	0.0486	0.762
Aug	1.02	0.901	1.23	2.29	0.931	1.91	0.0920	0.180	0.139	0.243	1.83
Sept	1.90	0.315	0.649	37.7	0.940	32.3	0.722	0.907	0.209	3.91	1.37
Oct	1.14	0.332	0.790	16.5	0.763	13.8	0.319	0.437	0.139	1.65	1.24
Nov	0.509	0.209	0.411	5.68	0.247	5.14	0.134	0.172	0.0612	0.636	0.536
Dec	2.10	0.0105	0.121	46.7	0.597	40.0	0.773	0.869	0.0160	4.63	0.276
Annual	12.4	5.51	7.83	147	8.98	126	3.02	4.44	1.73	15.1	10.7

Data completeness

2011	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.
	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%PCL
Jan	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	45.2
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mar	95.5	95.5	95.5	95.5	95.5	95.5	95.5	95.5	95.5	95.5	95.5	95.5	95.5	100
Apr	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
May	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
June	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
July	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
Aug	91.5	91.5	91.5	91.5	91.5	91.5	91.5	91.5	91.5	91.5	91.5	91.5	91.5	100
Sept	95.4	95.4	95.4	95.4	95.4	95.4	95.4	95.4	95.4	95.4	94.8	94.8	94.8	100
Oct	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	78.6	78.6	95.4	100
Nov	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
Dec	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
Annual	95.5	95.5	95.5	95.5	95.5	95.5	95.5	95.5	95.5	95.5	92.4	92.4	94.9	95.3

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m⁻² because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET

(%PCL<80% or %TP<80%)

Table 3.22 Monthly results

Site: Tappi

Country: Japan

Precipitation amount-weighted average concentration/ Precipitation amount

2011	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.
	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	854	93.1	110	14093	70.3	12625	284	257	10.2	1264	18.2	4.74	195	9.20
Feb	78.3	52.2	53.8	457	52.0	434	12.6	15.9	6.57	51.3	65.0	4.19	9.51	23.0
Mar	79.5	39.0	42.6	736	21.1	672	15.8	66.0	51.5	78.8	5.83	5.23	12.5	7.21
Apr	46.8	36.7	36.7	187	44.0	168	5.82	14.2	10.6	21.0	28.1	4.55	5.22	155
May	36.3	32.2	33.5	75.4	36.2	68.3	3.60	16.9	15.4	10.3	23.2	4.63	3.27	167
June	24.8	22.3	27.3	43.6	21.3	41.5	2.37	5.91	5.01	5.67	36.9	4.43	2.70	60.7
July	17.3	15.4	18.5	28.2	11.4	31.6	1.30	2.43	1.74	4.22	34.1	4.47	2.35	71.0
Aug	11.3	7.92	8.98	60.0	4.92	55.8	1.39	1.87	0.659	6.39	18.4	4.74	1.91	221
Sept	12.9	5.70	7.89	130	2.47	120	2.86	3.26	0.794	12.8	13.0	4.89	2.64	230
Oct	41.5	22.2	21.0	377	17.5	322	8.65	9.55	2.60	35.7	34.1	4.47	6.28	53.5
Nov	36.3	25.8	21.7	195	18.7	174	5.11	5.03	1.42	20.3	45.9	4.34	4.73	93.0
Dec	28.3	7.02	12.1	417	3.97	354	8.93	9.29	1.93	41.8	12.5	4.90	4.89	53.5
Annual	27.5	18.5	19.8	167	16.9	150	4.34	8.01	4.87	17.4	24.6	4.61	3.64	1144
Max.	888	203	582	14854	315	13363	285	276	221	1321	261	6.52	195	
Min.	2.71	<1	1.81	6.83	<1	5.70	<0.3	0.524	<0.2	0.782	0.302	3.58	0.475	

Wet deposition amount

2011	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	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	7.86	0.856	1.01	130	0.647	116	2.61	2.36	0.0938	11.6	0.167
Feb	1.80	1.20	1.24	10.5	1.20	9.98	0.290	0.367	0.151	1.18	1.49
Mar	0.573	0.281	0.307	5.31	0.152	4.84	0.114	0.476	0.371	0.568	0.0420
Apr	7.26	5.69	5.70	29.1	6.84	26.0	0.904	2.20	1.64	3.27	4.37
May	6.06	5.37	5.59	12.6	6.03	11.4	0.600	2.82	2.57	1.71	3.87
June	1.51	1.35	1.66	2.65	1.29	2.52	0.144	0.358	0.304	0.344	2.24
July	1.23	1.09	1.31	2.00	0.808	2.25	0.0922	0.172	0.124	0.300	2.42
Aug	2.49	1.75	1.98	13.2	1.09	12.3	0.307	0.411	0.145	1.41	4.05
Sept	2.98	1.31	1.82	30.1	0.568	27.6	0.659	0.751	0.183	2.95	3.00
Oct	2.22	1.19	1.13	20.2	0.936	17.2	0.463	0.511	0.139	1.91	1.82
Nov	3.38	2.40	2.02	18.2	1.74	16.2	0.475	0.468	0.132	1.89	4.27
Dec	1.52	0.376	0.646	22.3	0.212	18.9	0.478	0.497	0.103	2.23	0.667
Annual	31.5	21.2	22.7	191	19.4	171	4.96	9.17	5.57	19.9	28.2

Data completeness

2011	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.
	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%PCL
Jan	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	10.4	10.4	10.4	100
Feb	100	100	100	100	100	100	100	100	100	100	97.8	97.8	97.8	100
Mar	100	100	100	100	100	100	100	100	100	100	83.2	83.2	83.2	100
Apr	56.2	56.2	56.2	56.2	56.2	56.2	56.2	56.2	56.2	56.2	55.6	55.6	55.6	93.3
May	100	100	100	100	100	100	100	100	100	100	99.5	99.5	99.5	100
June	100	100	100	100	100	100	100	100	100	100	94.8	94.8	94.8	100
July	93.7	93.7	93.7	93.7	93.7	93.7	93.7	93.7	93.7	93.7	93.7	93.7	93.7	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	97.0	97.0	97.0	97.0	97.0	97.0	97.0	97.0	97.0	97.0	96.6	96.6	96.6	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	97.8	97.8	97.8	100
Dec	100	100	100	100	100	100	100	100	100	100	97.2	97.2	97.2	100
Annual	92.4	92.4	92.4	92.4	92.4	92.4	92.4	92.4	92.4	92.4	91.2	91.2	91.2	99.5

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m⁻² because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET

(%PCL<80% or %TP<80%)

Table 3.23 Monthly results

Site: Sado-seki

Country: Japan

Precipitation amount-weighted average concentration/ Precipitation amount

2011	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.
	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	79.9	27.1	43.8	1034	18.2	876	24.7	39.7	20.8	115	28.6	4.54	14.8	54.8
Feb	44.4	25.9	44.0	380	28.5	306	10.2	20.6	13.9	40.0	32.8	4.48	6.67	47.4
Mar	49.2	29.8	67.7	416	35.1	321	9.40	35.7	28.8	39.8	18.6	4.73	6.52	48.6
Apr	30.1	26.2	24.2	75.3	29.4	64.3	2.77	8.47	7.08	8.29	24.3	4.61	2.82	161
May	17.1	13.7	17.2	61.6	12.9	55.1	2.30	8.71	7.52	7.70	13.4	4.87	1.98	144
June	9.02	5.74	7.58	61.4	4.82	54.4	1.49	2.77	1.59	7.10	10.1	5.00	1.49	214
July	14.8	11.7	19.7	57.5	12.4	52.4	1.44	3.85	2.71	7.88	20.6	4.69	2.14	110
Aug	21.6	18.9	19.4	47.1	19.9	45.3	2.33	3.07	2.09	5.21	27.8	4.56	2.48	112
Sept	11.4	4.17	5.64	134	3.21	119	2.89	3.12	0.626	13.8	8.83	5.05	2.44	232
Oct	20.1	15.2	21.8	85.9	13.0	80.7	2.50	3.98	2.23	8.74	29.7	4.53	2.95	61.0
Nov	33.6	21.3	19.9	263	18.2	204	5.48	5.58	1.17	23.3	35.3	4.45	5.12	136
Dec	56.1	22.6	30.6	657	15.1	556	13.6	16.7	4.76	67.0	44.6	4.35	9.58	67.6
Annual	24.5	15.3	19.7	182	14.6	153	4.45	8.28	4.99	19.0	20.8	4.68	3.57	1387
Max.	743	235	992	14423	715	12390	261	372	292	1612	187	6.50	71.9	
Min.	1.76	<1	<1	2.03	<1	1.94	<0.3	0.449	<0.2	<0.4	0.320	3.73	0.421	

Wet deposition amount

2011	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	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	4.38	1.48	2.40	56.7	0.996	48.0	1.36	2.18	1.14	6.29	1.56
Feb	2.10	1.23	2.08	18.0	1.35	14.5	0.485	0.974	0.660	1.89	1.55
Mar	2.39	1.45	3.29	20.2	1.71	15.6	0.457	1.73	1.40	1.93	0.903
Apr	4.84	4.22	3.89	12.1	4.72	10.3	0.445	1.36	1.14	1.33	3.90
May	2.46	1.98	2.48	8.86	1.85	7.93	0.331	1.25	1.08	1.11	1.93
June	1.93	1.23	1.62	13.1	1.03	11.6	0.318	0.592	0.340	1.52	2.16
July	1.62	1.28	2.16	6.30	1.36	5.73	0.158	0.421	0.297	0.863	2.26
Aug	2.43	2.12	2.17	5.28	2.23	5.08	0.261	0.344	0.235	0.584	3.12
Sept	2.64	0.967	1.31	31.1	0.744	27.7	0.670	0.724	0.145	3.20	2.05
Oct	1.23	0.929	1.33	5.24	0.795	4.92	0.152	0.242	0.136	0.533	1.81
Nov	4.55	2.88	2.70	35.7	2.47	27.7	0.743	0.757	0.159	3.16	4.78
Dec	3.80	1.53	2.07	44.5	1.02	37.6	0.921	1.13	0.322	4.53	3.01
Annual	34.0	21.2	27.3	252	20.2	213	6.18	11.5	6.92	26.4	28.8

Data completeness

2011	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.
	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%PCL
Jan	90.8	90.8	90.8	90.8	90.8	90.8	90.8	90.8	90.8	90.8	84.5	84.5	84.5	96.8
Feb	97.0	97.0	97.0	97.0	97.0	97.0	97.0	97.0	97.0	97.0	95.0	95.0	95.0	100
Mar	96.4	96.4	96.4	96.4	96.4	96.4	96.4	96.4	96.4	96.4	89.6	89.6	89.6	100
Apr	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	98.7	98.7	98.7	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	99.6	99.6	99.6	100
July	100	100	100	100	100	100	100	100	100	100	99.5	99.5	99.5	100
Aug	100	100	100	100	100	100	100	100	100	100	99.0	99.0	99.0	100
Sept	100	100	100	100	100	100	100	100	100	100	99.6	99.6	99.6	100
Oct	100	100	100	100	100	100	100	100	100	100	98.9	98.9	98.9	100
Nov	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	98.2	98.2	98.2	100
Dec	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	90.9	90.9	90.9	100
Annual	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	97.8	97.8	97.8	99.7

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m⁻² because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET

(%PCL<80% or %TP<80%)

Table 3.24 Monthly results

Site: Happo

Country: Japan

Precipitation amount-weighted average concentration/ Precipitation amount

2011	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.
	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	10.8	10.3	10.7	8.54	6.91	8.03	0.580	5.69	5.52	1.70	13.5	4.87	0.983	160
Feb	13.1	12.8	14.3	5.77	12.0	4.38	0.998	5.60	5.51	1.45	15.3	4.81	1.10	82.6
Mar	18.9	17.6	27.0	26.5	21.9	20.0	1.38	11.4	10.9	4.28	15.1	4.82	1.67	119
Apr	17.5	17.1	15.1	6.86	21.1	5.45	0.924	6.63	6.51	1.76	12.4	4.91	1.19	155
May	6.64	6.48	9.12	3.44	6.82	2.59	0.451	4.32	4.26	1.11	6.28	5.20	0.549	380
June	5.62	5.50	6.57	3.12	3.72	2.02	0.361	1.61	1.57	0.549	7.83	5.11	0.542	628
July	5.17	5.06	7.93	2.65	6.13	1.85	<0.3	1.30	1.26	0.444	8.29	5.08	0.584	434
Aug	6.61	6.52	8.74	2.08	5.10	1.56	0.399	1.37	1.33	0.497	11.7	4.93	0.733	224
Sept	2.31	2.23	3.24	1.62	1.19	1.32	<0.3	0.806	0.778	<0.4	4.00	5.40	0.295	264
Oct	7.33	7.09	7.77	5.17	5.77	4.03	0.400	1.44	1.35	0.817	11.1	4.95	0.753	166
Nov	5.38	5.17	4.53	4.45	4.34	3.32	0.493	1.46	1.39	0.861	7.50	5.13	0.507	256
Dec	10.1	9.72	9.30	8.94	5.86	6.78	0.695	2.86	2.72	1.56	16.0	4.80	1.02	208
Annual	7.00	6.80	8.17	4.43	6.06	3.34	0.447	2.57	2.49	0.896	9.15	5.04	0.666	3076
Max.	126	126	273	139	194	135	11.7	94.4	91.4	29.4	105	6.29	8.53	
Min.	<1	<1	1.16	<1	<1	<1	<0.3	0.287	0.272	<0.4	0.513	3.98	0.151	

Wet deposition amount

2011	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	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	1.73	1.65	1.72	1.37	1.10	1.28	0.0928	0.910	0.882	0.272	2.16
Feb	1.08	1.06	1.18	0.476	0.989	0.362	0.0824	0.463	0.455	0.120	1.26
Mar	2.24	2.10	3.22	3.15	2.61	2.38	0.164	1.35	1.30	0.509	1.80
Apr	2.71	2.66	2.34	1.06	3.28	0.846	0.143	1.03	1.01	0.274	1.92
May	2.52	2.46	3.46	1.31	2.59	0.983	0.171	1.64	1.62	0.422	2.38
June	3.53	3.45	4.12	1.96	2.34	1.27	0.227	1.01	0.986	0.345	4.91
July	2.24	2.19	3.44	1.15	2.66	0.803	0.102	0.565	0.547	0.193	3.59
Aug	1.48	1.46	1.96	0.467	1.14	0.350	0.0895	0.307	0.299	0.111	2.63
Sept	0.609	0.588	0.853	0.428	0.313	0.349	0.0492	0.213	0.205	0.101	1.05
Oct	1.22	1.18	1.29	0.860	0.960	0.671	0.0665	0.239	0.225	0.136	1.85
Nov	1.38	1.32	1.16	1.14	1.11	0.851	0.126	0.375	0.356	0.220	1.92
Dec	2.11	2.02	1.94	1.86	1.22	1.41	0.145	0.596	0.565	0.325	3.33
Annual	21.5	20.9	25.1	13.6	18.6	10.3	1.38	7.89	7.67	2.76	28.2

Data completeness

2011	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.
	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%PCL
Jan	79.0	79.0	79.0	79.0	79.0	79.0	79.0	79.0	79.0	79.0	79.0	79.0	79.0	100
Feb	98.7	98.7	98.7	98.7	98.7	98.7	98.7	98.7	98.7	98.7	97.5	97.5	97.5	100
Mar	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7	100
Apr	71.7	71.7	71.7	71.7	71.7	71.7	71.7	71.7	71.7	71.7	71.5	71.5	71.5	96.7
May	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	95.1	95.1	99.3	93.5
June	100	100	100	100	100	100	100	100	100	100	99.9	99.9	99.9	100
July	95.5	95.5	95.5	95.5	95.5	95.5	95.5	95.5	95.5	95.5	95.0	95.0	95.0	93.5
Aug	100	100	100	100	100	100	100	100	100	100	99.7	99.7	99.7	100
Sept	100	100	100	100	100	100	100	100	100	100	99.7	99.7	99.7	100
Oct	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	98.8	98.8	98.8	100
Nov	100	100	100	100	100	100	100	100	100	100	95.1	95.1	95.1	100
Dec	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
Annual	94.4	94.4	94.4	94.4	94.4	94.4	94.4	94.4	94.4	94.4	93.2	93.2	93.7	98.6

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m⁻² because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET

(%PCL<80% or %TP<80%)

Table 3.25 Monthly results

Site: Ijira

Country: Japan

Precipitation amount-weighted average concentration/ Precipitation amount

2011	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.
	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	12.1	8.81	15.8	68.9	8.70	54.8	1.47	4.60	3.42	6.46	17.2	4.76	2.05	127
Feb	7.74	7.07	13.3	13.4	7.38	11.1	1.26	2.32	2.08	1.19	13.1	4.88	1.03	114
Mar	21.3	18.8	37.0	51.4	16.2	40.9	1.85	9.25	8.37	6.22	34.9	4.46	2.93	60.0
Apr	29.1	27.8	26.6	23.3	35.2	20.4	1.57	6.50	6.06	2.93	27.3	4.56	2.49	296
May	4.87	4.71	8.75	3.95	5.32	2.60	<0.3	1.41	1.36	<0.4	8.63	5.06	0.632	433
June	20.2	19.3	21.8	18.7	22.5	14.3	0.769	2.07	1.76	1.83	30.9	4.51	2.21	316
July	14.0	13.6	16.6	8.56	17.5	6.18	<0.3	0.773	0.640	0.661	20.1	4.70	1.51	411
Aug	15.2	14.8	20.4	6.76	18.9	5.31	<0.3	1.32	1.20	0.443	23.9	4.62	1.70	262
Sept	7.06	6.05	6.32	20.0	6.94	16.7	<0.3	0.522	0.308	2.04	8.07	5.09	0.869	577
Oct	13.0	12.6	13.3	7.69	12.2	5.72	<0.3	1.08	0.958	0.785	18.6	4.73	1.35	233
Nov	7.55	6.49	10.9	20.5	5.54	17.6	<0.3	0.474	<0.2	1.88	15.4	4.81	1.15	153
Dec	11.7	10.1	17.5	36.3	9.26	27.7	1.48	1.91	1.32	3.54	22.5	4.65	1.76	87.5
Annual	13.0	12.1	15.1	17.2	14.1	13.8	0.535	1.97	1.70	1.69	18.0	4.75	1.46	3068
Max.	85.0	82.0	174	255	94.3	203	6.40	25.3	25.1	29.2	178	5.34	11.4	
Min.	3.40	2.91	2.80	<1	2.30	<1	<0.3	<0.2	<0.2	<0.4	4.57	3.75	0.520	

Wet deposition amount

2011	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	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	1.53	1.11	2.00	8.71	1.10	6.93	0.185	0.582	0.433	0.817	2.18
Feb	0.882	0.806	1.52	1.53	0.841	1.27	0.143	0.264	0.237	0.135	1.49
Mar	1.28	1.13	2.22	3.09	0.970	2.45	0.111	0.555	0.502	0.373	2.09
Apr	8.60	8.24	7.89	6.90	10.4	6.03	0.466	1.92	1.79	0.867	8.07
May	2.11	2.04	3.79	1.71	2.31	1.13	0.0389	0.613	0.589	0.0725	3.74
June	6.38	6.11	6.89	5.92	7.11	4.50	0.243	0.655	0.558	0.580	9.78
July	5.75	5.60	6.81	3.52	7.18	2.54	0.0256	0.318	0.263	0.272	8.26
Aug	3.97	3.88	5.32	1.77	4.95	1.39	0.0526	0.345	0.315	0.116	6.26
Sept	4.07	3.49	3.64	11.6	4.00	9.63	0.154	0.301	0.178	1.18	4.65
Oct	3.02	2.94	3.10	1.79	2.84	1.33	0.0554	0.252	0.223	0.182	4.31
Nov	1.15	0.993	1.68	3.14	0.847	2.69	0.0378	0.0726	0.0262	0.288	2.35
Dec	1.03	0.881	1.53	3.18	0.811	2.42	0.130	0.167	0.115	0.310	1.97
Annual	39.8	37.2	46.4	52.8	43.4	42.3	1.64	6.05	5.23	5.19	55.2

Data completeness

2011	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.
	%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	99.8	99.8	99.8	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	99.8	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	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

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m⁻² because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET

(%PCL<80% or %TP<80%)

Table 3.26 Monthly results

Site: Oki

Country: Japan

Precipitation amount-weighted average concentration/ Precipitation amount

2011	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.
	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	169	30.3	43.3	2685	29.8	2309	51.7	59.2	9.35	269	42.9	4.37	40.7	105
Feb	47.1	20.5	24.0	509	16.6	442	10.3	15.9	6.36	52.8	30.7	4.51	5.77	51.0
Mar	124	49.1	88.7	1420	77.3	1235	29.6	63.9	37.2	146	27.8	4.56	22.7	51.2
Apr	42.6	37.4	32.2	99.9	40.0	87.3	3.55	22.3	20.4	12.8	19.1	4.72	3.54	202
May	9.21	5.68	8.38	68.2	4.83	58.5	2.42	3.60	2.34	6.70	10.3	4.99	1.58	250
June	12.9	10.8	12.6	40.5	11.0	33.9	1.55	2.63	1.90	4.37	16.3	4.79	1.63	113
July	44.7	29.0	32.0	297	47.1	260	9.17	10.6	4.97	30.1	34.6	4.46	6.61	46.7
Aug	9.86	7.42	12.6	47.2	7.39	40.5	1.47	1.98	1.10	4.89	15.4	4.81	1.61	127
Sept	31.7	5.26	5.31	507	6.75	439	15.3	11.1	1.65	48.9	8.04	5.09	7.53	287
Oct	13.1	7.10	11.8	114	5.72	99.4	3.05	3.00	0.885	11.4	15.1	4.82	2.49	86.4
Nov	62.7	14.9	25.2	901	14.8	792	20.0	22.0	4.91	90.5	25.4	4.59	13.7	71.7
Dec	95.4	21.7	34.7	1381	23.1	1225	28.6	32.3	5.82	138	30.2	4.52	19.5	144
Annual	45.6	16.7	21.2	552	18.6	480	12.7	17.1	6.73	55.5	18.8	4.73	8.76	1534
Max.	1218	249	739	22039	424	18450	404	465	195	2254	407	5.70	203	
Min.	2.22	<1	<1	3.54	<1	2.28	0.416	0.207	<0.2	0.677	2.01	3.39	0.416	

Wet deposition amount

2011	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	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	17.7	3.17	4.53	281	3.11	242	5.41	6.20	0.978	28.2	4.49
Feb	2.40	1.04	1.22	26.0	0.845	22.5	0.523	0.811	0.324	2.69	1.56
Mar	6.32	2.51	4.54	72.7	3.96	63.2	1.52	3.27	1.90	7.48	1.42
Apr	8.63	7.57	6.51	20.2	8.10	17.7	0.719	4.52	4.14	2.60	3.87
May	2.30	1.42	2.10	17.1	1.21	14.6	0.605	0.901	0.584	1.68	2.57
June	1.45	1.22	1.43	4.57	1.24	3.83	0.175	0.297	0.214	0.494	1.84
July	2.08	1.35	1.50	13.9	2.20	12.1	0.428	0.494	0.232	1.41	1.61
Aug	1.25	0.939	1.59	5.98	0.936	5.13	0.186	0.251	0.140	0.619	1.95
Sept	9.09	1.51	1.52	145	1.94	126	4.37	3.19	0.473	14.0	2.30
Oct	1.13	0.613	1.02	9.86	0.494	8.59	0.263	0.259	0.0765	0.987	1.31
Nov	4.49	1.07	1.80	64.6	1.06	56.8	1.43	1.58	0.352	6.49	1.82
Dec	13.8	3.13	5.01	199	3.33	177	4.13	4.66	0.839	19.9	4.36
Annual	70.0	25.6	32.6	847	28.6	737	19.5	26.2	10.3	85.2	28.8

Data completeness

2011	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.
	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%PCL
Jan	97.5	97.5	97.5	97.5	97.5	97.5	97.5	97.5	97.5	97.5	97.0	97.0	97.0	100
Feb	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	95.9	95.9	95.9	100
Mar	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	96.6	100
Apr	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
May	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
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	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.2	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	99.8	100
Oct	89.7	89.7	89.7	89.7	89.7	89.7	89.7	89.7	89.7	89.7	89.7	89.7	89.7	100
Nov	55.1	55.1	55.1	55.1	55.1	55.1	55.1	55.1	55.1	55.1	55.1	55.1	54.4	100
Dec	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	96.7	100
Annual	96.7	96.7	96.7	96.7	96.7	96.7	96.7	96.7	96.7	96.7	96.6	96.6	96.2	100

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m⁻² because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET

(%PCL<80% or %TP<80%)

Table 3.27 Monthly results

Site: Banryu

Country: Japan

Precipitation amount-weighted average concentration/ Precipitation amount

2011	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.
	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	21.2	11.6	36.2	177	16.8	158	3.85	10.2	6.79	19.4	25.5	4.59	4.19	76.3
Feb	33.9	15.4	18.6	361	16.5	307	7.35	10.5	3.84	35.9	23.0	4.64	6.48	88.5
Mar	51.8	37.0	62.5	287	53.7	246	7.40	21.7	16.3	30.6	39.6	4.40	7.12	66.1
Apr	48.2	40.3	35.4	155	39.1	131	4.50	15.9	13.1	16.8	39.4	4.40	4.94	70.0
May	12.0	10.9	8.72	23.0	8.30	19.0	1.20	2.62	2.21	2.64	15.6	4.81	1.25	256
June	11.1	10.6	13.4	12.1	16.2	8.30	2.09	2.15	1.97	1.40	13.2	4.88	1.08	182
July	11.1	9.92	10.9	21.9	12.7	19.0	1.13	0.971	0.560	2.81	14.2	4.85	1.22	78.0
Aug	14.9	14.3	17.9	12.9	14.5	10.0	1.18	1.26	1.04	1.42	24.7	4.61	1.76	111
Sept	19.6	6.71	7.39	246	6.28	215	5.47	6.40	1.76	23.7	12.5	4.90	4.09	207
Oct	11.8	7.98	8.85	74.6	2.72	62.7	1.56	1.73	0.373	7.10	17.0	4.77	1.95	122
Nov	6.85	6.12	8.47	14.8	3.70	12.1	0.522	0.495	0.273	1.43	11.7	4.93	0.932	69.7
Dec	48.4	32.6	58.3	293	36.7	263	7.89	12.1	6.39	30.5	58.3	4.23	7.75	107
Annual	21.1	14.6	19.5	125	15.7	108	3.39	5.85	3.52	12.8	21.8	4.66	3.13	1432
Max.	194	153	287	1108	190	1048	40.5	71.1	68.5	123	273	5.36	28.7	
Min.	1.80	1.70	2.12	2.35	1.03	1.56	<0.3	0.207	<0.2	0.423	4.32	3.56	0.282	

Wet deposition amount

2011	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	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	1.61	0.887	2.76	13.5	1.28	12.1	0.294	0.779	0.518	1.48	1.94
Feb	3.00	1.36	1.65	31.9	1.46	27.2	0.650	0.927	0.339	3.17	2.03
Mar	3.42	2.44	4.13	19.0	3.55	16.3	0.489	1.43	1.08	2.02	2.61
Apr	3.38	2.82	2.48	10.9	2.74	9.20	0.315	1.11	0.914	1.18	2.76
May	3.08	2.79	2.23	5.90	2.13	4.86	0.308	0.672	0.567	0.677	3.99
June	2.01	1.92	2.43	2.20	2.93	1.51	0.379	0.390	0.357	0.254	2.40
July	0.863	0.774	0.852	1.71	0.992	1.48	0.0880	0.0757	0.0437	0.219	1.11
Aug	1.65	1.58	1.98	1.42	1.60	1.11	0.131	0.139	0.115	0.157	2.72
Sept	4.07	1.39	1.53	50.9	1.30	44.4	1.13	1.32	0.365	4.91	2.59
Oct	1.43	0.970	1.08	9.06	0.330	7.62	0.190	0.210	0.0453	0.863	2.07
Nov	0.477	0.427	0.590	1.03	0.258	0.842	0.0364	0.0345	0.0190	0.0996	0.818
Dec	5.16	3.47	6.21	31.2	3.91	28.0	0.841	1.29	0.681	3.25	6.21
Annual	30.1	20.8	27.9	179	22.5	155	4.85	8.38	5.04	18.3	31.3

Data completeness

2011	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.
	%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	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
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	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
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	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

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m⁻² because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET

(%PCL<80% or %TP<80%)

Table 3.28 Monthly results

Site: Yusuhara

Country: Japan

Precipitation amount-weighted average concentration/ Precipitation amount

2011	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.
	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	32.9	26.1	51.5	111	25.8	113	3.60	20.2	17.8	15.6	18.2	4.74	3.50	53.4
Feb	17.9	13.8	16.1	74.6	14.5	67.7	1.79	4.22	2.75	8.21	22.9	4.64	2.49	100
Mar	19.3	18.0	18.0	28.3	12.7	21.8	1.21	5.01	4.54	3.89	25.0	4.60	1.99	79.3
Apr	24.1	23.2	12.3	16.5	21.6	14.2	0.934	4.30	3.99	2.88	26.0	4.58	1.87	161
May	7.13	6.81	6.11	6.87	4.00	5.26	0.355	16.0	15.9	11.3	11.9	4.93	0.812	258
June	4.84	4.67	3.20	3.91	2.19	2.96	<0.3	0.681	0.639	0.541	9.82	5.01	0.620	652
July	3.74	3.24	2.88	10.4	3.40	8.29	<0.3	<0.2	<0.2	0.970	6.88	5.16	0.567	651
Aug	14.2	13.8	9.42	9.90	11.3	7.56	<0.3	0.437	0.350	1.17	28.9	4.54	1.48	168
Sept	2.31	1.65	1.48	13.5	1.01	10.9	0.420	0.551	0.314	1.88	3.94	5.40	0.445	799
Oct	3.73	3.64	3.77	3.31	1.58	1.52	<0.3	0.211	<0.2	0.423	11.0	4.96	0.551	246
Nov	8.53	7.69	6.53	18.4	3.75	14.0	1.70	1.08	0.779	2.47	19.0	4.72	1.12	154
Dec	14.4	11.4	22.5	58.3	11.0	50.8	2.36	2.85	1.75	6.50	33.7	4.47	2.28	81.2
Annual	7.02	6.28	5.75	14.7	4.83	12.3	0.465	2.27	2.04	2.56	11.7	4.93	0.870	3401
Max.	242	236	625	2385	253	2383	85.0	250	220	279	245	6.42	42.0	
Min.	<1	<1	<1	<1	<1	<1	<0.3	<0.2	<0.2	<0.4	0.380	3.61	0.178	

Wet deposition amount

2011	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	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	1.76	1.39	2.75	5.92	1.38	6.04	0.192	1.08	0.949	0.835	0.970
Feb	1.79	1.38	1.61	7.47	1.45	6.78	0.179	0.422	0.276	0.822	2.29
Mar	1.53	1.42	1.43	2.24	1.01	1.73	0.0956	0.398	0.360	0.309	1.98
Apr	3.87	3.73	1.97	2.65	3.47	2.28	0.150	0.691	0.641	0.463	4.18
May	1.84	1.76	1.57	1.77	1.03	1.36	0.0915	4.12	4.09	2.91	3.06
June	3.16	3.04	2.08	2.55	1.43	1.93	0.0317	0.444	0.416	0.353	6.40
July	2.43	2.11	1.88	6.76	2.21	5.39	<0.01	0.0769	0.0630	0.631	4.47
Aug	2.40	2.32	1.58	1.67	1.90	1.27	0.0124	0.0736	0.0589	0.197	4.87
Sept	1.84	1.32	1.18	10.8	0.804	8.74	0.335	0.440	0.251	1.50	3.15
Oct	0.917	0.895	0.926	0.814	0.387	0.374	0.0517	0.0519	0.0441	0.104	2.71
Nov	1.32	1.19	1.01	2.83	0.579	2.16	0.263	0.167	0.120	0.381	2.94
Dec	1.17	0.924	1.83	4.73	0.895	4.13	0.191	0.231	0.142	0.528	2.74
Annual	23.9	21.3	19.6	49.8	16.4	41.8	1.58	7.71	6.94	8.71	39.7

Data completeness

2011	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.
	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%PCL
Jan	91.4	91.4	91.4	91.4	91.4	91.4	91.4	91.4	91.4	91.4	90.3	90.3	90.3	100
Feb	97.0	97.0	97.0	97.0	97.0	97.0	97.0	97.0	97.0	97.0	96.9	96.9	96.9	100
Mar	100	100	100	100	100	100	100	100	100	100	99.6	99.6	99.6	100
Apr	100	100	100	100	100	100	100	100	100	100	99.8	99.8	99.8	100
May	88.6	88.6	88.6	88.6	88.6	88.6	88.6	88.6	88.6	88.6	88.6	88.6	88.6	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	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	99.3	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
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	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.7	99.7	99.7	100
Nov	100	100	100	100	100	100	100	100	100	100	99.8	99.8	99.8	100
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	98.8	98.8	98.8	98.8	98.8	98.8	98.8	98.8	98.8	98.8	98.7	98.7	98.7	100

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m⁻² because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET

(%PCL<80% or %TP<80%)

Table 3.29 Monthly results

Site: Hedo

Country: Japan

Precipitation amount-weighted average concentration/ Precipitation amount

2011	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.
	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	108	38.3	16.7	1344	15.7	1148	25.6	33.0	8.21	131	46.9	4.33	20.9	56.1
Feb	21.3	10.7	10.2	199	9.28	175	4.33	6.08	2.29	20.5	18.6	4.73	3.57	83.0
Mar	18.8	12.1	11.9	120	14.5	111	3.25	5.00	2.60	13.0	13.7	4.86	2.32	52.0
Apr	18.4	14.8	12.2	68.3	18.0	60.3	1.93	3.51	2.21	7.14	20.8	4.68	2.16	96.9
May	19.0	4.19	6.28	282	9.53	246	5.86	6.75	1.44	27.8	5.88	5.23	4.26	382
June	9.14	2.19	2.97	129	4.88	115	3.44	3.85	1.36	13.1	3.10	5.51	1.91	174
July	10.3	4.53	9.32	102	8.83	95.0	2.93	3.67	1.61	10.9	6.63	5.18	1.90	59.3
Aug	25.1	2.56	2.71	460	9.94	374	8.77	9.66	1.58	42.3	1.57	5.80	6.43	294
Sept	38.1	7.39	10.2	580	16.9	509	12.4	12.6	1.64	56.9	11.2	4.95	8.80	36.9
Oct	10.9	6.03	4.71	87.9	5.28	80.6	1.90	2.28	0.541	8.82	9.05	5.04	1.79	297
Nov	11.5	3.60	4.00	147	3.34	132	3.07	3.48	0.631	15.1	6.37	5.20	2.43	158
Dec	47.3	29.2	25.1	339	19.9	301	6.98	9.09	2.59	35.1	58.8	4.23	7.85	77.0
Annual	20.5	8.26	7.69	232	9.13	204	4.94	6.04	1.63	23.2	12.5	4.90	3.87	1766
Max.	573	146	314	10813	195	9132	195	235	107	1005	207	6.86	135	
Min.	1.39	<1	<1	5.71	<1	4.85	<0.3	0.315	<0.2	0.481	0.138	3.68	0.157	

Wet deposition amount

2011	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	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	6.04	2.15	0.937	75.5	0.883	64.5	1.44	1.85	0.461	7.34	2.63
Feb	1.77	0.889	0.847	16.5	0.770	14.6	0.359	0.505	0.190	1.70	1.54
Mar	0.978	0.629	0.620	6.22	0.753	5.79	0.169	0.260	0.135	0.678	0.712
Apr	1.79	1.43	1.18	6.62	1.74	5.84	0.187	0.340	0.214	0.691	2.02
May	7.27	1.60	2.40	108	3.64	94.0	2.24	2.58	0.550	10.6	2.25
June	1.59	0.379	0.516	22.4	0.847	20.0	0.597	0.669	0.237	2.28	0.538
July	0.608	0.268	0.553	6.04	0.523	5.63	0.173	0.217	0.0957	0.648	0.393
Aug	7.38	0.753	0.797	135	2.92	110	2.58	2.84	0.465	12.4	0.463
Sept	1.41	0.273	0.377	21.4	0.624	18.8	0.458	0.466	0.0605	2.10	0.414
Oct	3.24	1.79	1.40	26.1	1.57	24.0	0.565	0.679	0.161	2.62	2.69
Nov	1.82	0.567	0.630	23.1	0.525	20.7	0.484	0.547	0.0994	2.39	1.00
Dec	3.65	2.25	1.94	26.1	1.53	23.2	0.538	0.700	0.200	2.70	4.53
Annual	36.3	14.6	13.6	410	16.1	360	8.73	10.7	2.88	40.9	22.1

Data completeness

2011	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.
	%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	91.7	91.7	91.7	100
Feb	100	100	100	100	100	100	100	100	100	100	98.2	98.2	98.2	100
Mar	100	100	100	100	100	100	100	100	100	100	95.2	95.2	95.2	100
Apr	100	100	100	100	100	100	100	100	100	100	99.6	99.6	99.6	100
May	100	100	100	100	100	100	100	100	100	100	99.6	99.6	99.6	100
June	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	98.8	98.8	98.8	100
July	100	100	100	100	100	100	100	100	100	100	96.7	96.7	96.7	100
Aug	5.34	5.34	5.34	5.34	5.34	5.34	5.34	5.34	5.34	5.34	5.34	5.34	5.34	93.5
Sept	100	100	100	100	100	100	100	100	100	100	95.4	95.4	95.4	100
Oct	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	98.9	98.9	98.9	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	84.1	84.1	84.1	84.1	84.1	84.1	84.1	84.1	84.1	84.1	83.1	83.1	83.1	99.5

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m⁻² because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET

(%PCL<80% or %TP<80%)

Table 3.30 Monthly results

Site: Ogasawara

Country: Japan

Precipitation amount-weighted average concentration/ Precipitation amount

2011	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.
	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	31.0	15.4	13.9	302	10.7	259	6.35	10.4	4.79	30.5	40.2	4.40	6.02	35.4
Feb	13.1	4.38	6.06	161	9.24	147	3.80	5.03	1.85	17.1	9.47	5.02	2.95	47.8
Mar	10.0	4.91	8.01	97.5	9.05	84.5	2.60	3.85	2.02	10.0	11.3	4.95	2.01	36.5
Apr	15.9	9.11	6.21	136	12.7	113	3.19	4.15	1.70	12.9	6.91	5.16	2.19	87.6
May	7.12	4.74	5.85	46.6	8.28	39.4	1.05	2.32	1.47	4.78	4.81	5.32	1.06	89.1
June	6.40	4.85	3.36	29.9	5.35	25.6	0.623	1.18	0.627	3.12	4.23	5.37	0.686	17.3
July	12.3	4.96	3.11	146	4.06	121	3.26	3.05	0.433	13.4	5.09	5.29	2.42	119
Aug	47.7	2.95	<1	893	1.85	742	17.2	18.9	2.90	87.5	1.41	5.85	12.5	229
Sept	4.14	<1	<1	64.2	1.37	53.8	1.44	1.39	0.224	6.08	2.47	5.61	1.11	309
Oct	5.92	1.72	2.00	83.1	2.48	69.6	1.87	1.82	0.319	8.14	3.18	5.50	1.44	167
Nov	13.3	5.99	3.76	146	4.83	122	2.81	3.48	0.848	14.3	6.17	5.21	2.52	37.3
Dec	7.26	3.04	3.04	82.4	7.23	70.0	2.29	1.98	0.473	7.63	5.54	5.26	1.59	122
Annual	15.7	3.56	2.93	241	4.54	202	4.95	5.56	1.20	23.6	4.98	5.30	3.70	1297
Max.	303	78.3	72.6	5663	63.1	4684	109	116	24.8	547	141	6.48	75.7	
Min.	<1	<1	<1	4.89	<1	3.86	<0.3	0.484	<0.2	0.857	0.331	3.85	0.270	

Wet deposition amount

2011	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	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	1.10	0.545	0.491	10.7	0.377	9.15	0.225	0.367	0.170	1.08	1.42
Feb	0.625	0.209	0.289	7.70	0.442	7.03	0.182	0.240	0.0886	0.817	0.452
Mar	0.365	0.179	0.292	3.56	0.330	3.09	0.0950	0.140	0.0737	0.365	0.412
Apr	1.40	0.799	0.544	11.9	1.11	9.93	0.279	0.363	0.149	1.13	0.605
May	0.634	0.422	0.522	4.16	0.738	3.51	0.0932	0.207	0.131	0.426	0.429
June	0.111	0.0840	0.0582	0.518	0.0925	0.443	0.0108	0.0204	0.0108	0.0540	0.0733
July	1.46	0.590	0.370	17.4	0.483	14.4	0.387	0.363	0.0516	1.59	0.606
Aug	10.9	0.677	0.152	205	0.425	170	3.95	4.34	0.664	20.1	0.323
Sept	1.28	0.276	0.263	19.8	0.424	16.6	0.446	0.428	0.0693	1.88	0.762
Oct	0.989	0.288	0.333	13.9	0.414	11.6	0.312	0.305	0.0533	1.36	0.532
Nov	0.497	0.223	0.140	5.44	0.180	4.54	0.105	0.130	0.0316	0.535	0.230
Dec	0.886	0.371	0.371	10.0	0.882	8.54	0.279	0.242	0.0577	0.931	0.676
Annual	20.4	4.62	3.80	313	5.88	262	6.42	7.21	1.56	30.5	6.46

Data completeness

2011	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.
	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%PCL
Jan	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
Feb	96.3	96.3	96.3	96.3	96.3	96.3	96.3	96.3	96.3	96.3	96.3	96.3	96.3	100
Mar	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	100
Apr	100	100	100	100	100	100	100	100	100	100	96.4	96.4	96.4	100
May	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	94.8	94.8	94.8	100
June	82.3	82.3	82.3	82.3	82.3	82.3	82.3	82.3	82.3	82.3	80.9	80.9	80.9	100
July	88.2	88.2	88.2	88.2	88.2	88.2	88.2	88.2	88.2	88.2	88.2	88.2	88.2	100
Aug	100	100	100	100	100	100	100	100	100	100	99.7	99.7	99.7	100
Sept	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.1	99.1	99.1	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	92.4	92.4	92.4	92.4	92.4	92.4	92.4	92.4	92.4	92.4	92.4	92.4	92.4	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	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.1	97.1	97.1	100

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m⁻² because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET

(%PCL<80% or %TP<80%)

Table 3.31 Monthly results

Site: Tokyo

Country: Japan

Precipitation amount-weighted average concentration/ Precipitation amount

2011	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.
	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	53.3	51.3	151	47.5	95.1	32.4	4.35	17.9	17.2	5.55	116	3.94	7.86	3.19
Feb	12.1	11.2	20.1	17.4	25.3	15.2	1.64	4.10	3.77	1.95	11.6	4.94	1.29	89.7
Mar	11.6	11.1	21.4	10.5	25.8	8.95	1.62	4.76	4.57	2.09	10.9	4.96	1.16	70.5
Apr	39.1	35.0	33.0	80.8	48.1	66.9	2.77	13.2	11.8	9.36	21.0	4.68	3.31	83.1
May	11.3	10.9	22.0	9.28	25.2	6.96	0.453	5.38	5.23	1.42	8.00	5.10	1.07	219
June	22.2	21.7	23.8	12.5	29.2	8.31	0.952	4.21	4.03	1.51	26.2	4.58	2.02	120
July	30.3	28.4	34.7	45.3	43.4	32.1	1.17	6.29	5.60	4.40	34.6	4.46	3.00	57.3
Aug	11.2	10.7	30.9	9.38	26.6	7.06	0.464	3.83	3.68	1.17	21.0	4.68	1.69	245
Sept	18.8	9.99	7.82	174	14.4	145	3.14	5.00	1.86	16.7	7.99	5.10	3.08	225
Oct	7.99	7.01	13.9	20.1	16.6	16.4	0.551	2.23	1.88	2.18	8.35	5.08	1.03	116
Nov	12.6	10.7	18.2	38.4	22.7	32.0	0.922	2.67	1.97	3.89	13.6	4.87	1.62	102
Dec	12.1	11.5	21.4	13.6	25.7	10.7	0.466	4.05	3.82	1.46	13.1	4.88	1.30	57.5
Annual	15.9	13.6	21.7	45.9	25.4	37.7	1.29	4.84	4.03	4.79	14.9	4.83	1.88	1388
Max.	126	112	322	766	219	644	22.3	120	116	73.5	186	6.05	12.2	
Min.	1.02	<1	<1	<1	1.88	<1	<0.3	0.513	0.492	<0.4	0.891	3.73	0.233	

Wet deposition amount

2011	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	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	0.170	0.164	0.483	0.152	0.304	0.104	0.0139	0.0571	0.0548	0.0177	0.370
Feb	1.09	1.00	1.80	1.56	2.27	1.36	0.147	0.368	0.339	0.175	1.04
Mar	0.818	0.780	1.51	0.740	1.82	0.631	0.114	0.336	0.322	0.147	0.769
Apr	3.25	2.91	2.74	6.71	3.99	5.56	0.230	1.10	0.978	0.777	1.74
May	2.47	2.38	4.82	2.03	5.52	1.53	0.0992	1.18	1.15	0.310	1.75
June	2.65	2.59	2.84	1.50	3.49	0.994	0.114	0.504	0.482	0.181	3.13
July	1.74	1.63	1.99	2.60	2.49	1.84	0.0669	0.361	0.321	0.252	1.98
Aug	2.74	2.63	7.57	2.30	6.51	1.73	0.114	0.938	0.901	0.287	5.15
Sept	4.22	2.25	1.76	39.1	3.23	32.7	0.707	1.13	0.419	3.76	1.80
Oct	0.930	0.815	1.62	2.34	1.93	1.90	0.0641	0.260	0.219	0.254	0.972
Nov	1.28	1.09	1.85	3.91	2.31	3.26	0.0939	0.272	0.201	0.396	1.38
Dec	0.697	0.660	1.23	0.785	1.48	0.614	0.0268	0.233	0.220	0.0841	0.752
Annual	22.0	18.9	30.1	63.8	35.3	52.3	1.79	6.72	5.59	6.65	20.7

Data completeness

2011	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.
	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%PCL
Jan	78.3	78.3	78.3	78.3	78.3	78.3	78.3	78.3	78.3	78.3	78.3	78.3	78.3	100
Feb	100	100	100	100	100	100	100	100	100	100	99.2	99.2	99.2	100
Mar	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	97.8	97.8	97.8	100
Apr	100	100	100	100	100	100	100	100	100	100	99.3	99.3	99.3	100
May	100	100	100	100	100	100	100	100	100	100	99.6	99.6	99.6	100
June	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.0	99.0	99.0	100
July	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	96.8	96.8	96.8	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	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	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
Nov	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.1	99.1	99.1	100
Dec	100	100	100	100	100	100	100	100	100	100	99.1	99.1	99.1	100
Annual	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.3	99.3	99.3	100

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m⁻² because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET

(%PCL<80% or %TP<80%)

Table 3.32 Monthly results

Site: Petaling Jaya

Country: Malaysia

Precipitation amount-weighted average concentration/ Precipitation amount

2011	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.
	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	16.8	16.5	40.9	9.71	10.1	4.76	1.40	6.58	6.48	0.857	42.9	4.37	2.51	205
Feb	37.2	36.8	75.7	12.4	20.9	5.91	1.97	6.73	6.61	1.24	92.5	4.03	5.00	364
Mar	18.2	17.9	36.1	6.89	3.74	3.78	1.03	2.88	2.80	0.439	43.3	4.36	2.47	391
Apr	21.7	21.6	53.8	6.52	4.44	2.58	1.11	3.35	3.30	<0.4	74.8	4.13	3.60	593
May	30.4	30.2	62.3	6.82	2.71	3.24	2.10	2.89	2.82	<0.4	95.9	4.02	4.50	244
June	32.3	31.7	60.9	14.9	<1	9.73	1.76	6.61	6.40	1.18	90.4	4.04	4.52	167
July	22.9	22.4	59.4	11.7	<1	8.61	2.14	4.99	4.81	1.27	82.6	4.08	3.58	154
Aug	23.8	23.4	45.7	8.31	4.29	6.10	1.36	2.46	2.33	0.709	59.8	4.22	2.42	346
Sept	23.0	22.5	57.5	11.2	<1	7.33	1.44	2.77	2.61	0.805	82.8	4.08	3.65	164
Oct	17.2	17.0	43.8	6.82	2.99	3.64	0.805	3.17	3.10	<0.4	54.9	4.26	2.88	287
Nov	14.9	14.7	44.7	6.14	1.11	3.01	0.805	2.76	2.70	<0.4	57.7	4.24	2.91	360
Dec	16.7	16.5	60.5	6.90	<1	3.45	0.868	4.88	4.80	0.456	73.8	4.13	3.65	331
Annual	22.5	22.2	52.8	8.36	4.86	4.56	1.31	3.97	3.87	0.579	69.4	4.16	3.43	3607
Max.	61.1	60.3	134	23.5	30.8	20.9	11.1	16.0	15.6	4.00	170	4.81	8.25	
Min.	2.13	1.94	11.4	4.10	<1	1.30	0.450	<0.2	<0.2	<0.4	15.5	3.77	0.911	

Wet deposition amount

2011	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	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	3.44	3.38	8.39	1.99	2.08	0.976	0.287	1.35	1.33	0.176	8.80
Feb	13.5	13.4	27.6	4.51	7.63	2.15	0.717	2.45	2.41	0.450	33.7
Mar	7.10	7.01	14.1	2.69	1.46	1.48	0.404	1.13	1.09	0.172	16.9
Apr	12.9	12.8	31.9	3.86	2.63	1.53	0.656	1.99	1.95	0.216	44.3
May	7.43	7.38	15.2	1.67	0.662	0.791	0.512	0.707	0.690	0.0791	23.4
June	5.40	5.30	10.2	2.49	<0.01	1.63	0.294	1.11	1.07	0.198	15.1
July	3.53	3.45	9.15	1.80	0.0244	1.33	0.329	0.769	0.740	0.195	12.7
Aug	8.25	8.12	15.8	2.88	1.49	2.11	0.472	0.852	0.809	0.246	20.7
Sept	3.77	3.70	9.44	1.84	0.160	1.20	0.236	0.455	0.429	0.132	13.6
Oct	4.95	4.89	12.6	1.96	0.860	1.05	0.231	0.912	0.890	0.0740	15.8
Nov	5.37	5.30	16.1	2.21	0.398	1.09	0.290	0.995	0.972	<0.01	20.8
Dec	5.51	5.44	20.0	2.28	0.107	1.14	0.287	1.61	1.59	0.151	24.4
Annual	81.2	80.2	190	30.2	17.5	16.5	4.71	14.3	14.0	2.09	250

Data completeness

2011	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.
	%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	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
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	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	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
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	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

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m⁻² because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET

(%PCL<80% or %TP<80%)

Table 3.33 Monthly results

Site: Tanah Rata

Country: Malaysia

Precipitation amount-weighted average concentration/ Precipitation amount

2011	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.
	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	9.14	8.87	4.31	7.88	38.3	4.95	14.7	4.58	4.48	1.87	7.60	5.12	1.64	141
Feb	13.9	13.5	7.28	5.06	40.3	6.60	5.62	4.44	4.29	1.52	2.14	5.67	1.03	65.4
Mar	3.92	3.77	3.09	3.27	<1	2.58	0.789	2.94	2.89	0.515	7.71	5.11	0.533	360
Apr	4.11	4.04	1.04	2.38	<1	1.26	0.578	1.74	1.71	<0.4	10.1	5.00	0.593	479
May	3.87	3.77	5.17	1.84	1.65	1.63	0.505	2.29	2.25	<0.4	12.8	4.89	0.731	378
June	20.8	20.4	<1	6.55	277	6.41	19.3	5.40	5.26	0.868	12.2	4.91	4.70	133
July	7.19	7.03	1.32	5.28	<1	2.64	1.08	5.80	5.75	0.662	14.6	4.84	0.969	112
Aug	5.04	4.99	1.34	2.28	<1	<1	0.352	1.87	1.85	<0.4	8.51	5.07	0.576	443
Sept	6.27	6.15	3.42	3.19	2.58	1.97	0.801	1.46	1.41	<0.4	14.1	4.85	0.755	280
Oct	4.19	4.11	<1	2.49	<1	1.43	0.731	0.933	0.907	<0.4	11.2	4.95	0.598	320
Nov	1.06	<1	<1	1.88	<1	1.58	0.348	0.318	0.296	<0.4	7.57	5.12	0.494	377
Dec	1.68	1.64	1.22	2.08	<1	<1	<0.3	0.939	0.923	<0.4	5.73	5.24	0.399	203
Annual	5.05	4.93	2.21	2.95	14.3	1.99	2.03	2.08	2.04	<0.4	9.76	5.01	0.822	3293
Max.	30.2	29.4	19.1	26.8	667	12.6	44.5	11.4	11.3	3.40	32.4	6.03	9.51	
Min.	<1	<1	<1	<1	<1	<1	<0.3	<0.2	<0.2	<0.4	0.933	4.49	0.301	

Wet deposition amount

2011	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	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	1.29	1.25	0.607	1.11	5.39	0.697	2.07	0.645	0.630	0.263	1.07
Feb	0.910	0.884	0.476	0.331	2.64	0.431	0.368	0.290	0.281	0.0993	0.140
Mar	1.41	1.36	1.11	1.18	<0.01	0.929	0.284	1.06	1.04	0.186	2.78
Apr	1.97	1.94	0.501	1.14	0.0761	0.603	0.277	0.832	0.819	0.0454	4.85
May	1.46	1.42	1.95	0.694	0.622	0.615	0.191	0.863	0.851	0.0919	4.83
June	2.76	2.71	0.0336	0.869	36.8	0.851	2.56	0.717	0.698	0.115	1.62
July	0.808	0.790	0.149	0.593	<0.01	0.297	0.121	0.652	0.646	0.0744	1.64
Aug	2.23	2.21	0.595	1.01	0.187	0.391	0.156	0.829	0.821	<0.01	3.77
Sept	1.76	1.72	0.959	0.894	0.722	0.551	0.224	0.408	0.396	<0.01	3.94
Oct	1.34	1.31	0.293	0.798	<0.01	0.459	0.234	0.299	0.290	<0.01	3.57
Nov	0.398	0.362	0.361	0.707	0.259	0.596	0.131	0.120	0.111	<0.01	2.85
Dec	0.342	0.333	0.249	0.423	0.178	0.156	0.0577	0.191	0.188	<0.01	1.17
Annual	16.6	16.2	7.29	9.70	47.2	6.56	6.70	6.84	6.71	0.869	32.1

Data completeness

2011	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.
	%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	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
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	84.2	84.2	84.2	84.2	84.2	84.2	84.2	84.2	84.2	84.2	84.2	84.2	84.2	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	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
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	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

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m⁻² because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET

(%PCL<80% or %TP<80%)

Table 3.34 Monthly results

Site: Danum Valley

Country: Malaysia

Precipitation amount-weighted average concentration/ Precipitation amount

2011	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.
	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	1.11	<1	<1	8.46	<1	6.41	0.630	<0.2	<0.2	0.425	4.78	5.32	0.328	293
Feb	1.39	<1	<1	10.6	<1	20.5	2.36	0.985	0.578	0.906	8.78	5.06	0.553	289
Mar	2.37	1.98	2.44	6.81	<1	6.41	1.65	0.641	0.525	0.704	4.84	5.31	0.434	382
Apr	3.95	3.26	<1	14.3	<1	11.5	1.79	2.30	2.05	1.40	4.47	5.35	0.540	501
May	*	*	*	*	*	*	*	*	*	*	*	*	*	415
June	1.56	1.49	<1	1.64	6.77	1.19	0.860	0.322	0.302	<0.4	3.56	5.45	0.293	238
July	3.27	3.15	1.69	4.19	<1	1.96	1.44	1.08	1.03	<0.4	6.26	5.20	0.468	239
Aug	4.93	4.64	5.69	8.67	<1	4.86	2.93	3.00	2.90	0.913	16.8	4.78	0.967	181
Sept	3.66	3.43	1.83	3.80	2.64	3.76	1.89	1.10	1.02	0.455	6.11	5.21	0.458	315
Oct	1.62	1.53	<1	4.30	<1	1.51	3.19	1.15	1.12	0.487	8.45	5.07	0.405	235
Nov	1.09	<1	<1	2.92	7.15	1.59	2.98	1.35	1.32	0.791	5.26	5.28	0.470	319
Dec	<1	<1	<1	4.01	<1	2.85	0.589	0.289	0.265	<0.4	5.01	5.30	0.345	381
Annual	1.96	1.72	1.05	5.70	1.90	5.52	1.73	0.887	0.794	0.541	6.20	5.21	0.440	3787
Max.	13.0	12.4	9.47	29.8	15.9	240	19.8	5.90	5.81	2.10	24.0	6.12	1.29	
Min.	<1	<1	<1	1.20	<1	<1	<0.3	<0.2	<0.2	<0.4	0.759	4.62	0.190	

Wet deposition amount

2011	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	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	0.325	0.211	0.0989	2.48	0.0279	1.88	0.185	0.0291	0.0259	0.125	1.40
Feb	0.402	0.270	0.195	3.06	0.200	5.92	0.680	0.284	0.167	0.261	2.53
Mar	0.905	0.758	0.931	2.61	0.312	2.45	0.632	0.245	0.201	0.269	1.85
Apr	1.98	1.64	<0.01	7.17	<0.01	5.77	0.898	1.15	1.03	0.702	2.24
May	*	*	*	*	*	*	*	*	*	*	*
June	0.371	0.354	0.0464	0.389	1.61	0.283	0.204	0.0765	0.0717	0.0113	0.847
July	0.782	0.753	0.404	1.00	0.122	0.469	0.343	0.257	0.247	0.0623	1.50
Aug	0.892	0.839	1.03	1.57	0.0851	0.880	0.531	0.543	0.524	0.165	3.04
Sept	1.15	1.08	0.575	1.19	0.832	1.18	0.596	0.347	0.322	0.143	1.92
Oct	0.381	0.360	0.0398	1.01	<0.01	0.354	0.749	0.269	0.263	0.114	1.98
Nov	0.347	0.316	0.248	0.932	2.28	0.508	0.950	0.431	0.420	0.252	1.68
Dec	0.302	0.250	0.173	1.53	0.104	1.08	0.224	0.110	0.101	0.120	1.91
Annual	7.42	6.51	3.99	21.6	7.19	20.9	6.56	3.36	3.01	2.05	23.5

Data completeness

2011	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.
	%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	94.6	94.6	94.6	100
Mar	60.8	60.8	60.8	60.8	60.8	60.8	60.8	60.8	60.8	60.8	60.8	60.8	60.8	100
Apr	16.4	16.4	16.4	16.4	16.4	16.4	16.4	16.4	16.4	16.4	16.4	16.4	16.4	100
May	0	0	0	0	0	0	0	0	0	0	0	0	0	100
June	87.7	87.7	87.7	87.7	87.7	87.7	87.7	87.7	87.7	87.7	87.7	87.7	87.7	100
July	100	100	100	100	100	100	100	100	100	100	95.8	95.8	95.8	100
Aug	49.9	49.9	49.9	49.9	49.9	49.9	49.9	49.9	49.9	49.9	49.9	49.9	49.9	100
Sept	79.2	79.2	79.2	79.2	79.2	79.2	79.2	79.2	79.2	79.2	79.2	79.2	79.2	100
Oct	92.4	92.4	92.4	92.4	92.4	92.4	92.4	92.4	92.4	92.4	92.4	92.4	92.4	100
Nov	93.3	93.3	93.3	93.3	93.3	93.3	93.3	93.3	93.3	93.3	93.3	93.3	93.3	100
Dec	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	100
Annual	67.9	67.9	67.9	67.9	67.9	67.9	67.9	67.9	67.9	67.9	67.3	67.3	67.3	100

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m⁻² because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET

(%PCL<80% or %TP<80%)

Table 3.35 Monthly results

Site: Kuching

Country: Malaysia

Precipitation amount-weighted average concentration/ Precipitation amount

2011	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.
	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	4.37	3.22	4.76	23.2	6.75	19.0	0.780	3.74	3.33	1.75	2.75	5.56	0.648	815
Feb	3.95	3.00	3.34	20.0	<1	15.9	0.528	1.01	0.663	1.44	5.39	5.27	0.669	669
Mar	4.01	3.80	5.98	6.03	6.50	3.43	0.555	3.44	3.37	<0.4	2.09	5.68	0.451	176
Apr	5.30	4.93	10.1	8.09	9.39	6.20	1.11	3.94	3.80	0.402	3.89	5.41	0.626	243
May	6.22	6.05	11.9	5.43	13.2	2.78	1.50	9.11	9.05	<0.4	1.92	5.72	0.656	143
June	5.96	5.67	7.05	5.19	10.6	4.89	0.994	3.26	3.16	<0.4	3.40	5.47	0.573	139
July	5.65	5.47	7.14	3.85	10.9	2.92	0.892	5.20	5.13	<0.4	2.99	5.52	0.514	323
Aug	7.33	6.89	12.3	9.11	16.0	7.30	2.05	7.53	7.37	0.561	2.10	5.68	0.849	190
Sept	7.45	7.13	12.1	6.70	10.3	5.38	1.64	4.00	3.88	0.438	9.65	5.02	0.817	202
Oct	3.02	2.82	3.35	3.65	3.63	3.31	0.602	1.56	1.49	<0.4	4.36	5.36	0.388	275
Nov	2.56	2.41	3.11	3.58	<1	2.58	<0.3	3.74	3.68	<0.4	3.27	5.49	0.376	479
Dec	2.22	1.78	1.36	9.59	<1	7.31	0.958	1.45	1.29	0.579	3.35	5.48	0.385	980
Annual	4.07	3.53	5.00	11.5	5.03	9.08	0.854	3.15	2.95	0.745	3.73	5.43	0.547	4632
Max.	18.8	18.3	25.2	109	78.1	95.0	7.51	20.2	20.0	9.30	17.8	6.63	2.28	
Min.	<1	<1	<1	1.90	<1	1.00	<0.3	0.500	0.349	<0.4	0.234	4.75	0.211	

Wet deposition amount

2011	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	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	3.56	2.62	3.88	18.9	5.50	15.5	0.636	3.05	2.71	1.43	2.24
Feb	2.64	2.00	2.23	13.4	0.561	10.6	0.353	0.673	0.444	0.965	3.61
Mar	0.704	0.668	1.05	1.06	1.14	0.603	0.0974	0.605	0.592	0.0269	0.367
Apr	1.29	1.20	2.45	1.96	2.28	1.51	0.270	0.956	0.923	0.0977	0.945
May	0.887	0.863	1.69	0.775	1.88	0.396	0.214	1.30	1.29	0.0445	0.274
June	0.828	0.787	0.979	0.720	1.47	0.678	0.138	0.453	0.438	0.0423	0.472
July	1.83	1.77	2.31	1.24	3.51	0.946	0.289	1.68	1.66	0.0845	0.967
Aug	1.39	1.31	2.34	1.73	3.04	1.39	0.390	1.43	1.40	0.106	0.399
Sept	1.50	1.44	2.45	1.35	2.08	1.08	0.330	0.807	0.783	0.0883	1.94
Oct	0.829	0.774	0.919	1.00	0.996	0.908	0.165	0.428	0.408	<0.01	1.20
Nov	1.23	1.15	1.49	1.71	0.159	1.24	0.132	1.79	1.76	<0.01	1.57
Dec	2.18	1.75	1.34	9.40	0.675	7.17	0.939	1.42	1.27	0.567	3.28
Annual	18.9	16.3	23.1	53.2	23.3	42.1	3.95	14.6	13.7	3.45	17.3

Data completeness

2011	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.
	%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

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m⁻² because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET

(%PCL<80% or %TP<80%)

Table 3.36 Monthly results

Site: Ulaanbaatar

Country: Mongolia

Precipitation amount-weighted average concentration/ Precipitation amount

2011	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.
	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	--	--	--	--	--	--	--	--	--	--	--	--	--	0
May	40.6	39.3	21.0	10.2	65.5	21.2	6.92	49.6	49.2	8.60	2.10	5.68	2.38	14.3
June	36.0	35.7	22.4	6.40	59.9	4.04	4.12	43.9	43.8	7.81	4.36	5.36	1.96	36.6
July	17.8	17.7	10.4	4.80	30.9	1.64	2.11	16.9	16.9	7.52	5.33	5.27	0.973	63.8
Aug	33.2	32.7	19.9	9.89	51.3	7.32	6.04	40.5	40.3	14.5	1.99	5.70	2.23	30.1
Sept	35.5	34.9	23.6	19.2	45.5	9.82	3.88	68.5	68.3	7.28	0.230	6.64	2.70	7.70
Oct	24.2	23.7	17.0	8.51	48.6	7.30	5.90	40.4	40.3	13.9	0.311	6.51	2.56	10.9
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Annual	28.1	27.7	16.8	7.46	45.9	5.65	3.98	33.9	33.8	9.23	3.64	5.44	1.74	163
Max.	93.9	92.5	57.7	43.4	110	40.5	19.5	163	163	40.7	17.4	7.29	8.59	
Min.	10.2	10.0	4.80	<1	16.2	<1	0.500	5.25	5.23	1.80	0.0513	4.76	0.620	

Wet deposition amount

2011	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	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May	0.582	0.564	0.301	0.146	0.939	0.303	0.0993	0.712	0.705	0.123	0.0301
June	1.32	1.31	0.821	0.234	2.19	0.148	0.151	1.61	1.60	0.286	0.160
July	1.14	1.13	0.665	0.306	1.97	0.105	0.134	1.08	1.08	0.480	0.340
Aug	0.997	0.984	0.598	0.297	1.54	0.220	0.182	1.22	1.21	0.434	0.0599
Sept	0.273	0.269	0.181	0.148	0.350	0.0756	0.0299	0.528	0.526	0.0561	<0.01
Oct	0.264	0.259	0.185	0.0929	0.531	0.0797	0.0644	0.441	0.440	0.152	<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	4.59	4.53	2.75	1.22	7.50	0.924	0.650	5.54	5.53	1.51	0.595

Data completeness

2011	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.
	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%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	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	100	100	100	96.7
July	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	100	100	100	100
Aug	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	53.2	53.2	53.2	53.2	53.2	53.2	53.2	53.2	53.2	53.2	100	100	100	100
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Annual	96.5	96.5	96.5	96.5	96.5	96.5	96.5	96.5	96.5	96.5	100	100	100	99.7

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m⁻² because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET

(%PCL<80% or %TP<80%)

Table 3.37 Monthly results

Site: Terelj

Country: Mongolia

Precipitation amount-weighted average concentration/ Precipitation amount

2011	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.
	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	--	--	--	--	--	--	--	--	--	--	--	--	--	0
May	31.8	31.2	17.8	8.15	40.8	10.9	5.10	31.5	31.3	7.53	2.15	5.67	1.43	20.0
June	14.0	13.7	16.2	10.3	31.2	3.96	5.47	13.2	13.1	6.30	8.26	5.08	0.981	37.4
July	26.2	26.0	23.1	9.43	49.7	3.94	4.86	21.5	21.4	6.54	4.84	5.31	1.20	41.5
Aug	26.4	25.9	15.0	12.9	41.3	7.45	5.33	23.7	23.5	10.4	7.42	5.13	3.24	27.1
Sept	16.6	16.3	13.1	6.03	30.4	5.35	2.80	13.2	13.1	8.94	1.50	5.82	0.896	9.57
Oct	33.6	32.9	16.6	7.51	24.6	11.2	4.78	17.9	17.7	3.94	2.11	5.68	1.15	8.20
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Annual	23.6	23.2	18.0	9.81	39.4	6.07	5.00	20.4	20.2	7.35	5.47	5.26	1.54	144
Max.	214	213	59.3	26.5	244	44.4	20.7	164	164	22.8	25.1	6.49	8.37	
Min.	4.06	4.01	5.30	<1	1.66	<1	0.700	3.40	3.39	2.10	0.324	4.60	0.470	

Wet deposition amount

2011	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	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May	0.636	0.623	0.357	0.163	0.815	0.217	0.102	0.630	0.625	0.150	0.0430
June	0.522	0.513	0.605	0.385	1.17	0.148	0.204	0.493	0.490	0.235	0.309
July	1.09	1.08	0.959	0.391	2.06	0.164	0.202	0.893	0.889	0.271	0.201
Aug	0.716	0.704	0.406	0.351	1.12	0.202	0.145	0.642	0.638	0.282	0.201
Sept	0.159	0.156	0.126	0.0577	0.291	0.0512	0.0268	0.127	0.126	0.0856	0.0143
Oct	0.276	0.270	0.137	0.0616	0.202	0.0921	0.0392	0.147	0.145	0.0323	0.0173
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	3.40	3.34	2.59	1.41	5.66	0.873	0.719	2.93	2.91	1.06	0.786

Data completeness

2011	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.
	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%PCL
Jan	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Mar	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Apr	--	--	--	--	--	--	--	--	--	--	--	--	--	100
May	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	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	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	100	100	100	100

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m⁻² because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET

(%PCL<80% or %TP<80%)

Table 3.38 Monthly results

Site: Yangon

Country: Myanmar

Precipitation amount-weighted average concentration/ Precipitation amount

2011	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.
	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	11.3	10.4	18.7	11.7	38.7	14.8	4.33	14.4	14.1	3.14	0.194	6.71	1.32	47.0
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Mar	9.38	8.96	20.2	7.95	46.3	7.00	3.35	6.54	6.39	1.57	0.347	6.46	1.06	114
Apr	53.3	51.5	106	42.3	98.5	29.9	10.3	132	132	22.8	0.0891	7.05	5.28	3.90
May	6.54	5.92	8.75	11.0	20.0	10.4	2.21	7.38	7.16	1.97	0.256	6.59	0.734	430
June	9.10	7.44	6.93	32.1	13.1	27.6	2.00	12.1	11.5	4.02	0.337	6.47	1.00	614
July	5.87	5.11	3.82	15.0	9.61	12.7	1.24	6.93	6.65	6.55	0.357	6.45	0.610	578
Aug	3.71	2.67	3.27	12.0	10.1	17.3	1.23	3.65	3.28	1.97	0.297	6.53	0.425	715
Sept	5.38	4.93	4.65	11.4	11.4	7.46	0.940	3.20	3.04	0.979	0.462	6.34	0.468	479
Oct	12.0	11.7	8.58	5.62	26.4	5.32	2.14	6.14	6.02	0.763	0.509	6.29	0.787	169
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Annual	6.63	5.72	6.30	15.8	14.9	15.0	1.66	6.89	6.57	3.02	0.347	6.46	0.682	3151
Max.	53.3	51.5	106	58.5	98.5	50.2	10.3	132	132	24.7	0.631	7.09	5.28	
Min.	2.68	2.20	1.76	4.71	<1	<1	<0.3	0.773	0.765	<0.4	0.0813	6.20	0.319	

Wet deposition amount

2011	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	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	0.531	0.489	0.880	0.552	1.82	0.697	0.204	0.679	0.664	0.148	<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	1.07	1.02	2.30	0.906	5.28	0.798	0.382	0.745	0.728	0.179	0.0395
Apr	0.208	0.201	0.416	0.165	0.385	0.117	0.0400	0.517	0.514	0.0890	<0.01
May	2.82	2.55	3.77	4.72	8.61	4.47	0.950	3.18	3.08	0.847	0.110
June	5.59	4.57	4.25	19.7	8.05	16.9	1.23	7.40	7.04	2.47	0.207
July	3.39	2.95	2.21	8.65	5.55	7.33	0.717	4.00	3.84	3.78	0.207
Aug	2.65	1.91	2.34	8.55	7.23	12.4	0.882	2.61	2.35	1.41	0.212
Sept	2.58	2.36	2.23	5.46	5.47	3.57	0.450	1.53	1.46	0.469	0.221
Oct	2.04	1.98	1.45	0.953	4.47	0.902	0.363	1.04	1.02	0.129	0.0863
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	20.9	18.0	19.8	49.6	46.9	47.2	5.21	21.7	20.7	9.52	1.09

Data completeness

2011	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.
	%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
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

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m⁻² because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET

(%PCL<80% or %TP<80%)

Table 3.39 Monthly results

Site: Metro Manila

Country: Philippines

Precipitation amount-weighted average concentration/ Precipitation amount

2011	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.
	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	17.0	16.2	24.8	23.2	27.5	13.8	5.85	13.9	13.6	<0.4	2.18	5.66	1.27	155
Feb	50.7	50.5	8.74	6.01	2.33	4.35	2.88	5.23	5.13	2.02	91.2	4.04	4.28	24.2
Mar	27.0	24.9	14.7	46.8	65.2	34.3	8.90	14.1	13.4	2.43	0.302	6.52	1.97	8.80
Apr	18.5	15.4	31.0	58.7	106	50.5	17.1	41.7	40.6	7.17	0.214	6.67	3.51	2.90
May	21.2	19.2	23.1	38.0	39.8	33.1	8.75	15.3	14.6	4.34	0.954	6.02	1.81	313
June	12.3	11.4	14.6	23.6	24.0	15.6	5.23	8.51	8.18	1.64	2.64	5.58	0.942	712
July	20.1	19.0	13.1	24.9	114	17.7	12.9	11.4	11.0	3.49	2.09	5.68	2.31	523
Aug	10.8	9.39	6.21	32.7	13.2	23.7	5.04	8.49	7.97	3.10	2.27	5.64	1.11	718
Sept	14.4	13.5	6.43	23.3	166	14.4	31.5	15.2	14.9	6.55	1.44	5.84	3.54	428
Oct	20.8	19.4	21.8	32.7	208	22.2	46.5	18.0	17.5	5.89	0.206	6.69	4.61	354
Nov	46.9	44.8	19.3	46.8	1046	35.4	114	19.7	18.9	54.0	0.103	6.99	16.9	231
Dec	33.6	31.8	23.6	37.5	1084	29.1	72.6	25.2	24.6	11.3	0.211	6.68	18.9	187
Annual	18.7	17.4	14.4	29.8	183	21.4	23.5	12.9	12.4	7.13	2.27	5.64	3.76	3657
Max.	135	131	54.2	104	4241	65.4	460	41.7	40.8	144	91.2	7.66	55.4	
Min.	5.72	5.14	<1	6.01	<1	3.35	2.88	3.84	3.47	<0.4	0.0219	4.04	0.520	

Wet deposition amount

2011	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	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	2.65	2.52	3.85	3.60	4.27	2.15	0.908	2.16	2.12	0.0424	0.338
Feb	1.23	1.22	0.212	0.145	0.0563	0.105	0.0696	0.126	0.124	0.0489	2.21
Mar	0.238	0.219	0.130	0.412	0.573	0.302	0.0783	0.124	0.118	0.0214	<0.01
Apr	0.0536	0.0448	0.0898	0.170	0.309	0.146	0.0495	0.121	0.118	0.0208	<0.01
May	6.64	6.02	7.24	11.9	12.5	10.4	2.74	4.79	4.57	1.36	0.299
June	8.79	8.12	10.4	16.8	17.1	11.1	3.72	6.06	5.82	1.16	1.88
July	10.5	9.95	6.87	13.0	59.9	9.28	6.77	5.98	5.78	1.82	1.09
Aug	7.76	6.74	4.46	23.4	9.50	17.0	3.62	6.09	5.72	2.23	1.63
Sept	6.17	5.79	2.75	9.96	70.9	6.18	13.5	6.49	6.36	2.80	0.617
Oct	7.35	6.88	7.73	11.6	73.6	7.88	16.5	6.36	6.19	2.09	0.0731
Nov	10.8	10.3	4.46	10.8	242	8.18	26.3	4.54	4.36	12.5	0.0239
Dec	6.28	5.95	4.41	7.00	203	5.45	13.6	4.71	4.59	2.11	0.0395
Annual	68.3	63.6	52.7	109	667	78.2	85.9	47.0	45.4	26.1	8.29

Data completeness

2011	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.
	%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	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
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	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	87.3	87.3	87.3	87.3	87.3	87.3	87.3	87.3	87.3	87.3	87.3	87.3	87.3	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	84.3	84.3	84.3	84.3	84.3	84.3	84.3	84.3	84.3	84.3	84.3	84.3	84.3	100
Annual	97.7	97.7	97.7	97.7	97.7	97.7	97.7	97.7	97.7	97.7	97.7	97.7	97.7	100

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m⁻² because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET

(%PCL<80% or %TP<80%)

Table 3.40 Monthly results

Site: Los Baños

Country: Philippines

Precipitation amount-weighted average concentration/ Precipitation amount

2011	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.
	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	18.6	6.26	14.9	233	23.0	205	7.12	12.0	7.54	23.2	0.884	6.05	3.92	20.2
Feb	14.4	10.7	16.7	66.5	50.8	60.7	4.30	11.0	9.72	8.14	0.194	6.71	1.90	22.4
Mar	6.81	4.52	5.20	43.1	18.0	38.0	3.94	6.28	5.46	5.07	0.398	6.40	1.10	51.3
Apr	13.7	*	<1	53.5	15.7	*	*	*	*	*	1.29	5.89	2.31	3.40
May	9.38	8.58	12.4	17.7	18.6	13.4	0.785	5.33	5.04	1.21	2.60	5.59	0.825	157
June	11.7	10.9	6.50	19.6	12.9	12.8	0.751	3.38	3.10	1.22	9.74	5.01	1.06	470
July	8.92	8.12	8.69	21.3	15.1	13.3	2.95	3.66	3.37	4.55	1.11	5.95	0.636	358
Aug	9.07	8.18	12.7	19.6	42.8	14.7	15.7	9.91	9.59	8.73	0.308	6.51	1.40	239
Sept	8.03	7.05	11.3	24.3	41.9	16.1	16.7	10.5	10.1	7.35	1.29	5.89	1.36	236
Oct	7.81	6.71	6.56	26.6	72.7	18.2	14.6	7.09	6.70	5.72	0.221	6.66	2.02	318
Nov	5.45	3.98	6.05	27.7	28.0	24.4	5.30	9.31	8.78	5.43	0.524	6.28	0.964	255
Dec	4.07	2.41	5.34	35.0	6.30	27.5	1.09	4.24	3.65	3.70	1.38	5.86	0.892	254
Annual	8.57	7.40	8.35	26.2	29.4	19.4	6.82	6.38	5.96	4.76	2.70	5.57	1.18	2384
Max.	40.5	36.2	52.3	362	553	318	150	29.8	28.9	45.7	17.8	7.32	11.3	
Min.	<1	<1	<1	<1	<1	<1	<0.3	<0.2	<0.2	<0.4	0.0479	4.75	0.448	

Wet deposition amount

2011	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	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	0.377	0.126	0.301	4.72	0.465	4.15	0.144	0.242	0.152	0.469	0.0179
Feb	0.322	0.240	0.374	1.49	1.14	1.36	0.0963	0.247	0.218	0.182	<0.01
Mar	0.349	0.232	0.267	2.21	0.922	1.95	0.202	0.322	0.280	0.260	0.0204
Apr	0.0465	*	<0.01	0.182	0.0533	*	*	*	*	*	<0.01
May	1.48	1.35	1.95	2.79	2.92	2.11	0.124	0.840	0.794	0.190	0.409
June	5.50	5.14	3.06	9.23	6.06	6.03	0.353	1.59	1.46	0.574	4.58
July	3.20	2.91	3.12	7.64	5.39	4.77	1.06	1.31	1.21	1.63	0.398
Aug	2.16	1.95	3.02	4.69	10.2	3.51	3.75	2.36	2.29	2.08	0.0734
Sept	1.90	1.67	2.68	5.74	9.91	3.81	3.95	2.48	2.39	1.74	0.304
Oct	2.48	2.13	2.09	8.46	23.1	5.77	4.64	2.25	2.13	1.82	0.0701
Nov	1.39	1.01	1.54	7.05	7.12	6.23	1.35	2.37	2.24	1.38	0.133
Dec	1.03	0.613	1.36	8.88	1.60	6.99	0.277	1.08	0.926	0.940	0.350
Annual	20.4	17.6	19.9	62.5	70.1	46.3	16.3	15.2	14.2	11.3	6.43

Data completeness

2011	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.
	%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	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	100	100	100	100
Apr	2.94	0	2.94	2.94	2.94	0	0	0	0	0	2.94	2.94	2.94	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	99.9	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
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	80.4	80.4	80.4	80.4	80.4	80.4	80.4	80.4	80.4	80.4	80.4	80.4	80.4	100
Annual	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

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m⁻² because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET

(%PCL<80% or %TP<80%)

Table 3.41 Monthly results

Site: Mt. Sto. Tomas

Country: Philippines

Precipitation amount-weighted average concentration/ Precipitation amount

2011	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.
	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	6.24	5.91	6.70	5.41	5.55	5.47	2.45	12.5	12.3	1.98	0.961	6.02	0.400	45.4
Feb	4.03	2.98	7.86	8.50	4.56	17.5	2.08	3.42	3.04	<0.4	1.32	5.88	0.510	34.2
Mar	6.69	5.95	8.29	4.14	7.13	12.1	3.79	10.4	10.2	1.15	0.555	6.26	0.537	49.0
Apr	9.54	8.67	13.4	12.9	13.2	14.6	6.56	14.4	14.1	2.25	0.522	6.28	0.739	33.2
May	4.36	4.16	3.79	3.45	1.12	3.29	1.30	4.06	3.99	0.690	6.29	5.20	0.402	566
June	5.17	5.03	3.37	2.10	<1	2.39	0.673	5.16	5.11	0.860	5.45	5.26	0.306	647
July	5.70	5.44	2.43	4.35	1.06	4.23	0.519	10.2	10.1	2.81	3.42	5.47	0.455	477
Aug	3.68	3.45	1.32	5.29	<1	3.92	0.684	4.97	4.88	1.47	6.72	5.17	0.337	1262
Sept	5.05	4.75	1.82	4.52	<1	4.89	0.552	12.6	12.5	2.05	2.31	5.64	0.332	1214
Oct	4.05	3.82	3.83	8.95	1.04	3.84	1.56	9.96	9.87	2.04	1.86	5.73	0.286	141
Nov	3.38	2.62	1.83	1.66	<1	12.5	<0.3	4.29	4.02	1.24	1.15	5.94	0.199	68.0
Dec	5.90	5.69	5.15	2.81	3.04	3.33	0.304	9.82	9.75	2.82	1.15	5.94	0.341	70.4
Annual	4.69	4.43	2.56	4.41	<1	4.31	0.821	7.84	7.75	1.61	4.46	5.35	0.355	4608
Max.	22.0	20.7	21.1	16.5	17.1	22.0	7.62	21.1	20.9	6.50	25.1	6.65	1.36	
Min.	1.96	1.03	<1	<1	<1	<1	<0.3	0.372	0.286	<0.4	0.224	4.60	0.170	

Wet deposition amount

2011	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	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	0.283	0.268	0.304	0.246	0.252	0.248	0.111	0.566	0.560	0.0898	0.0436
Feb	0.138	0.102	0.269	0.291	0.156	0.600	0.0711	0.117	0.104	<0.01	0.0451
Mar	0.328	0.292	0.406	0.203	0.349	0.595	0.186	0.510	0.497	0.0561	0.0272
Apr	0.317	0.288	0.444	0.428	0.439	0.484	0.218	0.478	0.468	0.0746	0.0173
May	2.47	2.35	2.15	1.96	0.634	1.86	0.739	2.30	2.26	0.391	3.56
June	3.35	3.25	2.18	1.36	0.450	1.55	0.435	3.34	3.30	0.556	3.53
July	2.72	2.60	1.16	2.08	0.508	2.02	0.248	4.89	4.84	1.34	1.63
Aug	4.65	4.35	1.66	6.68	0.615	4.95	0.863	6.27	6.17	1.85	8.48
Sept	6.13	5.77	2.21	5.48	<0.01	5.94	0.670	15.3	15.2	2.48	2.81
Oct	0.573	0.540	0.542	1.27	0.148	0.543	0.220	1.41	1.40	0.288	0.263
Nov	0.230	0.178	0.124	0.113	0.0244	0.850	<0.01	0.292	0.274	0.0840	0.0784
Dec	0.415	0.401	0.363	0.198	0.214	0.234	0.0214	0.691	0.686	0.199	0.0807
Annual	21.6	20.4	11.8	20.3	3.79	19.9	3.78	36.1	35.7	7.41	20.6

Data completeness

2011	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.
	%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

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m⁻² because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET

(%PCL<80% or %TP<80%)

Table 3.42 Monthly results

Site: Mondy

Country: Russia

Precipitation amount-weighted average concentration/ Precipitation amount

2011	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.
	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	9.37	8.84	7.90	3.10	2.22	8.70	2.56	31.9	31.7	7.39	0.251	6.60	1.02	4.90
Mar	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Apr	8.56	7.83	11.7	6.71	21.7	12.1	4.43	20.2	19.9	4.43	1.00	6.00	0.973	10.9
May	--	--	--	--	--	--	--	--	--	--	--	--	--	0
June	--	--	--	--	--	--	--	--	--	--	--	--	--	0
July	4.30	4.20	4.10	7.05	4.44	1.74	6.65	4.24	4.20	1.64	5.01	5.30	0.500	19.8
Aug	1.29	1.28	1.57	2.82	1.15	<1	<0.3	1.22	1.22	<0.4	4.50	5.35	0.239	18.5
Sept	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Oct	10.6	10.1	8.87	14.1	47.2	7.83	48.3	28.4	28.2	13.6	0.603	6.22	1.84	2.90
Nov	3.33	3.15	1.29	4.23	5.89	3.04	2.05	6.24	6.17	1.64	0.851	6.07	0.340	11.3
Dec	3.12	2.97	<1	3.67	21.4	2.61	1.53	5.24	5.18	2.46	1.32	5.88	0.480	5.20
Annual	4.53	4.30	4.30	5.28	9.14	3.86	4.98	9.02	8.94	2.60	2.90	5.54	0.566	73.5
Max.	10.6	10.1	17.4	14.1	47.2	17.0	48.3	31.9	31.7	13.6	5.01	6.60	1.84	
Min.	1.04	1.04	<1	2.46	<1	<1	<0.3	0.750	0.750	<0.4	0.251	5.30	0.210	

Wet deposition amount

2011	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	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	0.0459	0.0433	0.0387	0.0152	0.0109	0.0426	0.0125	0.156	0.155	0.0362	<0.01
Mar	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr	0.0933	0.0854	0.127	0.0732	0.237	0.132	0.0483	0.220	0.217	0.0483	0.0109
May	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
June	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
July	0.0851	0.0831	0.0812	0.140	0.0879	0.0344	0.132	0.0840	0.0832	0.0325	0.0992
Aug	0.0238	0.0236	0.0290	0.0523	0.0214	<0.01	<0.01	0.0227	0.0226	<0.01	0.0833
Sept	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Oct	0.0308	0.0294	0.0257	0.0409	0.137	0.0227	0.140	0.0824	0.0819	0.0393	<0.01
Nov	0.0376	0.0356	0.0146	0.0478	0.0666	0.0344	0.0232	0.0705	0.0698	0.0185	<0.01
Dec	0.0162	0.0154	<0.01	0.0191	0.111	0.0136	<0.01	0.0272	0.0270	0.0128	<0.01
Annual	0.333	0.316	0.316	0.388	0.672	0.283	0.366	0.663	0.657	0.191	0.213

Data completeness

2011	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.
	%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
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	--	--	--	--	--	--	--	--	--	--	--	--	--	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
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

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m⁻² because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET

(%PCL<80% or %TP<80%)

Table 3.43 Monthly results

Site: Listvyanka

Country: Russia

Precipitation amount-weighted average concentration/ Precipitation amount

2011	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.
	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	31.3	30.4	102	6.24	23.7	15.5	5.67	45.3	45.0	8.66	9.14	5.04	2.63	69.3
Feb	37.1	36.2	64.0	4.74	18.0	15.1	4.53	57.0	56.6	7.95	7.42	5.13	2.38	8.52
Mar	20.4	19.9	43.0	2.65	9.09	8.41	3.79	23.2	23.0	4.11	6.00	5.22	1.42	55.8
Apr	35.3	34.8	25.9	10.2	32.9	7.90	4.50	20.8	20.6	4.12	8.45	5.07	1.56	43.7
May	42.7	42.3	17.1	11.3	38.8	5.41	3.54	21.5	21.3	4.45	17.8	4.75	1.96	17.7
June	21.3	21.2	10.8	7.47	19.9	2.36	1.64	5.65	5.60	1.52	29.1	4.54	1.79	37.3
July	15.5	15.4	7.65	8.46	10.9	2.46	0.965	4.66	4.61	0.902	25.2	4.60	1.29	85.3
Aug	14.8	14.8	10.4	6.60	11.8	<1	0.382	4.48	4.47	1.04	26.4	4.58	1.31	112
Sept	19.8	19.7	10.9	5.44	15.4	1.99	0.903	6.39	6.35	1.23	23.7	4.62	1.43	12.4
Oct	21.8	21.7	15.2	2.19	19.3	2.01	0.948	6.25	6.21	1.45	31.2	4.51	1.76	18.4
Nov	10.2	9.91	24.8	4.43	14.6	5.10	3.01	10.2	10.1	2.23	4.31	5.37	0.863	6.73
Dec	15.7	15.4	35.1	2.41	13.8	4.27	1.91	12.4	12.3	2.43	16.9	4.77	1.32	11.2
Annual	22.1	21.8	30.6	6.63	17.2	5.42	2.42	16.1	16.0	3.12	18.8	4.73	1.63	478
Max.	375	372	215	26.2	213	52.2	51.9	270	268	36.1	69.2	6.65	13.0	
Min.	1.87	1.79	<1	<1	2.20	<1	<0.3	1.25	1.25	0.410	0.224	4.16	0.180	

Wet deposition amount

2011	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	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	2.17	2.10	7.06	0.433	1.65	1.07	0.393	3.14	3.12	0.600	0.633
Feb	0.316	0.308	0.545	0.0404	0.153	0.129	0.0386	0.485	0.483	0.0677	0.0632
Mar	1.14	1.11	2.40	0.148	0.507	0.469	0.212	1.30	1.28	0.229	0.335
Apr	1.54	1.52	1.13	0.448	1.44	0.345	0.197	0.907	0.899	0.180	0.369
May	0.757	0.751	0.302	0.200	0.688	0.0960	0.0627	0.380	0.378	0.0788	0.316
June	0.794	0.789	0.403	0.279	0.741	0.0881	0.0611	0.211	0.209	0.0566	1.08
July	1.32	1.31	0.652	0.722	0.925	0.209	0.0823	0.397	0.393	0.0769	2.15
Aug	1.66	1.66	1.17	0.741	1.33	0.0386	0.0429	0.502	0.501	0.117	2.96
Sept	0.245	0.244	0.135	0.0672	0.190	0.0245	0.0111	0.0789	0.0784	0.0152	0.293
Oct	0.401	0.399	0.280	0.0404	0.355	0.0369	0.0174	0.115	0.114	0.0267	0.573
Nov	0.0688	0.0667	0.167	0.0298	0.0979	0.0343	0.0203	0.0687	0.0680	0.0150	0.0290
Dec	0.175	0.172	0.392	0.0269	0.154	0.0477	0.0213	0.138	0.137	0.0271	0.189
Annual	10.6	10.4	14.6	3.17	8.22	2.59	1.16	7.72	7.67	1.49	9.00

Data completeness

2011	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.
	%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	99.7	100	100	100	100	100	99.7	99.7	99.7	100
July	99.8	99.8	99.8	99.8	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

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m⁻² because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET

(%PCL<80% or %TP<80%)

Table 3.44 Monthly results

Site: Irkutsk

Country: Russia

Precipitation amount-weighted average concentration/ Precipitation amount

2011	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.
	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	40.7	38.1	45.1	47.6	39.5	43.1	5.74	68.4	67.5	13.3	0.574	6.24	3.24	14.6
Feb	45.2	42.6	51.1	33.4	44.9	43.8	5.97	63.4	62.5	12.4	1.44	5.84	3.17	6.78
Mar	77.1	68.7	41.2	136	41.4	141	14.1	96.4	93.4	18.3	0.364	6.44	5.40	8.29
Apr	35.6	34.0	28.0	34.4	35.4	26.8	4.67	42.1	41.5	6.86	1.88	5.73	2.15	28.9
May	30.6	29.8	28.8	19.7	42.7	14.6	5.92	35.1	34.8	9.15	12.6	4.90	2.39	26.5
June	26.6	26.3	12.5	8.53	21.0	6.03	1.90	29.7	29.6	7.77	4.52	5.35	1.49	31.3
July	27.6	27.4	13.8	8.16	29.8	2.85	1.84	19.6	19.5	4.62	15.2	4.82	1.75	101
Aug	22.2	22.2	11.4	8.06	27.5	1.13	1.49	10.6	10.6	3.24	16.1	4.79	1.32	49.6
Sept	46.7	46.2	15.1	31.2	34.2	7.79	19.6	71.0	70.9	10.4	0.790	6.10	3.09	15.9
Oct	72.2	71.6	26.7	9.76	47.6	9.31	11.5	59.0	58.8	11.1	9.93	5.00	3.18	19.7
Nov	54.8	45.0	39.8	195	48.6	163	9.69	82.4	78.9	16.8	0.493	6.31	5.13	4.79
Dec	36.6	34.8	27.0	25.6	29.0	29.6	3.38	43.2	42.6	8.88	1.38	5.86	2.22	21.8
Annual	34.4	33.4	20.7	22.0	32.7	16.8	4.59	34.7	34.4	7.29	9.51	5.02	2.16	329
Max.	781	772	182	918	278	913	171	624	621	140	50.1	7.37	26.8	
Min.	5.37	5.03	<1	<1	3.10	<1	0.512	5.49	5.46	1.23	0.0427	4.30	0.590	

Wet deposition amount

2011	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	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	0.557	0.659	0.695	0.577	0.629	0.0838	0.999	0.985	0.195	<0.01
Feb	0.307	0.289	0.346	0.227	0.304	0.297	0.0404	0.430	0.423	0.0841	<0.01
Mar	0.639	0.569	0.342	1.13	0.343	1.17	0.117	0.799	0.774	0.151	<0.01
Apr	1.03	0.982	0.807	0.992	1.02	0.773	0.135	1.21	1.20	0.198	0.0542
May	0.813	0.789	0.764	0.522	1.13	0.387	0.157	0.931	0.922	0.243	0.333
June	0.833	0.822	0.391	0.267	0.657	0.189	0.0595	0.931	0.926	0.243	0.141
July	2.79	2.77	1.39	0.825	3.02	0.288	0.186	1.98	1.97	0.467	1.54
Aug	1.10	1.10	0.564	0.400	1.37	0.0559	0.0737	0.525	0.524	0.161	0.801
Sept	0.743	0.735	0.240	0.496	0.544	0.124	0.312	1.13	1.13	0.166	0.0126
Oct	1.42	1.41	0.526	0.193	0.939	0.184	0.227	1.16	1.16	0.219	0.196
Nov	0.263	0.216	0.191	0.933	0.233	0.782	0.0464	0.395	0.378	0.0803	<0.01
Dec	0.797	0.758	0.587	0.557	0.632	0.645	0.0735	0.941	0.927	0.193	0.0300
Annual	11.3	11.0	6.81	7.23	10.8	5.52	1.51	11.4	11.3	2.40	3.13

Data completeness

2011	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.
	%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	98.1	100	100	100	100	100	98.1	98.1	98.1	100
Dec	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.4	99.4	100	100
Annual	100	100	100	100	100	100	100	100	100	100	99.9	99.9	100	100

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m⁻² because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET

(%PCL<80% or %TP<80%)

Table 3.45 Monthly results

Site: Primorskaya

Country: Russia

Precipitation amount-weighted average concentration/ Precipitation amount

2011	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.
	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	25.6	21.4	73.3	145	57.8	69.9	13.0	61.9	60.3	10.8	0.698	6.16	3.97	2.00
Feb	8.22	5.95	50.2	89.0	48.1	37.8	6.23	27.7	26.8	8.05	0.721	6.14	2.37	30.5
Mar	47.9	42.4	70.9	218	23.9	92.0	14.9	91.9	89.9	21.7	1.01	6.00	5.54	4.10
Apr	16.7	16.0	50.0	47.0	42.1	11.9	8.01	23.4	23.1	4.89	4.86	5.31	2.04	59.6
May	13.3	12.7	55.5	118	115	9.61	11.6	18.0	17.8	5.13	2.22	5.65	3.15	79.6
June	18.6	18.3	53.1	81.3	94.5	5.23	7.63	10.7	10.6	3.47	43.7	4.36	3.74	98.1
July	20.6	19.9	31.0	64.2	36.7	12.4	6.92	6.46	6.20	2.80	62.4	4.20	3.59	42.6
Aug	14.2	13.6	18.6	41.0	27.5	10.3	3.60	5.43	5.21	1.90	35.7	4.45	2.28	94.8
Sept	5.66	4.86	24.2	30.0	10.0	13.2	1.44	5.77	5.49	1.30	27.0	4.57	1.73	104
Oct	8.62	7.47	40.9	88.7	71.0	19.1	9.28	17.7	17.3	7.48	6.35	5.20	2.41	59.7
Nov	19.8	18.8	17.1	62.3	33.6	15.8	9.27	17.1	16.7	8.03	12.1	4.92	2.09	44.4
Dec	93.1	87.2	93.8	83.3	110	96.8	18.6	84.0	81.9	25.5	1.26	5.90	6.99	1.80
Annual	14.0	13.2	37.8	67.4	54.1	13.7	6.75	13.7	13.4	4.29	23.4	4.63	2.64	621
Max.	198	193	359	753	388	157	166	271	269	98.5	209	6.65	14.2	
Min.	2.00	1.78	<1	<1	<1	2.00	1.00	1.00	0.957	<0.4	0.224	3.68	0.430	

Wet deposition amount

2011	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	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	0.0513	0.0428	0.147	0.290	0.116	0.140	0.0259	0.124	0.121	0.0216	<0.01
Feb	0.251	0.181	1.53	2.71	1.47	1.15	0.190	0.844	0.819	0.245	0.0220
Mar	0.196	0.174	0.291	0.894	0.0981	0.377	0.0612	0.377	0.369	0.0891	<0.01
Apr	0.996	0.953	2.98	2.80	2.51	0.710	0.477	1.39	1.38	0.292	0.290
May	1.06	1.01	4.42	9.39	9.14	0.765	0.922	1.44	1.42	0.408	0.177
June	1.83	1.79	5.21	7.97	9.27	0.513	0.749	1.05	1.04	0.340	4.29
July	0.878	0.847	1.32	2.74	1.56	0.527	0.295	0.275	0.264	0.119	2.66
Aug	1.35	1.29	1.76	3.88	2.61	0.973	0.342	0.515	0.494	0.180	3.38
Sept	0.588	0.505	2.52	3.11	1.04	1.37	0.149	0.599	0.570	0.135	2.81
Oct	0.515	0.446	2.44	5.30	4.24	1.14	0.554	1.06	1.03	0.447	0.379
Nov	0.877	0.835	0.761	2.76	1.49	0.700	0.412	0.759	0.744	0.357	0.538
Dec	0.168	0.157	0.169	0.150	0.198	0.174	0.0335	0.151	0.148	0.0458	<0.01
Annual	8.70	8.19	23.5	41.9	33.6	8.48	4.19	8.52	8.34	2.66	14.6

Data completeness

2011	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.
	%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	95.1	95.1	95.1	95.1	95.1	95.1	95.1	95.1	95.1	95.1	100	100	100	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	97.1	97.1	97.1	97.1	97.1	97.1	97.1	97.1	97.1	97.1	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	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.6	99.6	99.6	100
Oct	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
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dec	66.7	66.7	66.7	66.7	66.7	66.7	66.7	66.7	66.7	66.7	100	100	100	100
Annual	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.9	99.9	99.9	100

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m⁻² because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET

(%PCL<80% or %TP<80%)

Table 3.46 Monthly results

Site: Bangkok

Country: Thailand

Precipitation amount-weighted average concentration/ Precipitation amount

2011	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.
	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	30.7	30.0	75.3	14.0	81.8	11.7	5.13	19.6	19.3	2.27	51.9	4.28	3.98	70.9
Mar	16.2	15.7	40.1	10.5	55.5	8.24	3.17	8.05	7.87	1.30	31.2	4.51	2.56	180
Apr	13.7	13.3	42.4	7.96	52.9	6.67	2.37	9.07	8.93	1.13	32.7	4.49	3.02	188
May	17.1	16.6	29.3	9.64	62.1	8.66	1.78	11.8	11.7	1.60	8.12	5.09	1.26	213
June	8.14	7.70	7.27	7.24	27.5	7.27	0.753	9.14	8.98	0.932	1.25	5.90	0.744	291
July	5.80	5.41	7.38	7.93	25.1	6.50	0.642	8.41	8.27	1.16	0.651	6.19	0.469	323
Aug	5.88	5.62	13.0	5.92	30.3	4.29	0.716	9.98	9.88	0.986	0.739	6.13	0.667	243
Sept	10.6	10.2	12.7	8.72	45.4	5.79	1.17	16.0	15.9	1.92	0.431	6.37	0.926	331
Oct	8.54	8.29	18.7	5.56	29.7	4.19	3.89	8.03	7.94	0.712	3.26	5.49	0.774	330
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Annual	10.7	10.3	20.6	7.98	40.2	6.46	1.82	10.5	10.4	1.25	8.97	5.05	1.24	2171
Max.	50.3	47.6	98.7	60.9	127	45.2	18.7	88.6	87.7	9.05	53.7	7.12	4.49	
Min.	<1	<1	<1	<1	2.22	<1	<0.3	0.998	0.923	0.411	0.0759	4.27	0.140	

Wet deposition amount

2011	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	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	2.18	2.13	5.34	0.992	5.80	0.828	0.364	1.39	1.37	0.161	3.68
Mar	2.92	2.83	7.23	1.89	10.0	1.49	0.571	1.45	1.42	0.234	5.63
Apr	2.57	2.50	7.96	1.49	9.94	1.25	0.444	1.70	1.68	0.212	6.14
May	3.64	3.53	6.24	2.05	13.2	1.84	0.378	2.52	2.48	0.341	1.73
June	2.37	2.24	2.11	2.11	8.01	2.11	0.219	2.66	2.61	0.271	0.362
July	1.87	1.75	2.39	2.56	8.10	2.10	0.207	2.72	2.67	0.375	0.211
Aug	1.43	1.37	3.16	1.44	7.37	1.04	0.174	2.43	2.40	0.240	0.180
Sept	3.50	3.38	4.20	2.89	15.0	1.92	0.388	5.30	5.26	0.638	0.143
Oct	2.82	2.73	6.17	1.84	9.80	1.38	1.28	2.65	2.62	0.235	1.07
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	23.2	22.4	44.7	17.3	87.3	14.0	3.95	22.9	22.6	2.72	19.5

Data completeness

2011	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.
	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%PCL
Jan	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Feb	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	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	89.6	89.6	89.6	89.6	89.6	89.6	89.6	89.6	89.6	89.6	88.2	88.2	88.2	100
June	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	98.9	98.9	98.9	100
July	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
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	100
Oct	87.0	87.0	87.0	87.0	87.0	87.0	87.0	87.0	87.0	87.0	87.0	87.0	87.0	100
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Annual	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.4	96.4	96.4	100

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m⁻² because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET

(%PCL<80% or %TP<80%)

Table 3.47 Monthly results

Site: Samutprakarn

Country: Thailand

Precipitation amount-weighted average concentration/ Precipitation amount

2011	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.
	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	*	*	*	*	*	*	*	*	*	*	*	*	*	2.00
Feb	*	*	*	*	*	*	*	*	*	*	*	*	*	64.0
Mar	*	*	*	*	*	*	*	*	*	*	*	*	*	102
Apr	*	*	*	*	*	*	*	*	*	*	*	*	*	84.8
May	*	*	*	*	*	*	*	*	*	*	*	*	*	243
June	7.11	6.67	5.85	8.89	19.2	7.29	0.880	3.68	3.53	1.02	1.69	5.77	0.595	423
July	4.74	4.36	3.43	10.9	13.9	6.43	0.847	4.18	4.04	1.29	0.915	6.04	0.499	248
Aug	8.34	8.11	17.4	4.83	39.5	3.78	1.25	8.26	8.17	1.24	1.38	5.86	0.800	424
Sept	8.65	8.31	7.71	7.85	32.2	5.58	1.46	7.13	7.00	1.35	0.544	6.26	0.670	263
Oct	13.0	12.7	15.4	6.74	31.8	6.11	0.911	6.51	6.38	1.17	1.83	5.74	0.773	249
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Annual	7.67	7.33	9.81	7.61	27.8	5.70	1.11	5.95	5.83	1.20	1.27	5.90	0.667	2103
Max.	42.1	42.1	36.1	116	101	61.8	7.16	48.2	48.2	10.3	3.89	7.17	2.97	
Min.	1.15	1.04	1.29	1.13	2.77	<1	<0.3	0.499	0.490	0.411	0.0676	5.41	0.240	

Wet deposition amount

2011	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	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	3.01	2.83	2.48	3.76	8.12	3.09	0.373	1.56	1.49	0.432	0.717
July	1.18	1.08	0.851	2.70	3.44	1.60	0.210	1.04	1.00	0.321	0.227
Aug	3.53	3.44	7.39	2.05	16.7	1.60	0.529	3.50	3.46	0.527	0.584
Sept	2.27	2.18	2.03	2.06	8.47	1.47	0.385	1.87	1.84	0.354	0.143
Oct	3.24	3.15	3.82	1.68	7.90	1.52	0.226	1.62	1.59	0.291	0.456
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	16.1	15.4	20.6	16.0	58.5	12.0	2.33	12.5	12.3	2.52	2.66

Data completeness

2011	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.
	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%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	0	0	0	0	0	0	0	0	0	0	0	0	0	100
Apr	0	0	0	0	0	0	0	0	0	0	0	0	0	100
May	0	0	0	0	0	0	0	0	0	0	0	0	0	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	68.2	68.2	68.2	68.2	68.2	68.2	68.2	68.2	68.2	68.2	68.2	68.2	68.2	100
Aug	95.4	95.4	95.4	95.4	95.4	95.4	95.4	95.4	95.4	95.4	95.4	95.4	95.4	100
Sept	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
Oct	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	100
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Annual	61.6	61.6	61.6	61.6	61.6	61.6	61.6	61.6	61.6	61.6	61.6	61.6	61.6	100

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m⁻² because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET

(%PCL<80% or %TP<80%)

Table 3.48 Monthly results

Site: Pathumthani

Country: Thailand

Precipitation amount-weighted average concentration/ Precipitation amount

2011	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.
	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	25.0	22.7	72.5	40.2	91.9	38.3	6.36	25.2	24.4	6.46	22.1	4.65	3.58	28.4
Mar	12.5	12.1	33.5	7.87	49.2	6.33	3.41	5.93	5.79	1.11	35.7	4.45	2.51	202
Apr	15.8	15.6	38.5	9.53	56.2	4.65	4.25	11.2	11.1	1.58	21.7	4.66	2.23	69.2
May	10.9	10.5	28.1	8.55	43.6	7.05	1.49	11.6	11.4	1.83	9.01	5.05	1.39	224
June	10.0	9.55	13.8	9.11	35.8	8.06	1.64	12.3	12.1	1.99	3.96	5.40	1.05	109
July	8.82	8.36	14.2	8.86	43.0	7.60	2.33	16.1	15.9	2.49	1.32	5.88	0.961	260
Aug	6.71	6.52	21.7	3.98	35.2	3.26	1.31	14.0	13.9	1.25	5.58	5.25	0.945	188
Sept	7.32	6.98	11.4	5.51	37.4	5.62	1.91	17.4	17.3	1.83	2.13	5.67	0.846	223
Oct	6.65	6.61	1.36	<1	12.8	<1	0.416	6.09	6.07	<0.4	7.50	5.13	0.655	258
Nov	**	**	**	**	**	**	**	**	**	**	**	**	**	**
Dec	**	**	**	**	**	**	**	**	**	**	**	**	**	**
Annual	9.45	9.10	19.2	6.82	38.1	5.87	1.96	12.1	12.0	1.57	9.99	5.00	1.27	1562
Max.	55.1	52.6	201	176	255	164	32.5	98.6	97.3	21.8	63.1	6.88	7.25	
Min.	<1	<1	<1	<1	<1	<1	0.314	1.89	1.82	<0.4	0.132	4.20	0.383	

Wet deposition amount

2011	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	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	0.710	0.644	2.06	1.14	2.61	1.09	0.180	0.715	0.692	0.183	0.629
Mar	2.52	2.44	6.77	1.59	9.94	1.28	0.690	1.20	1.17	0.225	7.21
Apr	1.10	1.08	2.66	0.659	3.89	0.322	0.294	0.772	0.765	0.110	1.50
May	2.44	2.35	6.31	1.92	9.77	1.58	0.333	2.59	2.56	0.410	2.02
June	1.10	1.04	1.51	0.995	3.90	0.880	0.179	1.34	1.32	0.218	0.432
July	2.30	2.18	3.70	2.31	11.2	1.98	0.608	4.19	4.15	0.647	0.344
Aug	1.26	1.22	4.06	0.747	6.60	0.610	0.245	2.62	2.61	0.234	1.05
Sept	1.63	1.55	2.54	1.23	8.33	1.25	0.426	3.88	3.85	0.407	0.474
Oct	1.72	1.71	0.352	0.0681	3.30	0.172	0.108	1.57	1.57	0.0244	1.94
Nov	**	**	**	**	**	**	**	**	**	**	**
Dec	**	**	**	**	**	**	**	**	**	**	**
Annual	14.8	14.2	30.0	10.6	59.5	9.16	3.06	18.9	18.7	2.46	15.6

Data completeness

2011	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.
	%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	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	99.6	99.6	99.6	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	99.7	99.7	99.7	100
Sept	100	100	100	100	100	100	100	100	100	100	99.8	99.8	99.8	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	34.4
Nov	**	**	**	**	**	**	**	**	**	**	**	**	**	0
Dec	**	**	**	**	**	**	**	**	**	**	**	**	**	0
Annual	100	100	100	100	100	100	100	100	100	100	99.9	99.9	99.9	77.5

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m⁻² because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET

(%PCL<80% or %TP<80%)

Table 3.49 Monthly results

Site: Khanchanaburi

Country: Thailand

Precipitation amount-weighted average concentration/ Precipitation amount

2011	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.
	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	10.8	10.4	23.7	7.33	43.2	7.39	4.09	2.99	2.83	1.23	7.59	5.12	1.10	10.5
Feb	10.8	10.5	25.3	6.51	47.4	6.30	4.39	5.75	5.61	1.74	5.03	5.30	1.08	100
Mar	6.60	6.34	15.5	4.58	29.3	4.15	3.11	4.74	4.65	1.49	7.91	5.10	1.10	103
Apr	14.7	14.3	34.9	7.87	54.7	5.73	4.09	5.89	5.77	1.63	21.1	4.68	1.43	68.5
May	2.69	2.48	3.37	3.25	7.00	3.48	0.889	1.63	1.56	0.859	1.68	5.77	0.398	274
June	7.34	6.51	5.62	16.8	7.30	13.7	1.26	6.98	6.69	1.93	2.41	5.62	0.689	369
July	2.19	1.82	1.85	6.90	2.42	6.06	0.451	1.74	1.61	0.729	1.93	5.71	0.296	436
Aug	3.33	2.88	2.73	10.6	3.76	7.58	6.85	3.72	3.55	1.29	1.75	5.76	0.431	289
Sept	4.55	4.15	7.42	8.78	17.4	6.71	1.44	5.80	5.67	1.34	1.79	5.75	0.590	218
Oct	9.57	8.75	9.27	11.6	25.6	13.6	1.92	4.07	3.78	1.50	2.07	5.68	0.664	73.1
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Annual	5.11	4.66	7.27	8.86	13.0	7.45	2.21	4.04	3.88	1.27	3.21	5.49	0.585	1941
Max.	43.8	40.5	45.3	66.9	75.4	54.4	49.4	47.7	46.6	7.40	25.1	7.08	2.66	
Min.	<1	<1	<1	<1	<1	<1	<0.3	<0.2	<0.2	<0.4	0.0832	4.60	0.0600	

Wet deposition amount

2011	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	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	0.114	0.109	0.249	0.0770	0.454	0.0776	0.0430	0.0314	0.0298	0.0130	0.0797
Feb	1.09	1.05	2.53	0.653	4.75	0.632	0.440	0.577	0.563	0.174	0.504
Mar	0.680	0.654	1.59	0.472	3.02	0.428	0.321	0.489	0.480	0.154	0.816
Apr	1.01	0.981	2.39	0.539	3.74	0.392	0.280	0.404	0.395	0.111	1.44
May	0.739	0.681	0.924	0.893	1.92	0.954	0.244	0.447	0.427	0.236	0.462
June	2.71	2.40	2.07	6.18	2.69	5.06	0.464	2.58	2.47	0.712	0.888
July	0.954	0.795	0.805	3.01	1.06	2.64	0.197	0.759	0.701	0.318	0.844
Aug	0.963	0.831	0.788	3.07	1.09	2.19	1.98	1.07	1.03	0.372	0.505
Sept	0.991	0.903	1.61	1.91	3.78	1.46	0.312	1.26	1.23	0.291	0.389
Oct	0.700	0.640	0.678	0.848	1.87	0.993	0.140	0.297	0.276	0.109	0.152
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	9.93	9.06	14.1	17.2	25.2	14.5	4.30	7.84	7.53	2.47	6.24

Data completeness

2011	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.
	%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	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
Apr	86.7	86.7	86.7	86.7	86.7	86.7	86.7	86.7	86.7	86.7	86.7	86.7	86.7	100
May	88.5	88.5	88.5	88.5	88.5	88.5	88.5	88.5	88.5	88.5	88.5	88.5	88.5	100
June	80.7	80.7	80.7	80.7	80.7	80.7	80.7	80.7	80.7	80.7	80.7	80.7	80.7	100
July	89.8	89.8	89.8	89.8	89.8	89.8	89.8	89.8	89.8	89.8	89.8	89.8	89.8	100
Aug	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	100
Sept	86.9	86.9	86.9	86.9	86.9	86.9	86.9	86.9	86.9	86.9	86.9	86.9	86.9	100
Oct	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	100
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Annual	85.5	85.5	85.5	85.5	85.5	85.5	85.5	85.5	85.5	85.5	85.5	85.5	85.5	100

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m⁻² because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET

(%PCL<80% or %TP<80%)

Table 3.50 Monthly results

Site: Chiang Mai

Country: Thailand

Precipitation amount-weighted average concentration/ Precipitation amount

2011	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.
	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	4.04	3.90	11.8	2.85	14.7	2.33	1.63	3.54	3.49	0.527	1.35	5.87	0.478	68.7
Apr	11.6	11.4	14.4	6.86	40.2	4.67	4.66	5.90	5.80	1.14	10.6	4.98	1.29	88.0
May	4.30	4.04	16.1	3.70	22.1	4.45	2.19	2.15	2.06	<0.4	3.09	5.51	0.568	318
June	2.06	1.86	3.58	2.71	11.1	3.39	<0.3	1.57	1.53	<0.4	2.30	5.64	0.331	228
July	1.62	1.49	3.82	2.10	8.34	2.17	2.81	2.55	2.51	<0.4	3.42	5.47	0.283	192
Aug	2.19	2.04	3.90	1.92	9.43	2.51	1.21	1.19	1.14	<0.4	3.80	5.42	0.322	258
Sept	2.07	1.91	3.93	2.32	5.95	2.92	<0.3	2.88	2.82	<0.4	7.88	5.10	0.302	361
Oct	4.01	3.84	4.52	2.95	13.2	2.80	1.37	5.29	5.23	0.424	13.3	4.88	0.591	94.3
Nov	15.5	15.1	21.4	6.57	55.9	5.47	4.11	10.7	10.6	1.19	4.33	5.36	1.28	5.80
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Annual	3.24	3.05	7.26	2.88	13.5	3.21	1.45	2.60	2.54	<0.4	5.14	5.29	0.442	1614
Max.	29.6	28.7	64.1	31.4	102	43.4	24.9	31.4	31.1	6.10	51.3	6.73	3.79	
Min.	<1	<1	<1	<1	1.95	<1	<0.3	<0.2	<0.2	<0.4	0.186	4.29	0.140	

Wet deposition amount

2011	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	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	0.277	0.268	0.812	0.196	1.01	0.160	0.112	0.243	0.240	0.0362	0.0931
Apr	1.03	1.00	1.27	0.604	3.53	0.411	0.410	0.519	0.510	0.100	0.931
May	1.37	1.28	5.11	1.18	7.04	1.42	0.696	0.685	0.656	0.0814	0.985
June	0.470	0.424	0.817	0.618	2.53	0.774	0.0237	0.358	0.349	0.0206	0.526
July	0.311	0.286	0.732	0.402	1.60	0.415	0.537	0.489	0.480	0.0319	0.655
Aug	0.565	0.526	1.00	0.496	2.43	0.647	0.313	0.307	0.294	0.0225	0.979
Sept	0.746	0.690	1.42	0.837	2.15	1.05	0.0869	1.04	1.02	0.0275	2.84
Oct	0.378	0.363	0.426	0.278	1.24	0.264	0.129	0.499	0.493	0.0400	1.26
Nov	0.0897	0.0878	0.124	0.0381	0.324	0.0317	0.0238	0.0622	0.0615	<0.01	0.0251
Dec	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	5.23	4.93	11.7	4.65	21.9	5.17	2.33	4.20	4.10	0.367	8.29

Data completeness

2011	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.
	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%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	99.8	99.8	99.8	100
July	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
Aug	100	100	100	100	100	100	100	100	100	100	99.8	99.8	99.8	100
Sept	100	100	100	100	100	100	100	100	100	100	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	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Annual	100	100	100	100	100	100	100	100	100	100	99.9	99.9	99.9	100

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m⁻² because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET

(%PCL<80% or %TP<80%)

Table 3.51 Monthly results

Site: Nakhon Ratchasima

Country: Thailand

Precipitation amount-weighted average concentration/ Precipitation amount

2011	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.
	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	23.9	23.3	48.4	23.1	76.5	10.9	6.14	13.2	13.0	2.47	60.3	4.22	4.80	1.20
Feb	11.8	11.6	30.4	9.50	60.8	4.29	3.20	0.901	0.808	<0.4	17.0	4.77	1.90	54.6
Mar	12.3	12.1	29.3	8.21	61.0	4.37	3.86	5.35	5.25	1.30	23.2	4.63	2.42	74.6
Apr	12.1	11.8	32.6	6.87	54.2	5.63	3.22	5.06	4.94	0.541	47.2	4.33	2.72	85.0
May	7.19	6.85	12.0	5.67	26.4	5.69	1.87	1.89	1.77	<0.4	14.6	4.84	0.938	150
June	4.49	4.11	5.89	5.13	45.6	6.26	1.03	2.57	2.43	<0.4	5.53	5.26	0.518	203
July	3.15	3.01	6.57	3.76	8.36	2.26	0.516	1.80	1.75	0.407	4.61	5.34	0.485	176
Aug	4.21	3.96	6.83	4.51	15.3	4.15	1.09	2.96	2.88	0.440	5.94	5.23	0.561	169
Sept	2.77	2.57	5.22	3.26	9.37	3.41	0.347	0.301	0.278	<0.4	3.00	5.52	0.368	370
Oct	4.62	4.49	4.55	4.14	14.0	2.18	0.631	0.679	0.651	<0.4	8.78	5.06	0.497	221
Nov	19.3	18.0	39.5	17.3	82.0	21.0	9.25	15.3	14.8	3.38	19.6	4.71	2.19	3.60
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Annual	5.30	5.05	9.97	4.80	24.3	4.04	1.20	1.88	1.81	<0.4	9.95	5.00	0.796	1509
Max.	65.7	63.0	104	57.5	1497	132	25.1	49.9	48.9	13.2	112	6.14	5.82	
Min.	<1	<1	2.10	<1	<1	<1	<0.3	<0.2	<0.2	<0.4	0.724	3.95	0.230	

Wet deposition amount

2011	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	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	0.0287	0.0279	0.0581	0.0278	0.0918	0.0130	<0.01	0.0159	0.0156	<0.01	0.0723
Feb	0.645	0.631	1.66	0.519	3.32	0.234	0.175	0.0492	0.0441	<0.01	0.928
Mar	0.920	0.901	2.19	0.613	4.55	0.326	0.288	0.399	0.392	0.0972	1.73
Apr	1.03	0.999	2.77	0.584	4.61	0.479	0.274	0.430	0.420	0.0460	4.01
May	1.08	1.03	1.81	0.853	3.98	0.856	0.281	0.284	0.266	0.0179	2.20
June	0.911	0.835	1.20	1.04	9.26	1.27	0.210	0.521	0.494	0.0298	1.12
July	0.554	0.530	1.16	0.661	1.47	0.398	0.0908	0.316	0.308	0.0717	0.811
Aug	0.711	0.669	1.15	0.761	2.58	0.700	0.183	0.500	0.485	0.0743	1.00
Sept	1.03	0.950	1.93	1.21	3.47	1.26	0.129	0.111	0.103	<0.01	1.11
Oct	1.02	0.995	1.01	0.916	3.10	0.482	0.140	0.150	0.144	0.0409	1.94
Nov	0.0693	0.0647	0.142	0.0624	0.295	0.0758	0.0333	0.0550	0.0534	0.0122	0.0706
Dec	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	7.99	7.63	15.0	7.24	36.7	6.10	1.81	2.83	2.73	0.410	15.0

Data completeness

2011	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.
	%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	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
Mar	100	100	100	100	100	100	100	100	100	100	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	99.7	99.7	99.7	100
June	100	100	100	100	100	100	100	100	100	100	99.6	99.6	99.6	100
July	100	100	100	100	100	100	100	100	100	100	99.7	99.7	99.7	100
Aug	100	100	100	100	100	100	100	100	100	100	98.9	98.9	98.9	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	99.8	99.8	99.8	100
Nov	100	100	100	100	100	100	100	100	100	100	77.8	77.8	77.8	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

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m⁻² because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET

(%PCL<80% or %TP<80%)

Table 3.52 Monthly results

Site: Hanoi

Country: Vietnam

Precipitation amount-weighted average concentration/ Precipitation amount

2011	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.
	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	196	195	120	26.8	294	16.6	13.3	64.8	64.4	11.3	67.9	4.17	9.74	8.40
Feb	233	232	226	40.1	540	22.5	14.3	67.2	66.8	9.52	2.47	5.61	10.9	18.0
Mar	72.8	71.7	58.1	23.1	150	17.0	4.81	32.3	32.0	6.26	0.773	6.11	3.53	107
Apr	43.3	41.5	38.0	33.1	82.2	29.3	7.94	26.4	25.8	8.27	0.292	6.53	2.60	40.0
May	28.7	28.5	17.6	6.67	48.5	2.99	2.83	19.5	19.4	3.12	0.586	6.23	1.39	160
June	15.3	15.1	9.91	4.62	21.8	3.29	1.43	11.0	10.9	4.43	0.907	6.04	0.842	413
July	24.3	23.9	9.95	8.10	39.7	6.46	1.88	10.4	10.2	4.41	5.60	5.25	1.32	280
Aug	24.3	23.9	15.4	6.56	43.2	5.34	2.07	9.82	9.71	3.75	1.06	5.97	1.16	274
Sept	23.9	23.8	15.3	4.86	36.0	2.16	1.56	11.9	11.8	2.86	4.62	5.34	1.16	266
Oct	32.1	31.5	27.2	11.1	48.4	9.06	1.54	14.1	13.9	3.38	13.9	4.86	1.90	167
Nov	55.9	55.4	55.7	11.5	107	7.87	2.07	25.2	25.0	3.08	7.59	5.12	2.83	30.4
Dec	60.2	59.8	55.6	8.41	93.2	7.01	1.94	18.3	18.1	3.26	44.9	4.35	4.00	53.5
Annual	30.7	30.3	21.7	8.56	52.8	6.17	2.27	14.6	14.5	4.08	5.03	5.30	1.60	1817
Max.	358	352	377	153	884	128	27.1	109	108	18.8	120	7.03	17.9	
Min.	11.9	11.7	4.55	1.53	12.6	1.15	<0.3	3.78	3.74	1.82	0.0933	3.92	0.629	

Wet deposition amount

2011	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	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	1.64	1.64	1.01	0.225	2.47	0.139	0.112	0.544	0.541	0.0948	0.570
Feb	4.20	4.18	4.07	0.722	9.72	0.405	0.258	1.21	1.20	0.171	0.0444
Mar	7.76	7.65	6.20	2.46	16.0	1.81	0.513	3.45	3.41	0.667	0.0825
Apr	1.73	1.66	1.52	1.33	3.29	1.17	0.318	1.06	1.03	0.331	0.0117
May	4.58	4.55	2.80	1.06	7.74	0.477	0.451	3.11	3.10	0.497	0.0934
June	6.31	6.23	4.09	1.91	9.01	1.36	0.590	4.54	4.51	1.83	0.375
July	6.80	6.69	2.78	2.27	11.1	1.80	0.526	2.90	2.86	1.23	1.56
Aug	6.66	6.57	4.22	1.80	11.9	1.47	0.568	2.70	2.66	1.03	0.292
Sept	6.36	6.33	4.07	1.29	9.58	0.574	0.414	3.16	3.15	0.761	1.23
Oct	5.34	5.25	4.53	1.85	8.07	1.51	0.256	2.35	2.32	0.563	2.32
Nov	1.70	1.68	1.69	0.349	3.26	0.239	0.0629	0.765	0.759	0.0935	0.231
Dec	3.22	3.20	2.97	0.450	4.99	0.375	0.104	0.978	0.970	0.174	2.40
Annual	55.7	55.0	39.5	15.6	95.9	11.2	4.12	26.6	26.3	7.41	9.13

Data completeness

2011	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.
	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%PCL
Jan	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	100
Feb	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
Mar	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
Apr	94.0	94.0	94.0	94.0	94.0	94.0	94.0	94.0	94.0	94.0	94.0	94.0	94.0	100
May	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
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	95.7	95.7	95.7	95.7	95.7	95.7	95.7	95.7	95.7	95.7	95.7	95.7	95.7	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	99.5	99.5	99.5	100

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m⁻² because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET

(%PCL<80% or %TP<80%)

Table 3.53 Monthly results

Site: Hoa Binh

Country: Vietnam

Precipitation amount-weighted average concentration/ Precipitation amount

2011	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.
	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	192	192	103	15.2	159	8.00	16.2	133	133	14.5	0.407	6.39	7.12	7.60
Feb	139	138	202	133	416	20.1	35.0	76.1	75.7	11.3	0.562	6.25	8.51	3.80
Mar	23.9	23.8	21.7	3.68	41.5	2.25	2.19	12.5	12.5	1.77	5.21	5.28	1.32	103
Apr	48.3	48.0	31.5	10.3	77.9	3.94	7.53	22.3	22.2	5.87	1.57	5.80	2.09	64.8
May	19.4	19.3	14.3	3.02	35.1	2.23	4.14	12.1	12.0	2.80	0.477	6.32	0.993	209
June	10.1	9.94	7.25	<1	15.7	2.21	2.48	12.3	12.3	2.10	0.481	6.32	0.683	341
July	21.1	21.0	10.9	6.89	33.4	1.75	1.31	12.9	12.9	1.89	6.31	5.20	1.14	250
Aug	6.70	6.68	7.34	<1	14.8	<1	1.22	5.35	5.34	1.98	0.726	6.14	0.489	377
Sept	15.1	14.9	14.3	4.53	18.0	3.45	2.17	9.76	9.69	1.82	5.15	5.29	0.873	295
Oct	28.8	28.3	31.8	16.5	33.9	8.99	1.34	26.1	25.9	4.31	7.50	5.13	1.73	82.8
Nov	100	100	82.7	20.5	123	6.27	3.29	55.8	55.7	4.36	54.0	4.27	5.56	17.9
Dec	72.9	72.4	79.6	10.2	74.0	8.61	1.79	32.0	31.8	3.48	66.1	4.18	5.01	8.30
Annual	18.0	17.9	14.4	4.30	27.8	2.46	2.40	12.5	12.5	2.39	3.65	5.44	1.02	1760
Max.	243	242	219	133	416	53.3	35.0	139	139	14.5	141	7.01	14.0	
Min.	5.25	5.23	4.11	<1	9.97	<1	<0.3	4.00	3.99	1.01	0.0977	3.85	0.390	

Wet deposition amount

2011	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	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	1.46	1.46	0.784	0.115	1.21	0.0608	0.123	1.01	1.01	0.110	<0.01
Feb	0.528	0.524	0.769	0.505	1.58	0.0763	0.133	0.289	0.287	0.0428	<0.01
Mar	2.46	2.45	2.23	0.378	4.26	0.231	0.225	1.29	1.28	0.182	0.535
Apr	3.13	3.11	2.04	0.670	5.05	0.256	0.488	1.45	1.44	0.381	0.102
May	4.06	4.04	2.99	0.632	7.34	0.468	0.865	2.52	2.51	0.586	0.0997
June	3.43	3.39	2.47	0.330	5.36	0.752	0.847	4.21	4.19	0.715	0.164
July	5.29	5.26	2.73	1.72	8.35	0.438	0.329	3.24	3.23	0.472	1.58
Aug	2.53	2.52	2.77	0.288	5.58	0.132	0.461	2.02	2.01	0.747	0.274
Sept	4.44	4.38	4.22	1.34	5.32	1.02	0.641	2.88	2.86	0.538	1.52
Oct	2.39	2.34	2.63	1.36	2.80	0.745	0.111	2.16	2.15	0.357	0.621
Nov	1.80	1.79	1.48	0.367	2.21	0.112	0.0590	1.000	0.997	0.0780	0.967
Dec	0.605	0.601	0.661	0.0848	0.615	0.0715	0.0149	0.265	0.264	0.0289	0.548
Annual	31.7	31.5	25.4	7.58	48.9	4.32	4.23	22.1	22.0	4.21	6.42

Data completeness

2011	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.
	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%PCL
Jan	86.8	86.8	86.8	86.8	86.8	86.8	86.8	86.8	86.8	86.8	86.8	86.8	86.8	100
Feb	57.9	57.9	57.9	57.9	57.9	57.9	57.9	57.9	57.9	57.9	57.9	57.9	57.9	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	99.1	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
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	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

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m⁻² because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET

(%PCL<80% or %TP<80%)

Table 3.54 Monthly results

Site: Cuc Phuong

Country: Vietnam

Precipitation amount-weighted average concentration/ Precipitation amount

2011	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.
	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	278	268	167	223	423	156	4.96	136	132	30.2	10.7	4.97	13.3	11.4
Feb	154	151	199	49.8	164	41.6	19.2	141	140	21.7	13.2	4.88	8.17	24.7
Mar	65.7	65.0	42.5	16.0	62.3	11.7	6.91	49.8	49.6	7.01	5.77	5.24	3.00	101
Apr	68.0	64.7	76.3	59.8	20.3	54.4	8.73	83.9	82.8	12.0	23.5	4.63	4.59	32.9
May	27.4	26.5	45.1	13.6	3.07	15.5	1.39	39.2	38.9	5.02	5.16	5.29	1.78	56.7
June	23.2	22.9	8.81	4.20	<1	4.12	6.84	20.2	20.1	2.18	4.98	5.30	0.958	388
July	24.9	23.9	45.6	11.5	1.77	16.4	0.436	31.5	31.2	2.23	21.5	4.67	2.04	349
Aug	32.8	32.1	<1	7.16	7.07	11.7	<0.3	18.9	18.7	7.19	1.82	5.74	1.08	306
Sept	34.3	33.6	2.92	19.2	19.0	12.9	1.66	21.3	21.0	2.37	4.88	5.31	1.50	323
Oct	36.0	35.3	54.1	23.9	18.6	12.3	<0.3	47.8	47.5	4.67	15.1	4.82	2.94	167
Nov	86.9	85.7	67.7	35.7	93.5	20.4	12.7	60.5	60.0	13.2	4.34	5.36	4.18	85.6
Dec	99.9	98.6	80.4	18.3	93.3	21.3	11.3	47.0	46.5	21.4	34.7	4.46	5.37	8.70
Annual	37.6	36.8	27.8	15.5	19.2	13.6	3.31	32.2	32.0	4.78	9.09	5.04	1.98	1853
Max.	278	268	231	223	423	156	29.3	196	196	30.2	74.1	6.86	13.3	
Min.	9.10	7.62	<1	<1	<1	2.09	<0.3	12.5	12.1	0.740	0.138	4.13	0.800	

Wet deposition amount

2011	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	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	3.16	3.06	1.91	2.54	4.82	1.78	0.0566	1.55	1.51	0.344	0.122
Feb	3.80	3.74	4.90	1.23	4.04	1.03	0.474	3.48	3.46	0.536	0.325
Mar	6.62	6.55	4.28	1.61	6.27	1.18	0.696	5.02	4.99	0.706	0.581
Apr	2.24	2.13	2.51	1.97	0.669	1.79	0.287	2.76	2.72	0.396	0.772
May	1.56	1.50	2.56	0.772	0.174	0.877	0.0788	2.22	2.21	0.285	0.293
June	9.00	8.90	3.42	1.63	0.0479	1.60	2.65	7.85	7.82	0.846	1.94
July	8.67	8.32	15.9	4.00	0.616	5.71	0.152	11.0	10.9	0.778	7.50
Aug	10.0	9.81	<0.01	2.19	2.16	3.57	0.0234	5.79	5.71	2.20	0.558
Sept	11.1	10.8	0.943	6.20	6.12	4.15	0.537	6.88	6.79	0.763	1.57
Oct	6.02	5.90	9.06	4.00	3.10	2.06	<0.01	8.00	7.95	0.781	2.52
Nov	7.44	7.34	5.80	3.06	8.00	1.74	1.09	5.18	5.14	1.13	0.371
Dec	0.869	0.858	0.700	0.159	0.812	0.185	0.0981	0.409	0.405	0.186	0.302
Annual	69.7	68.2	51.5	28.7	35.5	25.2	6.14	59.8	59.2	8.86	16.8

Data completeness

2011	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.
	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%TP	%PCL
Jan	71.1	71.1	71.1	71.1	71.1	71.1	71.1	71.1	71.1	71.1	71.1	71.1	71.1	100
Feb	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
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	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
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	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

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m⁻² because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET

(%PCL<80% or %TP<80%)

Table 3.55 Monthly results

Site: Da Nang

Country: Vietnam

Precipitation amount-weighted average concentration/ Precipitation amount

2011	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.
	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	31.3	26.4	29.6	106	33.9	81.9	8.16	20.3	18.5	19.7	3.79	5.42	2.95	161
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Mar	50.8	37.3	38.6	233	23.7	224	12.5	66.4	61.6	43.8	0.126	6.90	6.27	31.2
Apr	99.0	83.8	22.8	287	343	252	136	101	95.3	40.3	0.437	6.36	12.9	8.00
May	70.4	67.1	<1	118	12.4	55.6	14.7	67.7	66.5	17.3	3.72	5.43	4.44	35.0
June	14.5	13.0	24.1	45.1	18.6	24.0	18.2	17.2	16.7	3.12	2.37	5.63	1.53	101
July	51.8	48.7	6.90	140	3.27	52.5	21.9	90.0	88.9	17.1	2.34	5.63	3.84	12.8
Aug	18.5	16.0	8.58	72.3	16.3	41.9	23.9	19.3	18.4	6.57	2.20	5.66	1.87	139
Sept	10.4	9.38	3.97	29.4	9.42	17.7	9.03	4.53	4.14	2.53	4.62	5.34	0.926	812
Oct	9.61	7.54	7.85	49.7	7.97	34.3	15.6	4.02	3.28	4.50	4.32	5.36	1.17	785
Nov	14.0	8.48	8.31	116	10.0	92.2	8.76	6.08	4.08	11.0	4.09	5.39	2.15	1217
Dec	87.2	74.6	83.7	268	115	208	35.7	26.8	22.3	26.0	72.2	4.14	8.89	338
Annual	21.1	16.8	15.8	93.5	21.5	70.2	14.0	10.0	8.50	9.42	10.4	4.98	2.37	3639
Max.	134	114	134	416	343	343	136	101	95.3	46.5	158	7.04	14.1	
Min.	3.52	2.98	<1	9.48	<1	9.00	2.56	0.773	0.579	1.48	0.0912	3.80	0.570	

Wet deposition amount

2011	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	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	5.03	4.23	4.75	17.1	5.44	13.1	1.31	3.26	2.98	3.16	0.609
Feb	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar	1.58	1.16	1.20	7.27	0.739	7.00	0.389	2.07	1.92	1.37	<0.01
Apr	0.792	0.671	0.183	2.29	2.74	2.01	1.09	0.806	0.763	0.323	<0.01
May	2.47	2.35	<0.01	4.12	0.435	1.95	0.515	2.37	2.33	0.604	0.130
June	1.46	1.31	2.43	4.53	1.87	2.41	1.83	1.73	1.68	0.314	0.238
July	0.664	0.623	0.0884	1.79	0.0419	0.673	0.280	1.15	1.14	0.218	0.0300
Aug	2.57	2.22	1.19	10.1	2.27	5.82	3.32	2.69	2.56	0.913	0.306
Sept	8.48	7.61	3.22	23.9	7.65	14.4	7.33	3.68	3.36	2.06	3.75
Oct	7.55	5.92	6.17	39.0	6.26	27.0	12.3	3.16	2.57	3.54	3.40
Nov	17.1	10.3	10.1	141	12.2	112	10.7	7.39	4.97	13.4	4.98
Dec	29.5	25.3	28.3	90.6	38.9	70.4	12.1	9.08	7.56	8.81	24.4
Annual	76.7	61.3	57.5	340	78.3	255	50.9	36.4	30.9	34.3	38.0

Data completeness

2011	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.
	%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
Mar	67.6	67.6	67.6	67.6	67.6	67.6	67.6	67.6	67.6	67.6	67.6	67.6	67.6	100
Apr	87.5	87.5	87.5	87.5	87.5	87.5	87.5	87.5	87.5	87.5	87.5	87.5	87.5	100
May	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
June	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
July	75.8	75.8	75.8	75.8	75.8	75.8	75.8	75.8	75.8	75.8	75.8	75.8	75.8	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	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	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

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m⁻² because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET

(%PCL<80% or %TP<80%)

Table 3.56 Annual precipitation amount and precipitation amount-weighted average concentration in 2011

Country	Name of sites	Code	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	KH 11052	1277	9.04	8.83	8.85	5.89	21.9	3.55	1.15	9.30	9.23	1.22	1.10	5.96	0.820
China	Haifu	CN 11058	810	142	142	83.1	14.3	145	9.87	9.38	68.5	68.2	8.61	65.9	4.18	6.55
	Jinyunshan	CN 11003	848	141	140	77.5	11.9	117	6.12	10.4	65.1	64.9	6.13	90.9	4.04	7.09
	Shizhan	CN 11004	659	110	109	17.5	10.7	60.8	17.7	13.4	91.2	90.8	9.94	0.535	6.27	4.31
	Jiwozi	CN 11007	971	62.6	62.1	8.24	11.1	23.1	7.86	7.28	91.6	91.4	9.65	1.13	5.95	3.04
	Hongwen	CN 11008	843	31.3	30.2	23.6	25.4	42.3	18.1	1.99	14.1	13.7	4.22	22.5	4.65	2.18
	Xiaoping	CN 11009	1531	24.9	24.2	22.6	17.1	38.9	10.9	2.80	11.7	11.5	2.21	15.3	4.82	1.82
	Xiang Zhou	CN 11010	1259	15.5	13.5	15.7	29.8	20.7	32.3	3.74	17.5	16.8	4.39	8.81	5.05	1.84
	Zhuxiandong	CN 11011	1146	20.4	17.7	18.8	18.8	24.8	45.0	5.92	19.1	18.1	6.75	16.7	4.78	1.99
Indonesia	Jakarta	ID 11012	990	28.7	28.0	29.8	19.4	33.7	11.7	2.28	11.1	10.8	3.45	28.2	4.55	2.17
	Serpong	ID 11013	830	33.6	33.0	35.5	15.1	62.2	10.1	3.15	10.9	10.7	3.12	19.7	4.70	2.31
	Kototabang	ID 11014	2193	7.77	7.38	5.05	13.9	10.0	6.54	3.96	5.90	5.76	0.950	9.22	5.04	0.742
	Bandung	ID 11015	1530	30.8	30.1	28.0	12.4	60.8	12.2	4.77	20.9	20.6	5.78	4.00	5.40	1.90
	Maros	ID 11059	3632	8.26	7.36	7.51	16.1	9.30	14.9	1.86	6.49	6.17	2.50	4.43	5.35	0.576
Japan	Rishiri	JP 11016	1232	21.2	12.9	14.1	156	14.0	139	3.44	5.63	2.63	15.4	20.1	4.70	3.50
	Ochiishi	JP 11050	818	15.2	6.73	9.58	180	11.0	155	3.70	5.42	2.11	18.5	13.1	4.88	3.28
	Tappi	JP 11017	1144	27.5	18.5	19.8	167	16.9	150	4.34	8.01	4.87	17.4	24.6	4.61	3.64
	Sado-seki	JP 11019	1387	24.5	15.3	19.7	182	14.6	153	4.45	8.28	4.99	19.0	20.8	4.68	3.57
	Happo	JP 11021	3076	7.00	6.80	8.17	4.43	6.06	3.34	0.447	2.57	2.49	0.896	9.15	5.04	0.666
	Ijira	JP 11022	3068	13.0	12.1	15.1	17.2	14.1	13.8	0.535	1.97	1.70	1.69	18.0	4.75	1.46
	Oki	JP 11023	1534	45.6	16.7	21.2	552	18.6	480	12.7	17.1	6.73	55.5	18.8	4.73	8.76
	Banryu	JP 11024	1432	21.1	14.6	19.5	125	15.7	108	3.39	5.85	3.52	12.8	21.8	4.66	3.13
	Yusuhara	JP 11025	3401	7.02	6.28	5.75	14.7	4.83	12.3	0.465	2.27	2.04	2.56	11.7	4.93	0.870
	Hedo	JP 11027	1766	20.5	8.26	7.69	232	9.13	204	4.94	6.04	1.63	23.2	12.5	4.90	3.87
	Ogasawara	JP 11018	1297	15.7	3.56	2.93	241	4.54	202	4.95	5.56	1.20	23.6	4.98	5.30	3.70
	Tokyo	JP 11057	1388	15.9	13.6	21.7	45.9	25.4	37.7	1.29	4.84	4.03	4.79	14.9	4.83	1.88
Malaysia	Petaling Jaya	MY 11029	3607	22.5	22.2	52.8	8.36	4.86	4.56	1.31	3.97	3.87	0.579	69.4	4.16	3.43
	Tanah Rata	MY 11030	3293	5.05	4.93	2.21	2.95	14.3	1.99	2.03	2.08	2.04	<0.4	9.76	5.01	0.822
	Danum Valley	MY 11053	3787	1.96	1.72	1.05	5.70	1.90	5.52	1.73	0.887	0.794	0.541	6.20	5.21	0.440
	Kuching	MY 11060	4632	4.07	3.53	5.00	11.5	5.03	9.08	0.854	3.15	2.95	0.745	3.73	5.43	0.547
Mongolia	Ulaanbaatar	MN 11031	163	28.1	27.7	16.8	7.46	45.9	5.65	3.98	33.9	33.8	9.23	3.64	5.44	1.74
	Terelj	MN 11032	144	23.6	23.2	18.0	9.81	39.4	6.07	5.00	20.4	20.2	7.35	5.47	5.26	1.54
Myanmar	Yangon	MM 11056	3151	6.63	5.72	6.30	15.8	14.9	15.0	1.66	6.89	6.57	3.02	0.347	6.46	0.682
Philippines	Metro Manila	PH 11033	3657	18.7	17.4	14.4	29.8	183	21.4	23.5	12.9	12.4	7.13	2.27	5.64	3.76
	Los Banos	PH 11034	2384	8.57	7.40	8.35	26.2	29.4	19.4	6.82	6.38	5.96	4.76	2.70	5.57	1.18
	Mt. Sto. Tomas	PH 11055	4608	4.69	4.43	2.56	4.41	<1	4.31	0.821	7.84	7.75	1.61	4.46	5.35	0.355
Russia	Mondy	RU 11038	74	4.53	4.30	4.30	5.28	9.14	3.86	4.98	9.02	8.94	2.60	2.90	5.54	0.566
	Listvyanka	RU 11039	478	22.1	21.8	30.6	6.63	17.2	5.42	2.42	16.1	16.0	3.12	18.8	4.73	1.63
	Irkutsk	RU 11040	329	34.4	33.4	20.7	22.0	32.7	16.8	4.59	34.7	34.4	7.29	9.51	5.02	2.16
	Primorskaya	RU 11041	621	14.0	13.2	37.8	67.4	54.1	13.7	6.75	13.7	13.4	4.29	23.4	4.63	2.64
Thailand	Bangkok	TH 11042	2171	10.7	10.3	20.6	7.98	40.2	6.46	1.82	10.5	10.4	1.25	8.97	5.05	1.24
	Samutprakarn	TH 11043	2103	7.67	7.33	9.81	7.61	27.8	5.70	1.11	5.95	5.83	1.20	1.27	5.90	0.667
	Pathumthani	TH 11044	1562	9.45	9.10	19.2	6.82	38.1	5.87	1.96	12.1	12.0	1.57	9.99	5.00	1.27
	Khanchanaburi	TH 11045	1941	5.11	4.66	7.27	8.86	13.0	7.45	2.21	4.04	3.88	1.27	3.21	5.49	0.585
	Chiang Mai (Mae Hia)	TH 11046	1614	3.24	3.05	7.26	2.88	13.5	3.21	1.45	2.60	2.54	<0.4	5.14	5.29	0.442
	Nakhon Ratchasima	TH 11054	1509	5.30	5.05	9.97	4.80	24.3	4.04	1.20	1.88	1.81	<0.4	9.95	5.00	0.796
Vietnam	Hanoi	VN 11047	1817	30.7	30.3	21.7	8.56	52.8	6.17	2.27	14.6	14.5	4.08	5.03	5.30	1.60
	Hoa Binh	VN 11048	1760	18.0	17.9	14.4	4.30	27.8	2.46	2.40	12.5	12.5	2.39	3.65	5.44	1.02
	Cuc Phuong	VN 11061	1853	37.6	36.8	27.8	15.5	19.2	13.6	3.31	32.2	32.0	4.78	9.09	5.04	1.98
	Da Nang	VN 11062	3639	21.1	16.8	15.8	93.5	21.5	70.2	14.0	10.0	8.50	9.42	10.4	4.98	2.37

Data in hatched column: Rejected annual value by the criteria of EANET (%PCL<80% or %TP<80%)

*** Not measured

Table 3.57 Annual wet depositions in 2011

Country	Name of sites	Code	SO ₄ ²⁻ mmol m ⁻² y ⁻¹	nss-SO ₄ ²⁻ mmol m ⁻² y ⁻¹	NO ₃ ⁻ mmol m ⁻² y ⁻¹	Cl ⁻ mmol m ⁻² y ⁻¹	NH ₄ ⁺ mmol m ⁻² y ⁻¹	Na ⁺ mmol m ⁻² y ⁻¹	K ⁺ mmol m ⁻² y ⁻¹	Ca ²⁺ mmol m ⁻² y ⁻¹	nss-Ca ²⁺ mmol m ⁻² y ⁻¹	Mg ²⁺ mmol m ⁻² y ⁻¹	H ⁺ mmol m ⁻² y ⁻¹
Cambodia	Phnom Penh	KH 11052	11.5	11.3	11.3	7.52	28.0	4.54	1.47	11.9	11.8	1.55	1.41
China	Haifu	CN 11058	115	115	67.4	11.6	117	7.99	7.60	55.5	55.3	6.98	53.4
	Jinyunshan	CN 11003	119	119	65.8	10.1	98.8	5.19	8.80	55.2	55.1	5.20	77.1
	Shizhan	CN 11004	72.5	71.8	11.5	7.07	40.0	11.7	8.83	60.1	59.8	6.55	0.352
	Jiwozi	CN 11007	60.7	60.3	8.01	10.8	22.5	7.63	7.07	88.9	88.8	9.37	1.10
	Hongwen	CN 11008	26.4	25.5	19.9	21.5	35.7	15.2	1.68	11.9	11.5	3.56	19.0
	Xiaoping	CN 11009	38.1	37.1	34.6	26.1	59.6	16.6	4.29	17.9	17.6	3.39	23.4
	Xiang Zhou	CN 11010	19.5	17.0	19.8	37.5	26.1	40.7	4.71	22.1	21.2	5.53	11.1
	Zhuxiandong	CN 11011	23.4	20.3	21.5	21.5	28.4	51.5	6.78	21.8	20.7	7.74	19.1
Indonesia	Jakarta	ID 11012	28.4	27.7	29.5	19.2	33.4	11.6	2.26	11.0	10.7	3.42	27.9
	Serpong	ID 11013	27.9	27.4	29.5	12.5	51.6	8.36	2.61	9.08	8.91	2.59	16.4
	Kototabang	ID 11014	17.1	16.2	11.1	30.5	21.9	14.3	8.69	12.9	12.6	2.08	20.2
	Bandung	ID 11015	47.1	46.0	42.8	18.9	93.0	18.7	7.30	32.0	31.6	8.85	6.12
	Maros	ID 11059	30.0	26.7	27.3	58.4	33.8	54.1	6.74	23.6	22.4	9.07	16.1
Japan	Rishiri	JP 11016	26.1	15.8	17.4	192	17.3	171	4.24	6.93	3.24	18.9	24.8
	Ochiishi	JP 11050	12.4	5.51	7.83	147	8.98	126	3.02	4.44	1.73	15.1	10.7
	Tappi	JP 11017	31.5	21.2	22.7	191	19.4	171	4.96	9.17	5.57	19.9	28.2
	Sado-seki	JP 11019	34.0	21.2	27.3	252	20.2	213	6.18	11.5	6.92	26.4	28.8
	Happo	JP 11021	21.5	20.9	25.1	13.6	18.6	10.3	1.38	7.89	7.67	2.76	28.2
	Ijira	JP 11022	39.8	37.2	46.4	52.8	43.4	42.3	1.64	6.05	5.23	5.19	55.2
	Oki	JP 11023	70.0	25.6	32.6	847	28.6	737	19.5	26.2	10.3	85.2	28.8
	Banryu	JP 11024	30.1	20.8	27.9	179	22.5	155	4.85	8.38	5.04	18.3	31.3
	Yusuhara	JP 11025	23.9	21.3	19.6	49.8	16.4	41.8	1.58	7.71	6.94	8.71	39.7
	Hedo	JP 11027	36.3	14.6	13.6	410	16.1	360	8.73	10.7	2.88	40.9	22.1
	Ogasawara	JP 11018	20.4	4.62	3.80	313	5.88	262	6.42	7.21	1.56	30.5	6.46
	Tokyo	JP 11057	22.0	18.9	30.1	63.8	35.3	52.3	1.79	6.72	5.59	6.65	20.7
Malaysia	Petaling Jaya	MY 11029	81.2	80.2	190	30.2	17.5	16.5	4.71	14.3	14.0	2.09	250
	Tanah Rata	MY 11030	16.6	16.2	7.29	9.70	47.2	6.56	6.70	6.84	6.71	0.869	32.1
	Danum Valley	MY 11053	7.42	6.51	3.99	21.6	7.19	20.9	6.56	3.36	3.01	2.05	23.5
	Kuching	MY 11060	18.9	16.3	23.1	53.2	23.3	42.1	3.95	14.6	13.7	3.45	17.3
Mongolia	Ulaanbaatar	MN 11031	4.59	4.53	2.75	1.22	7.50	0.924	0.650	5.54	5.53	1.51	0.595
	Terej	MN 11032	3.40	3.34	2.59	1.41	5.66	0.873	0.719	2.93	2.91	1.06	0.786
Myanmar	Yangon	MM 11056	20.9	18.0	19.8	49.6	46.9	47.2	5.21	21.7	20.7	9.52	1.09
Philippines	Metro Manila	PH 11033	68.3	63.6	52.7	109	667	78.2	85.9	47.0	45.4	26.1	8.29
	Los Banos	PH 11034	20.4	17.6	19.9	62.5	70.1	46.3	16.3	15.2	14.2	11.3	6.43
	Mt. Sto. Tomas	PH 11055	21.6	20.4	11.8	20.3	3.79	19.9	3.78	36.1	35.7	7.41	20.6
Russia	Mondy	RU 11038	0.333	0.316	0.316	0.388	0.672	0.283	0.366	0.663	0.657	0.191	0.213
	Listvyanka	RU 11039	10.6	10.4	14.6	3.17	8.22	2.59	1.16	7.72	7.67	1.49	9.00
	Irkutsk	RU 11040	11.3	11.0	6.81	7.23	10.8	5.52	1.51	11.4	11.3	2.40	3.13
	Primorskaya	RU 11041	8.70	8.19	23.5	41.9	33.6	8.48	4.19	8.52	8.34	2.66	14.6
Thailand	Bangkok	TH 11042	23.2	22.4	44.7	17.3	87.3	14.0	3.95	22.9	22.6	2.72	19.5
	Samutprakarn	TH 11043	16.1	15.4	20.6	16.0	58.5	12.0	2.33	12.5	12.3	2.52	2.66
	Pathumthani	TH 11044	14.8	14.2	30.0	10.6	59.5	9.16	3.06	18.9	18.7	2.46	15.6
	Khanchanaburi	TH 11045	9.93	9.06	14.1	17.2	25.2	14.5	4.30	7.84	7.53	2.47	6.24
	Chiang Mai (Mae Hia)	TH 11046	5.23	4.93	11.7	4.65	21.9	5.17	2.33	4.20	4.10	0.367	8.29
	Nakhon Ratchasima	TH 11054	7.99	7.63	15.0	7.24	36.7	6.10	1.81	2.83	2.73	0.410	15.0
Vietnam	Hanoi	VN 11047	55.7	55.0	39.5	15.6	95.9	11.2	4.12	26.6	26.3	7.41	9.13
	Hoa Binh	VN 11048	31.7	31.5	25.4	7.58	48.9	4.32	4.23	22.1	22.0	4.21	6.42
	Cuc Phuong	VN 11061	69.7	68.2	51.5	28.7	35.5	25.2	6.14	59.8	59.2	8.86	16.8
	Da Nang	VN 11062	76.7	61.3	57.5	340	78.3	255	50.9	36.4	30.9	34.3	38.0

Data in hatched column: Rejected annual value by the criteria of EANET (%PCL<80% or %TP<80%)

*** Not measured

Table 3.58 Data completeness for annual summaries in 2011 (%PCL, %TP)

Country	Name of sites	Code	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	KH 11052	100	100	100	100	100	100	100	100	100	100	100	100	100	100
China	Haifu	CN 11058	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
	Jinyunshan	CN 11003	100	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
	Shizhan	CN 11004	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Jiwozi	CN 11007	75.3	100	100	100	100	100	100	100	100	100	100	100	100	100
	Hongwen	CN 11008	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Xiaoping	CN 11009	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Xiang Zhou	CN 11010	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Zhuxiandong	CN 11011	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Indonesia	Jakarta	ID 11012	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Serpong	ID 11013	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Kototabang	ID 11014	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Bandung	ID 11015	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Maros	ID 11059	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Japan	Rishiri	JP 11016	100	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
	Ochiishi	JP 11050	95.3	95.5	95.5	95.5	95.5	95.5	95.5	95.5	95.5	95.5	95.5	92.4	92.4	94.9
	Tappi	JP 11017	99.5	92.4	92.4	92.4	92.4	92.4	92.4	92.4	92.4	92.4	92.4	91.2	91.2	91.2
	Sado-seki	JP 11019	99.7	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	97.8	97.8	97.8
	Happo	JP 11021	98.6	94.4	94.4	94.4	94.4	94.4	94.4	94.4	94.4	94.4	94.4	93.2	93.2	93.7
	Ijira	JP 11022	100	100	100	100	100	100	100	100	100	100	100	99.9	99.9	99.9
	Oki	JP 11023	100	96.7	96.7	96.7	96.7	96.7	96.7	96.7	96.7	96.7	96.7	96.6	96.6	96.2
	Banryu	JP 11024	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
	Yusuhara	JP 11025	100	98.8	98.8	98.8	98.8	98.8	98.8	98.8	98.8	98.8	98.8	98.7	98.7	98.7
	Hedo	JP 11027	99.5	84.1	84.1	84.1	84.1	84.1	84.1	84.1	84.1	84.1	84.1	83.1	83.1	83.1
	Ogasawara	JP 11018	100	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.1	97.1	97.1
	Tokyo	JP 11057	100	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.3	99.3	99.3
Malaysia	Petaling Jaya	MY 11029	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
	Tanah Rata	MY 11030	100	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
	Danum Valley	MY 11053	100	67.9	67.9	67.9	67.9	67.9	67.9	67.9	67.9	67.9	67.9	67.3	67.3	67.3
	Kuching	MY 11060	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mongolia	Ulaanbaatar	MN 11031	99.7	96.5	96.5	96.5	96.5	96.5	96.5	96.5	96.5	96.5	96.5	100	100	100
	Terelj	MN 11032	100	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	100	100	100
Myanmar	Yangon	MM 11056	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Philippines	Metro Manila	PH 11033	100	97.7	97.7	97.7	97.7	97.7	97.7	97.7	97.7	97.7	97.7	97.7	97.7	97.7
	Los Banos	PH 11034	100	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
	Mt. Sto. Tomas	PH 11055	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Russia	Mondy	RU 11038	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Listvyanka	RU 11039	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Irkutsk	RU 11040	100	100	100	100	100	100	100	100	100	100	100	99.9	99.9	100
	Primorskaya	RU 11041	100	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.9	99.9	99.9
Thailand	Bangkok	TH 11042	100	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.4	96.4	96.4
	Samutprakarn	TH 11043	100	61.6	61.6	61.6	61.6	61.6	61.6	61.6	61.6	61.6	61.6	61.6	61.6	61.6
	Pathumthani	TH 11044	77.5	100	100	100	100	100	100	100	100	100	100	99.9	99.9	99.9
	Khanchanaburi	TH 11045	100	85.5	85.5	85.5	85.5	85.5	85.5	85.5	85.5	85.5	85.5	85.5	85.5	85.5
	Chiang Mai (Mae Hia)	TH 11046	100	100	100	100	100	100	100	100	100	100	100	99.9	99.9	99.9
	Nakhon Ratchasima	TH 11054	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	VN 11047	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
	Hoa Binh	VN 11048	100	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
	Cuc Phuong	VN 11061	100	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
	Da Nang	VN 11062	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

Data in hatched column: Below the criteria of EANET (%PCL<80% or %TP<80%)

*** Not measured

Table 3.59 Results of ion balance and conductivity agreement check in 2011

Country	Name of sites	Code	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	KH 11052	30	30	9	30.0	30	12	40.0	30	2	6.7
China	Haifu *	CN 11058	113	113	106	93.8	113	112	99.1	113	105	92.9
	Jinyunshan *	CN 11003	105	104	98	94.2	104	100	96.2	104	94	90.4
	Shizhan	CN 11004	44	44	18	40.9	44	35	79.5	44	17	38.6
	Jiwozi	CN 11007	74	74	26	35.1	74	57	77.0	74	25	33.8
	Hongwen *	CN 11008	35	35	21	60.0	35	31	88.6	35	18	51.4
	Xiaoping *	CN 11009	49	49	24	49.0	49	43	87.8	49	23	46.9
	Xiang Zhou	CN 11010	60	60	23	38.3	60	50	83.3	60	22	36.7
	Zhuxiandong	CN 11011	56	56	17	30.4	56	38	67.9	56	17	30.4
Indonesia	Jakarta	ID 11012	28	29	18	62.1	29	24	82.8	29	17	58.6
	Serpong	ID 11013	66	66	58	87.9	66	64	97.0	66	57	86.4
	Kototabang	ID 11014	46	46	22	47.8	46	32	69.6	46	18	39.1
	Bandung	ID 11015	90	90	30	33.3	90	84	93.3	90	30	33.3
	Maros	ID 11059	39	39	16	41.0	39	27	69.2	39	8	20.5
Japan	Rishiri	JP 11016	239	178	178	100	178	178	100	178	178	100
	Ochiishi	JP 11050	127	108	105	97.2	108	105	97.2	108	102	94.4
	Tappi	JP 11017	123	98	96	98.0	98	98	100	98	96	98.0
	Sado-seki	JP 11019	188	134	134	100	134	134	100	134	134	100
	Happo	JP 11021	205	173	172	99.4	173	173	100	173	172	99.4
	Ijira	JP 11022	50	48	48	100	48	48	100	48	48	100
	Oki	JP 11023	203	147	146	99.3	139	138	99.3	139	138	99.3
	Banryu	JP 11024	49	47	47	100	47	47	100	47	47	100
	Yusuhara	JP 11025	171	158	150	94.9	158	154	97.5	158	149	94.3
	Hedo	JP 11027	168	137	132	96.4	137	133	97.1	137	130	94.9
	Ogasawara	JP 11018	181	131	128	97.7	131	131	100	131	128	97.7
	Tokyo	JP 11057	164	114	110	96.5	114	114	100	114	110	96.5
Malaysia	Petaling Jaya	MY 11029	50	48	30	62.5	48	48	100	48	30	62.5
	Tanah Rata	MY 11030	50	48	30	62.5	48	32	66.7	48	25	52.1
	Danum Valley	MY 11053	37	34	21	61.8	34	26	76.5	34	16	47.1
	Kuching	MY 11060	52	52	43	82.7	52	48	92.3	52	41	78.8
Mongolia	Ulaanbaatar	MN 11031	41	36	0	0.0	36	26	72.2	36	0	0.0
	Terelj	MN 11032	42	41	1	2.4	41	28	68.3	41	1	2.4
Myanmar	Yangon	MM 11056	31	31	7	22.6	31	28	90.3	31	7	22.6
Philippines	Metro Manila *	PH 11033	37	37	29	78.4	37	35	94.6	37	29	78.4
	Los Banos *	PH 11034	41	40	19	47.5	40	35	87.5	40	19	47.5
	Mt. Sto. Tomas	PH 11055	35	35	18	51.4	35	35	100	35	18	51.4
Russia	Mondy *	RU 11038	10	10	10	100	10	10	100	10	10	100
	Listvyanka *	RU 11039	61	59	59	100	59	59	100	59	59	100
	Irkutsk *	RU 11040	87	84	81	96.4	84	84	100	84	81	96.4
	Primorskaya *	RU 11041	86	79	55	69.6	79	79	100	79	55	69.6
Thailand	Bangkok *	TH 11042	83	80	13	16.3	80	64	80.0	80	11	13.8
	Samutprakarn *	TH 11043	58	58	19	32.8	58	49	84.5	58	16	27.6
	Pathumthani *	TH 11044	107	104	10	9.6	104	95	91.3	104	9	8.7
	Khanchanaburi *	TH 11045	93	93	64	68.8	93	69	74.2	93	49	52.7
	Chiang Mai *	TH 11046	127	121	34	28.1	121	84	69.4	121	25	20.7
	Nakhon Ratchasima *	TH 11054	125	115	34	29.6	115	79	68.7	115	28	24.3
Vietnam	Hanoi *	VN 11047	37	37	29	78.4	37	37	100	37	29	78.4
	Hoa Binh *	VN 11048	34	33	23	69.7	33	33	100	33	23	69.7
	Cuc Phuong *	VN 11061	33	29	29	100	29	28	96.6	29	28	96.6
	Da Nang *	VN 11062	25	24	23	95.8	24	23	95.8	24	22	91.7

Sample(N) : Number of samples

R₁(N) : Number of samples measured and calculated ion balance (R₁)R₁(AA) : Number of samples within allowable ranges for R₁R₂(N) : Number of samples measured and calculated conductivity agreement (R₂)R₂(AA) : Number of samples within allowable ranges for R₂R₁&R₂(N) : Number of samples measured and calculated both R₁ and R₂R₁&R₂(AA) : Number of samples within allowable ranges for both R₁ and R₂

Sites marked with *

: R₁ and R₂, calculated including concentrations of additional measured constituents

[***] Not measured

Table 3.60 Annual precipitation from 2000 to 2011

unit: mm y⁻¹

Country	Name of sites	Code	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cambodia	Phnom Penh	KH 11052					419	1308	949	1374	1834	1326	1851	1277
China	Guanyinqiac	CN 11001	1081	752	1445	987	1387	1077	842	1299				
	Nanshan	CN 11002	1259											
	Haifu	CN 11058									1010	1066	977	810
	Jinyunshar	CN 11003		710	1607	1233	1518	1461	1196	1645	1213	1098	979	848
	Shizhan	CN 11004	559	364	349	1273	601	509	483	527	385	592	459	659
	Weishuiyuar	CN 11005	447	69.3	232	1302	466	439	316					
	Jiwozi	CN 11007	829	209	142	611	1020	362	234	100	438	628	1155	971
	Hongwen	CN 11008	1517	296	1568	1301	1065	1702	2134	1347	945	737	1530	843
	Xiaoping	CN 11009	1566	2682	2171	1768	1958	2921	2352	1044	2000	1134	1518	1531
	Xiang Zhou	CN 11010	2031	1990	1731	1726	1340	1179	1529	1442	2815	2010	1857	1259
	Zhuxiandong	CN 11011	1779	2571	1581	1755	1277	1062	887	***	2311	1580	1853	1146
Indonesia	Jakarta	ID 11012	1577	1237	1572	1617	1469	2125	1481	2171	1717	1557	2120	990
	Serpong	ID 11014	***	1607	2505	2143	1462	824	1603	2015	2370	1344	1426	830
	Kototabang	ID 11013	2340	1209	1798	3127	2111	2194	1248	2752	2481	2656	2370	2193
	Bandung	ID 11015	893	2605	2541	1606	894	1749	1311	1969	2334	2683	2606	1530
	Maros	ID 11059									3037	3237	2663	3632
Japan	Rishiri	JP 11016	770	615	957	709	945	961	1294	883	828	1054	1072	1232
	Ochiishi	JP 11050				782	648	822	997	866	730	1580	1085	818
	Tappi	JP 11017	1049	1082	1329	1150	1473	1240	964	1055	824	1337	1555	1144
	Sado-seki	JP 11019	1068	971	1433	1126	1539	1143	1264	1163	1021	1037	1368	1387
	Happo	JP 11021	2188	2345	2607	2461	3088	2997	2755	2329	1645	2352	2621	3076
	Ijira	JP 11022	2685	2237	2648	2967	3424	2569	2829	2263	2250	2876	3847	3068
	Okii	JP 11023	1209	1246	1571	1597	1409	1313	1396	1160	1110	1123	1452	1534
	Banryu	JP 11024	1565	1788	1303	1752	1738	1290	1960	1273	1268	1735	1471	1432
	Yusuhara	JP 11025	2801	2080	2346	2839	3970	2321	3160	2373	2189	2068	2476	3401
	Hedo	JP 11027	2907	2126	2032	1393	1778	1780	1863	2701	1961	1975	2643	1766
	Ogasawara	JP 11018	1985	1806	1331	1398	1171	2050	1585	1567	1674	1675	1856	1297
	Tokyo	JP 11057								1080	1860	1727	1656	1388
Lao PDR	Vientian	LA 11051				88.6	442	665	709	1399	1668	181	***	***
Malaysia	Petaling Jaya	MY 11029	3417	3085	2660	3041	2996	2848	4009	3021	3747	2968	3517	3607
	Tanah Rata	MY 11030	3127	2626	2783	3010	2415	2886	2785	2968	3925	3077	2451	3293
	Danum Valley	MY 11053						1256	3005	2988	2999	3391	2370	3787
	Kuching	MY 11060									4286	4671	4645	4632
Mongolia	Ulaanbaatar	MN 11031	197	166	179	297	83.4	150	188	126	155	228	153	163
	Terelj	MN 11032	208	88.6	246	312	207	246	215	185	206	111	130	144
Myanmar	Yangon	MM 11056								3981	6375	3010	2280	3151
Philippines	Metro Manila	PH 11033	4036	2291	2975	2205	2164	2377	2696	3505	2381	3782	2676	3657
	Los Banos	PH 11034	2635	1817	1702	1608	1743	1643	2222	3097	1894	2900	2068	2384
	Mt. Sto. Tomas	PH 11055							431	3379	5078	4727	3610	4608
Republic of Korea	Kanghwa	KR 11035	1118	1139	824	1573	878	811	1092	883	1546	1266	1570	***
	Cheju	KR 11036	1058	1114	1017	1291	1124	699	1127	1244	843	1039	1003	***
	Imsil	KR 11037		1299	993	1876	1207	1248	709	1344	854	1069	1642	***
Russia	Mondy	RU 11038	305	319	204	409	360	286	410	351	206	119	90.2	73.5
	Listvyanka	RU 11039	442	494	360	540	551	452	311	408	391	312	327	478
	Irkutsk	RU 11040	534	468	303	457	553	442	357	478	527	430	375	329
	Primorskaya	RU 11041			835	323	692	737	623	989	553	864	673	621
Thailand	Bangkok	TH 11042	1148	1174	1300	1385	1211	2006	1589	1579	1776	2072	2023	2171
	Samutprakarn	TH 11043	978				1260	1625	1420	1871	1734	1989	1880	2103
	Pathumthani	TH 11044	956	1349	948	1658	976	1268	1608	1381	1670	1314	1763	1562
	Khanchanabur	TH 11045	881	1516	2200	1627	1392	2043	2518	1704	1962	1998	1626	1941
	Chiang Mai	TH 11046		1084	1473	808	1151	1430	1420	937	1286	1052	1167	1614
	Nakhon Ratchasima	TH 11054							1190	1386	1722	1259	1627	1509
Vietnam	Hanoi	VN 11047	1256	2255	1416	1586	1575	1761	1231	1659	2267	1609	1236	1817
	Hoa Binh	VN 11048	1894	2223	1626	1691	1831	2279	1546	1949	1978	1357	1370	1760
	Cuc Phuong	VN 11061										2266	1654	1853
	Da Nang	VN 11062										2966	1690	3639

[***]: No data or not measured

Data in hatched column: Rejected annual value by the criteria of EANET (%PCL<80%)

Black column: Monitoring was not carried out

Table 3.61 Precipitation amount-weighted annual average concentrations of SO₄²⁻ from 2000 to 2011

unit: μmol L ⁻¹														
Country	Name of sites	Code	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cambodia	Phnom Penh	KH 11052					***	5.68	5.31	22.5	11.6	11.6	7.37	9.04
China	Guanyinqiac	CN 11001	152	205	114	110	165	186	177	130				
	Nanshan	CN 11002	130											
	Haifu	CN 11058									144	99.3	139	142
	Jinyunshar	CN 11003		124	78.3	83.2	109	102	141	90.4	120	114	151	141
	Shizhan	CN 11004	356	470	850	203	173	126	274	183	191	136	100.0	110
	Weishuiyuar	CN 11005	538	1510	1010	143	202	107	330					
	Jiwozi	CN 11007	141	326	305	90.6	55.2	118	128	182	145	93.5	31.8	62.6
	Hongwen	CN 11008	20.2	56.5	42.8	36.9	69.1	47.2	28.6	75.5	31.7	26.1	26.7	31.3
	Xiaoping	CN 11009	14.6	18.3	16.7	23.6	27.2	20.2	16.9	28.0	29.2	28.2	27.3	24.9
	Xiang Zhou	CN 11010	22.4	15.7	27.9	20.5	18.7	23.8	29.2	21.7	16.5	18.2	19.8	15.5
	Zhuxiandong	CN 11011	48.0	19.3	32.0	18.5	26.9	29.5	19.3	***	21.5	21.0	17.1	20.4
Indonesia	Jakarta	ID 11012	58.7	62.7	38.5	66.7	48.6	40.3	26.2	27.9	22.7	19.4	21.9	28.7
	Serpong	ID 11014	***	38.2	25.7	23.1	28.1	33.3	28.2	30.5	27.8	23.1	24.4	33.6
	Kototabang	ID 11013	3.69	4.68	7.47	9.18	5.23	5.50	7.65	6.99	2.91	4.72	6.33	7.77
	Bandung	ID 11015	67.4	33.7	27.7	20.4	27.7	35.3	26.8	26.4	28.0	29.2	27.0	30.8
	Maros	ID 11059									5.38	6.96	10.8	8.26
Japan	Rishiri	JP 11016	39.0	31.0	27.3	23.5	28.6	27.9	22.9	28.3	29.4	25.9	23.4	21.2
	Ochiishi	JP 11050				19.1	34.5	22.6	27.7	21.3	18.7	16.7	23.0	15.2
	Tappi	JP 11017	21.9	22.9	22.7	21.8	26.2	29.6	35.8	29.6	28.3	23.1	21.3	27.5
	Sado-seki	JP 11019	34.4	41.0	28.2	16.5	17.7	34.2	28.3	34.9	31.0	33.0	32.3	24.5
	Happo	JP 11021	13.3	11.7	7.59	7.53	9.13	12.0	10.3	12.2	10.9	10.1	6.11	7.00
	Ijira	JP 11022	19.9	22.0	19.7	19.1	14.0	18.9	20.6	19.0	18.2	15.4	11.1	13.0
	Oki	JP 11023	40.5	33.8	35.3	21.5	29.3	55.7	29.5	36.3	35.6	37.8	40.8	45.6
	Banryu	JP 11024	15.6	19.0	19.0	17.4	19.8	26.9	22.0	27.9	25.8	20.9	21.0	21.1
	Yusuhara	JP 11025	11.1	9.16	11.2	9.33	6.72	12.1	10.1	9.50	10.2	11.7	9.64	7.02
	Hedo	JP 11027	32.2	15.9	36.9	35.2	77.0	36.0	19.2	14.4	14.2	13.1	20.9	20.5
	Ogasawara	JP 11018	11.4	11.4	18.1	18.0	10.7	13.1	10.2	12.7	8.97	16.5	15.0	15.7
	Tokyo	JP 11057								17.1	19.6	16.0	10.9	15.9
Lao PDR	Vientiar	LA 11051				***	***	***	3.46	4.67	5.06	4.05	***	***
Malaysia	Petaling Jaya	MY 11029	23.5	22.2	23.7	21.0	18.2	23.3	20.6	13.8	17.5	13.2	17.1	22.5
	Tanah Rata	MY 11030	4.12	3.73	4.62	3.79	4.03	5.58	4.43	3.52	3.28	3.27	3.25	5.05
	Danum Valley	MY 11053						4.40	3.41	2.29	2.49	2.82	5.08	1.96
	Kuching	MY 11060									4.14	3.78	3.57	4.07
Mongolia	Ulaanbaatar	MN 11031	24.3	25.2	24.7	19.5	22.1	26.7	25.4	37.1	27.9	19.9	22.2	28.1
	Terelj	MN 11032	16.4	9.72	15.1	8.26	13.3	17.5	23.8	25.0	16.5	16.5	30.5	23.6
Myanmar	Yangon	MM 11056								***	***	8.01	4.52	6.63
Philippines	Metro Manila	PH 11033	23.4	37.3	26.3	17.1	20.4	24.0	17.6	22.3	24.9	13.6	20.3	18.7
	Los Banos	PH 11034	10.5	15.6	16.1	7.08	8.42	9.86	10.8	8.38	18.0	8.82	7.39	8.57
	Mt. Sto. Tomas	PH 11055							1.37	5.74	3.47	5.04	4.94	4.69
Republic of Korea	Kanghwa	KR 11035	31.6	25.0	34.5	26.1	44.8	46.8	37.0	41.2	27.9	29.2	26.3	***
	Cheju	KR 11036	23.2	20.7	28.0	22.7	23.8	34.3	28.1	37.9	26.2	25.3	19.3	***
	Imsil	KR 11037		16.4	22.9	16.3	16.5	22.8	26.8	28.8	21.0	19.6	19.5	***
Russia	Mondy	RU 11038	7.18	11.0	10.8	8.51	6.85	5.37	4.70	9.31	7.13	7.82	6.80	4.53
	Listvyanka	RU 11039	15.4	13.4	18.2	19.1	19.2	17.3	19.0	17.1	21.3	19.3	20.7	22.1
	Irkutsk	RU 11040	30.1	29.6	34.2	26.3	26.6	27.8	26.0	33.6	38.5	31.2	33.5	34.4
	Primorskaya	RU 11041			29.0	43.1	37.2	38.2	46.0	30.8	40.6	22.6	31.9	14.0
Thailand	Bangkok	TH 11042	21.6	18.2	18.6	18.5	16.3	19.5	22.3	17.2	18.0	12.7	12.0	10.7
	Samutprakarn	TH 11043	25.5				16.5	19.1	20.7	14.8	15.7	15.1	15.6	7.67
	Pathumthani	TH 11044	19.6	17.2	15.0	12.4	17.5	13.2	13.4	12.0	10.6	8.89	8.01	9.45
	Khanchanabur	TH 11045	3.64	5.22	5.62	3.56	3.39	2.80	4.04	2.47	3.78	3.60	1.79	5.11
	Chiang Mai	TH 11046		2.79	4.46	4.13	6.90	5.90	4.54	6.00	4.96	4.30	3.32	3.24
	Nakhon Ratchasima	TH 11054							8.24	6.44	7.36	6.44	7.04	5.30
Vietnam	Hanoi	VN 11047	30.1	14.0	33.7	30.1	37.0	51.4	46.9	33.6	20.2	27.4	35.4	30.7
	Hoa Binh	VN 11048	16.3	14.7	18.8	22.5	29.4	17.8	24.9	17.0	13.6	16.1	26.3	18.0
	Cuc Phuong	VN 11061										18.5	20.3	37.6
	Da Nang	VN 11062										18.8	16.4	21.1

[***]: No data or not measured

White column: Data in hatched column: Rejected annual value by the criteria of EANET (%PCL<80% or %TP<80%,

Black column: Monitoring was not carried out

Table 3.62 Precipitation amount-weighted annual average concentrations of nss-SO₄²⁻ from 2000 to 2011

														unit: $\mu\text{mol L}^{-1}$	
Country	Name of sites	Code	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	
Cambodia	Phnom Penh	KH 11052					***	***	5.08	22.0	8.67	11.2	7.18	8.83	
China	Guanyinqiac	CN 11001	151	205	114	109	165	185	177	130					
	Nanshan	CN 11002	130												
	Haifu	CN 11058									144	99.0	138	142	
	Jinyunshar	CN 11003		123	78.0	82.9	109	101	140	90.0	120	113	151	140	
	Shizhan	CN 11004	353	460	835	199	171	125	271	182	190	135	99.5	109	
	Weishuiyuar	CN 11005	534	1500	994	136	201	106	326						
	Jiwozi	CN 11007	140	316	295	84.5	53.7	115	124	177	140	92.0	31.4	62.	
	Hongwen	CN 11008	18.8	55.9	39.4	34.8	66.0	44.1	27.0	74.0	30.3	24.6	25.5	30.2	
	Xiaoping	CN 11009	14.1	17.6	15.7	22.1	26.4	19.6	16.1	27.2	27.8	27.3	26.2	24.2	
	Xiang Zhou	CN 11010	19.9	14.6	25.4	18.3	16.7	21.5	27.0	20.5	14.4	15.8	18.6	13.5	
	Zhuxiandong	CN 11011	46.3	18.0	29.3	16.4	23.8	26.1	18.0	***	19.0	18.3	15.9	17.7	
Indonesia	Jakarta	ID 11012	55.6	60.3	36.4	65.1	46.4	38.9	25.4	27.0	22.1	18.8	21.4	28.0	
	Serpong	ID 11014	***	36.8	24.2	22.4	26.9	32.3	27.7	29.8	27.2	22.5	23.9	33.0	
	Kototabang	ID 11013	***	4.41	7.09	8.59	4.58	5.16	7.28	6.47	2.61	4.38	6.04	7.38	
	Bandung	ID 11015	***	32.5	27.2	20.0	27.0	34.6	25.7	26.0	27.5	28.5	26.4	30.1	
	Maros	ID 11059									4.43	6.18	10.0	7.36	
Japan	Rishiri	JP 11016	19.4	18.2	15.6	12.9	14.7	15.7	16.3	19.7	14.5	15.3	13.6	12.9	
	Ochiishi	JP 11050				7.47	12.9	10.1	11.3	10.1	8.41	5.88	9.65	6.73	
	Tappi	JP 11017	12.9	14.8	12.9	13.4	14.2	16.6	18.4	15.7	16.4	11.5	14.5	18.5	
	Sado-seki	JP 11019	18.9	19.5	13.1	10.9	9.53	16.8	14.8	21.3	18.3	13.7	13.4	15.3	
	Happo	JP 11021	12.9	11.3	7.39	7.24	8.78	11.5	10.1	12.0	10.7	9.82	5.88	6.80	
	Ijira	JP 11022	18.7	20.2	18.0	18.3	12.7	18.0	20.0	17.7	17.3	14.6	10.3	12.1	
	Oki	JP 11023	16.9	14.8	13.5	10.3	11.9	19.3	15.8	19.7	16.4	15.2	16.2	16.7	
	Banryu	JP 11024	13.9	14.3	14.2	12.5	13.0	21.3	18.0	23.1	21.4	15.0	15.3	14.6	
	Yusuhara	JP 11025	10.1	8.45	9.44	8.46	5.27	10.6	9.39	8.69	9.69	10.9	9.11	6.28	
	Hedo	JP 11027	5.89	6.49	7.44	11.3	24.4	13.0	7.86	6.58	6.73	5.55	5.79	8.26	
	Ogasawara	JP 11018	3.13	5.11	3.94	4.08	3.44	7.32	4.15	4.85	3.81	5.21	3.02	3.56	
	Tokyo	JP 11057								15.0	18.4	14.5	9.86	13.6	
Lao PDR	Vientiar	LA 11051				***	***	***	3.03	4.53	4.88	3.50	***	***	
Malaysia	Petaling Jaya	MY 11029	23.2	22.0	23.4	20.7	17.9	22.9	20.3	13.6	17.2	12.9	16.8	22.2	
	Tanah Rata	MY 11030	4.01	3.61	4.52	3.68	3.92	5.18	4.34	3.43	3.21	3.19	3.17	4.93	
	Danum Valley	MY 11053						4.13	3.07	2.04	2.30	2.47	4.32	1.72	
	Kuching	MY 11060									3.82	3.33	3.17	3.53	
Mongolia	Ulaanbaatar	MN 11031	23.9	24.6	24.3	19.3	21.8	26.3	24.9	36.8	27.3	19.6	22.0	27.7	
	Terelj	MN 11032	16.0	8.77	14.3	7.99	12.9	16.8	23.0	24.5	15.8	16.0	29.8	23.2	
Myanmar	Yangon	MM 11056								***	***	6.90	3.90	5.72	
Philippines	Metro Manila	PH 11033	21.6	22.7	25.4	16.0	19.4	23.0	16.5	21.1	23.4	12.6	18.9	17.4	
	Los Banos	PH 11034	8.50	13.2	14.8	6.25	7.70	8.83	9.44	7.32	16.9	7.77	6.02	7.40	
	Mt. Sto. Tomas	PH 11055							1.20	5.40	3.17	4.54	4.56	4.43	
Republic of Korea	Kanghwa	KR 11035	28.2	22.5	31.5	24.6	42.9	44.7	35.2	38.5	25.6	26.5	24.7	***	
	Cheju	KR 11036	14.0	16.2	24.5	19.9	20.3	29.2	22.9	31.8	18.2	22.1	13.1	***	
	Imsil	KR 11037		15.5	20.5	14.9	15.4	21.5	24.9	27.9	19.0	16.6	16.6	***	
Russia	Mondy	RU 11038	7.08	10.8	10.7	8.37	6.75	5.28	4.60	9.12	7.02	7.69	6.63	4.30	
	Listvyanka	RU 11039	15.1	13.2	18.0	18.8	18.9	17.1	18.8	17.0	21.2	19.1	20.5	21.8	
	Irkutsk	RU 11040	29.6	29.1	33.6	25.9	26.2	27.4	25.4	33.0	37.9	30.1	32.4	33.4	
	Primorskaya	RU 11041			27.6	41.1	35.8	36.9	45.0	29.6	39.3	21.8	30.4	13.2	
Thailand	Bangkok	TH 11042	21.2	17.7	17.6	18.0	15.7	18.7	21.8	16.8	17.4	12.1	11.5	10.3	
	Samutprakarn	TH 11043	24.9				15.5	17.9	19.7	14.1	14.8	14.5	14.5	7.33	
	Pathumthani	TH 11044	18.9	16.7	14.4	12.1	17.0	12.8	13.0	11.7	10.3	8.56	7.67	9.10	
	Khanchanabur	TH 11045	3.09	4.54	5.11	2.96	2.84	2.40	3.67	2.04	3.22	3.03	1.60	4.66	
	Chiang Mai	TH 11046		2.56	3.92	3.97	6.72	5.84	4.34	5.82	4.81	4.14	3.16	3.05	
	Nakhon Ratchasima	TH 11054							7.97	6.18	7.11	6.27	6.85	5.05	
Vietnam	Hanoi	VN 11047	29.0	13.3	33.4	29.6	36.5	50.4	46.1	33.1	19.6	26.8	35.0	30.3	
	Hoa Binh	VN 11048	15.5	14.1	18.6	22.3	29.2	17.4	24.6	16.8	13.4	15.9	26.0	17.9	
	Cuc Phuong	VN 11061										17.8	19.6	36.8	
	Da Nang	VN 11062										13.1	13.9	16.8	

[***]: No data or not measured

White column: Data in hatched column: Rejected annual value by the criteria of EANET (%PCL<80% or %TP<80%,

Black column: Monitoring was not carried out

Table 3.63 Precipitation amount-weighted annual average concentrations of NO₃⁻ from 2000 to 2011

														unit: $\mu\text{mol L}^{-1}$	
Country	Name of sites	Code	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	
Cambodia	Phnom Penh	KH 11052					7.68	***	9.05	8.26	9.40	10.3	8.37	8.85	
China	Guanyinqiac	CN 11001	42.1	52.8	34.4	38.9	43.9	41.3	60.7	48.8					
	Nanshan	CN 11002	41.6												
	Haifu	CN 11058									65.0	53.2	77.6	83.1	
	Jinyunshar	CN 11003		40.3	29.4	34.4	36.8	34.4	46.1	31.5	46.5	54.4	75.0	77.5	
	Shizhan	CN 11004	87.0	153	150	68.0	61.7	12.1	81.7	75.9	40.2	57.7	41.0	17.5	
	Weishuiyuar	CN 11005	95.8	210	168	54.1	69.6	11.4	104						
	Jiwozi	CN 11007	29.1	140	89.8	42.8	26.4	9.31	50.7	66.8	103	27.4	12.2	8.24	
	Hongwen	CN 11008	18.7	37.9	30.7	33.6	49.8	37.3	22.4	37.6	22.9	23.4	29.0	23.6	
	Xiaoping	CN 11009	14.6	18.7	14.8	22.6	19.6	18.1	16.0	26.2	24.6	29.3	30.3	22.6	
	Xiang Zhou	CN 11010	15.6	14.1	17.8	20.9	22.1	17.2	21.8	16.6	12.3	17.7	23.9	15.7	
	Zhuxiandong	CN 11011	33.5	22.2	20.8	11.5	25.0	21.5	13.2	***	14.7	19.8	19.7	18.8	
Indonesia	Jakarta	ID 11012	17.6	53.7	28.2	58.4	77.6	53.9	20.5	31.1	14.1	15.3	17.1	29.8	
	Serpong	ID 11014	***	50.7	32.6	30.8	39.7	39.4	28.3	30.4	30.3	25.4	29.8	35.5	
	Kototabang	ID 11013	6.16	2.74	5.64	49.3	4.71	1.58	1.40	3.57	2.79	<1.0	2.37	5.05	
	Bandung	ID 11015	34.4	26.9	26.3	20.4	28.2	19.2	23.1	21.6	20.7	22.8	17.9	28.0	
	Maros	ID 11059									3.51	5.36	6.35	7.51	
Japan	Rishiri	JP 11016	18.1	18.0	13.5	12.2	11.6	12.6	14.0	15.6	14.7	17.3	14.3	14.1	
	Ochiishi	JP 11050				7.95	13.5	9.31	11.4	9.57	8.44	5.42	9.47	9.58	
	Tappi	JP 11017	12.9	15.3	16.9	16.9	16.3	18.2	22.5	21.6	22.4	13.4	17.5	19.8	
	Sado-seki	JP 11019	18.3	22.2	15.0	13.9	11.2	18.6	18.9	25.8	23.9	16.6	18.1	19.7	
	Happo	JP 11021	11.1	8.88	6.97	6.57	8.01	9.53	8.25	9.82	11.0	8.56	6.51	8.17	
	Ijira	JP 11022	24.1	21.7	21.8	21.7	15.4	24.1	24.2	21.8	24.1	18.4	15.1	15.1	
	Oki	JP 11023	18.6	15.7	15.1	12.9	17.0	21.8	18.2	23.8	19.3	20.2	24.2	21.2	
	Banryu	JP 11024	13.9	17.4	19.1	15.9	15.6	25.5	19.5	29.2	24.6	20.0	22.6	19.5	
	Yusuhara	JP 11025	7.02	6.85	8.45	6.95	5.27	9.41	7.56	7.19	8.98	7.83	7.70	5.75	
	Hedo	JP 11027	5.73	6.57	9.49	9.48	13.4	11.0	8.09	6.41	6.90	6.43	6.38	7.69	
	Ogasawara	JP 11018	2.38	3.69	2.71	4.69	3.67	3.21	4.78	4.88	3.75	3.39	3.07	2.93	
	Tokyo	JP 11057									19.5	24.4	18.1	15.3	21.7
Lao PDR	Vientiar	LA 11051				***	***	***	6.94	6.90	5.96	9.73	***	***	
Malaysia	Petaling Jaya	MY 11029	27.2	23.7	36.8	32.9	29.8	35.9	30.0	26.6	36.1	46.4	49.5	52.8	
	Tanah Rata	MY 11030	3.32	3.39	5.99	4.70	4.61	6.04	5.34	4.17	4.53	5.19	4.40	2.21	
	Danum Valley	MY 11053						2.50	1.41	<1.0	1.37	1.65	1.42	1.05	
	Kuching	MY 11060									4.98	4.55	4.91	5.00	
Mongolia	Ulaanbaatar	MN 11031	19.9	20.7	23.7	15.5	15.8	18.8	18.6	26.0	20.1	19.1	21.4	16.8	
	Terelj	MN 11032	17.6	9.20	18.1	12.4	16.1	11.8	15.5	18.3	18.3	21.0	27.6	18.0	
Myanmar	Yangon	MM 11056								***	***	7.23	4.96	6.30	
Philippines	Metro Manila	PH 11033	12.1	18.5	17.6	13.1	15.4	21.5	12.3	14.1	21.1	8.68	50.5	14.4	
	Los Banos	PH 11034	5.44	13.9	8.21	4.87	6.10	9.83	8.13	6.25	7.97	8.01	31.4	8.35	
	Mt. Sto. Tomas	PH 11055							1.87	5.47	3.92	3.94	4.29	2.56	
Republic of Korea	Kanghwa	KR 11035	42.4	28.6	32.7	27.3	41.1	45.0	33.0	39.0	31.0	18.9	31.8	***	
	Cheju	KR 11036	15.3	18.4	24.0	23.0	24.8	27.5	25.5	15.1	26.5	18.6	22.7	***	
	Imsil	KR 11037		15.6	32.0	16.9	20.5	26.4	27.7	18.1	22.6	22.3	29.0	***	
Russia	Mondy	RU 11038	9.97	10.6	13.5	6.80	6.78	5.03	5.10	8.51	7.48	7.90	8.11	4.30	
	Listvyanka	RU 11039	18.7	14.7	25.0	29.8	19.8	11.8	14.6	20.4	15.4	16.4	20.2	30.6	
	Irkutsk	RU 11040	21.0	18.4	21.8	17.8	17.1	16.4	16.5	18.3	17.1	16.8	22.3	20.7	
	Primorskaya	RU 11041			10.2	15.4	21.4	21.6	29.2	19.1	33.1	18.6	21.9	37.8	
Thailand	Bangkok	TH 11042	21.6	17.9	24.6	23.1	15.9	23.2	33.0	28.0	31.2	28.1	26.8	20.6	
	Samutprakarn	TH 11043	15.4				9.79	17.9	14.1	16.6	17.4	20.0	15.4	9.81	
	Pathumthani	TH 11044	18.6	19.6	18.5	17.2	24.0	19.6	22.0	22.8	21.5	16.6	20.4	19.2	
	Khanchanabur	TH 11045	5.74	6.75	6.06	4.89	4.78	2.50	6.15	2.94	5.02	4.55	3.76	7.27	
	Chiang Mai	TH 11046		4.13	6.64	6.53	6.12	8.36	7.87	7.97	9.11	8.44	7.30	7.26	
	Nakhon Ratchasima	TH 11054								11.3	11.4	11.5	12.7	14.6	9.97
Vietnam	Hanoi	VN 11047	16.1	5.06	15.1	24.8	25.2	30.8	24.9	15.6	9.76	16.6	20.8	21.7	
	Hoa Binh	VN 11048	9.68	8.77	20.2	13.4	19.9	12.9	16.1	10.5	10.2	12.9	15.5	14.4	
	Cuc Phuong	VN 11061										10.9	23.2	27.8	
	Da Nang	VN 11062										11.4	7.02	15.8	

[***]: No data or not measured

White column: Data in hatched column: Rejected annual value by the criteria of EANET (%PCL<80% or %TP<80%,

Black column: Monitoring was not carried out

Table 3.64 Precipitation amount-weighted annual average concentrations of Cl⁻ from 2000 to 2011

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

Country	Name of sites	Code	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cambodia	Phnom Penh	KH 11052					***	6.21	6.20	12.6	8.68	10.3	4.93	5.89
China	Guanyinqiac	CN 11001	24.0	29.8	15.6	16.2	14.7	18.3	19.3	13.8				
	Nanshan	CN 11002	15.6											
	Haifu	CN 11058									13.8	11.0	16.2	14.3
	Jinyunshar	CN 11003		56.8	12.9	10.3	12.8	15.5	13.6	8.70	15.4	16.1	16.1	11.9
	Shizhan	CN 11004	49.0	81.3	349	83.3	36.1	34.4	35.8	39.9	33.6	26.2	22.9	10.7
	Weishuiyuar	CN 11005	91.6	278	285	99.4	39.4	36.5	51.1					
	Jiwozi	CN 11007	32.3	98.9	185	70.1	14.8	38.4	33.2	44.1	33.8	27.9	14.6	11.1
	Hongwen	CN 11008	32.0	35.8	42.9	51.3	60.2	66.0	45.9	39.0	31.2	32.3	15.0	25.4
	Xiaoping	CN 11009	20.7	28.8	9.15	23.5	16.6	11.9	22.3	14.6	18.6	20.1	13.9	17.1
	Xiang Zhou	CN 11010	49.8	37.8	68.9	47.4	36.4	65.8	44.6	30.9	34.8	44.9	22.4	29.8
	Zhuxiandong	CN 11011	39.4	27.7	59.5	40.2	58.8	52.6	29.3	***	45.6	51.4	21.7	18.8
Indonesia	Jakarta	ID 11012	21.5	38.9	28.1	52.2	39.1	41.6	15.6	18.7	11.4	12.0	15.4	19.4
	Serpong	ID 11014	***	32.3	23.0	27.2	23.8	19.8	10.9	14.3	17.0	17.6	22.4	15.1
	Kototabang	ID 11013	6.76	6.60	16.8	27.8	11.8	7.13	7.80	13.8	3.88	10.7	9.91	13.9
	Bandung	ID 11015	105	25.0	20.3	13.0	17.4	14.6	14.1	7.53	8.33	11.8	8.60	12.4
	Maros	ID 11059									20.1	15.3	21.1	16.1
Japan	Rishiri	JP 11016	372	235	217	201	256	233	126	161	268	193	184	156
	Ochiishi	JP 11050				227	410	232	317	219	194	205	266	180
	Tappi	JP 11017	178	156	191	154	231	250	326	262	226	217	124	167
	Sado-seki	JP 11019	274	378	307	107	154	337	256	257	236	364	351	182
	Happo	JP 11021	10.7	8.84	4.97	7.26	8.74	8.69	5.68	4.36	5.60	6.64	4.99	4.43
	Ijira	JP 11022	23.0	32.7	33.3	19.1	27.5	16.8	14.4	24.8	18.9	16.5	16.2	17.2
	Okii	JP 11023	449	359	419	201	321	696	253	312	371	436	471	552
	Banryu	JP 11024	31.0	86.5	88.9	92.5	133	110	76.0	89.2	82.5	114	107	125
	Yusuhara	JP 11025	18.7	12.3	31.8	16.0	28.1	29.9	14.0	16.2	10.0	13.9	11.0	14.7
	Hedo	JP 11027	515	175	593	451	982	488	217	146	138	141	284	232
	Ogasawara	JP 11018	164	123	278	286	139	115	119	154	98.8	227	211	241
	Tokyo	JP 11057								41.1	23.7	27.8	19.4	45.9
Lao PDR	Vientian	LA 11051				***	***	***	4.77	7.42	7.41	6.19	***	***
Malaysia	Petaling Jaya	MY 11029	8.51	7.50	7.33	9.24	7.42	8.78	6.94	5.70	7.50	7.89	9.26	8.36
	Tanah Rata	MY 11030	6.80	3.00	2.26	2.39	2.43	2.64	2.10	1.70	1.47	2.26	1.91	2.95
	Danum Valley	MY 11053						6.00	7.15	4.90	6.10	6.79	17.1	5.70
	Kuching	MY 11060									6.35	8.41	8.04	11.5
Mongolia	Ulaanbaatar	MN 11031	8.96	9.65	7.69	7.64	8.03	7.75	7.77	9.38	10.1	9.63	8.49	7.46
	Terelj	MN 11032	8.96	8.66	11.4	6.59	8.96	9.92	9.28	10.3	9.22	9.95	10.6	9.81
Myanmar	Yangon	MM 11056								***	***	25.0	13.2	15.8
Philippines	Metro Manila	PH 11033	25.6	115	18.8	24.3	24.0	14.2	23.1	27.9	28.7	24.6	20.6	29.8
	Los Banos	PH 11034	33.0	34.5	24.6	16.2	14.3	18.1	21.0	24.4	18.8	25.0	25.3	26.2
	Mt. Sto. Tomas	PH 11055							1.57	7.38	5.24	8.31	5.07	4.41
Republic of Korea	Kanghwa	KR 11035	54.9	42.6	43.0	61.3	55.8	56.1	36.0	57.7	45.6	60.2	43.9	***
	Cheju	KR 11036	210	112	83.8	68.5	79.1	105	102	104	136	63.7	114	***
	Imsil	KR 11037		28.7	36.9	38.1	26.7	44.0	77.5	22.4	36.6	51.9	44.4	***
Russia	Mondy	RU 11038	2.58	1.45	8.87	3.07	2.75	5.92	4.47	3.94	4.22	3.29	3.39	5.28
	Listvyanka	RU 11039	5.04	2.16	6.81	4.13	4.94	5.38	3.50	4.29	5.13	3.02	3.43	6.63
	Irkutsk	RU 11040	11.6	12.2	18.0	17.7	8.52	12.4	12.5	13.2	15.9	24.9	23.8	22.0
	Primorskaya	RU 11041			33.9	35.6	21.3	21.7	18.0	18.6	25.6	14.7	29.4	67.4
Thailand	Bangkok	TH 11042	12.6	9.41	13.9	8.67	11.3	12.3	10.8	8.23	11.3	7.65	9.33	7.98
	Samutprakarn	TH 11043	12.9				12.8	19.0	12.5	11.2	12.8	8.45	16.2	7.61
	Pathumthani	TH 11044	10.4	7.75	11.6	6.39	14.3	7.13	6.83	6.64	6.61	6.23	5.77	6.82
	Khanchanabur	TH 11045	17.6	9.96	14.1	8.80	9.96	7.79	6.30	6.62	10.3	8.84	3.30	8.86
	Chiang Mai	TH 11046		4.53	10.1	4.71	3.82	4.21	3.73	5.85	4.59	4.91	3.58	2.88
	Nakhon Ratchasima	TH 11054							5.52	5.11	5.93	4.62	4.81	4.80
Vietnam	Hanoi	VN 11047	24.3	27.1	9.53	21.3	14.7	27.2	15.6	11.8	8.74	9.65	10.9	8.56
	Hoa Binh	VN 11048	20.3	22.1	6.95	6.92	11.8	13.5	6.46	6.30	4.22	5.38	6.35	4.30
	Cuc Phuong	VN 11061										44.2	24.3	15.5
	Da Nang	VN 11062										110	50.4	93.5

[***]: No data or not measured

White column: Data in hatched column: Rejected annual value by the criteria of EANET (%PCL<80% or %TP<80%,

Black column: Monitoring was not carried out

Table 3.65 Precipitation amount-weighted annual average concentrations of NH_4^+ from 2000 to 2011

														unit: $\mu\text{mol L}^{-1}$
Country	Name of sites	Code	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cambodia	Phnom Penh	KH 11052					10.8	16.3	17.9	19.7	11.8	13.1	22.6	21.9
China	Guanyinqiac	CN 11001	161	211	120	132	137	157	179	140				
	Nanshan	CN 11002	105											
	Haifu	CN 11058									148	105	141	145
	Jinyunshar	CN 11003		111	83.5	85.6	105	105	121	75.2	98.8	110	124	117
	Shizhan	CN 11004	421	255	203	144	146	77.2	167	206	164	169	187	60.8
	Weishuiyuar	CN 11005	426	354	319	144	151	64.4	239					
	Jiwozi	CN 11007	199	171	71.2	82.7	37.1	37.8	48.6	11.2	31.6	52.0	17.3	23.1
	Hongwen	CN 11008	31.6	64.9	44.2	29.4	45.8	35.4	29.1	38.5	34.7	46.6	39.8	42.3
	Xiaoping	CN 11009	19.8	33.2	31.1	38.2	38.0	32.2	21.5	52.7	33.0	45.8	42.9	38.9
	Xiang Zhou	CN 11010	20.5	25.0	95.8	34.0	50.7	103	56.7	19.4	19.5	22.1	24.4	20.7
	Zhuxiandong	CN 11011	51.0	30.3	48.4	29.9	59.5	26.1	27.4	***	18.6	25.6	22.7	24.8
Indonesia	Jakarta	ID 11012	77.3	66.2	31.7	20.8	22.4	12.4	17.4	24.2	25.4	17.7	23.0	33.7
	Serpong	ID 11014	***	67.6	46.0	45.0	42.3	44.6	40.3	44.3	47.2	43.0	52.3	62.2
	Kototabang	ID 11013	1.14	2.38	5.12	1.85	12.3	9.46	9.88	18.2	7.55	2.69	2.83	10.0
	Bandung	ID 11015	32.8	37.9	29.9	32.7	36.8	35.8	46.5	47.9	44.8	48.3	32.1	60.8
	Maros	ID 11059									8.85	12.7	10.1	9.30
Japan	Rishiri	JP 11016	34.0	26.0	20.1	18.3	17.1	18.9	17.5	25.9	23.6	17.7	15.7	14.0
	Ochiishi	JP 11050				7.65	11.8	7.51	15.6	7.84	6.45	8.40	10.7	11.0
	Tappi	JP 11017	9.65	12.7	14.7	16.2	15.6	15.8	18.9	17.7	18.2	10.5	15.0	16.9
	Sado-seki	JP 11019	16.9	19.7	14.5	15.6	10.1	18.3	16.6	25.2	21.7	12.5	11.9	14.6
	Happo	JP 11021	14.2	10.8	7.74	6.37	8.30	10.8	8.96	11.1	10.1	9.73	5.88	6.06
	Ijira	JP 11022	23.8	17.6	22.8	18.1	14.7	20.3	22.8	20.7	18.0	18.2	12.2	14.1
	Oki	JP 11023	19.4	14.7	12.4	8.82	10.9	15.8	12.8	15.7	15.7	17.0	17.8	18.6
	Banryu	JP 11024	11.6	13.8	17.9	12.5	11.2	21.8	14.9	22.3	19.2	16.3	21.6	15.7
	Yusuhara	JP 11025	5.06	5.17	7.57	6.02	4.78	8.88	7.52	7.45	7.52	8.25	6.60	4.83
	Hedo	JP 11027	7.22	4.48	18.5	10.9	17.2	13.3	8.55	7.49	6.11	6.43	9.31	9.13
	Ogasawara	JP 11018	2.33	4.82	5.40	3.63	5.09	3.46	4.59	7.70	3.43	4.82	5.29	4.54
	Tokyo	JP 11057									27.7	29.9	26.2	19.2
Lao PDR	Vientiar	LA 11051				***	***	***	7.72	10.9	8.39	17.3	***	***
Malaysia	Petaling Jaya	MY 11029	43.7	58.1	16.2	12.2	13.1	20.1	23.3	19.1	20.8	7.57	4.60	4.86
	Tanah Rata	MY 11030	41.1	35.4	4.02	2.30	2.39	2.82	3.53	3.91	3.10	5.41	4.05	14.3
	Danum Valley	MY 11053						2.03	2.05	1.32	9.76	3.44	4.89	1.90
	Kuching	MY 11060									4.61	4.94	1.94	5.03
Mongolia	Ulaanbaatar	MN 11031	52.0	49.9	72.8	47.5	46.2	54.4	53.7	87.1	53.3	46.7	54.7	45.9
	Terelj	MN 11032	44.3	30.5	65.7	31.6	35.6	36.1	54.6	38.8	51.1	41.0	35.0	39.4
Myanmar	Yangon	MM 11056								***	***	16.2	14.6	14.9
Philippines	Metro Manila	PH 11033	35.6	77.1	46.2	23.7	35.4	29.9	40.5	33.6	62.2	21.1	53.1	183
	Los Banos	PH 11034	13.6	22.4	34.5	14.5	13.9	15.0	16.3	16.8	19.6	11.7	38.2	29.4
	Mt. Sto. Tomas	PH 11055							<1.0	8.69	10.5	14.1	4.65	<1
Republic of Korea	Kanghwa	KR 11035	37.6	37.5	40.1	57.6	75.6	66.4	53.0	58.4	35.4	30.5	26.5	***
	Cheju	KR 11036	20.2	32.3	43.3	41.9	36.0	30.9	26.1	28.8	26.2	45.2	26.8	***
	Imsil	KR 11037		42.3	42.2	32.5	28.2	32.4	50.2	40.0	29.9	35.2	31.2	***
Russia	Mondy	RU 11038	11.4	22.2	33.8	14.7	11.2	9.76	3.70	30.1	9.86	20.2	17.5	9.14
	Listvyanka	RU 11039	16.5	10.8	26.8	20.8	12.2	16.6	15.5	15.6	18.9	13.4	18.3	17.2
	Irkutsk	RU 11040	32.1	25.1	43.0	42.1	27.2	35.3	24.9	33.9	34.4	36.4	34.5	32.7
	Primorskaya	RU 11041			35.9	39.1	30.4	41.6	49.8	29.6	50.6	28.8	42.7	54.1
Thailand	Bangkok	TH 11042	41.3	36.2	46.8	37.5	37.8	43.4	56.1	57.8	53.8	64.9	37.8	40.2
	Samutprakarn	TH 11043	31.8				34.5	37.4	49.9	47.1	56.4	41.0	28.1	27.8
	Pathumthani	TH 11044	38.3	35.5	34.2	29.1	34.0	31.2	33.5	34.4	29.7	33.0	28.0	38.1
	Khanchanabur	TH 11045	6.84	11.0	10.9	12.5	8.40	4.96	17.5	13.9	10.1	26.1	8.90	13.0
	Chiang Mai	TH 11046		15.8	18.5	15.8	15.7	21.0	15.2	18.8	19.9	20.2	19.3	13.5
	Nakhon Ratchasima	TH 11054							23.1	18.3	21.1	22.9	24.6	24.3
Vietnam	Hanoi	VN 11047	27.5	20.3	55.5	55.1	52.7	98.8	45.7	48.3	30.6	50.6	52.4	52.8
	Hoa Binh	VN 11048	8.01	12.5	28.2	28.7	41.0	30.1	27.6	21.3	17.1	31.4	28.3	27.8
	Cuc Phuong	VN 11061										6.30	9.90	19.2
	Da Nang	VN 11062										13.5	8.67	21.5

[***]: No data or not measured

White column: Data in hatched column: Rejected annual value by the criteria of EANET (%PCL<80% or %TP<80%,

Black column: Monitoring was not carried out

Table 3.66 Precipitation amount-weighted annual average concentrations of Na⁺ from 2000 to 2011

														unit: $\mu\text{mol L}^{-1}$
Country	Name of sites	Code	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cambodia	Phnom Penh	KH 11052					***	***	1.85	8.25	10.3	6.95	3.10	3.55
China	Guanyinqiac	CN 11001	11.8	10.8	5.54	4.91	7.28	8.35	7.92	5.92				
	Nanshan	CN 11002	7.73											
	Haifu	CN 11058									6.99	4.20	7.56	9.87
	Jinyunshar	CN 11003		10.2	5.90	4.99	12.3	15.3	6.65	6.20	10.3	7.70	8.17	6.12
	Shizhan	CN 11004	44.1	164	246	69.2	19.1	16.1	45.2	15.6	24.4	13.4	7.30	17.7
	Weishuiyuar	CN 11005	68.9	219	207	113	23.3	20.5	66.9					
	Jiwozi	CN 11007	23.8	158	171	102	25.1	59.6	65.6	85.8	81.1	25.2	6.47	7.86
	Hongwen	CN 11008	23.8	10.8	55.6	34.8	50.4	51.4	30.8	24.1	22.9	24.5	19.4	18.1
	Xiaoping	CN 11009	8.66	11.8	16.4	24.7	13.0	9.67	23.2	12.4	22.5	16.4	18.8	10.9
	Xiang Zhou	CN 11010	42.1	24.6	41.5	39.1	72.1	44.1	35.5	19.4	34.6	40.2	19.8	32.3
	Zhuxiandong	CN 11011	31.2	27.5	45.2	36.0	94.4	60.9	22.6	***	40.7	45.3	19.9	45.0
Indonesia	Jakarta	ID 11012	52.4	39.4	35.3	27.1	37.2	23.2	13.1	15.8	9.95	9.31	7.92	11.7
	Serpong	ID 11014	***	23.8	25.2	11.3	19.6	16.0	7.46	11.7	10.5	10.2	8.32	10.1
	Kototabang	ID 11013	***	4.52	6.29	9.65	10.9	5.69	6.21	8.65	5.33	6.12	5.25	6.54
	Bandung	ID 11015	***	20.2	8.64	7.10	10.8	11.9	18.3	6.65	8.62	11.8	9.74	12.2
	Maros	ID 11059									15.7	13.3	13.2	14.9
Japan	Rishiri	JP 11016	325	212	197	176	229	203	110	143	247	176	162	139
	Ochiishi	JP 11050				198	360	208	278	186	171	182	232	155
	Tappi	JP 11017	149	134	165	141	199	218	289	234	197	199	114	150
	Sado-seki	JP 11019	258	355	268	93.8	135	290	224	227	215	321	320	153
	Happo	JP 11021	7.85	6.22	3.39	4.78	5.94	7.04	4.13	3.13	4.12	5.14	3.76	3.34
	Ijira	JP 11022	19.9	29.7	28.5	13.3	21.6	13.6	10.8	20.8	15.4	13.5	13.0	13.8
	Oki	JP 11023	396	316	363	185	295	602	225	275	324	376	409	480
	Banryu	JP 11024	28.9	78.2	79.4	80.9	113	92.1	66.4	78.6	72.2	98.8	94.2	108
	Yusuhara	JP 11025	15.2	11.8	28.9	14.4	24.1	25.2	11.9	13.5	8.61	12.0	8.82	12.3
	Hedo	JP 11027	454	160	515	430	873	449	189	129	124	127	254	204
	Ogasawara	JP 11018	139	104	236	251	125	97.3	103	133	86.2	188	208	202
	Tokyo	JP 11057								34.5	19.5	23.5	17.3	37.7
Lao PDR	Vientiar	LA 11051				***	***	***	7.10	2.38	2.91	9.14	***	***
Malaysia	Petaling Jaya	MY 11029	4.97	3.70	5.08	5.60	5.69	6.64	4.27	3.61	4.22	4.59	4.99	4.56
	Tanah Rata	MY 11030	1.90	1.92	1.64	1.89	1.83	6.64	1.41	1.54	1.20	1.58	1.29	1.99
	Danum Valley	MY 11053						4.45	5.64	4.15	3.22	5.83	13.8	5.52
	Kuching	MY 11060									5.39	7.35	6.67	9.08
Mongolia	Ulaanbaatar	MN 11031	7.88	9.09	6.29	3.84	5.79	7.16	8.43	5.25	3.59	4.88	3.50	5.65
	Terelj	MN 11032	6.47	15.9	16.9	4.50	6.32	11.5	12.5	9.42	5.47	7.60	11.1	6.07
Myanmar	Yangon	MM 11056								***	***	18.5	12.9	15.0
Philippines	Metro Manila	PH 11033	30.6	205	14.6	18.4	16.3	15.9	17.2	20.2	24.6	20.2	22.3	21.4
	Los Banos	PH 11034	34.8	37.2	21.1	15.3	12.0	17.2	22.7	17.6	19.1	17.4	22.7	19.4
	Mt. Sto. Tomas	PH 11055							2.81	5.68	5.11	8.26	6.30	4.31
Republic of Korea	Kanghwa	KR 11035	56.3	41.7	49.2	25.4	32.5	33.7	28.8	44.3	39.3	45.1	27.0	***
	Cheju	KR 11036	152	74.7	58.3	46.7	57.8	84.8	85.0	101	133	53.6	103	***
	Imsil	KR 11037		15.4	38.6	22.8	17.9	21.7	31.1	15.0	32.0	50.3	48.2	***
Russia	Mondy	RU 11038	1.84	2.27	1.93	2.27	1.93	1.52	1.57	3.13	1.84	2.28	2.81	3.86
	Listvyanka	RU 11039	4.57	3.38	3.80	5.10	4.66	3.01	2.80	2.57	2.49	3.82	3.60	5.42
	Irkutsk	RU 11040	8.85	8.27	9.19	6.59	6.65	6.89	10.0	9.94	10.0	18.7	18.4	16.8
	Primorskaya	RU 11041			23.1	33.7	22.5	21.7	16.8	19.8	22.9	12.8	23.9	13.7
Thailand	Bangkok	TH 11042	6.93	8.33	16.1	7.65	10.2	12.8	8.72	7.08	9.77	9.79	8.79	6.46
	Samutprakarn	TH 11043	10.1				16.5	19.8	14.6	12.2	15.4	10.0	18.6	5.70
	Pathumthani	TH 11044	10.9	8.06	9.65	4.73	8.94	6.56	7.49	5.77	5.96	5.58	7.46	5.87
	Khanchanabur	TH 11045	9.71	11.3	8.34	10.3	8.99	6.70	6.86	7.05	9.23	9.49	3.11	7.45
	Chiang Mai	TH 11046		3.94	9.66	3.21	3.05	***	3.53	2.93	2.61	2.69	2.72	3.21
	Nakhon Ratchasima	TH 11054							4.45	4.45	4.20	2.73	3.21	4.04
Vietnam	Hanoi	VN 11047	18.1	11.5	5.94	8.96	8.05	17.7	13.5	8.20	9.59	9.17	7.28	6.17
	Hoa Binh	VN 11048	12.7	9.80	2.06	2.36	3.91	7.47	4.49	3.20	3.07	3.39	4.86	2.46
	Cuc Phuong	VN 11061										11.2	12.0	13.6
	Da Nang	VN 11062										94.6	41.3	70.2

[***]: No data or not measured

Grey column: Data in hatched column: Rejected annual value by the criteria of EANET (%PCL<80% or %TP<80%,

Black column: Monitoring was not carried out

Table 3.67 Precipitation amount-weighted annual average concentrations of K⁺ from 2000 to 2011

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

Country	Name of sites	Code	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cambodia	Phnom Penh	KH 11052					1.63	***	1.48	3.64	10.3	1.50	0.861	1.15
China	Guanyinqiac	CN 11001	14.2	18.7	10.6	11.0	10.9	12.4	12.6	8.81				
	Nanshan	CN 11002	16.3											
	Haifu	CN 11058									11.5	7.72	10.0	9.38
	Jinyunshar	CN 11003		44.4	10.3	8.60	11.7	11.4	11.4	6.78	9.54	8.71	10.4	10.4
	Shizhan	CN 11004	26.5	42.2	40.5	18.7	9.57	15.4	18.0	19.3	13.3	10.2	32.4	13.4
	Weishuiyuar	CN 11005	34.7	74.9	76.6	20.3	11.3	12.6	33.6					
	Jiwozi	CN 11007	17.9	43.6	42.2	21.3	8.48	27.7	20.8	28.0	29.0	13.7	4.89	7.28
	Hongwen	CN 11008	4.99	10.4	4.30	4.33	7.23	5.08	3.35	3.73	2.12	2.26	2.24	1.99
	Xiaoping	CN 11009	2.81	4.20	3.76	4.75	5.09	2.76	13.5	7.31	10.2	2.33	1.94	2.80
	Xiang Zhou	CN 11010	6.59	4.02	17.6	5.74	7.65	2.66	8.16	8.27	1.65	2.10	2.21	3.74
	Zhuxiandong	CN 11011	6.18	5.86	13.2	6.62	22.7	5.60	2.62	***	4.50	2.56	3.29	5.92
Indonesia	Jakarta	ID 11012	***	24.3	11.3	9.28	10.3	5.73	8.01	11.2	3.51	2.22	2.23	2.28
	Serpong	ID 11014	***	7.04	3.95	7.96	5.65	6.18	4.46	2.76	2.21	1.75	3.20	3.15
	Kototabang	ID 11013	***	1.32	5.10	20.0	6.27	4.36	4.56	8.40	3.40	9.35	4.43	3.96
	Bandung	ID 11015	***	12.6	2.04	4.13	3.29	4.66	4.81	2.03	2.31	4.08	4.22	4.77
	Maros	ID 11059									5.76	3.89	2.52	1.86
Japan	Rishiri	JP 11016	9.95	6.04	5.08	4.90	6.01	5.09	3.75	4.13	6.58	4.31	4.28	3.44
	Ochiishi	JP 11050				4.63	8.08	5.28	7.66	4.58	3.81	4.09	6.16	3.70
	Tappi	JP 11017	3.64	3.28	4.07	3.45	4.95	4.99	7.12	5.66	5.36	4.95	3.50	4.34
	Sado-seki	JP 11019	6.37	8.19	6.49	2.46	3.56	6.65	5.69	5.88	7.16	7.96	8.08	4.45
	Happo	JP 11021	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.356	0.447
	Ijira	JP 11022	2.95	4.06	2.10	1.24	1.10	<1.0	<1.0	1.15	<1.0	<1.0	0.426	0.535
	Oki	JP 11023	10.5	8.77	9.53	5.45	9.62	15.5	6.56	9.12	11.9	10.1	10.1	12.7
	Banryu	JP 11024	1.35	2.73	2.89	2.49	3.02	3.69	2.23	3.06	2.54	3.00	5.43	3.39
	Yusuhara	JP 11025	<1.0	<1.0	1.01	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.613	0.465
	Hedo	JP 11027	9.06	3.56	12.0	10.1	24.6	11.3	4.71	3.31	3.18	3.29	6.19	4.94
	Ogasawara	JP 11018	3.58	4.08	6.17	5.60	3.07	2.28	2.53	3.17	2.61	4.55	5.02	4.95
	Tokyo	JP 11057								1.40	1.14	1.10	0.989	1.29
Lao PDR	Vientiar	LA 11051				***	***	***	3.51	1.69	1.69	<1.0	***	***
Malaysia	Petaling Jaya	MY 11029	1.77	1.42	1.27	3.04	1.64	2.46	1.55	<1.0	1.19	1.51	1.50	1.31
	Tanah Rata	MY 11030	1.09	<1.0	<1.0	<1.0	1.52	<1.0	<1.0	<1.0	<1.0	<1.0	1.06	2.03
	Danum Valley	MY 11053						1.17	1.01	1.08	2.53	1.59	3.24	1.73
	Kuching	MY 11060									<1.0	<1.0	0.650	0.854
Mongolia	Ulaanbaatar	MN 11031	3.92	4.64	3.81	3.39	2.84	4.33	5.15	1.28	2.81	2.53	2.72	3.98
	Terelj	MN 11032	4.50	3.81	10.2	4.11	4.68	6.48	8.98	3.80	6.46	4.10	5.43	5.00
Myanmar	Yangon	MM 11056								***	***	6.46	2.07	1.66
Philippines	Metro Manila	PH 11033	15.5	23.2	9.87	2.52	3.93	3.90	12.6	5.38	15.6	3.99	17.0	23.5
	Los Banos	PH 11034	1.74	9.51	6.38	1.83	2.14	2.20	2.49	4.92	2.91	9.08	7.43	6.82
	Mt. Sto. Tomas	PH 11055							1.32	2.29	<1.0	1.95	1.41	0.821
Republic of Korea	Kanghwa	KR 11035	5.61	4.74	8.83	9.39	11.4	6.49	4.86	10.8	5.40	8.97	7.78	***
	Cheju	KR 11036	6.32	9.38	6.45	8.16	8.11	8.61	6.04	7.18	10.4	9.75	7.96	***
	Imsil	KR 11037		14.8	6.55	11.2	5.72	48.6	42.1	14.3	5.61	10.9	10.3	***
Russia	Mondy	RU 11038	1.19	2.07	2.32	1.61	2.68	1.05	1.11	2.47	2.02	3.29	2.62	4.98
	Listvyanka	RU 11039	4.67	1.73	2.22	2.64	2.36	1.15	1.54	1.28	3.38	2.07	1.66	2.42
	Irkutsk	RU 11040	4.38	7.37	2.32	2.63	2.72	3.39	7.64	7.77	8.99	26.6	5.52	4.59
	Primorskaya	RU 11041			5.35	10.1	7.24	7.07	5.47	6.18	8.99	4.40	5.84	6.75
Thailand	Bangkok	TH 11042	3.22	4.11	3.35	2.62	1.62	2.17	2.83	1.57	2.03	1.98	2.58	1.82
	Samutprakarn	TH 11043	5.29				4.88	4.92	4.31	2.88	6.12	2.77	17.0	1.11
	Pathumthani	TH 11044	2.26	1.68	1.49	1.17	1.19	1.20	1.66	1.61	1.50	1.61	1.85	1.96
	Khanchanabur	TH 11045	8.88	4.98	2.38	2.02	1.09	<1.0	2.44	<1.0	1.15	1.21	0.710	2.21
	Chiang Mai	TH 11046		2.94	4.41	3.95	1.41	<1.0	1.70	2.87	2.63	1.47	1.21	1.45
	Nakhon Ratchasima	TH 11054							<1.0	1.38	1.24	1.31	0.940	1.20
Vietnam	Hanoi	VN 11047	4.09	3.81	2.07	2.57	2.95	5.22	3.78	2.70	2.77	1.57	2.78	2.27
	Hoa Binh	VN 11048	3.56	2.33	1.48	1.48	1.67	3.64	2.43	2.24	3.24	2.72	2.88	2.40
	Cuc Phuong	VN 11061										14.0	5.61	3.31
	Da Nang	VN 11062										6.27	3.41	14.0

[***]: No data or not measured

White column: Data in hatched column: Rejected annual value by the criteria of EANET (%PCL<80% or %TP<80%,

Black column: Monitoring was not carried out

Table 3.68 Precipitation amount-weighted annual average concentrations of Ca²⁺ from 2000 to 2011

														unit: $\mu\text{mol L}^{-1}$
Country	Name of sites	Code	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cambodia	Phnom Penh	KH 11052					<0.2	***	9.11	19.2	32.6	20.4	8.33	9.30
China	Guanyinqiac	CN 11001	63.0	137	65.4	65.4	110	156	143	75.2				
	Nanshan	CN 11002	55.2											
	Haifu	CN 11058									65.3	43.2	69.2	68.5
	Jinyunshar	CN 11003		44.9	29.7	30.7	70.5	57.7	98.3	55.1	68.3	66.7	68.7	65.1
	Shizhan	CN 11004	229	675	479	258	147	107	301	116	150	138	105	91.2
	Weishuiyuar	CN 11005	305	1160	617	241	190	91.0	330					
	Jiwozi	CN 11007	124	429	276	230	88.0	129	221	347	266	93.7	40.7	91.6
	Hongwen	CN 11008	6.75	36.3	49.1	30.7	83.7	37.4	25.5	54.9	14.1	13.2	9.11	14.1
	Xiaoping	CN 11009	0.773	5.10	10.6	17.3	6.41	10.6	10.5	16.7	15.6	9.04	8.37	11.7
	Xiang Zhou	CN 11010	21.2	7.96	15.5	22.8	18.0	7.31	14.1	4.71	5.43	4.91	7.40	17.5
	Zhuxiandong	CN 11011	25.0	14.3	20.7	20.2	24.7	17.0	17.1	***	13.6	7.40	16.4	19.1
Indonesia	Jakarta	ID 11012	87.6	64.4	42.9	101	50.9	17.4	18.8	13.9	4.36	12.6	10.3	11.1
	Serpong	ID 11014	***	13.6	9.93	6.60	10.5	12.0	7.19	7.37	7.97	5.17	9.25	10.9
	Kototabang	ID 11013	3.97	1.43	4.92	5.53	6.98	3.38	5.19	4.70	4.86	5.47	4.77	5.90
	Bandung	ID 11015	***	24.2	17.1	10.9	18.3	15.9	14.8	9.50	11.3	15.3	13.5	20.9
	Maros	ID 11059									8.39	8.11	9.58	6.49
Japan	Rishiri	JP 11016	13.7	10.1	10.2	7.74	8.60	7.62	5.33	5.83	8.72	10.1	6.89	5.63
	Ochiishi	JP 11050				5.74	12.2	8.96	10.2	6.96	5.29	5.20	8.25	5.42
	Tappi	JP 11017	6.37	5.78	9.01	6.98	7.76	10.7	12.7	11.0	10.3	6.41	8.54	8.01
	Sado-seki	JP 11019	11.7	15.8	9.08	5.08	4.70	10.2	12.1	11.8	10.3	11.1	12.7	8.28
	Happo	JP 11021	3.88	4.31	2.00	1.92	2.36	4.15	6.28	2.91	2.70	4.66	2.40	2.57
	Ijira	JP 11022	6.77	5.62	4.18	2.88	2.31	2.82	2.89	3.63	2.20	2.74	2.48	1.97
	Oki	JP 11023	16.0	12.9	11.5	6.91	11.9	18.6	11.4	13.6	10.9	14.6	16.1	17.1
	Banryu	JP 11024	4.24	5.97	5.37	3.39	5.29	5.87	9.51	7.36	7.41	5.45	8.02	5.85
	Yusuhara	JP 11025	2.69	3.41	1.78	1.42	1.84	2.39	2.61	1.96	1.69	1.97	1.79	2.27
	Hedo	JP 11027	10.1	4.88	14.0	10.9	22.7	14.1	9.21	4.92	4.18	4.47	7.98	6.04
	Ogasawara	JP 11018	5.11	5.43	8.61	8.00	3.36	2.56	3.58	4.36	2.55	5.20	5.82	5.56
	Tokyo	JP 11057								4.99	4.09	3.42	3.98	4.84
Lao PDR	Vientiar	LA 11051				***	***	***	8.75	3.04	5.77	5.50	***	***
Malaysia	Petaling Jaya	MY 11029	6.84	6.30	7.44	7.83	5.05	6.07	3.80	3.94	3.94	4.97	5.40	3.97
	Tanah Rata	MY 11030	2.26	3.10	3.08	3.35	2.32	1.83	1.15	1.05	0.772	1.03	1.22	2.08
	Danum Valley	MY 11053						1.35	1.26	0.513	0.353	1.01	3.82	0.887
	Kuching	MY 11060									1.91	1.79	2.60	3.15
Mongolia	Ulaanbaatar	MN 11031	37.7	47.4	49.9	26.5	43.2	49.8	45.9	41.2	42.9	42.2	34.3	33.9
	Terelj	MN 11032	15.2	15.0	27.3	10.7	16.2	13.6	24.8	13.6	17.9	35.8	42.3	20.4
Myanmar	Yangon	MM 11056								***	***	9.66	6.37	6.89
Philippines	Metro Manila	PH 11033	14.5	71.6	8.71	8.76	11.1	10.6	13.7	10.4	13.7	6.41	12.8	12.9
	Los Banos	PH 11034	6.95	65.3	7.23	7.75	5.40	3.54	6.92	5.19	3.75	5.08	20.1	6.38
	Mt. Sto. Tomas	PH 11055							5.64	23.4	3.09	5.87	22.7	7.84
Republic of Korea	Kanghwa	KR 11035	26.5	14.0	11.1	11.3	14.0	11.1	15.8	12.4	10.8	5.19	7.02	***
	Cheju	KR 11036	13.8	5.89	9.37	8.10	7.70	11.3	9.05	10.6	10.5	4.08	6.72	***
	Imsil	KR 11037		5.85	9.84	5.39	6.76	5.00	14.7	13.7	6.92	3.88	5.74	***
Russia	Mondy	RU 11038	5.79	7.00	8.54	3.80	5.33	4.17	5.46	6.91	7.97	5.19	9.20	9.02
	Listvyanka	RU 11039	12.8	7.25	11.4	14.3	14.1	8.23	8.81	9.02	8.18	12.6	12.6	16.1
	Irkutsk	RU 11040	28.0	34.8	31.5	23.9	21.9	21.6	29.9	26.5	29.5	29.2	32.2	34.7
	Primorskaya	RU 11041			18.1	25.3	21.5	21.1	25.0	14.0	19.4	11.7	16.9	13.7
Thailand	Bangkok	TH 11042	11.4	12.0	15.7	11.9	11.0	18.6	18.4	13.6	16.1	10.0	11.2	10.5
	Samutprakarn	TH 11043	11.1				7.84	9.68	14.8	11.0	13.8	13.2	7.78	5.95
	Pathumthani	TH 11044	13.2	13.0	17.4	6.30	11.4	8.48	12.8	8.50	11.6	9.19	9.17	12.1
	Khanchanabur	TH 11045	4.76	9.05	4.92	8.45	4.78	2.45	2.71	3.03	4.59	4.93	1.80	4.04
	Chiang Mai	TH 11046		6.95	18.0	5.72	4.77	3.75	4.74	8.03	6.68	5.69	4.40	2.60
	Nakhon Ratchasima	TH 11054							9.54	3.75	3.35	2.53	2.21	1.88
Vietnam	Hanoi	VN 11047	20.9	10.7	16.8	17.8	25.0	26.1	35.2	18.1	11.8	12.0	23.7	14.6
	Hoa Binh	VN 11048	13.1	10.4	12.6	12.0	19.9	14.3	17.8	9.33	14.5	9.44	21.1	12.5
	Cuc Phuong	VN 11061										24.8	38.3	32.2
	Da Nang	VN 11062										6.35	8.87	10.0

[***]: No data or not measured

White column: Data in hatched column: Rejected annual value by the criteria of EANET (%PCL<80% or %TP<80%,

Black column: Monitoring was not carried out

Table 3.69 Precipitation amount-weighted annual average concentrations of nss-Ca²⁺ from 2000 to 2011

														unit: $\mu\text{mol L}^{-1}$
Country	Name of sites	Code	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cambodia	Phnom Penh	KH 11052					***	***	9.07	19.1	32.5	20.3	8.26	9.23
China	Guanyinqiac	CN 11001	62.8	137	65.3	65.3	110	156	143	75.1				
	Nanshan	CN 11002	55.0											
	Haifu	CN 11058									65.2	43.2	69.0	68.2
	Jinyunshar	CN 11003		44.7	29.6	30.6	70.2	57.4	98.2	55.0	68.1	66.5	68.6	64.9
	Shizhan	CN 11004	228	672	474	257	147	107	300	116	149	138	105	90.8
	Weishuiyuar	CN 11005	303	1150	612	238	189	90.6	328					
	Jiwozi	CN 11007	123	425	273	227	87.4	128	220	345	264	93.2	40.6	91.4
	Hongwen	CN 11008	6.32	36.1	47.9	30.0	82.6	36.3	24.8	54.4	13.6	12.7	8.70	13.7
	Xiaoping	CN 11009	0.599	4.90	10.3	16.8	6.13	10.4	9.99	16.4	15.1	8.69	7.96	11.5
	Xiang Zhou	CN 11010	20.3	7.43	14.6	21.9	16.4	6.46	13.3	4.33	4.68	4.04	6.97	16.8
	Zhuxiandong	CN 11011	24.3	13.7	19.7	19.4	22.7	15.7	16.7	***	12.7	6.44	15.9	18.1
Indonesia	Jakarta	ID 11012	86.4	63.5	42.2	101	50.2	16.9	18.5	13.6	4.14	12.4	10.2	10.8
	Serpong	ID 11014	***	13.1	9.40	6.38	10.1	11.7	7.03	7.19	7.75	5.03	9.07	10.7
	Kototabang	ID 11013	***	1.36	4.78	5.32	6.75	3.26	5.06	4.51	4.76	5.34	4.65	5.76
	Bandung	ID 11015	***	23.7	16.9	10.7	18.0	15.4	14.4	9.36	11.1	15.1	13.3	20.6
	Maros	ID 11059									8.05	7.83	9.30	6.17
Japan	Rishiri	JP 11016	6.68	5.53	5.91	3.98	3.66	3.27	2.99	2.76	3.40	6.39	3.44	2.63
	Ochiishi	JP 11050				1.60	4.48	4.44	4.30	2.96	1.66	1.38	3.25	2.11
	Tappi	JP 11017	3.20	3.01	5.49	3.94	3.52	6.15	6.50	6.01	6.09	2.26	6.16	4.87
	Sado-seki	JP 11019	6.18	8.32	3.39	3.06	1.88	3.90	7.28	6.87	5.67	4.20	5.94	4.99
	Happo	JP 11021	3.71	4.18	1.92	1.81	2.24	4.00	6.19	2.85	2.61	4.55	2.32	2.49
	Ijira	JP 11022	6.34	4.97	3.57	2.60	1.87	2.53	2.65	3.18	1.87	2.46	2.21	1.70
	Oki	JP 11023	7.50	6.10	3.91	2.85	5.51	5.51	6.85	7.68	3.94	6.44	7.24	6.73
	Banryu	JP 11024	3.67	4.29	3.66	1.65	2.86	3.89	8.08	5.66	5.85	3.32	5.99	3.52
	Yusuhara	JP 11025	2.43	3.21	1.24	1.14	1.32	1.85	2.35	1.67	1.51	1.71	1.65	2.04
	Hedo	JP 11027	0.807	1.71	2.89	3.48	4.30	4.39	5.15	2.13	1.50	1.75	2.50	1.63
	Ogasawara	JP 11018	2.14	3.19	3.58	2.63	1.04	0.575	1.37	1.50	0.862	1.16	1.35	1.20
	Tokyo	JP 11057								4.24	3.67	2.91	3.60	4.03
Lao PDR	Vientiar	LA 11051				***	***	***	8.59	2.99	5.70	5.30	***	***
Malaysia	Petaling Jaya	MY 11029	6.73	6.22	7.33	7.71	4.93	5.93	3.71	3.86	3.85	4.87	5.29	3.87
	Tanah Rata	MY 11030	2.21	3.06	3.04	3.31	2.28	1.70	1.12	1.02	0.753	1.01	1.19	2.04
	Danum Valley	MY 11053						1.26	1.16	0.453	0.315	0.919	3.59	0.794
	Kuching	MY 11060									1.81	1.66	2.45	2.95
Mongolia	Ulaanbaatar	MN 11031	37.6	47.2	49.8	26.4	43.0	49.6	45.7	41.1	42.9	42.1	34.2	33.8
	Terelj	MN 11032	15.1	14.6	26.3	10.6	16.1	13.3	24.5	13.4	17.7	35.6	42.1	20.2
Myanmar	Yangon	MM 11056								***	***	9.26	6.09	6.57
Philippines	Metro Manila	PH 11033	13.9	67.2	8.40	8.40	10.8	10.3	13.3	9.96	13.2	5.98	12.3	12.4
	Los Banos	PH 11034	6.20	64.5	6.77	7.46	5.14	3.18	6.43	4.82	3.34	4.71	19.7	5.96
	Mt. Sto. Tomas	PH 11055							5.58	23.3	2.98	5.69	22.5	7.75
Republic of Korea	Kanghwa	KR 11035	25.3	13.1	10.0	10.8	13.3	10.3	15.2	11.5	10.0	4.23	6.44	***
	Cheju	KR 11036	10.5	4.30	8.15	7.09	6.45	9.45	7.21	8.43	7.63	3.03	4.70	***
	Imsil	KR 11037		5.51	9.00	4.89	6.37	4.53	14.0	13.3	6.23	2.83	4.79	***
Russia	Mondy	RU 11038	5.75	6.95	8.50	3.75	5.29	4.14	5.43	6.84	7.93	5.14	9.14	8.94
	Listvyanka	RU 11039	12.7	7.18	11.3	14.1	14.0	8.16	8.76	8.96	8.12	12.5	12.5	16.0
	Irkutsk	RU 11040	27.8	34.6	31.3	23.7	21.7	21.4	29.7	26.3	29.2	28.8	31.8	34.4
	Primorskaya	RU 11041			17.6	24.6	21.0	20.7	24.7	13.5	18.9	11.4	16.3	13.4
Thailand	Bangkok	TH 11042	11.2	11.8	15.4	11.7	10.7	18.4	18.2	13.5	15.9	9.81	11.1	10.4
	Samutprakarn	TH 11043	10.8				7.48	9.25	14.5	10.7	13.5	13.0	7.38	5.83
	Pathumthani	TH 11044	12.9	12.8	17.2	6.20	11.2	8.34	12.7	8.38	11.5	9.07	9.03	12.0
	Khanchanabur	TH 11045	4.56	8.81	4.74	8.22	4.59	2.31	2.56	2.88	4.39	4.72	1.73	3.88
	Chiang Mai	TH 11046		6.86	17.8	5.65	4.71	3.73	4.68	7.97	6.63	5.63	4.36	2.54
	Nakhon Ratchasima	TH 11054							9.45	3.66	3.26	2.48	2.15	1.81
Vietnam	Hanoi	VN 11047	20.5	10.4	16.7	17.6	24.8	25.7	35.0	17.9	11.6	11.8	23.5	14.5
	Hoa Binh	VN 11048	12.8	10.2	12.6	11.9	19.8	14.1	17.7	9.26	14.4	9.37	21.0	12.5
	Cuc Phuong	VN 11061										24.6	38.0	32.0
	Da Nang	VN 11062										4.31	7.98	8.50

[***]: No data or not measured

White column: Data in hatched column: Rejected annual value by the criteria of EANET (%PCL<80% or %TP<80%,

Black column: Monitoring was not carried out

Table 3.70 Precipitation amount-weighted annual average concentrations of Mg²⁺ from 2000 to 2011

														unit: $\mu\text{mol L}^{-1}$
Country	Name of sites	Code	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cambodia	Phnom Penh	KH 11052					<0.4	***	0.661	3.27	3.45	2.00	0.717	1.22
China	Guanyinqiac	CN 11001	8.54	11.6	6.00	4.46	9.12	12.7	12.6	8.04				
	Nanshan	CN 11002	7.05											
	Haifu	CN 11058									7.08	5.45	8.95	8.61
	Jinyunshar	CN 11003		5.76	3.37	2.89	3.55	3.17	4.00	2.81	4.64	5.56	5.76	6.13
	Shizhan	CN 11004	23.6	48.5	67.9	33.5	15.3	13.2	28.3	21.4	45.4	12.4	11.0	9.94
	Weishuiyuar	CN 11005	31.7	88.4	91.1	40.0	19.3	10.9	42.0					
	Jiwozi	CN 11007	14.6	41.1	50.1	33.9	16.6	30.9	40.6	48.8	77.3	20.2	7.17	9.65
	Hongwen	CN 11008	4.22	6.30	9.64	5.96	11.4	9.04	5.44	6.18	4.92	4.08	2.00	4.22
	Xiaoping	CN 11009	1.32	2.50	1.61	4.04	1.44	1.15	2.77	2.06	3.39	3.24	1.89	2.21
	Xiang Zhou	CN 11010	6.95	2.93	5.52	7.15	6.35	6.87	12.0	2.38	3.97	4.52	2.57	4.39
	Zhuxiandong	CN 11011	7.91	3.33	7.08	7.37	8.49	9.08	4.99	***	5.70	6.15	2.86	6.75
Indonesia	Jakarta	ID 11012	219	69.0	13.1	12.7	6.30	3.63	8.59	2.21	1.67	1.97	2.23	3.45
	Serpong	ID 11014	***	3.53	4.52	2.69	3.99	3.74	1.73	2.65	4.12	1.36	3.09	3.12
	Kototabang	ID 11013	***	1.04	2.58	6.76	1.78	0.939	2.26	3.81	1.000	1.10	1.55	0.950
	Bandung	ID 11015	***	4.07	1.64	1.70	3.28	2.45	3.26	1.68	4.40	4.13	4.43	5.78
	Maros	ID 11059									2.56	1.86	2.17	2.50
Japan	Rishiri	JP 11016	36.3	24.8	22.3	20.3	26.4	23.3	12.6	17.0	30.0	19.9	18.6	15.4
	Ochiishi	JP 11050				22.1	42.2	22.2	31.2	21.5	19.8	19.9	28.6	18.5
	Tappi	JP 11017	17.5	15.5	19.6	16.8	23.4	24.2	33.3	26.4	23.1	21.1	12.9	17.4
	Sado-seki	JP 11019	29.0	40.5	30.7	11.3	15.6	33.0	25.9	26.1	23.5	36.2	37.7	19.0
	Happo	JP 11021	1.67	1.59	0.926	1.25	1.26	1.20	0.958	0.676	0.697	1.16	0.810	0.896
	Ijira	JP 11022	2.89	3.99	3.53	2.16	2.75	1.75	1.64	2.75	1.74	1.67	1.62	1.69
	Oki	JP 11023	45.0	36.6	40.6	21.2	34.4	69.9	26.9	31.7	36.7	43.1	48.1	55.5
	Banryu	JP 11024	3.33	9.11	9.30	9.29	13.2	10.8	8.34	9.85	8.91	11.8	12.1	12.8
	Yusuhara	JP 11025	2.18	1.83	3.55	1.83	2.86	3.04	1.66	1.80	1.11	1.61	1.56	2.56
	Hedo	JP 11027	50.0	16.9	59.0	49.3	91.0	47.3	21.8	14.8	14.2	14.5	29.2	23.2
	Ogasawara	JP 11018	19.2	13.3	32.4	31.1	13.0	10.7	11.4	15.0	10.6	21.9	24.5	23.6
	Tokyo	JP 11057								4.22	2.78	2.97	2.40	4.79
Lao PDR	Vientiar	LA 11051				***	***	***	3.49	0.698	1.31	0.722	***	***
Malaysia	Petaling Jaya	MY 11029	1.39	1.30	1.43	0.707	0.888	0.842	0.710	<0.4	0.520	0.467	0.698	0.579
	Tanah Rata	MY 11030	0.415	0.406	0.422	0.451	<0.4	0.492	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
	Danum Valley	MY 11053						<0.4	0.481	0.402	0.528	0.549	1.48	0.541
	Kuching	MY 11060									<0.4	<0.4	0.457	0.745
Mongolia	Ulaanbaatar	MN 11031	4.14	5.41	3.56	3.69	5.86	5.21	4.39	4.75	3.67	5.32	2.98	9.23
	Terelj	MN 11032	3.16	2.53	4.09	2.26	5.15	3.67	4.85	2.07	3.00	5.45	5.54	7.35
Myanmar	Yangon	MM 11056								***	***	2.84	1.80	3.02
Philippines	Metro Manila	PH 11033	6.32	15.0	3.27	2.99	4.38	2.46	5.46	4.13	4.64	2.56	9.12	7.13
	Los Banos	PH 11034	3.71	11.1	2.94	2.60	3.59	2.34	3.44	3.46	4.65	3.73	8.20	4.76
	Mt. Sto. Tomas	PH 11055							0.971	2.08	<0.4	1.53	3.34	1.61
Republic of Korea	Kanghwa	KR 11035	9.31	5.26	6.34	2.86	5.49	6.20	5.10	6.74	2.75	5.27	3.64	***
	Cheju	KR 11036	18.6	9.96	7.48	5.86	7.27	15.0	9.59	7.30	9.68	6.02	6.90	***
	Imsil	KR 11037		1.92	3.31	1.60	2.39	1.82	3.99	3.57	1.99	3.88	4.68	***
Russia	Mondy	RU 11038	1.09	1.46	2.20	0.775	1.27	0.961	0.986	1.78	1.98	1.17	1.81	2.60
	Listvyanka	RU 11039	2.94	1.78	3.04	3.65	3.20	1.58	1.71	1.85	1.76	2.84	2.97	3.12
	Irkutsk	RU 11040	4.99	5.55	5.66	4.32	4.77	5.08	5.76	6.27	6.44	7.55	6.75	7.29
	Primorskaya	RU 11041			5.66	11.2	7.05	5.67	5.50	4.30	6.26	3.11	4.27	4.29
Thailand	Bangkok	TH 11042	2.01	3.16	3.54	2.33	2.13	3.78	2.34	1.68	2.34	1.49	1.52	1.25
	Samutprakarn	TH 11043	2.39				1.87	3.43	4.63	2.69	3.99	2.80	2.20	1.20
	Pathumthani	TH 11044	2.41	2.17	2.77	1.06	1.58	1.31	1.76	1.28	1.70	1.24	1.38	1.57
	Khanchanabur	TH 11045	1.67	2.52	1.75	2.23	1.64	1.13	0.983	0.997	1.61	1.44	0.575	1.27
	Chiang Mai	TH 11046		1.10	3.54	2.08	1.82	1.00	2.42	1.24	1.78	2.73	0.451	<0.4
	Nakhon Ratchasima	TH 11054							1.98	1.78	1.22	1.27	0.703	<0.4
Vietnam	Hanoi	VN 11047	4.99	3.97	2.95	3.64	3.80	8.64	8.55	4.17	3.65	4.78	5.68	4.08
	Hoa Binh	VN 11048	4.67	3.71	1.42	2.14	2.52	4.21	5.28	2.76	1.60	1.85	5.56	2.39
	Cuc Phuong	VN 11061										4.37	4.41	4.78
	Da Nang	VN 11062										10.2	8.52	9.42

[***]: No data or not measured

White column: Data in hatched column: Rejected annual value by the criteria of EANET (%PCL<80% or %TP<80%,

Black column: Monitoring was not carried out

Table 3.71 Precipitation amount-weighted annual average concentrations of H⁺ from 2000 to 2011

														unit: $\mu\text{mol L}^{-1}$
Country	Name of sites	Code	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cambodia	Phnom Penh	KH 11052					4.79	0.478	0.191	0.203	1.45	0.649	1.07	1.10
China	Guanyinqiac	CN 11001	46.7	16.1	25.2	32.2	25.9	11.2	13.7	22.6				
	Nanshan	CN 11002	60.5											
	Haifu	CN 11058									63.5	60.3	71.0	65.9
	Jinyunshar	CN 11003		65.4	43.6	50.3	25.9	23.7	20.4	30.0	44.0	47.1	115	90.9
	Shizhan	CN 11004	2.09	0.420	0.576	1.00	0.505	3.86	2.75	3.03	0.402	0.297	0.211	0.535
	Weishuiyuar	CN 11005	0.381	0.484	0.931	0.784	1.05	7.04	1.46					
	Jiwozi	CN 11007	3.79	0.573	0.999	0.890	0.776	0.627	1.36	0.143	0.114	0.794	2.91	1.13
	Hongwen	CN 11008	19.1	29.6	16.2	34.4	19.4	19.9	14.7	16.2	25.7	30.2	26.6	22.5
	Xiaoping	CN 11009	12.2	12.6	33.6	41.4	24.6	16.5	16.5	25.4	27.9	34.1	26.5	15.3
	Xiang Zhou	CN 11010	7.00	11.4	7.83	7.87	16.5	27.3	13.4	23.3	11.7	13.4	14.1	8.81
	Zhuxiandong	CN 11011	23.0	16.7	12.8	7.88	23.2	24.4	15.0	***	13.1	17.7	11.3	16.7
Indonesia	Jakarta	ID 11012	6.57	3.79	16.9	6.96	20.4	49.1	41.5	27.5	22.5	23.5	18.6	28.2
	Serpong	ID 11014	***	23.7	22.6	24.1	20.8	25.6	25.0	25.8	23.9	19.3	17.5	19.7
	Kototabang	ID 11013	31.2	8.53	4.89	5.00	18.5	20.9	29.4	5.31	6.00	22.6	16.0	9.22
	Bandung	ID 11015	***	10.1	34.9	10.0	9.30	9.33	7.00	11.8	6.81	4.99	7.99	4.00
	Maros	ID 11059									2.35	4.64	6.16	4.43
Japan	Rishiri	JP 11016	15.7	16.8	15.0	13.3	14.4	18.4	21.5	26.3	12.3	18.3	18.7	20.1
	Ochiishi	JP 11050				12.2	20.7	14.6	13.8	16.7	13.5	9.64	14.8	13.1
	Tappi	JP 11017	19.0	23.0	20.9	27.0	25.4	24.9	26.5	23.8	26.0	18.2	20.4	24.6
	Sado-seki	JP 11019	26.9	23.2	22.7	21.5	19.7	27.6	19.7	31.4	27.9	17.7	19.8	20.8
	Happo	JP 11021	18.6	14.6	11.8	12.4	13.9	15.9	10.7	16.2	14.7	10.7	8.00	9.15
	Ijira	JP 11022	30.1	37.1	30.4	38.7	22.1	30.9	31.0	29.3	35.7	23.0	17.3	18.0
	Oki	JP 11023	22.8	17.0	18.6	17.5	15.9	27.4	18.7	23.1	25.0	19.4	21.8	18.8
	Banryu	JP 11024	22.9	21.9	20.4	23.3	19.9	32.7	20.5	32.3	29.3	22.1	19.8	21.8
	Yusuhara	JP 11025	19.5	14.9	17.4	18.4	10.6	22.8	14.4	15.3	21.6	17.2	16.2	11.7
	Hedo	JP 11027	7.38	10.9	11.3	12.5	16.5	14.7	10.1	10.2	10.0	7.81	6.34	12.5
	Ogasawara	JP 11018	5.91	8.07	8.21	9.10	7.48	15.4	10.1	9.38	10.0	6.79	5.68	4.98
	Tokyo	JP 11057									16.3	24.8	17.7	11.2
Lao PDR	Vientiar	LA 11051				0.313	2.26	0.481	0.325	2.16	0.987	3.31	***	***
Malaysia	Petaling Jaya	MY 11029	44.9	56.0	58.8	52.1	47.3	43.1	37.8	27.6	37.2	45.2	54.4	69.4
	Tanah Rata	MY 11030	16.1	12.7	10.8	12.7	13.7	14.3	11.3	11.1	8.01	8.31	8.64	9.76
	Danum Valley	MY 11053						10.5	8.93	8.03	6.02	6.00	5.99	6.20
	Kuching	MY 11060									5.55	5.47	5.25	3.73
Mongolia	Ulaanbaatar	MN 11031	0.550	0.643	0.419	1.90	0.347	1.02	0.354	0.550	0.521	0.777	1.33	3.64
	Terelj	MN 11032	3.02	0.913	1.77	3.96	1.64	5.44	6.89	6.04	3.72	0.608	2.44	5.47
Myanmar	Yangon	MM 11056								2.66	0.392	0.346	0.384	0.347
Philippines	Metro Manila	PH 11033	3.28	3.87	8.11	36.2	6.64	11.3	5.01	5.33	2.84	5.87	2.25	2.27
	Los Banos	PH 11034	3.64	2.98	1.81	32.5	5.47	7.27	2.44	2.91	11.2	2.64	1.32	2.70
	Mt. Sto. Tomas	PH 11055							0.475	2.97	3.22	1.47	0.201	4.46
Republic of Korea	Kanghwa	KR 11035	10.0	10.2	22.2	21.3	27.2	56.9	21.0	24.0	28.4	25.9	39.0	***
	Cheju	KR 11036	14.1	12.9	24.3	15.0	18.2	28.5	45.9	30.7	21.5	7.79	9.19	***
	Imsil	KR 11037		8.05	2.02	8.34	11.8	0.997	6.45	1.85	13.1	8.06	13.5	***
Russia	Mondy	RU 11038	5.50	3.15	4.06	4.47	4.57	4.34	4.08	3.03	6.72	3.33	2.80	2.90
	Listvyanka	RU 11039	8.57	11.0	13.2	9.71	12.1	14.7	22.8	21.6	23.2	14.4	17.6	18.8
	Irkutsk	RU 11040	7.76	5.31	9.44	4.24	12.2	7.61	7.04	11.7	17.1	3.89	7.41	9.51
	Primorskaya	RU 11041			6.30	13.2	14.5	8.67	15.0	14.5	16.3	10.5	10.7	23.4
Thailand	Bangkok	TH 11042	11.1	10.7	7.90	29.5	6.49	12.7	6.91	8.96	5.29	8.07	8.48	8.97
	Samutprakarn	TH 11043	14.8				3.41	3.42	1.36	2.46	5.08	7.40	4.82	1.27
	Pathumthani	TH 11044	5.66	7.42	4.64	13.7	13.6	12.9	13.0	15.6	9.24	7.05	5.82	9.99
	Khanchanabur	TH 11045	2.73	5.47	2.30	3.47	0.847	2.87	1.78	1.66	2.19	2.18	2.03	3.21
	Chiang Mai	TH 11046		1.94	1.89	2.47	2.54	5.94	2.00	1.12	1.04	1.20	0.676	5.14
	Nakhon Ratchasima	TH 11054							7.61	8.30	9.31	13.6	17.8	9.95
Vietnam	Hanoi	VN 11047	3.57	1.47	2.79	1.55	2.26	0.710	1.85	2.61	1.43	2.15	1.16	5.03
	Hoa Binh	VN 11048	7.79	9.09	6.50	4.15	2.52	2.03	2.57	8.71	3.25	5.13	4.26	3.65
	Cuc Phuong	VN 11061										10.3	5.88	9.09
	Da Nang	VN 11062										16.8	7.71	10.4

[***]: No data or not measured

■ Data in hatched column: Rejected annual value by the criteria of EANET (%PCL<80% or %TP<80%,

■ Black column: Monitoring was not carried out

Table 3.72 Precipitation amount-weighted annual average pH from 2000 to 2011

Country	Name of sites	Code	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cambodia	Phnom Penh	KH 11052					5.32	6.32	6.72	6.69	5.84	6.19	5.97	5.96
China	Guanyinqiac	CN 11001	4.33	4.79	4.60	4.49	4.59	4.95	4.86	4.65				
	Nanshan	CN 11002	4.22											
	Haifu	CN 11058									4.20	4.22	4.15	4.18
	Jinyunshar	CN 11003		4.18	4.36	4.30	4.59	4.62	4.69	4.52	4.36	4.33	3.94	4.04
	Shizhan	CN 11004	5.68	6.38	6.24	6.00	6.30	5.41	5.56	5.52	6.40	6.53	6.68	6.27
	Weishuiyuar	CN 11005	6.42	6.32	6.03	6.11	5.98	5.15	5.84					
	Jiwozi	CN 11007	5.42	6.24	6.00	6.05	6.11	6.20	5.87	6.85	6.94	6.10	5.54	5.95
	Hongwen	CN 11008	4.72	4.53	4.79	4.46	4.71	4.70	4.83	4.79	4.59	4.52	4.57	4.65
	Xiaoping	CN 11009	4.91	4.90	4.47	4.38	4.61	4.78	4.78	4.60	4.55	4.47	4.58	4.82
	Xiang Zhou	CN 11010	5.15	4.94	5.11	5.10	4.78	4.56	4.87	4.63	4.93	4.87	4.85	5.05
	Zhuxiandong	CN 11011	4.64	4.78	4.89	5.10	4.63	4.61	4.82	***	4.88	4.75	4.95	4.78
Indonesia	Jakarta	ID 11012	5.18	5.42	4.77	5.16	4.69	4.31	4.38	4.56	4.65	4.63	4.73	4.55
	Serpong	ID 11014	***	4.63	4.65	4.62	4.68	4.59	4.60	4.59	4.62	4.71	4.76	4.70
	Kototabang	ID 11013	4.51	5.07	5.31	5.30	4.73	4.68	4.53	5.27	5.22	4.65	4.80	5.04
	Bandung	ID 11015	***	4.99	4.46	5.00	5.03	5.03	5.15	4.93	5.17	5.30	5.10	5.40
	Maros	ID 11059									5.63	5.33	5.21	5.35
Japan	Rishiri	JP 11016	4.80	4.77	4.82	4.88	4.84	4.74	4.67	4.58	4.91	4.74	4.73	4.70
	Ochiishi	JP 11050				4.91	4.68	4.84	4.86	4.78	4.87	5.02	4.83	4.88
	Tappi	JP 11017	4.72	4.64	4.68	4.57	4.59	4.60	4.58	4.62	4.59	4.74	4.69	4.61
	Sado-seki	JP 11019	4.57	4.63	4.64	4.67	4.70	4.56	4.70	4.50	4.55	4.75	4.70	4.68
	Happo	JP 11021	4.73	4.84	4.93	4.91	4.86	4.80	4.97	4.79	4.83	4.97	5.10	5.04
	Ijira	JP 11022	4.52	4.43	4.52	4.41	4.65	4.51	4.51	4.53	4.45	4.64	4.76	4.75
	Okii	JP 11023	4.64	4.77	4.73	4.76	4.80	4.56	4.73	4.64	4.60	4.71	4.66	4.73
	Banryu	JP 11024	4.64	4.66	4.69	4.63	4.70	4.49	4.69	4.49	4.53	4.66	4.70	4.66
	Yusuhara	JP 11025	4.71	4.83	4.76	4.73	4.97	4.64	4.84	4.81	4.67	4.77	4.79	4.93
	Hedo	JP 11027	5.13	4.96	4.95	4.90	4.78	4.83	4.99	4.99	5.00	5.11	5.20	4.90
	Ogasawara	JP 11018	5.23	5.09	5.09	5.04	5.13	4.81	4.99	5.03	5.00	5.17	5.25	5.30
	Tokyo	JP 11057								4.79	4.60	4.75	4.95	4.83
Lao PDR	Vientiar	LA 11051				6.51	5.65	6.32	6.49	5.67	6.01	5.48	***	***
Malaysia	Petaling Jaya	MY 11029	4.35	4.25	4.23	4.28	4.33	4.37	4.42	4.56	4.43	4.35	4.26	4.16
	Tanah Rata	MY 11030	4.79	4.90	4.97	4.90	4.86	4.84	4.95	4.95	5.10	5.08	5.06	5.01
	Danum Valley	MY 11053						4.98	5.05	5.10	5.22	5.22	5.22	5.21
	Kuching	MY 11060									5.26	5.26	5.28	5.43
Mongolia	Ulaanbaatar	MN 11031	6.26	6.19	6.38	5.72	6.46	5.99	6.45	6.26	6.28	6.11	5.88	5.44
	Terej	MN 11032	5.52	6.04	5.75	5.40	5.78	5.26	5.16	5.22	5.43	6.22	5.61	5.26
Myanmar	Yangon	MM 11056								5.57	6.41	6.46	6.42	6.46
Philippines	Metro Manila	PH 11033	5.48	5.41	5.09	4.44	5.18	4.95	5.30	5.27	5.55	5.23	5.65	5.64
	Los Banos	PH 11034	5.44	5.53	5.74	4.49	5.26	5.14	5.61	5.54	4.95	5.58	5.88	5.57
	Mt. Sto. Tomas	PH 11055							6.32	5.53	5.49	5.83	6.70	5.35
Republic of Korea	Kanghwa	KR 11035	5.00	4.99	4.65	4.67	4.57	4.25	4.68	4.62	4.55	4.59	4.41	***
	Cheju	KR 11036	4.85	4.89	4.61	4.83	4.74	4.55	4.34	4.51	4.67	5.11	5.04	***
	Imsil	KR 11037		5.09	5.69	5.08	4.93	6.00	5.19	5.73	4.88	5.09	4.87	***
Russia	Mondy	RU 11038	5.26	5.50	5.39	5.35	5.34	5.36	5.39	5.52	5.17	5.48	5.55	5.54
	Listvyanka	RU 11039	5.07	4.96	4.88	5.01	4.92	4.83	4.64	4.67	4.63	4.84	4.76	4.73
	Irkutsk	RU 11040	5.11	5.28	5.02	5.37	4.91	5.12	5.15	4.93	4.77	5.41	5.13	5.02
	Primorskaya	RU 11041			5.20	4.88	4.84	5.06	4.83	4.84	4.79	4.98	4.97	4.63
Thailand	Bangkok	TH 11042	4.95	4.97	5.10	4.53	5.19	4.89	5.16	5.05	5.28	5.09	5.07	5.05
	Samutprakarn	TH 11043	4.83				5.47	5.47	5.87	5.61	5.29	5.13	5.32	5.90
	Pathumthani	TH 11044	5.25	5.13	5.33	4.86	4.87	4.89	4.89	4.81	5.03	5.15	5.24	5.00
	Khanchanabur	TH 11045	5.56	5.26	5.64	5.46	6.07	5.54	5.75	5.78	5.66	5.66	5.69	5.49
	Chiang Mai	TH 11046		5.71	5.72	5.61	5.59	5.23	5.70	5.95	5.98	5.92	6.17	5.29
	Nakhon Ratchasima	TH 11054							5.12	5.08	5.03	4.87	4.75	5.00
Vietnam	Hanoi	VN 11047	5.45	5.83	5.55	5.81	5.65	6.15	5.73	5.58	5.84	5.67	5.93	5.30
	Hoa Binh	VN 11048	5.11	5.04	5.19	5.38	5.60	5.69	5.59	5.06	5.49	5.29	5.37	5.44
	Cuc Phuong	VN 11061										4.99	5.23	5.04
	Da Nang	VN 11062										4.77	5.11	4.98

[***]: No data or not measured

White column: Data in hatched column: Rejected annual value by the criteria of EANET (%PCL<80% or %TP<80%,

Black column: Monitoring was not carried out

Table 3.73 Precipitation amount-weighted annual average EC from 2000 to 2011

unit: mS m⁻¹

Country	Name of sites	Code	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cambodia	Phnom Penh	KH 11052					1.17	0.807	1.17	1.37	1.53	0.880	0.747	0.820
China	Guanyinqiao	CN 11001	5.61	7.00	4.36	4.89	5.82	6.70	6.70	5.01				
	Nanshan	CN 11002	5.20											
	Haifu	CN 11058									6.46	5.14	6.71	6.55
	Jinyunshan	CN 11003		6.23	3.69	4.19	4.35	4.23	5.45	3.76	5.13	5.27	8.07	7.09
	Shizhan	CN 11004	11.4	19.5	16.1	7.50	6.47	5.18	9.81	7.21	7.96	5.80	5.63	4.31
	Weishuiyuan	CN 11005	15.1	27.7	21.7	7.80	8.55	4.61	13.4					
	Jiwozi	CN 11007	7.71	9.65	4.02	5.19	2.91	5.82	6.95	10.3	8.46	3.73	1.67	3.04
	Hongwen	CN 11008	1.66	3.87	2.64	2.88	3.41	2.63	2.31	2.68	2.15	2.25	2.05	2.18
	Xiaoping	CN 11009	0.879	1.44	1.60	2.15	1.97	1.91	2.19	2.01	2.09	2.26	2.06	1.82
	Xiang Zhou	CN 11010	2.05	1.95	3.20	2.19	2.37	2.41	2.20	1.99	1.84	1.99	1.74	1.84
	Zhuxiandong	CN 11011	3.04	2.08	3.63	2.42	3.15	2.49	2.67	***	1.94	2.15	1.37	1.99
Indonesia	Jakarta	ID 11012	5.06	26.4	2.97	4.78	3.69	3.37	1.92	2.23	1.78	1.66	1.90	2.17
	Serpong	ID 11014	***	2.94	1.87	2.26	2.25	2.63	2.10	2.14	2.10	1.66	1.95	2.31
	Kototabang	ID 11013	0.997	0.427	4.94	1.96	1.11	0.843	0.881	0.816	0.556	0.766	0.903	0.742
	Bandung	ID 11015	3.37	2.08	1.68	1.50	1.80	1.75	1.69	1.64	1.58	1.62	1.43	1.90
	Maros	ID 11059									0.623	1.06	0.718	0.576
Japan	Rishiri	JP 11016	6.37	4.51	4.23	3.80	4.72	4.46	3.04	3.72	4.86	4.10	3.77	3.50
	Ochiishi	JP 11050				3.45	6.72	4.01	5.00	3.69	3.33	3.31	4.65	3.28
	Tappi	JP 11017	3.69	3.52	3.89	3.74	4.57	4.18	5.98	4.92	4.32	3.78	2.80	3.64
	Sado-seki	JP 11019	4.76	5.64	4.99	2.65	3.10	5.05	3.81	4.92	4.28	5.65	5.08	3.57
	Happo	JP 11021	1.22	0.965	0.667	0.692	0.915	1.10	0.840	1.08	1.03	0.860	0.597	0.666
	Ijira	JP 11022	2.11	2.44	2.18	2.12	1.62	2.11	2.15	2.05	2.18	1.65	1.33	1.46
	Okii	JP 11023	7.28	5.90	6.59	3.82	5.86	11.3	4.77	5.91	6.60	7.16	7.56	8.76
	Banryu	JP 11024	1.82	2.52	2.56	2.56	3.02	3.50	2.54	3.36	3.10	3.02	2.88	3.13
	Yusuhara	JP 11025	1.17	0.981	1.42	1.16	1.03	1.59	1.08	1.06	1.14	1.15	1.06	0.870
	Hedo	JP 11027	7.21	2.95	8.85	7.10	14.2	7.10	3.58	2.54	2.61	2.44	4.59	3.87
	Ogasawara	JP 11018	2.59	2.20	3.95	4.31	2.29	2.33	2.14	2.59	1.86	3.27	3.58	3.70
	Tokyo	JP 11057								1.80	1.96	1.66	1.18	1.88
Lao PDR	Vientian	LA 11051				2.07	2.65	1.01	0.764	0.396	0.644	0.534	***	***
Malaysia	Petaling Jaya	MY 11029	2.08	2.13	2.81	2.32	2.26	2.12	1.81	1.40	1.98	2.46	2.90	3.43
	Tanah Rata	MY 11030	0.725	0.543	0.594	0.613	0.763	0.684	0.510	0.506	0.471	0.544	0.550	0.822
	Danum Valley	MY 11053						0.562	0.465	0.347	0.461	0.445	0.552	0.440
	Kuching	MY 11060									0.443	0.521	0.500	0.547
Mongolia	Ulaanbaatar	MN 11031	1.79	1.91	2.20	1.56	1.68	1.87	1.92	2.18	1.92	1.76	1.53	1.74
	Terelj	MN 11032	1.28	0.933	1.93	1.05	1.12	1.18	1.95	2.02	1.34	2.06	1.88	1.54
Myanmar	Yangon	MM 11056								0.595	0.949	1.54	1.34	0.682
Philippines	Metro Manila	PH 11033	2.20	6.49	1.85	1.36	1.48	1.66	1.66	1.40	2.88	1.24	1.89	3.76
	Los Banos	PH 11034	1.13	2.08	1.22	1.99	0.801	1.01	1.08	0.859	1.76	0.802	1.22	1.18
	Mt. Sto. Tomas	PH 11055							0.221	1.03	0.347	0.495	0.533	0.355
Republic of Korea	Kanghwa	KR 11035	2.50	1.98	2.68	2.54	3.25	4.14	2.75	3.49	2.72	2.88	2.46	***
	Cheju	KR 11036	3.37	2.56	3.03	2.22	2.45	3.43	3.64	3.43	3.47	2.20	2.32	***
	Imsil	KR 11037		1.31	1.80	1.42	1.42	1.72	2.51	1.58	1.75	1.98	1.89	***
Russia	Mondy	RU 11038	0.578	0.680	0.964	0.586	0.536	0.485	0.428	0.799	0.727	0.621	0.653	0.566
	Listvyanka	RU 11039	1.04	0.945	1.39	1.36	1.30	1.19	1.51	1.38	1.58	1.31	1.41	1.63
	Irkutsk	RU 11040	1.71	1.79	2.10	1.67	1.80	1.66	1.76	2.02	2.48	2.18	2.05	2.16
	Primorskaya	RU 11041			1.77	2.66	2.20	2.03	2.47	1.90	2.58	1.48	1.96	2.64
Thailand	Bangkok	TH 11042	1.64	1.50	1.32	1.67	1.25	1.66	1.94	1.41	1.54	1.38	1.31	1.24
	Samutprakarn	TH 11043	1.52				1.01	1.30	1.56	1.34	1.66	1.48	1.13	0.667
	Pathumthani	TH 11044	1.48	1.80	1.07	1.24	1.47	1.31	1.42	1.50	1.19	1.07	0.975	1.27
	Khanchanaburi	TH 11045	0.519	0.559	0.508	0.352	0.406	0.315	0.462	0.292	0.496	0.511	0.249	0.585
	Chiang Mai	TH 11046		0.885	0.476	0.458	0.486	0.812	0.593	0.630	0.622	0.608	0.519	0.442
	Nakhon Ratchasima	TH 11054							0.918	0.775	0.833	0.981	0.992	0.796
Vietnam	Hanoi	VN 11047	1.55	0.917	1.52	1.70	1.85	2.75	2.18	1.57	1.11	1.41	1.72	1.60
	Hoa Binh	VN 11048	1.15	1.04	1.06	1.12	1.48	1.15	1.22	1.08	0.918	1.10	1.39	1.02
	Cuc Phuong	VN 11061										1.74	1.71	1.98
	Da Nang	VN 11062										2.53	1.46	2.37

[***]: No data or not measured

Data in hatched column: Rejected annual value by the criteria of EANET (%PCL<80% or %TP<80%)

Black column: Monitoring was not carried out

Table 3.74 Annual SO₄²⁻ deposition amount from 2000 to 2011

unit: mmol m⁻² y⁻¹

Country	Name of sites	Code	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cambodia	Phnom Penh	KH 11052					***	7.43	5.04	30.9	21.3	15.4	13.6	11.5
China	Guanyinqiao	CN 11001	164	154	165	108	229	200	149	169				
	Nanshan	CN 11002	164											
	Haifu	CN 11058									145	106	136	115
	Jinyunshan	CN 11003		87.7	126	103	166	149	169	149	146	125	148	119
	Shizhan	CN 11004	199	171	297	258	104	63.9	132	96.7	73.6	80.5	45.8	72.5
	Weishuiyuan	CN 11005	241	105	234	186	94.2	47.1	104					
	Jiwozi	CN 11007	117	68.0	43.2	55.3	56.3	42.8	30.0	18.2	63.6	58.7	36.8	60.7
	Hongwen	CN 11008	30.7	16.7	67.0	48.0	73.6	80.4	61.1	102	29.9	19.2	40.8	26.4
	Xiaoping	CN 11009	22.8	49.1	36.3	41.7	53.3	59.0	39.7	29.2	58.3	32.0	41.4	38.1
	Xiang Zhou	CN 11010	45.5	31.2	48.3	35.3	25.0	28.0	44.6	31.2	46.5	36.6	36.7	19.5
	Zhuxiandong	CN 11011	85.4	49.5	50.6	32.4	34.3	31.3	17.1	***	49.6	33.2	31.6	23.4
Indonesia	Jakarta	ID 11012	92.7	77.5	60.5	108	71.4	85.6	38.7	60.6	38.9	30.2	46.4	28.4
	Serpong	ID 11014	***	61.4	64.3	49.5	41.0	27.5	45.2	61.5	65.9	31.0	34.8	27.9
	Kototabang	ID 11013	8.65	5.66	13.4	28.7	11.0	12.1	9.55	19.4	7.21	12.5	15.0	17.1
	Bandung	ID 11015	60.2	87.8	70.4	32.8	24.8	61.7	35.1	52.0	65.4	78.3	70.3	47.1
	Maros	ID 11059									16.3	22.5	28.9	30.0
Japan	Rishiri	JP 11016	30.0	19.1	26.1	16.6	27.0	26.8	29.6	24.9	24.3	27.4	25.1	26.1
	Ochiishi	JP 11050				14.9	22.3	18.6	27.6	18.4	13.7	26.3	24.9	12.4
	Tappi	JP 11017	22.9	24.7	30.2	25.1	38.6	36.8	34.5	31.2	23.3	30.9	33.1	31.5
	Sado-seki	JP 11019	36.8	39.8	40.4	18.6	27.2	39.1	35.7	40.6	31.6	34.2	44.2	34.0
	Happo	JP 11021	29.2	27.4	19.8	18.5	28.2	35.8	28.4	28.4	18.0	23.8	16.0	21.5
	Ijira	JP 11022	53.3	49.1	52.2	56.7	48.0	48.5	58.3	43.0	41.0	44.2	42.6	39.8
	Oki	JP 11023	49.0	42.1	55.4	34.3	41.3	73.2	41.1	42.1	39.5	42.4	59.3	70.0
	Banryu	JP 11024	24.4	33.9	24.8	30.5	34.4	34.6	43.1	35.5	32.7	36.3	30.8	30.1
	Yusuhara	JP 11025	31.0	19.0	26.2	26.5	26.7	28.0	31.9	22.5	22.4	24.1	23.9	23.9
	Hedo	JP 11027	93.6	33.9	75.0	49.0	137	64.1	35.8	38.8	27.8	25.9	55.3	36.3
	Ogasawara	JP 11018	22.6	20.7	24.1	25.2	12.5	26.9	16.2	19.9	15.0	27.7	27.9	20.4
	Tokyo	JP 11057								18.4	36.5	27.6	18.1	22.0
Lao PDR	Vientian	LA 11051				***	***	***	2.45	6.54	8.43	0.733	***	***
Malaysia	Petalang Jaya	MY 11029	80.4	68.4	63.1	63.9	54.5	66.4	82.5	41.8	65.6	39.2	60.3	81.2
	Tanah Rata	MY 11030	12.9	9.79	12.8	11.4	9.74	16.1	12.3	10.4	12.9	10.0	7.96	16.6
	Danum Valley	MY 11053						5.53	10.2	6.85	7.46	9.56	12.0	7.42
	Kuching	MY 11060									17.8	17.6	16.6	18.9
Mongolia	Ulaanbaatar	MN 11031	4.78	4.17	4.41	5.80	1.84	4.01	4.78	4.67	4.33	4.53	3.39	4.59
	Terelj	MN 11032	3.41	0.861	3.72	2.57	2.75	4.29	5.10	4.63	3.40	1.83	3.96	3.40
Myanmar	Yangon	MM 11056								***	***	24.1	10.3	20.9
Philippines	Metro Manila	PH 11033	94.4	85.5	78.2	37.6	44.0	57.1	47.4	78.1	59.2	51.3	54.2	68.3
	Los Banos	PH 11034	27.7	28.4	27.3	11.4	14.7	16.2	23.9	26.0	34.2	25.6	15.3	20.4
	Mt. Sto. Tomas	PH 11055							0.592	19.4	17.6	23.8	17.8	21.6
Republic of Korea	Kanghwa	KR 11035	35.3	28.5	28.4	41.1	39.3	37.9	40.3	36.4	43.2	37.0	41.3	***
	Cheju	KR 11036	24.5	23.0	28.5	29.3	26.8	24.0	31.6	47.1	22.1	26.3	19.4	***
	Imsil	KR 11037		21.3	22.7	30.6	19.9	28.4	19.0	38.8	17.9	21.0	32.0	***
Russia	Mondy	RU 11038	2.19	3.51	2.20	3.48	2.46	1.54	1.93	3.26	1.47	0.929	0.613	0.333
	Listvyanka	RU 11039	6.79	6.60	6.56	10.3	10.6	7.80	5.90	6.99	8.33	6.02	6.76	10.6
	Irkutsk	RU 11040	16.1	13.9	10.3	12.0	14.7	12.3	9.28	16.0	20.3	13.4	12.6	11.3
	Primorskaya	RU 11041			24.2	13.9	25.7	28.2	28.6	30.4	22.5	19.5	21.5	8.70
Thailand	Bangkok	TH 11042	24.8	21.3	24.2	25.6	19.8	39.1	35.5	27.2	32.0	26.3	24.3	23.2
	Samutprakarn	TH 11043	25.0				20.7	31.1	29.4	27.7	27.2	30.0	29.3	16.1
	Pathumthani	TH 11044	18.7	23.2	14.2	20.5	17.1	16.7	21.6	16.6	17.8	11.7	14.1	14.8
	Khanchanaburi	TH 11045	3.21	7.91	12.4	5.78	4.71	5.72	10.2	4.20	7.41	7.19	2.91	9.93
	Chiang Mai	TH 11046		3.02	6.57	3.34	7.95	8.43	6.44	5.62	6.38	4.52	3.88	5.23
	Nakhon Ratchasima	TH 11054							9.80	8.93	12.7	8.11	11.5	7.99
Vietnam	Hanoi	VN 11047	37.9	31.5	47.8	47.7	58.3	90.6	57.7	55.8	45.8	44.1	43.8	55.7
	Hoa Binh	VN 11048	30.8	32.6	30.5	38.0	53.9	40.6	38.5	33.1	26.9	21.8	36.1	31.7
	Cuc Phuong	VN 11061										41.9	33.7	69.7
	Da Nang	VN 11062										55.6	27.6	76.7

[***]: No data or not measured

■ Data in hatched column: Rejected annual value by the criteria of EANET (%PCL<80% or %TP<80%)

■ Black column: Monitoring was not carried out

Table 3.75 Annual nss-SO₄²⁻ deposition amount from 2000 to 2011

unit: mmol m⁻² y⁻¹

Country	Name of sites	Code	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cambodia	Phnom Penh	KH 11052					***	***	4.82	30.2	15.9	14.9	13.3	11.3
China	Guanyinqiao	CN 11001	163	154	164	108	228	200	149	169				
	Nanshan	CN 11002	164											
	Haifu	CN 11058									145	106	135	115
	Jinyunshan	CN 11003		87.3	125	102	165	148	168	148	145	124	148	119
	Shizhan	CN 11004	198	167	291	253	103	63.4	131	96.2	73.0	80.1	45.6	71.8
	Weishuiyuan	CN 11005	239	104	231	177	93.5	46.6	103					
	Jiwozi	CN 11007	116	66.0	41.7	51.6	54.7	41.5	29.1	17.7	61.5	57.8	36.3	60.3
	Hongwen	CN 11008	28.5	16.5	61.8	45.3	70.3	75.1	57.7	99.7	28.6	18.1	39.0	25.5
	Xiaoping	CN 11009	22.0	47.2	34.1	39.0	51.8	57.3	37.9	28.4	55.6	30.9	39.7	37.1
	Xiang Zhou	CN 11010	40.3	29.1	44.0	31.6	22.4	25.3	41.3	29.5	40.6	31.7	34.5	17.0
	Zhuxiandong	CN 11011	82.4	46.2	46.3	28.8	30.4	27.7	15.9	***	44.0	28.9	29.4	20.3
Indonesia	Jakarta	ID 11012	87.7	74.6	57.3	105	68.2	82.7	37.6	58.5	37.9	29.3	45.4	27.7
	Serpong	ID 11014	***	59.1	60.5	48.0	39.3	26.7	44.4	60.1	64.5	30.2	34.1	27.4
	Kototabang	ID 11013	***	5.33	12.7	26.9	9.66	11.3	9.08	17.9	6.47	11.6	14.3	16.2
	Bandung	ID 11015	***	84.6	69.1	32.1	24.2	60.5	33.7	51.2	64.2	76.4	68.8	46.0
	Maros	ID 11059									13.5	20.0	26.7	26.7
Japan	Rishiri	JP 11016	14.9	11.2	14.9	9.12	13.9	15.0	21.0	17.4	12.0	16.2	14.6	15.8
	Ochiishi	JP 11050				5.84	8.33	8.28	11.3	8.73	6.14	9.29	10.5	5.51
	Tappi	JP 11017	13.5	16.0	17.1	15.4	21.0	20.6	17.8	16.6	13.5	15.4	22.5	21.2
	Sado-seki	JP 11019	20.2	18.9	18.8	12.3	14.7	19.2	18.7	24.7	18.7	14.2	18.3	21.2
	Happo	JP 11021	28.1	26.6	19.3	17.8	27.1	34.5	27.8	28.0	17.6	23.1	15.4	20.9
	Ijira	JP 11022	50.1	45.1	47.6	54.3	43.6	46.3	56.5	40.1	39.0	41.9	39.6	37.2
	Oki	JP 11023	20.4	18.4	21.2	16.4	16.8	25.3	22.0	22.8	18.2	17.0	23.6	25.6
	Banryu	JP 11024	21.7	25.5	18.6	22.0	22.5	27.5	35.3	29.5	27.2	25.9	22.5	20.8
	Yusuhara	JP 11025	28.4	17.6	22.1	24.0	20.9	24.5	29.7	20.6	21.2	22.6	22.6	21.3
	Hedo	JP 11027	17.1	13.8	15.1	15.7	43.4	23.1	14.7	17.8	13.2	11.0	15.3	14.6
	Ogasawara	JP 11018	6.22	9.23	5.25	5.71	4.02	15.0	6.58	7.61	6.38	8.72	5.60	4.62
	Tokyo	JP 11057								16.2	34.3	25.1	16.3	18.9
Lao PDR	Vientian	LA 11051				***	***	***	2.15	6.34	8.14	0.633	***	***
Malaysia	Petaling Jaya	MY 11029	79.3	67.7	62.3	62.9	53.5	65.3	81.4	41.2	64.6	38.4	59.3	80.2
	Tanah Rata	MY 11030	12.5	9.49	12.6	11.1	9.48	14.9	12.1	10.2	12.6	9.80	7.78	16.2
	Danum Valley	MY 11053						5.19	9.23	6.11	6.89	8.36	10.2	6.51
	Kuching	MY 11060									16.4	15.6	14.7	16.3
Mongolia	Ulaanbaatar	MN 11031	4.69	4.08	4.34	5.73	1.81	3.95	4.68	4.63	4.22	4.47	3.36	4.53
	Terelj	MN 11032	3.33	0.776	3.51	2.49	2.67	4.12	4.93	4.53	3.26	1.78	3.86	3.34
Myanmar	Yangon	MM 11056								***	***	20.8	8.88	18.0
Philippines	Metro Manila	PH 11033	87.0	52.0	75.6	35.2	41.9	54.8	44.6	73.9	55.7	47.7	50.6	63.6
	Los Banos	PH 11034	22.4	23.9	25.1	10.0	13.4	14.5	21.0	22.7	32.0	22.5	12.5	17.6
	Mt. Sto. Tomas	PH 11055							0.519	18.2	16.1	21.5	16.5	20.4
Republic of Korea	Kanghwa	KR 11035	31.6	25.6	26.0	38.6	37.6	36.3	38.5	34.0	39.5	33.6	38.8	***
	Cheju	KR 11036	14.8	18.0	24.9	25.6	22.9	20.4	25.9	39.5	15.3	23.0	13.1	***
	Imsil	KR 11037		20.1	20.4	28.0	18.6	26.8	17.6	37.5	16.3	17.7	27.2	***
Russia	Mondy	RU 11038	2.16	3.46	2.17	3.42	2.43	1.51	1.89	3.20	1.45	0.912	0.598	0.316
	Listvyanka	RU 11039	6.67	6.50	6.47	10.1	10.4	7.72	5.85	6.93	8.27	5.94	6.69	10.4
	Irkutsk	RU 11040	15.8	13.6	10.2	11.8	14.5	12.1	9.07	15.8	20.0	12.9	12.2	11.0
	Primorskaya	RU 11041			23.0	13.3	24.8	27.2	28.0	29.2	21.7	18.8	20.5	8.19
Thailand	Bangkok	TH 11042	24.4	20.7	22.9	24.9	19.1	37.6	34.6	26.5	31.0	25.1	23.3	22.4
	Samutprakarn	TH 11043	24.4				19.5	29.1	28.0	26.3	25.6	28.8	27.2	15.4
	Pathumthani	TH 11044	18.1	22.5	13.7	20.1	16.6	16.2	20.8	16.1	17.2	11.2	13.5	14.2
	Khanchanaburi	TH 11045	2.72	6.89	11.2	4.81	3.96	4.89	9.24	3.48	6.33	6.05	2.61	9.06
	Chiang Mai	TH 11046		2.78	5.78	3.21	7.74	8.36	6.16	5.46	6.18	4.36	3.69	4.93
	Nakhon Ratchasima	TH 11054							9.48	8.56	12.2	7.90	11.1	7.63
Vietnam	Hanoi	VN 11047	36.5	30.0	47.3	46.9	57.5	88.7	56.7	55.0	44.5	43.2	43.3	55.0
	Hoa Binh	VN 11048	29.4	31.3	30.3	37.8	53.5	39.6	38.1	32.7	26.5	21.5	35.7	31.5
	Cuc Phuong	VN 11061										40.4	32.5	68.2
	Da Nang	VN 11062										38.7	23.4	61.3

[***]: No data or not measured

■ Data in hatched column: Rejected annual value by the criteria of EANET (%PCL<80% or %TP<80%)

■ Black column: Monitoring was not carried out

Table 3.76 Annual NO₃⁻ deposition amount from 2000 to 2011unit: mmol m⁻² y⁻¹

Country	Name of sites	Code	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cambodia	Phnom Penh	KH 11052					3.22	***	8.59	11.3	17.2	13.7	15.5	11.3
China	Guanyinqiao	CN 11001	45.5	39.7	49.7	38.4	60.9	44.5	51.1	63.3				
	Nanshan	CN 11002	52.4											
	Haifu	CN 11058									65.6	56.7	75.9	67.4
	Jinyunshan	CN 11003		28.6	47.3	42.5	55.9	50.2	55.2	51.8	56.4	59.7	73.4	65.8
	Shizhan	CN 11004	48.6	55.8	52.2	86.6	37.1	6.16	39.4	40.0	15.5	34.1	18.8	11.5
	Weishuiyuan	CN 11005	42.9	14.5	39.0	70.5	32.4	5.01	32.8					
	Jiwozi	CN 11007	24.1	29.3	12.7	26.2	26.9	3.37	11.9	6.68	44.9	17.2	14.1	8.01
	Hongwen	CN 11008	28.4	11.2	48.2	43.7	53.1	63.4	47.7	50.6	21.6	17.2	44.3	19.9
	Xiaoping	CN 11009	22.8	50.1	32.0	39.9	38.5	52.9	37.7	27.3	49.2	33.2	46.0	34.6
	Xiang Zhou	CN 11010	31.8	28.0	30.9	36.0	29.6	20.3	33.3	23.9	34.7	35.5	44.3	19.8
	Zhuxiandong	CN 11011	59.6	57.1	32.9	20.2	31.9	22.8	11.7	***	33.9	31.3	36.6	21.5
Indonesia	Jakarta	ID 11012	27.8	66.4	44.3	94.5	114	115	30.4	67.4	24.1	23.8	36.2	29.5
	Serpong	ID 11014	***	81.4	81.6	66.1	58.0	32.5	45.4	61.3	71.8	34.2	42.4	29.5
	Kototabang	ID 11013	14.4	3.32	10.1	154	9.94	3.46	1.74	9.88	6.93	0.679	5.61	11.1
	Bandung	ID 11015	30.7	70.0	66.7	32.7	25.2	33.5	30.3	42.4	48.4	61.3	46.8	42.8
	Maros	ID 11059									10.7	17.4	16.9	27.3
Japan	Rishiri	JP 11016	13.9	11.1	12.9	8.65	11.0	12.1	18.2	13.8	12.1	18.3	15.4	17.4
	Ochiishi	JP 11050				6.22	8.78	7.65	11.3	8.29	6.16	8.57	10.3	7.83
	Tappi	JP 11017	13.5	16.5	22.5	19.4	24.0	22.5	21.7	22.8	18.5	18.0	27.2	22.7
	Sado-seki	JP 11019	19.5	21.6	21.4	15.7	17.3	21.3	23.9	30.0	24.4	17.2	24.8	27.3
	Happo	JP 11021	24.3	20.8	18.2	16.2	24.7	28.6	22.7	22.9	18.2	20.1	17.1	25.1
	Ijira	JP 11022	64.8	48.5	57.8	64.5	52.6	61.9	68.5	49.4	54.3	52.9	57.9	46.4
	Oki	JP 11023	22.4	19.5	23.7	20.7	24.0	28.7	25.4	27.6	21.5	22.7	35.2	32.6
	Banryu	JP 11024	21.7	31.1	25.0	27.9	27.0	32.8	38.3	37.1	31.2	34.8	33.2	27.9
	Yusuhara	JP 11025	19.7	14.2	19.8	19.7	20.9	21.8	23.9	17.1	19.7	16.2	19.1	19.6
	Hedo	JP 11027	16.7	14.0	19.3	13.2	23.8	19.6	15.1	17.3	13.5	12.7	16.9	13.6
	Ogasawara	JP 11018	4.73	6.67	3.61	6.55	4.30	6.58	7.57	7.64	6.27	5.67	5.70	3.80
	Tokyo	JP 11057								21.0	45.5	31.3	25.4	30.1
Lao PDR	Vientian	LA 11051				***	***	***	4.92	9.65	9.95	1.76	***	***
Malaysia	Petaling Jaya	MY 11029	92.9	73.2	97.9	100	89.4	102	120	80.5	135	138	174	190
	Tanah Rata	MY 11030	10.4	8.90	16.7	14.1	11.1	17.4	14.9	12.4	17.8	16.0	10.8	7.29
	Danum Valley	MY 11053						3.14	4.24	2.02	4.11	5.61	3.36	3.99
	Kuching	MY 11060									21.3	21.2	22.8	23.1
Mongolia	Ulaanbaatar	MN 11031	3.91	3.43	4.23	4.62	1.32	2.83	3.50	3.27	3.12	4.35	3.26	2.75
	Terelj	MN 11032	3.65	0.815	4.45	3.87	3.34	2.89	3.32	3.39	3.77	2.33	3.58	2.59
Myanmar	Yangon	MM 11056								***	***	21.8	11.3	19.8
Philippines	Metro Manila	PH 11033	48.9	42.5	52.3	28.8	33.4	51.1	33.1	49.4	50.2	32.8	135	52.7
	Los Banos	PH 11034	14.3	25.3	14.0	7.84	10.6	16.2	18.1	19.4	15.1	23.2	64.9	19.9
	Mt. Sto. Tomas	PH 11055							0.804	18.5	19.9	18.6	15.5	11.8
Republic of Korea	Kanghwa	KR 11035	47.4	32.6	27.0	42.9	36.1	36.5	36.1	34.5	48.0	23.9	49.8	***
	Cheju	KR 11036	16.2	20.5	24.4	29.7	27.9	19.2	28.8	18.7	22.3	19.3	22.7	***
	Imsil	KR 11037		20.2	31.8	31.7	24.8	32.9	19.6	24.4	19.3	23.9	47.6	***
Russia	Mondy	RU 11038	3.04	3.38	2.75	2.78	2.44	1.44	2.09	2.99	1.54	0.938	0.732	0.316
	Listvyanka	RU 11039	8.25	7.26	8.99	16.1	10.9	5.34	4.54	8.33	6.02	5.10	6.59	14.6
	Irkutsk	RU 11040	11.2	8.61	6.59	8.15	9.48	7.25	5.89	8.76	9.02	7.23	8.36	6.81
	Primorskaya	RU 11041			8.51	4.97	14.8	15.9	18.2	18.9	18.3	16.1	14.7	23.5
Thailand	Bangkok	TH 11042	24.8	21.0	32.0	31.9	19.3	46.6	52.4	44.1	55.4	58.2	54.1	44.7
	Samutprakarn	TH 11043	15.1				12.3	29.1	20.0	31.0	30.2	39.7	28.9	20.6
	Pathumthani	TH 11044	17.8	26.5	17.6	28.4	23.4	24.8	35.4	31.4	35.9	21.8	36.0	30.0
	Khanchanaburi	TH 11045	5.06	10.2	13.3	7.96	6.65	5.11	15.5	5.01	9.85	9.10	6.11	14.1
	Chiang Mai	TH 11046		4.47	9.78	5.27	7.04	12.0	11.2	7.47	11.7	8.88	8.52	11.7
	Nakhon Ratchasima	TH 11054							13.5	15.7	19.8	16.0	23.7	15.0
Vietnam	Hanoi	VN 11047	20.2	11.4	21.4	39.4	39.7	54.3	30.6	25.8	22.1	26.7	25.7	39.5
	Hoa Binh	VN 11048	18.3	19.5	32.8	22.6	36.4	29.5	25.0	20.4	20.2	17.5	21.3	25.4
	Cuc Phuong	VN 11061										24.6	38.4	51.5
	Da Nang	VN 11062										33.7	11.9	57.5

[***]: No data or not measured

Data in hatched column: Rejected annual value by the criteria of EANET (%PCL<80% or %TP<80%)

Black column: Monitoring was not carried out

Table 3.77 Annual Cl⁻ deposition amount from 2000 to 2011

			unit: mmol m ⁻² y ⁻¹												
Country	Name of sites	Code	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	
Cambodia	Phnom Penh	KH 11052					***	8.12	5.88	17.4	15.9	13.6	9.12	7.52	
China	Guanyinqiao	CN 11001	25.9	22.4	22.5	16.0	20.3	19.7	16.2	17.9					
	Nanshan	CN 11002	19.7												
	Haifu	CN 11058									13.9	11.7	15.8	11.6	
	Jinyunshan	CN 11003		40.3	20.8	12.6	19.5	22.6	16.2	14.3	18.6	17.7	15.7	10.1	
	Shizhan	CN 11004	27.4	29.6	122	106	21.7	17.5	17.3	21.0	12.9	15.5	10.5	7.07	
	Weishuiyuan	CN 11005	41.0	19.3	66.0	129	18.3	16.0	16.1						
	Jiwozi	CN 11007	26.8	20.7	26.2	42.8	15.1	13.9	7.77	4.41	14.8	17.5	16.9	10.8	
	Hongwen	CN 11008	48.6	10.6	67.3	66.7	64.1	112	98.0	52.6	29.5	23.8	23.0	21.5	
	Xiaoping	CN 11009	32.4	77.3	19.9	41.6	32.5	34.9	52.4	15.2	37.1	22.8	21.1	26.1	
	Xiang Zhou	CN 11010	101	75.2	119	81.8	48.8	77.6	68.1	44.5	98.1	90.2	41.6	37.5	
	Zhuxiandong	CN 11011	70.2	71.2	94.1	70.5	75.1	55.9	25.9	***	105	81.2	40.2	21.5	
Indonesia	Jakarta	ID 11012	33.9	48.2	44.2	84.4	57.4	88.4	23.0	40.7	19.6	18.7	32.7	19.2	
	Serpong	ID 11014	***	51.8	57.6	58.2	34.8	16.3	17.4	28.8	40.3	23.6	31.9	12.5	
	Kototabang	ID 11013	15.8	7.97	30.1	87.0	24.8	15.6	9.74	38.2	9.62	28.4	23.5	30.5	
	Bandung	ID 11015	93.7	65.1	51.5	20.9	15.6	25.5	18.6	14.8	19.4	31.6	22.4	18.9	
	Maros	ID 11059									60.9	49.7	56.2	58.4	
Japan	Rishiri	JP 11016	286	145	207	142	242	224	163	142	222	203	197	192	
	Ochiishi	JP 11050				178	266	191	316	189	142	323	288	147	
	Tappi	JP 11017	187	169	253	178	341	310	314	276	186	290	192	191	
	Sado-seki	JP 11019	292	367	439	121	236	385	324	298	241	377	481	252	
	Happo	JP 11021	23.4	20.7	13.0	17.9	27.0	26.1	15.6	10.1	9.21	15.6	13.1	13.6	
	Ijira	JP 11022	61.8	73.0	88.2	56.6	94.2	43.3	40.8	56.1	42.5	47.4	62.4	52.8	
	Oki	JP 11023	543	448	658	321	453	914	353	362	412	489	684	847	
	Banryu	JP 11024	48.5	155	116	162	232	142	149	114	105	197	157	179	
	Yusuhara	JP 11025	52.4	25.6	74.6	45.4	112	69.4	44.4	38.5	22.0	28.8	27.3	49.8	
	Hedo	JP 11027	1500	373	1200	628	1750	869	404	394	270	278	751	410	
	Ogasawara	JP 11018	325	222	370	400	162	235	188	241	165	379	391	313	
	Tokyo	JP 11057									44.4	44.0	48.0	32.1	63.8
Lao PDR	Vientian	LA 11051				***	***	***	3.38	10.4	12.4	1.12	***	***	
Malaysia	Petaling Jaya	MY 11029	29.1	23.2	19.5	28.1	22.2	25.0	27.8	17.2	28.1	23.4	32.6	30.2	
	Tanah Rata	MY 11030	21.3	7.87	6.29	7.19	5.86	7.61	5.85	5.05	5.78	6.96	4.67	9.70	
	Danum Valley	MY 11053						7.54	21.5	14.6	18.3	23.0	40.5	21.6	
	Kuching	MY 11060									27.2	39.3	37.3	53.2	
Mongolia	Ulaanbaatar	MN 11031	1.76	1.60	1.37	2.27	0.670	1.17	1.46	1.18	1.56	2.20	1.30	1.22	
	Terelj	MN 11032	1.86	0.767	2.80	2.06	1.85	2.44	1.99	1.91	1.90	1.10	1.37	1.41	
Myanmar	Yangon	MM 11056								***	***	75.3	30.0	49.6	
Philippines	Metro Manila	PH 11033	103	264	55.9	53.5	52.0	33.7	62.3	97.8	68.4	92.9	55.2	109	
	Los Banos	PH 11034	87.1	62.7	41.9	26.1	24.9	29.7	46.7	75.5	35.5	72.6	52.3	62.5	
	Mt. Sto. Tomas	PH 11055							0.677	24.9	26.6	39.3	18.3	20.3	
Republic of Korea	Kanghwa	KR 11035	61.4	48.6	35.5	96.4	48.9	45.5	39.2	50.9	70.5	76.2	68.9	***	
	Cheju	KR 11036	222	125	85.3	88.4	88.9	73.1	116	130	114	66.1	114	***	
	Imsil	KR 11037		37.3	36.7	71.5	32.2	54.9	54.9	30.1	31.2	55.5	72.9	***	
Russia	Mondy	RU 11038	0.785	0.463	1.81	1.25	0.991	1.69	1.83	1.38	0.869	0.391	0.306	0.388	
	Listvyanka	RU 11039	2.22	1.07	2.45	2.23	2.72	2.43	1.09	1.75	2.00	0.942	1.12	3.17	
	Irkutsk	RU 11040	6.19	5.72	5.45	8.07	4.71	5.47	4.48	6.30	8.39	10.7	8.95	7.23	
	Primorskaya	RU 11041			28.3	11.5	14.7	16.0	11.2	18.3	14.2	12.7	19.8	41.9	
Thailand	Bangkok	TH 11042	14.4	11.1	18.0	12.0	13.7	24.7	17.1	13.0	20.1	15.9	18.9	17.3	
	Samutprakarn	TH 11043	12.6				16.2	30.9	17.7	21.0	22.1	16.8	30.4	16.0	
	Pathumthani	TH 11044	9.96	10.5	11.0	10.6	13.9	9.04	11.0	9.17	11.0	8.18	10.2	10.6	
	Khanchanaburi	TH 11045	15.5	15.1	30.9	14.3	13.9	15.9	15.9	11.3	20.1	17.6	5.37	17.2	
	Chiang Mai	TH 11046		4.91	14.8	3.81	4.40	6.01	5.29	5.48	5.90	5.16	4.17	4.65	
	Nakhon Ratchasima	TH 11054							6.56	7.08	10.2	5.81	7.82	7.24	
Vietnam	Hanoi	VN 11047	30.5	61.2	13.5	33.7	23.2	47.9	19.2	19.5	19.8	15.5	13.4	15.6	
	Hoa Binh	VN 11048	38.4	49.2	11.3	11.7	21.6	30.9	9.99	12.3	8.35	7.30	8.70	7.58	
	Cuc Phuong	VN 11061										100	40.2	28.7	
	Da Nang	VN 11062										325	85.2	340	

[***]: No data or not measured

Data in hatched column: Rejected annual value by the criteria of EANET (%PCL<80% or %TP<80%)

Black column: Monitoring was not carried out

Table 3.78 Annual NH₄⁺ deposition amount from 2000 to 2011

unit: mmol m⁻² y⁻¹

Country	Name of sites	Code	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cambodia	Phnom Penh	KH 11052					4.51	21.3	17.0	27.0	21.6	17.3	41.9	28.0
China	Guanyinqiao	CN 11001	174	158	173	131	189	169	151	181				
	Nanshan	CN 11002	132											
	Haifu	CN 11058									149	112	137	117
	Jinyunshan	CN 11003		79.1	134	106	160	154	145	124	120	121	121	98.8
	Shizhan	CN 11004	235	92.8	70.7	183	87.5	39.3	80.7	109	63.3	99.7	85.6	40.0
	Weishuiyuan	CN 11005	190	24.5	74.1	188	70.5	28.2	75.4					
	Jiwozi	CN 11007	165	35.7	10.1	50.5	37.8	13.7	11.4	1.12	13.8	32.7	20.0	22.5
	Hongwen	CN 11008	47.9	19.2	69.3	38.3	48.8	60.2	62.0	51.8	32.8	34.4	60.9	35.7
	Xiaoping	CN 11009	31.0	88.9	67.5	67.5	74.4	94.0	50.5	55.0	65.9	52.0	65.1	59.6
	Xiang Zhou	CN 11010	41.7	49.8	166	58.7	67.9	121	86.6	28.0	55.0	44.4	45.4	26.1
	Zhuxiandong	CN 11011	90.7	77.8	76.5	52.5	75.9	27.8	24.3	***	42.9	40.5	42.1	28.4
Indonesia	Jakarta	ID 11012	122	81.9	49.8	33.6	32.8	26.4	25.7	52.6	43.6	27.6	48.8	33.4
	Serpong	ID 11014	***	109	115	96.4	61.9	36.8	64.6	89.2	112	57.7	74.6	51.6
	Kototabang	ID 11013	2.66	2.88	9.21	5.78	25.9	20.7	12.3	50.5	18.7	7.15	6.72	21.9
	Bandung	ID 11015	29.3	98.8	75.9	52.6	32.9	62.6	61.0	94.3	104	130	83.7	93.0
	Maros	ID 11059									26.9	41.2	27.0	33.8
Japan	Rishiri	JP 11016	26.2	16.0	19.2	12.9	16.2	18.1	22.6	22.9	19.5	18.7	16.8	17.3
	Ochiishi	JP 11050				5.98	7.64	6.17	15.6	6.79	4.71	13.3	11.6	8.98
	Tappi	JP 11017	10.1	13.8	19.6	18.6	22.9	19.6	18.2	18.7	15.0	14.0	23.3	19.4
	Sado-seki	JP 11019	18.1	19.2	20.7	17.6	15.5	20.9	21.0	29.3	22.2	12.9	16.2	20.2
	Happo	JP 11021	31.0	25.3	20.2	15.7	25.6	32.3	24.7	25.8	16.6	22.9	15.4	18.6
	Ijira	JP 11022	63.8	39.4	60.4	53.6	50.2	52.1	64.5	46.8	40.6	52.4	46.9	43.4
	Oki	JP 11023	23.5	18.4	19.5	14.1	15.3	20.8	17.8	18.3	17.4	19.1	25.8	28.6
	Banryu	JP 11024	18.2	24.6	23.4	21.9	19.5	28.1	29.1	28.4	24.3	28.3	31.8	22.5
	Yusuhara	JP 11025	14.2	10.7	17.8	17.1	19.0	20.6	23.8	17.7	16.5	17.1	16.3	16.4
	Hedo	JP 11027	21.0	9.52	37.6	15.2	30.6	23.6	15.9	20.2	12.0	12.7	24.6	16.1
	Ogasawara	JP 11018	4.62	8.70	7.18	5.07	5.96	7.10	7.27	12.1	5.74	8.07	9.82	5.88
	Tokyo	JP 11057								29.9	55.6	45.3	31.8	35.3
Lao PDR	Vientian	LA 11051				***	***	***	5.47	15.3	14.0	3.13	***	***
Malaysia	Petaling Jaya	MY 11029	149	179	43.0	37.1	39.4	57.3	93.3	57.7	77.9	22.5	16.2	17.5
	Tanah Rata	MY 11030	129	93.0	11.2	6.92	5.77	8.13	9.84	11.6	12.2	16.7	9.92	47.2
	Danum Valley	MY 11053						2.55	6.15	3.95	29.3	11.7	11.6	7.19
	Kuching	MY 11060									19.7	23.1	9.03	23.3
Mongolia	Ulaanbaatar	MN 11031	10.2	8.28	13.0	14.1	3.86	8.18	10.1	11.0	8.26	10.6	8.35	7.50
	Terelj	MN 11032	9.20	2.70	16.2	9.86	7.37	8.87	11.7	7.19	10.5	4.54	4.53	5.66
Myanmar	Yangon	MM 11056								***	***	48.9	33.3	46.9
Philippines	Metro Manila	PH 11033	143	177	137	52.2	76.6	71.0	109	118	148	79.7	142	667
	Los Banos	PH 11034	35.9	40.7	58.8	23.3	24.3	24.7	36.2	52.1	37.1	33.9	79.1	70.1
	Mt. Sto. Tomas	PH 11055							0.293	29.4	53.3	66.7	16.8	3.79
Republic of Korea	Kanghwa	KR 11035	42.0	42.7	33.0	90.6	66.4	53.8	57.9	51.5	54.8	38.6	41.6	***
	Cheju	KR 11036	21.3	36.0	44.0	54.1	40.4	21.6	29.5	35.9	22.1	47.0	26.8	***
	Imsil	KR 11037		54.9	41.9	61.0	34.0	40.5	35.5	53.7	25.5	37.6	51.2	***
Russia	Mondy	RU 11038	3.47	7.08	6.89	6.00	4.03	2.79	1.52	10.6	2.03	2.40	1.58	0.672
	Listvyanka	RU 11039	7.29	5.34	9.66	11.3	6.74	7.50	4.82	6.35	7.40	4.18	5.99	8.22
	Irkutsk	RU 11040	17.2	11.7	13.0	19.2	15.1	15.6	8.89	16.2	18.1	15.7	12.9	10.8
	Primorskaya	RU 11041			30.0	12.6	21.0	30.7	31.0	29.2	28.0	24.9	28.8	33.6
Thailand	Bangkok	TH 11042	47.4	42.5	60.9	51.9	45.8	87.1	89.0	91.3	95.5	134	76.5	87.3
	Samutprakarn	TH 11043	31.1				43.5	60.8	70.8	88.1	97.8	81.5	52.9	58.5
	Pathumthani	TH 11044	36.6	47.9	32.4	48.2	33.2	39.6	53.9	47.5	49.6	43.3	49.4	59.5
	Khanchanaburi	TH 11045	6.03	16.7	24.0	20.3	11.7	10.1	44.1	23.7	19.8	52.1	14.5	25.2
	Chiang Mai	TH 11046		17.1	27.3	12.8	18.1	30.1	21.6	17.7	25.6	21.2	22.5	21.9
	Nakhon Ratchasima	TH 11054							27.5	25.4	36.4	28.8	40.0	36.7
Vietnam	Hanoi	VN 11047	34.5	45.7	78.6	87.4	83.0	174	56.2	80.1	69.4	81.4	64.8	95.9
	Hoa Binh	VN 11048	15.2	27.8	45.9	48.5	75.0	68.5	42.7	41.4	33.8	42.6	38.8	48.9
	Cuc Phuong	VN 11061										14.3	16.4	35.5
	Da Nang	VN 11062										40.0	14.6	78.3

[***]: No data or not measured

■ Data in hatched column: Rejected annual value by the criteria of EANET (%PCL<80% or %TP<80%)

■ Black column: Monitoring was not carried out

Table 3.79 Annual Na⁺ deposition amount from 2000 to 2011

unit: mmol m⁻² y⁻¹

Country	Name of sites	Code	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cambodia	Phnom Penh	KH 11052					***	***	1.75	11.3	18.8	9.22	5.74	4.54
China	Guanyinqiao	CN 11001	12.8	8.11	8.01	4.85	10.1	8.99	6.66	7.69				
	Nanshan	CN 11002	9.73											
	Haifu	CN 11058									7.06	4.48	7.38	7.99
	Jinyunshan	CN 11003		7.25	9.48	6.15	18.7	22.3	7.95	10.2	12.5	8.45	8.00	5.19
	Shizhan	CN 11004	24.7	59.8	85.7	88.1	11.5	8.18	21.8	8.22	9.41	7.91	3.35	11.7
	Weishuiyuan	CN 11005	30.8	15.1	48.0	147	10.9	9.01	21.1					
	Jiwozi	CN 11007	19.8	33.1	24.2	62.2	25.5	21.6	15.4	8.58	35.5	15.8	7.47	7.63
	Hongwen	CN 11008	36.1	3.20	87.2	45.2	53.7	87.4	65.6	32.4	21.7	18.1	29.6	15.2
	Xiaoping	CN 11009	13.6	31.7	35.6	43.6	25.5	28.3	54.5	13.0	44.9	18.5	28.6	16.6
	Xiang Zhou	CN 11010	85.4	49.0	71.9	67.5	96.6	52.0	54.3	27.9	97.5	80.7	36.8	40.7
	Zhuxiandong	CN 11011	55.5	70.7	71.4	63.2	120	64.7	20.0	***	94.1	71.5	37.0	51.5
Indonesia	Jakarta	ID 11012	82.6	48.8	55.6	43.8	54.6	49.4	19.3	34.4	17.1	14.5	16.8	11.6
	Serpong	ID 11014	***	38.2	63.2	24.2	28.7	13.2	12.0	23.7	24.8	13.7	11.9	8.36
	Kototabang	ID 11013	***	5.46	11.3	30.2	23.0	12.5	7.75	24.0	13.2	16.3	12.4	14.3
	Bandung	ID 11015	***	52.7	22.0	11.4	9.66	20.9	24.0	13.1	20.1	31.6	25.4	18.7
	Maros	ID 11059									47.5	43.0	35.3	54.1
Japan	Rishiri	JP 11016	250	130	188	125	217	195	142	126	204	185	173	171
	Ochiishi	JP 11050				155	233	171	277	161	125	287	252	126
	Tappi	JP 11017	156	145	219	162	292	270	278	247	162	266	177	171
	Sado-seki	JP 11019	275	345	384	106	208	332	283	264	219	333	437	213
	Happo	JP 11021	17.2	14.6	8.85	11.8	18.4	21.1	11.4	7.29	6.77	12.1	9.86	10.3
	Ijira	JP 11022	53.5	66.4	75.6	39.4	74.0	34.9	30.7	47.1	34.5	39.0	50.0	42.3
	Oki	JP 11023	479	394	570	296	416	791	315	319	360	422	594	737
	Banryu	JP 11024	45.2	140	104	142	197	119	130	100	91.6	171	139	155
	Yusuhara	JP 11025	42.6	24.5	67.8	40.7	95.8	58.5	37.5	32.1	18.8	24.9	21.8	41.8
	Hedo	JP 11027	1320	341	1050	599	1550	800	351	349	243	250	670	360
	Ogasawara	JP 11018	277	189	314	351	146	199	163	209	144	315	386	262
	Tokyo	JP 11057								37.3	36.2	40.7	28.7	52.3
Lao PDR	Vientian	LA 11051				***	***	***	5.04	3.32	4.86	1.66	***	***
Malaysia	Petaling Jaya	MY 11029	17.0	11.4	13.5	17.0	17.0	18.9	17.1	10.9	15.8	13.6	17.6	16.5
	Tanah Rata	MY 11030	5.94	5.05	4.56	5.70	4.42	19.2	3.93	4.57	4.73	4.87	3.15	6.56
	Danum Valley	MY 11053						5.59	16.9	12.4	9.65	19.8	32.7	20.9
	Kuching	MY 11060									23.1	34.3	31.0	42.1
Mongolia	Ulaanbaatar	MN 11031	1.55	1.51	1.12	1.14	0.483	1.08	1.58	0.660	0.556	1.11	0.535	0.924
	Terelj	MN 11032	1.34	1.41	4.15	1.40	1.31	2.83	2.68	1.74	1.13	0.843	1.44	0.873
Myanmar	Yangon	MM 11056								***	***	55.7	29.3	47.2
Philippines	Metro Manila	PH 11033	123	470	43.3	40.5	35.3	37.9	46.3	70.8	58.7	76.5	59.7	78.2
	Los Banos	PH 11034	91.7	67.6	35.9	24.6	20.9	28.3	50.5	54.4	36.2	50.5	46.9	46.3
	Mt. Sto. Tomas	PH 11055							1.21	19.2	25.9	39.1	22.7	19.9
Republic of Korea	Kanghwa	KR 11035	62.9	47.5	40.6	40.0	28.5	27.3	31.5	39.1	60.8	57.1	42.4	***
	Cheju	KR 11036	161	83.2	59.3	60.3	64.9	59.3	95.8	126	112	55.7	103	***
	Imsil	KR 11037		20.0	38.3	42.7	21.6	27.0	22.0	20.2	27.3	53.7	79.2	***
Russia	Mondy	RU 11038	0.560	0.726	0.392	0.927	0.693	0.436	0.643	1.10	0.379	0.270	0.253	0.283
	Listvyanka	RU 11039	2.02	1.67	1.37	2.76	2.57	1.36	0.870	1.05	0.972	1.19	1.18	2.59
	Irkutsk	RU 11040	4.73	3.88	2.78	3.01	3.68	3.04	3.58	4.75	5.29	8.06	6.91	5.52
	Primorskaya	RU 11041			19.3	10.9	15.6	16.0	10.5	19.6	12.7	11.0	16.1	8.48
Thailand	Bangkok	TH 11042	7.95	9.78	20.9	10.6	12.3	25.6	13.8	11.2	17.3	20.3	17.8	14.0
	Samutprakarn	TH 11043	9.91				20.8	32.2	20.8	22.8	26.8	19.9	35.0	12.0
	Pathumthani	TH 11044	10.4	10.9	9.15	7.84	8.72	8.32	12.0	7.97	9.95	7.34	13.1	9.16
	Khanchanaburi	TH 11045	8.55	17.1	18.3	16.7	12.5	13.7	17.3	12.0	18.1	19.0	5.05	14.5
	Chiang Mai	TH 11046		4.27	14.2	2.60	3.52	1.31	5.02	2.75	3.35	2.83	3.17	5.17
	Nakhon Ratchasima	TH 11054							5.30	6.17	7.24	3.44	5.22	6.10
Vietnam	Hanoi	VN 11047	22.8	25.9	8.41	14.2	12.7	31.2	16.6	13.6	21.7	14.8	9.00	11.2
	Hoa Binh	VN 11048	24.1	21.8	3.34	3.98	7.16	17.0	6.94	6.23	6.08	4.60	6.65	4.32
	Cuc Phuong	VN 11061										25.5	19.8	25.2
	Da Nang	VN 11062										281	69.9	255

[***]: No data or not measured

■ Data in hatched column: Rejected annual value by the criteria of EANET (%PCL<80% or %TP<80%)

■ Black column: Monitoring was not carried out

Table 3.80 Annual K⁺ deposition amount from 2000 to 2011

unit: mmol m⁻² y⁻¹

Country	Name of sites	Code	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cambodia	Phnom Penh	KH 11052					0.682	***	1.41	5.00	19.0	1.98	1.59	1.47
China	Guanyinqiao	CN 11001	15.3	14.0	15.3	10.9	15.1	13.4	10.6	11.4				
	Nanshan	CN 11002	20.5											
	Haifu	CN 11058									11.6	8.23	9.78	7.60
	Jinyunshan	CN 11003		31.6	16.5	10.6	17.8	16.6	13.6	11.1	11.6	9.56	10.2	8.80
	Shizhan	CN 11004	14.8	15.3	14.1	23.9	5.75	7.85	8.67	10.2	5.11	6.03	14.9	8.83
	Weishuiyuan	CN 11005	15.5	5.19	17.8	26.5	5.25	5.52	10.6					
	Jiwozi	CN 11007	14.8	9.11	5.99	13.0	8.65	10.0	4.88	2.80	12.7	8.58	5.64	7.07
	Hongwen	CN 11008	7.56	3.06	6.73	5.63	7.70	8.65	7.14	5.03	2.00	1.66	3.42	1.68
	Xiaoping	CN 11009	4.40	11.3	8.17	8.39	9.96	8.06	31.7	7.63	20.3	2.64	2.94	4.29
	Xiang Zhou	CN 11010	13.4	8.00	30.4	9.91	10.3	3.13	12.5	11.9	4.65	4.23	4.10	4.71
	Zhuxiandong	CN 11011	11.0	15.1	20.8	11.6	28.9	5.95	2.32	***	10.4	4.04	6.10	6.78
Indonesia	Jakarta	ID 11012	***	30.1	17.8	15.0	15.2	12.2	11.9	24.3	6.03	3.46	4.72	2.26
	Serpong	ID 11014	***	11.3	9.89	17.0	8.26	5.09	7.14	5.56	5.24	2.36	4.57	2.61
	Kototabang	ID 11013	***	1.59	9.16	62.6	13.2	9.57	5.69	23.3	8.42	24.8	10.5	8.69
	Bandung	ID 11015	***	32.7	5.19	6.63	2.95	8.15	6.31	4.01	5.38	11.0	11.0	7.30
	Maros	ID 11059									17.5	12.6	6.71	6.74
Japan	Rishiri	JP 11016	7.66	3.71	4.86	3.47	5.68	4.89	4.85	3.65	5.44	4.54	4.59	4.24
	Ochiishi	JP 11050				3.62	5.23	4.34	7.64	3.97	2.78	6.47	6.68	3.02
	Tappi	JP 11017	3.82	3.55	5.41	3.97	7.28	6.19	6.86	5.97	4.42	6.62	5.45	4.96
	Sado-seki	JP 11019	6.80	7.95	9.30	2.78	5.48	7.60	7.20	6.84	7.31	8.26	11.1	6.18
	Happo	JP 11021	1.76	1.50	1.03	0.942	1.55	2.14	1.42	1.41	0.962	1.58	0.934	1.38
	Ijira	JP 11022	7.91	9.09	5.57	3.69	3.75	2.39	2.77	2.60	1.43	1.95	1.64	1.64
	Okii	JP 11023	12.7	10.9	15.0	8.70	13.6	20.4	9.16	10.6	13.2	11.3	14.7	19.5
	Banryu	JP 11024	2.12	4.89	3.76	4.36	5.25	4.76	4.37	3.89	3.22	5.20	7.98	4.85
	Yusuhara	JP 11025	2.15	1.05	2.37	1.30	3.72	2.27	2.15	1.51	0.928	1.59	1.52	1.58
	Hedo	JP 11027	26.3	7.57	24.3	14.0	43.7	20.2	8.77	8.95	6.23	6.49	16.4	8.73
	Ogasawara	JP 11018	7.10	7.37	8.21	7.82	3.59	4.68	4.01	4.97	4.36	7.61	9.32	6.42
	Tokyo	JP 11057								1.51	2.12	1.90	1.64	1.79
Lao PDR	Vientian	LA 11051				***	***	***	2.49	2.37	2.82	0.168	***	***
Malaysia	Petaling Jaya	MY 11029	6.06	4.39	3.37	9.25	4.91	6.99	6.23	2.97	4.45	4.47	5.26	4.71
	Tanah Rata	MY 11030	3.41	2.40	2.21	2.15	3.68	2.57	1.74	1.92	1.70	3.05	2.60	6.70
	Danum Valley	MY 11053						1.47	3.05	3.22	7.58	5.39	7.67	6.56
	Kuching	MY 11060									2.77	3.24	3.02	3.95
Mongolia	Ulaanbaatar	MN 11031	0.771	0.770	0.679	1.01	0.237	0.651	0.968	0.161	0.435	0.577	0.416	0.650
	Terelj	MN 11032	0.935	0.337	2.50	1.28	0.970	1.59	1.93	0.703	1.33	0.455	0.703	0.719
Myanmar	Yangon	MM 11056								***	***	19.4	4.71	5.21
Philippines	Metro Manila	PH 11033	62.6	53.1	29.4	5.55	8.50	9.28	34.0	18.9	37.1	15.1	45.6	85.9
	Los Banos	PH 11034	4.58	17.3	10.9	2.94	3.74	3.62	5.53	15.2	5.51	26.3	15.4	16.3
	Mt. Sto. Tomas	PH 11055							0.569	7.73	3.57	9.24	5.09	3.78
Republic of Korea	Kanghwa	KR 11035	6.27	5.40	7.28	14.8	10.00	5.26	5.31	9.51	8.35	11.3	12.2	***
	Cheju	KR 11036	6.69	10.4	6.55	10.5	9.11	6.02	6.80	8.94	8.78	10.1	7.98	***
	Imsil	KR 11037		19.3	6.50	21.0	6.90	60.6	29.9	19.2	4.79	11.7	16.8	***
Russia	Mondy	RU 11038	0.361	0.661	0.473	0.659	0.965	0.300	0.455	0.867	0.416	0.390	0.237	0.366
	Listvyanka	RU 11039	2.06	0.855	0.800	1.42	1.30	0.520	0.479	0.521	1.32	0.646	0.543	1.16
	Irkutsk	RU 11040	2.34	3.45	0.703	1.20	1.50	1.50	2.73	3.72	4.74	11.4	2.07	1.51
	Primorskaya	RU 11041			4.47	3.25	5.01	5.21	3.41	6.11	4.97	3.81	3.93	4.19
Thailand	Bangkok	TH 11042	3.70	4.83	4.36	3.63	1.96	4.34	4.50	2.48	3.61	4.10	5.22	3.95
	Samutprakarn	TH 11043	5.17				6.15	7.99	6.12	5.38	10.6	5.51	31.9	2.33
	Pathumthani	TH 11044	2.16	2.27	1.41	1.93	1.16	1.52	2.67	2.23	2.51	2.12	3.26	3.06
	Khanchanaburi	TH 11045	7.82	7.54	5.23	3.29	1.52	1.40	6.16	1.21	2.26	2.41	1.15	4.30
	Chiang Mai	TH 11046		3.19	6.49	3.19	1.62	1.02	2.41	2.69	3.38	1.55	1.41	2.33
	Nakhon Ratchasima	TH 11054							0.791	1.91	2.13	1.65	1.53	1.81
Vietnam	Hanoi	VN 11047	5.14	8.59	2.93	4.08	4.65	9.19	4.65	4.48	6.28	2.53	3.43	4.12
	Hoa Binh	VN 11048	6.74	5.19	2.40	2.50	3.06	8.29	3.76	4.36	6.40	3.69	3.94	4.23
	Cuc Phuong	VN 11061										31.7	9.28	6.14
	Da Nang	VN 11062										18.6	5.76	50.9

[***]: No data or not measured

■ Data in hatched column: Rejected annual value by the criteria of EANET (%PCL<80% or %TP<80%)

■ Black column: Monitoring was not carried out

Table 3.81 Annual Ca²⁺ deposition amount from 2000 to 2011

unit: mmol m⁻² y⁻¹

Country	Name of sites	Code	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cambodia	Phnom Penh	KH 11052					0	***	8.64	26.4	59.9	27.1	15.4	11.9
China	Guanyinqiao	CN 11001	68.1	103	94.5	64.5	153	168	120	97.7				
	Nanshan	CN 11002	69.5											
	Haifu	CN 11058									66.0	46.1	67.6	55.5
	Jinyunshan	CN 11003		31.9	47.7	37.8	107	84.3	118	90.7	82.9	73.2	67.3	55.2
	Shizhan	CN 11004	128	246	167	329	88.5	54.4	145	61.3	57.6	81.7	48.1	60.1
	Weishuiyuan	CN 11005	136	80.0	143	313	88.3	39.9	104					
	Jiwozi	CN 11007	103	89.5	39.1	140	89.7	46.7	51.9	34.7	116	58.9	47.0	88.9
	Hongwen	CN 11008	10.2	10.7	77.0	40.0	89.1	63.7	54.4	74.0	13.3	9.71	13.9	11.9
	Xiaoping	CN 11009	1.21	13.8	23.0	30.6	12.5	30.9	24.7	17.4	31.2	10.2	12.7	17.9
	Xiang Zhou	CN 11010	43.1	15.8	26.9	39.3	24.1	8.62	21.6	6.78	15.3	9.87	13.7	22.1
	Zhuxiandong	CN 11011	44.4	36.8	32.7	35.5	31.5	18.1	15.2	***	31.4	11.7	30.3	21.8
Indonesia	Jakarta	ID 11012	138	79.6	67.5	164	74.8	36.9	27.9	30.2	7.48	19.6	21.9	11.0
	Serpong	ID 11014	***	21.8	24.9	14.1	15.4	9.89	11.5	14.9	18.9	6.95	13.2	9.08
	Kototabang	ID 11013	9.28	1.73	8.84	17.3	14.7	7.42	6.48	13.0	12.1	14.5	11.3	12.9
	Bandung	ID 11015	***	63.0	43.4	17.5	16.3	27.7	19.4	18.7	26.4	41.1	35.1	32.0
	Maros	ID 11059									25.5	26.3	25.5	23.6
Japan	Rishiri	JP 11016	10.6	6.21	9.73	5.49	8.13	7.32	6.90	5.15	7.22	10.6	7.39	6.93
	Ochiishi	JP 11050				4.49	7.92	7.37	10.2	6.03	3.86	8.21	8.95	4.44
	Tappi	JP 11017	6.68	6.25	12.0	8.02	11.4	13.3	12.3	11.7	8.52	8.58	13.3	9.17
	Sado-seki	JP 11019	12.5	15.4	13.0	5.72	7.23	11.6	15.3	13.7	10.5	11.5	17.4	11.5
	Happo	JP 11021	8.49	10.1	5.21	4.72	7.29	12.4	17.3	6.77	4.44	11.0	6.30	7.89
	Ijira	JP 11022	18.2	12.6	11.1	8.55	7.92	7.25	8.17	8.23	4.94	7.89	9.55	6.05
	Okii	JP 11023	19.4	16.1	18.1	11.0	16.7	24.4	15.9	15.8	12.1	16.3	23.3	26.2
	Banryu	JP 11024	6.64	10.7	6.99	5.95	9.20	7.57	18.6	9.37	9.40	9.46	11.8	8.38
	Yusuhara	JP 11025	7.55	7.09	4.17	4.04	7.32	5.55	8.25	4.66	3.71	4.07	4.44	7.71
	Hedo	JP 11027	29.3	10.4	28.5	15.1	40.3	25.1	17.2	13.3	8.19	8.83	21.1	10.7
	Ogasawara	JP 11018	10.1	9.81	11.5	11.2	3.93	5.25	5.68	6.83	4.27	8.71	10.8	7.21
	Tokyo	JP 11057								5.38	7.61	5.91	6.59	6.72
Lao PDR	Vientian	LA 11051				***	***	***	6.20	4.25	9.62	0.996	***	***
Malaysia	Petaling Jaya	MY 11029	23.4	19.4	19.8	23.8	15.1	17.3	15.2	11.9	14.7	14.8	19.0	14.3
	Tanah Rata	MY 11030	7.06	8.13	8.56	10.1	5.60	5.28	3.20	3.11	3.03	3.17	2.99	6.84
	Danum Valley	MY 11053						1.70	3.79	1.53	1.06	3.43	9.05	3.36
	Kuching	MY 11060									8.19	8.35	12.1	14.6
Mongolia	Ulaanbaatar	MN 11031	7.41	7.86	8.91	7.88	3.60	7.49	8.63	5.19	6.66	9.63	5.23	5.54
	Terelj	MN 11032	3.16	1.33	6.72	3.32	3.36	3.33	5.32	2.52	3.68	3.97	5.48	2.93
Myanmar	Yangon	MM 11056								***	***	29.1	14.5	21.7
Philippines	Metro Manila	PH 11033	58.6	164	25.9	19.3	24.1	25.2	36.8	36.4	32.7	24.2	34.2	47.0
	Los Banos	PH 11034	18.3	119	12.3	12.5	9.41	5.82	15.4	16.1	7.10	14.7	41.6	15.2
	Mt. Sto. Tomas	PH 11055							2.43	79.0	15.7	27.8	81.8	36.1
Republic of Korea	Kanghwa	KR 11035	29.6	15.9	9.14	17.9	12.3	8.98	17.2	11.0	16.8	6.57	11.0	***
	Cheju	KR 11036	14.6	6.56	9.53	10.5	8.66	7.89	10.2	13.2	8.86	4.23	6.74	***
	Imsil	KR 11037		7.60	9.76	10.1	8.16	6.24	10.4	18.4	5.91	4.14	9.42	***
Russia	Mondy	RU 11038	1.76	2.24	1.74	1.55	1.92	1.19	2.24	2.42	1.64	0.616	0.830	0.663
	Listvyanka	RU 11039	5.66	3.58	4.11	7.70	7.80	3.72	2.74	3.68	3.19	3.92	4.12	7.72
	Irkutsk	RU 11040	14.9	16.3	9.53	10.9	12.1	9.53	10.7	12.7	15.5	12.6	12.1	11.4
	Primorskaya	RU 11041			15.1	8.16	14.9	15.6	15.6	13.8	10.7	10.1	11.3	8.52
Thailand	Bangkok	TH 11042	13.0	14.1	20.5	16.5	13.3	37.4	29.2	21.5	28.7	20.8	22.8	22.9
	Samutprakarn	TH 11043	10.8				9.88	15.7	21.0	20.5	24.0	26.2	14.6	12.5
	Pathumthani	TH 11044	12.6	17.5	16.5	10.5	11.1	10.8	20.6	11.7	19.4	12.1	16.2	18.9
	Khanchanaburi	TH 11045	4.19	13.7	10.8	13.7	6.65	5.01	6.82	5.16	9.00	9.85	2.93	7.84
	Chiang Mai	TH 11046		7.53	26.5	4.62	5.50	5.36	6.72	7.53	8.60	5.98	5.14	4.20
	Nakhon Ratchasima	TH 11054							11.4	5.20	5.78	3.19	3.60	2.83
Vietnam	Hanoi	VN 11047	26.2	24.1	23.8	28.2	39.3	45.9	43.4	30.0	26.7	19.3	29.2	26.6
	Hoa Binh	VN 11048	24.8	23.1	20.5	20.2	36.4	32.6	27.5	18.2	28.7	12.8	28.9	22.1
	Cuc Phuong	VN 11061										56.2	63.3	59.8
	Da Nang	VN 11062										18.8	15.0	36.4

[***]: No data or not measured

■ Data in hatched column: Rejected annual value by the criteria of EANET (%PCL<80% or %TP<80%)

■ Black column: Monitoring was not carried out

Table 3.82 Annual nss-Ca²⁺ deposition amount from 2000 to 2011

unit: mmol m⁻² y⁻¹

Country	Name of sites	Code	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cambodia	Phnom Penh	KH 11052					***	***	8.61	26.2	59.5	26.9	15.3	11.8
China	Guanyinqiao	CN 11001	67.9	103	94.3	64.4	153	168	120	97.5				
	Nanshan	CN 11002	69.3											
	Haifu	CN 11058									65.8	46.0	67.5	55.3
	Jinyunshan	CN 11003		31.7	47.5	37.7	107	83.9	117	90.4	82.6	73.0	67.1	55.1
	Shizhan	CN 11004	128	244	165	327	88.3	54.3	145	61.2	57.4	81.5	48.0	59.8
	Weishuiyuan	CN 11005	136	79.7	142	310	88.1	39.8	104					
	Jiwozi	CN 11007	102	88.8	38.6	139	89.1	46.2	51.6	34.5	116	58.5	46.9	88.8
	Hongwen	CN 11008	9.59	10.7	75.1	39.0	88.0	61.8	53.0	73.3	12.8	9.32	13.3	11.5
	Xiaoping	CN 11009	0.938	13.1	22.3	29.6	12.0	30.3	23.5	17.1	30.2	9.85	12.1	17.6
	Xiang Zhou	CN 11010	41.3	14.8	25.3	37.9	22.0	7.62	20.4	6.25	13.2	8.13	13.0	21.2
	Zhuxiandong	CN 11011	43.2	35.3	31.1	34.1	28.9	16.7	14.8	***	29.3	10.2	29.5	20.7
Indonesia	Jakarta	ID 11012	136	78.5	66.3	163	73.8	35.9	27.5	29.5	7.11	19.2	21.6	10.7
	Serpong	ID 11014	***	21.0	23.5	13.7	14.7	9.60	11.3	14.5	18.4	6.76	12.9	8.91
	Kototabang	ID 11013	***	1.65	8.60	16.6	14.2	7.15	6.31	12.5	11.8	14.2	11.0	12.6
	Bandung	ID 11015	***	61.8	42.9	17.2	16.1	26.9	18.9	18.4	25.9	40.4	34.6	31.6
	Maros	ID 11059									24.4	25.3	24.8	22.4
Japan	Rishiri	JP 11016	5.14	3.40	5.66	2.82	3.46	3.15	3.87	2.44	2.81	6.74	3.69	3.24
	Ochiishi	JP 11050				1.25	2.90	3.65	4.29	2.56	1.21	2.18	3.52	1.73
	Tappi	JP 11017	3.36	3.25	7.30	4.53	5.19	7.62	6.26	6.34	5.02	3.02	9.58	5.57
	Sado-seki	JP 11019	6.60	8.08	4.86	3.44	2.90	4.46	9.20	7.99	5.79	4.36	8.12	6.92
	Happo	JP 11021	8.12	9.80	5.02	4.46	6.91	12.0	17.0	6.63	4.30	10.7	6.09	7.67
	Ijira	JP 11022	17.0	11.1	9.45	7.71	6.39	6.49	7.51	7.21	4.21	7.06	8.49	5.23
	Okii	JP 11023	9.07	7.60	6.14	4.55	7.76	7.24	9.57	8.91	4.37	7.23	10.5	10.3
	Banryu	JP 11024	5.74	7.68	4.76	2.89	4.97	5.02	15.8	7.21	7.42	5.76	8.80	5.04
	Yusuhara	JP 11025	6.80	6.68	2.91	3.23	5.25	4.28	7.44	3.97	3.30	3.53	4.07	6.94
	Hedo	JP 11027	2.35	3.64	5.87	4.84	7.64	7.81	9.59	5.75	2.95	3.46	6.61	2.88
	Ogasawara	JP 11018	4.24	5.77	4.77	3.68	1.22	1.18	2.17	2.34	1.44	1.95	2.51	1.56
	Tokyo	JP 11057								4.58	6.83	5.03	5.97	5.59
Lao PDR	Vientian	LA 11051				***	***	***	6.09	4.18	9.51	0.960	***	***
Malaysia	Petaling Jaya	MY 11029	23.0	19.2	19.5	23.4	14.8	16.9	14.9	11.7	14.4	14.5	18.6	14.0
	Tanah Rata	MY 11030	6.93	8.02	8.46	9.95	5.51	4.92	3.13	3.02	2.95	3.10	2.93	6.71
	Danum Valley	MY 11053						1.58	3.49	1.36	0.944	3.12	8.51	3.01
	Kuching	MY 11060									7.77	7.76	11.4	13.7
Mongolia	Ulaanbaatar	MN 11031	7.38	7.83	8.88	7.85	3.59	7.46	8.59	5.17	6.64	9.60	5.22	5.53
	Terelj	MN 11032	3.13	1.30	6.46	3.29	3.33	3.27	5.26	2.48	3.66	3.95	5.45	2.91
Myanmar	Yangon	MM 11056								***	***	27.9	13.9	20.7
Philippines	Metro Manila	PH 11033	56.0	154	25.0	18.5	23.4	24.4	35.8	34.9	31.4	22.6	32.9	45.4
	Los Banos	PH 11034	16.3	117	11.5	12.0	8.95	5.22	14.3	14.9	6.32	13.7	40.7	14.2
	Mt. Sto. Tomas	PH 11055							2.40	78.7	15.1	26.9	81.4	35.7
Republic of Korea	Kanghwa	KR 11035	28.2	14.9	8.27	17.0	11.7	8.39	16.6	10.1	15.5	5.35	10.1	***
	Cheju	KR 11036	11.1	4.79	8.28	9.16	7.25	6.61	8.13	10.5	6.43	3.15	4.72	***
	Imsil	KR 11037		7.16	8.93	9.18	7.70	5.65	9.93	17.9	5.32	3.02	7.87	***
Russia	Mondy	RU 11038	1.75	2.22	1.73	1.53	1.90	1.18	2.23	2.40	1.63	0.610	0.824	0.657
	Listvyanka	RU 11039	5.61	3.54	4.08	7.64	7.74	3.69	2.72	3.66	3.17	3.89	4.09	7.67
	Irkutsk	RU 11040	14.8	16.2	9.47	10.8	12.0	9.46	10.6	12.6	15.4	12.4	11.9	11.3
	Primorskaya	RU 11041			14.7	7.92	14.5	15.2	15.4	13.4	10.4	9.86	11.0	8.34
Thailand	Bangkok	TH 11042	12.9	13.9	20.0	16.2	13.0	36.8	28.9	21.3	28.3	20.3	22.4	22.6
	Samutprakarn	TH 11043	10.6				9.43	15.0	20.6	20.0	23.4	25.8	13.9	12.3
	Pathumthani	TH 11044	12.3	17.3	16.3	10.3	11.0	10.6	20.4	11.6	19.2	11.9	15.9	18.7
	Khanchanaburi	TH 11045	4.02	13.4	10.4	13.4	6.38	4.72	6.44	4.90	8.61	9.44	2.82	7.53
	Chiang Mai	TH 11046		7.44	26.2	4.57	5.42	5.33	6.64	7.47	8.52	5.92	5.09	4.10
	Nakhon Ratchasima	TH 11054							11.2	5.07	5.62	3.12	3.50	2.73
Vietnam	Hanoi	VN 11047	25.7	23.5	23.6	27.8	39.1	45.2	43.0	29.7	26.2	19.0	29.0	26.3
	Hoa Binh	VN 11048	24.2	22.6	20.4	20.1	36.2	32.2	27.4	18.0	28.5	12.7	28.7	22.0
	Cuc Phuong	VN 11061										55.7	62.9	59.2
	Da Nang	VN 11062										12.8	13.5	30.9

[***]: No data or not measured

■ Data in hatched column: Rejected annual value by the criteria of EANET (%PCL<80% or %TP<80%)

■ Black column: Monitoring was not carried out

Table 3.83 Annual Mg²⁺ deposition amount from 2000 to 2011

unit: mmol m⁻² y⁻¹

Country	Name of sites	Code	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cambodia	Phnom Penh	KH 11052					0.00	***	0.627	4.49	6.33	2.66	1.33	1.55
China	Guanyinqiao	CN 11001	9.23	8.73	8.67	4.40	12.7	13.7	10.6	10.4				
	Nanshan	CN 11002	8.87											
	Haifu	CN 11058									7.15	5.81	8.75	6.98
	Jinyunshan	CN 11003		4.09	5.41	3.56	5.39	4.63	4.78	4.61	5.62	6.10	5.64	5.20
	Shizhan	CN 11004	13.2	17.6	23.7	42.7	9.18	6.69	13.6	11.3	17.5	7.34	5.04	6.55
	Weishuiyuan	CN 11005	14.2	6.13	21.1	52.0	8.99	4.77	13.3					
	Jiwozi	CN 11007	12.1	8.58	7.09	20.7	16.9	11.2	9.51	4.88	33.8	12.7	8.28	9.37
	Hongwen	CN 11008	6.40	1.86	15.1	7.76	12.2	15.4	11.6	8.32	4.65	3.01	3.06	3.56
	Xiaoping	CN 11009	2.07	6.77	3.50	7.15	2.81	3.35	6.52	2.16	6.78	3.67	2.88	3.39
	Xiang Zhou	CN 11010	14.1	5.83	9.56	12.3	8.51	8.10	18.3	3.43	11.2	9.08	4.77	5.53
	Zhuxiandong	CN 11011	14.1	8.56	11.2	12.9	10.8	9.65	4.43	***	13.2	9.71	5.30	7.74
Indonesia	Jakarta	ID 11012	346	85.3	20.7	20.6	9.25	7.72	12.7	4.79	2.87	3.06	4.72	3.42
	Serpong	ID 11014	***	5.67	11.3	5.76	5.84	3.09	2.78	5.33	9.76	1.83	4.40	2.59
	Kototabang	ID 11013	***	1.25	4.63	21.1	3.76	2.06	2.82	10.6	2.48	2.92	3.67	2.08
	Bandung	ID 11015	***	10.6	4.16	2.73	2.93	4.29	4.27	3.31	10.3	11.1	11.6	8.85
	Maros	ID 11059									7.77	6.02	5.79	9.07
Japan	Rishiri	JP 11016	28.0	15.2	21.4	14.4	25.0	22.4	16.3	15.0	24.8	21.0	20.0	18.9
	Ochiishi	JP 11050				17.3	27.3	18.2	31.1	18.6	14.5	31.4	31.0	15.1
	Tappi	JP 11017	18.3	16.7	26.1	19.3	34.5	30.0	32.1	27.9	19.1	28.2	20.1	19.9
	Sado-seki	JP 11019	30.9	39.3	44.0	12.7	24.1	37.7	32.7	30.3	24.0	37.6	51.6	26.4
	Happo	JP 11021	3.66	3.73	2.42	3.06	3.90	3.59	2.64	1.57	1.15	2.73	2.12	2.76
	Ijira	JP 11022	7.75	8.93	9.34	6.42	9.43	4.51	4.63	6.23	3.92	4.80	6.22	5.19
	Okii	JP 11023	54.4	45.6	63.8	33.9	48.4	91.8	37.6	36.8	40.8	48.3	69.9	85.2
	Banryu	JP 11024	5.22	16.3	12.1	16.3	23.0	13.9	16.3	12.5	11.3	20.4	17.7	18.3
	Yusuhara	JP 11025	6.09	3.80	8.34	5.21	11.4	7.07	5.25	4.27	2.42	3.33	3.86	8.71
	Hedo	JP 11027	145	35.8	120	68.7	162	84.3	40.7	40.0	27.9	28.6	77.2	40.9
	Ogasawara	JP 11018	38.2	23.9	43.1	43.5	15.3	21.8	18.1	23.4	17.7	36.6	45.4	30.5
	Tokyo	JP 11057								4.56	5.17	5.13	3.98	6.65
Lao PDR	Vientian	LA 11051				***	***	***	2.47	0.977	2.18	0.131	***	***
Malaysia	Petaling Jaya	MY 11029	4.74	4.02	3.79	2.15	2.66	2.40	2.85	1.16	1.95	1.39	2.46	2.09
	Tanah Rata	MY 11030	1.30	1.07	1.17	1.36	0.749	1.42	0.452	0.329	0.192	0.0927	0.210	0.869
	Danum Valley	MY 11053						0.406	1.45	1.20	1.58	1.86	3.51	2.05
	Kuching	MY 11060									1.24	1.84	2.12	3.45
Mongolia	Ulaanbaatar	MN 11031	0.814	0.897	0.636	1.10	0.488	0.783	0.825	0.597	0.568	1.21	0.455	1.51
	Terelj	MN 11032	0.656	0.224	1.01	0.706	1.07	0.901	1.04	0.384	0.619	0.604	0.718	1.06
Myanmar	Yangon	MM 11056								***	***	8.54	4.11	9.52
Philippines	Metro Manila	PH 11033	25.5	34.4	9.72	6.60	9.47	5.86	14.7	14.5	11.1	9.69	24.4	26.1
	Los Banos	PH 11034	9.78	20.1	5.00	4.18	6.25	3.84	7.65	10.7	8.80	10.8	17.0	11.3
	Mt. Sto. Tomas	PH 11055							0.418	7.03	1.76	7.23	12.1	7.41
Republic of Korea	Kanghwa	KR 11035	10.4	6.00	5.22	4.50	4.82	5.03	5.57	5.95	4.26	6.67	5.71	***
	Cheju	KR 11036	19.7	11.1	7.60	7.57	8.17	10.5	10.8	9.09	8.16	6.25	6.91	***
	Imsil	KR 11037		2.49	3.28	3.00	2.89	2.27	2.83	4.80	1.70	4.14	7.69	***
Russia	Mondy	RU 11038	0.333	0.467	0.447	0.316	0.456	0.275	0.405	0.623	0.408	0.138	0.163	0.191
	Listvyanka	RU 11039	1.30	0.881	1.10	1.97	1.76	0.715	0.532	0.755	0.687	0.884	0.970	1.49
	Irkutsk	RU 11040	2.66	2.60	1.71	1.97	2.64	2.24	2.06	3.00	3.40	3.25	2.53	2.40
	Primorskaya	RU 11041			4.73	3.60	4.87	4.18	3.43	4.25	3.46	2.68	2.88	2.66
Thailand	Bangkok	TH 11042	2.30	3.71	4.61	3.22	2.59	7.58	3.72	2.65	4.15	3.09	3.07	2.72
	Samutprakarn	TH 11043	2.33				2.36	5.57	6.57	5.03	6.91	5.57	4.14	2.52
	Pathumthani	TH 11044	2.30	2.93	2.63	1.76	1.55	1.66	2.82	1.77	2.84	1.62	2.43	2.46
	Khanchanaburi	TH 11045	1.47	3.82	3.85	3.63	2.29	2.30	2.47	1.70	3.16	2.87	0.935	2.47
	Chiang Mai	TH 11046		1.19	5.22	1.68	2.10	1.43	3.44	1.16	2.29	2.87	0.526	0.367
	Nakhon Ratchasima	TH 11054							2.36	2.47	2.11	1.60	1.14	0.410
Vietnam	Hanoi	VN 11047	6.27	8.94	4.18	5.77	5.98	15.2	10.5	6.91	8.27	7.70	7.02	7.41
	Hoa Binh	VN 11048	8.84	8.25	2.31	3.62	4.62	9.59	8.17	5.38	3.17	2.51	7.61	4.21
	Cuc Phuong	VN 11061										9.89	7.30	8.86
	Da Nang	VN 11062										30.1	14.4	34.3

[***]: No data or not measured

■ Data in hatched column: Rejected annual value by the criteria of EANET (%PCL<80% or %TP<80%)

■ Black column: Monitoring was not carried out

Table 3.84 Annual H⁺ deposition amount from 2000 to 2011unit: mmol m⁻² y⁻¹

Country	Name of sites	Code	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cambodia	Phnom Penh	KH 11052					2.01	0.625	0.181	0.279	2.65	0.861	1.98	1.41
China	Guanyinqiao	CN 11001	50.5	12.1	36.4	31.7	36.0	12.1	11.6	29.3				
	Nanshan	CN 11002	76.2											
	Haifu	CN 11058									64.1	64.3	69.3	53.4
	Jinyunshan	CN 11003		46.5	70.1	62.0	39.3	34.7	24.4	49.4	53.3	51.7	112	77.1
	Shizhan	CN 11004	1.17	0.153	0.201	1.27	0.304	1.96	1.33	1.60	0.155	0.176	0.0965	0.352
	Weishuiyuan	CN 11005	0.171	0.0335	0.216	1.02	0.489	3.09	0.460					
	Jiwozi	CN 11007	3.14	0.120	0.142	0.543	0.791	0.227	0.318	0.0143	0.0498	0.498	3.36	1.10
	Hongwen	CN 11008	29.0	8.75	25.4	44.8	20.6	33.8	31.4	21.8	24.3	22.2	40.7	19.0
	Xiaoping	CN 11009	19.1	33.8	72.9	73.2	48.3	48.1	38.9	26.5	55.8	38.7	40.2	23.4
	Xiang Zhou	CN 11010	14.2	22.7	13.5	13.6	22.1	32.2	20.4	33.7	33.0	26.9	26.2	11.1
	Zhuxiandong	CN 11011	40.8	43.0	20.3	13.8	29.6	25.9	13.3	***	30.2	28.0	21.0	19.1
Indonesia	Jakarta	ID 11012	10.4	4.68	26.5	11.3	30.0	104	61.4	59.7	38.6	36.6	39.5	27.9
	Serpong	ID 11014	***	38.0	56.6	51.6	30.5	21.1	40.1	52.0	56.7	25.9	25.0	16.4
	Kototabang	ID 11013	73.0	10.3	8.78	15.6	39.0	46.0	36.6	14.7	14.9	59.9	37.9	20.2
	Bandung	ID 11015	***	26.4	88.7	16.1	8.31	16.3	9.18	23.2	15.9	13.4	20.8	6.12
	Maros	ID 11059									7.15	15.0	16.4	16.1
Japan	Rishiri	JP 11016	12.1	10.3	14.4	9.43	13.6	17.7	27.8	23.3	10.2	19.3	20.1	24.8
	Ochiishi	JP 11050				9.53	13.4	12.0	13.8	14.5	9.86	15.2	16.0	10.7
	Tappi	JP 11017	19.9	24.9	27.8	31.0	37.5	30.9	25.5	25.1	21.4	24.4	31.7	28.2
	Sado-seki	JP 11019	28.7	22.5	32.5	24.2	30.4	31.5	24.9	36.5	28.5	18.4	27.0	28.8
	Happo	JP 11021	40.6	34.1	30.7	30.5	43.0	47.6	29.4	37.8	24.2	25.2	21.0	28.2
	Ijira	JP 11022	80.7	82.9	80.5	115	75.8	79.4	87.6	66.3	80.2	66.0	66.6	55.2
	Okii	JP 11023	27.6	21.1	29.2	27.9	22.4	36.0	26.1	26.8	27.7	21.8	31.7	28.8
	Banryu	JP 11024	35.9	39.1	26.5	40.7	34.7	42.2	40.1	41.1	37.2	38.3	29.2	31.3
	Yusuhara	JP 11025	54.7	31.1	40.8	52.3	42.1	52.9	45.4	36.4	47.3	35.5	40.1	39.7
	Hedo	JP 11027	21.5	23.1	22.9	17.4	29.4	26.2	18.9	27.7	19.6	15.4	16.8	22.1
	Ogasawara	JP 11018	11.7	14.6	10.9	12.7	8.75	31.5	16.1	14.7	16.8	11.4	10.5	6.46
	Tokyo	JP 11057								17.6	46.2	30.6	18.6	20.7
Lao PDR	Vientian	LA 11051				0.0277	0.999	0.320	0.231	3.02	1.65	0.600	***	***
Malaysia	Petaling Jaya	MY 11029	153	173	157	158	142	123	151	83.2	140	134	191	250
	Tanah Rata	MY 11030	50.4	33.4	30.1	38.3	33.1	41.4	31.3	33.0	31.4	25.6	21.2	32.1
	Danum Valley	MY 11053						13.1	26.8	24.0	18.1	20.4	14.2	23.5
	Kuching	MY 11060									23.8	25.5	24.4	17.3
Mongolia	Ulaanbaatar	MN 11031	0.108	0.107	0.0749	0.564	0.0289	0.153	0.0666	0.0692	0.0807	0.177	0.202	0.595
	Terelj	MN 11032	0.626	0.0809	0.436	1.24	0.340	1.34	1.48	1.12	0.768	0.0675	0.316	0.786
Myanmar	Yangon	MM 11056								10.6	2.50	1.04	0.875	1.09
Philippines	Metro Manila	PH 11033	13.2	8.86	24.1	79.8	14.4	26.8	13.5	18.7	6.75	22.2	6.01	8.29
	Los Banos	PH 11034	9.58	5.41	3.07	52.2	9.54	11.9	5.42	9.01	21.2	7.64	2.73	6.43
	Mt. Sto. Tomas	PH 11055							0.204	10.0	16.3	6.96	0.726	20.6
Republic of Korea	Kanghwa	KR 11035	11.2	11.6	18.3	33.5	23.8	46.1	23.0	21.2	43.9	32.7	61.2	***
	Cheju	KR 11036	15.0	14.4	24.8	19.3	20.5	19.9	51.8	38.2	18.1	8.09	9.21	***
	Imsil	KR 11037		10.5	2.00	15.7	14.2	1.24	4.57	2.49	11.2	8.62	22.1	***
Russia	Mondy	RU 11038	1.68	1.00	0.828	1.83	1.64	1.24	1.67	1.06	1.38	0.395	0.253	0.213
	Listvyanka	RU 11039	3.78	5.42	4.74	5.24	6.67	6.62	7.10	8.82	9.06	4.49	5.74	9.00
	Irkutsk	RU 11040	4.15	2.49	2.86	1.94	6.74	3.36	2.52	5.59	9.01	1.67	2.78	3.13
	Primorskaya	RU 11041			5.26	4.27	10.0	6.39	9.32	14.4	9.02	9.11	7.23	14.6
Thailand	Bangkok	TH 11042	12.8	12.6	10.3	40.8	7.86	25.6	11.0	14.1	9.39	16.7	17.2	19.5
	Samutprakarn	TH 11043	14.5				4.29	5.55	1.93	4.60	8.81	14.7	9.06	2.66
	Pathumthani	TH 11044	5.41	10.0	4.39	22.7	13.3	16.4	20.9	21.5	15.4	9.26	10.3	15.6
	Khanchanaburi	TH 11045	2.41	8.29	5.05	5.65	1.18	5.86	4.48	2.83	4.30	4.35	3.30	6.24
	Chiang Mai	TH 11046		2.10	2.79	2.00	2.93	8.50	2.83	1.05	1.34	1.26	0.789	8.29
	Nakhon Ratchasima	TH 11054							9.06	11.5	16.0	17.1	29.0	15.0
Vietnam	Hanoi	VN 11047	4.48	3.31	3.95	2.45	3.56	1.25	2.28	4.32	3.24	3.46	1.44	9.13
	Hoa Binh	VN 11048	14.7	20.2	10.6	7.02	4.61	4.63	3.98	17.0	6.42	6.96	5.84	6.42
	Cuc Phuong	VN 11061										23.4	9.73	16.8
	Da Nang	VN 11062										49.9	13.0	38.0

[***]: No data or not measured

Data in hatched column: Rejected annual value by the criteria of EANET (%PCL<80% or %TP<80%)

Black column: Monitoring was not carried out

Table 3.85 Site Code

Country	Name of sites	Code
Cambodia	Phnom Penh	KH 11052
China	Guanyinqiao	CN 11001
	Nanshan	CN 11002
	Haifu	CN 11058
	Jinyunshan	CN 11003
	Shizhan	CN 11004
	Weishuiyuan	CN 11005
	Dabagou	CN 11006
	Jiwozi	CN 11007
	Hongwen	CN 11008
	Xiaoping	CN 11009
	Xiang Zhou	CN 11010
	Zhuxiandong	CN 11011
Indonesia	Jakarta	ID 11012
	Kototabang	ID 11013
	Serpong	ID 11014
	Bandung	ID 11015
	Maros	ID 11059
Japan	Rishiri	JP 11016
	Ochiishi	JP 11050
	Tappi	JP 11017
	Sado-seki	JP 11019
	Happo	JP 11021
	Ijira	JP 11022
	Oki	JP 11023
	Banryu	JP 11024
	Yusuhara	JP 11025
	Hedo	JP 11027
	Ogasawara	JP 11018
	Tokyo	JP 11057
	Sado	JP 11020
	Ashizuri	JP 11026
	Kunigami	JP 11028
Lao PDR	Vientiane	LA 11051

Country	Name of sites	Code
Malaysia	Petaling Jaya	MY 11029
	Tanah Rata	MY 11030
	Danum Valley	MY 11053
	Kuching	MY 11060
Mongolia	Ulaanbaatar	MN 11031
	Terelj	MN 11032
Myanmar	Yangon	MM 11056
Philippines	Metro Manila	PH 11033
	Los Banos	PH 11034
	Mt. Sto. Tomas	PH 11055
Republic of Korea	Kanghwa	KR 11035
	Cheju (Kosan)	KR 11036
	Imsil	KR 11037
Russia	Mondy	RU 11038
	Listvyanka	RU 11039
	Irkutsk	RU 11040
	Primorskaya	RU 11041
Thailand	Bangkok	TH 11042
	Samutprakarn	TH 11043
	Pathumthani	TH 11044
	Khanchanaburi	TH 11045
	Chiang Mai (Mae Hia)	TH 11046
	Nakhon Ratchasima	TH 11054
Vietnam	Hanoi	VN 11047
	Hoa Binh	VN 11048
	Cuc Phuong	VN 11061
	Da Nang	VN 11062

Including the sites working only for preparatory-phase activities

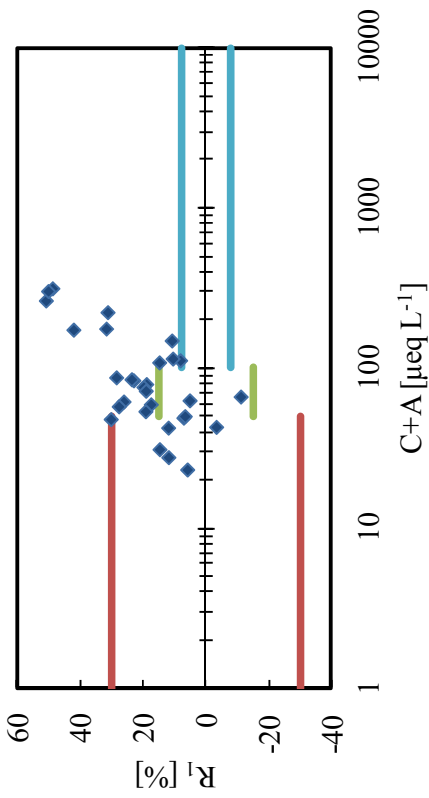


Fig. 3.2 a) Phnom Penh Ion Balance (R_1)

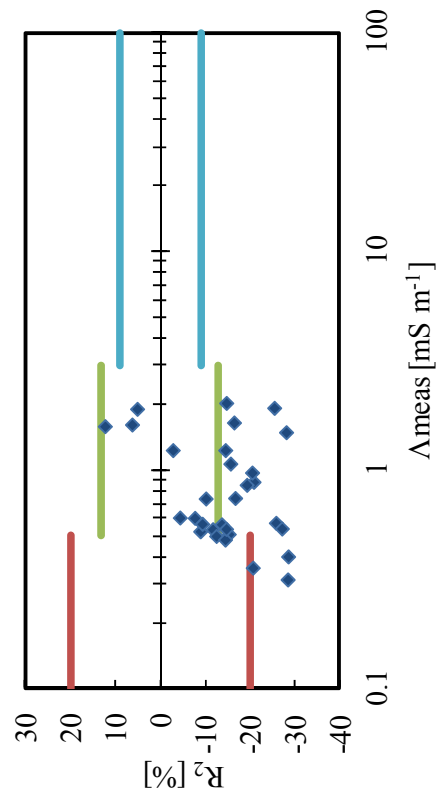


Fig. 3.2 b) Phnom Penh Conductivity Agreement (R_2)

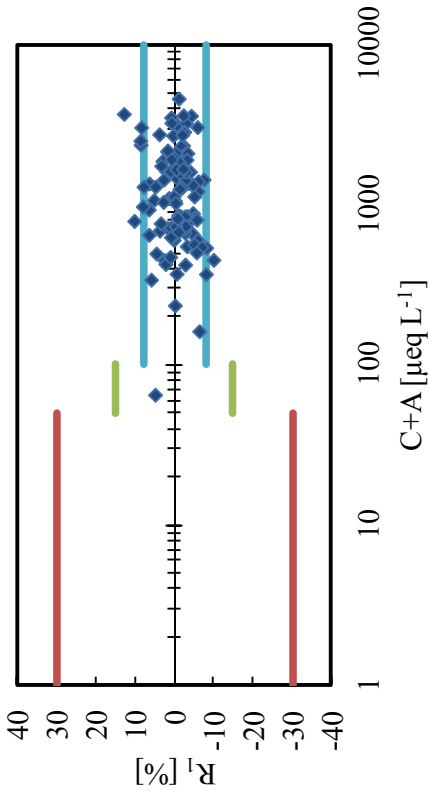


Fig. 3.3 a) Haifu Ion Balance (R_1)

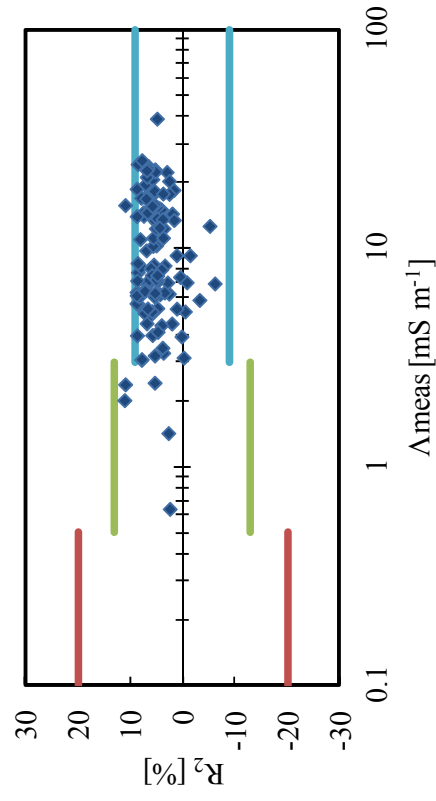


Fig. 3.3 b) Haifu Conductivity Agreement (R_2)

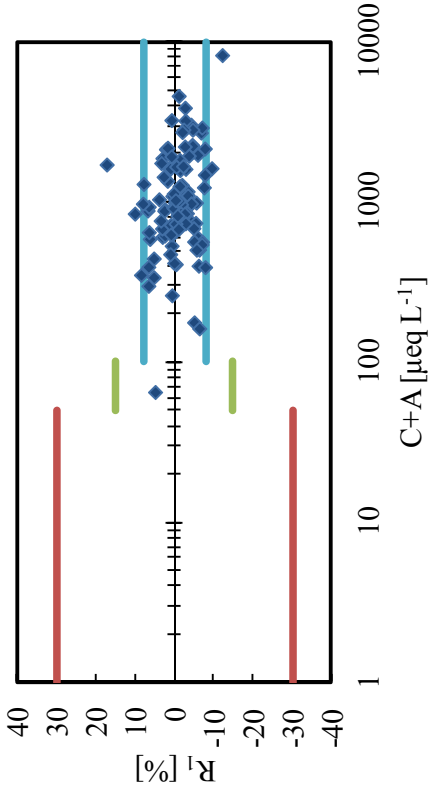


Fig. 3.4 a) Jinyushan Ion Balance (R_1)

Calculated including F^-

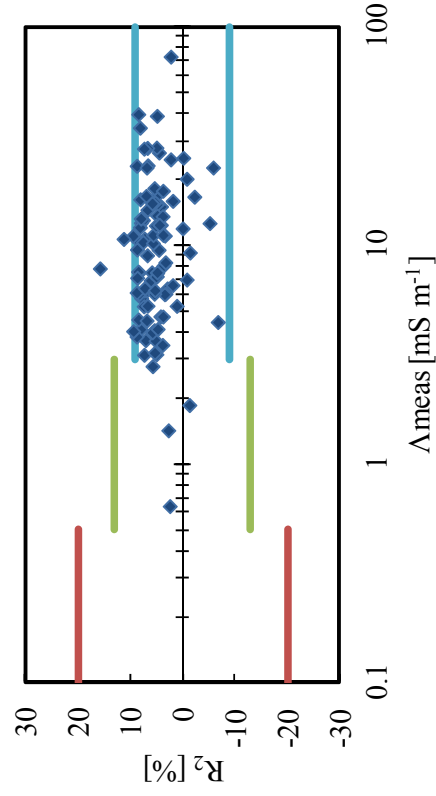


Fig. 3.4 b) Jinyushan Conductivity Agreement (R_2)

Calculated including F^-

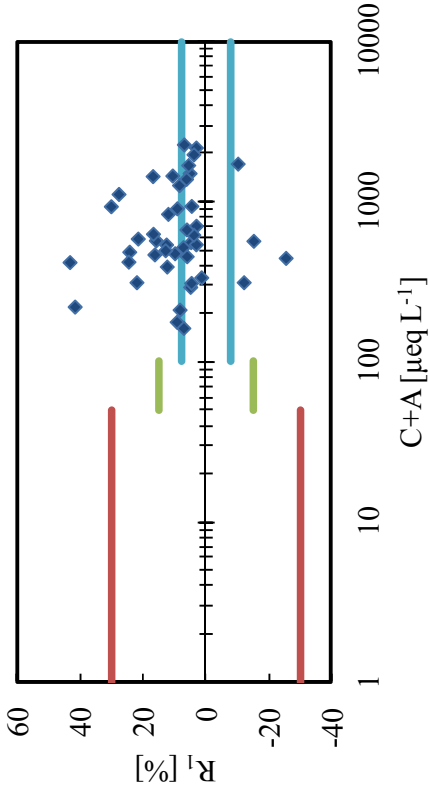


Fig. 3.5 a) Shizhan Ion Balance (R_1)

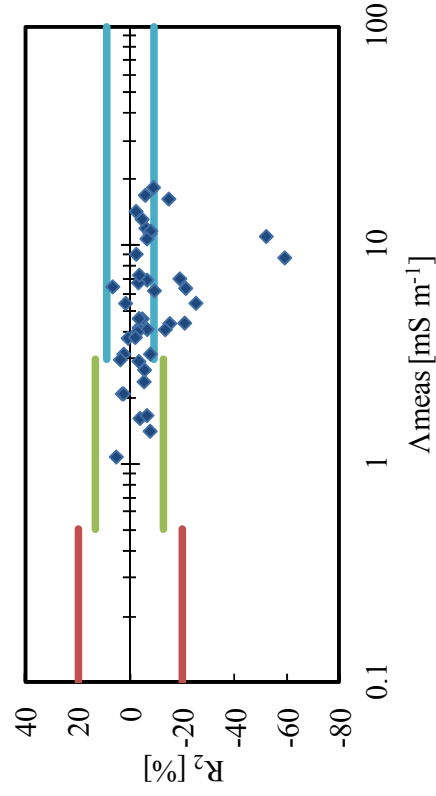


Fig. 3.5 b) Shizhan Conductivity Agreement (R_2)

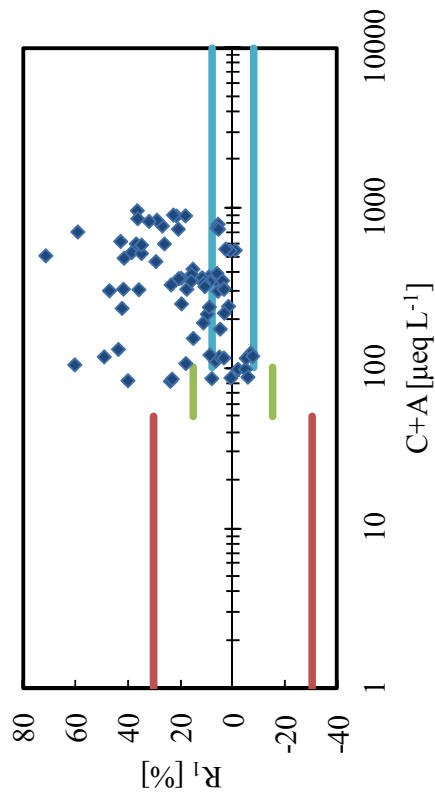


Fig. 3.6 a) Jiwozi Ion Balance (R_1)

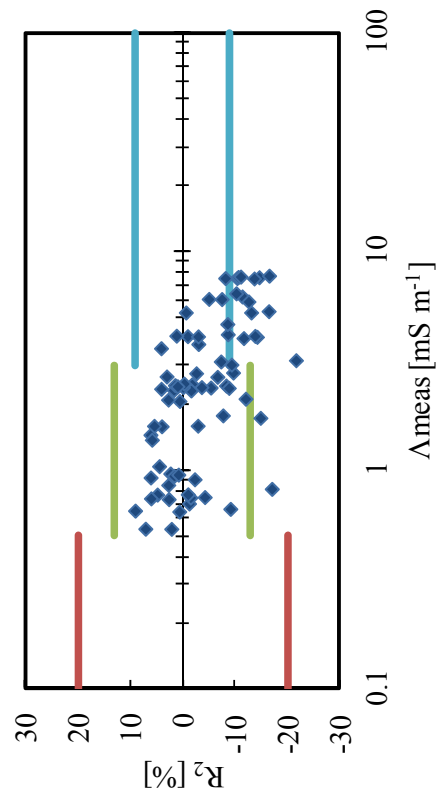


Fig. 3.6 b) Jiwozi Conductivity Agreement (R_2)

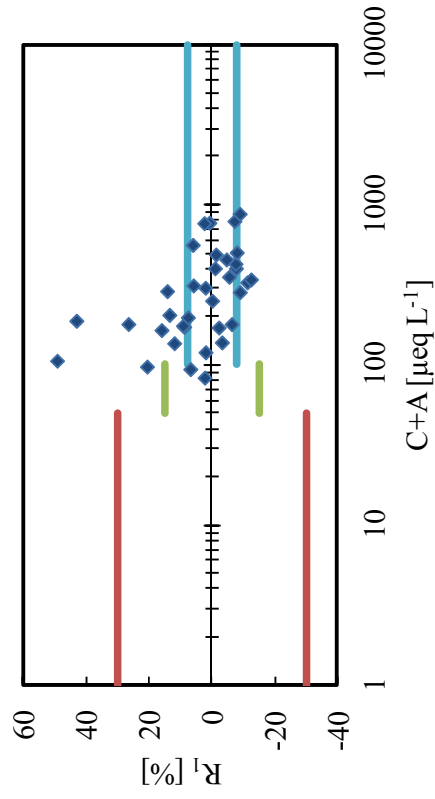


Fig. 3.7 a) Hongwen Ion Balance (R_1)
Calculated including F^-

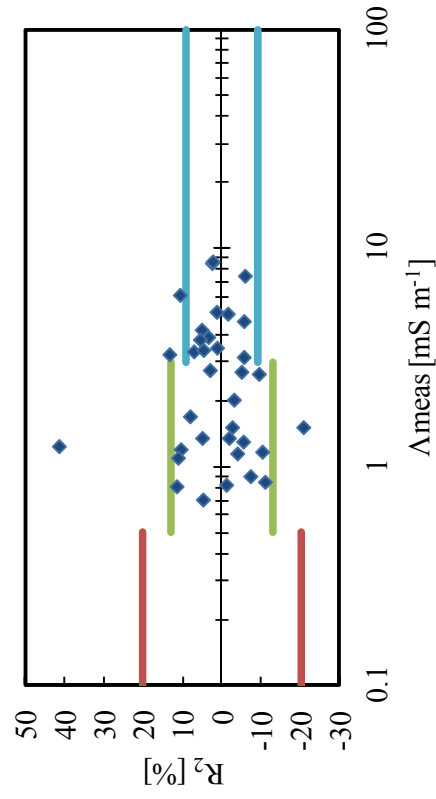


Fig. 3.7 b) Hongwen Conductivity Agreement (R_2)
Calculated including F^-

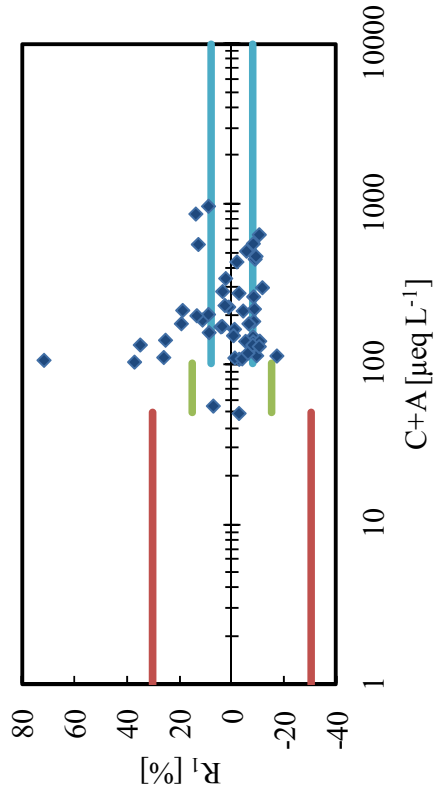


Fig. 3.8 a) Xiaoping Ion Balance (R_1)
Calculated including F^-

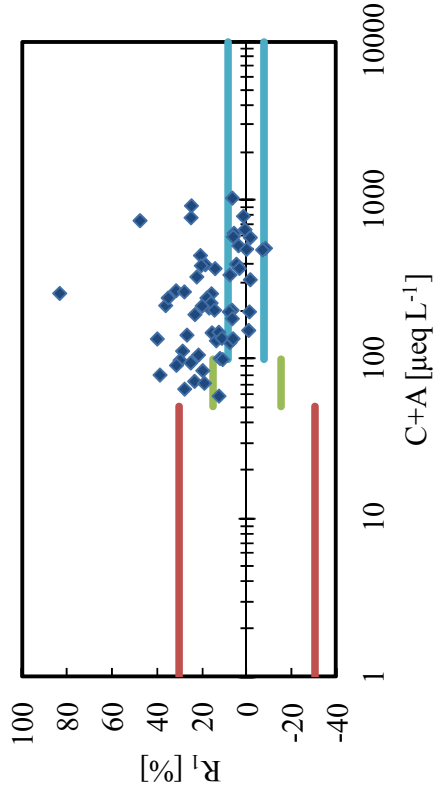


Fig. 3.9 a) Xiang Zhou Ion Balance (R_1)

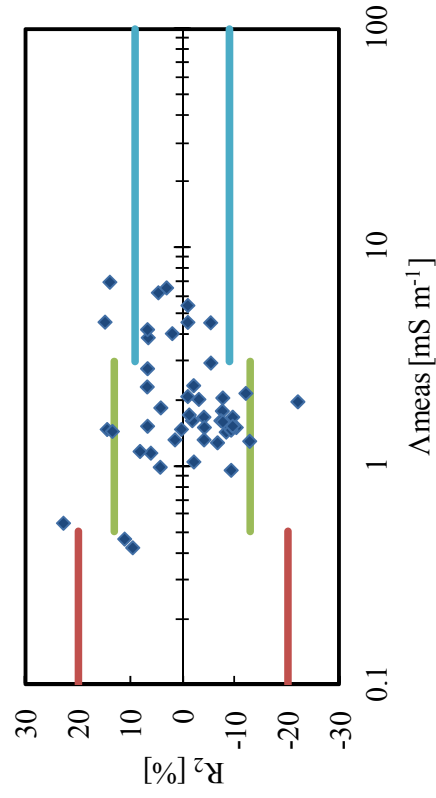


Fig. 3.8 b) Xiaoping Conductivity Agreement (R_2)
Calculated including F^-

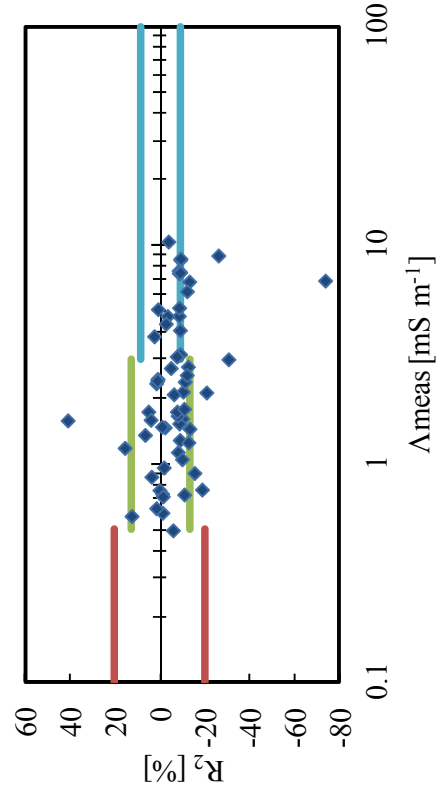


Fig. 3.9 b) Xiang Zhou Conductivity Agreement (R_2)

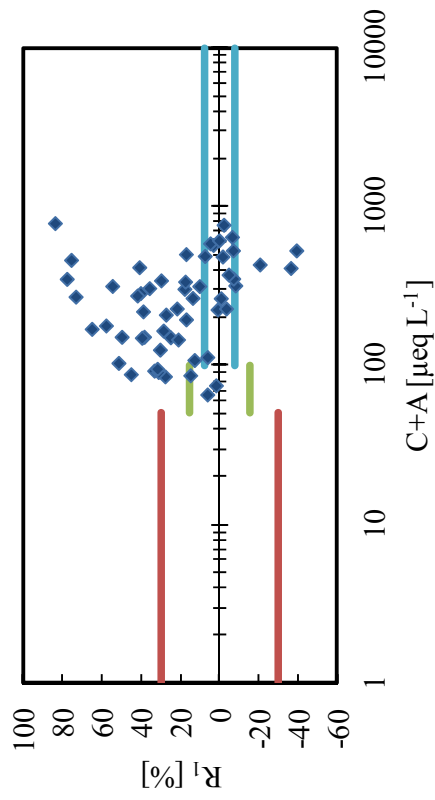


Fig. 3.10 a) Zhuxiandong Ion Balance (R_1)

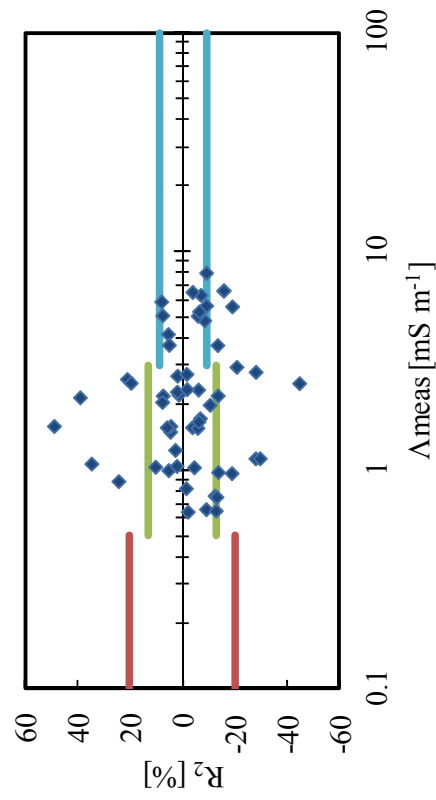


Fig. 3.10 b) Zhuxiandong Conductivity Agreement (R_2)

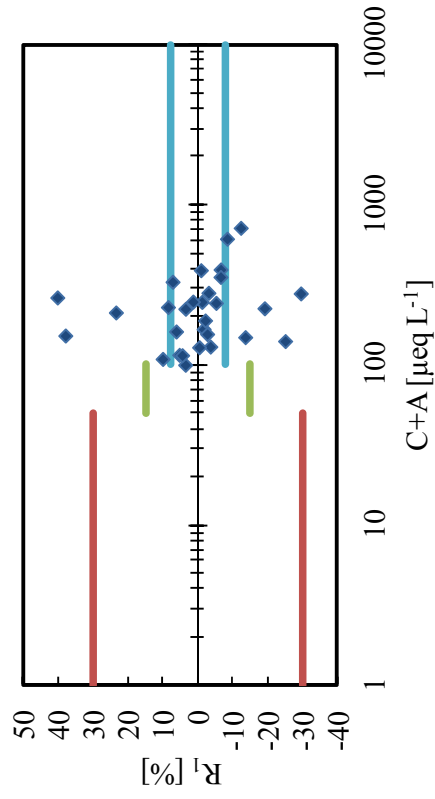


Fig. 3.11 a) Jakarta Ion Balance (R_1)

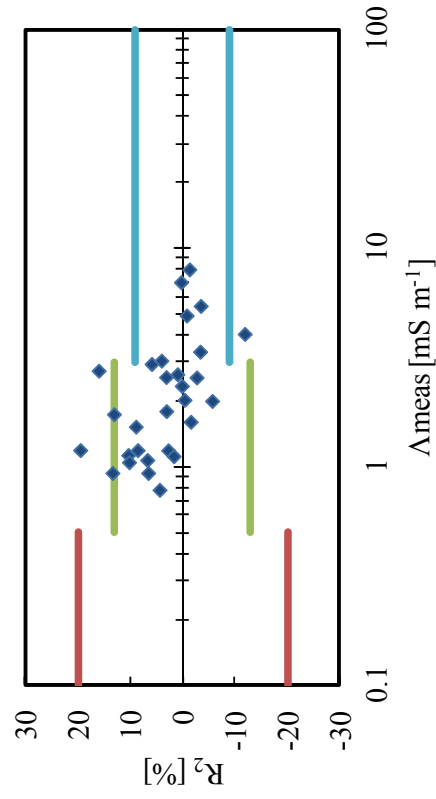


Fig. 3.11 b) Jakarta Conductivity Agreement (R_2)

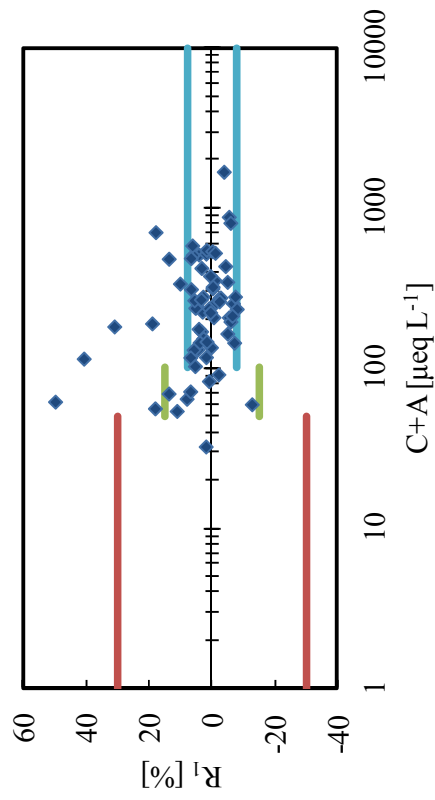


Fig. 3.12 a) Serpong Ion Balance (R_1)

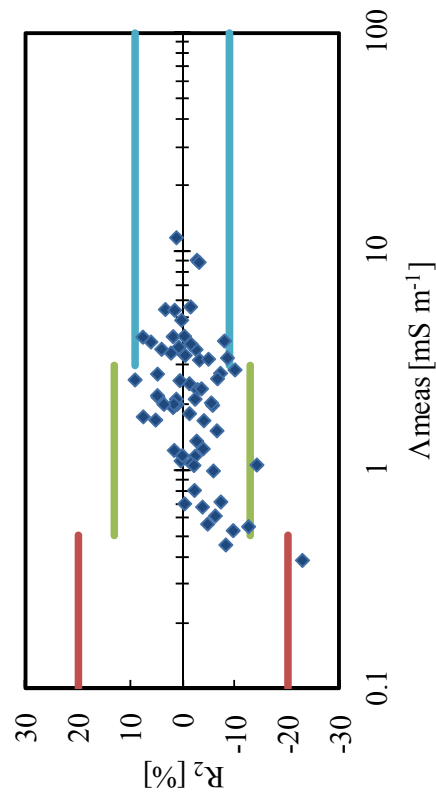


Fig. 3.12 b) Serpong Conductivity Agreement (R_2)

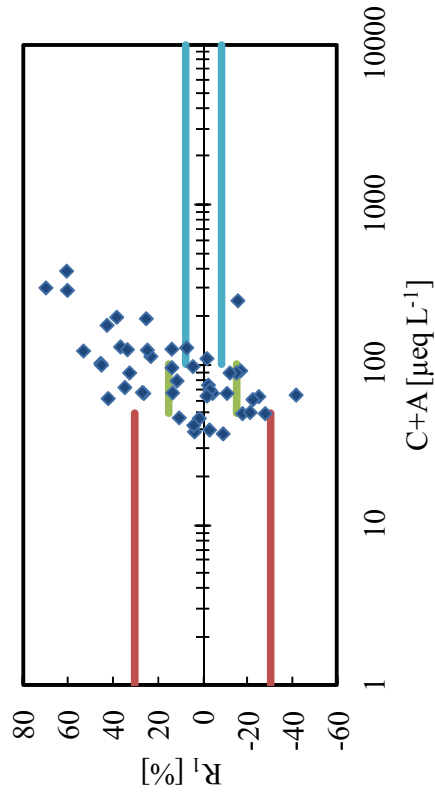


Fig. 3.13 a) Kototabang Ion Balance (R_1)

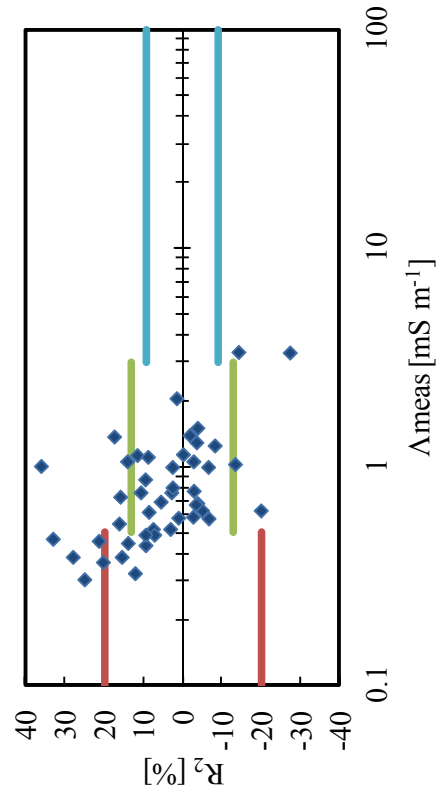


Fig. 3.13 b) Kototabang Conductivity Agreement (R_2)

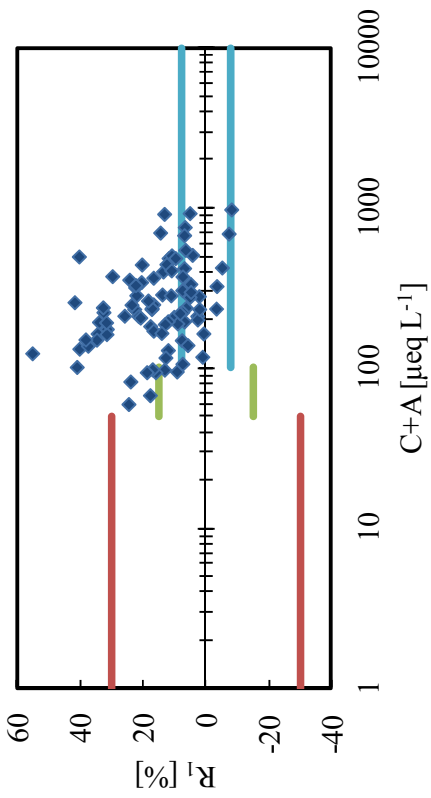


Fig. 3.14 a) Bandung Ion Balance (R_1)

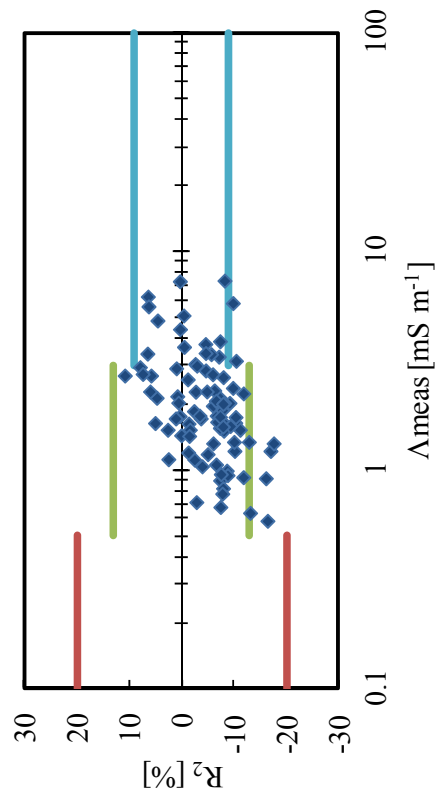


Fig. 3.14 b) Bandung Conductivity Agreement (R_2)

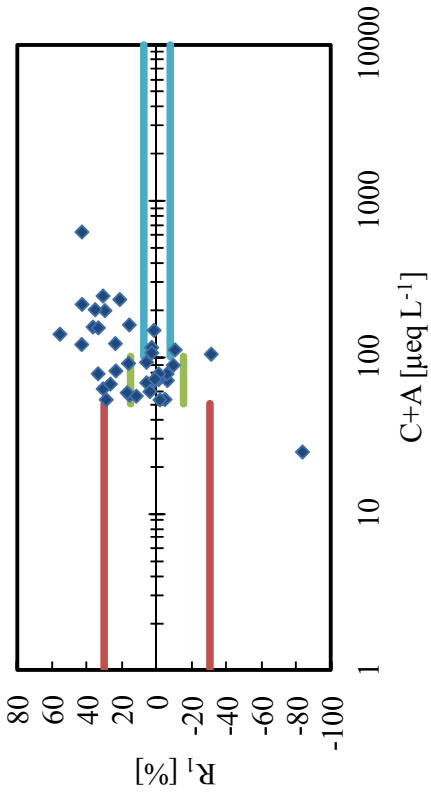


Fig. 3.15 a) Maros Ion Balance (R_1)

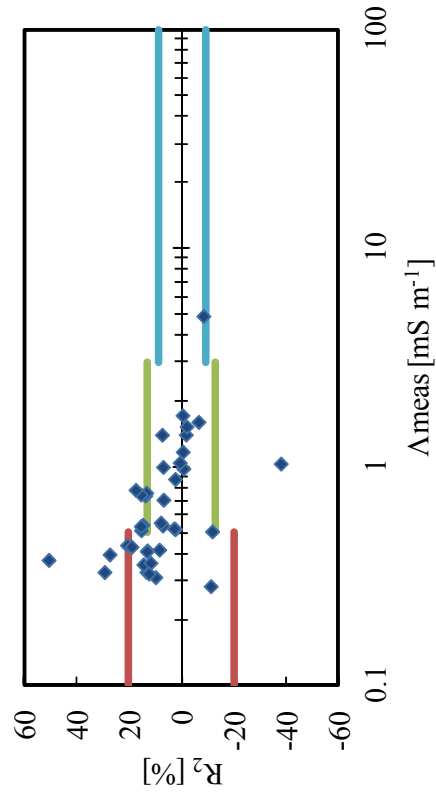


Fig. 3.15 b) Maros Conductivity Agreement (R_2)

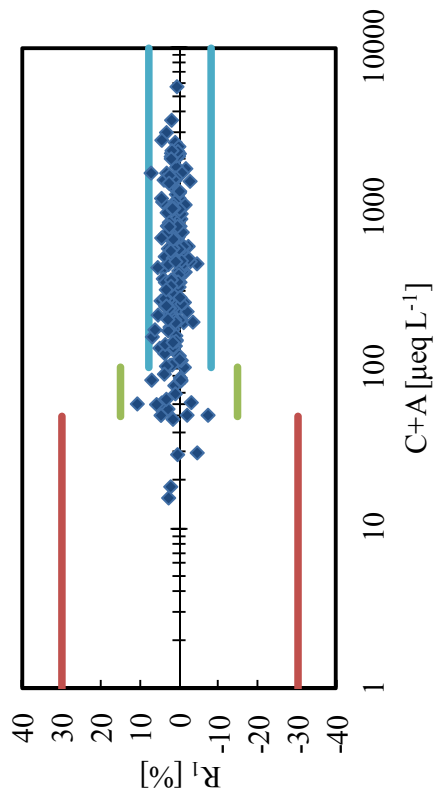


Fig. 3.16 a) Rishiri Ion Balance (R_1)

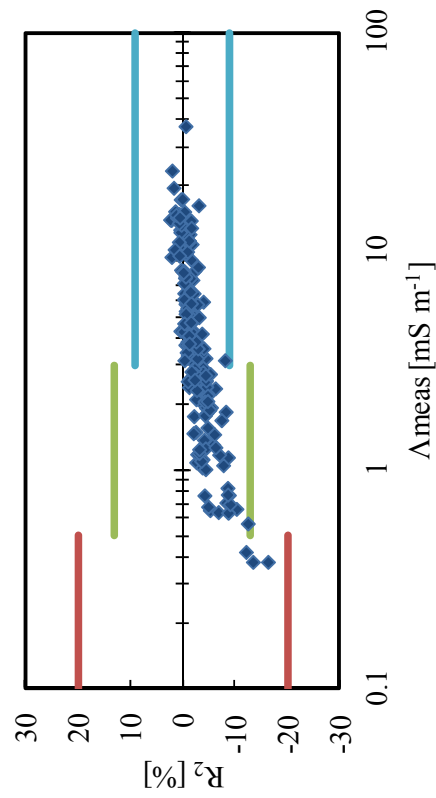


Fig. 3.16 b) Rishiri Conductivity Agreement (R_2)

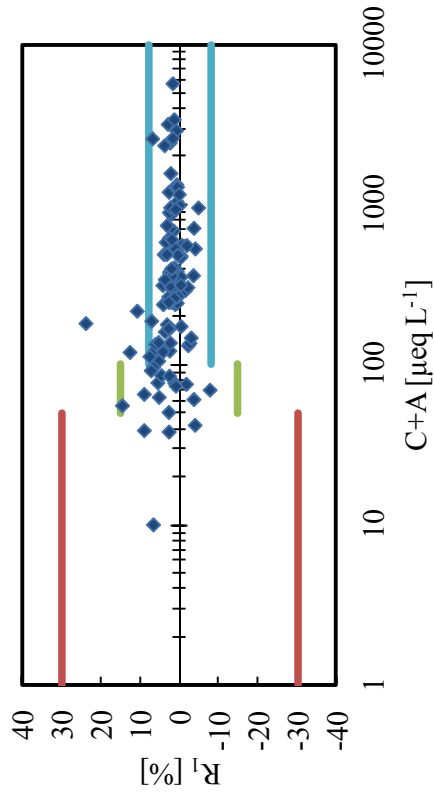


Fig. 3.17 a) Ochiishi Ion Balance (R_1)

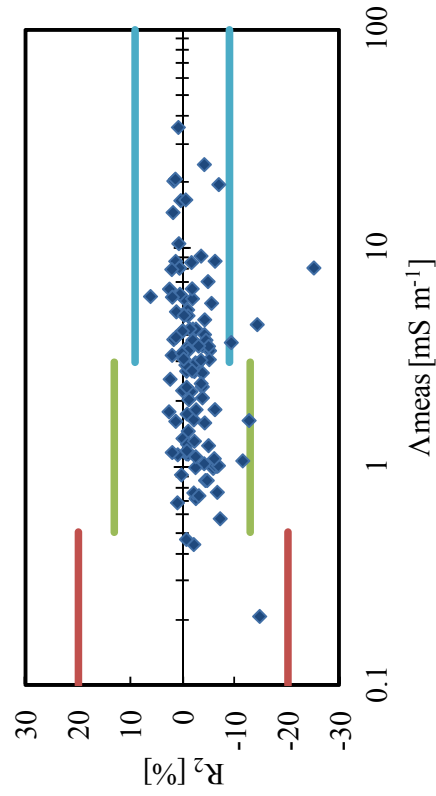


Fig. 3.17 b) Ochiishi Conductivity Agreement (R_2)

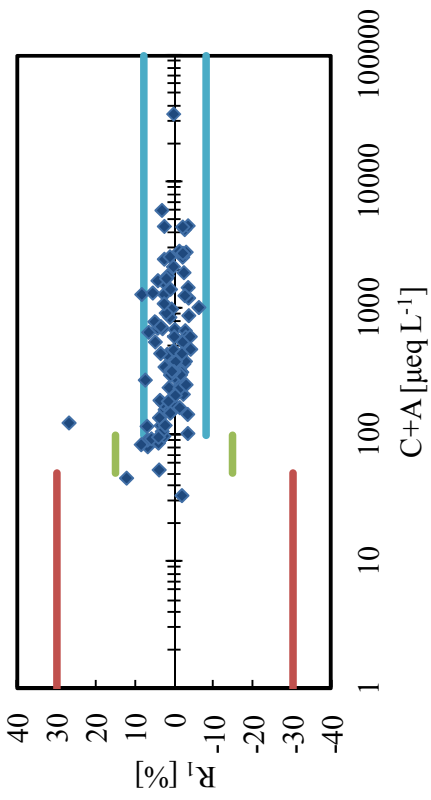


Fig. 3.18 a) Tappi Ion Balance (R_1)

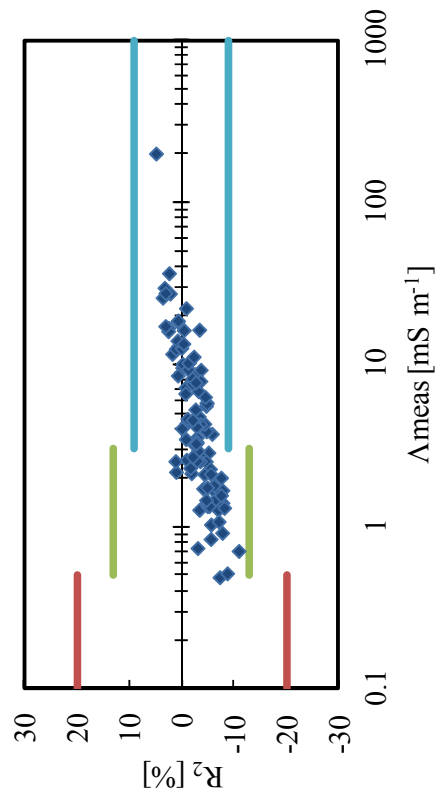


Fig. 3.18 b) Tappi Conductivity Agreement (R_2)

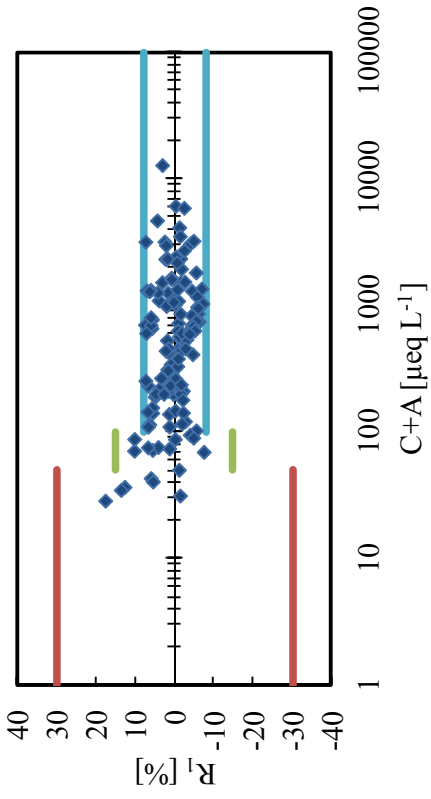


Fig. 3.19 a) Sado-seki Ion Balance (R_1)

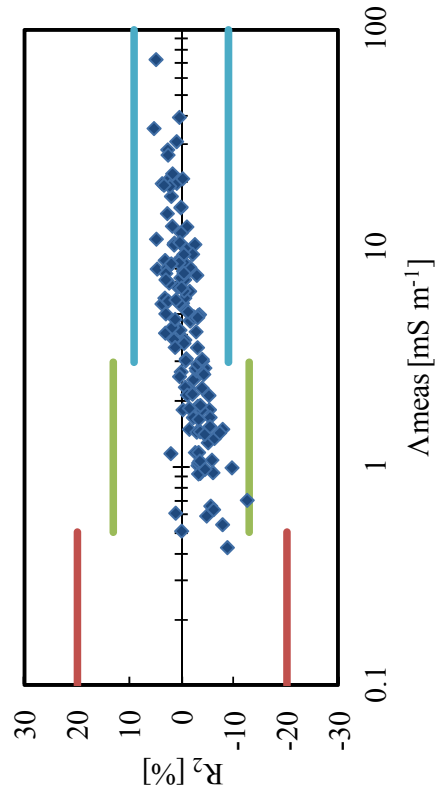


Fig. 3.19 b) Sado-seki Conductivity Agreement (R_2)

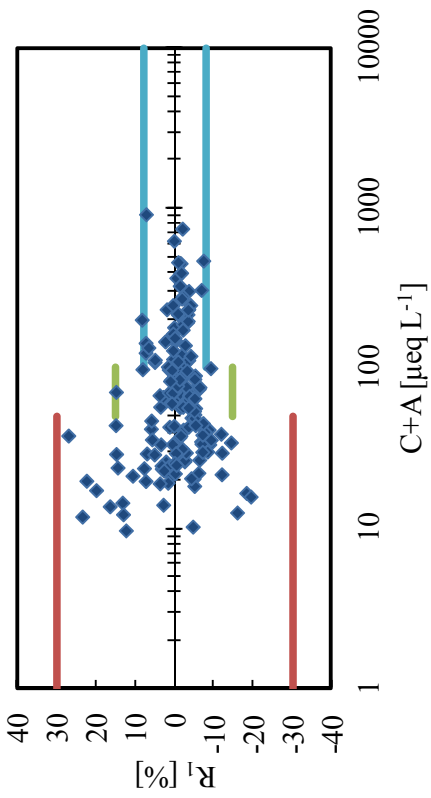


Fig. 3.20 a) Happono Ion Balance (R_1)

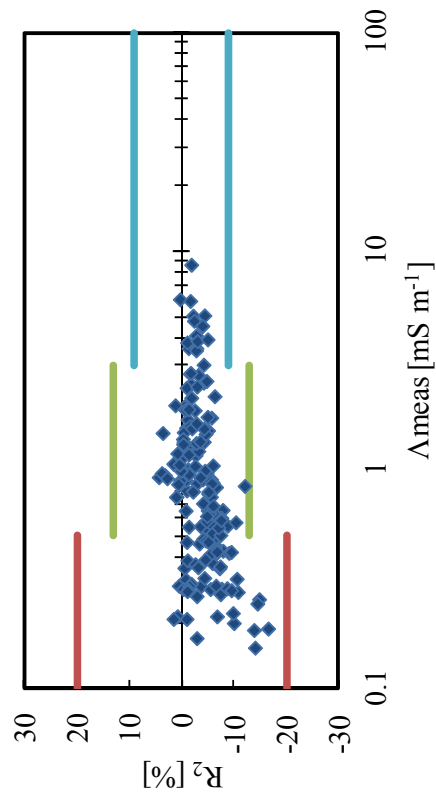


Fig. 3.20 b) Happono Conductivity Agreement (R_2)

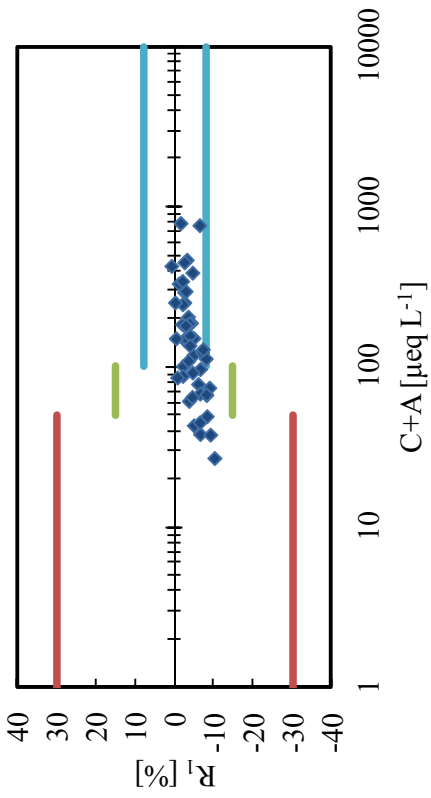


Fig. 3.21 a) Ijira Ion Balance (R_1)

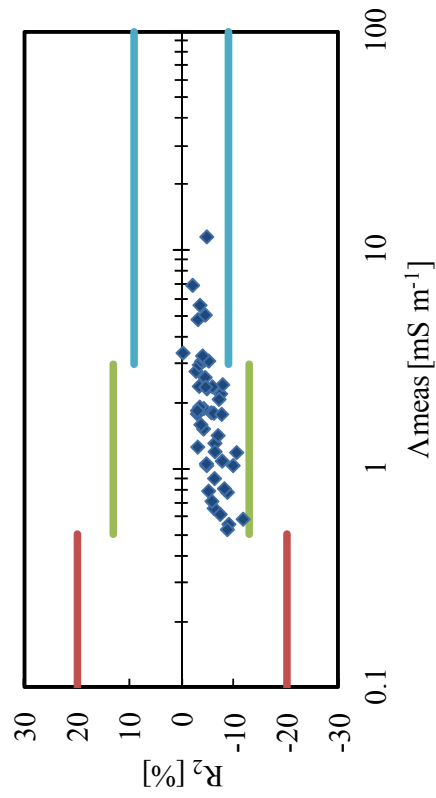


Fig. 3.21 b) Ijira Conductivity Agreement (R_2)

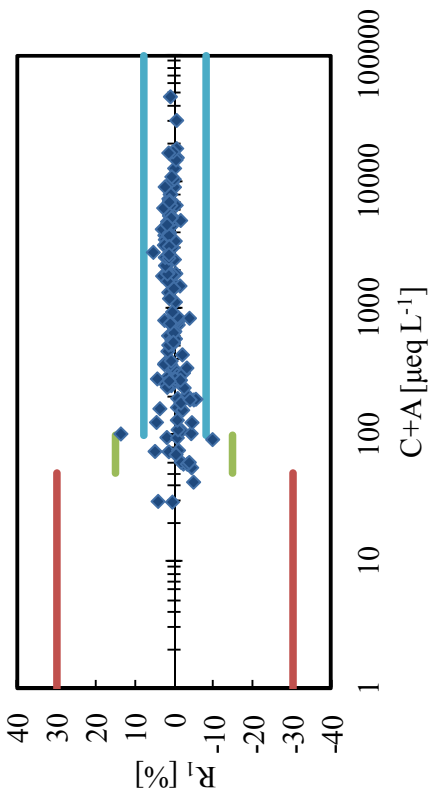


Fig. 3.22 a) Oki Ion Balance (R_1)

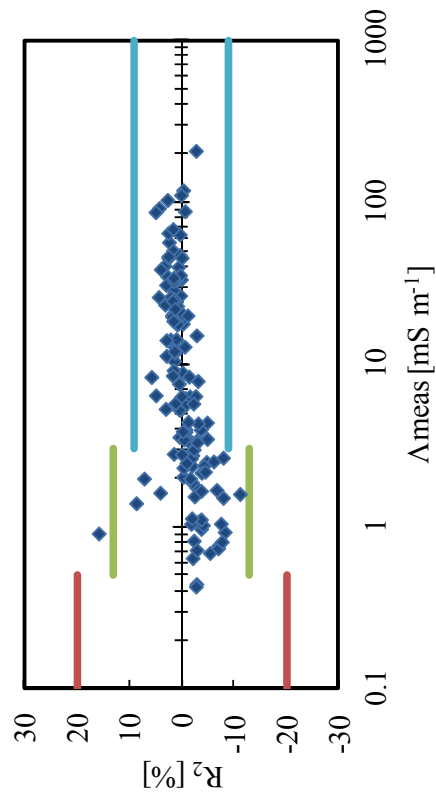


Fig. 3.22 b) Oki Conductivity Agreement (R_2)

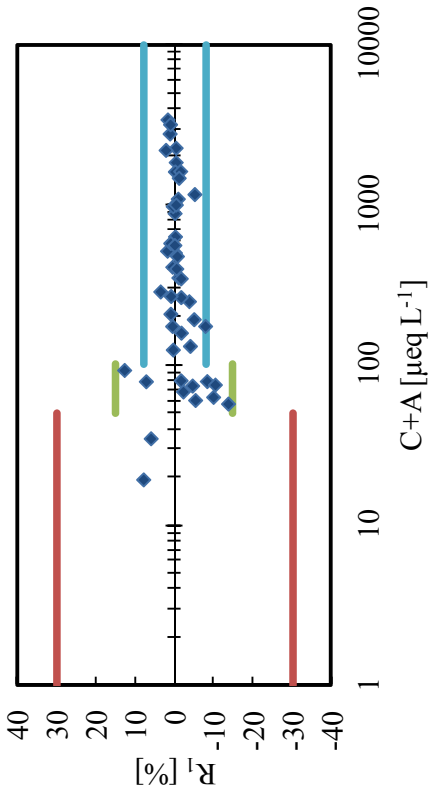


Fig. 3.23 a) Banryu Ion Balance (R_1)

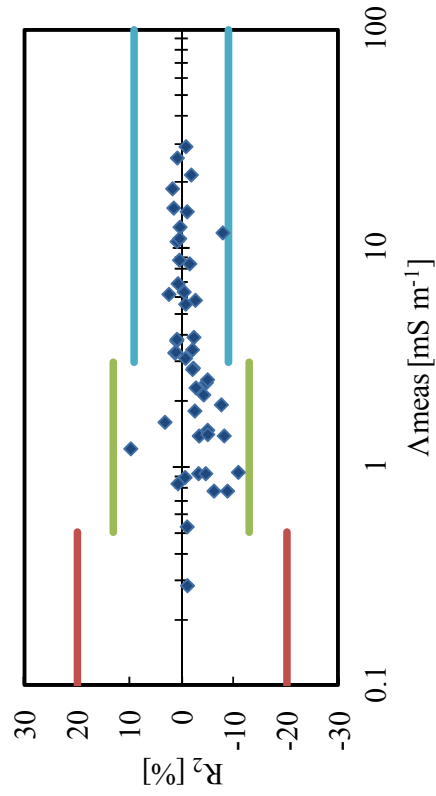


Fig. 3.23 b) Banryu Conductivity Agreement (R_2)

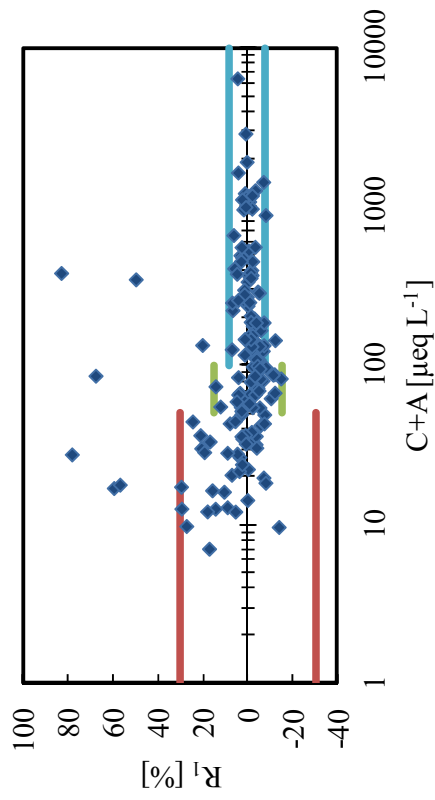


Fig. 3.24 a) Yusuhara Ion Balance (R_1)

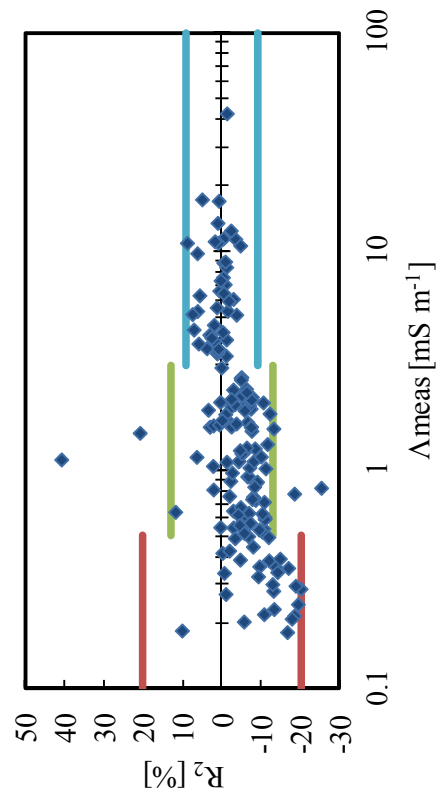


Fig. 3.24 b) Yusuhara Conductivity Agreement (R_2)

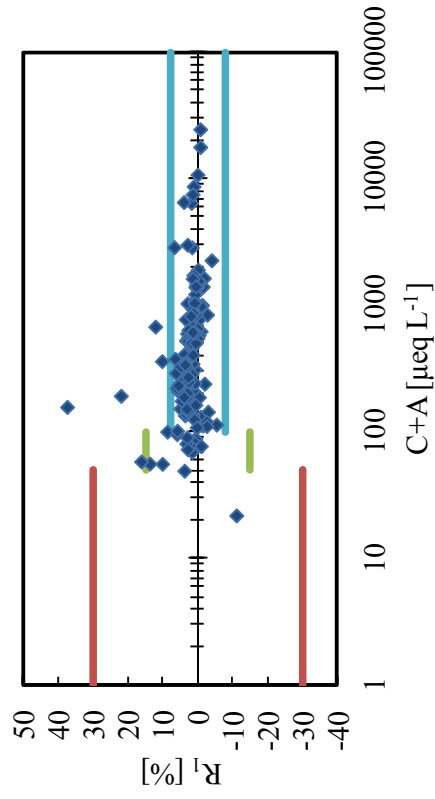


Fig. 3.25 a) Hedo Ion Balance (R_1)

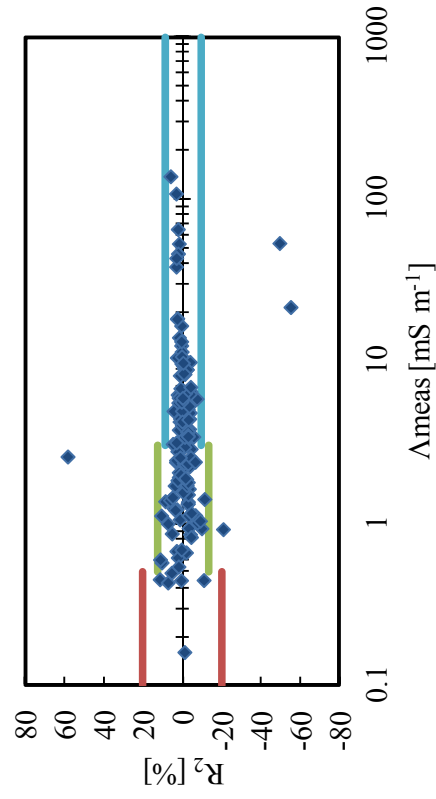


Fig. 3.25 b) Hedo Conductivity Agreement (R_2)

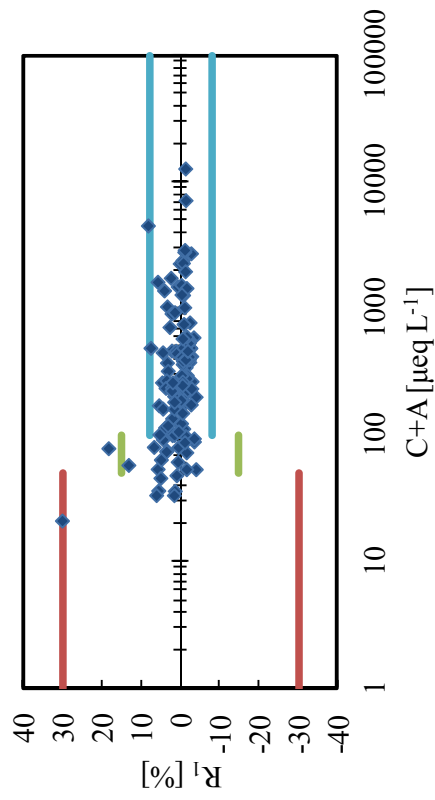


Fig. 3.26 a) Ogasawara Ion Balance (R_1)

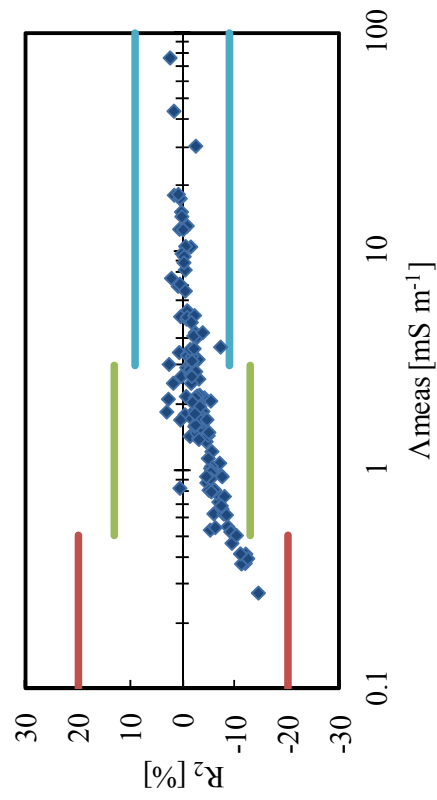


Fig. 3.26 b) Ogasawara Conductivity Agreement (R_2)

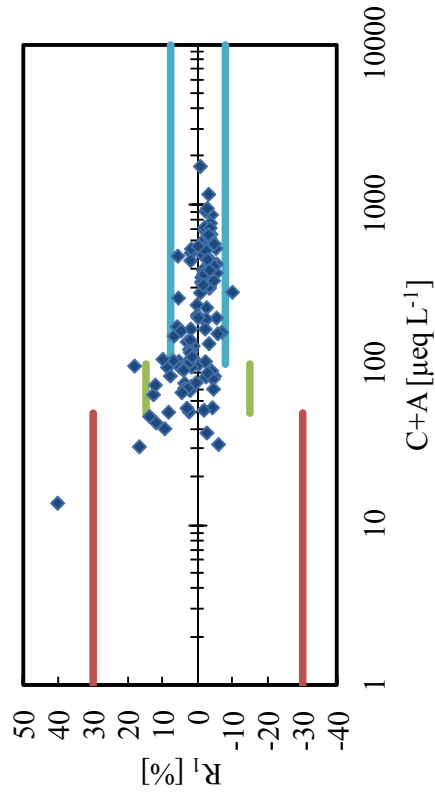


Fig. 3.27 a) Tokyo Ion Balance (R_1)

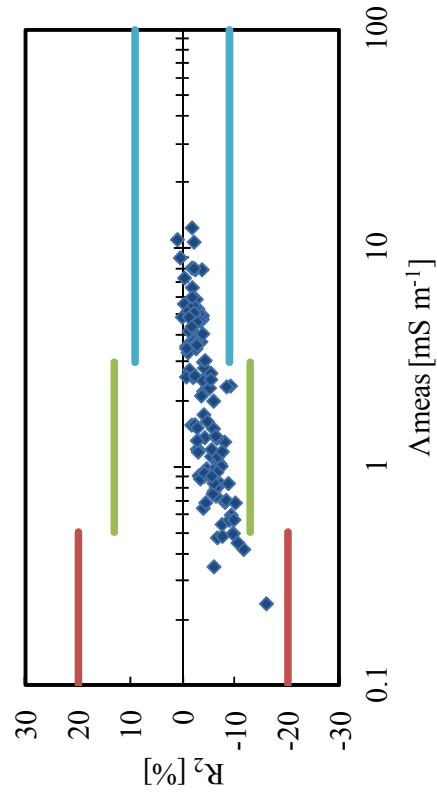


Fig. 3.27 b) Tokyo Conductivity Agreement (R_2)

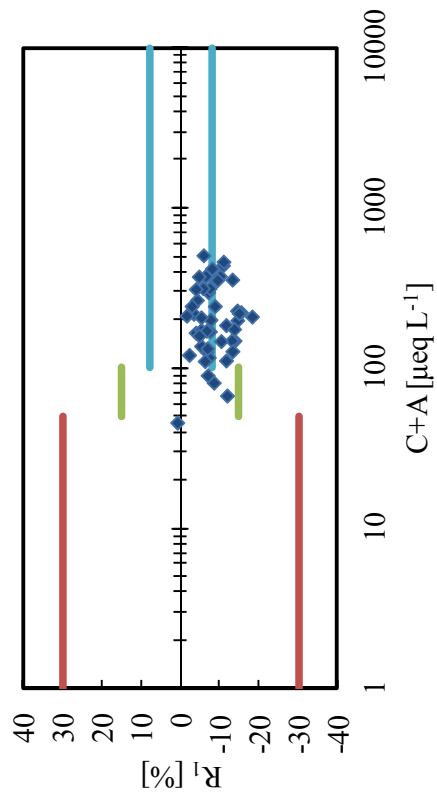


Fig. 3.28 a) Petaling Jaya Ion Balance (R_1)

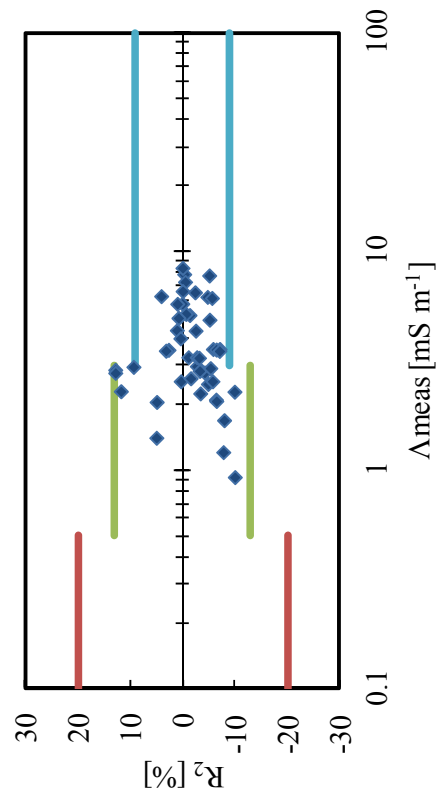


Fig. 3.28 b) Petaling Jaya Conductivity Agreement (R_2)

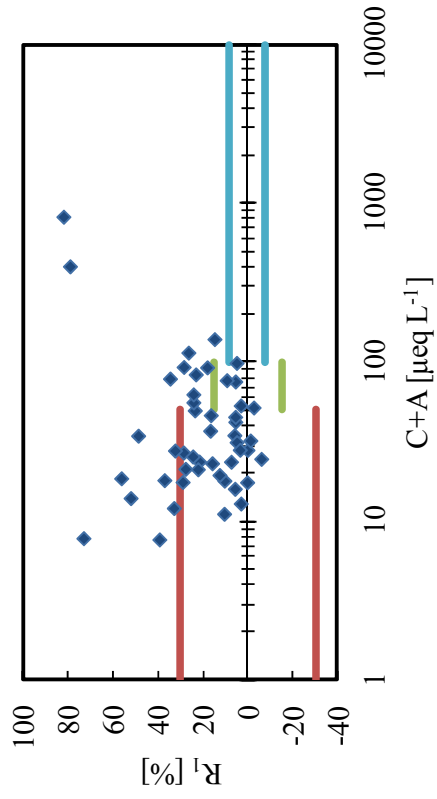


Fig. 3.29 a) Tanah Rate Ion Balance (R_1)

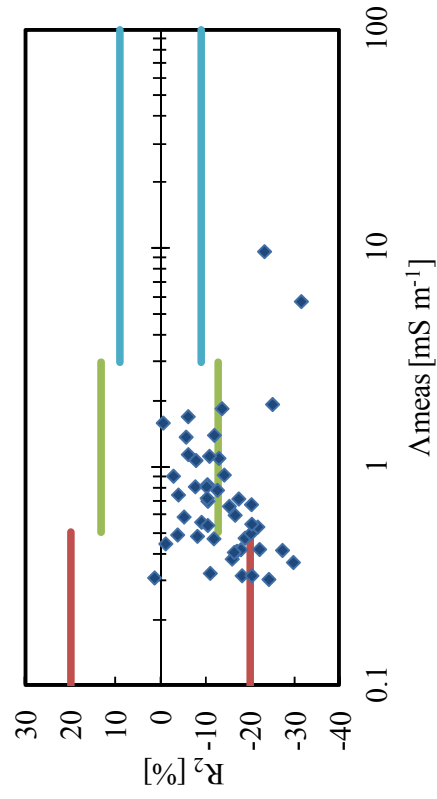


Fig. 3.29 b) Tanah Rate Conductivity Agreement (R_2)

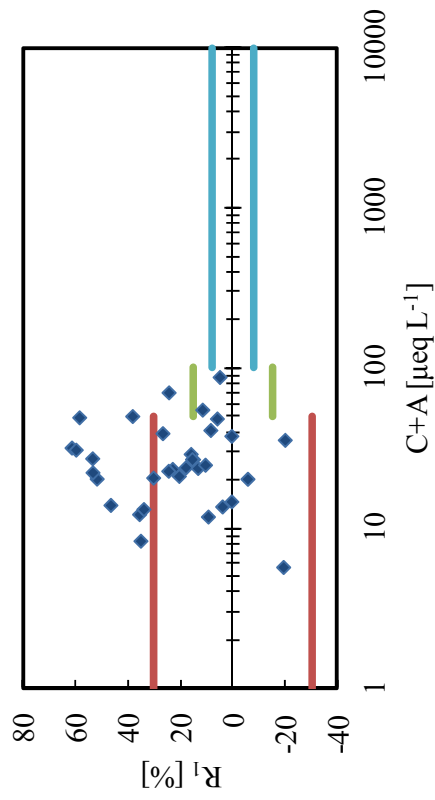


Fig. 3.30 a) Danum Valley Ion Balance (R_1)

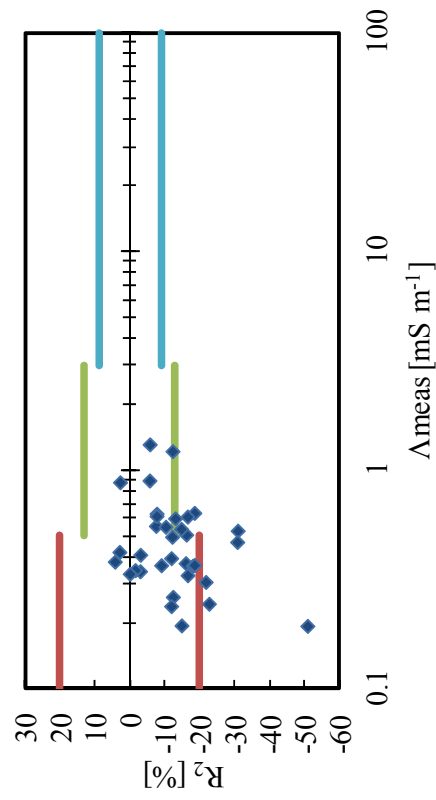


Fig. 3.30 b) Danum Valley Conductivity Agreement (R_2)

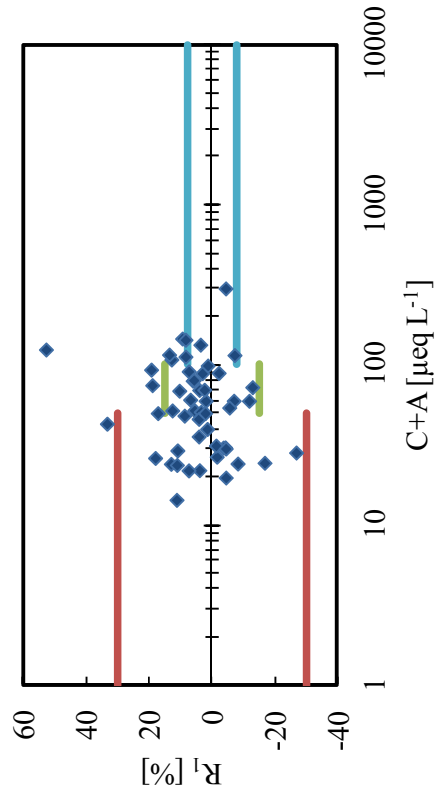


Fig. 3.31 a) Kuching Ion Balance (R_1)

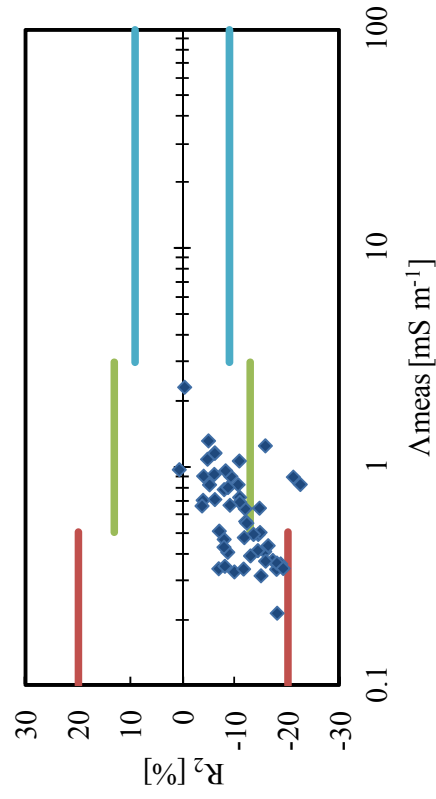


Fig. 3.31 b) Kuching Conductivity Agreement (R_2)

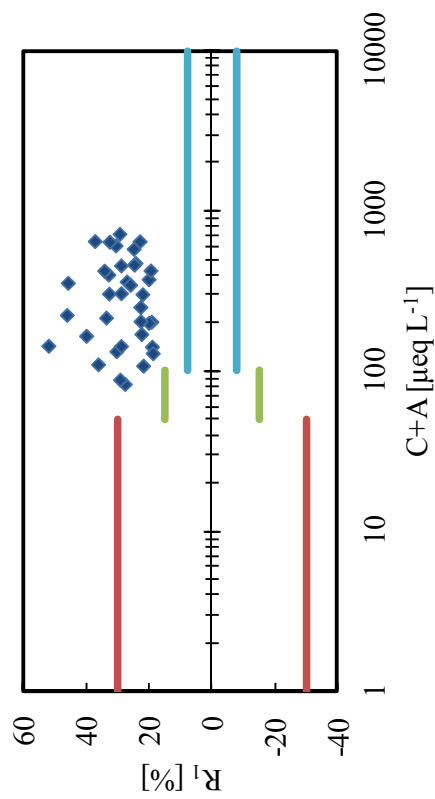


Fig. 3.32 a) Ulanbaatar Ion Balance (R_1)

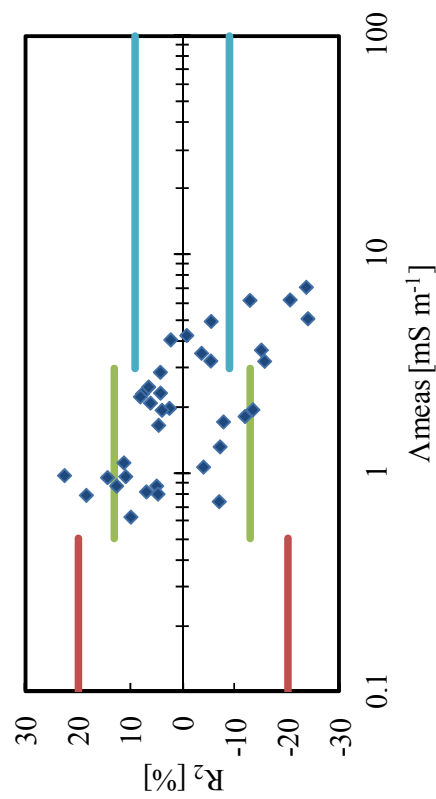


Fig. 3.32 b) Ulanbaatar Conductivity Agreement (R_2)

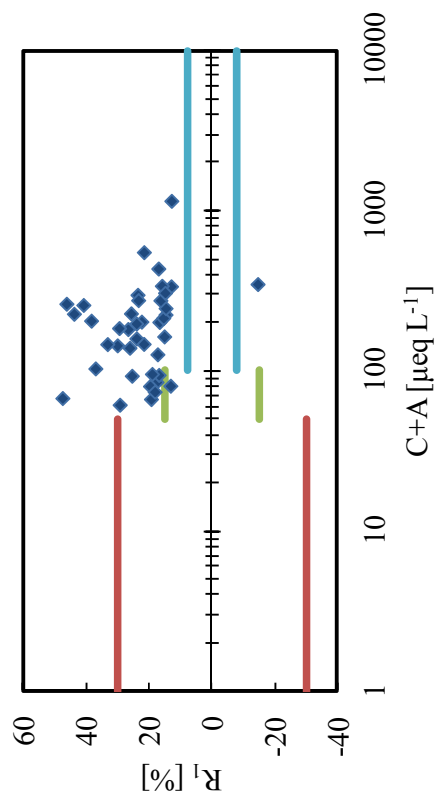


Fig. 3.33 a) Terelj Ion Balance (R_1)

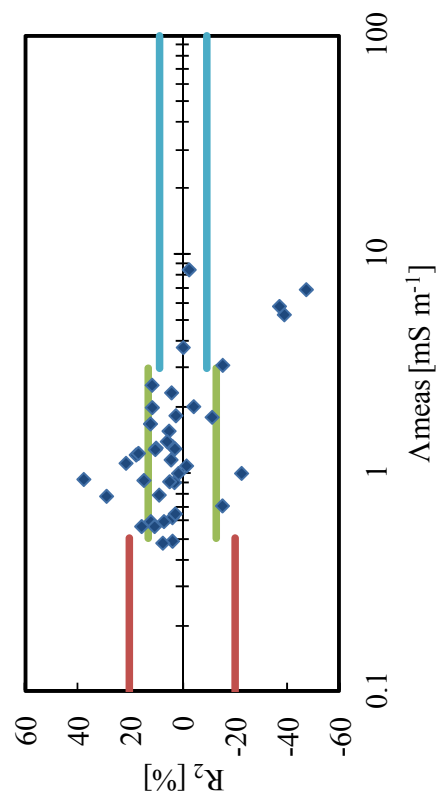


Fig. 3.33 b) Terelj Conductivity Agreement (R_2)

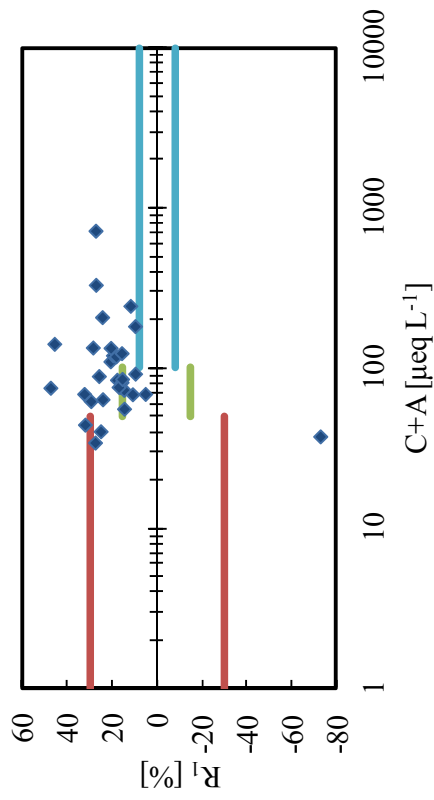


Fig. 3.34 a) Yangon Ion Balance (R_1)

Calculated including HCO_3^- , PO_4^{3-}

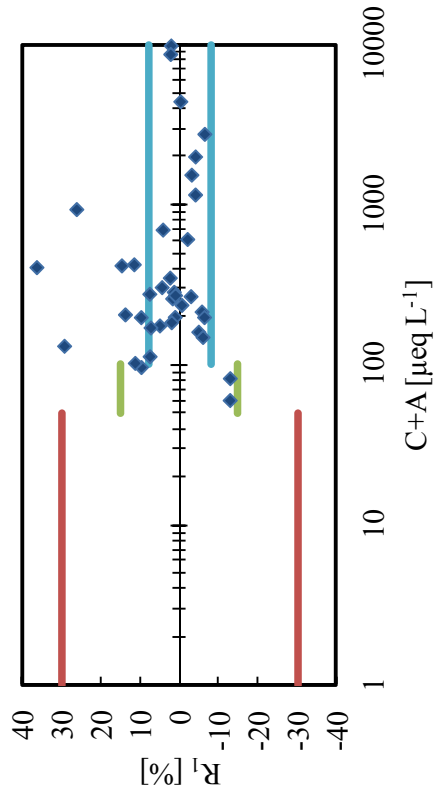


Fig. 3.35 a) Metro Manila Ion Balance (R_1)

Calculated including HCO_3^- , PO_4^{3-}

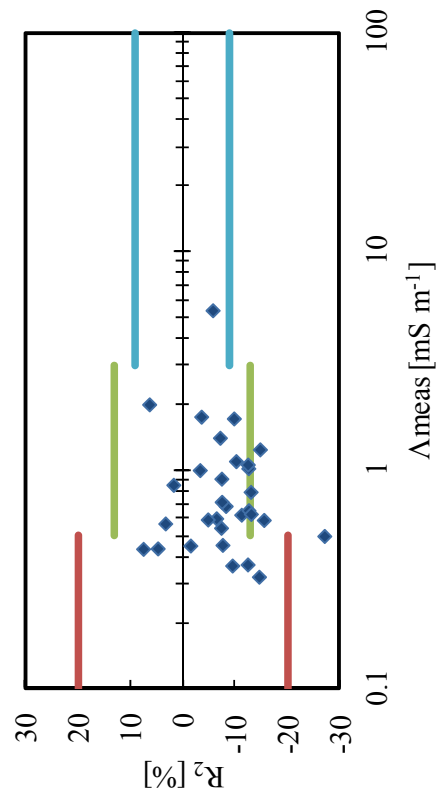


Fig. 3.34 b) Yangon Conductivity Agreement (R_2)

Calculated including HCO_3^- , PO_4^{3-}

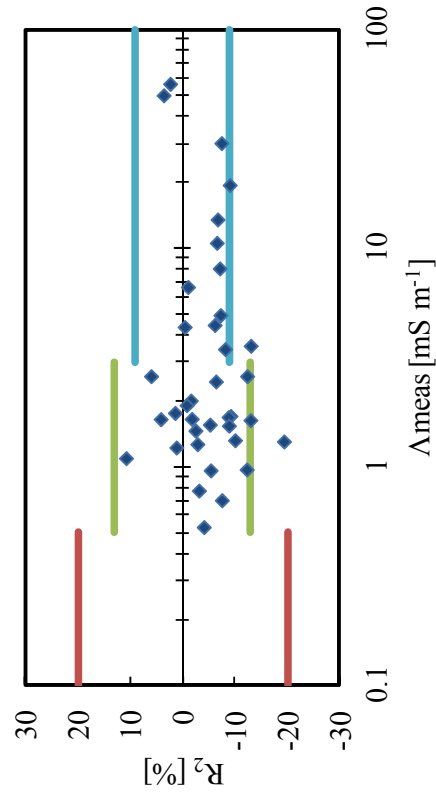


Fig. 3.35 b) Metro Manila Conductivity Agreement (R_2)

Calculated including HCO_3^- , PO_4^{3-}

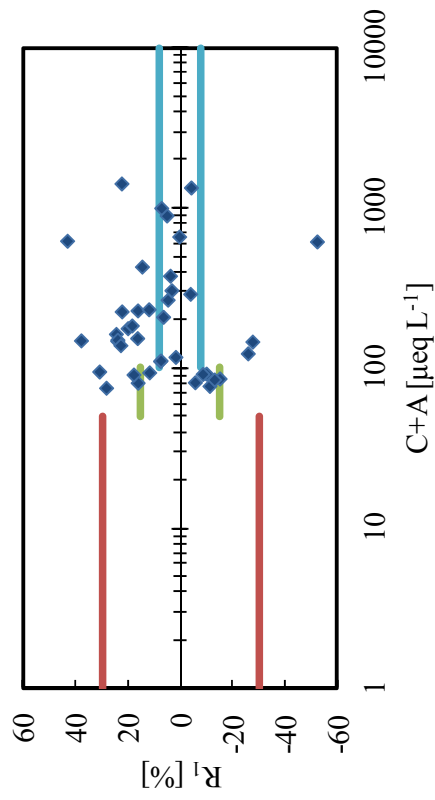


Fig. 3.36 a) Los Banos Ion Balance (R_1)

Calculated including HCO_3^- , PO_4^{3-}

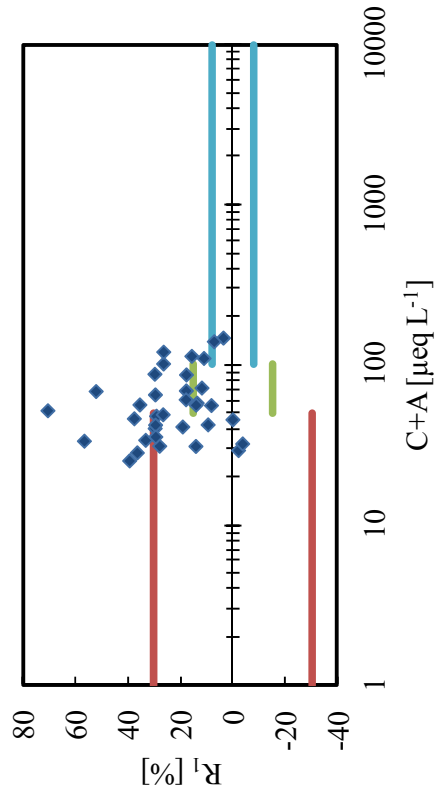


Fig. 3.37 a) Mt. Sto. Tomas Ion Balance (R_1)

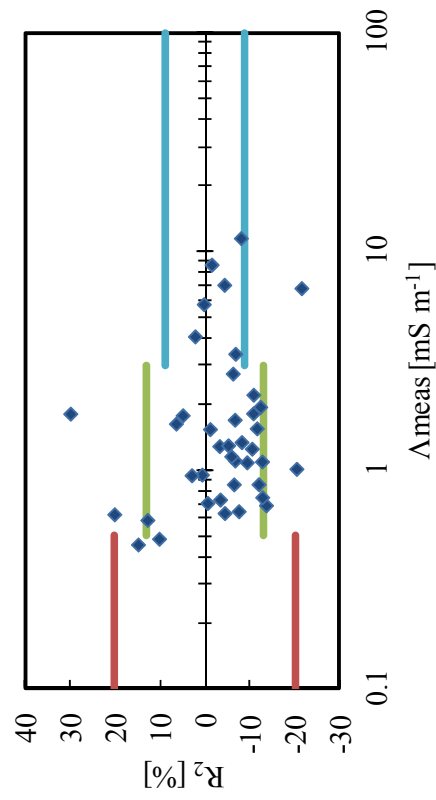


Fig. 3.36 b) Los Banos Conductivity Agreement (R_2)

Calculated including HCO_3^- , PO_4^{3-}

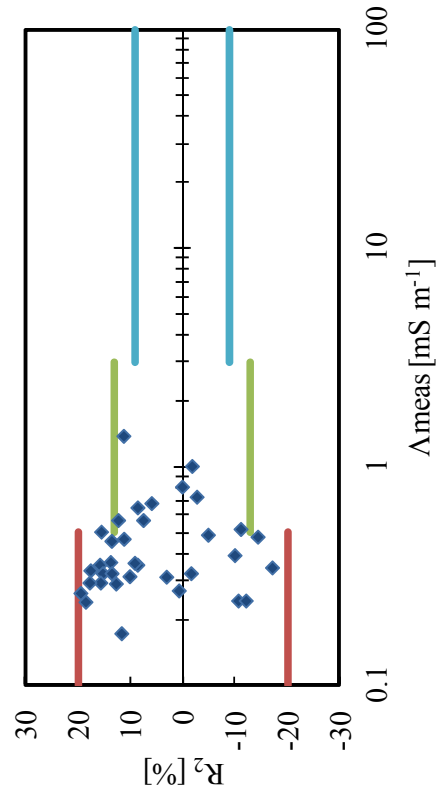


Fig. 3.37 b) Mt. Sto. Tomas Conductivity Agreement (R_2)

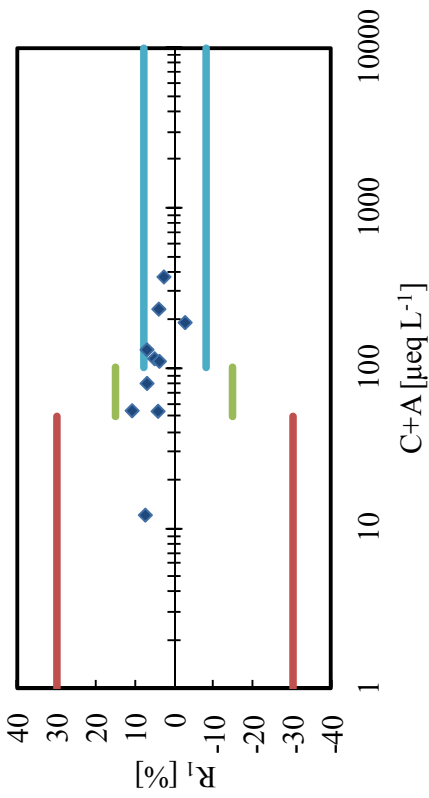


Fig. 3.38 a) Mondy Ion Balance (R_1)
Calculated including HCO_3^- , Br^- and NO_2^-

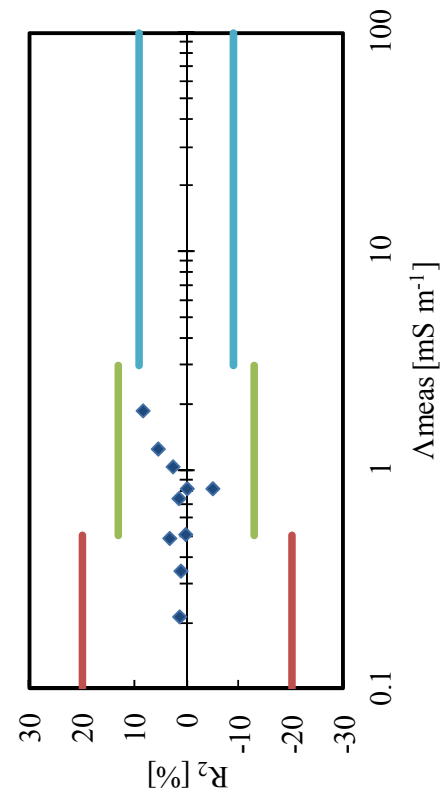


Fig. 3.38 b) Mondy Conductivity Agreement (R_2)
Calculated including HCO_3^- , Br^- and NO_2^-

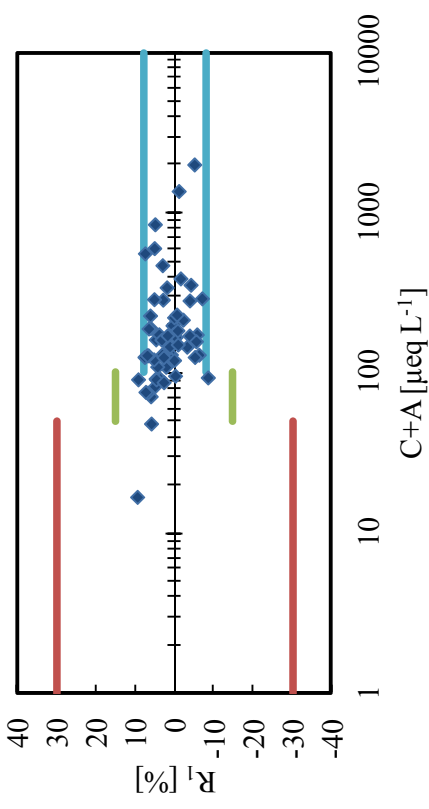


Fig. 3.39 a) Listvyanka Ion Balance (R_1)
Calculated including HCO_3^- , F^- , Br^- and NO_2^-

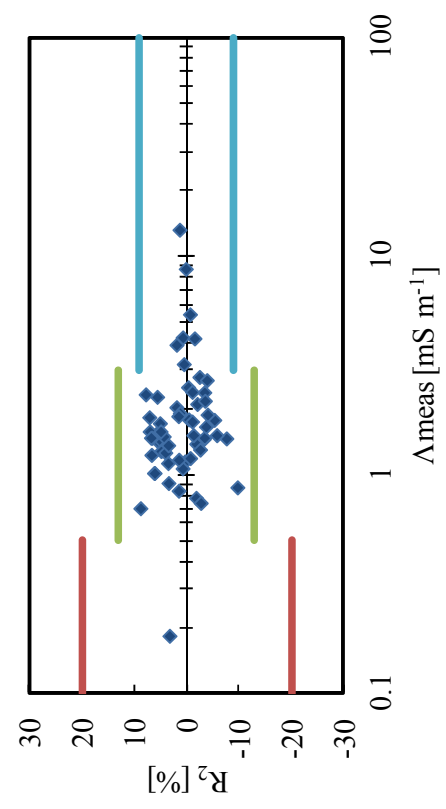


Fig. 3.39 b) Listvyanka Conductivity Agreement (R_2)
Calculated including HCO_3^- , F^- , Br^- and NO_2^-

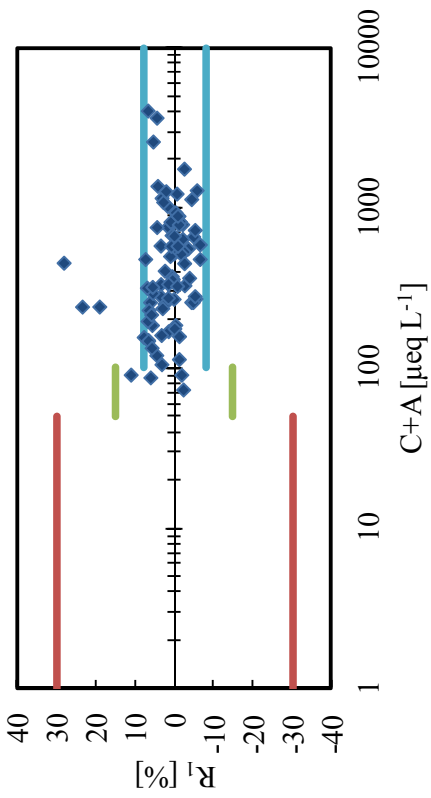


Fig. 3.40 a) Irkutsk Ion Balance (R_1)
Calculated including HCO_3^- and NO_2^-

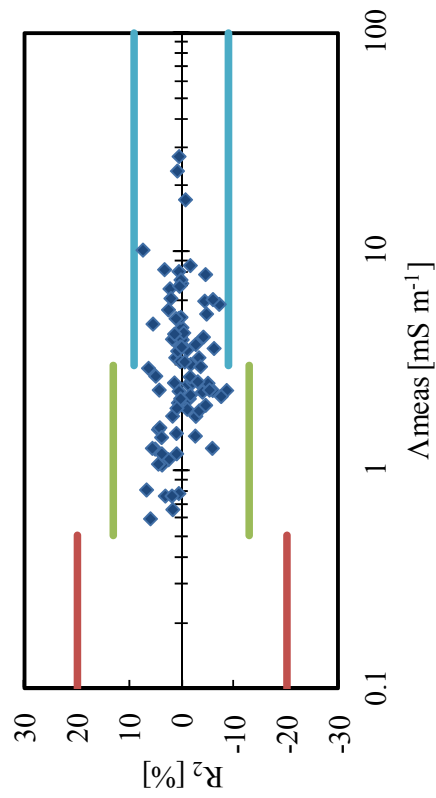


Fig. 3.40 b) Irkutsk Conductivity Agreement (R_2)
Calculated including HCO_3^- and NO_2^-

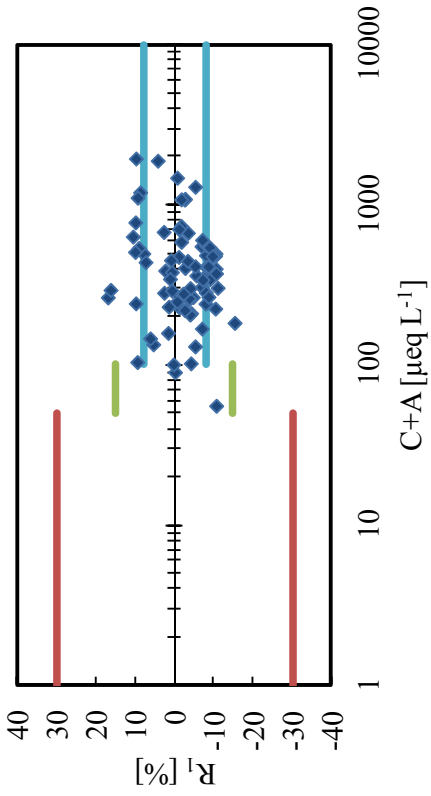


Fig. 3.41 a) Primorskaya Ion Balance (R_1)
Calculated including HCO_3^- , Br^- and NO_2^-

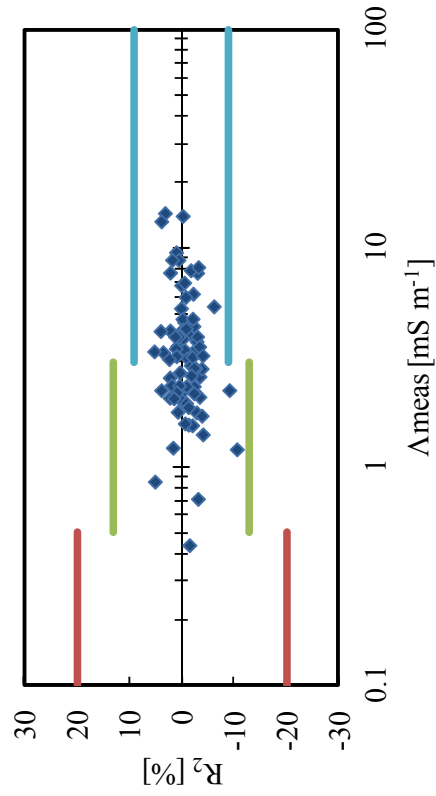


Fig. 3.41 b) Primorskaya Conductivity Agreement (R_2)
Calculated including HCO_3^- , Br^- and NO_2^-

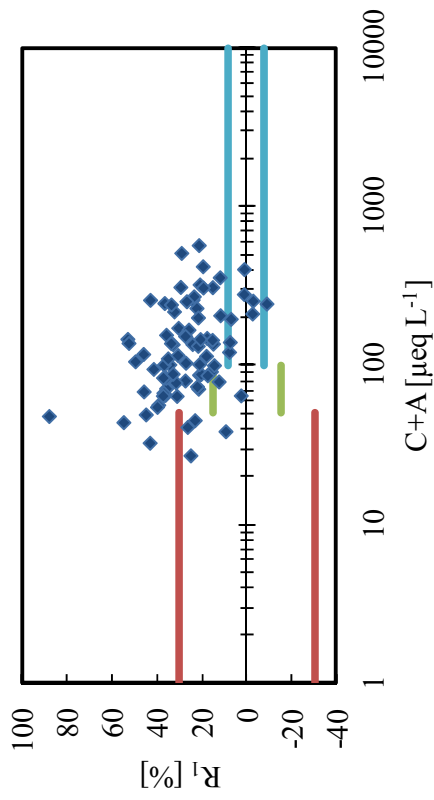


Fig. 3.42 a) Bangkok Ion Balance (R_1)
Calculated including PO_4^{3-}

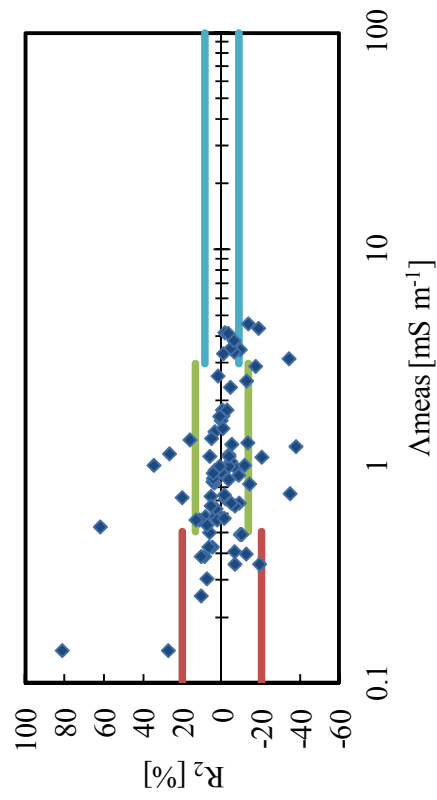


Fig. 3.42 b) Bangkok Conductivity Agreement (R_2)
Calculated including PO_4^{3-}

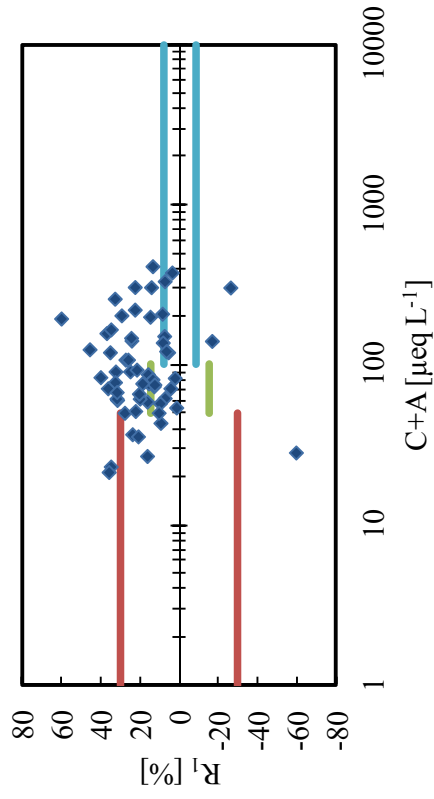


Fig. 3.43 a) Samutprakarn Ion Balance (R_1)
Calculated including PO_4^{3-}

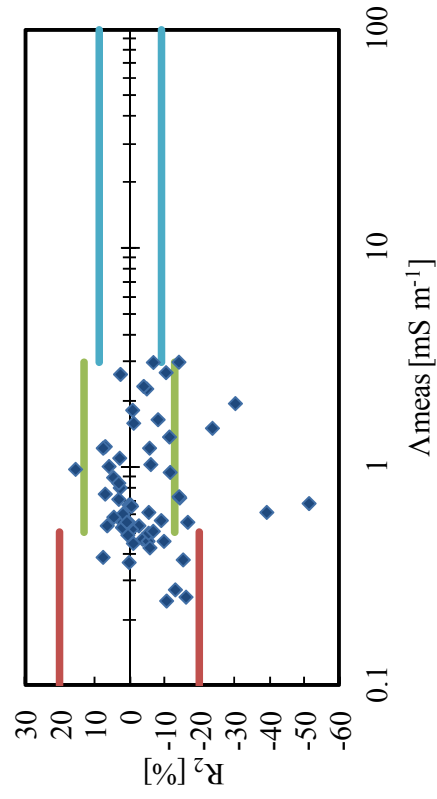


Fig. 3.43 b) Samutprakarn Conductivity Agreement (R_2)
Calculated including PO_4^{3-}

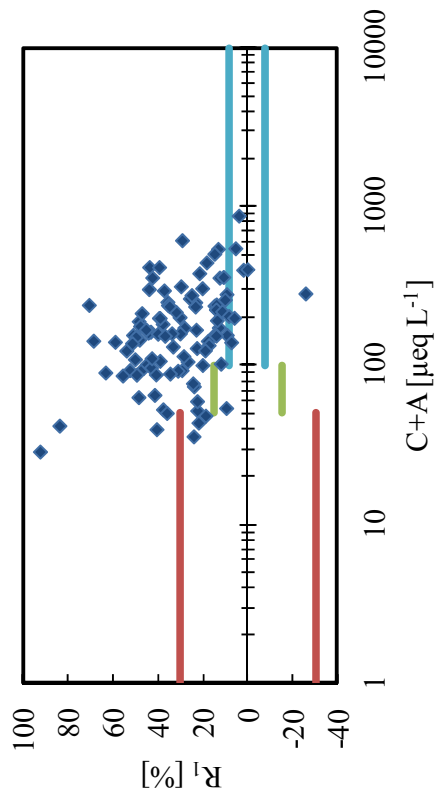


Fig. 3.44 a) Pathumthani Ion Balance (R_1)
Calculated including F^- , Br^- , NO_2^- and PO_4^{3-}

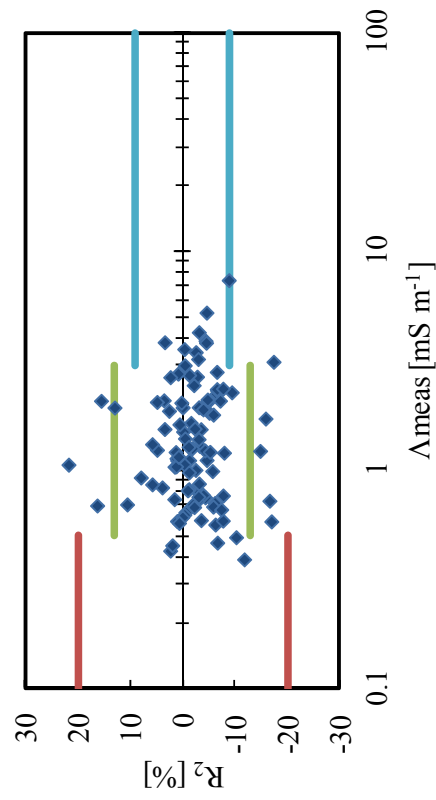


Fig. 3.44 b) Pathumthani Conductivity Agreement (R_2)
Calculated including F^- , Br^- , NO_2^- and PO_4^{3-}

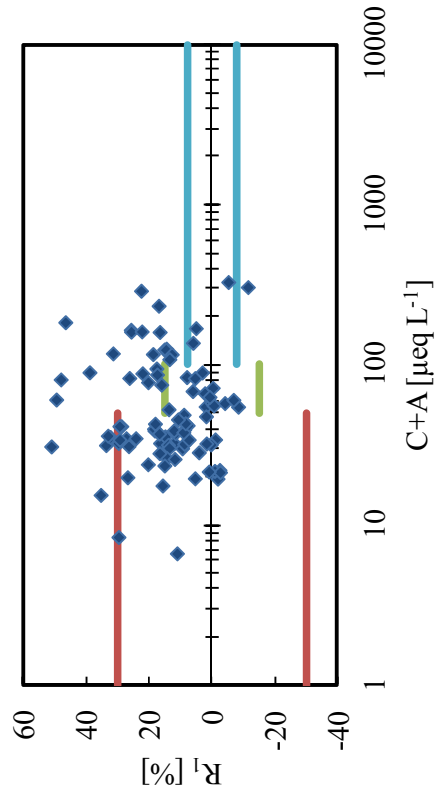


Fig. 3.45 a) Khanchanaburi Ion Balance (R_1)
Calculated including PO_4^{3-}

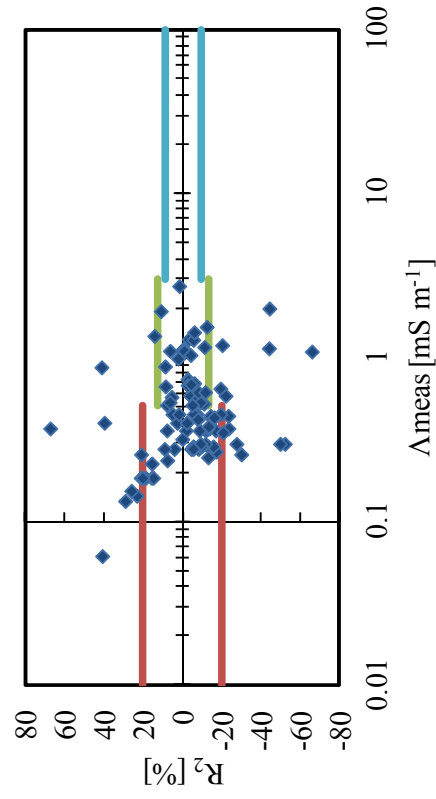


Fig. 3.45 b) Khanchanaburi Conductivity Agreement (R_2)
Calculated including PO_4^{3-}

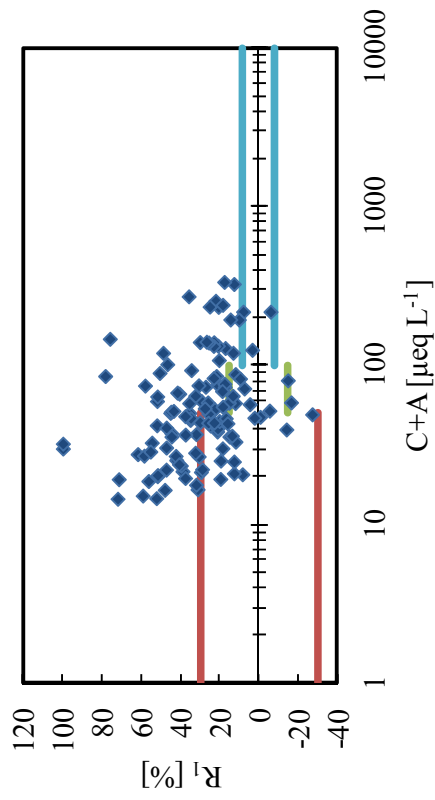


Fig. 3.46 a) Chang Mai Ion Balance (R_1)
Calculated including PO_4^{3-}

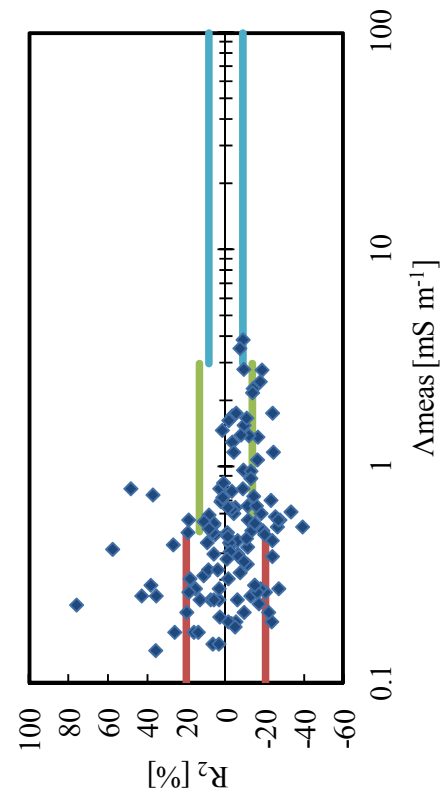


Fig. 3.46 b) Chang Mai Conductivity Agreement (R_2)
Calculated including PO_4^{3-}

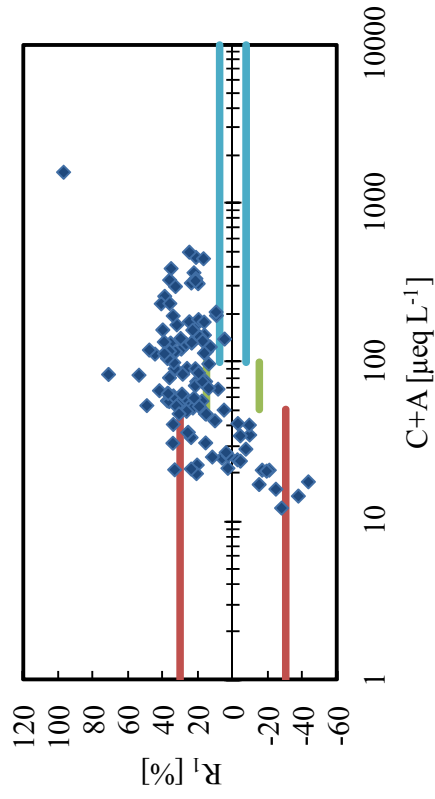


Fig. 3.47 a) Nakhon Ratchasima Ion Balance (R_1)
Calculated including PO_4^{3-}

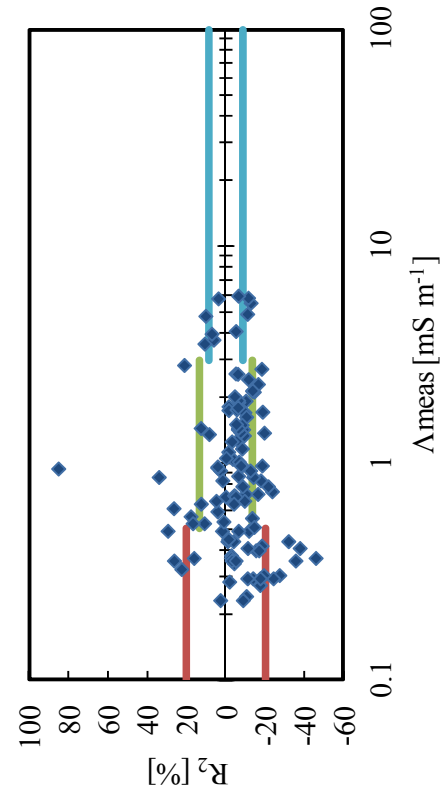


Fig. 3.47 b) Nakhon Ratchasima Conductivity Agreement (R_2)
Calculated including PO_4^{3-}

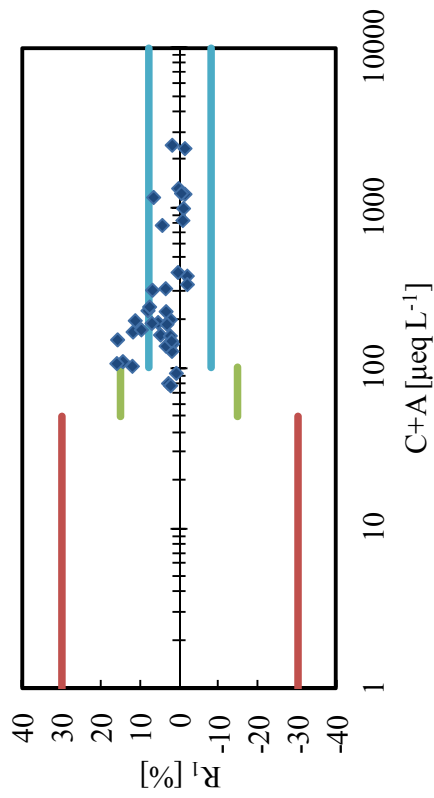


Fig. 3.48 a) Hanoi Ion Balance (R_1)

Calculated including F^-

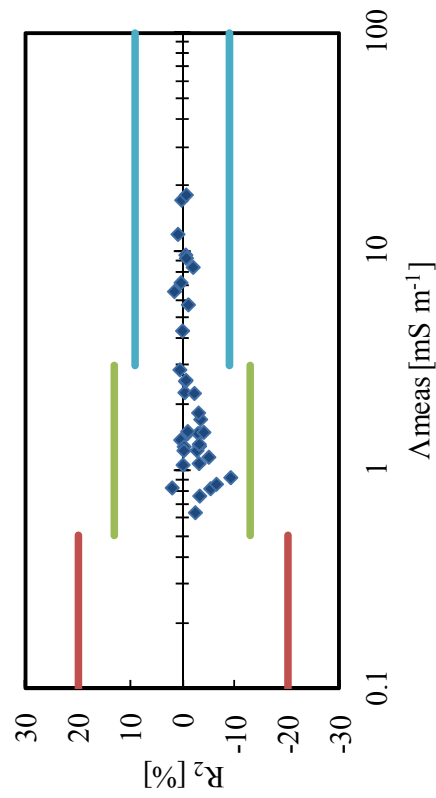


Fig. 3.48 b) Hanoi Conductivity Agreement (R_2)

Calculated including F^-

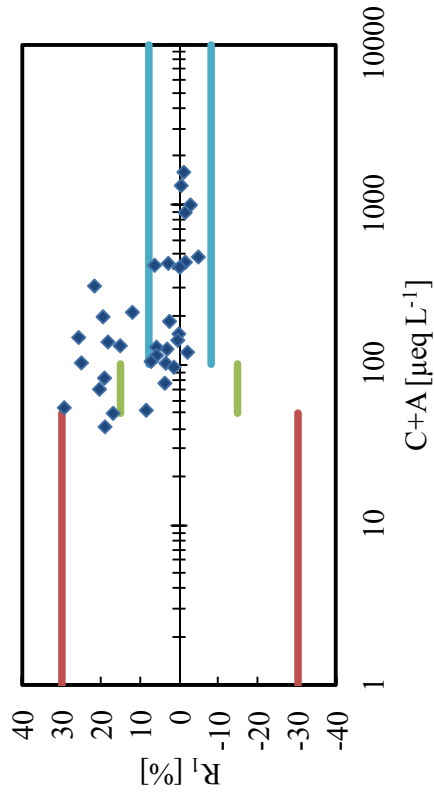


Fig. 3.49 a) Hoa Binh Ion Balance (R_1)

Calculated including F^-

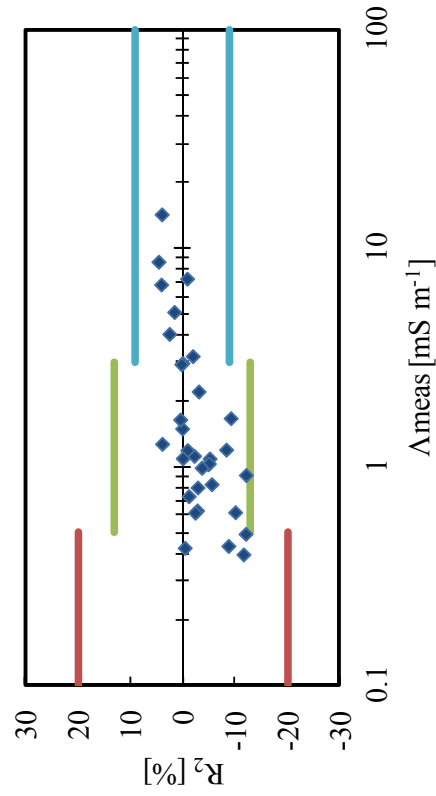


Fig. 3.49 b) Hoa Binh Conductivity Agreement (R_2)

Calculated including F^-

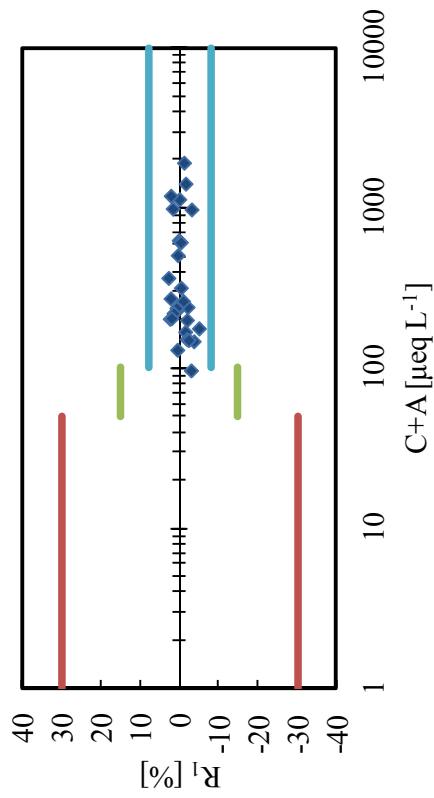


Fig. 3.50 a) Cuc Phuong Ion Balance (R_1)
Calculated including HCO_3^-

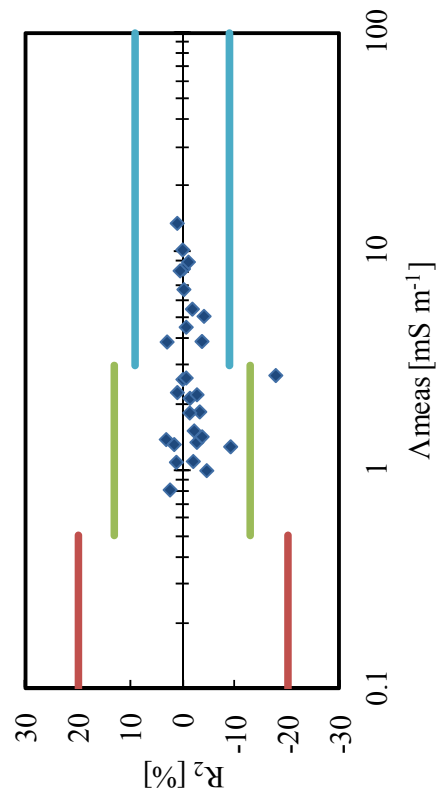


Fig. 3.50 b) Cuc Phuong Conductivity Agreement (R_2)
Calculated including HCO_3^-

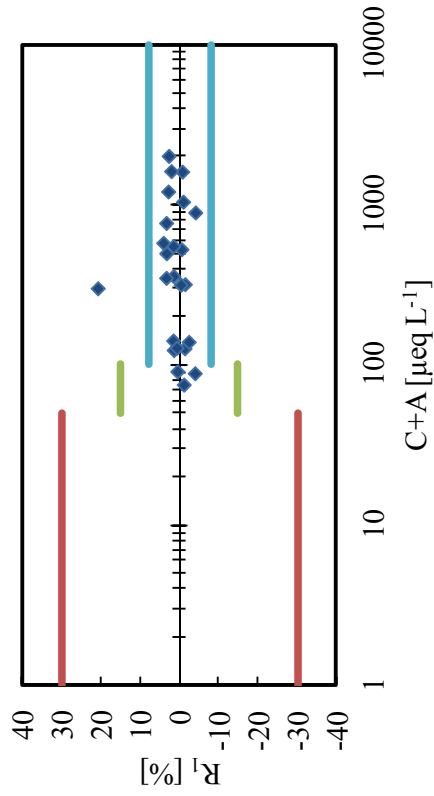


Fig. 3.51 a) Da Nang Ion Balance (R_1)
Calculated including HCO_3^-

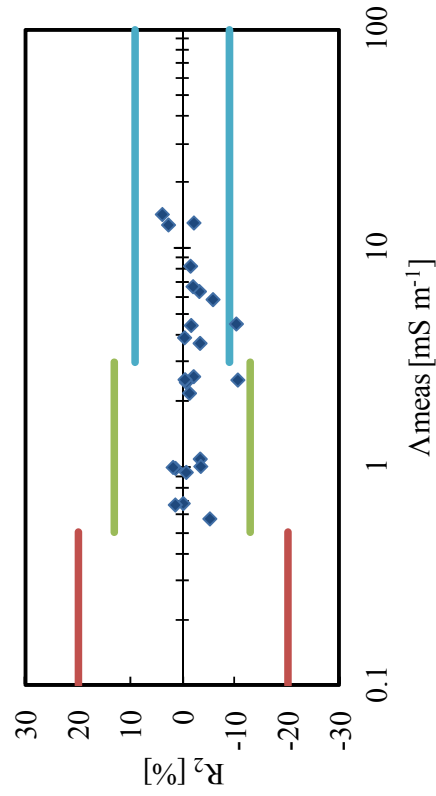


Fig. 3.51 b) Da Nang Conductivity Agreement (R_2)
Calculated including HCO_3^-

Appendix Results of the additional items in 2011

Appendix Table 1 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	19.4	13.7	9.23	7.30	6.30	5.02	6.59	4.36	5.88	5.94	8.87	19.2	7.35
	Jinyushan	10.4	17.3	7.93	4.05	3.41	3.73	5.63	5.08	6.80	5.94	8.87	19.2	6.22
	Hongwen	--	10.2	10.9	48.7	6.52	1.13	<1	2.42	8.54	--	4.42	--	3.89
	Xiaoping	--	8.58	<1	19.7	4.71	<1	5.71	2.81	8.99	6.22	<1	--	3.33
Russia	Listvyanka	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Thailand	Pathumthani	--	8.05	14.6	<1	<1	<1	<1	<1	<1	<1	**	**	2.30
Vietnam	Hanoi	18.2	5.73	7.37	4.78	3.31	1.67	2.32	1.75	1.51	2.50	9.00	4.88	2.68
	Hoa Binh	<1	35.6	3.34	6.10	2.55	1.24	1.28	<1	<1	2.00	9.37	7.11	1.61
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	0.346	0.133	0.379	0.743	0.592	0.776	0.298	0.139	0.380	0.803	0.698	0.682	5.96
	Jinyushan	0.315	0.192	0.343	0.464	0.461	0.458	0.231	0.139	0.502	0.803	0.698	0.682	5.28
	Hongwen	0.00	0.198	0.349	0.400	0.607	0.167	0.160	0.403	0.189	0.00	0.812	0.00	3.28
	Xiaoping	0.00	0.290	<0.01	0.369	1.04	0.0505	2.07	0.740	0.222	0.310	<0.01	0.00	5.10
Russia	Listvyanka	<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
Thailand	Pathumthani	0.00	0.229	2.94	0.0348	0.0480	0.0180	0.0837	0.106	0.0671	0.0654	**	**	3.59
Vietnam	Hanoi	0.153	0.103	0.787	0.191	0.528	0.689	0.648	0.479	0.403	0.417	0.274	0.261	4.87
	Hoa Binh	<0.01	0.135	0.343	0.396	0.533	0.422	0.320	0.0860	0.268	0.165	0.168	0.0590	2.84
Data completeness														%TP
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
China	Haifu	97.2	100	99.5	99.7	99.6	100	100	100	100	99.6	99.7	98.6	99.7
	Jinyushan	99.7	100	100	100	100	100	100	100	100	99.6	99.7	98.6	99.8
	Hongwen	--	100	100	100	100	100	100	100	100	--	100	--	100
	Xiaoping	--	100	100	100	100	100	100	100	100	100	100	--	100
Russia	Listvyanka	100	100	100	100	100	100	100	100	97.6	100	100	100	99.9
Thailand	Pathumthani	--	100	100	100	100	100	100	100	100	100	**	**	100
Vietnam	Hanoi	78.6	97.2	96.7	94.0	99.7	100	100	100	100	100	95.7	100	99.5
	Hoa Binh	86.8	57.9	99.6	99.1	100	100	100	100	100	100	100	100	99.8

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m^{-2} because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET
(%PCL<80% or %TP<80%)

Appendix Table 2 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	--	<1	--	<1	--	--	<1	<1	--	<1	<1	<1	<1
	Listvyanka	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Primorskaya	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Thailand	Pathumthani	--	<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
Russia	Mondy	0.00	<0.01	0.00	<0.01	0.00	0.00	<0.01	<0.01	0.00	<0.01	<0.01	<0.01	<0.01
	Listvyanka	<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
	Primorskaya	<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
Thailand	Pathumthani	0.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	**	**	<0.01
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	100
	Primorskaya	100	100	95.1	98.7	97.1	100	100	100	99.2	99.2	100	66.7	99.2
Thailand	Pathumthani	--	100	100	100	100	100	100	100	100	100	**	**	100

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m^{-2} because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET
(%PCL<80% or %TP<80%)

Appendix Table 3 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
Russia	Mondy	--	<1	--	<1	--	--	<1	<1	--	<1	<1	<1	<1
	Listvyanka	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Irkutsk	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Primorskaya	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Thailand	Pathumthani	--	<1	<1	<1	<1	<1	<1	<1	<1	1.43	**	**	<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
Russia	Mondy	0.00	<0.01	0.00	<0.01	0.00	0.00	<0.01	<0.01	0.00	<0.01	<0.01	<0.01	<0.01
	Listvyanka	<0.01	<0.01	0.0527	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0808
	Irkutsk	<0.01	<0.01	<0.01	0.0111	<0.01	<0.01	0.0187	0.0123	<0.01	0.0135	<0.01	0.0124	0.103
	Primorskaya	0.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Thailand	Pathumthani	0.00	0.0254	0.126	0.0430	0.159	0.0736	0.250	0.152	0.199	0.370	**	**	1.40
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	89.2	98.4	98.6	99.7	99.8	100	97.6	100	100	100	98.4
	Irkutsk	98.7	100	100	100	100	100	100	99.6	100	100	98.1	99.8	99.8
	Primorskaya	100	100	95.1	98.7	97.1	100	100	100	99.2	99.2	100	66.7	99.2
Thailand	Pathumthani	--	100	100	100	100	100	100	100	100	100	**	**	100

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m^{-2} because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET
(%PCL<80% or %TP<80%)

Appendix Table 4 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
Philippines	Metro Manila	59.9	*	22.0	*	16.1	<1	159	2.19	208	286	1046	1309	249
	Los Baños	*	*	*	*	<1	<1	44.4	46.6	219	45.6	*	*	52.2
Russia	Mondy	--	67.2	--	44.7	--	--	4.00	<1	--	133	13.1	26.7	21.5
	Listvyanka	2.03	26.7	2.59	<1	6.69	<1	<1	<1	<1	<1	1.23	<1	1.51
	Irkutsk	85.9	70.0	91.3	25.8	45.9	20.4	4.33	3.17	75.3	26.7	72.5	38.3	26.1
	Primorskaya	50.2	31.9	4.15	<1	16.7	2.91	1.41	<1	<1	15.4	25.5	1.79	7.83
Vietnam	Cuc Phuong	<1	<1	9.61	16.6	2.27	4.69	<1	2.90	<1	<1	<1	<1	2.35
	Da Nang	3.00	--	120	450	<1	3.10	20.0	10.00	<1	<1	<1	<1	2.17
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
Philippines	Metro Manila	9.31	*	0.193	*	5.03	<0.01	83.0	1.57	88.8	101	241	245	909
	Los Baños	*	*	*	*	<0.01	<0.01	15.9	11.1	51.7	14.5	*	*	124
Russia	Mondy	0.00	0.329	0.00	0.487	0.00	0.00	0.0792	0.0140	0.00	0.385	0.148	0.139	1.58
	Listvyanka	0.141	0.228	0.144	0.0231	0.119	<0.01	<0.01	0.0611	<0.01	<0.01	<0.01	<0.01	0.724
	Irkutsk	1.26	0.474	0.757	0.745	1.22	0.637	0.437	0.157	1.20	0.526	0.347	0.835	8.59
	Primorskaya	0.100	0.972	0.0170	0.0542	1.33	0.286	0.0602	<0.01	<0.01	0.918	1.13	<0.01	4.86
Vietnam	Cuc Phuong	<0.01	<0.01	0.968	0.546	0.129	1.82	<0.01	0.885	<0.01	<0.01	<0.01	<0.01	4.36
	Da Nang	0.481	0.00	3.74	3.60	<0.01	0.312	0.256	1.39	<0.01	<0.01	<0.01	<0.01	7.89
Data completeness %TP														
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Philippines	Metro Manila	5.2	0.0	100	0.0	54.6	98.3	57.0	56.2	87.3	75.5	100	83.1	71.5
	Los Baños	0.0	0.0	0.0	0.0	9.7	46.6	41.5	72.8	36.5	1.1	0.0	0.0	27.1
Russia	Mondy	--	100	--	100	--	--	100	100	--	100	100	100	100
	Listvyanka	100	100	100	100	100	99.7	99.8	100	100	100	100	100	99.9
	Irkutsk	100	100	100	100	100	100	100	100	100	100	100	99.8	100.0
	Primorskaya	100	100	95.1	100	97.1	100	100	100	99.2	99.2	100	66.7	99.3
Vietnam	Cuc Phuong	71.1	99.2	100	100	100	100	99.9	100	100	100	100	100	99.8
	Da Nang	100	--	62.5	87.5	99.1	99.1	75.8	99.2	100	100	100	100	99.5

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m^{-2} because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET
(%PCL<80% or %TP<80%)

Appendix Table 5 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
Malaysia	Petaling Jaya	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Tanah Rata	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Danum Valley	<1	<1	<1	<1	*	<1	<1	<1	<1	<1	<1	<1	<1
	Kuching	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Thailand	Bangkok	--	<1	23.1	25.1	4.78	<1	1.61	1.67	<1	1.06	--	--	5.43
	Samutprakarn	*	*	*	*	*	<1	<1	<1	<1	<1	--	--	<1
	Pathumthani	--	24.5	<1	2.69	5.81	3.90	<1	<1	<1	<1	**	**	1.80
	Khanchanaburi	<1	<1	17.1	<1	<1	<1	<1	<1	<1	<1	--	--	1.25
	Chiang Mai	--	--	<1	4.50	1.84	<1	<1	<1	<1	2.53	4.30	--	<1
	Nakhon Ratchasima	61.1	34.4	17.9	29.6	5.02	1.55	2.07	3.82	<1	<1	38.6	--	5.56
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
Malaysia	Petaling Jaya	<0.01	0.0580	<0.01	0.0153	0.0173	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0942
	Tanah Rata	0.0829	<0.01	<0.01	<0.01	0.0737	0.0552	0.0158	<0.01	0.0186	0.0176	0.0949	0.0244	0.385
	Danum Valley	0.0484	<0.01	<0.01	<0.01	*	0.0699	0.0388	<0.01	0.0623	0.0918	0.136	0.0996	0.753
	Kuching	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0352	<0.01	<0.01	<0.01	<0.01	<0.01	0.0482
Thailand	Bangkok	0.00	0.0589	4.17	4.71	1.02	0.208	0.519	0.406	0.107	0.350	0.00	0.00	11.8
	Samutprakarn	*	*	*	*	*	0.0472	<0.01	0.0570	0.0323	0.194	0.00	0.00	0.274
	Pathumthani	0.00	0.697	<0.01	0.186	1.30	0.426	<0.01	0.0724	0.0792	0.0546	**	**	2.82
	Khanchanaburi	<0.01	0.0946	1.76	0.0682	<0.01	0.191	0.0202	<0.01	0.0174	0.0180	0.00	0.00	2.42
	Chiang Mai	0.00	0.00	<0.01	0.396	0.585	0.0377	<0.01	0.0319	0.269	0.238	0.0249	0.00	1.58
	Nakhon Ratchasima	0.0733	1.88	1.33	2.51	0.754	0.315	0.365	0.645	0.200	0.193	0.139	0.00	8.38
Data completeness %TP														
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Malaysia	Petaling Jaya	100	100	100	100	100	99.5	99.7	100	98.4	100	100	100	99.9
	Tanah Rata	100	99.1	100	100	100	100	84.2	100	97.9	100	100	100	99.3
	Danum Valley	100	100	60.8	16.4	0.0	87.7	100	49.9	79.2	92.4	93.3	98.6	67.9
	Kuching	100	100	100	100	100	100	100	100	100	100	100	100	100
Thailand	Bangkok	--	99.0	100	100	89.6	99.6	99.4	100	98.6	87.0	--	--	96.6
	Samutprakarn	0.0	0.0	0.0	0.0	0.0	99.9	68.2	95.4	99.2	15.7	--	--	61.6
	Pathumthani	--	100	100	100	100	100	100	100	100	100	**	**	100
	Khanchanaburi	100	100	96.7	86.7	88.5	80.7	89.8	76.1	86.9	66.8	--	--	85.5
	Chiang Mai	--	--	100	100	100	100	99.9	100	100	100	100	--	100.0
	Nakhon Ratchasima	100	98.2	100	100	100	100	100	100	100	100	100	--	99.9

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m^{-2} because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET

(%PCL<80% or %TP<80%)

Appendix Table 6 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
Malaysia	Petaling Jaya	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Tanah Rata	<1	<1	<1	<1	<1	3.92	<1	<1	<1	<1	<1	2.92	<1
	Danum Valley	<1	<1	<1	<1	*	<1	<1	<1	<1	3.47	<1	1.23	<1
	Kuching	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Thailand	Bangkok	--	<1	12.7	14.7	1.66	1.51	1.96	1.80	1.37	1.59	--	--	3.73
	Samutprakarn	*	*	*	*	*	<1	<1	<1	1.19	1.52	--	--	<1
	Pathumthani	--	17.0	<1	1.74	6.38	5.47	6.96	24.7	2.07	<1	**	**	6.22
	Khanchanaburi	1.52	2.30	7.10	1.60	<1	1.76	<1	<1	<1	<1	--	--	1.22
	Chiang Mai	--	--	<1	10.6	1.53	<1	<1	<1	<1	<1	1.71	--	1.03
	Nakhon Ratchasima	45.2	22.9	26.2	24.3	5.09	1.66	2.93	3.06	<1	1.91	37.0	--	5.52
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
Malaysia	Petaling Jaya	0.112	<0.01	<0.01	0.0138	0.0314	<0.01	0.0137	<0.01	0.0177	0.0137	<0.01	0.0138	0.229
	Tanah Rata	0.123	<0.01	<0.01	0.107	0.115	0.521	0.0192	0.0828	0.0426	0.0615	0.113	0.594	1.80
	Danum Valley	0.0548	0.0146	<0.01	0.125	*	0.0289	0.0804	0.0931	0.120	0.813	0.114	0.468	2.44
	Kuching	<0.01	0.0641	<0.01	0.0107	0.0141	<0.01	<0.01	<0.01	<0.01	0.0276	0.0143	0.0760	0.219
Thailand	Bangkok	0.00	0.0360	2.30	2.77	0.354	0.439	0.632	0.438	0.452	0.525	0.00	0.00	8.10
	Samutprakarn	*	*	*	*	*	0.0869	0.0438	0.178	0.314	0.378	0.00	0.00	1.06
	Pathumthani	0.00	0.483	0.113	0.121	1.43	0.597	1.81	4.62	0.460	0.0788	**	**	9.72
	Khanchanaburi	0.0160	0.231	0.732	0.110	0.144	0.651	0.246	0.0315	0.0440	0.0568	0.00	0.00	2.37
	Chiang Mai	0.00	0.00	0.0400	0.932	0.486	0.0423	0.0156	<0.01	0.0681	0.0732	<0.01	0.00	1.67
	Nakhon Ratchasima	0.0542	1.25	1.96	2.06	0.766	0.337	0.515	0.516	0.330	0.422	0.133	0.00	8.33
Data completeness %TP														
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Malaysia	Petaling Jaya	100	100	100	100	100	99.5	99.7	100	98.4	100	100	100	99.9
	Tanah Rata	100	99.1	100	100	100	100	84.2	100	97.9	100	100	100	99.3
	Danum Valley	100	100	60.8	16.4	0.0	87.7	100	49.9	79.2	92.4	93.3	98.6	67.9
	Kuching	100	100	100	100	100	100	100	100	100	100	100	100	100
Thailand	Bangkok	--	99.0	100	100	89.6	99.6	99.4	100	98.6	87.0	--	--	96.6
	Samutprakarn	0.0	0.0	0.0	0.0	0.0	99.9	68.2	95.4	99.2	15.7	--	--	61.6
	Pathumthani	--	100	100	100	100	100	100	100	100	100	**	**	100
	Khanchanaburi	100	100	96.7	86.7	88.5	80.7	89.8	76.1	86.9	66.8	--	--	85.5
	Chiang Mai	--	--	100	100	100	100	99.9	100	100	100	100	--	100.0
	Nakhon Ratchasima	100	98.2	100	100	100	100	100	100	100	100	100	--	99.9

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m^{-2} because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET

(%PCL<80% or %TP<80%)

Appendix Table 7 Concentration, deposition and data completeness of Oxalic 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
Malaysia	Petaling Jaya	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Tanah Rata	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Danum Valley	<1	<1	<1	<1	*	<1	<1	<1	<1	<1	<1	<1	<1
	Kuching	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Thailand	Pathumthani	--	3.08	1.81	<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
Malaysia	Petaling Jaya	<0.01	0.0190	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0355
	Tanah Rata	0.0467	<0.01	0.0281	0.0155	0.0160	0.0279	0.0209	0.0163	<0.01	<0.01	<0.01	<0.01	0.192
	Danum Valley	<0.01	<0.01	<0.01	0.221	*	0.0351	0.0158	0.0792	0.0168	<0.01	0.0312	0.0655	0.351
	Kuching	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0114
Thailand	Pathumthani	0.00	0.0874	0.365	0.0597	0.163	0.0993	0.187	0.139	0.0995	0.215	**	**	1.41
Data completeness %TP														
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Malaysia	Petaling Jaya	100	100	100	100	100	99.5	99.7	100	98.4	100	100	100	99.9
	Tanah Rata	100	99.1	100	100	100	100	84.2	100	97.9	100	100	100	99.3
	Danum Valley	100	100	60.8	16.4	0.0	87.7	100	49.9	79.2	92.4	93.3	98.6	67.9
	Kuching	100	100	100	100	100	100	100	100	100	100	100	100	100
Thailand	Pathumthani	--	100	100	100	100	100	100	100	100	100	**	**	100

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m^{-2} because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET
(%PCL<80% or %TP<80%)

Appendix Table 8 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
Philippines	Metro Manila	*	*	*	*	*	*	*	8.04	11.7	*	255	71.1	64.6
	Los Baños	*	*	4.39	*	*	2.83	*	8.27	25.1	39.4	6.65	*	12.9
Thailand	Bangkok	--	<1	<1	<1	<1	<1	<1	<1	<1	<1	--	--	<1
	Samutprakarn	*	*	*	*	*	<1	<1	<1	<1	<1	--	--	<1
	Pathumthani	--	<1	<1	<1	<1	<1	<1	<1	<1	<1	**	**	<1
	Khanchanaburi	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	--	--	<1
	Chiang Mai	--	--	<1	<1	<1	<1	<1	<1	<1	<1	<1	--	<1
	Nakhon Ratchasima	1.05	<1	<1	<1	<1	<1	<1	<1	<1	<1	1.40	--	<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
Philippines	Metro Manila	*	*	*	*	*	*	*	5.77	5.00	*	58.8	13.3	236
	Los Baños	*	*	0.225	*	*	1.33	*	1.97	5.94	12.5	1.69	*	30.8
Thailand	Bangkok	0.00	<0.01	0.0140	0.0235	<0.01	0.0186	0.0316	<0.01	<0.01	<0.01	0.00	0.00	0.101
	Samutprakarn	*	*	*	*	*	<0.01	<0.01	<0.01	0.0633	<0.01	0.00	0.00	0.111
	Pathumthani	0.00	0.0116	0.0364	0.0278	0.0139	<0.01	0.118	<0.01	0.0146	<0.01	**	**	0.239
	Khanchanaburi	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0225	0.0256	0.00	0.00	0.0442
	Chiang Mai	0.00	0.00	<0.01	<0.01	0.0281	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.00	0.0385
	Nakhon Ratchasima	<0.01	<0.01	0.0343	0.0388	0.0269	<0.01	0.0253	<0.01	<0.01	0.0693	<0.01	0.00	0.211
Data completeness %TP														
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Philippines	Metro Manila	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.4	18.1	0.0	14.3	1.2	4.1
	Los Baños	0.0	0.0	6.2	0.0	0.0	6.4	0.0	73.6	19.7	15.0	43.1	0.0	17.3
Thailand	Bangkok	--	99.0	100	100	89.6	99.6	99.4	100	98.6	87.0	--	--	96.6
	Samutprakarn	0.0	0.0	0.0	0.0	0.0	99.9	68.2	95.4	99.2	15.7	--	--	61.6
	Pathumthani	--	100	100	100	100	100	100	100	100	100	**	**	100
	Khanchanaburi	100	100	96.7	86.7	88.5	80.7	89.8	76.1	86.9	66.8	--	--	85.5
	Chiang Mai	--	--	100	100	100	100	99.9	100	100	100	100	--	100.0
	Nakhon Ratchasima	100	98.2	100	100	100	100	100	100	100	100	100	--	99.9

[--] for averages and completeness: Precipitation was 0mm.

[0.00] for deposition: The deposition was 0 mmol m^{-2} because precipitation was 0 mm.

[*] for averages and deposition: The constituent was not measured although precipitation was not 0 mm. (%TP=0%)

[**] for all: Precipitation was not measured. (%PCL=0%)

Data in hatched column for averages and deposition: Rejected monthly (annual) value by the criteria of EANET
(%PCL<80% or %TP<80%)

CHAPTER 4

Dry Deposition Monitoring

(Air Concentration)

4. Dry Deposition (Air Concentration) Monitoring

4.1 Method

Automatic monitoring, filter pack sampling and passive sampling methods were used to implement the dry deposition (air concentration) monitoring in 2011. The monitoring items were selected, taking into account the priority chemical species defined in the “Strategy Paper for Future Direction of Dry Deposition Monitoring of EANET (Second Edition, 2005; 2011-2015 Edition, 2010)”.

4.1.1 Automatic Monitoring Method

In the “Strategy Paper for Future Direction of Dry Deposition Monitoring of EANET (Second Edition and 2011-2015 Edition)”, it was mentioned that the first priority chemical species of SO₂, NO, NO₂ (at urban sites), O₃, and PM₁₀ and the second priority chemical species of NO₂ (at rural and remote sites) and PM_{2.5} were monitored by automatic monitoring methods. The quality assurance/quality control (QA/QC) for automatic monitoring methods is described in the “QA/QC Program for the Air Concentration Monitoring in East Asia (2001)”.

4.1.2 Filter Pack Method

The filter pack method was 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 first priority chemical species in EANET.

The “Technical Document of Filter Pack Monitoring in East Asia” was endorsed at the Third Session of the Science Advisory Committee (SAC3) held in November 2003. The recommended monitoring method by means of the four-stage filter pack was explained in the technical document. Basic specifications of the four-stage filter pack method are shown in [Fig. 4.1](#).

4.1.3 Monitoring Sites

The measurement methods and parameters at each monitoring site for dry deposition (air concentration) monitoring in 2011 are shown in [Table 4.1](#). Automatic monitors were used in China, Japan, Republic of Korea, Russia and Thailand. The individual methods adopted at each site are shown in [Table 4.2](#).

The filter pack methods were used in Cambodia, China, Indonesia, Japan, Lao PDR,

Malaysia, Mongolia, Myanmar, Philippines, Republic of Korea, Russia, Thailand and Vietnam in 2011.

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_2CO_3 + 2% glycerin	SO_2 , HCl
4 th (F3)	Impregnated cellulose filter Solution: 5% H_3PO_4 + 2% glycerin	NH_3



Sampling on site

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



Pretreatment of filter pack

Stage	Solvent	Extracted species
F0	Extracted with 20 mL of deionized water	SO_4^{2-} , NO_3^- , Cl^- , NH_4^+ , Na^+ , K^+ , Mg^{2+} , Ca^{2+}
F1	Extracted with 20 mL of deionized water	SO_4^{2-} , NO_3^- , Cl^- , NH_4^+
F2	Extracted with 20mL of 0.05% H_2O_2	SO_4^{2-} , Cl^-
F3	Extracted with 20mL of deionized water	NH_4^+



Chemical analysis

By ion chromatography or other suitable analytical methods

Fig. 4.1 Specification of the four-stage filter pack method

Table 4.1 Sampling methods and parameters for dry deposition (air concentration) monitoring in 2011

Country	Name of sites	Characteristics of sites	Method	Parameter
Cambodia	Phnom Penh	Urban	FP	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC
China	Chongqing	Rural	AT	SO ₂ , NO, NO _x *, PM ₁₀
	- Jinyunshan			
	Xiamen	Urban	AT FP	SO ₂ , NO ₂ , PM ₁₀ HNO ₃ , HCl, NH ₃ , PMC
	- Hongwen			
	Zhuhai	Urban	AT	SO ₂ , NO ₂ , PM ₁₀
	- Xiang Zhou			
Indonesia	Jakarta	Urban	PS	SO ₂ , NO ₂
	Serpong	Rural	FP	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC
	Kototabang	Remote	PS	SO ₂ , NO ₂
	Bandung	Urban	PS	SO ₂ , NO ₂
Japan	Rishiri	Remote	AT FP	SO ₂ , NO, NO _x *, O ₃ , PM _{10/2.5} HNO ₃ , HCl, NH ₃ , PMC
	Ochiichi	Remote	AT FP	SO ₂ , NO, NO _x *, O ₃ , PM _{10/2.5} HNO ₃ , HCl, NH ₃ , PMC
	Tappi	Remote	AT FP	SO ₂ , NO, NO _x *, O ₃ , PM ₁₀ HNO ₃ , HCl, NH ₃ , PMC
	Sado-seki	Remote	AT FP	SO ₂ , NO, NO _x *, O ₃ , PM ₁₀ HNO ₃ , HCl, NH ₃ , PMC
	Happo	Remote	AT FP	SO ₂ , NO, NO _x *, O ₃ , PM ₁₀ HNO ₃ , HCl, NH ₃ , PMC
	Ijira	Rural	AT FP	SO ₂ , NO, NO _x *, O ₃ , PM ₁₀ HNO ₃ , HCl, NH ₃ , PMC
	Oki	Remote	AT FP	SO ₂ , NO, NO _x *, O ₃ , PM _{10/2.5} HNO ₃ , HCl, NH ₃ , PMC
	Banryu	Urban	AT FP	SO ₂ , NO, NO ₂ , NO _x , O ₃ , PM ₁₀ HNO ₃ , HCl, NH ₃ , PMC
	Yusuhara	Remote	AT FP	SO ₂ , NO, NO _x *, O ₃ , PM ₁₀ HNO ₃ , HCl, NH ₃ , PMC
	Hedo	Remote	AT FP	SO ₂ , NO, NO _x *, O ₃ , PM ₁₀ HNO ₃ , HCl, NH ₃ , PMC
	Ogasawara	Remote	AT FP	SO ₂ , NO, NO _x *, O ₃ , PM ₁₀ HNO ₃ , HCl, NH ₃ , PMC
	Tokyo	Urban	FP	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC
Lao PDR	Vientiane	Urban	FP	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC
Malaysia	Tanah Rata	Remote	FP	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC
	Petaling Jaya	Urban	FP	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC
	Danum Valley	Remote	FP	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC
Mongolia	Ulaanbaatar	Urban	FP	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC
	Terelj	Remote	FP	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC
Myanmar	Yangon	Urban	FP	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC

Table 4.1 Sampling methods and parameters for dry deposition (air concentration) monitoring in 2011 (continued)

Country	Name of sites	Characteristics of sites	Method	Parameter
Philippines	Metro Manila	Urban	FP	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC
	Los Banos	Rural	FP	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC
	Mt. Sto. Tomas	Remote	FP	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC
Republic of Korea	Kanghwa	Rural	AT	SO ₂ , NO ₂ , O ₃ , PM ₁₀
			FP	HNO ₃ , HCl, NH ₃ , PMC in PM _{2.5}
	Cheju (Kosan)	Remote	AT	SO ₂ , NO ₂ , O ₃ , PM ₁₀
			FP	HNO ₃ , HCl, NH ₃ , PMC in PM _{2.5}
	Imsil	Rural	AT	SO ₂ , NO ₂ , O ₃ , PM ₁₀
			FP	HNO ₃ , HCl, NH ₃ , PMC in PM _{2.5}
Russia	Mondy	Remote	AT	O ₃
			FP	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC
	Listvyanka	Rural	FP	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC
	Irkutsk	Urban	FP	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC
	Primorskaya	Rural	FP	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC
Thailand	Bangkok	Urban	AT	SO ₂ , NO, NO ₂ , NO _x , O ₃ , PM ₁₀
			FP	HNO ₃ , HCl, NH ₃ , PMC
	Samutprakarn	Urban	AT	SO ₂ , NO, NO ₂ , NO _x , O ₃ , PM ₁₀
	Pathumthani	Rural	FP	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC
	Khanchanaburi (Vachiralongkorn Dam)	Remote	AT	SO ₂ , NO, NO _x *, O ₃ , PM ₁₀
			FP	HNO ₃ , HCl, NH ₃ , PMC
	Chiang Mai (Mae Hia)	Rural	AT	SO ₂ , NO, NO _x *, O ₃ , PM ₁₀
			FP	HNO ₃ , HCl, NH ₃ , PMC
	Nakhon Ratchasima	Rural	FP	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC
Vietnam	Hanoi	Urban	FP	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC
	Hoa Binh	Rural	FP	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC

(Note 1) AT: Automatic monitor, PS: Passive sampler, FP: Filter pack, PMC: particulate matter components.

(Note 2) NO_x*: NO_x measured by CLD in remote or rural sites.

(Note 3) Monitoring by filter pack method started at Yangon in November, 2011.

(Note 4) Intensive monitoring was implemented for 2 weeks and 3 times per year at Khanchanaburi (Vachiralongkorn Dam) due to availability of monitoring in remote area.

Table 4.2 Methods of automatic monitors in 2011

Country	Sites	Parameter			
		SO ₂	NO _x	O ₃	PM ₁₀ (PM _{2.5})
China	Jinyunshan	UVF	CLD	–	β-ray
	Hongwen	DOAS	DOAS	–	TEOM
	Xianzhou	DOAS	DOAS	–	TEOM
Japan	Rishiri	UVF	CLD	UVP	β-ray (TEOM)
	Ochiishi	UVF	CLD	UVP	β-ray (β-ray)
	Tappi	UVF	CLD	UVP	TEOM
	Sado-seki	UVF	CLD	UVP	TEOM
	Happo	UVF	CLD	UVP	β-ray
	Ijira	UVF	CLD	UVP	TEOM
	Oki	UVF	CLD	UVP	TEOM (TEOM)
	Banryu	UVF	CLD	UVP	TEOM
	Yusuhara	UVF	CLD	UVP	β-ray
	Hedo	UVF	CLD	UVP	β-ray
	Ogasawara	UVF	CLD	UVP	β-ray
Republic of Korea	Kanghwa	UVF	CLD	UVP	β-ray
	Cheju (Kosan)	UVF	CLD	UVP	β-ray
	Imsil	UVF	CLD	UVP	β-ray
Russia	Mondy	–	–	UVP	–
Thailand	Bangkok	UVF	CLD	UVP	TEOM
	Samutprakarn	UVF	CLD	UVP	–
	Khanchanaburi	UVF	CLD	UVP	β-ray
	Chiang Mai	UVF	CLD	UVP	TEOM

(Note) UVF: Ultraviolet fluorescent method, CLD: Chemiluminescence detection method, UVP: Ultraviolet photometric method, β-ray: β-ray absorption method, TEOM: Tapered element oscillating microbalance 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 monthly basis. Summarized data are presented in [Table 4.3](#) through [Table 4.20](#).

In these tables, terms and abbreviations indicate the followings:

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 days term data,
Min-10d	: minimum values of 10 days term data,
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,
%	: monthly or annual percentages of period of available data,

For information on long-term trends of air concentrations, annual averages of gases and particulate matter concentrations from 2000 to 2011 are summarized in [Table 4.21](#) through [Table 4.38](#).

In the [Table 4.3](#) through [Table 4.38](#), ppb unit is used for gases and $\mu\text{g}/\text{m}^3$ unit for particulate matter. 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 4.39](#).

Reporting limits for individual species depend on specification of instrument or procedures of sampling and analysis. The NC set up the reporting limits as shown in [Table 4.40](#) 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 filter pack method, the 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 since 2003.

Regarding 2011 data, the monitoring data in Republic of Korea will be described in Data Report 2012 because of the late submission. All species in Lao PDR and Philippines and NO_2 at Jakarta and Kototabang could not be reported because of malfunction of analytical and monitoring instruments at their sites.

Table 4.3 SO₂

Unit : ppb			2011												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Cambodia	Phnom Penh	Mean	1.6	1.9	1.4	1.4	1.5	1.5	1.3	1.2	1.2	0.6	1.1	1.1	1.3
		%	100	100	76	100	100	100	100	100	69	100	100	100	94
		Max-2w	1.9	2.0	1.5	1.5	1.8	1.5	1.3	1.3	1.2	1.0	1.3	1.5	2.0
		Min-2w	1.3	1.8	1.4	1.3	1.3	1.4	1.3	1.1	1.2	0.3	1.0	0.7	0.3
China	Jinyunshan	Mean	8.6	7.3	12.0	9.4	6.1	5.3	8.6	11.8	9.9	8.5	10.3	13.8	9.3
		%	100	97	100	100	100	100	100	100	100	100	100	100	100
		Max-d	19.5	21.8	23.6	19.1	12.0	10.9	14.6	21.0	19.5	14.3	18.8	40.1	40.1
		Min-d	3.4	1.1	4.1	2.6	1.5	2.3	2.6	4.1	4.5	3.0	5.6	4.9	1.1
	Hongwen	Mean	5.6	4.9	6.1	6.2	4.5	3.4	3.5	4.8	5.4	7.8	8.0	9.8	5.8
		%	97	97	100	100	100	100	100	97	100	94	100	100	99
		Max-d	11.6	7.9	8.6	9.4	8.6	5.6	6.4	9.4	9.8	12.0	16.1	15.4	16.1
		Min-d	3.0	3.0	3.8	4.1	3.0	2.3	2.3	2.6	3.8	3.8	3.0	4.9	2.3
	Xiang Zhou	Mean	17.5	5.9	6.3	3.5	3.6	2.8	2.4	3.4	2.8	3.6	3.9	10.7	5.6
		%	100	97	100	100	100	100	100	100	100	100	100	100	100
		Max-d	42.8	13.1	13.5	10.5	10.5	5.6	5.6	9.4	6.4	10.5	7.9	25.9	42.8
		Min-d	7.5	2.6	3.0	1.9	1.5	1.5	0.8	1.5	0.8	1.1	0.8	4.1	0.8
Indonesia	Jakarta	Mean	4.9	2.5	4.7	4.3	3.2	4.7	4.1	5.5	1.4	7.1	10.7	4.2	5.0
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	7.0	5.5	8.0	8.2	4.9	6.4	5.6	10.5	2.0	9.3	26.7	4.9	26.7
		Min-w	1.2	0.4	3.0	2.2	<0.1	3.5	2.6	1.3	0.8	5.0	3.9	3.8	<0.1
	Serpong	Mean	1.5	1.4	0.8	1.4	0.9	2.0	0.5	3.0	1.7	3.2	0.9	0.3	1.4
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	1.7	1.5	1.0	2.0	1.2	2.1	0.6	3.3	2.5	3.7	1.3	0.4	3.7
		Min-2w	1.3	1.3	0.6	0.8	0.6	1.9	0.4	2.8	1.0	2.8	0.4	0.3	0.3
	Kototabang	Mean	4.8	4.6	1.4	1.3	2.1	1.9	0.7	1.1	2.3	2.5	0.9	1.2	2.2
		%	100	100	100	100	100	100	20	100	100	100	100	100	92
		Max-w	6.2	7.5	1.6	1.4	2.5	2.5	0.7	1.2	3.3	6.0	1.4	2.6	7.5
		Min-w	0.7	3.3	1.2	1.1	1.4	1.1	0.7	1.0	1.6	0.5	<0.1	0.7	<0.1
	Bandung	Mean	3.5	2.7	3.8	4.8	5.4	5.5	4.4	3.4	4.5	4.0	3.6	2.9	4.0
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-m	3.5	2.7	3.8	4.8	5.4	5.5	4.4	3.4	4.5	4.0	3.6	2.9	5.5
		Min-m	3.5	2.7	3.8	4.8	5.4	5.5	4.4	3.4	4.5	4.0	3.6	2.9	2.7
Japan	Rishiri	Mean	0.2	0.7	0.3	0.1	0.1	0.1	<0.1	<0.1	<0.1	0.1	0.3	0.2	0.2
		%	98	99	91	98	97	98	63	98	84	98	98	98	93
		Max-d	0.5	3.2	0.8	1.5	2.1	1.0	0.6	0.2	<0.1	0.5	2.1	0.9	3.2
		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
	Ochiishi	Mean	0.2	0.3	0.2	0.1	0.1	<0.1	<0.1	<0.1	0.1	0.1	0.2	0.2	0.1
		%	98	98	97	97	92	94	97	99	97	99	96	98	97
		Max-d	0.4	0.7	0.6	0.6	0.5	0.5	0.2	0.3	0.4	0.4	0.7	1.2	1.2
		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
	Tappi	Mean	-	-	-	-	-	-	-	0.3	0.4	0.2	0.5	0.5	0.4
		%	0	0	0	0	0	0	0	91	99	93	98	98	40
		Max-d	-	-	-	-	-	-	-	1.2	1.1	0.8	1.8	2.7	2.7
		Min-d	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Sado-seki	Mean	0.6	1.1	0.6	0.5	0.4	0.2	0.2	0.2	0.2	0.2	0.4	0.4	0.4
		%	98	98	98	98	98	98	85	98	98	98	97	98	97
		Max-d	5.2	6.3	2.7	2.8	2.6	0.6	0.7	0.4	0.8	1.2	1.6	1.9	6.3
		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
	Happo	Mean	0.6	1.0	0.8	0.6	0.4	0.2	<0.1	0.1	0.2	0.4	0.3	0.4	0.4
		%	98	99	98	100	100	83	100	100	100	100	100	100	98
		Max-d	5.4	5.6	3.8	2.6	2.0	0.7	0.2	0.4	0.9	1.8	1.0	2.2	5.6
		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
	Ijira	Mean	0.1	0.3	0.3	0.3	0.3	0.1	0.1	0.1	0.1	0.1	<0.1	<0.1	0.2
		%	99	99	99	99	99	99	99	99	99	99	94	94	98
		Max-d	0.6	0.9	2.0	1.1	1.0	0.4	0.6	0.4	0.5	0.4	0.6	0.6	2.0
		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
	Oki	Mean	1.0	1.5	1.0	0.7	0.5	0.3	0.3	0.1	0.2	0.4	0.4	0.7	0.6
		%	98	98	97	98	98	98	97	97	98	98	99	85	97
		Max-d	6.3	8.4	3.1	1.8	2.5	1.2	0.9	0.5	1.2	2.1	3.0	4.0	8.4
		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
	Banryu	Mean	0.8	1.1	0.9	0.8	0.4	0.3	0.2	0.1	0.2	0.3	0.5	0.5	0.5
		%	98	98	98	98	98	98	98	98	98	99	98	85	97
		Max-d	3.4	3.3	2.2	1.9	1.7	0.7	0.8	0.4	0.8	1.1	2.8	1.8	3.4
		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
	Yusuhara	Mean	1.4	1.8	1.4	1.4	0.8	0.6	0.4	0.4	0.2	0.7	1.0	1.1	0.9
		%	98	98	98	98	98	98	98	90	96	98	98	98	97
		Max-d	3.9	10.0	3.9	3.7	3.6	2.3	1.5	1.3	0.9	3.5	5.0	5.8	10.0
		Min-d	0.2	0.1	0.3	0.2	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Hedo	Mean	0.5	0.3	0.9	0.3	0.1	<0.1	<0.1	<0.1	<0.1	0.4	0.1	0.2	0.3
		%	96	77	98	98	97	98	76	95	82	69	98	98	90
		Max-d	3.3	2.1	4.7	1.3	1.3	0.1	0.2	0.2	0.1	0.6	0.8	0.6	4.7
		Min-d	<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
	Ogasawara	Mean	0.2	<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	96	98	96	98	96	96	98	97	97	98	98	97
		Max-d	1.4	0.9	0.9	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.4	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
	Tokyo	Mean	1.2	1.8	1.3	1.7	1.5	2.3	2.9	2.0	1.8	0.9	1.0	1.1	1.6
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	1.3	1.8	1.6	1.9	1.7	2.3	4.2	2.7	2.1	1.2	1.1	1.2	4.2
		Min-2w	1.2	1.8	1.1	1.6	1.4	2.3	1.5	1.4	1.5	0.6	1.0	1.0	0.6

Table 4.3 SO₂

Unit : ppb			2011												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Malaysia	Tanah Rata	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-w	<0.1	<0.1	<0.1	<0.1	0.3	0.2	0.2	<0.1	0.1	<0.1	<0.1	<0.1	0.3
		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
	Petaling Jaya	Mean	1.5	1.9	2.9	1.9	1.9	3.0	1.8	2.7	1.7	2.1	1.2	1.8	2.0
		%	100	100	100	100	100	100	100	100	100	100	100	80	98
		Max-w	2.5	2.6	3.9	2.6	3.5	4.0	2.0	4.0	2.4	2.4	1.9	3.0	4.0
		Min-w	0.8	0.7	1.9	1.1	0.2	1.8	1.4	2.1	1.0	1.8	0.6	1.0	0.2
	Danum Valley	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	<0.1	<0.1	0.2	<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
Mongolia	Ulaanbaatar	Mean	19.3	15.5	8.0	2.8	2.2	1.8	1.9	1.5	2.0	3.1	5.4	10.4	6.1
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	24.5	19.2	15.7	3.1	2.9	2.2	2.1	1.6	2.6	4.1	6.9	12.6	24.5
		Min-w	14.3	9.7	3.8	2.7	1.3	1.0	1.4	1.4	1.5	1.9	3.4	8.1	1.0
	Terelj	Mean	1.9	2.5	0.8	0.6	0.3	0.3	0.3	0.2	0.2	0.2	0.4	1.0	0.7
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	2.4	3.1	1.5	0.6	0.3	0.3	0.3	0.2	0.2	0.3	0.5	1.2	3.1
		Min-2w	1.5	1.8	0.4	0.6	0.3	0.3	0.3	0.1	<0.1	<0.1	0.3	0.8	<0.1
Myanmar	Yangon	Mean	†	†	†	†	†	†	†	†	†	†	1.7	1.4	1.6
		%	†	†	†	†	†	†	†	†	†	†	68	100	13
		Max-2w	†	†	†	†	†	†	†	†	†	†	1.9	1.7	1.9
		Min-2w	†	†	†	†	†	†	†	†	†	†	1.4	1.1	1.1
Russia	Mondy	Mean	-	0.1	0.2	<0.1	0.2	0.1	0.1	0.1	<0.1	0.2	<0.1	<0.1	0.1
		%	0	100	100	100	100	100	100	100	100	100	100	100	91
		Max-2w	-	0.1	0.2	<0.1	0.2	0.2	0.2	0.1	<0.1	0.3	<0.1	<0.1	0.3
		Min-2w	-	0.1	0.2	<0.1	0.1	0.1	<0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1
	Listvianka	Mean	9.4	8.1	4.0	1.4	1.2	0.3	0.5	0.5	1.4	1.2	2.8	3.8	2.8
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	15.7	10.8	5.5	2.6	2.9	0.4	0.8	1.1	2.3	1.7	4.6	5.5	15.7
		Min-w	6.4	3.4	2.5	0.3	0.3	0.1	0.2	0.2	0.5	0.4	0.8	1.8	0.1
	Irkutsk	Mean	5.8	16.4	7.4	4.4	1.3	0.8	0.7	1.8	4.7	5.7	9.7	10.8	5.6
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	11.0	20.6	13.4	6.2	2.2	1.3	1.5	3.8	9.3	8.4	15.9	22.2	22.2
		Min-w	3.1	12.2	4.1	2.7	0.6	0.1	<0.1	0.4	0.5	2.8	5.3	3.3	<0.1
	Primorskaya	Mean	3.9	3.2	1.3	0.5	0.2	0.3	0.9	0.6	0.3	0.5	0.9	1.6	1.2
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	4.3	3.7	1.9	0.8	0.3	0.4	1.1	1.1	0.4	0.7	1.0	1.7	4.3
		Min-2w	3.5	2.6	0.7	0.2	0.2	0.3	0.6	0.1	0.2	0.2	0.7	1.4	0.1
Thailand	Bangkok	Mean	4.5	2.4	1.8	1.0	1.0	0.3	<0.1	-	-	-	-	-	1.6
		%	100	100	100	100	100	100	100	0	0	0	0	0	58
		Max-d	10.0	3.0	2.0	1.0	1.0	1.0	<0.1	-	-	-	-	-	10.0
		Min-d	3.0	2.0	1.0	1.0	1.0	<0.1	<0.1	-	-	-	-	-	<0.1
	Samutprakarn	Mean	4.7	1.3	0.9	-	-	-	-	-	-	-	-	-	2.6
		%	69	45	57	0	0	0	0	0	0	0	0	0	14
		Max-d	8.2	2.0	4.5	-	-	-	-	-	-	-	-	-	8.2
		Min-d	3.4	<0.1	<0.1	-	-	-	-	-	-	-	-	-	<0.1
	Pathumthani	Mean	0.3	0.2	1.0	0.5	0.6	1.0	1.1	0.8	0.4	-	-	-	0.6
		%	79	43	100	100	100	58	77	68	100	0	0	0	61
		Max-10d	0.4	0.2	1.3	0.5	0.6	1.2	1.3	0.9	0.5	-	-	-	1.3
		Min-10d	0.2	0.2	0.8	0.4	0.5	0.8	0.9	0.7	0.2	-	-	-	0.2
	Khanchanaburi (Vachiralongkorn Dam)	Mean	-	-	1.7	-	-	-	<0.1	-	-	-	1.9	-	1.3
		%	0	0	38	0	0	0	44	0	0	0	64	0	12
		Max-d	-	-	9.5	-	-	-	0.3	-	-	-	3.0	-	9.5
		Min-d	-	-	<0.1	-	-	-	<0.1	-	-	-	<0.1	-	<0.1
	Chiangmai (Mae Hia)	Mean	1.1	0.8	1.0	0.9	0.7	0.2	0.2	0.2	0.1	0.7	0.6	0.8	0.6
		%	72	48	61	72	88	95	78	88	95	95	96	95	82
		Max-d	2.8	3.0	3.0	1.7	1.9	0.8	0.8	0.8	0.7	2.1	2.1	2.5	3.0
		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
	Nakhon Ratchasima	Mean	-	-	<0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.2	0.4	0.2
		%	0	0	100	100	100	97	100	100	100	100	100	100	82
		Max-10d	-	-	0.1	0.2	0.2	0.2	0.3	0.2	0.5	0.2	0.4	0.6	0.6
		Min-10d	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	0.2	<0.1

Table 4.3 SO₂

Unit : ppb			2011												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Vietnam	Hanoi	Mean	2.2	2.0	1.2	1.4	1.3	1.5	1.8	1.8	1.9	2.6	2.3	2.6	1.9
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	4.4	2.8	1.4	2.4	1.4	1.8	2.2	2.1	2.1	4.3	3.7	6.0	6.0
	Hoa Binh	Min-w	1.2	1.2	0.9	1.0	1.1	1.3	1.6	1.5	1.6	1.6	0.6	1.4	0.6
		Mean	0.8	1.0	1.2	1.1	0.7	1.6	0.9	1.5	1.3	1.2	1.5	1.6	1.2
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	1.0	1.3	1.5	1.4	1.6	4.7	1.1	1.7	1.5	1.5	1.6	2.2	4.7
		Min-w	0.6	0.7	0.9	0.6	0.3	0.4	0.5	1.4	0.7	0.7	1.2	0.5	0.3

† Filterpack monitoring at Yangon was started in November, 2011.

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 interval data

Min-10d : minimum values of 10-day interval data

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

% : monthly or annual percentages of period of available data

Table 4.4 HNO₃

Unit : ppb			2011												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Cambodia	Phnom Penh	Mean	0.3	0.4	0.5	0.5	0.3	0.2	0.1	0.2	<0.1	0.1	0.2	0.2	0.2
		%	100	100	76	100	100	100	100	100	69	100	100	100	94
		Max-2w	0.4	0.5	0.6	0.6	0.3	0.3	0.1	0.2	<0.1	0.2	0.2	0.2	0.6
		Min-2w	0.2	0.3	0.3	0.4	0.3	0.2	0.1	0.1	<0.1	<0.1	0.1	0.2	<0.1
China	Hongwen	Mean	0.6	1.1	1.5	3.7	2.7	2.9	2.8	2.8	1.3	1.6	2.2	0.9	2.1
		%	50	100	100	100	100	100	100	100	100	100	100	100	96
		Max-2w	0.6	1.2	1.7	4.9	3.3	5.5	4.3	3.9	2.4	2.2	3.6	0.9	5.5
		Min-2w	0.6	1.0	1.3	2.5	2.1	0.5	1.2	1.7	0.2	1.0	0.8	0.8	0.2
Indonesia	Serpong	Mean	0.6	0.3	0.2	0.8	1.0	0.4	1.2	0.5	0.9	1.4	1.6	0.3	0.8
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.8	0.4	0.3	1.4	1.2	0.5	1.7	0.5	1.5	1.5	2.0	0.4	2.0
		Min-2w	0.4	0.3	0.2	<0.1	0.8	0.3	0.6	0.5	0.3	1.3	1.3	0.2	<0.1
Japan	Rishiri	Mean	<0.1	<0.1	<0.1	<0.1	0.1	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	<0.1	<0.1	0.3	0.2	0.2	0.2	<0.1	<0.1	<0.1	<0.1	0.3
		Min-2w	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Ochiishi	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
		%	50	100	100	100	100	100	100	100	100	100	100	100	96
		Max-2w	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.2	0.2	<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
	Tappi	Mean	<0.1	<0.1	<0.1	0.1	0.2	0.5	0.4	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	0.1	<0.1	0.1	0.4	0.8	0.5	0.4	0.1	0.1	<0.1	<0.1	0.8
		Min-2w	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.2	0.1	0.1	0.1	<0.1	<0.1	<0.1
	Sado-seki	Mean	<0.1	0.1	<0.1	0.2	0.2	-	0.4	0.3	0.2	0.2	<0.1	<0.1	0.2
		%	100	100	100	100	100	0	100	100	100	100	100	100	92
		Max-2w	<0.1	0.1	<0.1	0.3	0.2	-	0.4	0.6	0.2	0.2	<0.1	<0.1	0.6
		Min-2w	<0.1	0.1	<0.1	0.2	0.2	-	0.3	<0.1	0.2	0.1	<0.1	<0.1	<0.1
	Happo	Mean	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.1	0.2	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	0.1	<0.1	0.3	0.2	0.2	0.1	<0.1	0.3
		Min-2w	<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
	Ijira	Mean	<0.1	0.2	0.2	0.3	0.3	0.4	0.5	0.4	0.2	0.2	<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	0.3	0.4	0.4	0.4	0.6	0.6	0.3	0.2	<0.1	<0.1	0.6
		Min-2w	<0.1	0.2	0.1	0.3	0.2	0.3	0.3	0.3	0.2	0.1	<0.1	<0.1	<0.1
	Okii	Mean	<0.1	0.2	0.1	0.2	0.2	0.3	0.2	0.2	0.1	0.1	<0.1	<0.1	0.2
		%	100	100	100	100	100	100	54	100	100	100	100	100	96
		Max-2w	<0.1	0.3	0.1	0.3	0.2	0.3	0.2	0.3	0.1	0.2	0.1	<0.1	0.3
		Min-2w	<0.1	0.1	0.1	0.1	0.1	0.2	0.2	<0.1	0.1	0.1	<0.1	<0.1	<0.1
	Banryu	Mean	0.2	0.2	0.2	0.3	0.3	0.5	0.2	0.3	0.2	0.3	0.1	0.2	0.2
		%	100	100	100	100	100	100	100	100	100	100	63	100	96
		Max-2w	0.2	0.2	0.2	0.4	0.4	0.6	0.3	0.4	0.2	0.3	0.1	0.2	0.6
		Min-2w	0.1	0.1	0.2	0.3	0.2	0.5	0.1	0.2	0.1	0.2	0.1	0.1	0.1
	Yusuhara	Mean	0.3	0.3	0.2	0.5	0.4	0.3	0.3	0.3	0.1	0.3	0.2	0.4	0.3
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.4	0.5	0.2	0.7	0.5	0.3	0.4	0.3	0.2	0.5	0.3	0.4	0.7
		Min-2w	0.3	0.1	0.2	0.3	0.3	0.2	0.2	0.3	<0.1	0.1	0.1	0.4	<0.1
	Hedo	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	67	100	100	100	50	100	50	100	88
		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
	Ogasawara	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
		%	64	100	100	100	100	100	100	0	39	100	100	100	84
		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
		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
	Tokyo	Mean	0.2	0.2	0.2	0.5	0.8	1.3	0.6	1.8	0.3	0.5	0.3	0.2	0.6
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.2	0.2	0.2	0.6	0.9	1.9	0.9	2.4	0.4	0.7	0.4	0.2	2.4
		Min-2w	0.2	0.2	0.2	0.5	0.5	0.8	0.3	1.2	0.3	0.2	0.2	0.2	0.2
Malaysia	Tanah Rata	Mean	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.3	<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-w	<0.1	0.2	0.2	<0.1	<0.1	0.2	0.3	0.2	0.2	0.2	<0.1	<0.1	0.3
		Min-w	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Petaling Jaya	Mean	0.6	1.3	0.5	1.0	0.4	0.6	0.8	0.8	0.7	0.6	0.3	0.4	0.7
		%	100	100	100	100	100	100	100	100	100	100	100	80	98
		Max-w	1.5	2.5	0.8	1.3	0.9	1.1	1.2	1.1	0.9	1.0	0.5	0.5	2.5
		Min-w	<0.1	0.4	0.3	0.8	<0.1	<0.1	0.4	0.6	0.4	0.3	<0.1	0.3	<0.1
	Danum Valley	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	<0.1	<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
Mongolia	Ulaanbaatar	Mean	0.2	0.2	0.2	0.3	0.2	0.3	0.2	0.2	0.2	0.3	0.2	0.3	0.2
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.5	0.3	0.2	0.3	0.3	0.4	0.3	0.2	0.3	0.3	0.3	0.5	0.5
		Min-w	<0.1	0.2	0.2	0.2	0.1	0.2	0.2	0.1	0.2	0.1	0.2	0.2	<0.1
	Terelj	Mean	0.1	0.1	<0.1	0.1	<0.1	0.1	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	0.2	0.1	0.2	0.1	0.1	0.2	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	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

Table 4.4 HNO₃

Unit : ppb			2011												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Myanmar	Yangon	Mean	†	†	†	†	†	†	†	†	†	†	0.4	0.4	0.4
		%	†	†	†	†	†	†	†	†	†	†	68	100	13
		Max-2w	†	†	†	†	†	†	†	†	†	†	0.4	0.4	0.4
		Min-2w	†	†	†	†	†	†	†	†	†	†	0.4	0.4	0.4
Russia	Mondy	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	100	100	100	100	100	100	100	100	100	100	100	91
		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
		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
	Listvianka	Mean	0.1	0.2	0.4	0.2	<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	0.3	0.4	0.6	0.3	0.1	0.2	0.3	0.1	0.1	0.1	<0.1	<0.1	0.6
		Min-w	<0.1	0.1	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Irkutsk	Mean	<0.1	0.3	0.4	<0.1	<0.1	0.1	0.1	0.1	0.1	0.2	<0.1	<0.1	0.1
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.2	0.5	0.7	<0.1	0.2	0.2	0.4	0.3	0.3	0.5	<0.1	0.2	0.7
		Min-w	<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
	Primorskaya	Mean	<0.1	0.4	<0.1	<0.1	<0.1	<0.1	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	0.7	<0.1	0.1	<0.1	<0.1	0.2	0.1	<0.1	0.2	0.2	<0.1	0.7
		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
Thailand	Bangkok	Mean	0.2	0.5	1.2	0.9	0.7	0.2	0.1	0.1	0.1	0.4	0.7	1.1	0.5
		%	64	100	100	100	100	100	100	100	100	100	77	100	95
		Max-10d	0.3	0.6	2.0	1.5	0.9	0.2	0.1	0.1	0.3	0.6	0.8	1.6	2.0
		Min-10d	<0.1	0.4	0.6	0.5	0.5	0.1	<0.1	<0.1	<0.1	0.2	0.5	0.6	<0.1
	Pathumthani	Mean	0.2	0.7	0.6	0.3	0.3	0.4	0.4	0.3	0.1	-	-	-	0.3
		%	79	43	100	100	100	58	77	68	100	0	0	0	61
		Max-10d	0.3	0.7	1.1	0.4	0.4	0.6	0.5	0.3	0.2	-	-	-	1.1
		Min-10d	<0.1	0.7	<0.1	0.3	0.3	0.2	0.3	0.3	0.1	-	-	-	<0.1
	Khanchanaburi (Vachiralongkorn Dam)	Mean	-	-	<0.1	-	-	-	<0.1	-	-	-	0.2	-	<0.1
		%	0	0	50	0	0	0	50	0	0	0	53	0	14
		Max-2w	-	-	<0.1	-	-	-	<0.1	-	-	-	0.2	-	0.2
		Min-2w	-	-	<0.1	-	-	-	<0.1	-	-	-	0.2	-	<0.1
	Chiangmai (Mae Hia)	Mean	-	-	0.3	0.2	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.2	0.1
		%	0	0	97	100	97	97	97	97	97	100	90	100	81
		Max-10d	-	-	0.5	0.2	0.3	0.1	<0.1	0.2	<0.1	<0.1	0.3	0.3	0.5
		Min-10d	-	-	0.2	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.1	<0.1
	Nakhon Ratchasima	Mean	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.3	<0.1
		%	0	0	100	100	100	97	100	100	100	100	100	100	82
		Max-10d	-	-	<0.1	0.2	0.1	0.1	<0.1	0.1	0.2	0.2	0.3	0.4	0.4
		Min-10d	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1
Vietnam	Hanoi	Mean	0.9	0.5	0.4	0.8	1.5	1.0	0.7	0.8	0.9	0.7	0.8	1.1	0.9
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	1.8	0.6	0.6	1.1	2.1	1.4	0.8	1.1	1.2	1.3	1.5	2.5	2.5
		Min-w	0.4	0.3	0.3	0.5	1.2	0.6	0.7	0.5	0.7	0.4	0.1	0.5	0.1
	Hoa Binh	Mean	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.3
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.3	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.6	0.6
		Min-w	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.3	0.2	0.2

† Filterpack monitoring at Yangon was started in November, 2011.

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 interval data

Min-10d : minimum values of 10-day interval data

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

% : monthly or annual percentages of period of available data

Table 4.5 HCl

Unit : ppb			2011													Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
Cambodia	Phnom Penh	Mean	0.4	0.7	0.5	0.6	0.4	0.3	0.1	0.4	0.1	0.2	0.3	0.3	0.4	
		%	100	100	76	100	100	100	100	100	69	100	100	100	94	
		Max-2w	0.5	0.9	0.6	0.6	0.4	0.3	0.1	0.4	0.2	0.3	0.5	0.4	0.9	
		Min-2w	0.2	0.5	0.5	0.5	0.3	0.2	0.1	0.3	<0.1	<0.1	0.1	0.3	<0.1	
China	Hongwen	Mean	3.0	15.2	15.1	16.9	12.6	7.3	11.9	19.9	15.4	12.9	20.7	6.3	13.3	
		%	50	100	100	100	100	100	100	100	100	100	100	100	96	
		Max-2w	3.0	26.5	15.5	17.5	17.8	17.5	18.0	19.9	23.4	16.0	35.8	7.2	35.8	
		Min-2w	3.0	3.8	14.7	16.4	7.4	1.6	5.9	19.9	7.4	9.9	5.5	5.3	1.6	
Indonesia	Serpong	Mean	0.9	0.4	0.3	0.5	0.5	1.1	0.6	1.2	0.7	0.8	1.2	0.5	0.7	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	
		Max-2w	0.9	0.6	0.5	0.6	0.6	1.2	0.7	1.3	0.9	0.9	1.3	0.8	1.3	
		Min-2w	0.8	0.3	0.1	0.4	0.5	0.9	0.5	1.2	0.5	0.8	1.2	0.3	0.1	
Japan	Rishiri	Mean	0.2	0.4	0.5	0.6	0.6	0.6	0.5	0.6	0.5	0.7	0.5	0.2	0.5	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	
		Max-2w	0.2	0.6	0.6	0.6	0.8	0.7	0.5	0.9	0.6	0.8	0.7	0.3	0.9	
		Min-2w	0.2	0.3	0.4	0.6	0.4	0.5	0.4	0.4	0.3	0.6	0.4	0.2	0.2	
	Ochiishi	Mean	0.3	0.2	0.1	1.8	0.4	0.9	0.8	0.8	0.6	0.3	0.3	<0.1	0.6	
		%	50	100	100	100	100	100	100	100	100	100	100	100	96	
		Max-2w	0.3	0.3	0.2	3.2	0.5	1.2	1.0	0.8	0.6	0.4	0.3	<0.1	3.2	
		Min-2w	0.3	0.2	<0.1	0.3	0.2	0.6	0.6	0.8	0.6	0.3	0.3	<0.1	<0.1	
	Tappi	Mean	1.6	0.8	0.4	0.6	0.9	0.9	0.8	0.7	0.4	0.5	0.5	0.3	0.7	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	
		Max-2w	2.8	1.1	0.5	0.7	1.6	1.1	0.9	0.9	0.5	0.7	0.6	0.4	2.8	
		Min-2w	0.5	0.6	0.3	0.6	0.5	0.8	0.8	0.6	0.3	0.4	0.4	0.3	0.3	
	Sado-seki	Mean	0.6	0.9	0.7	0.9	0.9	-	1.0	1.0	0.7	1.0	0.7	0.4	0.8	
		%	100	100	100	100	100	0	100	100	100	100	100	100	92	
		Max-2w	0.8	1.0	0.8	0.9	1.1	-	1.3	1.3	1.0	1.1	0.9	0.5	1.3	
		Min-2w	0.5	0.9	0.7	0.9	0.8	-	0.7	0.7	0.5	0.9	0.6	0.3	0.3	
	Happo	Mean	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.2	<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	<0.1	<0.1	0.1	0.1	0.3	0.2	<0.1	0.3	
		Min-2w	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.2	<0.1	<0.1	
	Ijira	Mean	<0.1	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.4	0.2	<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	0.3	0.2	0.2	0.2	0.2	0.5	0.2	0.1	<0.1	0.5	
		Min-2w	<0.1	0.1	0.1	0.3	0.2	0.1	0.2	0.1	0.2	0.2	<0.1	<0.1	<0.1	
	Oki	Mean	0.9	1.0	0.8	1.0	1.1	1.2	0.8	0.9	0.9	1.1	0.9	0.9	1.0	
		%	100	100	100	100	100	100	54	100	100	100	100	100	96	
		Max-2w	0.9	1.2	0.9	1.1	1.3	1.5	0.8	1.1	1.2	1.1	1.0	0.9	1.5	
		Min-2w	0.8	0.8	0.8	1.0	0.9	0.7	0.8	0.7	0.5	1.0	0.7	0.9	0.5	
	Banryu	Mean	0.8	0.7	0.8	1.1	0.9	0.6	1.0	0.5	0.8	1.0	0.6	0.9	0.8	
		%	100	100	100	100	100	100	100	100	100	100	63	100	96	
		Max-2w	1.0	0.8	0.8	1.4	1.3	0.7	1.3	0.6	1.1	1.0	0.7	0.9	1.4	
		Min-2w	0.5	0.7	0.7	0.9	0.6	0.4	0.6	0.5	0.5	1.0	0.5	0.8	0.4	
	Yusuhara	Mean	0.7	0.5	0.4	0.5	0.3	0.4	0.4	0.4	0.3	0.4	0.3	0.5	0.4	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	
		Max-2w	0.8	0.6	0.4	0.5	0.4	0.7	0.5	0.4	0.3	0.5	0.3	0.6	0.8	
		Min-2w	0.6	0.4	0.3	0.5	0.2	0.2	0.3	0.4	0.3	0.3	0.3	0.5	0.2	
	Hedo	Mean	<0.1	0.2	0.2	0.2	0.1	0.1	0.1	<0.1	0.4	0.9	1.0	1.1	0.4	
		%	100	100	100	100	67	100	100	100	50	100	50	100	88	
		Max-2w	0.1	0.3	0.2	0.2	0.1	0.1	0.2	<0.1	0.4	1.0	1.0	1.1	1.1	
		Min-2w	<0.1	0.1	0.2	0.2	0.1	0.1	<0.1	<0.1	0.4	0.7	1.0	1.1	<0.1	
	Ogasawara	Mean	1.0	0.7	0.4	0.6	0.4	0.2	0.2	-	0.4	0.2	0.4	0.6	0.4	
		%	64	100	100	100	100	100	100	0	39	100	100	100	84	
		Max-2w	1.0	1.1	0.5	0.7	0.7	0.3	0.2	-	0.4	0.3	0.5	0.6	1.1	
		Min-2w	1.0	0.4	0.3	0.5	<0.1	0.2	<0.1	-	0.4	<0.1	0.3	0.5	<0.1	
	Tokyo	Mean	0.3	0.5	0.5	0.7	1.0	0.9	1.2	1.2	1.2	0.7	0.5	0.3	0.8	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	
		Max-2w	0.3	0.6	0.6	0.8	1.2	1.2	1.3	1.4	1.4	1.0	0.6	0.4	1.4	
		Min-2w	0.2	0.3	0.4	0.6	0.7	0.6	1.1	1.1	1.0	0.4	0.4	0.3	0.2	
Malaysia	Tanah Rata	Mean	0.1	<0.1	<0.1	<0.1	0.5	0.3	0.3	0.4	0.4	0.2	0.2	0.2	0.2	
		%	100	100	100	100	100	100	100	50	100	100	100	100	96	
		Max-w	0.5	0.1	0.1	0.2	0.6	0.5	0.4	0.4	1.0	0.2	0.2	0.3	1.0	
		Min-w	<0.1	<0.1	<0.1	<0.1	0.4	0.2	0.3	0.3	0.2	0.1	0.2	0.2	<0.1	
	Petaling Jaya	Mean	0.4	0.7	0.6	0.8	1.1	1.0	1.1	1.1	1.0	0.7	0.6	0.8	0.8	
		%	100	100	100	100	100	100	100	100	100	100	100	80	98	
		Max-w	0.9	1.0	0.9	1.0	1.3	1.2	1.2	1.2	1.3	0.8	0.8	1.0	1.3	
		Min-w	0.3	0.5	0.3	0.4	1.0	0.9	0.8	0.8	0.7	0.5	0.5	0.6	0.3	
	Danum Valley	Mean	0.2	0.3	0.2	0.3	0.1	0.2	0.2	0.1	0.3	0.1	0.1	0.2	0.2	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	
		Max-2w	0.3	0.4	0.3	0.3	0.1	0.2	0.2	0.2	0.4	0.1	0.2	0.3	0.4	
		Min-2w	0.1	0.2	<0.1	0.2	0.1	0.2	0.2	<0.1	0.1	0.1	<0.1	<0.1	<0.1	
Mongolia	Ulaanbaatar	Mean	1.4	1.3	1.0	1.1	1.0	1.2	1.1	1.0	1.1	1.1	0.9	1.5	1.1	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	
		Max-w	1.9	1.9	1.1	1.2	1.1	1.7	1.7	1.3	1.7	1.4	1.2	2.6	2.6	
		Min-w	1.0	0.8	0.9	0.8	0.9	0.9	0.8	0.8	0.7	1.0	0.6	0.8	0.6	
	Terelj	Mean	0.4	0.5	0.4	0.3	0.4	0.5	0.6	0.4	0.6	0.5	0.5	0.3	0.5	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	
		Max-2w	0.6	0.5	0.5	0.4	0.5	0.6	0.6	0.5	0.7	0.5	0.6	0.3	0.7	
		Min-2w	0.2	0.5	0.3	0.3	0.4	0.4	0.5	0.4	0.5	0.5	0.4	0.3	0.2	

Table 4.5 HCl

Unit : ppb			2011												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Myanmar	Yangon	Mean	†	†	†	†	†	†	†	†	†	†	†	1.4	1.5
		%	†	†	†	†	†	†	†	†	†	†	68	100	13
		Max-2w	†	†	†	†	†	†	†	†	†	†	2.3	1.7	2.3
		Min-2w	†	†	†	†	†	†	†	†	†	†	1.1	1.0	1.0
Russia	Mondy	Mean	-	0.5	0.4	0.4	0.2	0.5	0.5	0.3	0.5	0.5	0.4	0.4	0.4
		%	0	100	100	100	100	100	100	100	100	100	100	100	91
		Max-2w	-	0.5	0.4	0.4	0.3	0.6	0.6	0.5	0.5	0.6	0.4	0.4	0.6
		Min-2w	-	0.4	0.4	0.3	0.1	0.4	0.3	<0.1	0.5	0.4	0.3	0.4	<0.1
	Listvianka	Mean	0.4	1.6	5.4	3.9	1.0	1.4	1.4	1.6	1.7	1.9	0.8	0.6	1.8
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.5	2.8	6.3	7.9	1.9	1.8	1.8	2.0	2.5	2.7	1.5	0.9	7.9
		Min-w	0.3	0.8	3.9	1.7	0.5	1.1	0.8	1.3	1.1	1.0	0.3	0.3	0.3
	Irkutsk	Mean	1.9	2.4	1.7	0.6	1.1	1.9	1.7	0.9	0.9	1.2	1.1	1.0	1.4
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	3.1	2.6	2.3	0.7	2.4	2.1	3.0	2.1	1.3	2.1	1.3	1.5	3.1
		Min-w	0.6	2.0	0.7	0.4	0.4	1.6	0.5	0.4	0.3	0.7	0.7	0.8	0.3
	Primorskaya	Mean	0.9	0.5	1.2	1.3	1.2	2.1	2.7	0.7	1.0	1.1	0.4	0.4	1.1
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	1.2	0.7	2.1	2.0	1.3	3.2	2.7	0.9	1.1	1.1	0.5	0.4	3.2
		Min-2w	0.5	0.2	0.3	0.7	1.1	1.0	2.7	0.5	1.0	1.0	0.4	0.3	0.2
Thailand	Bangkok	Mean	0.6	1.0	0.6	0.8	0.6	0.6	0.4	1.2	0.7	0.5	0.3	0.6	0.7
		%	64	100	100	100	100	100	100	100	100	100	77	100	95
		Max-10d	0.6	1.4	1.0	0.9	0.8	0.6	0.6	1.4	1.5	0.9	0.4	0.7	1.5
		Min-10d	0.6	0.7	0.3	0.6	0.4	0.5	0.2	1.1	0.1	0.3	0.3	0.4	0.1
	Pathumthani	Mean	0.2	0.4	0.4	0.4	0.3	0.8	0.8	1.0	0.2	-	-	-	0.5
		%	79	43	100	100	100	58	77	68	100	0	0	0	61
		Max-10d	0.2	0.4	0.4	0.4	0.3	0.8	1.2	1.0	0.3	-	-	-	1.2
		Min-10d	0.1	0.4	0.3	0.3	0.3	0.8	0.4	1.0	0.1	-	-	-	0.1
	Khanchanaburi (Vachiralongkorn Dam)	Mean	-	-	<0.1	-	-	-	0.1	-	-	-	0.3	-	0.2
		%	0	0	50	0	0	0	50	0	0	0	53	0	14
		Max-2w	-	-	<0.1	-	-	-	0.1	-	-	-	0.3	-	0.3
		Min-2w	-	-	<0.1	-	-	-	0.1	-	-	-	0.3	-	<0.1
	Chiangmai (Mae Hia)	Mean	-	-	0.3	0.3	0.2	0.2	0.2	0.3	0.1	<0.1	0.2	0.7	0.3
		%	0	0	97	100	97	97	97	97	97	100	90	100	81
		Max-10d	-	-	0.4	0.4	0.2	0.2	0.2	0.3	0.2	0.1	0.3	1.3	1.3
		Min-10d	-	-	0.3	0.2	0.2	0.1	<0.1	0.2	<0.1	<0.1	0.2	0.3	<0.1
	Nakhon Ratchasima	Mean	-	-	0.1	0.2	0.1	0.2	0.1	0.1	0.2	0.2	0.1	0.9	0.2
		%	0	0	100	100	100	97	100	100	100	100	100	100	82
		Max-10d	-	-	0.2	0.2	0.2	0.3	0.2	0.2	0.4	0.5	0.1	1.4	1.4
		Min-10d	-	-	<0.1	0.2	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.1	0.5	<0.1
Vietnam	Hanoi	Mean	1.1	1.9	1.6	2.1	2.4	2.0	2.0	2.5	2.6	2.3	1.8	1.2	2.0
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	1.4	2.9	2.0	2.5	2.7	2.3	2.3	3.1	3.2	3.2	2.1	1.5	3.2
		Min-w	0.7	1.2	1.2	1.6	2.2	1.6	1.7	1.9	2.0	1.3	1.7	1.0	0.7
	Hoa Binh	Mean	0.9	0.9	1.5	1.8	1.3	1.7	2.1	2.6	2.8	1.8	1.4	0.9	1.6
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	1.0	1.3	1.7	2.0	1.5	2.0	2.5	3.4	3.3	2.2	1.7	1.1	3.4
		Min-w	0.7	0.7	1.2	1.4	1.0	1.4	1.7	1.7	2.3	1.5	1.2	0.7	0.7

† Filterpack monitoring at Yangon was started in November, 2011.

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 interval data

Min-10d : minimum values of 10-day interval data

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

% : monthly or annual percentages of period of available data

Table 4.6 NH₃

Unit : ppb			2011												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Cambodia	Phnom Penh	Mean	9.8	11.0	6.5	13.4	15.4	14.5	12.1	10.2	11.4	4.9	9.1	7.3	10.5
		%	100	100	76	100	100	100	100	100	69	100	100	100	94
		Max-2w	11.6	17.4	8.4	18.5	18.3	14.9	12.1	11.1	11.5	7.9	10.8	9.9	18.5
		Min-2w	7.9	4.6	4.6	8.4	12.4	14.1	12.0	9.3	11.4	1.9	7.4	4.7	1.9
China	Hongwen	Mean	9.2	9.2	10.9	10.7	15.3	11.6	7.0	12.3	10.1	7.5	6.0	2.9	9.5
		%	50	100	100	100	100	100	100	100	100	100	100	100	96
		Max-2w	9.2	10.3	11.5	12.8	16.6	17.5	8.9	15.7	12.4	9.6	6.8	4.7	17.5
		Min-2w	9.2	8.0	10.2	8.7	14.0	6.8	5.1	8.8	7.9	5.4	5.2	1.2	1.2
Indonesia	Serpong	Mean	7.2	6.3	3.9	11.1	14.2	15.2	15.0	2.3	10.3	15.8	17.8	10.9	11.0
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	8.8	7.4	4.7	14.8	15.5	16.3	16.3	2.3	15.8	16.6	18.1	14.4	18.1
		Min-2w	5.6	5.2	3.0	7.5	12.8	14.1	14.1	2.2	4.7	15.1	17.5	7.4	2.2
Japan	Rishiri	Mean	<0.1	0.1	0.2	0.4	0.3	0.6	0.5	0.8	0.5	0.7	0.3	<0.1	0.4
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	<0.1	0.1	0.2	0.5	0.3	0.6	0.6	0.9	0.6	0.8	0.4	<0.1	0.9
		Min-2w	<0.1	0.1	0.2	0.4	0.2	0.5	0.4	0.6	0.4	0.7	0.2	<0.1	<0.1
	Ochiishi	Mean	0.2	0.1	0.2	0.1	0.4	0.4	0.5	0.6	0.6	0.7	0.7	0.3	0.4
		%	50	100	100	100	100	100	100	100	100	100	100	100	96
		Max-2w	0.2	0.1	0.2	0.2	0.5	0.4	0.7	0.6	0.6	0.8	0.8	0.4	0.8
		Min-2w	0.2	<0.1	0.1	<0.1	0.3	0.4	0.4	0.5	0.5	0.6	0.7	0.2	<0.1
	Tappi	Mean	0.1	0.2	0.3	0.4	0.3	0.5	0.5	0.6	0.7	0.9	0.3	0.1	0.4
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.2	0.3	0.3	0.5	0.3	0.7	0.5	0.7	0.9	0.9	0.4	0.2	0.9
		Min-2w	0.1	0.1	0.3	0.4	0.2	0.4	0.5	0.5	0.5	0.8	0.2	0.1	0.1
	Sado-seki	Mean	0.1	0.3	0.4	0.8	0.9	-	1.1	0.9	0.7	0.8	0.3	0.1	0.6
		%	100	100	100	100	100	0	100	100	100	100	100	100	92
		Max-2w	0.1	0.3	0.4	0.9	1.1	-	1.1	1.1	1.1	0.9	0.5	0.1	1.1
		Min-2w	0.1	0.2	0.4	0.8	0.7	-	1.1	0.8	0.4	0.6	0.2	0.1	0.1
	Happo	Mean	<0.1	<0.1	0.1	0.2	0.3	0.3	0.3	0.4	0.4	0.3	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	0.3	0.3	0.3	0.5	0.4	0.3	0.1	0.2	0.5
		Min-2w	<0.1	<0.1	<0.1	0.1	0.2	0.2	0.3	0.4	0.4	0.3	0.1	<0.1	<0.1
	Ijira	Mean	0.3	0.6	0.5	1.1	1.7	1.5	1.7	1.9	1.3	0.8	0.7	0.2	1.0
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.4	0.7	0.8	1.1	2.0	2.0	2.0	2.3	1.5	0.9	0.9	0.2	2.3
		Min-2w	0.2	0.5	0.2	1.1	1.5	1.0	1.3	1.6	1.2	0.8	0.5	<0.1	<0.1
	Oki	Mean	0.2	0.4	0.7	1.2	1.6	0.7	0.9	1.0	0.7	0.7	0.4	<0.1	0.7
		%	100	100	100	100	100	100	54	100	100	100	100	100	96
		Max-2w	0.3	0.5	0.7	1.4	1.7	0.9	0.9	1.2	0.9	0.8	0.5	0.2	1.7
		Min-2w	0.2	0.3	0.7	1.0	1.5	0.5	0.9	0.7	0.6	0.6	0.3	<0.1	<0.1
	Banryu	Mean	0.8	0.9	0.8	1.4	1.4	0.8	0.9	1.1	1.0	1.0	0.6	0.3	0.9
		%	100	100	100	100	100	100	100	100	100	100	63	100	96
		Max-2w	1.1	1.0	1.0	1.4	1.8	0.9	1.0	1.2	1.1	1.2	0.8	0.3	1.8
		Min-2w	0.6	0.8	0.7	1.4	1.0	0.8	0.9	1.0	0.9	0.9	0.5	0.2	0.2
	Yusuhara	Mean	0.1	0.4	0.3	1.4	0.7	0.6	0.7	0.6	0.6	0.5	0.3	0.1	0.5
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.1	0.4	0.4	1.7	1.0	0.7	0.8	0.7	0.6	0.6	0.3	0.1	1.7
		Min-2w	0.1	0.3	0.2	1.0	0.5	0.4	0.6	0.5	0.5	0.4	0.3	0.1	0.1
	Hedo	Mean	0.3	0.4	0.4	0.6	1.2	1.3	1.3	0.9	1.3	1.7	0.9	0.6	0.9
		%	100	100	100	100	67	100	100	100	50	100	50	100	88
		Max-2w	0.3	0.4	0.4	0.8	1.5	1.3	1.3	1.0	1.3	2.1	0.9	0.6	2.1
		Min-2w	0.3	0.4	0.3	0.5	0.9	1.3	1.2	0.8	1.3	1.2	0.9	0.6	0.3
	Ogasawara	Mean	0.3	0.6	0.3	1.0	0.8	0.8	1.0	-	1.7	0.6	0.5	0.5	0.7
		%	64	100	100	100	100	100	100	0	39	100	100	100	84
		Max-2w	0.3	0.6	0.4	1.1	1.0	0.8	1.1	-	1.7	0.7	0.5	0.5	1.7
		Min-2w	0.3	0.6	0.3	1.0	0.7	0.8	1.0	-	1.7	0.5	0.5	0.5	0.3
	Tokyo	Mean	2.9	3.5	2.3	3.7	4.0	5.6	6.0	6.3	5.0	4.2	5.1	4.4	4.4
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	3.1	3.9	2.3	4.1	4.5	7.4	7.3	7.2	5.2	5.8	5.3	4.8	7.4
		Min-2w	2.8	3.1	2.2	3.3	2.9	3.9	4.7	5.4	4.8	2.6	4.8	4.0	2.2
Malaysia	Tanah Rata	Mean	0.9	1.0	0.8	0.9	1.3	1.3	2.2	2.1	1.8	0.9	0.8	0.7	1.2
		%	100	100	100	100	100	100	100	50	100	100	100	100	96
		Max-w	1.5	1.1	1.3	1.0	1.6	1.7	2.8	2.5	3.6	1.3	1.5	0.9	3.6
		Min-w	0.7	0.9	0.5	0.7	1.0	0.8	1.6	1.7	0.5	0.6	0.4	0.5	0.4
	Petaling Jaya	Mean	6.8	6.8	7.6	6.3	5.7	7.7	7.3	6.5	8.2	6.6	5.0	6.0	6.7
		%	100	100	100	100	100	100	100	100	100	100	100	80	98
		Max-w	7.6	8.3	8.4	6.8	7.0	9.5	9.3	7.1	10.2	7.5	5.4	6.9	10.2
		Min-w	5.9	5.0	6.6	5.2	4.4	6.0	5.7	6.1	7.2	5.6	4.6	4.6	4.4
	Danum Valley	Mean	1.3	1.6	0.7	0.9	0.8	1.0	0.8	1.0	1.6	0.6	0.7	0.3	0.9
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	1.8	1.9	1.0	0.9	0.8	1.0	1.0	1.2	2.0	0.7	0.8	0.3	2.0
		Min-2w	0.8	1.3	0.5	0.9	0.8	1.0	0.5	0.7	1.1	0.6	0.6	0.2	0.2
Mongolia	Ulaanbaatar	Mean	4.9	6.7	7.9	11.8	11.4	10.8	13.4	12.3	6.1	7.4	6.4	6.6	8.7
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	7.3	9.4	11.7	13.1	13.2	14.9	17.1	14.1	7.3	9.7	7.4	7.5	17.1
		Min-w	1.5	3.5	4.5	10.9	8.5	8.4	9.9	9.4	4.9	6.4	5.3	5.4	1.5
	Terelj	Mean	0.5	0.9	0.8	1.6	1.5	1.8	5.3	2.6	1.3	1.1	1.1	0.5	1.5
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.6	1.2	0.9	1.8	1.9	2.1	5.6	3.4	1.8	1.2	1.4	0.6	5.6
		Min-2w	0.5	0.6	0.6	1.3	1.2	1.5	4.9	1.8	1.0	0.9	0.8	0.5	0.5

Table 4.6 NH₃

Unit : ppb			2011												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Myanmar	Yangon	Mean	†	†	†	†	†	†	†	†	†	†	16.2	14.8	15.5
		%	†	†	†	†	†	†	†	†	†	†	68	100	13
		Max-2w	†	†	†	†	†	†	†	†	†	†	17.0	16.2	17.0
		Min-2w	†	†	†	†	†	†	†	†	†	†	15.4	13.5	13.5
Russia	Mondy	Mean	-	0.2	0.4	0.3	0.5	<0.1	0.1	0.4	0.7	1.1	0.3	<0.1	0.4
		%	0	100	100	100	100	100	100	100	100	100	100	100	91
		Max-2w	-	0.2	0.4	0.4	0.5	<0.1	0.2	0.7	0.7	1.6	0.3	<0.1	1.6
		Min-2w	-	0.2	0.3	0.2	0.4	<0.1	<0.1	0.1	0.7	0.6	0.2	<0.1	<0.1
	Listvianka	Mean	1.4	0.2	0.1	0.7	1.0	1.6	1.4	0.7	0.8	1.3	0.6	0.2	0.8
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	1.8	0.5	0.2	1.3	1.7	1.9	1.8	1.0	0.8	2.3	1.4	0.3	2.3
		Min-w	0.8	<0.1	0.1	<0.1	<0.1	1.5	1.0	0.3	0.7	0.7	0.2	<0.1	<0.1
	Irkutsk	Mean	2.6	0.8	1.2	1.1	2.2	1.3	1.5	1.3	1.1	1.2	3.5	2.5	1.7
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	7.6	1.0	1.4	1.3	2.9	2.4	2.8	2.4	2.8	3.2	5.1	6.6	7.6
		Min-w	0.5	0.7	1.0	0.8	0.9	0.5	<0.1	<0.1	0.1	<0.1	1.4	0.2	<0.1
	Primorskaya	Mean	2.6	0.6	2.3	6.9	4.9	6.0	7.7	6.0	2.7	4.3	3.2	3.7	4.2
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	3.7	1.2	3.2	10.7	5.0	8.4	8.9	8.3	2.8	4.3	3.3	4.4	10.7
		Min-2w	1.6	<0.1	1.4	3.1	4.8	3.5	6.4	3.7	2.6	4.3	3.1	3.0	<0.1
Thailand	Bangkok	Mean	11.3	8.9	9.7	9.2	10.5	7.5	5.9	7.2	5.7	12.1	9.6	9.3	8.8
		%	64	100	100	100	100	100	100	100	100	100	77	100	95
		Max-10d	13.4	10.1	13.3	10.4	13.4	7.6	6.4	7.8	7.7	21.6	10.1	10.2	21.6
		Min-10d	9.1	7.7	7.0	7.1	8.5	7.5	5.5	6.4	2.2	7.2	9.0	7.7	2.2
	Pathumthani	Mean	4.8	5.8	4.5	3.9	2.3	7.5	7.0	6.0	5.8	-	-	-	5.2
		%	79	43	100	100	100	58	77	68	100	0	0	0	61
		Max-10d	6.3	5.8	5.2	4.4	4.1	7.7	7.4	6.2	6.3	-	-	-	7.7
		Min-10d	3.3	5.8	3.8	3.6	0.4	7.2	6.6	5.8	5.4	-	-	-	0.4
	Khanchanaburi (Vachiralongkorn Dam)	Mean	-	-	0.5	-	-	-	1.2	-	-	-	2.8	-	1.5
		%	0	0	50	0	0	0	50	0	0	0	53	0	14
		Max-2w	-	-	0.5	-	-	-	1.2	-	-	-	2.8	-	2.8
		Min-2w	-	-	0.5	-	-	-	1.2	-	-	-	2.8	-	0.5
	Chiangmai (Mae Hia)	Mean	-	-	4.0	4.6	17.1	3.9	2.8	3.7	6.2	4.4	2.6	3.6	5.3
		%	0	0	97	100	97	97	97	97	97	100	90	100	81
		Max-10d	-	-	4.4	5.6	34.8	6.3	3.1	5.1	14.6	6.9	3.0	5.0	34.8
		Min-10d	-	-	3.3	3.3	7.3	2.7	2.6	2.2	0.7	1.8	2.3	2.8	0.7
	Nakhon Ratchasima	Mean	-	-	0.9	3.8	0.8	2.1	2.0	2.1	0.5	0.7	2.8	2.3	1.8
		%	0	0	100	100	100	97	100	100	100	100	100	100	82
		Max-10d	-	-	1.5	4.9	2.4	2.2	2.2	2.4	1.5	2.0	3.8	2.4	4.9
		Min-10d	-	-	<0.1	3.2	<0.1	2.0	1.8	1.9	<0.1	<0.1	2.2	2.0	<0.1
Vietnam	Hanoi	Mean	7.3	9.9	7.1	5.9	6.0	5.3	4.9	5.1	5.2	8.0	7.5	5.2	6.4
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	8.3	14.3	7.7	7.1	6.9	5.7	5.0	5.2	5.4	14.5	10.4	6.1	14.5
		Min-w	6.8	6.8	6.7	4.9	5.4	5.1	4.8	5.0	5.1	5.4	6.2	3.9	3.9
	Hoa Binh	Mean	3.1	3.0	2.9	3.7	1.9	1.5	1.4	1.4	1.5	2.4	2.9	3.0	2.4
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	3.3	3.0	3.3	4.3	2.6	1.7	1.5	1.5	1.5	2.9	3.0	3.0	4.3
		Min-w	2.8	2.9	2.4	3.3	1.6	1.5	1.4	1.2	1.4	1.5	2.9	2.9	1.2

† Filterpack monitoring at Yangon was started in November, 2011.

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 interval data

Min-10d : minimum values of 10-day interval data

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

% : monthly or annual percentages of period of available data

Table 4.7 NO

Unit : ppb			2011												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
China	Jinyunshan	Mean	1.7	1.4	1.2	1.0	0.5	0.2	1.0	1.9	1.8	0.8	2.7	4.6	1.6
		%	100	97	100	100	100	100	100	100	100	100	100	100	100
		Max-d	8.0	7.2	4.0	14.4	3.2	1.6	2.4	2.4	4.8	2.4	8.8	19.2	19.2
		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
Japan	Rishiri	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	98	91	98	96	98	63	98	83	98	98	98	93
		Max-d	0.1	0.1	0.3	0.2	0.2	0.2	0.2	0.1	0.3	0.4	0.2	0.1	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
	Ochiishi	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	98	97	97	92	94	97	99	97	99	96	98	97
		Max-d	<0.1	0.1	0.1	0.1	0.2	0.5	0.4	0.5	0.2	0.2	<0.1	0.2	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
	Tappi	Mean	-	-	-	-	-	-	-	0.4	0.3	0.1	0.2	0.1	0.2
		%	0	0	0	0	0	0	0	92	99	93	98	98	40
		Max-d	-	-	-	-	-	-	-	1.8	2.0	0.3	0.3	0.2	2.0
		Min-d	-	-	-	-	-	-	-	0.1	<0.1	<0.1	0.1	<0.1	<0.1
	Sado-seki	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	98	98	97	98	97	85	98	97	98	97	97	96
		Max-d	0.1	0.2	0.2	0.1	0.2	0.1	0.2	0.2	0.2	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
	Happo	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	98	98	100	100	83	100	100	100	100	100	100	98
		Max-d	0.4	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	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
	Ijira	Mean	<0.1	<0.1	<0.1	0.2	0.3	0.2	0.6	0.6	0.4	<0.1	<0.1	<0.1	0.2
		%	99	99	99	99	99	99	99	99	99	99	94	81	97
		Max-d	0.5	0.5	0.2	0.3	1.1	1.5	2.0	1.6	1.5	0.5	0.2	0.5	2.0
		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
	Oki	Mean	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
		%	98	98	97	98	98	98	47	97	98	98	98	84	92
		Max-d	0.2	0.1	0.4	0.3	0.3	0.5	0.4	0.3	0.2	0.1	0.2	0.1	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
	Banryu	Mean	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	0.3	0.3	0.3	0.2	0.3	0.2	<0.1
		%	97	96	97	97	74	87	98	98	98	99	98	85	94
		Max-d	<0.1	<0.1	<0.1	<0.1	0.7	0.8	0.6	0.5	0.9	0.4	0.6	0.3	0.9
		Min-d	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.1	<0.1
	Yusuhara	Mean	0.2	<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	98	97	96	97	98	98	89	96	97	98	98	97
		Max-d	0.4	0.4	0.4	0.2	0.2	0.1	0.4	2.4	0.2	0.1	0.1	0.2	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	<0.1	<0.1
	Hedo	Mean	<0.1	<0.1	<0.1	<0.1	0.1	0.3	0.3	0.6	0.3	0.3	0.2	<0.1	0.2
		%	96	77	97	98	83	98	93	78	67	96	98	97	90
		Max-d	0.2	0.2	0.2	0.2	0.7	0.9	0.8	1.7	1.5	0.9	0.3	0.2	1.7
		Min-d	<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
	Ogasawara	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	96	97	95	97	96	96	96	53	34	97	97	87
		Max-d	0.1	<0.1	0.2	<0.1	0.9	0.2	1.3	0.3	<0.1	<0.1	0.1	0.2	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
Thailand	Bangkok	Mean	20.2	9.6	12.1	2.1	12.4	5.9	6.5	28.3	14.3	9.0	4.8	3.9	10.3
		%	100	99	99	100	99	81	95	61	98	71	99	96	91
		Max-d	49.7	29.7	74.1	6.3	50.8	18.3	14.6	74.9	36.1	36.6	22.6	13.3	74.9
		Min-d	3.0	0.5	0.5	0.4	2.0	0.2	1.4	2.6	3.3	0.5	0.6	0.3	0.2
	Samutprakarn	Mean	19.3	10.2	3.3	-	-	-	-	-	-	-	-	-	15.1
		%	69	49	6	0	0	0	0	0	0	0	0	0	10
		Max-d	57.9	32.3	6.0	-	-	-	-	-	-	-	-	-	57.9
		Min-d	3.1	1.2	2.6	-	-	-	-	-	-	-	-	-	1.2
	Khanchanaburi (Vachiralongkorn Dam)	Mean	-	-	1.6	-	-	-	<0.1	-	-	-	1.8	-	1.1
		%	0	0	46	0	0	0	44	0	0	0	37	0	11
		Max-d	-	-	2.3	-	-	-	0.3	-	-	-	84.0	-	84.0
		Min-d	-	-	1.0	-	-	-	<0.1	-	-	-	0.1	-	<0.1
	Chiangmai (Mae Hia)	Mean	3.8	2.8	1.1	0.6	1.1	1.2	1.3	2.2	1.8	1.7	2.9	3.6	2.0
		%	90	85	88	81	95	95	78	92	95	95	96	95	90
		Max-d	17.5	7.8	2.8	1.8	2.6	3.0	3.4	3.9	4.1	3.7	5.6	7.1	17.5
		Min-d	<0.1	0.3	0.1	<0.1	0.1	0.1	<0.1	0.7	0.3	0.4	1.0	0.6	<0.1

Mean : monthly or annual arithmetic average values

Max-d : maximum values of daily data

Min-d : minimum values of daily data

% : monthly or annual percentages of period of available data

Table 4.8 NO₂

Unit : ppb			2011												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
China	Hongwen	Mean	24.7	22.9	25.3	28.5	21.7	12.9	14.9	18.2	16.0	15.1	20.1	22.1	20.2
		%	97	97	100	100	100	100	100	97	100	100	100	100	99
		Max-d	36.4	39.5	57.2	52.0	42.6	34.8	32.2	35.4	39.0	33.3	35.4	34.3	57.2
		Min-d	13.5	13.0	13.5	14.0	8.8	4.2	5.2	6.2	8.8	8.8	9.4	12.5	4.2
	Xiang Zhou	Mean	34.8	27.9	27.0	16.2	15.3	8.7	10.0	9.3	12.0	16.4	17.4	28.3	18.6
		%	100	97	100	100	100	100	100	100	100	100	100	100	100
		Max-d	54.1	46.8	42.6	34.3	34.3	17.2	16.1	22.9	25.5	26.0	25.5	50.4	54.1
		Min-d	16.6	13.5	14.6	9.4	5.7	3.6	5.2	3.1	3.6	4.2	11.4	13.0	3.1
Indonesia	Bandung	Mean	26.9	23.9	23.4	37.4	42.8	58.6	41.3	45.2	42.8	39.8	47.5	38.7	39.0
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-m	26.9	23.9	23.4	37.4	42.8	58.6	41.3	45.2	42.8	39.8	47.5	38.7	58.6
		Min-m	26.9	23.9	23.4	37.4	42.8	58.6	41.3	45.2	42.8	39.8	47.5	38.7	23.4
Japan	Banryu	Mean	3.6	4.7	4.1	2.5	3.2	1.9	1.3	1.3	1.2	1.9	2.2	2.1	2.5
		%	97	84	97	97	74	87	98	98	98	99	98	85	93
		Max-d	6.8	9.7	7.1	4.5	5.1	4.9	2.8	2.3	2.2	3.6	3.6	3.9	9.7
		Min-d	1.1	2.2	2.3	1.0	1.8	1.1	0.5	0.7	<0.1	0.8	1.1	1.0	<0.1
Thailand	Bangkok	Mean	40.8	30.2	23.4	21.6	19.4	19.1	17.4	33.8	19.2	16.2	23.4	29.8	24.5
		%	100	100	99	100	99	81	95	61	98	71	99	97	92
		Max-d	70.2	46.4	35.9	30.1	23.5	27.8	20.6	51.8	25.5	25.1	41.6	39.3	70.2
		Min-d	20.0	17.6	15.7	12.7	15.3	11.8	14.9	15.7	12.8	3.4	15.3	19.8	3.4
	Samutprakarn	Mean	28.3	13.9	<0.1	-	-	-	-	-	-	-	-	-	21.5
		%	69	49	6	0	0	0	0	0	0	0	0	0	10
		Max-d	49.8	36.6	1.4	-	-	-	-	-	-	-	-	-	49.8
		Min-d	15.1	0.9	<0.1	-	-	-	-	-	-	-	-	-	<0.1

Mean : monthly or annual arithmetic average values

Max-d : maximum values of daily data

Min-d : minimum values of daily data

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

% : monthly or annual percentages of period of available data

Table 4.9 NOx

Unit : ppb			2011												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
China	Jinyunshan (NOx*)	Mean	13.8	14.3	11.0	9.9	8.6	4.9	5.5	9.8	8.7	8.5	10.9	14.8	10.0
		%	100	97	100	100	100	100	100	100	100	100	100	100	100
		Max-d	23.4	21.9	18.8	26.9	37.2	11.0	8.9	14.4	13.6	14.4	23.4	41.0	41.0
		Min-d	6.2	2.1	5.8	4.2	2.6	2.1	1.6	4.2	1.6	2.6	2.6	5.2	1.6
Japan	Rishiri (NOx*)	Mean	0.5	1.0	0.9	0.9	0.5	0.5	0.4	0.5	0.3	0.9	0.8	0.6	0.6
		%	98	98	91	98	96	98	63	98	83	98	98	98	93
		Max-d	0.9	2.2	1.9	2.5	1.3	1.2	0.9	0.7	0.6	1.7	1.4	1.3	2.5
		Min-d	0.3	0.3	0.2	0.2	<0.1	0.2	<0.1	0.3	<0.1	0.2	0.2	0.1	<0.1
	Ochiishi (NOx*)	Mean	0.7	1.2	1.1	1.3	1.1	1.6	1.1	1.4	0.9	1.2	1.1	0.8	1.1
		%	98	98	97	97	92	94	97	99	97	99	96	98	97
		Max-d	1.1	2.7	2.1	2.8	2.5	3.6	2.2	3.1	2.3	3.1	1.9	1.5	3.6
		Min-d	0.4	0.4	0.5	0.3	0.4	0.5	0.3	0.6	0.3	0.4	0.4	0.3	0.3
	Tappi (NOx*)	Mean	-	-	-	-	-	-	-	1.6	1.3	1.0	1.0	0.7	1.1
		%	0	0	0	0	0	0	0	92	99	93	98	98	40
		Max-d	-	-	-	-	-	-	-	5.5	5.7	1.9	2.4	1.4	5.7
		Min-d	-	-	-	-	-	-	-	0.4	0.3	0.4	0.3	0.4	0.3
	Sado-seki (NOx*)	Mean	0.6	1.1	1.2	1.3	0.9	0.6	0.5	0.4	0.5	0.7	0.7	0.5	0.7
		%	97	98	98	97	98	97	85	98	97	98	97	97	96
		Max-d	2.3	3.6	2.9	2.9	1.6	1.4	1.1	1.0	1.1	1.3	1.5	1.1	3.6
		Min-d	0.1	<0.1	0.4	0.4	0.3	<0.1	<0.1	<0.1	<0.1	0.2	0.3	0.2	<0.1
	Happo (NOx*)	Mean	1.1	1.2	1.6	1.7	1.2	1.4	0.8	0.7	0.9	0.9	0.7	0.9	1.1
		%	98	98	98	100	100	83	100	100	100	100	100	100	98
		Max-d	2.9	3.0	4.6	3.6	2.7	2.7	2.2	1.3	1.7	2.0	1.3	2.8	4.6
		Min-d	0.4	0.4	0.3	0.9	<0.1	0.2	<0.1	0.3	0.2	0.3	<0.1	0.2	<0.1
	Ijira (NOx*)	Mean	1.0	1.9	1.1	2.2	2.5	2.2	3.0	2.8	2.5	1.8	1.2	1.3	2.0
		%	99	99	99	99	99	99	99	99	99	99	94	81	97
		Max-d	4.4	4.4	3.0	5.9	6.1	4.3	7.6	4.1	6.4	5.5	3.4	4.3	7.6
		Min-d	<0.1	0.3	<0.1	0.5	0.6	0.2	0.7	1.5	0.2	0.4	0.4	0.2	<0.1
	Oki (NOx*)	Mean	1.0	1.9	1.9	1.7	1.3	1.3	1.3	0.9	1.0	1.2	1.3	0.9	1.3
		%	98	98	97	98	98	98	47	97	98	98	98	84	92
		Max-d	4.1	7.2	4.4	3.7	2.5	2.3	1.9	2.2	2.1	2.8	2.8	3.9	7.2
		Min-d	0.1	<0.1	0.4	<0.1	0.3	0.6	0.5	0.3	0.3	0.2	0.4	0.2	<0.1
	Banryu	Mean	3.4	4.3	3.8	2.2	3.1	2.2	1.6	1.6	1.5	2.1	2.5	2.3	2.5
		%	97	84	97	97	74	87	98	98	98	99	98	85	93
		Max-d	6.1	9.0	6.4	4.0	5.8	5.6	3.1	2.7	2.7	3.9	4.2	4.2	9.0
		Min-d	1.1	2.0	2.1	0.9	1.6	1.2	0.6	0.8	<0.1	0.8	1.4	1.2	<0.1
	Yusuhara (NOx*)	Mean	2.6	2.3	2.0	1.6	0.9	0.5	0.6	0.8	0.6	1.0	1.0	2.0	1.3
		%	97	98	97	96	97	98	98	89	96	97	98	98	97
		Max-d	4.5	4.9	3.9	3.5	2.1	1.1	1.4	4.9	1.9	2.1	2.5	3.8	4.9
		Min-d	0.4	0.6	<0.1	0.4	0.3	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	0.7	<0.1
	Hedo (NOx*)	Mean	0.8	0.8	1.1	0.8	0.4	0.6	0.6	0.9	0.5	1.0	0.4	0.3	0.7
		%	96	77	97	98	83	98	93	78	67	96	98	97	90
		Max-d	1.8	2.1	2.6	1.5	1.3	1.3	1.0	2.0	1.5	1.6	0.7	0.5	2.6
		Min-d	0.3	0.2	0.2	0.2	<0.1	0.2	0.2	0.1	0.2	0.5	<0.1	<0.1	<0.1
	Ogasawara (NOx*)	Mean	1.0	0.5	0.8	0.3	0.2	<0.1	0.2	0.1	<0.1	<0.1	0.3	0.7	0.4
		%	97	96	97	95	97	96	96	96	53	34	97	97	87
		Max-d	2.5	2.1	3.1	1.8	2.4	0.3	2.2	0.6	0.3	0.1	2.5	2.9	3.1
		Min-d	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Thailand	Bangkok	Mean	61.3	39.9	35.6	23.9	31.8	25.0	23.9	62.2	33.5	25.3	28.4	34.1	35.0
		%	100	100	99	100	99	81	95	61	98	71	99	97	92
		Max-d	114.1	55.0	98.2	35.0	72.6	37.9	31.6	127.0	60.3	56.0	64.2	51.7	127.0
		Min-d	29.2	22.3	16.6	14.2	18.1	12.9	17.7	20.9	18.9	4.0	16.0	20.2	4.0
	Samutprakarn	Mean	47.6	24.0	3.9	-	-	-	-	-	-	-	-	-	36.7
		%	69	49	6	0	0	0	0	0	0	0	0	0	10
		Max-d	106.5	68.6	6.0	-	-	-	-	-	-	-	-	-	106.5
		Min-d	18.3	1.8	3.2	-	-	-	-	-	-	-	-	-	1.8
	Khanchanaburi (Vachiralongkorn Dam) (NOx*)	Mean	-	-	1.7	-	-	-	<0.1	-	-	-	12.1	-	4.1
		%	0	0	46	0	0	0	44	0	0	0	37	0	11
		Max-d	-	-	2.7	-	-	-	0.3	-	-	-	142.0	-	142.0
		Min-d	-	-	0.9	-	-	-	<0.1	-	-	-	4.3	-	<0.1
	Chiangmai (Mae Hia) (NOx*)	Mean	16.9	18.6	13.1	10.4	8.0	8.7	8.1	9.5	9.3	9.0	12.5	15.4	11.6
		%	90	85	88	81	95	95	78	92	95	95	96	95	90
		Max-d	34.3	25.4	22.1	16.3	11.1	13.9	12.7	12.9	13.3	13.4	19.2	21.8	34.3
		Min-d	8.0	12.1	7.0	4.6	5.2	5.4	4.7	6.3	6.7	5.9	6.2	8.8	4.6

Mean : monthly or annual arithmetic average values

Max-d : maximum values of daily data

Min-d : minimum values of daily data

% : monthly or annual percentages of period of available data

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

Table 4.10 O₃

Unit : ppb			2011												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Japan	Rishiri	Mean	39	46	49	50	43	39	28	27	31	33	30	29	37
		%	100	100	92	99	98	99	63	99	85	99	99	99	94
		Max-d	43	59	59	74	66	57	46	37	58	46	43	32	74
		Min-d	34	39	42	41	27	24	18	12	24	21	25	25	12
	Ochiishi	Mean	32	40	45	48	39	36	26	26	29	32	33	35	35
		%	100	100	100	100	96	99	100	100	100	99	96	98	99
		Max-d	37	44	55	60	62	50	43	38	42	42	42	39	62
		Min-d	28	35	40	38	29	26	18	14	12	23	28	31	12
	Tappi	Mean	-	-	-	-	-	-	-	36	38	41	39	35	38
		%	0	0	0	0	0	0	0	92	98	96	95	97	40
		Max-d	-	-	-	-	-	-	-	47	59	55	45	38	59
		Min-d	-	-	-	-	-	-	-	18	12	31	32	31	12
	Sado-seki	Mean	49	58	62	62	59	50	34	39	39	48	44	39	49
		%	99	99	99	99	99	99	86	99	98	99	98	99	98
		Max-d	53	76	77	88	90	81	45	54	63	68	53	43	90
		Min-d	43	50	54	47	41	22	26	28	16	37	38	33	16
	Happo	Mean	50	62	67	74	74	63	40	38	37	48	44	40	53
		%	99	100	99	100	100	83	100	100	100	96	100	100	98
		Max-d	55	74	90	86	104	95	64	54	57	73	55	46	104
		Min-d	43	50	55	62	44	23	20	19	18	34	39	34	18
	Ijira	Mean	24	29	33	29	19	15	10	11	14	20	17	17	20
		%	99	99	97	100	99	99	99	99	100	99	94	94	98
		Max-d	33	41	60	44	36	33	28	23	30	33	31	25	60
		Min-d	11	13	24	18	3	3	2	2	3	7	3	4	2
	Oki	Mean	42	50	54	62	57	47	35	38	41	47	40	38	46
		%	99	100	99	100	100	100	100	100	100	100	100	86	99
		Max-d	46	75	73	82	77	69	73	52	65	75	53	44	82
		Min-d	38	41	42	50	38	20	22	26	19	36	33	33	19
	Banryu	Mean	34	39	46	51	43	30	22	21	27	30	26	28	33
		%	99	99	99	99	100	100	100	100	100	100	100	86	99
		Max-d	43	52	66	64	69	55	46	34	43	43	38	34	69
		Min-d	26	25	33	33	15	11	12	13	11	13	13	20	11
	Yusuhara	Mean	35	42	45	52	42	27	17	17	24	35	32	30	33
		%	99	99	99	93	99	99	99	91	94	99	99	99	98
		Max-d	39	61	63	67	65	50	46	37	43	49	44	36	67
		Min-d	31	33	28	39	13	8	6	6	7	23	25	17	6
	Hedo	Mean	46	48	55	55	35	11	4	4	32	42	39	41	33
		%	98	78	99	99	99	99	100	95	84	24	68	40	82
		Max-d	50	74	79	74	74	23	13	23	57	49	55	46	79
		Min-d	40	35	32	34	9	2	<1	<1	10	35	27	39	<1
	Ogasawara	Mean	41	44	50	49	21	12	11	12	14	24	38	37	29
		%	98	100	98	99	99	98	98	98	98	98	98	99	99
		Max-d	46	56	65	67	56	40	27	19	35	45	48	45	67
		Min-d	34	34	37	19	6	5	5	6	8	5	17	16	5
Russia	Mondy	Mean	39	43	47	49	48	47	38	33	33	35	35	37	40
		%	100	97	100	100	100	100	100	100	100	100	100	100	100
		Max-d	42	46	51	55	55	54	51	45	40	41	39	40	55
		Min-d	34	40	44	41	42	38	30	24	21	26	28	33	21
Thailand	Bangkok	Mean	12	21	27	24	16	19	16	-	9	9	20	25	19
		%	74	70	44	88	22	64	8	0	8	47	88	59	47
		Max-d	31	38	60	46	23	48	22	-	10	17	31	34	60
		Min-d	4	7	9	12	8	3	9	-	8	3	11	5	3
	Samutprakarn	Mean	20	12	11	11	-	-	-	-	-	-	-	-	17
		%	62	3	16	7	0	0	0	0	0	0	0	0	7
		Max-d	23	13	22	15	-	-	-	-	-	-	-	-	23
		Min-d	8	10	5	4	-	-	-	-	-	-	-	-	4
	Khanchanaburi (Vachiralongkorn Dam)	Mean	-	-	27	-	-	-	7	-	-	-	3	-	12
		%	0	0	50	0	0	0	44	0	0	0	65	0	13
		Max-d	-	-	39	-	-	-	9	-	-	-	7	-	39
		Min-d	-	-	17	-	-	-	4	-	-	-	<1	-	<1
	Chiangmai (Mae Hia)	Mean	31	34	38	37	23	17	17	16	16	20	24	25	25
		%	89	84	83	81	95	96	78	92	95	95	96	95	90
		Max-d	50	51	61	50	39	24	29	28	27	30	33	36	61
		Min-d	22	19	18	17	13	9	9	8	11	12	17	14	8

Mean : monthly or annual arithmetic average values

Max-d : maximum values of daily data

Min-d : minimum values of daily data

% : monthly or annual percentages of period of available data

Table 4.11 PM₁₀

Unit : µg/m ³			2011												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
China	Jinyunshan	Mean	63	78	56	50	46	35	37	32	32	28	35	49	45
		%	100	97	100	100	100	100	100	100	100	100	100	100	100
		Max-d	96	142	100	108	93	82	70	72	78	108	115	130	142
		Min-d	12	14	5	8	9	17	7	3	3	3	4	5	3
	Hongwen	Mean	61	71	75	101	51	32	38	39	63	70	63	69	61
		%	97	97	100	100	100	100	100	100	100	97	100	100	99
		Max-d	110	122	120	148	102	64	108	88	106	113	112	131	148
		Min-d	31	30	25	66	8	17	11	12	15	27	12	38	8
	Xiang Zhou	Mean	77	59	69	53	38	26	27	28	40	46	53	79	49
		%	100	97	100	100	100	100	100	100	100	100	100	100	100
		Max-d	124	97	101	75	91	62	58	85	68	80	74	125	125
		Min-d	34	20	24	32	15	16	15	10	14	13	22	24	10
Japan	Rishiri	Mean	7	18	15	24	12	16	13	16	15	20	16	6	15
		%	91	91	89	88	86	41	35	87	88	85	88	87	79
		Max-d	19	45	55	58	31	29	22	54	40	43	40	17	58
		Min-d	3	6	5	3	3	3	<1	3	4	3	4	<1	<1
	Ochiishi	Mean	13	25	26	32	29	22	16	15	24	26	28	16	23
		%	100	100	100	100	99	99	100	100	100	100	98	99	99
		Max-d	25	46	55	57	112	69	33	35	55	58	57	40	112
		Min-d	8	6	10	11	10	4	7	4	4	10	12	8	4
	Tappi	Mean	11	18	25	30	20	20	13	15	11	24	16	16	18
		%	100	100	88	75	100	100	100	91	95	100	99	83	94
		Max-d	17	38	116	73	61	45	22	34	36	60	28	35	116
		Min-d	6	8	<1	8	5	5	4	<1	<1	5	4	7	<1
	Sado-seki	Mean	16	24	25	30	35	20	15	17	17	-	19	16	21
		%	93	100	100	100	100	100	99	99	61	0	70	99	85
		Max-d	27	65	77	64	127	51	23	39	32	-	40	28	127
		Min-d	9	8	7	10	6	8	8	7	6	-	6	8	6
	Happo	Mean	3	9	16	18	24	15	12	10	9	12	7	5	12
		%	96	58	29	99	95	100	97	98	97	100	100	80	88
		Max-d	17	23	34	63	129	50	32	20	23	45	18	19	129
		Min-d	<1	3	3	3	2	4	2	<1	1	3	2	<1	<1
	Ijira	Mean	8	17	18	24	46	24	21	22	14	18	13	7	19
		%	100	100	100	100	100	100	100	99	100	100	100	100	100
		Max-d	19	42	51	55	271	49	31	31	26	44	31	14	271
		Min-d	4	6	4	6	4	8	8	12	5	7	4	2	2
	Oki	Mean	22	30	31	33	46	19	19	16	17	23	21	23	25
		%	99	100	99	100	99	100	100	100	100	100	99	99	99
		Max-d	36	82	52	65	261	34	37	32	29	42	47	42	261
		Min-d	13	13	9	18	7	8	9	7	7	9	9	12	7
	Banryu	Mean	17	26	28	31	51	22	19	16	19	23	19	17	24
		%	100	99	98	99	99	100	100	99	100	100	100	99	99
		Max-d	35	65	56	47	325	39	41	24	33	44	42	35	325
		Min-d	3	8	8	10	5	10	8	9	10	9	9	7	3
	Yusuhara	Mean	11	17	17	24	36	15	12	12	8	16	11	10	16
		%	99	100	93	100	100	100	100	100	97	96	100	100	99
		Max-d	25	55	47	54	255	38	31	21	26	44	38	25	255
		Min-d	2	2	6	6	<1	2	1	3	1	3	3	2	<1
	Hedo	Mean	27	33	41	37	31	18	18	20	28	29	26	24	28
		%	99	99	100	100	98	100	100	88	99	100	95	100	98
		Max-d	59	91	75	68	209	34	39	54	60	84	57	34	209
		Min-d	9	11	16	18	2	9	6	<1	10	9	10	14	<1
	Ogasawara	Mean	10	-	12	17	7	6	9	9	11	9	14	9	10
		%	37	0	14	100	100	99	100	100	99	100	100	100	80
		Max-d	18	-	17	39	22	10	26	21	30	18	24	16	39
		Min-d	4	-	8	7	2	3	3	3	4	2	4	1	1
Thailand	Bangkok	Mean	65	49	35	36	24	28	20	22	25	32	42	57	38
		%	86	71	53	45	58	44	74	52	97	95	96	92	72
		Max-d	99	77	57	63	46	50	36	30	36	57	66	86	99
		Min-d	7	18	17	24	17	16	12	10	14	17	24	25	7
	Samutprakarn	Mean	54	-	45	-	-	-	56	54	54	54	-	-	54
		%	69	0	9	0	0	0	32	57	86	85	0	0	28
		Max-d	81	-	73	-	-	-	70	76	81	76	-	-	81
		Min-d	33	-	35	-	-	-	33	36	28	27	-	-	27
	Khanchanaburi (Vachiralongkorn Dam)	Mean	-	-	26	-	-	-	11	-	-	-	29	-	23
		%	0	0	50	0	0	0	43	0	0	0	61	0	13
		Max-d	-	-	41	-	-	-	16	-	-	-	46	-	46
		Min-d	-	-	10	-	-	-	9	-	-	-	17	-	9
	Chiangmai (Mae Hia)	Mean	48	54	50	44	24	20	19	19	19	28	30	46	33
		%	95	91	94	84	99	100	81	95	100	100	100	100	95
		Max-d	67	84	95	90	46	37	40	26	29	47	46	67	95
		Min-d	27	28	4	11	14	10	9	11	12	16	19	31	4

Mean : monthly or annual arithmetic average values

Max-d : maximum values of daily data

Min-d : minimum values of daily data

% : monthly or annual percentages of period of available data

Table 4.12 PM_{2.5}

Unit : $\mu\text{g}/\text{m}^3$			2011												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Japan	Rishiri	Mean	5	11	9	12	8	9	9	7	7	11	10	4	8
		%	100	100	100	100	98	100	64	100	100	100	100	100	97
		Max-d	10	26	25	35	20	24	29	12	15	26	23	9	35
		Min-d	3	4	4	3	3	2	2	3	3	3	2	1	1
	Ochiishi	Mean	7	13	11	14	14	11	8	7	8	11	12	6	10
		%	99	99	99	99	99	99	100	100	100	99	97	98	99
		Max-d	14	26	29	30	76	62	17	16	14	29	25	18	76
		Min-d	2	2	5	4	3	2	3	2	1	3	5	1	1
	Oki	Mean	9	-	22	16	16	14	15	13	12	18	15	12	14
		%	49	0	24	99	100	100	99	100	100	100	100	99	81
		Max-d	16	-	28	29	46	26	31	24	28	39	37	29	46
		Min-d	5	-	14	6	4	5	6	5	3	7	6	6	3

Mean : monthly or annual arithmetic average values

Max-d : maximum values of daily data

Min-d : minimum values of daily data

% : monthly or annual percentages of period of available data

Table 4.13 Particulate matter component: SO₄²⁻

Unit : µg/m ³			2011													Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
Cambodia	Phnom Penh	Mean	2.55	4.97	3.92	3.06	2.44	1.43	2.93	1.72	1.46	0.95	2.81	4.14	2.70	
		%	100	100	76	100	100	100	100	100	100	69	100	100	100	94
		Max-2w	3.69	5.42	4.53	3.31	2.97	1.50	2.93	1.83	1.56	1.35	3.22	4.18	5.42	5.42
		Min-2w	1.41	4.53	3.31	2.81	1.91	1.35	2.92	1.60	1.36	0.55	2.41	4.10	0.55	0.55
China	Hongwen	Mean	17.77	27.15	26.08	31.50	21.98	14.33	13.76	9.97	15.60	11.65	9.99	13.21	17.60	
		%	50	100	100	100	100	100	100	100	100	100	100	100	100	96
		Max-2w	17.77	28.90	29.32	32.13	27.34	22.08	16.12	10.65	31.01	12.24	10.15	15.14	32.13	32.13
		Min-2w	17.77	25.40	22.84	30.88	16.62	7.19	11.40	9.28	0.18	11.06	9.83	11.27	0.18	0.18
Indonesia	Serpong	Mean	1.26	1.30	0.47	0.61	0.56	0.45	0.13	0.59	0.55	0.24	0.96	0.98	0.65	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	1.29	1.39	0.79	0.63	0.78	0.57	0.17	1.04	0.95	0.42	1.13	1.00	1.39	1.39
		Min-2w	1.24	1.20	0.15	0.59	0.33	0.33	0.06	0.15	0.15	0.05	0.79	0.95	0.05	0.05
Japan	Rishiri	Mean	1.16	3.35	2.78	3.99	3.28	3.53	2.93	2.70	2.04	2.91	2.47	1.18	2.71	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	1.16	3.62	2.95	4.84	4.49	3.63	3.86	3.96	2.59	3.78	3.53	1.48	4.84	4.84
		Min-2w	1.15	3.09	2.62	3.15	2.10	3.42	2.01	1.45	1.50	2.04	1.86	0.88	0.88	0.88
	Ochiishi	Mean	1.28	2.55	2.95	1.92	2.15	2.95	2.75	2.24	1.26	1.66	1.95	1.45	2.13	
		%	50	100	100	100	100	100	100	100	100	100	100	100	100	96
		Max-2w	1.28	3.53	3.13	3.60	3.51	3.94	3.57	2.44	1.98	1.85	2.52	1.77	3.94	3.94
		Min-2w	1.28	1.57	2.76	0.25	0.79	1.97	1.93	2.04	0.54	1.48	1.37	1.14	0.25	0.25
	Tappi	Mean	2.63	4.38	5.05	4.48	5.53	5.08	4.25	3.94	1.86	3.21	3.72	3.18	3.99	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	2.76	5.00	5.24	4.91	7.41	6.02	4.34	5.55	2.77	3.65	4.04	3.19	7.41	7.41
		Min-2w	2.50	3.75	4.86	4.05	4.58	4.15	4.15	2.32	0.95	2.78	3.44	3.18	0.95	0.95
	Sado-seki	Mean	2.68	4.96	4.20	2.03	4.10	-	3.75	4.54	2.10	4.10	2.88	2.52	3.50	
		%	100	100	100	100	100	0	100	100	100	100	100	100	92	
		Max-2w	2.82	5.32	4.79	2.64	5.73	-	3.76	6.63	3.29	4.56	3.47	2.95	6.63	6.63
		Min-2w	2.55	4.61	3.62	1.43	2.21	-	3.73	2.44	0.91	3.66	2.30	2.09	0.91	0.91
	Happo	Mean	0.26	0.49	0.62	0.53	0.95	0.94	0.56	2.53	1.44	2.04	0.28	0.77	1.02	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.29	0.53	0.79	0.85	1.41	1.42	0.59	2.56	1.62	3.01	0.28	1.12	3.01	3.01
		Min-2w	0.23	0.45	0.46	0.20	0.36	0.47	0.53	2.50	1.25	1.32	0.28	0.42	0.20	0.20
	Ijira	Mean	1.83	3.91	3.69	3.97	5.07	4.66	3.89	4.93	2.56	4.03	1.59	1.50	3.55	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	1.97	4.42	4.44	4.25	5.63	5.14	3.91	5.34	3.13	5.41	2.33	1.64	5.63	5.63
		Min-2w	1.69	3.39	2.94	3.68	4.44	4.18	3.87	4.51	1.99	2.25	0.84	1.36	0.84	0.84
	Okii	Mean	4.56	7.05	4.23	6.18	6.49	5.93	3.19	2.84	2.70	5.25	3.46	4.55	4.76	
		%	100	100	100	100	100	100	54	100	100	100	100	100	100	96
		Max-2w	4.74	8.97	5.31	6.59	6.92	7.33	3.19	2.89	3.34	5.33	4.25	4.88	8.97	8.97
		Min-2w	4.38	5.13	3.15	5.77	6.06	5.06	3.19	2.79	2.07	5.17	2.08	4.21	2.07	2.07
	Banryu	Mean	3.32	5.00	4.49	6.07	6.31	6.34	3.64	3.09	2.94	4.54	3.48	4.52	4.55	
		%	100	100	100	100	100	100	100	100	100	100	63	100	96	96
		Max-2w	3.89	6.10	5.02	6.72	6.65	6.93	3.97	3.33	4.44	5.26	3.81	4.73	6.93	6.93
		Min-2w	2.75	3.91	3.96	5.42	6.12	5.75	3.30	2.84	1.44	3.83	3.15	4.32	1.44	1.44
	Yusuhara	Mean	3.49	4.71	3.86	5.57	6.12	4.48	2.59	3.32	1.75	4.16	3.13	4.07	4.03	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	3.89	6.27	4.26	5.61	7.31	4.77	3.63	3.75	2.30	5.67	3.95	4.07	7.31	7.31
		Min-2w	3.10	3.15	3.46	5.54	4.53	4.18	1.55	2.88	1.21	2.30	2.31	4.07	1.21	1.21
	Hedo	Mean	1.11	1.74	1.87	2.18	1.52	0.49	0.69	0.43	3.02	5.25	4.93	6.69	2.48	
		%	100	100	100	100	67	100	100	100	50	100	50	100	88	88
		Max-2w	1.21	2.15	1.94	2.75	1.90	0.55	0.93	0.60	3.02	6.63	4.93	7.15	7.15	7.15
		Min-2w	1.02	1.33	1.80	1.60	1.15	0.42	0.46	0.26	3.02	3.95	4.93	6.22	0.26	0.26
	Ogasawara	Mean	3.97	3.85	3.09	4.44	1.99	1.03	0.92	-	3.34	1.26	2.53	2.70	2.46	
		%	64	100	100	100	100	100	100	0	39	100	100	100	84	84
		Max-2w	3.97	5.63	4.08	4.55	3.33	1.15	1.33	-	3.34	1.99	3.15	2.93	5.63	5.63
		Min-2w	3.97	2.08	2.10	4.33	1.29	0.90	0.51	-	3.34	0.05	1.91	2.47	0.05	0.05
	Tokyo	Mean	1.87	4.40	3.83	4.22	6.34	6.61	4.25	6.08	2.74	3.34	2.43	1.79	4.06	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	2.10	4.53	4.09	4.27	6.59	6.97	4.32	7.27	3.20	4.29	2.60	1.99	7.27	7.27
		Min-2w	1.64	4.27	3.58	4.17	6.16	6.25	4.19	4.88	2.27	1.92	2.26	1.59	1.59	1.59
Malaysia	Tanah Rata	Mean	0.91	1.95	0.72	1.57	1.97	2.34	0.15	1.84	1.97	0.62	0.45	0.21	1.18	
		%	100	100	100	100	100	100	100	50	100	100	100	100	96	
		Max-w	1.80	3.16	1.82	2.02	2.76	3.34	0.21	2.98	5.00	1.39	0.83	0.28	5.00	5.00
		Min-w	0.07	1.39	0.13	1.40	1.22	1.28	0.10	0.70	0.08	0.06	0.02	0.06	0.02	0.02
	Petaling Jaya	Mean	2.99	6.48	3.70	5.20	2.97	3.79	6.17	6.32	5.81	2.30	1.39	2.38	4.22	
		%	100	100	100	100	100	100	100	100	100	100	100	80	98	98
		Max-w	5.06	12.56	6.84	6.87	5.59	5.51	9.68	7.94	10.32	5.19	3.05	2.65	12.56	12.56
		Min-w	1.50	3.43	1.47	3.74	0.31	0.43	2.85	4.16	2.83	0.67	0.57	2.15	0.31	0.31
	Danum Valley	Mean	0.61	1.09	0.70	1.56	0.97	1.23	0.01	1.24	2.24	0.29	0.21	0.03	0.86	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.62	1.18	0.94	1.71	1.19	2.04	0.02	2.49	3.64	0.48	0.25	0.05	3.64	3.64
		Min-2w	0.60	1.00	0.47	1.40	0.76	0.43	0.01	<0.01	0.85	0.10	0.18	0.02	<0.01	<0.01
Mongolia	Ulaanbaatar	Mean	7.35	8.94	2.92	3.35	2.43	2.97	2.54	2.39	3.07	3.50	4.87	5.48	4.11	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	17.37	14.13	8.47	4.02	3.70	5.77	3.07	2.73	5.06	6.98	5.18	7.42	17.37	17.37
		Min-w	1.51	2.82	0.73	2.58	0.99	1.45	2.08	2.02	0.68	0.86	4.21	3.96	0.68	0.68
	Terelj	Mean	1.82	1.18	1.86	1.18	0.59	0.55	0.77	0.93	0.81	0.56	0.68	1.49	1.06	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	2.57	2.07	2.45	1.39	0.78	0.60	0.78	1.08	0.96	0.86	0.72	1.97	2.57	2.57
		Min-2w	1.06	0.29	1.52	0.97	0.39	0.49	0.75	0.78	0.69	0.26	0.63	1.01	0.26	0.26
Myanmar	Yangon	Mean	†	†	†	†	†	†	†	†	†	†	3.40	4.14	3.77	
		%	†	†	†	†	†	†	†	†	†	†	68	100	13	
		Max-2w	†	†	†	†	†	†	†	†	†	†	†	3.90	5.90	5.90
		Min-2w	†	†	†	†	†	†	†	†	†	†	†	2.89	2.38	2.38

Table 4.13 Particulate matter component: SO₄²⁻

Unit : µg/m ³			2011												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Russia	Mondy	Mean	-	0.05	0.12	0.04	0.20	0.30	0.27	0.22	0.13	0.37	0.20	0.07	0.19
		%	0	100	100	100	100	100	100	100	100	100	100	100	91
		Max-2w	-	0.07	0.22	0.05	0.26	0.30	0.31	0.24	0.13	0.45	0.25	0.07	0.45
		Min-2w	-	0.03	0.02	0.04	0.14	0.29	0.23	0.21	0.13	0.29	0.16	0.07	0.02
	Listvianka	Mean	1.38	1.49	1.08	0.84	0.63	0.83	0.96	1.07	0.78	0.74	0.92	1.31	1.00
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	2.76	1.94	1.46	1.26	0.93	1.33	1.20	1.49	1.03	1.18	1.53	1.71	2.76
		Min-w	0.44	1.14	0.64	0.55	0.45	0.58	0.68	0.77	0.65	0.28	0.37	0.93	0.28
	Irkutsk	Mean	3.91	3.70	3.11	1.90	1.11	0.71	1.56	1.15	1.51	2.40	2.95	3.38	2.28
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	6.92	6.77	6.73	3.08	1.76	1.51	2.23	2.02	3.30	3.65	4.09	7.35	7.35
		Min-w	2.03	1.03	0.94	1.16	0.36	0.18	0.89	0.42	0.17	1.85	1.82	1.67	0.17
	Primorskaya	Mean	5.90	5.19	3.87	4.16	2.70	5.54	1.92	1.23	3.00	2.61	3.55	3.51	3.60
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	9.84	5.31	3.95	5.67	3.23	6.50	2.09	1.96	3.91	2.78	3.66	3.73	9.84
		Min-2w	1.96	5.07	3.79	2.65	2.16	4.58	1.75	0.50	2.08	2.44	3.44	3.29	0.50
Thailand	Bangkok	Mean	1.72	4.45	4.78	4.90	2.23	2.91	2.05	1.25	1.58	4.26	3.58	5.87	3.31
		%	64	100	100	100	100	100	100	100	100	100	77	100	95
		Max-10d	3.35	5.38	7.23	6.71	3.82	4.36	3.18	1.71	3.29	4.98	6.14	7.41	7.41
		Min-10d	0.09	2.61	1.85	3.96	0.18	1.46	0.97	1.00	0.33	3.53	1.03	4.03	0.09
	Pathumthani	Mean	0.82	3.49	2.07	1.90	0.62	2.89	1.91	1.38	0.87	-	-	-	1.64
		%	79	43	100	100	100	58	77	68	100	0	0	0	61
		Max-10d	1.62	3.49	4.01	2.28	1.23	5.68	2.23	1.59	1.33	-	-	-	5.68
		Min-10d	0.02	3.49	0.12	1.63	0.02	0.11	1.59	1.17	0.47	-	-	-	0.02
	Khanchanaburi (Vachiralongkom Dam)	Mean	-	-	0.08	-	-	-	1.46	-	-	-	4.70	-	2.08
		%	0	0	50	0	0	0	50	0	0	0	53	0	14
		Max-2w	-	-	0.08	-	-	-	1.46	-	-	-	4.70	-	4.70
		Min-2w	-	-	0.08	-	-	-	1.46	-	-	-	4.70	-	0.08
	Chiangmai (Mae Hia)	Mean	-	-	1.46	1.44	0.64	0.79	0.25	0.30	0.34	1.06	3.14	4.02	1.34
		%	0	0	97	100	97	97	97	97	100	90	100	81	81
		Max-10d	-	-	2.69	3.78	1.16	1.42	0.65	0.61	0.40	1.84	4.41	8.83	8.83
		Min-10d	-	-	0.80	0.14	0.25	0.15	0.01	0.07	0.23	0.59	2.42	0.90	0.01
	Nakhon Ratchasima	Mean	-	-	0.36	4.66	2.28	2.54	1.43	1.30	1.08	2.50	4.02	7.22	2.74
		%	0	0	100	100	100	97	100	100	100	100	100	100	82
		Max-10d	-	-	0.51	5.66	3.13	4.95	2.20	1.69	1.65	5.08	5.92	10.23	10.23
		Min-10d	-	-	0.15	3.92	1.62	1.14	0.92	0.94	0.37	0.23	0.79	3.22	0.15
Vietnam	Hanoi	Mean	20.69	17.56	17.15	18.45	14.43	7.36	7.43	7.16	12.27	10.63	21.74	18.52	14.40
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	28.05	24.66	21.80	22.86	27.25	17.42	15.52	13.28	19.08	25.80	27.81	30.47	30.47
		Min-w	15.43	9.80	11.31	13.26	7.79	3.55	4.23	3.79	5.74	3.71	16.64	3.26	3.26
	Hoa Binh	Mean	1.51	3.35	1.86	7.96	3.02	2.94	1.43	0.98	1.67	1.66	4.54	13.61	3.81
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	2.42	6.70	2.80	13.60	5.12	7.44	2.51	1.71	3.52	2.56	7.11	27.83	27.83
		Min-w	1.11	1.52	0.67	2.90	1.09	0.57	0.93	0.59	0.58	1.06	1.24	2.00	0.57

† Filterpack monitoring at Yangon was started in November, 2011.

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 interval data

Min-10d : minimum values of 10-day interval data

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

% : monthly or annual percentages of period of available data

[illegible]

Table 4.14 Particulate matter component: NO₃⁻

Unit : µg/m ³			2011												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Russia	Mondy	Mean	-	0.03	0.02	0.02	<0.01	<0.01	<0.01	0.03	0.02	0.01	<0.01	0.07	0.02
		%	0	100	100	100	100	100	100	100	100	100	100	100	91
		Max-2w	-	0.03	0.02	0.02	<0.01	<0.01	<0.01	0.03	0.02	0.01	<0.01	0.07	0.07
		Min-2w	-	0.03	0.01	0.02	<0.01	<0.01	<0.01	0.02	0.02	<0.01	<0.01	0.07	<0.01
	Listvianka	Mean	0.14	0.98	1.15	0.26	0.07	0.02	0.03	0.05	0.05	0.12	0.15	0.12	0.25
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.21	2.36	2.09	0.60	0.12	0.03	0.06	0.07	0.08	0.24	0.17	0.17	2.36
		Min-w	0.05	0.10	0.62	0.06	0.04	0.01	0.01	0.04	0.03	0.04	0.10	0.02	0.01
	Irkutsk	Mean	1.93	2.25	1.75	1.35	0.48	0.09	0.20	0.11	0.27	1.11	0.77	0.49	0.88
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	3.28	3.84	2.82	3.02	1.17	0.21	0.35	0.20	0.73	1.65	1.33	1.20	3.84
		Min-w	0.52	0.57	0.71	0.45	0.04	0.01	0.09	0.04	<0.01	0.75	<0.01	<0.01	<0.01
	Primorskaya	Mean	0.74	0.49	0.28	0.69	0.12	0.08	0.19	0.14	0.09	0.06	0.11	0.31	0.27
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.84	0.80	0.38	0.78	0.14	0.12	0.30	0.23	0.11	0.07	0.12	0.43	0.84
		Min-2w	0.63	0.19	0.19	0.60	0.09	0.04	0.07	0.05	0.07	0.05	0.10	0.19	0.04
Thailand	Bangkok	Mean	1.67	3.38	3.12	4.22	1.49	1.73	1.16	1.10	0.92	2.41	0.91	1.64	2.00
		%	64	100	100	100	100	100	100	100	100	100	77	100	95
		Max-10d	3.32	4.79	4.35	5.54	2.36	2.01	1.51	1.44	1.50	3.98	1.66	2.78	5.54
		Min-10d	0.01	1.31	1.03	2.89	0.06	1.45	0.77	0.88	0.33	1.39	0.16	0.51	0.01
	Pathumthani	Mean	0.20	1.55	0.75	0.91	0.41	1.56	1.49	1.24	0.65	-	-	-	0.92
		%	79	43	100	100	100	58	77	68	100	0	0	0	61
		Max-10d	0.35	1.55	1.18	1.31	0.81	2.98	1.72	1.35	1.10	-	-	-	2.98
		Min-10d	0.05	1.55	0.32	0.62	<0.01	0.13	1.25	1.12	0.29	-	-	-	<0.01
	Khanchanaburi (Vachiralongkom Dam)	Mean	-	-	0.02	-	-	-	0.10	-	-	-	<0.01	-	0.04
		%	0	0	50	0	0	0	50	0	0	0	53	0	14
		Max-2w	-	-	0.02	-	-	-	0.10	-	-	-	<0.01	-	0.10
		Min-2w	-	-	0.02	-	-	-	0.10	-	-	-	<0.01	-	<0.01
	Chiangmai (Mae Hia)	Mean	-	-	0.39	0.15	0.49	0.36	0.22	0.26	0.17	0.08	0.17	0.14	0.24
		%	0	0	97	100	97	97	97	97	97	100	90	100	81
		Max-10d	-	-	0.59	0.21	0.67	0.71	0.42	0.46	0.27	0.20	0.20	0.23	0.71
		Min-10d	-	-	0.27	0.10	0.17	0.12	0.09	0.07	<0.01	<0.01	0.12	0.09	<0.01
	Nakhon Ratchasima	Mean	-	-	0.02	0.84	0.30	0.55	0.32	0.43	0.14	0.08	0.26	0.14	0.31
		%	0	0	100	100	100	97	100	100	100	100	100	100	82
		Max-10d	-	-	0.04	1.04	0.48	0.92	0.47	0.78	0.23	0.22	0.35	0.23	1.04
		Min-10d	-	-	<0.01	0.68	0.10	0.27	0.20	0.14	0.06	<0.01	0.12	0.08	<0.01
Vietnam	Hanoi	Mean	10.40	10.28	10.13	9.06	4.61	3.06	2.78	2.68	3.06	4.74	9.89	11.19	6.82
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	17.58	13.71	13.92	13.10	5.73	4.04	3.12	3.38	4.33	14.08	12.92	18.68	18.68
		Min-w	5.79	3.68	6.23	6.78	3.83	2.14	2.36	2.36	1.95	0.56	7.29	1.22	0.56
	Hoa Binh	Mean	0.65	1.83	0.93	2.63	0.41	0.45	0.27	0.27	0.26	0.34	0.71	4.47	1.14
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.90	4.33	1.43	6.17	0.57	1.38	0.32	0.36	0.38	0.44	1.46	7.44	7.44
		Min-w	0.29	0.41	0.43	0.44	0.29	0.16	0.23	0.17	0.13	0.27	0.25	0.61	0.13

† Filterpack monitoring at Yangon was started in November, 2011.

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 interval data

Min-10d : minimum values of 10-day interval data

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

% : monthly or annual percentages of period of available data

Table 4.15 Particulate matter component: Cl

Unit : $\mu\text{g}/\text{m}^3$			2011												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Cambodia	Phnom Penh	Mean	0.09	0.16	<0.01	0.01	0.15	0.54	0.16	0.34	0.39	0.11	0.45	0.23	0.22
		%	100	100	76	100	100	100	100	100	69	100	100	100	94
		Max-2w	0.12	0.30	0.01	0.03	0.22	0.86	0.16	0.46	0.50	0.18	0.84	0.31	0.86
		Min-2w	0.05	0.01	<0.01	<0.01	0.07	0.21	0.16	0.21	0.29	0.04	0.07	0.15	<0.01
China	Hongwen	Mean	3.13	3.08	2.68	1.31	1.44	1.02	0.64	0.66	0.25	0.76	2.34	1.86	1.51
		%	50	100	100	100	100	100	100	100	100	100	100	100	96
		Max-2w	3.13	3.38	2.87	1.80	2.29	2.05	0.75	0.67	0.35	0.77	2.87	2.29	3.38
		Min-2w	3.13	2.77	2.49	0.82	0.60	0.46	0.53	0.65	0.14	0.76	1.81	1.44	0.14
Indonesia	Serpong	Mean	0.08	0.09	0.12	0.10	0.08	0.03	0.13	0.20	0.11	0.06	0.06	0.11	0.10
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.13	0.17	0.17	0.18	0.09	0.04	0.17	0.34	0.14	0.09	0.08	0.16	0.34
		Min-2w	0.04	0.01	0.08	0.01	0.06	0.02	0.06	0.06	0.08	0.02	0.04	0.05	0.01
Japan	Rishiri	Mean	0.79	2.82	3.29	4.97	1.11	0.76	0.03	1.57	3.86	5.14	2.51	1.31	2.31
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.85	3.14	4.45	6.91	1.98	0.99	0.03	2.45	5.51	5.23	3.45	1.39	6.91
		Min-2w	0.72	2.50	2.13	3.03	0.18	0.54	0.02	0.70	2.21	5.05	1.85	1.24	0.02
	Ochiishi	Mean	2.08	3.87	5.30	3.10	2.06	1.33	1.77	1.13	3.33	5.34	4.90	4.51	3.28
		%	50	100	100	100	100	100	100	100	100	100	100	100	96
		Max-2w	2.08	5.89	6.61	5.39	2.24	1.87	2.36	1.27	3.36	6.13	5.66	6.72	6.72
		Min-2w	2.08	1.85	3.98	0.81	1.89	0.80	1.18	0.99	3.30	4.55	4.15	2.31	0.80
	Tappi	Mean	6.00	4.73	9.27	5.35	5.74	0.57	0.16	1.26	2.79	7.55	12.82	11.53	5.93
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	7.26	5.03	9.47	6.37	14.42	1.05	0.23	2.22	5.02	8.93	14.68	12.85	14.68
		Min-2w	4.73	4.43	9.08	4.33	0.22	0.09	0.09	0.30	0.56	6.17	10.21	10.22	0.09
	Sado-seki	Mean	4.75	3.63	3.98	1.44	2.16	-	0.11	0.84	3.16	3.76	4.59	5.35	3.06
		%	100	100	100	100	100	0	100	100	100	100	100	100	92
		Max-2w	4.91	4.58	4.24	1.63	3.19	-	0.15	0.96	3.84	5.80	5.39	5.82	5.82
		Min-2w	4.59	2.69	3.71	1.24	0.14	-	0.06	0.73	2.48	2.37	3.79	4.88	0.06
	Happo	Mean	0.01	<0.01	<0.01	<0.01	0.03	<0.01	0.01	0.03	0.03	0.02	<0.01	<0.01	0.02
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.02	<0.01	<0.01	<0.01	0.08	<0.01	0.02	0.06	0.04	0.03	<0.01	<0.01	0.08
		Min-2w	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01
	Ijira	Mean	0.02	0.09	0.04	0.06	0.03	0.01	0.03	<0.01	0.10	0.04	0.06	0.04	0.04
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.03	0.13	0.04	0.09	0.04	0.01	0.05	<0.01	0.14	0.05	0.10	0.05	0.14
		Min-2w	0.01	0.05	0.03	0.03	0.02	<0.01	0.01	<0.01	0.07	0.03	0.02	0.04	<0.01
	Okii	Mean	11.97	5.54	5.26	3.83	1.90	0.55	1.75	0.89	3.16	3.09	4.23	9.92	4.29
		%	100	100	100	100	100	100	54	100	100	100	100	100	96
		Max-2w	13.87	7.86	5.55	5.42	2.50	1.04	1.75	0.95	3.67	4.08	7.42	10.97	13.87
		Min-2w	10.08	3.23	4.97	2.23	1.31	0.08	1.75	0.84	2.65	2.10	1.50	8.88	0.08
	Banryu	Mean	2.01	2.94	2.18	1.55	0.59	0.01	1.17	0.12	2.88	0.97	2.12	2.28	1.53
		%	100	100	100	100	100	100	100	100	100	100	63	100	96
		Max-2w	2.33	3.92	2.57	1.96	0.90	0.02	1.50	0.13	2.92	1.45	2.62	2.82	3.92
		Min-2w	1.69	1.96	1.78	1.13	0.42	<0.01	0.84	0.10	2.84	0.49	1.61	1.74	<0.01
	Yusuhara	Mean	0.11	0.42	0.09	0.05	0.02	<0.01	<0.01	0.01	0.14	0.03	0.06	0.02	0.08
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.14	0.81	0.12	0.05	0.04	<0.01	0.01	0.02	0.24	0.07	0.06	0.02	0.81
		Min-2w	0.08	0.04	0.07	0.04	<0.01	<0.01	<0.01	<0.01	0.04	<0.01	0.05	0.01	<0.01
	Hedo	Mean	1.53	1.06	1.87	1.11	0.85	1.33	1.24	1.02	2.05	7.03	11.76	8.04	3.09
		%	100	100	100	100	67	100	100	100	50	100	50	100	88
		Max-2w	1.67	1.21	2.60	1.39	1.00	1.48	1.46	1.65	2.05	9.72	11.76	8.90	11.76
		Min-2w	1.39	0.91	1.14	0.83	0.70	1.18	1.02	0.40	2.05	5.36	11.76	7.17	0.40
	Ogasawara	Mean	3.48	3.51	3.94	4.63	1.69	1.70	2.85	-	13.56	4.06	4.90	2.95	3.79
		%	64	100	100	100	100	100	100	0	39	100	100	100	84
		Max-2w	3.48	5.93	4.13	5.73	2.77	2.07	4.19	-	13.56	7.72	5.80	3.63	13.56
		Min-2w	3.48	1.10	3.76	3.54	1.07	1.33	1.51	-	13.56	0.03	3.99	2.28	0.03
	Tokyo	Mean	0.51	1.31	0.48	0.91	0.32	0.17	0.89	0.14	1.55	0.72	0.70	0.87	0.70
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.54	1.69	0.70	1.06	0.52	0.19	1.00	0.18	1.66	1.08	0.81	1.01	1.69
		Min-2w	0.47	0.93	0.26	0.76	0.20	0.16	0.78	0.09	1.43	0.35	0.59	0.72	0.09
Malaysia	Tanah Rata	Mean	0.04	0.02	0.06	<0.01	0.02	0.01	0.03	0.03	0.04	0.02	0.02	0.03	0.03
		%	100	100	100	100	100	100	100	50	100	100	100	100	96
		Max-w	0.07	0.04	0.19	0.01	0.06	0.03	0.07	0.04	0.09	0.04	0.04	0.08	0.19
		Min-w	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
	Petaling Jaya	Mean	0.26	0.06	0.09	0.07	0.09	0.06	0.11	0.11	0.10	0.05	0.13	0.16	0.11
		%	100	100	100	100	100	100	100	100	100	100	100	80	98
		Max-w	0.62	0.08	0.15	0.10	0.16	0.12	0.16	0.18	0.18	0.06	0.19	0.28	0.62
		Min-w	0.05	0.03	0.06	0.03	0.03	<0.01	0.06	0.04	0.04	0.03	0.07	0.09	<0.01
	Danum Valley	Mean	0.04	0.27	0.07	0.02	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	0.02	0.02	0.04
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.08	0.53	0.09	0.03	<0.01	0.01	<0.01	0.01	0.02	<0.01	0.02	0.04	0.53
		Min-2w	0.01	<0.01	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01
Mongolia	Ulaanbaatar	Mean	1.01	1.31	0.47	1.04	1.36	0.90	1.61	1.06	1.11	1.91	1.33	1.25	1.18
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	1.78	1.88	1.39	1.19	2.64	1.73	2.05	1.40	1.35	2.70	1.68	2.08	2.70
		Min-w	0.69	0.34	0.18	0.82	0.47	0.38	0.75	0.82	0.76	1.15	0.86	0.97	0.18
	Terelj	Mean	0.11	0.18	0.22	0.19	0.20	0.19	0.18	0.17	0.21	0.26	0.20	0.61	0.23
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.21	0.24	0.29	0.20	0.24	0.26	0.19	0.21	0.24	0.36	0.24	0.69	0.69
		Min-2w	0.02	0.13	0.16	0.17	0.16	0.12	0.17	0.14	0.15	0.15	0.54	0.02	0.54
Myanmar	Yangon	Mean	†	†	†	†	†	†	†	†	†	†	0.57	0.61	0.59
		%	†	†	†	†	†	†	†	†	†	†	68	100	13
		Max-2w	†	†	†	†	†	†	†	†	†	†	0.59	0.66	0.66
		Min-2w	†	†	†	†	†	†	†	†	†	†	0.55	0.57	0.55

Table 4.15 Particulate matter component: CF

Unit : $\mu\text{g}/\text{m}^3$			2011												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Russia	Mondy	Mean	-	0.02	0.02	0.01	<0.01	0.02	0.09	0.04	0.01	0.03	0.02	0.17	0.04
		%	0	100	100	100	100	100	100	100	100	100	100	100	91
		Max-2w	-	0.04	0.02	0.02	<0.01	0.04	0.14	0.06	0.01	0.05	0.02	0.17	0.17
		Min-2w	-	<0.01	0.01	0.01	<0.01	<0.01	0.04	0.03	0.01	<0.01	0.02	0.17	<0.01
	Listvianka	Mean	0.02	0.01	0.12	0.08	0.04	0.02	<0.01	0.01	0.03	0.03	0.03	0.02	0.04
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.05	0.02	0.34	0.12	0.08	0.05	0.01	0.02	0.07	0.04	0.05	0.04	0.34
		Min-w	0.01	<0.01	0.03	0.02	0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.02	<0.01	<0.01
	Irkutsk	Mean	0.47	1.15	0.66	0.53	0.35	0.01	0.07	0.04	0.09	0.38	0.89	0.64	0.43
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.68	2.44	0.93	1.01	1.08	0.02	0.19	0.07	0.16	0.62	1.63	1.28	2.44
		Min-w	0.37	0.50	0.32	0.08	0.01	<0.01	0.02	0.01	0.02	0.22	0.21	0.13	<0.01
	Primorskaya	Mean	0.05	0.04	0.16	0.31	0.10	0.09	0.17	0.02	0.04	0.03	0.03	0.05	0.09
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.06	0.07	0.25	0.46	0.14	0.13	0.20	0.03	0.06	0.04	0.03	0.07	0.46
		Min-2w	0.03	0.01	0.08	0.15	0.06	0.05	0.14	0.01	0.02	0.02	0.02	0.03	0.01
Thailand	Bangkok	Mean	0.08	0.58	0.17	0.25	0.06	1.01	0.42	0.33	0.08	0.68	0.03	0.13	0.32
		%	64	100	100	100	100	100	100	100	100	100	77	100	95
		Max-10d	0.16	0.98	0.24	0.55	0.10	1.75	0.54	0.71	0.13	1.70	0.06	0.22	1.75
		Min-10d	<0.01	0.14	0.04	0.05	<0.01	0.28	0.37	0.14	0.02	0.01	<0.01	0.03	<0.01
	Pathumthani	Mean	<0.01	0.14	0.11	<0.01	<0.01	0.56	0.31	0.14	0.13	-	-	-	0.15
		%	79	43	100	100	100	58	77	68	100	0	0	0	61
		Max-10d	0.01	0.14	0.18	0.01	<0.01	1.07	0.54	0.15	0.21	-	-	-	1.07
		Min-10d	<0.01	0.14	0.04	<0.01	<0.01	0.04	0.08	0.13	0.03	-	-	-	<0.01
	Khanchanaburi (Vachiralongkorn Dam)	Mean	-	-	<0.01	-	-	-	0.13	-	-	-	<0.01	-	0.05
		%	0	0	50	0	0	0	50	0	0	0	53	0	14
		Max-2w	-	-	<0.01	-	-	-	0.13	-	-	-	<0.01	-	0.13
		Min-2w	-	-	<0.01	-	-	-	0.13	-	-	-	<0.01	-	<0.01
	Chiangmai (Mae Hia)	Mean	-	-	0.09	0.13	0.12	0.32	0.04	0.08	0.11	0.10	0.09	0.12	0.12
		%	0	0	97	100	97	97	97	97	100	90	90	100	81
		Max-10d	-	-	0.10	0.14	0.14	0.63	0.08	0.10	0.14	0.15	0.15	0.14	0.63
		Min-10d	-	-	0.08	0.10	0.09	0.10	<0.01	0.06	0.07	0.06	0.05	0.10	<0.01
	Nakhon Ratchasima	Mean	-	-	<0.01	0.03	0.07	0.24	0.06	0.12	0.03	0.03	0.03	0.03	0.06
		%	0	0	100	100	100	97	100	100	100	100	100	100	82
		Max-10d	-	-	0.02	0.04	0.16	0.58	0.10	0.25	0.06	0.06	0.06	0.10	0.58
		Min-10d	-	-	<0.01	<0.01	0.02	0.03	0.03	0.05	<0.01	<0.01	0.02	<0.01	<0.01
Vietnam	Hanoi	Mean	1.58	1.63	1.93	1.85	0.95	0.81	1.05	1.21	1.08	0.87	1.49	1.50	1.33
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	2.31	2.24	3.52	2.42	1.05	1.30	1.54	2.18	1.80	1.90	2.19	2.45	3.52
		Min-w	0.86	0.99	1.10	0.76	0.73	0.53	0.73	0.78	0.51	<0.01	0.82	<0.01	<0.01
	Hoa Binh	Mean	0.02	0.13	0.08	0.28	0.07	0.10	0.79	0.72	0.38	0.08	0.03	0.51	0.27
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.04	0.33	0.15	0.52	0.13	0.35	1.87	1.43	0.63	0.25	0.04	1.24	1.87
		Min-w	<0.01	0.06	<0.01	0.13	0.04	0.02	0.26	0.18	0.04	0.01	0.03	0.04	<0.01

† Filterpack monitoring at Yangon was started in November, 2011.

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 interval data

Min-10d : minimum values of 10-day interval data

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

% : monthly or annual percentages of period of available data

Table 4.16 Particulate matter component: NH₄⁺

Unit : µg/m ³			2011												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Cambodia	Phnom Penh	Mean	0.72	0.77	0.42	0.55	0.34	0.34	0.18	0.20	0.14	0.10	0.76	0.95	0.45
		%	100	100	76	100	100	100	100	100	69	100	100	100	94
		Max-2w	1.06	1.09	0.45	0.71	0.43	0.56	0.18	0.25	0.15	0.13	0.89	0.98	1.09
		Min-2w	0.37	0.45	0.39	0.39	0.26	0.13	0.18	0.15	0.13	0.07	0.62	0.91	0.07
China	Hongwen	Mean	7.72	10.59	11.89	10.50	9.90	3.48	3.04	1.78	4.79	2.10	1.26	5.25	5.85
		%	50	100	100	100	100	100	100	100	100	100	100	100	96
		Max-2w	7.72	12.54	13.85	11.31	13.85	5.89	3.24	1.88	9.42	2.54	1.70	6.34	13.85
		Min-2w	7.72	8.63	9.92	9.69	5.96	1.40	2.85	1.67	0.16	1.67	0.83	4.15	0.16
Indonesia	Serpong	Mean	0.34	0.59	0.11	0.21	0.44	0.17	0.52	0.39	0.28	0.23	0.33	0.17	0.32
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.40	0.79	0.16	0.22	0.73	0.22	0.79	0.65	0.50	0.42	0.41	0.17	0.79
		Min-2w	0.28	0.40	0.06	0.21	0.14	0.11	0.24	0.14	0.06	0.05	0.24	0.17	0.05
Japan	Rishiri	Mean	0.11	0.65	0.47	0.84	0.59	0.73	0.57	0.35	0.23	0.36	0.48	0.16	0.47
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.12	0.77	0.50	1.12	0.78	0.87	0.79	0.42	0.24	0.50	0.71	0.24	1.12
		Min-2w	0.11	0.53	0.45	0.56	0.31	0.60	0.36	0.27	0.22	0.23	0.35	0.08	0.08
	Ochiishi	Mean	0.33	0.44	0.59	0.58	0.27	0.41	0.43	0.31	0.15	0.35	0.39	0.22	0.37
		%	50	100	100	100	100	100	100	100	100	100	100	100	96
		Max-2w	0.33	0.58	0.61	0.75	0.45	0.45	0.66	0.36	0.23	0.45	0.50	0.23	0.75
		Min-2w	0.33	0.31	0.57	0.42	0.08	0.38	0.20	0.27	0.07	0.25	0.28	0.21	0.07
	Tappi	Mean	0.26	0.94	1.00	0.95	0.91	1.13	0.58	0.67	0.23	0.37	0.38	0.24	0.64
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.28	1.18	1.15	0.96	1.27	1.46	0.67	0.95	0.34	0.53	0.60	0.28	1.46
		Min-2w	0.24	0.69	0.86	0.95	0.57	0.80	0.49	0.39	0.13	0.21	0.22	0.20	0.13
	Sado-seki	Mean	0.27	1.12	0.89	0.43	0.69	-	0.48	0.77	0.21	0.60	0.33	0.25	0.56
		%	100	100	100	100	100	0	100	100	100	100	100	100	92
		Max-2w	0.28	1.24	0.92	0.61	0.94	-	0.63	1.22	0.31	0.74	0.42	0.30	1.24
		Min-2w	0.27	1.00	0.86	0.25	0.46	-	0.34	0.33	0.12	0.35	0.23	0.19	0.12
	Happo	Mean	0.03	0.11	0.14	0.15	0.26	0.30	0.15	0.68	0.39	0.51	0.04	0.12	0.26
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.05	0.12	0.18	0.26	0.44	0.48	0.16	0.72	0.49	0.77	0.04	0.15	0.77
		Min-2w	0.02	0.11	0.10	0.04	0.06	0.11	0.14	0.64	0.29	0.31	0.04	0.08	0.02
	Ijira	Mean	0.61	1.28	1.13	1.12	1.20	1.28	0.90	1.25	0.42	1.11	0.46	0.45	0.95
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.70	1.45	1.32	1.31	1.30	1.54	0.90	1.31	0.53	1.52	0.64	0.50	1.54
		Min-2w	0.51	1.12	0.94	0.94	1.03	1.01	0.90	1.20	0.31	0.65	0.27	0.39	0.27
	Oki	Mean	0.65	1.96	1.15	1.41	0.94	1.29	0.70	0.44	0.35	1.02	0.54	0.67	0.93
		%	100	100	100	100	100	100	54	100	100	100	100	100	96
		Max-2w	0.78	2.61	1.63	1.46	1.13	1.51	0.70	0.45	0.47	1.24	0.77	0.74	2.61
		Min-2w	0.53	1.31	0.66	1.36	0.75	1.03	0.70	0.43	0.22	0.80	0.34	0.60	0.22
	Banryu	Mean	1.07	1.51	1.39	1.28	1.31	1.77	0.65	0.61	0.30	0.83	0.77	1.13	1.06
		%	100	100	100	100	100	100	100	100	100	100	63	100	96
		Max-2w	1.25	1.97	1.44	1.32	1.62	2.17	0.72	0.69	0.47	0.89	0.92	1.17	2.17
		Min-2w	0.89	1.04	1.34	1.24	0.82	1.36	0.58	0.53	0.13	0.77	0.62	1.10	0.13
	Yusuhara	Mean	1.08	1.65	1.22	1.02	1.24	1.06	0.50	0.64	0.31	0.96	0.74	0.95	0.96
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	1.22	2.06	1.28	1.41	1.66	1.13	0.73	0.77	0.39	1.30	0.99	0.96	2.06
		Min-2w	0.95	1.24	1.16	0.63	0.94	0.98	0.26	0.52	0.24	0.45	0.50	0.94	0.24
	Hedo	Mean	0.21	0.38	0.34	0.54	0.24	0.04	0.13	0.06	0.71	0.79	0.56	1.14	0.43
		%	100	100	100	100	67	100	100	100	50	100	50	100	88
		Max-2w	0.23	0.46	0.39	0.67	0.31	0.06	0.17	0.06	0.71	1.36	0.56	1.31	1.36
		Min-2w	0.20	0.31	0.30	0.41	0.17	0.02	0.09	0.05	0.71	0.30	0.56	0.96	0.02
	Ogasawara	Mean	0.34	0.46	0.44	0.32	0.09	0.11	0.06	-	0.13	0.08	0.26	0.28	0.22
		%	64	100	100	100	100	100	100	0	39	100	100	100	84
		Max-2w	0.34	0.68	0.58	0.37	0.13	0.13	0.06	-	0.13	0.12	0.43	0.29	0.68
		Min-2w	0.34	0.25	0.30	0.26	0.06	0.08	0.06	-	0.13	<0.01	0.10	0.28	<0.01
	Tokyo	Mean	1.34	2.72	1.99	1.38	1.76	2.00	1.06	1.41	0.48	1.67	1.38	1.52	1.57
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	1.55	2.93	2.25	1.54	1.97	2.63	1.24	1.83	0.57	3.19	1.52	1.74	3.19
		Min-2w	1.13	2.51	1.73	1.22	1.53	1.38	0.88	0.99	0.39	0.64	1.24	1.29	0.39
Malaysia	Tanah Rata	Mean	0.22	0.53	0.26	0.39	0.47	0.69	1.38	0.40	0.80	0.40	0.09	0.08	0.49
		%	100	100	100	100	100	100	100	50	100	100	100	100	96
		Max-w	0.42	1.05	0.59	0.52	0.63	0.97	1.72	0.62	1.74	1.19	0.14	0.14	1.74
		Min-w	0.03	0.33	0.14	0.33	0.33	0.34	0.75	0.19	0.08	0.10	0.04	0.05	0.03
	Petaling Jaya	Mean	0.81	1.60	0.93	1.41	0.69	1.03	1.51	1.65	1.75	0.72	0.33	0.66	1.12
		%	100	100	100	100	100	100	100	100	100	100	100	80	98
		Max-w	1.42	2.94	1.80	1.89	1.66	1.44	2.28	2.20	2.88	1.38	0.61	0.96	2.94
		Min-w	0.35	0.76	0.56	0.93	0.10	0.25	0.83	0.93	1.14	0.20	0.05	0.42	0.05
	Danum Valley	Mean	0.05	0.06	0.03	0.11	0.13	0.18	0.40	0.16	0.36	0.06	0.03	<0.01	0.13
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.05	0.06	0.04	0.17	0.14	0.24	0.56	0.31	0.62	0.08	0.03	0.01	0.62
		Min-2w	0.04	0.05	0.03	0.05	0.12	0.11	0.25	<0.01	0.11	0.04	0.03	<0.01	<0.01
Mongolia	Ulaanbaatar	Mean	5.02	4.23	1.84	0.91	0.71	0.68	0.55	0.61	0.70	0.54	2.15	3.77	1.80
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	8.78	8.33	3.88	1.28	1.66	1.73	0.64	1.00	1.64	0.99	2.76	4.89	8.78
		Min-w	2.53	1.14	0.36	0.64	0.36	0.30	0.34	0.27	0.19	0.23	1.30	2.84	0.19
	Terelj	Mean	0.61	0.38	0.63	0.61	0.43	0.19	0.46	0.33	0.39	0.28	0.39	0.39	0.43
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.90	0.74	0.70	0.82	0.47	0.19	0.66	0.37	0.47	0.40	0.46	0.41	0.90
		Min-2w	0.33	0.02	0.55	0.40	0.40	0.18	0.27	0.30	0.30	0.16	0.32	0.37	0.02
Myanmar	Yangon	Mean	†	†	†	†	†	†	†	†	†	†	0.54	0.15	0.34
		%	†	†	†	†	†	†	†	†	†	†	68	100	13
		Max-2w	†	†	†	†	†	†	†	†	†	†	0.89	0.19	0.89
		Min-2w	†	†	†	†	†	†	†	†	†	†	0.18	0.11	0.11

Table 4.16 Particulate matter component: NH₄⁺

Unit : µg/m ³			2011												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Russia	Mondy	Mean	-	<0.01	0.03	0.02	0.05	0.02	<0.01	<0.01	0.02	0.02	<0.01	0.03	0.02
		%	0	100	100	100	100	100	100	100	100	100	100	100	91
		Max-2w	-	<0.01	0.05	0.03	0.06	0.03	<0.01	<0.01	0.02	0.04	<0.01	0.03	0.06
		Min-2w	-	<0.01	<0.01	<0.01	0.04	<0.01	<0.01	<0.01	0.02	0.01	<0.01	0.03	<0.01
	Listvianka	Mean	0.17	0.21	0.15	0.13	0.14	0.22	0.22	0.23	0.24	0.25	0.38	0.33	0.22
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.28	0.27	0.22	0.25	0.22	0.30	0.37	0.29	0.30	0.32	0.69	0.39	0.69
		Min-w	0.10	0.12	0.10	<0.01	0.02	0.14	0.08	0.14	0.20	0.19	0.11	0.22	<0.01
	Irkutsk	Mean	1.05	0.87	0.80	0.71	0.44	0.18	0.33	0.23	0.21	0.81	0.73	1.08	0.62
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	1.39	1.39	1.40	0.93	0.78	0.41	0.46	0.40	0.50	1.08	1.33	1.95	1.95
		Min-w	0.68	0.37	0.24	0.50	0.11	0.03	0.22	0.03	0.02	0.59	0.03	0.36	0.02
	Primorskaya	Mean	0.70	0.54	0.67	0.77	0.73	1.41	0.33	0.40	0.96	0.51	1.12	1.12	0.77
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	1.19	0.60	0.91	1.16	0.80	1.78	0.49	0.73	1.21	0.63	1.15	1.29	1.78
		Min-2w	0.21	0.48	0.42	0.38	0.66	1.04	0.18	0.07	0.71	0.38	1.09	0.95	0.07
Thailand	Bangkok	Mean	0.40	0.75	0.44	0.90	0.37	0.31	0.35	0.13	0.23	0.92	1.11	1.41	0.60
		%	64	100	100	100	100	100	100	100	100	100	77	100	95
		Max-10d	0.79	0.96	0.90	1.03	0.60	0.49	0.68	0.17	0.48	1.16	1.79	2.23	2.23
		Min-10d	<0.01	0.50	<0.01	0.68	0.05	0.13	0.12	0.10	0.09	0.58	0.44	0.76	<0.01
	Pathumthani	Mean	0.16	0.07	0.21	0.55	0.17	0.33	0.39	0.16	0.14	-	-	-	0.26
		%	79	43	100	100	100	58	77	68	100	0	0	0	61
		Max-10d	0.32	0.07	0.41	0.60	0.29	0.61	0.54	0.17	0.37	-	-	-	0.61
		Min-10d	<0.01	0.07	<0.01	0.53	0.05	0.04	0.25	0.15	<0.01	-	-	-	<0.01
	Khanchanaburi (Vachiralongkom Dam)	Mean	-	-	<0.01	-	-	-	0.25	-	-	-	1.13	-	0.46
		%	0	0	50	0	0	0	50	0	0	0	53	0	14
		Max-2w	-	-	<0.01	-	-	-	0.25	-	-	-	1.13	-	1.13
		Min-2w	-	-	<0.01	-	-	-	0.25	-	-	-	1.13	-	<0.01
	Chiangmai (Mae Hia)	Mean	-	-	0.42	0.32	0.14	0.16	0.12	0.04	0.02	0.18	0.66	1.01	0.31
		%	0	0	97	100	97	97	97	97	97	100	90	100	81
		Max-10d	-	-	0.74	0.79	0.35	0.34	0.21	0.08	0.04	0.24	1.02	2.46	2.46
		Min-10d	-	-	0.23	0.08	<0.01	<0.01	<0.01	0.02	<0.01	0.13	0.44	0.21	<0.01
	Nakhon Ratchasima	Mean	-	-	0.11	1.81	0.80	0.72	0.54	0.45	0.39	0.92	1.49	2.34	0.96
		%	0	0	100	100	100	97	100	100	100	100	100	100	82
		Max-10d	-	-	0.18	2.29	1.20	1.14	0.80	0.55	0.74	1.69	2.21	3.16	3.16
		Min-10d	-	-	<0.01	1.55	0.16	0.51	0.41	0.35	<0.01	<0.01	0.27	1.19	<0.01
Vietnam	Hanoi	Mean	8.15	6.71	6.78	3.64	2.31	0.71	1.23	1.00	3.00	3.02	7.31	9.63	4.50
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	11.96	9.41	10.10	7.61	4.72	2.12	3.89	1.98	5.48	7.03	8.94	18.80	18.80
		Min-w	6.02	3.03	3.90	1.55	0.81	0.24	0.12	0.14	0.46	1.48	5.30	1.46	0.12
	Hoa Binh	Mean	0.99	1.73	1.21	2.83	1.21	0.68	0.51	0.37	0.78	0.71	1.62	5.47	1.55
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	1.47	2.97	1.90	4.44	1.86	1.67	1.10	0.95	1.54	1.13	2.94	10.06	10.06
		Min-w	0.71	0.79	0.55	1.26	0.35	0.32	0.28	0.12	0.40	0.49	0.37	1.24	0.12

† Filterpack monitoring at Yangon was started in November, 2011.

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 interval data

Min-10d : minimum values of 10-day interval data

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

% : monthly or annual percentages of period of available data

Unit : µg/m ³			2011												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Cambodia	Phnom Penh	Mean	0.48	1.31	1.02	0.67	0.39	0.57	0.43	0.32	0.38	0.12	0.75	0.40	0.57
		%	100	100	76	100	100	100	100	100	100	69	100	100	94
		Max-2w	0.75	1.51	1.11	0.94	0.60	0.80	0.43	0.48	0.50	0.13	1.32	0.51	1.51
		Min-2w	0.21	1.11	0.94	0.40	0.19	0.34	0.43	0.16	0.26	0.10	0.18	0.30	0.10
China	Hongwen	Mean	1.24	1.76	1.72	2.65	1.46	2.22	1.66	1.31	0.65	2.07	1.04	1.13	1.62
		%	50	100	100	100	100	100	100	100	100	100	100	100	96
		Max-2w	1.24	1.92	1.74	2.84	1.49	2.52	1.68	1.78	1.27	2.44	1.94	1.25	2.84
		Min-2w	1.24	1.61	1.70	2.47	1.44	1.73	1.63	0.84	0.03	1.69	0.13	1.01	0.03
Indonesia	Serpong	Mean	0.08	0.18	0.13	0.10	0.19	0.03	0.29	0.24	0.24	0.07	0.20	0.10	0.16
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.11	0.24	0.24	0.19	0.33	0.04	0.50	0.45	0.45	0.11	0.32	0.14	0.50
		Min-2w	0.05	0.11	0.03	0.02	0.04	0.02	0.16	0.03	0.03	0.04	0.08	0.05	0.02
Japan	Rishiri	Mean	0.64	2.17	2.35	3.69	1.24	1.02	0.44	1.36	2.76	3.66	2.01	1.01	1.84
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.64	2.37	3.06	5.01	1.65	1.30	0.51	1.97	3.69	3.78	2.54	1.11	5.01
		Min-2w	0.63	1.98	1.64	2.37	0.83	0.74	0.36	0.74	1.83	3.53	1.46	0.91	0.36
	Ochiishi	Mean	1.30	2.42	3.44	3.81	1.77	1.63	1.77	1.25	2.18	3.39	3.12	2.69	2.45
		%	50	100	100	100	100	100	100	100	100	100	100	100	96
		Max-2w	1.30	3.62	4.13	4.07	2.06	2.33	1.91	1.25	2.50	3.77	3.29	3.93	4.13
		Min-2w	1.30	1.23	2.75	3.55	1.49	0.94	1.64	1.25	1.86	3.01	2.95	1.44	0.94
	Tappi	Mean	3.96	3.66	6.02	3.73	4.09	1.04	1.09	1.60	2.10	4.79	7.30	6.60	3.97
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	4.63	3.91	6.05	4.41	8.63	1.46	1.14	2.49	3.54	5.38	8.12	7.07	8.63
		Min-2w	3.28	3.41	5.99	3.05	1.40	0.62	1.04	0.72	0.65	4.20	5.72	6.13	0.62
	Sado-seki	Mean	3.28	2.92	2.94	1.19	1.89	-	0.97	1.45	2.32	3.07	3.20	3.48	2.43
		%	100	100	100	100	100	0	100	100	100	100	100	100	92
		Max-2w	3.28	3.51	2.95	1.25	2.68	-	1.30	1.73	3.11	4.07	3.78	3.87	4.07
		Min-2w	3.28	2.33	2.93	1.13	0.39	-	0.65	1.16	1.53	2.38	2.61	3.08	0.39
	Happo	Mean	<0.01	0.01	0.03	0.03	0.03	<0.01	0.01	0.07	0.13	0.19	0.01	0.03	0.05
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	<0.01	0.02	0.05	0.05	0.06	0.01	0.02	0.09	0.14	0.30	0.01		

Table 4.17 Particulate matter component: Na⁺

Unit : µg/m ³			2011												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Russia	Mondy	Mean	-	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.02	<0.01	<0.01	<0.01	0.04	<0.01
		%	0	100	100	100	100	100	100	100	100	100	100	100	91
		Max-2w	-	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	0.03	<0.01	<0.01	<0.01	0.04	0.04
		Min-2w	-	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.02	<0.01	<0.01	<0.01	0.04	<0.01
	Listvianka	Mean	0.09	0.08	0.07	0.04	0.02	0.01	<0.01	<0.01	0.03	0.03	0.02	0.03	0.04
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.14	0.10	0.09	0.05	0.03	0.03	0.01	0.02	0.06	0.07	0.04	0.04	0.14
		Min-w	0.04	0.05	0.05	0.02	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.01	<0.01
	Irkutsk	Mean	0.26	0.61	0.41	0.28	0.07	<0.01	0.03	0.01	0.12	0.07	1.03	0.58	0.28
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.51	1.14	0.96	0.63	0.18	0.02	0.09	0.03	0.39	0.12	1.71	2.25	2.25
		Min-w	0.16	0.30	0.15	0.09	<0.01	<0.01	<0.01	<0.01	<0.01	0.05	0.21	0.06	<0.01
	Primorskaya	Mean	0.10	0.21	0.16	0.20	0.07	0.10	0.10	0.05	0.10	0.12	0.06	0.06	0.11
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.14	0.21	0.18	0.25	0.09	0.10	0.12	0.06	0.16	0.12	0.07	0.07	0.25
		Min-2w	0.06	0.20	0.15	0.15	0.04	0.09	0.08	0.05	0.04	0.11	0.06	0.05	0.04
Thailand	Bangkok	Mean	0.09	1.14	0.75	0.81	0.25	0.87	0.61	0.41	0.22	0.77	0.13	0.22	0.54
		%	64	100	100	100	100	100	100	100	100	100	77	100	95
		Max-10d	0.18	1.71	1.05	1.01	0.42	1.27	1.05	0.78	0.39	1.46	0.25	0.25	1.71
		Min-10d	<0.01	0.30	0.21	0.59	<0.01	0.48	0.40	0.21	0.08	0.25	0.02	0.19	<0.01
	Pathumthani	Mean	0.02	0.43	0.20	0.22	0.06	0.36	0.46	0.19	0.14	-	-	-	0.22
		%	79	43	100	100	100	58	77	68	100	0	0	0	61
		Max-10d	0.04	0.43	0.38	0.30	0.13	0.69	0.63	0.24	0.21	-	-	-	0.69
		Min-10d	<0.01	0.43	0.02	0.11	<0.01	0.02	0.29	0.15	0.06	-	-	-	<0.01
	Khanchanaburi (Vachiralongkorn Dam)	Mean	-	-	0.02	-	-	-	0.17	-	-	-	0.08	-	0.09
		%	0	0	50	0	0	0	50	0	0	0	53	0	14
		Max-2w	-	-	0.02	-	-	-	0.17	-	-	-	0.08	-	0.17
		Min-2w	-	-	0.02	-	-	-	0.17	-	-	-	0.08	-	0.02
	Chiangmai (Mae Hia)	Mean	-	-	0.11	0.14	0.14	0.16	0.06	0.05	0.13	<0.01	0.10	0.13	0.10
		%	0	0	97	100	97	97	97	97	97	100	90	100	81
		Max-10d	-	-	0.17	0.20	0.22	0.26	0.10	0.07	0.26	<0.01	0.15	0.17	0.26
		Min-10d	-	-	0.08	0.10	0.05	0.10	0.03	0.03	0.05	<0.01	0.07	0.09	<0.01
	Nakhon Ratchasima	Mean	-	-	<0.01	0.21	0.18	0.43	0.13	0.17	0.09	0.16	0.09	0.20	0.17
		%	0	0	100	100	100	97	100	100	100	100	100	100	82
		Max-10d	-	-	<0.01	0.40	0.22	0.82	0.24	0.37	0.17	0.36	0.17	0.25	0.82
		Min-10d	-	-	<0.01	0.10	0.16	0.16	0.05	0.06	0.05	0.05	<0.01	0.14	<0.01
Vietnam	Hanoi	Mean	0.47	1.04	0.72	1.13	0.71	0.70	0.87	0.56	0.51	0.41	0.55	0.44	0.67
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.66	1.82	1.43	1.60	0.88	1.20	1.26	1.04	0.93	0.91	0.68	0.79	1.82
		Min-w	0.22	0.36	0.24	0.53	0.61	0.05	0.46	0.25	0.23	0.02	0.41	<0.01	<0.01
	Hoa Binh	Mean	0.04	0.09	0.06	0.22	0.08	0.18	0.75	0.55	0.25	0.04	0.08	0.43	0.23
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.06	0.22	0.10	0.42	0.15	0.59	1.98	1.25	0.46	0.10	0.20	1.23	1.98
		Min-w	0.01	<0.01	<0.01	0.04	0.05	<0.01	0.18	<0.01	0.04	<0.01	<0.01	<0.01	<0.01

† Filterpack monitoring at Yangon was started in November, 2011.

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 interval data

Min-10d : minimum values of 10-day interval data

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

% : monthly or annual percentages of period of available data

Table 4.18 Particulate matter component: K⁺

Unit : µg/m ³			2011													Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
Cambodia	Phnom Penh	Mean	0.51	0.92	0.81	0.71	0.51	0.63	0.53	0.35	0.37	0.19	0.40	0.52	0.54	
		%	100	100	76	100	100	100	100	100	69	100	100	100	94	
		Max-2w	0.61	1.04	0.81	0.81	0.58	0.77	0.53	0.38	0.37	0.32	0.58	0.71	1.04	
		Min-2w	0.41	0.80	0.80	0.62	0.44	0.49	0.53	0.32	0.37	0.05	0.22	0.34	0.05	
China	Hongwen	Mean	0.88	1.90	1.18	1.15	0.74	0.48	0.18	0.37	0.19	0.67	0.33	0.76	0.72	
		%	50	100	100	100	100	100	100	100	100	100	100	100	96	
		Max-2w	0.88	2.54	1.25	1.19	0.78	0.86	0.36	0.44	0.33	0.77	0.65	0.84	2.54	
		Min-2w	0.88	1.26	1.12	1.11	0.70	0.20	<0.01	0.29	0.05	0.56	<0.01	0.68	<0.01	
Indonesia	Serpong	Mean	0.76	0.92	0.31	0.08	0.38	0.05	0.32	0.17	0.69	0.33	0.35	0.13	0.37	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	
		Max-2w	1.24	1.01	0.48	0.13	0.71	0.08	0.54	0.32	0.90	0.64	0.60	0.15	1.24	
		Min-2w	0.28	0.84	0.13	0.03	0.06	0.02	0.13	0.02	0.48	0.03	0.11	0.10	0.02	
Japan	Rishiri	Mean	0.04	0.20	0.12	0.24	0.09	0.13	0.06	0.10	0.14	0.29	0.18	0.06	0.14	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	
		Max-2w	0.04	0.21	0.15	0.32	0.09	0.13	0.06	0.12	0.19	0.30	0.25	0.08	0.32	
		Min-2w	0.04	0.19	0.10	0.16	0.08	0.12	0.06	0.07	0.10	0.27	0.10	0.04	0.04	
	Ochiishi	Mean	0.06	0.14	0.16	0.18	0.08	0.09	0.09	0.06	0.09	0.17	0.16	0.13	0.12	
		%	50	100	100	100	100	100	100	100	100	100	100	100	96	
		Max-2w	0.06	0.20	0.18	0.22	0.10	0.12	0.09	0.07	0.11	0.19	0.19	0.19	0.22	
		Min-2w	0.06	0.09	0.14	0.15	0.06	0.06	0.08	0.06	0.07	0.15	0.13	0.08	0.06	
	Tappi	Mean	0.17	0.26	0.30	0.28	0.23	0.14	0.06	0.11	0.12	0.33	0.36	0.30	0.23	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	
		Max-2w	0.20	0.27	0.30	0.31	0.37	0.17	0.07	0.15	0.20	0.35	0.38	0.31	0.38	
		Min-2w	0.13	0.26	0.30	0.24	0.16	0.12	0.06	0.07	0.04	0.31	0.33	0.28	0.04	
	Sado-seki	Mean	0.16	0.33	0.19	0.10	0.16	-	0.13	0.14	0.12	0.24	0.14	0.14	0.17	
		%	100	100	100	100	100	0	100	100	100	100	100	100	92	
		Max-2w	0.16	0.40	0.19	0.12	0.25	-	0.19	0.17	0.17	0.25	0.16	0.17	0.40	
		Min-2w	0.15	0.25	0.18	0.07	0.05	-	0.08	0.12	0.06	0.21	0.12	0.12	0.05	
	Happo	Mean	<0.01	0.01	0.01	0.02	0.02	0.02	<0.01	0.05	0.03	0.05	<0.01	<0.01	0.02	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	
		Max-2w	0.02	0.02	0.02	0.03	0.03	0.04	<0.01	0.07	0.03	0.09	<0.01	0.01	0.09	
		Min-2w	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	0.03	0.02	0.02	<0.01	<0.01	<0.01	
	Ijira	Mean	0.07	0.20	0.09	0.14	0.16	0.16	0.12	0.15	0.08	0.12	0.04	0.03	0.11	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	
		Max-2w	0.10	0.29	0.10	0.15	0.18	0.16	0.12	0.17	0.09	0.14	0.06	0.04	0.29	
		Min-2w	0.05	0.11	0.08	0.14	0.14	0.15	0.11	0.13	0.06	0.08	<0.01	0.02	<0.01	
	Oki	Mean	0.33	0.48	0.24	0.32	0.24	0.20	0.13	0.10	0.13	0.20	0.18	0.30	0.24	
		%	100	100	100	100	100	100	54	100	100	100	100	100	96	
		Max-2w	0.36	0.72	0.29	0.33	0.24	0.24	0.13	0.11	0.13	0.20	0.23	0.34	0.72	
		Min-2w	0.31	0.23	0.19	0.32	0.24	0.16	0.13	0.09	0.12	0.19	0.07	0.27	0.07	
	Banryu	Mean	0.16	0.30	0.21	0.27	0.20	0.19	0.13	0.12	0.14	0.17	0.14	0.20	0.19	
		%	100	100	100	100	100	100	100	100	100	100	100	63	100	
		Max-2w	0.21	0.45	0.23	0.29	0.23	0.27	0.14	0.12	0.17	0.22	0.14	0.22	0.45	
		Min-2w	0.11	0.16	0.19	0.24	0.19	0.11	0.11	0.11	0.10	0.13	0.14	0.18	0.10	
	Yusuhabara	Mean	0.11	0.73	0.10	0.19	0.14	0.12	0.05	0.06	0.05	0.11	0.10	0.09	0.15	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	
		Max-2w	0.12	1.10	0.11	0.20	0.18	0.14	0.05	0.06	0.05	0.13	0.13	0.10	1.10	
		Min-2w	0.11	0.36	0.09	0.18	0.11	0.09	0.04	0.05	0.05	0.06	0.07	0.08	0.04	
	Hedo	Mean	0.05	0.08	0.09	0.09	0.07	0.04	0.04	0.03	0.08	0.28	0.33	0.28	0.12	
		%	100	100	100	100	67	100	100	100	50	100	50	100	88	
		Max-2w	0.06	0.12	0.10	0.09	0.08	0.04	0.04	0.05	0.08	0.30	0.33	0.32	0.33	
		Min-2w	0.05	0.04	0.08	0.09	0.07	0.04	0.04	0.02	0.08	0.27	0.33	0.24	0.02	
	Ogasawara	Mean	0.13	0.18	0.14	0.17	0.08	0.07	0.07	-	0.36	0.10	0.14	0.10	0.13	
		%	64	100	100	100	100	100	100	0	39	100	100	100	84	
		Max-2w	0.13	0.22	0.18	0.18	0.10	0.09	0.11	-	0.36	0.18	0.15	0.11	0.36	
		Min-2w	0.13	0.15	0.11	0.15	0.06	0.05	0.03	-	0.36	<0.01	0.14	0.09	<0.01	
	Tokyo	Mean	0.08	0.47	0.11	0.17	0.16	0.18	0.14	0.16	0.14	0.17	0.16	0.11	0.17	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	
		Max-2w	0.09	0.70	0.13	0.19	0.18	0.21	0.14	0.17	0.16	0.24	0.16	0.12	0.70	
		Min-2w	0.08	0.25	0.09	0.15	0.14	0.15	0.14	0.14	0.12	0.09	0.16	0.10	0.08	
Malaysia	Tanah Rata	Mean	0.08	0.16	0.10	0.10	0.10	0.15	0.25	0.12	0.15	0.10	0.06	0.03	0.12	
		%	100	100	100	100	100	100	100	50	100	100	100	100	96	
		Max-w	0.16	0.30	0.23	0.14	0.13	0.21	0.29	0.18	0.32	0.27	0.09	0.04	0.32	
		Min-w	0.01	0.10	0.05	0.08	0.07	0.06	0.21	0.07	0.03	0.03	0.03	<0.01	<0.01	
	Petaling Jaya	Mean	0.29	0.50	0.33	0.32	0.13	0.33	0.40	0.53	0.52	0.22	0.19	0.25	0.34	
		%	100	100	100	100	100	100	100	100	100	100	100	80	98	
		Max-w	0.35	0.99	0.44	0.44	0.32	0.52	0.55	0.67	0.82	0.49	0.31	0.27	0.99	
		Min-w	0.18	0.31	0.22	0.25	<0.01	0.04	0.24	0.46	0.36	0.06	0.05	0.23	<0.01	
	Danum Valley	Mean	0.14	0.21	0.14	0.18	0.18	0.19	0.19	0.16	0.35	0.12	0.12	<0.01	0.16	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	
		Max-2w	0.15	0.25	0.16	0.19	0.21	0.25	0.20	0.29	0.47	0.14	0.13	<0.01	0.47	
		Min-2w	0.13	0.18	0.11	0.18	0.15	0.13	0.19	<0.01	0.23	0.10	0.10	<0.01	<0.01	
Mongolia	Ulaanbaatar	Mean	0.17	0.05	0.15	0.16	0.22	0.44	0.73	0.37	0.43	0.27	0.14	0.29	0.29	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	
		Max-w	0.45	0.15	0.67	0.27	0.48	0.80	0.98	0.80	0.59	0.48	0.32	0.88	0.98	
		Min-w	<0.01	<0.01	<0.01	0.04	<0.01	0.18	0.36	0.09	0.33	0.13	0.02	0.07	<0.01	
	Terelj	Mean	<0.01	<0.01	0.06	0.11	0.05	0.02	0.09	0.12	0.11	0.14	0.18	0.12	0.08	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	
		Max-2w	<0.01	0.02	0.11	0.13	0.11	0.04	0.13	0.23	0.16	0.26	0.19	0.17	0.26	
		Min-2w	<0.01	<0.01	0.02	0.09	<0.01	<0.01	0.05	<0.01	0.06	<0.01	0.17	0.08	<0.01	
Myanmar	Yangon	Mean	†	†	†	†	†	†	†	†	†	†	1.12	1.35	1.24	
		%	†	†	†	†	†	†	†	†	†	†	68	100	13	
		Max-2w	†	†	†	†	†	†	†	†	†	†	1.18	1.53	1.53	
		Min-2w	†	†	†	†	†	†	†	†	†	†	1.06	1.17	1.01	

Table 4.18 Particulate matter component: K⁺

Unit : µg/m ³			2011												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Russia	Mondy	Mean	-	0.01	<0.01	<0.01	<0.01	0.03	0.01	0.02	<0.01	0.08	0.03	0.02	0.02
		%	0	100	100	100	100	100	100	100	100	100	100	100	91
		Max-2w	-	0.01	0.01	<0.01	0.01	0.04	0.01	0.02	<0.01	0.09	0.05	0.02	0.09
		Min-2w	-	0.01	<0.01	<0.01	<0.01	0.02	0.01	0.02	<0.01	0.07	0.01	0.02	<0.01
	Listvianka	Mean	0.07	0.07	0.06	0.10	0.08	0.05	0.08	0.11	0.05	0.07	0.03	0.02	0.06
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.09	0.08	0.07	0.19	0.10	0.07	0.21	0.26	0.08	0.09	0.08	0.04	0.26
		Min-w	0.02	0.04	0.05	0.04	0.06	0.03	0.03	0.03	0.03	0.04	<0.01	<0.01	<0.01
	Irkutsk	Mean	0.31	0.83	0.17	0.16	0.29	0.02	0.06	0.03	0.33	0.12	0.71	0.13	0.25
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.83	2.25	0.33	0.22	1.02	0.04	0.11	0.07	1.14	0.19	1.94	0.24	2.25
		Min-w	0.14	0.31	0.08	0.10	0.02	<0.01	0.03	0.01	<0.01	0.09	0.02	0.04	<0.01
	Primorskaya	Mean	0.63	0.79	0.36	0.30	0.15	0.23	0.13	0.04	0.05	0.17	0.16	0.19	0.27
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.99	0.90	0.47	0.43	0.18	0.26	0.21	0.04	0.06	0.18	0.18	0.22	0.99
		Min-2w	0.27	0.68	0.26	0.18	0.12	0.19	0.04	0.04	0.05	0.17	0.15	0.16	0.04
Thailand	Bangkok	Mean	0.58	0.52	0.64	0.44	0.22	0.32	0.25	0.33	0.29	0.56	0.28	0.57	0.41
		%	64	100	100	100	100	100	100	100	100	100	77	100	95
		Max-10d	1.15	0.60	0.95	0.65	0.34	0.37	0.31	0.36	0.42	1.16	0.49	0.82	1.16
		Min-10d	0.01	0.48	0.27	0.28	<0.01	0.28	0.18	0.29	0.06	0.19	0.06	0.19	<0.01
	Pathumthani	Mean	0.16	0.72	0.32	0.18	0.06	0.16	0.26	0.37	0.18	-	-	-	0.24
		%	79	43	100	100	100	58	77	68	100	0	0	0	61
		Max-10d	0.32	0.72	0.60	0.28	0.13	0.32	0.36	0.38	0.40	-	-	-	0.72
		Min-10d	0.01	0.72	0.05	0.11	<0.01	0.01	0.17	0.36	0.06	-	-	-	<0.01
	Khanchanaburi (Vachiralongkorn Dam)	Mean	-	-	0.02	-	-	-	0.07	-	-	-	0.31	-	0.13
		%	0	0	50	0	0	0	50	0	0	0	53	0	14
		Max-2w	-	-	0.02	-	-	-	0.07	-	-	-	0.31	-	0.31
		Min-2w	-	-	0.02	-	-	-	0.07	-	-	-	0.31	-	0.02
	Chiangmai (Mae Hia)	Mean	-	-	0.37	0.32	0.29	0.26	0.14	0.07	0.06	0.15	0.49	0.59	0.27
		%	0	0	97	100	97	97	97	97	97	100	90	100	81
		Max-10d	-	-	0.73	0.71	0.62	0.77	0.21	0.12	0.15	0.22	0.55	0.89	0.89
		Min-10d	-	-	0.19	0.07	0.13	<0.01	0.09	<0.01	<0.01	0.10	0.41	0.28	<0.01
	Nakhon Ratchasima	Mean	-	-	0.62	0.45	4.07	0.15	0.07	0.07	0.30	<0.01	0.16	0.55	0.64
		%	0	0	100	100	100	97	100	100	100	100	100	100	82
		Max-10d	-	-	1.14	0.52	11.77	0.16	0.08	0.08	0.43	<0.01	0.27	0.73	11.77
		Min-10d	-	-	0.07	0.35	0.22	0.14	0.05	0.06	0.10	<0.01	0.02	0.29	<0.01
Vietnam	Hanoi	Mean	1.13	1.12	1.08	1.26	0.95	0.58	0.49	0.75	0.98	0.75	0.62	0.57	0.85
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	1.47	1.84	1.43	1.77	1.64	1.15	0.89	1.02	1.15	1.60	0.92	1.09	1.84
		Min-w	0.61	0.70	0.59	0.89	0.53	0.28	0.30	0.41	0.84	0.14	0.44	0.14	0.14
	Hoa Binh	Mean	0.17	0.38	0.33	0.64	0.37	0.28	0.34	0.41	0.31	0.11	0.12	0.41	0.32
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.32	1.13	0.44	0.91	0.57	0.57	0.54	0.66	0.59	0.26	0.23	0.74	1.13
		Min-w	0.05	0.06	0.18	0.46	0.06	0.13	0.17	0.18	0.09	0.04	0.07	0.10	0.04

† Filterpack monitoring at Yangon was started in November, 2011.

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 interval data

Min-10d : minimum values of 10-day interval data

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

% : monthly or annual percentages of period of available data

Table 4.19 Particulate matter component: Mg²⁺

Unit : µg/m ³			2011													Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
Cambodia	Phnom Penh	Mean	0.14	0.21	0.17	0.15	0.14	0.13	0.12	0.10	0.08	0.04	0.13	0.09	0.12	
		%	100	100	76	100	100	100	100	100	69	100	100	100	94	
		Max-2w	0.19	0.24	0.17	0.17	0.18	0.16	0.12	0.13	0.10	0.05	0.20	0.09	0.24	
		Min-2w	0.08	0.17	0.17	0.14	0.11	0.11	0.12	0.07	0.06	0.02	0.06	0.08	0.02	
China	Hongwen	Mean	0.29	0.44	0.45	0.58	0.27	0.32	0.25	0.18	0.07	0.35	0.20	0.26	0.31	
		%	50	100	100	100	100	100	100	100	100	100	100	100	96	
		Max-2w	0.29	0.50	0.48	0.60	0.29	0.39	0.26	0.22	0.14	0.44	0.41	0.30	0.60	
		Min-2w	0.29	0.38	0.43	0.57	0.25	0.24	0.24	0.13	<0.01	0.26	<0.01	0.22	<0.01	
Indonesia	Serpong	Mean	0.08	0.05	0.03	0.03	0.05	0.01	0.07	0.05	0.08	0.06	0.05	0.01	0.05	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	
		Max-2w	0.11	0.08	0.04	0.04	0.10	0.01	0.11	0.10	0.15	0.11	0.09	0.02	0.15	
		Min-2w	0.04	0.03	0.01	0.03	<0.01	0.01	0.04	<0.01	0.01	<0.01	0.01	0.01	<0.01	
Japan	Rishiri	Mean	0.07	0.27	0.28	0.43	0.15	0.12	0.05	0.16	0.33	0.43	0.23	0.11	0.22	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	
		Max-2w	0.07	0.29	0.35	0.57	0.19	0.16	0.06	0.24	0.44	0.44	0.29	0.13	0.57	
		Min-2w	0.07	0.25	0.20	0.29	0.11	0.09	0.04	0.09	0.22	0.41	0.16	0.10	0.04	
	Ochiishi	Mean	0.16	0.31	0.39	0.46	0.24	0.20	0.22	0.16	0.27	0.42	0.38	0.32	0.30	
		%	50	100	100	100	100	100	100	100	100	100	100	100	96	
		Max-2w	0.16	0.46	0.49	0.49	0.28	0.29	0.24	0.17	0.32	0.47	0.40	0.49	0.49	
		Min-2w	0.16	0.16	0.30	0.43	0.19	0.12	0.21	0.16	0.23	0.38	0.36	0.15	0.12	
	Tappi	Mean	0.44	0.42	0.73	0.47	0.50	0.14	0.15	0.19	0.26	0.57	0.78	0.75	0.46	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	
		Max-2w	0.54	0.44	0.76	0.55	0.99	0.20	0.16	0.29	0.42	0.64	0.92	0.89	0.99	
		Min-2w	0.35	0.40	0.69	0.40	0.18	0.09	0.14	0.09	0.09	0.51	0.64	0.60	0.09	
	Sado-seki	Mean	0.38	0.37	0.37	0.16	0.26	-	0.11	0.17	0.28	0.38	0.39	0.42	0.30	
		%	100	100	100	100	100	0	100	100	100	100	100	100	92	
		Max-2w	0.38	0.44	0.38	0.16	0.39	-	0.15	0.21	0.38	0.50	0.46	0.47	0.50	
		Min-2w	0.37	0.30	0.36	0.16	0.05	-	0.07	0.13	0.18	0.29	0.32	0.37	0.05	
	Happo	Mean	<0.01	<0.01	<0.01	0.01	0.01	<0.01	<0.01	0.02	0.02	0.03	<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	0.02	0.02	<0.01	<0.01	0.02	0.02	0.05	<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	0.01	<0.01	<0.01	<0.01	
	Ijira	Mean	<0.01	0.04	0.04	0.07	0.09	0.03	0.04	0.03	0.06	0.04	0.01	<0.01	0.04	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	
		Max-2w	<0.01	0.05	0.05	0.08	0.14	0.03	0.04	0.04	0.08	0.05	0.02	<0.01	0.14	
		Min-2w	<0.01	0.04	0.03	0.06	0.02	0.02	0.03	0.02	0.05	0.03	<0.01	<0.01	<0.01	
	Oki	Mean	0.39	0.39	0.46	0.46	0.38	0.15	0.20	0.14	0.28	0.36	0.39	0.78	0.36	
		%	100	100	100	100	100	100	54	100	100	100	100	100	96	
		Max-2w	0.43	0.52	0.49	0.55	0.43	0.20	0.20	0.14	0.30	0.44	0.62	0.85	0.85	
		Min-2w	0.34	0.26	0.44	0.37	0.33	0.06	0.20	0.14	0.27	0.27	0.17	0.71	0.06	
	Banryu	Mean	0.25	0.32	0.28	0.29	0.22	0.06	0.17	0.07	0.27	0.16	0.20	0.26	0.21	
		%	100	100	100	100	100	100	100	100	100	100	63	100	96	
		Max-2w	0.30	0.40	0.31	0.34	0.33	0.07	0.22	0.07	0.33	0.22	0.26	0.31	0.40	
		Min-2w	0.19	0.24	0.24	0.25	0.14	0.04	0.12	0.06	0.21	0.10	0.15	0.22	0.04	
	Yusuhabara	Mean	0.05	0.05	0.07	0.18	0.10	0.05	0.05	0.05	0.05	0.08	0.04	0.04	0.07	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	
		Max-2w	0.06	0.06	0.09	0.24	0.14	0.09	0.06	0.05	0.06	0.09	0.04	0.05	0.24	
		Min-2w	0.04	0.04	0.05	0.11	0.04	0.02	0.04	0.04	0.05	0.07	0.04	0.04	0.02	
	Hedo	Mean	0.13	0.11	0.18	0.13	0.11	0.09	0.10	0.09	0.21	0.66	0.97	0.76	0.29	
		%	100	100	100	100	67	100	100	100	50	100	50	100	88	
		Max-2w	0.14	0.12	0.23	0.17	0.11	0.11	0.11	0.14	0.21	0.80	0.97	0.85	0.97	
		Min-2w	0.12	0.09	0.14	0.09	0.10	0.08	0.10	0.03	0.21	0.56	0.97	0.67	0.03	
	Ogasawara	Mean	0.36	0.34	0.33	0.46	0.18	0.13	0.21	-	0.95	0.30	0.41	0.28	0.32	
		%	64	100	100	100	100	100	100	0	39	100	100	100	84	
		Max-2w	0.36	0.44	0.36	0.53	0.21	0.16	0.31	-	0.95	0.54	0.44	0.33	0.95	
		Min-2w	0.36	0.23	0.30	0.40	0.14	0.11	0.11	-	0.95	0.01	0.37	0.23	0.01	
	Tokyo	Mean	0.03	0.11	0.07	0.17	0.18	0.11	0.20	0.16	0.24	0.12	0.07	0.05	0.13	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	
		Max-2w	0.03	0.13	0.11	0.21	0.24	0.14	0.21	0.17	0.27	0.14	0.08	0.05	0.27	
		Min-2w	0.03	0.08	0.03	0.14	0.14	0.08	0.20	0.14	0.21	0.10	0.07	0.04	0.03	
	Malaysia	Tanah Rata	Mean	0.02	0.03	0.01	0.01	0.01	0.03	0.05	0.02	0.01	<0.01	<0.01	<0.01	0.02
			%	100	100	100	100	100	100	100	50	100	100	100	100	96
			Max-w	0.04	0.03	0.03	0.01	0.03	0.04	0.06	0.04	0.02	0.02	0.02	<0.01	0.06
			Min-w	<0.01	0.02	<0.01	<0.01	<0.01	0.02	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Petaling Jaya		Mean	0.06	0.08	0.05	0.04	0.02	0.06	0.08	0.03	0.07	0.01	<0.01	<0.01	0.04	
		%	100	100	100	100	100	100	100	100	100	100	100	80	98	
		Max-w	0.08	0.12	0.07	0.05	0.04	0.08	0.11	0.11	0.10	0.02	<0.01	<0.01	0.12	
		Min-w	0.04	0.05	0.03	0.02	<0.01	<0.01	0.04	<0.01	0.04	<0.01	<0.01	<0.01	<0.01	
Danum Valley		Mean	0.02	0.05	0.03	0.04	0.01	0.02	0.03	<0.01	0.03	<0.01	<0.01	<0.01	0.02	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	
		Max-2w	0.02	0.08	0.06	0.05	0.01	0.04	0.03	0.02	0.03	0.01	0.01	<0.01	0.08	
		Min-2w	0.02	0.03	0.01	0.03	<0.01	<0.01	0.02	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	
Mongolia	Ulaanbaatar	Mean	0.15	0.15	0.21	0.31	0.39	0.53	0.69	0.56	0.34	0.28	0.56	0.43	0.38	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	
		Max-w	0.34	0.34	0.29	0.51	0.48	0.84	1.01	0.74	0.51	0.36	0.81	0.78	1.01	
		Min-w	<0.01	<0.01	<0.01	0.10	0.21	0.32	0.28	0.32	0.13	0.20	0.42	0.28	<0.01	
	Terelj	Mean	0.12	0.07	0.03	0.12	0.03	<0.01	0.10	0.06	<0.01	<0.01	<0.01	0.07	0.05	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	
		Max-2w	0.14	0.13	0.06	0.15	0.06	0.01	0.12	0.09	0.01	<0.01	0.02	0.09	0.15	
		Min-2w	0.10	<0.01	<0.01	0.08	<0.01	<0.01	0.09	0.02	<0.01	<0.01	<0.01	0.05	<0.01	
Myanmar	Yangon	Mean	†	†	†	†	†	†	†	†	†	†	†	0.20	0.15	0.25
		%	†	†	†	†	†	†	†	†	†	†	68	100	13	
		Max-2w	†	†	†	†	†	†	†	†	†	†	†	0.25	0.19	0.25
		Min-2w	†	†	†	†	†	†	†	†	†	†	†	0.15	0.11	0.15
		Mean	†	†	†	†	†	†	†	†	†	†	†	†	†	†
		%	†	†	†	†	†	†	†	†	†	†	†	†	†	†

Table 4.19 Particulate matter component: Mg²⁺

Unit : µg/m ³			2011												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Russia	Mondy	Mean	-	<0.01	<0.01	<0.01	<0.01	0.02	0.03	0.02	<0.01	<0.01	<0.01	<0.01	<0.01
		%	0	100	100	100	100	100	100	100	100	100	100	100	91
		Max-2w	-	<0.01	<0.01	<0.01	<0.01	0.03	0.03	0.02	<0.01	<0.01	<0.01	<0.01	0.03
		Min-2w	-	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.02	<0.01	<0.01	<0.01	<0.01	<0.01
	Listvianka	Mean	0.03	0.06	0.06	0.03	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.05	0.13	0.16	0.10	0.06	<0.01	<0.01	0.01	0.01	<0.01	<0.01	<0.01	0.16
		Min-w	0.02	0.03	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Irkutsk	Mean	0.15	0.30	0.14	0.15	0.04	0.02	0.05	0.03	0.04	0.10	0.03	0.05	0.09
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.28	0.52	0.31	0.20	0.06	0.05	0.09	0.07	0.09	0.19	0.07	0.11	0.52
		Min-w	0.03	0.04	0.04	0.08	<0.01	<0.01	0.02	<0.01	<0.01	0.05	0.02	0.01	<0.01
	Primorskaya	Mean	0.02	0.11	0.11	0.19	0.05	0.06	0.01	0.02	0.06	0.09	0.05	0.04	0.07
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.04	0.12	0.14	0.26	0.09	0.08	0.02	0.03	0.08	0.12	0.05	0.05	0.26
		Min-2w	0.01	0.11	0.08	0.11	0.01	0.03	<0.01	<0.01	0.04	0.06	0.05	0.04	<0.01
Thailand	Bangkok	Mean	0.04	0.12	0.10	0.12	0.07	0.12	0.10	0.09	0.05	0.14	0.04	0.06	0.09
		%	64	100	100	100	100	100	100	100	100	100	77	100	95
		Max-10d	0.08	0.16	0.18	0.15	0.13	0.18	0.17	0.14	0.08	0.27	0.06	0.06	0.27
		Min-10d	<0.01	0.05	0.04	0.07	<0.01	0.06	0.07	0.05	<0.01	0.06	<0.01	0.05	<0.01
	Pathumthani	Mean	<0.01	0.07	0.04	0.01	0.02	0.06	0.09	0.06	0.02	-	-	-	0.04
		%	79	43	100	100	100	58	77	68	100	0	0	0	61
		Max-10d	<0.01	0.07	0.07	0.02	0.04	0.11	0.09	0.06	0.04	-	-	-	0.11
		Min-10d	<0.01	0.07	<0.01	<0.01	<0.01	0.01	0.08	0.06	0.01	-	-	-	<0.01
	Khanchanaburi (Vachiralongkom Dam)	Mean	-	-	<0.01	-	-	-	0.04	-	-	-	0.04	-	0.03
		%	0	0	50	0	0	0	50	0	0	0	53	0	14
		Max-2w	-	-	<0.01	-	-	-	0.04	-	-	-	0.04	-	0.04
		Min-2w	-	-	<0.01	-	-	-	0.04	-	-	-	0.04	-	<0.01
	Chiangmai (Mae Hia)	Mean	-	-	<0.01	0.03	0.02	0.02	0.02	<0.01	<0.01	<0.01	0.03	0.03	0.02
		%	0	0	97	100	97	97	97	97	97	100	90	100	81
		Max-10d	-	-	<0.01	0.06	0.02	0.04	0.03	<0.01	<0.01	0.01	0.04	0.05	0.06
		Min-10d	-	-	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	<0.01	<0.01
	Nakhon Ratchasima	Mean	-	-	<0.01	<0.01	<0.01	0.07	0.01	0.02	<0.01	<0.01	<0.01	0.03	0.01
		%	0	0	100	100	100	97	100	100	100	100	100	100	82
		Max-10d	-	-	<0.01	<0.01	<0.01	0.17	0.03	0.03	<0.01	<0.01	<0.01	0.05	0.17
		Min-10d	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01
Vietnam	Hanoi	Mean	0.18	0.37	0.32	0.72	0.43	0.36	0.37	0.22	0.25	0.29	0.43	0.33	0.35
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.22	0.74	0.46	1.10	0.62	0.85	1.20	0.29	0.34	0.65	0.54	0.53	1.20
		Min-w	0.10	0.03	0.10	0.53	0.27	<0.01	<0.01	0.18	0.18	0.06	0.30	0.09	<0.01
	Hoa Binh	Mean	<0.01	0.04	0.02	0.15	0.21	0.03	<0.01	0.07	0.05	0.03	0.05	0.28	0.08
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	<0.01	0.10	0.08	0.29	0.39	0.15	<0.01	0.09	0.07	0.04	0.07	0.61	0.61
		Min-w	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	0.05	0.02	0.03	0.03	0.05	<0.01

† Filterpack monitoring at Yangon was started in November, 2011.

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 interval data

Min-10d : minimum values of 10-day interval data

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

% : monthly or annual percentages of period of available data

Table 4.20 Particulate matter component: Ca²⁺

Unit : µg/m ³			2011													Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
Cambodia	Phnom Penh	Mean	0.47	0.83	0.74	0.62	0.90	1.00	1.01	0.73	0.57	0.37	0.94	0.82	0.75	
		%	100	100	76	100	100	100	100	100	69	100	100	100	94	
		Max-2w	0.62	1.02	0.82	0.82	1.07	1.03	1.01	0.78	0.77	0.66	1.36	0.93	1.36	
		Min-2w	0.31	0.65	0.65	0.42	0.74	0.96	1.01	0.68	0.38	0.09	0.52	0.70	0.09	
China	Hongwen	Mean	0.99	0.93	1.46	1.09	1.44	1.80	1.40	1.57	0.98	2.40	2.26	2.39	1.59	
		%	50	100	100	100	100	100	100	100	100	100	100	100	96	
		Max-2w	0.99	0.94	1.64	1.49	2.45	2.98	1.82	1.97	1.58	3.03	2.75	2.40	3.03	
		Min-2w	0.99	0.92	1.28	0.68	0.43	1.07	0.99	1.17	0.37	1.76	1.77	2.38	0.37	
Indonesia	Serpong	Mean	0.18	0.19	0.11	0.12	0.25	0.10	0.39	0.23	0.06	0.07	0.23	0.17	0.18	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	
		Max-2w	0.26	0.29	0.14	0.18	0.41	0.10	0.51	0.36	0.07	0.09	0.31	0.20	0.51	
		Min-2w	0.09	0.09	0.07	0.05	0.09	0.10	0.27	0.09	0.05	0.04	0.15	0.15	0.04	
Japan	Rishiri	Mean	0.05	0.18	0.17	0.29	0.10	0.07	0.04	0.08	0.16	0.24	0.11	0.05	0.13	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	
		Max-2w	0.07	0.18	0.23	0.36	0.10	0.08	0.05	0.11	0.20	0.25	0.14	0.06	0.36	
		Min-2w	0.03	0.18	0.12	0.21	0.10	0.07	0.03	0.05	0.11	0.23	0.07	0.04	0.03	
	Ochiishi	Mean	0.07	0.13	0.25	0.33	0.10	0.08	0.09	0.05	0.09	0.16	0.17	0.17	0.14	
		%	50	100	100	100	100	100	100	100	100	100	100	100	96	
		Max-2w	0.07	0.19	0.33	0.37	0.12	0.12	0.09	0.06	0.11	0.18	0.19	0.29	0.37	
		Min-2w	0.07	0.08	0.16	0.29	0.07	0.05	0.08	0.05	0.07	0.15	0.14	0.06	0.05	
	Tappi	Mean	0.18	0.32	0.79	0.49	0.30	0.12	0.08	0.09	0.11	0.30	0.37	0.28	0.29	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	
		Max-2w	0.24	0.36	1.11	0.52	0.39	0.13	0.09	0.13	0.18	0.32	0.43	0.33	1.11	
		Min-2w	0.12	0.27	0.47	0.46	0.12	0.12	0.07	0.05	0.04	0.27	0.28	0.24	0.04	
	Sado-seki	Mean	0.16	0.28	0.40	0.23	0.56	-	0.08	0.11	0.14	0.27	0.18	0.17	0.25	
		%	100	100	100	100	100	0	100	100	100	100	100	100	92	
		Max-2w	0.17	0.34	0.51	0.34	1.01	-	0.08	0.14	0.20	0.36	0.21	0.19	1.01	
		Min-2w	0.16	0.21	0.30	0.12	0.12	-	0.07	0.08	0.07	0.19	0.15	0.14	0.07	
	Happo	Mean	<0.01	0.01	0.06	0.05	0.09	<0.01	<0.01	0.04	0.04	0.07	<0.01	0.02	0.04	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	
		Max-2w	<0.01	0.02	0.11	0.08	0.16	<0.01	<0.01	0.06	0.06	0.12	<0.01	0.03	0.16	
		Min-2w	<0.01	<0.01	0.02	0.03	0.03	<0.01	<0.01	0.02	0.01	0.03	<0.01	<0.01	<0.01	
	Ijira	Mean	0.03	0.14	0.20	0.36	0.60	0.08	0.08	0.07	0.09	0.10	0.05	0.03	0.17	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	
		Max-2w	0.06	0.17	0.26	0.36	0.97	0.08	0.10	0.09	0.09	0.15	0.07	0.06	0.97	
		Min-2w	<0.01	0.11	0.13	0.36	0.10	0.07	0.06	0.04	0.09	0.06	0.03	<0.01	<0.01	
	Oki	Mean	0.90	0.57	0.43	0.57	1.10	0.12	0.07	0.06	0.10	0.24	0.16	0.29	0.38	
		%	100	100	100	100	100	100	54	100	100	100	100	100	96	
		Max-2w	1.04	0.75	0.55	0.73	1.58	0.21	0.07	0.06	0.11	0.27	0.22	0.33	1.58	
		Min-2w	0.75	0.38	0.32	0.42	0.63	0.07	0.07	0.05	0.10	0.22	0.06	0.25	0.05	
	Banryu	Mean	0.19	0.25	0.42	0.43	0.80	0.07	0.08	0.04	0.11	0.17	0.12	0.17	0.26	
		%	100	100	100	100	100	100	100	100	100	100	63	100	96	
		Max-2w	0.22	0.32	0.47	0.44	1.57	0.07	0.08	0.05	0.14	0.23	0.14	0.19	1.57	
		Min-2w	0.15	0.19	0.37	0.42	0.20	0.07	0.08	0.04	0.08	0.11	0.09	0.14	0.04	
	Yusuhara	Mean	0.10	0.16	0.25	1.03	0.40	0.09	0.04	0.04	0.05	0.11	0.08	0.09	0.21	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	
		Max-2w	0.11	0.22	0.33	1.56	0.69	0.11	0.04	0.04	0.06	0.15	0.10	0.10	1.56	
		Min-2w	0.09	0.10	0.16	0.51	0.10	0.06	0.04	0.04	0.05	0.06	0.06	0.08	0.04	
	Hedo	Mean	0.07	0.07	0.19	0.17	0.21	0.09	0.05	0.08	0.11	0.34	0.39	0.34	0.18	
		%	100	100	100	100	67	100	100	100	50	100	50	100	88	
		Max-2w	0.08	0.09	0.25	0.22	0.29	0.12	0.06	0.12	0.11	0.40	0.39	0.40	0.40	
		Min-2w	0.06	0.06	0.13	0.11	0.14	0.06	0.05	0.04	0.11	0.29	0.39	0.29	0.04	
	Ogasawara	Mean	0.19	0.18	0.29	0.37	0.14	0.08	0.07	-	0.34	0.11	0.14	0.11	0.17	
		%	64	100	100	100	100	100	100	0	39	100	100	100	84	
		Max-2w	0.19	0.20	0.32	0.38	0.19	0.11	0.09	-	0.34	0.18	0.15	0.12	0.38	
		Min-2w	0.19	0.17	0.26	0.35	0.10	0.06	0.06	-	0.34	0.02	0.14	0.09	0.02	
	Tokyo	Mean	0.38	0.64	0.42	0.66	0.77	0.43	0.53	0.39	0.39	0.37	0.40	0.39	0.49	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	
		Max-2w	0.38	0.69	0.58	0.68	1.06	0.50	0.66	0.47	0.39	0.51	0.46	0.41	1.06	
		Min-2w	0.37	0.58	0.26	0.64	0.33	0.36	0.40	0.31	0.39	0.21	0.34	0.37	0.21	
Malaysia	Tanah Rata	Mean	0.05	0.06	0.03	0.02	0.08	0.12	0.32	0.08	0.04	<0.01	<0.01	<0.01	0.07	
		%	100	100	100	100	100	100	100	50	100	100	100	100	96	
		Max-w	0.12	0.08	0.08	0.06	0.13	0.18	0.42	0.16	0.08	<0.01	<0.01	<0.01	0.42	
		Min-w	<0.01	0.03	<0.01	0.01	0.02	0.07	0.14	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	
	Petaling Jaya	Mean	0.47	0.35	0.40	0.39	0.18	0.39	0.53	0.52	0.35	0.27	0.31	0.27	0.37	
		%	100	100	100	100	100	100	100	100	100	100	100	80	98	
		Max-w	0.69	0.51	0.55	0.49	0.46	0.55	0.82	0.65	0.66	0.63	0.69	0.43	0.82	
		Min-w	0.32	0.21	0.30	0.24	<0.01	0.05	0.18	0.43	<0.01	<0.01	<0.01	0.06	<0.01	
	Danum Valley	Mean	0.01	0.02	0.01	0.03	0.02	0.03	0.04	0.03	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	0.02	0.03	0.03	0.03	0.04	0.06	0.02	0.02	<0.01	<0.01	0.06	
		Min-2w	<0.01	0.02	<0.01	0.02	0.01	0.02	0.04	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	
Mongolia	Ulaanbaatar	Mean	0.93	0.94	0.92	2.11	2.52	4.85	6.40	5.65	6.27	3.94	1.85	3.33	3.35	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	
		Max-w	1.68	1.72	2.02	3.66	3.04	9.21	7.19	7.71	8.02	7.60	2.23	5.12	9.21	
		Min-w	0.44	0.34	0.53	1.04	1.95	2.19	5.44	4.32	3.30	1.52	1.32	1.78	0.34	
	Terelj	Mean	0.32	0.23	0.30	0.40	0.38	0.22	0.28	0.26	0.38	0.32	0.35	0.39	0.32	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	
		Max-2w	0.38	0.36	0.36	0.55	0.57	0.23	0.32	0.32	0.43	0.46	0.40	0.39	0.57	
		Min-2w	0.26	0.10	0.25	0.24	0.18	0.20	0.25	0.21	0.35	0.18	0.31	0.38	0.10	
Myanmar	Yangon	Mean	†	†	†	†	†	†	†	†	†	†	1.94	1.69	1.82	
		%	†	†	†	†	†	†	†	†	†	†	68	100	13	
		Max-2w	†	†	†	†	†	†	†	†	†	†	†	2.44	2.07	2.44
		Min-2w	†	†	†	†	†	†	†	†	†	†	†	1.45	1.32	1.31

Table 4.20 Particulate matter component: Ca²⁺

Unit : µg/m ³			2011												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Russia	Mondy	Mean	-	0.01	<0.01	<0.01	0.04	0.10	0.14	0.07	0.02	0.03	0.02	0.01	0.04
		%	0	100	100	100	100	100	100	100	100	100	100	100	91
		Max-2w	-	0.02	<0.01	<0.01	0.07	0.14	0.14	0.07	0.02	0.04	0.02	0.01	0.14
		Min-2w	-	0.01	<0.01	<0.01	<0.01	0.06	0.13	0.07	0.02	0.03	0.01	0.01	<0.01
	Listvianka	Mean	0.15	0.26	0.25	0.10	0.06	0.05	0.05	0.05	0.05	0.05	0.06	0.06	0.10
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.25	0.59	0.58	0.30	0.10	0.06	0.07	0.10	0.08	0.08	0.08	0.08	0.59
		Min-w	0.09	0.09	0.10	0.04	0.02	0.03	0.04	0.03	0.03	0.02	0.03	0.03	0.02
	Irkutsk	Mean	0.51	0.51	0.35	0.21	0.11	0.12	0.44	0.24	0.50	0.81	0.11	0.20	0.35
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	1.04	0.74	0.85	0.43	0.25	0.28	0.79	0.50	1.08	1.63	0.20	0.35	1.63
		Min-w	0.27	0.20	0.14	0.12	0.02	0.02	0.21	0.04	0.04	0.48	0.05	0.10	0.02
	Primorskaya	Mean	0.10	0.21	0.39	0.79	0.25	0.24	0.21	0.10	0.18	0.31	0.24	0.35	0.28
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.14	0.23	0.61	1.15	0.38	0.26	0.27	0.12	0.20	0.38	0.27	0.38	1.15
		Min-2w	0.05	0.19	0.17	0.43	0.13	0.23	0.16	0.07	0.16	0.24	0.21	0.32	0.05
Thailand	Bangkok	Mean	1.14	0.88	1.28	0.90	0.72	1.06	0.99	0.76	0.58	1.36	0.76	1.93	1.03
		%	64	100	100	100	100	100	100	100	100	100	77	100	95
		Max-10d	2.22	1.17	1.85	1.27	1.09	1.52	1.73	0.86	0.82	2.08	1.42	2.67	2.67
		Min-10d	0.06	0.55	0.41	0.63	0.05	0.60	0.66	0.68	0.14	0.97	0.09	1.52	0.05
	Pathumthani	Mean	0.23	1.22	0.57	0.24	0.14	0.55	0.69	0.99	0.42	-	-	-	0.50
		%	79	43	100	100	100	58	77	68	100	0	0	0	61
		Max-10d	0.41	1.22	0.90	0.51	0.27	0.88	0.72	1.05	0.98	-	-	-	1.22
		Min-10d	0.05	1.22	0.24	0.08	<0.01	0.22	0.67	0.93	0.09	-	-	-	<0.01
	Khanchanaburi (Vachiralongkorn Dam)	Mean	-	-	0.05	-	-	-	0.17	-	-	-	0.14	-	0.12
		%	0	0	50	0	0	0	50	0	0	0	53	0	14
		Max-2w	-	-	0.05	-	-	-	0.17	-	-	-	0.14	-	0.17
		Min-2w	-	-	0.05	-	-	-	0.17	-	-	-	0.14	-	0.05
	Chiangmai (Mae Hia)	Mean	-	-	0.26	0.33	0.06	0.24	0.12	0.05	0.12	0.13	0.44	0.42	0.22
		%	0	0	97	100	97	97	97	97	97	100	90	100	81
		Max-10d	-	-	0.53	0.74	0.07	0.50	0.20	0.11	0.24	0.21	0.58	0.61	0.74
		Min-10d	-	-	0.11	0.08	0.04	0.02	0.04	<0.01	0.05	0.07	0.36	0.27	<0.01
	Nakhon Ratchasima	Mean	-	-	<0.01	0.18	0.25	0.40	0.16	0.18	0.04	<0.01	0.07	0.34	0.16
		%	0	0	100	100	100	97	100	100	100	100	100	100	82
		Max-10d	-	-	<0.01	0.26	0.53	0.94	0.21	0.25	0.09	<0.01	0.12	0.46	0.94
		Min-10d	-	-	<0.01	0.07	0.03	0.03	0.08	0.08	<0.01	<0.01	0.03	0.15	<0.01
Vietnam	Hanoi	Mean	5.61	8.98	10.35	15.68	14.16	11.37	10.85	4.89	4.87	4.98	6.38	6.31	8.67
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	6.34	12.25	12.67	18.65	16.51	16.25	12.53	5.19	7.65	11.00	8.37	11.15	18.65
		Min-w	4.44	5.66	8.55	14.32	11.11	3.31	8.89	4.65	1.40	0.92	3.97	1.27	0.92
	Hoa Binh	Mean	0.51	1.66	1.38	4.89	3.91	1.72	0.63	0.71	0.58	0.43	0.68	2.44	1.62
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	1.18	3.28	2.07	7.74	6.30	4.37	1.14	0.82	0.88	0.50	0.89	5.20	7.74
		Min-w	0.05	0.74	0.75	1.35	1.60	0.19	<0.01	0.59	0.23	0.35	0.49	0.61	<0.01

† Filterpack monitoring at Yangon was started in November, 2011.

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 interval data

Min-10d : minimum values of 10-day interval data

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

% : monthly or annual percentages of period of available data

Table 4.21 Annual SO₂ concentration

unit: ppb

Country	Name of sites	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cambodia	Phnom Penh											1.6	1.3
China	Jinyunshan		10.0	11.0	16.3	15.8	17.8	17.2	12.2	13.3	12.5	12.9	9.3
	Weishuiyuan	6.2	5.1	4.6	3.8	8.9	11.7	15.4					
	Hongwen	5.9	8.5	10.2	10.0	7.2	8.2	9.4	10.9	9.1	5.2	4.9	5.8
	Xiang Zhou	7.9	10.0	9.4	10.1	8.2	6.3	8.2	6.3	6.6	5.9	5.9	5.6
Indonesia	Jakarta								11.0	7.4	8.3	6.3	5.0
	Serpong	2.2	0.9	1.0	1.7	1.0	1.4	0.5	1.5	1.6	1.1	0.8	1.4
	Kototabang								3.3	6.3	7.9	11.7	2.2
	Bandung									2.7	4.7	4.2	4.0
Japan	Rishiri	<0.1	0.2	0.1	0.2	0.2	0.1	0.2	0.3	0.2	0.3	0.3	0.2
	Ochiishi									0.2	0.2	0.2	0.1
	Tappi	0.3	0.5	0.3	0.5	0.5	0.5	0.5	0.5	0.6	***	***	0.4
	Sado-seki	0.2	0.6	0.5	0.4	0.7	0.6	0.5	0.6	0.4	0.4	0.3	0.4
	Happo	0.2	0.9	0.5	0.4	0.7	0.7	0.6	(0.8)	0.6	0.4	0.8	0.4
	Ijira	0.1	0.9	0.5	0.4	0.6	0.4	0.2	0.4	0.2	0.2	0.1	0.2
	Okii	0.3	0.6	0.4	0.4	0.7	0.7	0.7	0.9	0.8	0.6	0.6	0.6
	Banryu	0.5	1.0	0.9	1.0	0.9	1.0	0.6	1.1	1.0	0.6	0.6	0.5
	Yusuhara	0.6	1.1	0.8	0.9	1.0	1.1	0.9	1.2	1.0	0.9	1.6	0.9
	Hedo	0.2	0.3	0.3	0.3	0.2	0.4	0.3	0.4	0.3	0.2	0.3	0.3
	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
	Tokyo								2.2	2.2	2.0	1.8	1.6
Malaysia	Tanah Rata	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	3.3	<0.1	<0.1	<0.1	<0.1
	Petaling Jaya		5.3	5.0	4.0	1.3	3.8	6.3	2.0	1.9	1.8	1.4	2.0
	Danum Valley							0.1	0.1	<0.1	0.1	<0.1	<0.1
Mongolia	Ulaanbaatar	1.5	1.7	1.0	1.7	2.9	4.3	4.8	4.3	1.8	4.3	9.1	6.1
	Terelj	0.4	0.5	0.3	0.4	0.5	0.5	0.5	1.4	0.5	0.7	0.6	0.7
Myanmar	Yangon												1.6
Philippines	Metro Manila	4.8	4.2	4.3	4.4	3.4	3.1	2.1	2.7	1.2	***	2.2	***
	Los Banos	0.8	0.7	0.9	0.9	0.4	0.2	0.3	0.4	0.3	***	***	***
	Mt. Sto. Tomas							<0.1	<0.1	0.4	<0.1	1.1	***
Republic of Korea	Kanghwa			3.6	1.9	3.6	2.8	3.4	2.8	2.9	3.2	2.9	***
	Cheju (Kosan)			1.3	3.9	1.8	2.2	3.4	2.3	2.2	2.7	2.5	***
	Imsil			2.3	1.5	1.2	2.5	1.8	2.1	2.3	1.4	2.7	***
Russia	Mondy	<0.1	0.2	<0.1	0.2	0.2	1.2	0.7	0.4	0.3	0.1	0.6	0.1
	Listvyanka	1.0	2.1	1.1	1.0	0.7	6.0	3.5	1.1	1.2	4.0	4.5	2.8
	Irkutsk	3.4	3.0	0.7	1.0	1.4	5.1	4.0	2.4	2.2	4.6	7.3	5.6
	Primorskaya			0.5	0.4	0.5	1.6	1.2	0.7	0.9	1.0	1.7	1.2
Thailand	Bangkok	4.2	2.8	2.5	2.4	3.3	7.3	4.1	0.8	2.1	1.9	1.6	1.6
	Samutprakarn	4.1	4.7	4.4	5.5	5.9	6.6	6.5	5.8	4.8	4.9	4.6	2.6
	Pathumthani				2.4	1.3	1.6	2.7	1.8	0.5	1.1	1.2	0.6
	Khanchanaburi	1.0	0.5	1.4	***	1.7	1.2	1.3	1.3	1.6	1.2	1.6	1.3
	Chiang Mai (Mae Hia)		0.5	0.5	1.4	1.5	1.0	0.8	0.9	0.8	0.6	0.8	0.6
	Nakhon Ratchasima							0.3	0.4	0.2	0.2	0.2	0.2
Vietnam	Hanoi	0.8	3.5	2.7	2.2	4.8	2.4	3.9	1.7	1.3	1.3	1.4	1.9
	Hoa Binh	0.9	2.6	2.4	1.3	2.1	2.7	2.0	1.2	1.0	0.9	0.7	1.2

() : Reference data

[***]: No data or not measured

Black column: Monitoring was not carried out

A part of 2008-2010 Data at Tappi and 2010 Data at Yusuhara were revised from reference data to invalid data because of sample inlet failure.

Table 4.22 Annual HNO₃ concentration

unit: ppb

Country	Name of sites	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cambodia	Phnom Penh											0.3	0.2
China	Jinyunshan												
	Weishuiyuan												
	Hongwen								0.9	1.7	1.1	1.0	2.1
	Xiang Zhou												
Indonesia	Jakarta												
	Serpong		0.4	1.3	0.7	0.6	0.5	0.2	0.4	0.2	0.3	0.3	0.8
	Kototabang												
	Bandung												
Japan	Rishiri			<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
	Tappi				0.2	0.2	0.1	0.1	0.2	0.2	<0.1	0.2	0.2
	Sado-seki				0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2
	Happo				0.4	0.3	0.2	0.3	0.4	0.4	<0.1	<0.1	<0.1
	Ijira				0.3	0.4	0.4	0.4	0.3	0.3	0.3	0.2	0.2
	Okii			0.1	<0.1	<0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.2
	Banryu				0.2	0.3	0.4	0.3	0.4	0.3	0.3	0.2	0.2
	Yusuhara				0.3	0.4	0.5	0.5	0.5	0.3	0.3	0.3	0.3
	Hedo				<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
	Tokyo								1.1	1.0	0.8	0.8	0.6
Malaysia	Tanah Rata	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.2	0.1	0.1	<0.1	<0.1
	Petaling Jaya		1.4	1.8	2.3	0.5	0.7	1.8	0.7	0.8	1.0	0.7	0.7
	Danum Valley							<0.1	<0.1	<0.1	0.2	<0.1	<0.1
Mongolia	Ulaanbaatar	0.2	0.1	<0.1	0.2	<0.1	<0.1	0.1	0.2	0.2	0.2	0.3	0.2
	Terej	<0.1	<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
Philippines	Metro Manila	0.7	0.3	0.2	0.4	0.5	0.4	0.3	0.4	0.4	***	0.2	***
	Los Banos	0.3	0.2	0.1	0.2	0.2	<0.1	<0.1	0.2	<0.1	***	***	***
	Mt. Sto. Tomas							<0.1	<0.1	0.3	<0.1	0.4	***
Republic of Korea	Kanghwa				0.2	0.3	***	0.4	0.7	0.5	0.5	0.4	***
	Cheju (Kosan)				0.2	0.9	***	0.5	***	0.7	0.6	0.5	***
	Imsil		0.5	***	1.7	0.4	***	0.6	0.4	0.4	0.5	0.3	***
Russia	Mondy	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	2.9	<0.1
	Listvyanka	0.2	0.2	0.4	0.1	0.1	<0.1	0.2	<0.1	<0.1	<0.1	0.4	0.1
	Irkutsk	<0.1	0.4	0.1	0.2	<0.1	0.4	<0.1	0.2	0.2	0.2	1.9	0.1
	Primorskaya		0.2	0.1	<0.1	<0.1	<0.1	0.5	<0.1	0.1	0.1	0.7	<0.1
Thailand	Bangkok				0.7	0.9	0.5	1.0	0.5	0.5	0.5	0.6	0.5
	Samutprakarn												
	Pathumthani				0.6	1.3	0.3	0.6	0.8	0.3	0.7	0.9	0.3
	Khanchanaburi			0.2	***	0.6	<0.1	0.2	<0.1	0.2	0.5	<0.1	<0.1
	Chiang Mai (Mae Hia)		0.2	0.2	0.1	0.4	0.4	0.2	0.5	0.4	0.7	1.9	0.1
	Nakhon Ratchasima							0.3	0.3	0.2	0.2	0.2	<0.1
Vietnam	Hanoi	0.6	0.5	1.9	0.7	1.5	1.0	0.9	1.0	0.5	0.9	0.8	0.9
	Hoa Binh	0.5	0.2	1.8	0.4	0.5	0.8	0.3	0.4	0.4	0.3	0.3	0.3

[***]: No data or not measured

Black column: Monitoring was not carried out

Table 4.23 Annual HCl concentration

unit: ppb

Country	Name of sites	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cambodia	Phnom Penh											0.5	0.4
China	Jinyunshan												
	Weishuiyuan												
	Hongwen								1.5	1.2	1.5	14.5	13.3
	Xiang Zhou												
Indonesia	Jakarta												
	Serpong		0.4	2.6	1.8	1.5	1.1	0.5	1.7	0.5	0.4	0.8	0.7
	Kototabang												
	Bandung												
Japan	Rishiri			0.3	0.4	0.5	0.4	0.4	0.4	0.5	0.5	0.5	0.5
	Ochiishi									0.4	0.4	0.4	0.6
	Tappi				0.7	0.6	0.5	0.5	0.6	0.6	0.5	1.5	0.7
	Sado-seki				0.9	1.0	1.1	0.9	0.9	0.8	0.9	0.7	0.8
	Happo				0.2	0.2	0.2	0.2	0.2	0.2	<0.1	<0.1	<0.1
	Ijira				0.2	0.3	0.2	0.2	0.3	0.2	0.2	0.2	0.2
	Okii			0.2	0.3	0.5	0.9	0.9	1.1	0.9	0.8	0.8	1.0
	Banryu				0.2	0.6	0.9	0.8	0.9	0.7	0.8	0.7	0.8
	Yusuhara				0.3	0.3	0.4	0.4	0.4	0.3	0.3	0.3	0.4
	Hedo				0.9	1.0	0.9	0.9	1.0	0.9	0.9	0.5	0.4
	Ogasawara				0.3	0.5	0.5	0.4	0.7	0.6	0.5	0.4	0.4
	Tokyo								1.0	0.8	0.8	0.7	0.8
Malaysia	Tanah Rata	0.1	<0.1	***	***	0.3	0.1	<0.1	0.1	0.4	0.1	<0.1	0.2
	Petaling Jaya		1.4	***	***	0.7	0.9	1.6	0.7	1.1	0.7	0.5	0.8
	Danum Valley							0.2	0.2	0.3	0.5	0.3	0.2
Mongolia	Ulaanbaatar	0.3	0.1	0.4	1.0	0.9	0.7	1.0	0.9	0.7	0.7	1.7	1.1
	Terej	0.1	<0.1	0.3	0.7	0.6	0.4	0.4	0.5	0.4	0.3	0.5	0.5
Myanmar	Yangon												1.5
Philippines	Metro Manila	5.4	0.3	0.9	1.2	1.0	0.9	0.5	0.7	0.7	***	0.8	***
	Los Banos	1.5	0.2	0.6	1.2	0.5	0.3	0.3	0.8	0.4	***	***	***
	Mt. Sto. Tomas							0.2	<0.1	0.6	0.2	1.2	***
Republic of Korea	Kanghwa				0.3	0.1	***	0.2	0.2	<0.1	0.1	0.2	***
	Cheju (Kosan)				0.1	0.9	***	0.2	***	0.2	0.2	0.2	***
	Imsil		0.5	***	0.2	2.0	***	0.3	0.2	0.1	0.2	0.1	***
Russia	Mondy	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.5	0.4
	Listvyanka	0.3	0.2	0.4	0.3	0.2	<0.1	0.2	<0.1	0.1	0.2	0.6	1.8
	Irkutsk	0.3	0.4	0.3	0.4	0.1	0.2	0.1	0.2	0.2	0.2	0.5	1.4
	Primorskaya		0.2	0.5	0.5	0.3	0.1	0.2	0.2	0.2	0.2	0.7	1.1
Thailand	Bangkok				0.7	0.9	1.5	1.5	0.7	0.8	0.9	0.7	0.7
	Samutprakarn												
	Pathumthani				0.5	0.8	0.6	1.1	1.2	0.4	0.9	0.7	0.5
	Khanchanaburi			0.7	***	0.5	0.1	0.3	0.2	0.3	0.2	<0.1	0.2
	Chiang Mai (Mae Hia)		0.2	0.3	0.2	0.4	0.4	0.5	0.2	0.2	0.3	0.4	0.3
	Nakhon Ratchasima							0.4	0.3	0.2	0.2	0.2	0.2
Vietnam	Hanoi	0.8	0.5	4.1	2.2	2.2	2.9	2.5	2.5	1.8	1.5	2.0	2.0
	Hoa Binh	0.1	0.2	4.4	3.3	1.5	2.3	1.5	2.1	1.8	1.2	1.5	1.6

[***]: No data or not measured

Black column: Monitoring was not carried out

Table 4.24 Annual NH₃ concentration

unit: ppb

Country	Name of sites	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cambodia	Phnom Penh											12.9	10.5
China	Jinyunshan												
	Weishuiyuan												
	Hongwen								7.9	8.1	11.2	12.2	9.5
	Xiang Zhou												
Indonesia	Jakarta												
	Serpong		4.6	5.1	12.9	10.2	11.2	6.2	8.5	6.3	5.9	5.4	11.0
	Kototabang												
	Bandung												
Japan	Rishiri			0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
	Ochiishi									0.6	1.0	0.4	0.4
	Tappi				0.6	0.5	0.3	0.3	0.4	0.5	0.5	0.5	0.4
	Sado-seki				0.6	0.7	0.6	0.6	0.6	0.7	0.6	0.6	0.6
	Happo				0.5	0.3	0.6	0.4	0.3	0.4	0.2	0.3	0.2
	Ijira				1.2	1.2	1.1	1.3	1.2	1.1	1.0	1.1	1.0
	Okii			1.1	0.6	0.8	0.8	0.7	0.8	1.0	1.0	0.8	0.7
	Banryu				1.1	1.3	1.2	1.1	1.0	1.0	1.0	1.0	0.9
	Yusuhara				0.7	0.5	0.4	0.4	0.5	0.5	0.5	0.5	0.5
	Hedo				0.8	0.9	0.8	0.9	1.0	1.2	1.2	1.2	0.9
	Ogasawara				0.2	0.5	0.9	0.5	0.5	0.5	0.5	0.5	0.7
	Tokyo								6.1	5.2	5.0	4.9	4.4
Malaysia	Tanah Rata	0.5	0.2	0.6	0.3	0.7	1.3	1.2	0.9	1.0	0.8	0.9	1.2
	Petaling Jaya		10.1	***	***	3.5	10.4	16.9	7.5	6.1	7.3	6.7	6.7
	Danum Valley							1.2	0.9	0.9	1.9	1.5	0.9
Mongolia	Ulaanbaatar	8.4	7.3	9.8	11.3	9.2	9.2	10.3	10.4	10.7	7.4	14.8	8.7
	Terej	1.0	0.7	1.5	1.7	1.3	1.4	1.6	1.3	1.2	1.9	1.4	1.5
Myanmar	Yangon												15.5
Philippines	Metro Manila	<0.1	7.1	10.0	9.3	9.1	12.5	3.8	6.6	9.2	***	7.5	***
	Los Banos	<0.1	4.2	6.2	5.0	4.1	4.5	2.0	2.7	3.1	***	***	***
	Mt. Sto. Tomas							0.2	0.9	6.4	0.4	2.5	***
Republic of Korea	Kanghwa				14.1	13.7	***	4.8	9.7	3.4	3.2	4.6	***
	Cheju (Kosan)				1.4	1.1	***	***	***	3.7	4.9	7.0	***
	Imsil		4.9	***	4.6	6.0	***	5.9	5.0	5.0	6.0	6.5	***
Russia	Mondy	0.6	0.2	0.7	0.7	0.5	0.8	1.9	0.8	0.7	0.4	0.4	0.4
	Listvyanka	1.1	0.2	0.8	1.7	1.6	0.8	4.4	2.5	2.7	2.4	2.8	0.8
	Irkutsk	1.8	0.5	1.3	2.2	4.4	1.8	3.7	3.8	3.3	2.9	2.2	1.7
	Primorskaya			12.0	10.8	7.8	1.2	2.7	3.6	2.9	1.8	2.2	4.2
Thailand	Bangkok				5.8	11.1	7.8	10.1	10.2	8.2	8.7	7.9	8.8
	Samutprakarn												
	Pathumthani				6.5	8.5	6.3	7.0	9.2	3.1	8.1	7.8	5.2
	Khanchanaburi			6.5	***	6.2	1.9	2.1	3.2	2.3	2.6	1.6	1.5
	Chiang Mai (Mae Hia)		6.5	3.9	6.9	5.5	3.0	3.2	4.7	3.8	5.8	9.0	5.3
	Nakhon Ratchasima							2.8	2.4	2.6	2.3	2.0	1.8
Vietnam	Hanoi	9.6	5.8	4.1	5.4	13.9	4.0	2.8	4.1	5.0	4.8	5.7	6.4
	Hoa Binh	6.8	2.7	2.8	7.5	8.9	3.8	2.7	2.3	4.0	3.9	2.1	2.4

[***]: No data or not measured

Black column: Monitoring was not carried out

Table 4.25 Annual NO concentration

unit: ppb

Country	Name of sites	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
China	Jinyunshan						1.0	2.6	1.5	6.7	3.3	2.0	1.6
	Weishuiyuan						5.1	9.8					
	Hongwen												
	Xiang Zhou												
Indonesia	Jakarta												
	Serpong												
	Kototabang												
	Bandung												
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
	Ochiishi									<0.1	<0.1	<0.1	<0.1
	Tappi	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	***	***	0.2
	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
	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
	Ijira	0.1	0.3	0.5	0.4	0.4	0.3	0.3	0.3	0.2	0.2	0.3	0.2
	Oki	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1
	Banryu	0.1	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	<0.1
	Yusuhara	0.2	0.1	<0.1	0.1	0.2	0.3	0.1	<0.1	0.1	<0.1	<0.1	<0.1
	Hedo	<0.1	0.1	0.2	<0.1	<0.1	0.2	<0.1	<0.1	0.1	<0.1	<0.1	0.2
	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
	Tokyo												
Malaysia	Tanah Rata								10.1	***	***	***	***
	Petaling Jaya												
	Danum Valley												
Mongolia	Ulaanbaatar												
	Terelj												
Philippines	Metro Manila												
	Los Banos												
	Mt. Sto. Tomas												
Republic of Korea	Kanghwa												
	Cheju (Kosan)												
	Imsil												
Russia	Mondy												
	Listvyanka												
	Irkutsk												
	Primorskaya												
Thailand	Bangkok		25.0	21.6	***	15.3	11.2	11.1	11.5	13.6	11.6	8.8	10.3
	Samutprakarn	23.0	18.9	18.0	14.5	15.5	14.4	16.4	16.7	15.3	15.2	13.3	15.1
	Pathumthani												
	Khanchanaburi	<0.1	1.2	0.3	***	1.0	1.0	0.6	1.8	0.7	0.2	0.3	1.1
	Chiang Mai (Mae Hia)				7.1	3.0	2.9	2.5	3.1	2.0	2.1	3.0	2.0
	Nakhon Ratchasima									5.9	***	***	***

() : Reference data

[***]: No data or not measured

Black column: Monitoring was not carried out

A part of 2008-2010 Data at Tappi and 2010 Data at Happo, Yusuhara were revised from reference data to invalid data because of sample inlet failure.

Table 4.26 Annual NO₂ concentration

unit: ppb

Country	Name of sites	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
China	Jinyunshan												
	Weishuiyuan												
	Hongwen		11.3	12.6	13.6	13.8	16.4	23.8	22.9	19.9	18.8	21.1	20.2
	Xiang Zhou		18.6	24.2	22.1	21.0	18.8	20.7	19.5	21.1	15.4	17.0	18.6
Indonesia	Jakarta								4.2	32.8	48.5	31.2	***
	Serpong	6.3											
	Kototabang								0.7	1.9	3.5	0.5	***
	Bandung									11.3	13.3	31.5	39.0
Japan	Rishiri												
	Ochiishi												
	Tappi												
	Sado-seki												
	Happo												
	Ijira												
	Oki												
	Banryu	3.8	3.9	3.7	3.8	3.5	3.4	2.5	3.3	3.4	2.8	2.6	2.5
	Yusuhara												
	Hedo												
	Ogasawara												
	Tokyo												
Malaysia	Tanah Rata												
	Petaling Jaya		26.6	29.4	30.9								
	Danum Valley												
Mongolia	Ulaanbaatar												
	Terej												
Philippines	Metro Manila												
	Los Banos												
	Mt. Sto. Tomas												
Republic of Korea	Kanghwa								5.3	6.9	7.1	6.4	***
	Cheju (Kosan)								4.3	2.9	3.1	4.1	***
	Imsil								4.2	4.1	4.5	5.1	***
Russia	Mondy												
	Listvyanka												
	Irkutsk												
	Primorskaya												
Thailand	Bangkok	***	25.3	28.5	***	23.8	21.5	23.6	16.4	20.5	23.6	21.2	24.5
	Samutprakarn	18.4	21.0	15.2	17.6	13.8	16.9	19.3	19.5	16.4	19.0	15.5	21.5
	Pathumthani												
	Khanchanaburi												
	Chiang Mai (Mae Hia)												
	Nakhon Ratchasima												

[***]: No data or not measured

Black column: Monitoring was not carried out

Table 4.27 Annual NOx concentration

unit: ppb

Country	Name of sites	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
China	Jinyunshan (NOx*)						7.2	8.7	8.1	11.8	8.2	11.4	10.0
	Weishuiyuan (NOx*)						14.7	26.8					
	Hongwen												
	Xiang Zhou												
Indonesia	Jakarta												
	Serpong												
	Kototabang												
	Bandung												
Japan	Rishiri (NOx*)	0.7	0.7	0.8	1.0	0.9	0.9	1.0	1.0	1.0	0.9	0.8	0.6
	Ochiishi (NOx*)									1.0	1.1	1.0	1.1
	Tappi (NOx*)	0.9	1.2	1.3	1.4	1.5	1.4	1.2	1.3	1.6	***	***	1.1
	Sado-seki (NOx*)	0.9	1.2	1.6	1.9	1.7	1.3	1.3	1.2	1.1	0.9	0.8	0.7
	Happo (NOx*)	1.9	1.7	2.3	2.2	2.1	2.2	1.9	(2.3)	2.1	1.3	1.2	1.1
	Ijira (NOx*)	2.1	3.4	3.2	2.9	3.6	3.5	3.1	3.2	2.2	2.5	2.3	2.0
	Oki (NOx*)	1.2	1.3	1.6	1.3	1.5	1.6	1.5	1.5	1.5	1.3	1.3	1.3
	Banryu	3.9	4.3	4.0	4.3	3.7	4.0	2.8	3.5	3.6	3.0	2.8	2.5
	Yusuhara (NOx*)	1.9	1.8	1.7	1.7	1.4	1.8	1.5	1.3	1.3	1.1	1.8	1.3
	Hedo (NOx*)	0.6	0.9	0.9	0.8	0.9	0.7	0.8	0.5	0.7	0.7	0.7	0.7
	Ogasawara (NOx*)	0.3	0.7	0.5	0.5	0.4	0.6	0.5	0.5	0.5	0.5	0.5	0.4
	Tokyo												
Malaysia	Tanah Rata (NOx*)								12.2	***	***	***	***
	Petaling Jaya												
	Danum Valley												
Mongolia	Ulaanbaatar												
	Terelj												
Philippines	Metro Manila												
	Los Banos												
	Mt. Sto. Tomas												
Republic of Korea	Kanghwa												
	Cheju (Kosan)												
	Imsil												
Russia	Mondy												
	Listvyanka												
	Irkutsk												
	Primorskaya												
Thailand	Bangkok		50.7	50.3	43.7	37.9	32.7	34.6	28.1	34.4	35.2	30.2	35.0
	Samutprakarn	40.4	38.9	32.7	***	29.0	30.7	35.6	36.2	31.5	34.1	28.7	36.7
	Pathumthani												
	Khanchanaburi (NOx*)	2.5	2.2	4.2	***	3.4	5.5	2.8	3.0	1.2	1.4	3.1	4.1
	Chiang Mai (Mae Hia) (NOx*)					14.0	8.8	10.4	12.6	10.4	10.8	12.5	11.6
	Nakhon Ratchasima (NOx*)									16.9	***	***	***

() : Reference data

[***]: No data or not measured

Black column: Monitoring was not carried out

A part of 2008-2010 Data at Tappi and 2010 Data at Happo, Yusuhara were revised from reference data to invalid data because of sample inlet failure.

Table 4.28 Annual O₃ concentration

unit: ppb

Country	Name of sites	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
China	Jinyunshan Weishuiyuan Hongwen Xiang Zhou												
Indonesia	Jakarta Serpong Kototabang Bandung												
Japan	Rishiri	39	39	41	43	43	42	43	46	42	42	40	37
	Ochiishi									38	37	38	35
	Tappi	47	46	46	45	47	51	51	54	60	***	***	38
	Sado-seki	44	41	43	49	49	48	48	48	47	49	53	49
	Happo	53	54	55	56	56	58	59	(63)	50	52	48	53
	Ijira	30	30	24	30	27	23	17	35	20	21	19	20
	Okii	45	44	40	39	45	45	44	45	45	46	45	46
	Banryu	36	36	37	36	37	37	34	34	35	36	35	33
	Yusuhara	39	29	29	33	39	43	42	40	40	41	36	33
	Hedo	41	41	42	39	32	35	40	38	39	39	38	33
	Ogasawara	22	27	29	30	30	33	31	32	28	30	38	29
	Tokyo												
Malaysia	Tanah Rata Petaling Jaya Danum Valley								15	***	***	***	***
Mongolia	Ulaanbaatar Terelj												
Philippines	Metro Manila Los Banos Mt. Sto. Tomas												
Republic of Korea	Kanghwa			42	43	40	41	27	43	41	43	43	***
	Cheju (Kosan)			41	28	38	40	35	38	42	44	42	***
	Imsil			31	22	24	30	30	30	20	33	30	***
Russia	Mondy Listvyanka Irkutsk Primorskaya			44	42	45	42	45	39	35	45	44	40
Thailand	Bangkok Samutprakarn Pathumthani Khanchanaburi Chiang Mai (Mae Hia) Nakhon Ratchasima		4	12	17	13	14	14	14	10	17	17	19
										18	18	15	17
		20	10	14	***	15	17	10	7	16	14	23	12
					13	22	20	19	23	22	26	24	25
										22	***	***	***

() : Reference data

[***]: No data or not measured

Black column: Monitoring was not carried out

A part of 2008-2010 Data at Tappi and 2010 Data at Happo, Yusuhara were revised from reference data to invalid data because of sample inlet failure.

Table 4.29 Annual PM₁₀ concentration

 unit: µg/m³

Country	Name of sites	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
China	Jinyunshan		96	73	70	64	60	78	65	50	40	51	45
	Weishuiyuan		123	138	112	128	118	121					
	Hongwen		61	62	68	64	66	97	71	59	60	63	61
	Xiang Zhou		51	48	56	48	40	47	50	51	48	48	49
Indonesia	Jakarta												
	Serpong												
	Kototabang												
	Bandung												
Japan	Rishiri	16	18	18	16	17	14	15	14	16	16	18	15
	Ochiishi									30	24	22	23
	Tappi	64	19	26	16	20	19	18	17	22	16	28	18
	Sado-seki	24	25	27	22	28	24	24	22	23	22	21	21
	Happo	13	14	12	10	15	15	13	12	14	12	12	12
	Ijira	24	22	24	20	21	21	22	22	20	18	18	19
	Oki	26	29	31	23	27	28	30	29	26	26	29	25
	Banryu	29	31	35	25	29	29	31	31	27	26	28	24
	Yusuhara	15	22	22	18	20	20	20	19	18	18	18	16
	Hedo		46	48	26	34	35	37	29	27	28	31	28
	Ogasawara	11	12	13	11	13	12	13	13	10	12	12	10
	Tokyo												
Malaysia	Tanah Rata												
	Petaling Jaya	37	***	39	41								
	Danum Valley												
Mongolia	Ulaanbaatar												
	Terelj												
Philippines	Metro Manila												
	Los Banos												
	Mt. Sto. Tomas												
Republic of Korea	Kanghwa			53	56	54	58	46	52	48	51	51	***
	Cheju (Kosan)			43	41	36	39	51	54	50	43	47	***
	Imsil			57	42	44	54	57	43	59	34	40	***
Russia	Mondy												
	Listvyanka												
	Irkutsk												
	Primorskaya												
Thailand	Bangkok	56	49	***	***	51	42	44	45	43	39	38	38
	Samutprakarn									45	43	38	54
	Pathumthani												
	Khanchanaburi	38	21	79	***	41	60	37	31	37	28	46	23
	Chiang Mai (Mae Hia)				48	59	52	41	52	38	42	45	33
	Nakhon Ratchasima									47	***	***	***

[***]: No data or not measured

Black column: Monitoring was not carried out

Table 4.30 Annual PM_{2.5} concentrationunit: µg/m³

Country	Name of sites	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
China	Jinyunshan												
	Weishuiyuan												
	Hongwen												
	Xiang Zhou												
Indonesia	Jakarta												
	Serpong												
	Kototabang												
	Bandung												
Japan	Rishiri		9	8	10	8	8	8	8	9	8	9	8
	Ochiishi									16	12	12	10
	Tappi												
	Sado-seki												
	Happo												
	Ijira												
	Oki		12	14	12	13	15	15	15	14	12	12	14
	Banryu												
	Yusuhara												
	Hedo												
	Ogasawara												
	Tokyo												
Malaysia	Tanah Rata												
	Petaling Jaya												
	Danum Valley												
Mongolia	Ulaanbaatar												
	Terelj												
Philippines	Metro Manila												
	Los Banos												
	Mt. Sto. Tomas												
Republic of Korea	Kanghwa												
	Cheju (Kosan)												
	Imsil												
Russia	Mondy												
	Listvyanka												
	Irkutsk												
	Primorskaya												
Thailand	Bangkok												
	Samutprakarn												
	Pathumthani												
	Khanchanaburi												
	Chiang Mai (Mae Hia)												
	Nakhon Ratchasima												

[***]: No data or not measured

Black column: Monitoring was not carried out

Table 4.31 Annual SO₄²⁻ in PM concentration

		unit: µg/m ³											
Country	Name of sites	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cambodia	Phnom Penh											2.57	2.70
China	Jinyunshan												
	Weishuiyuan												
	Hongwen								10.58	13.38	12.72	14.10	17.60
	Xiang Zhou												
Indonesia	Jakarta												
	Serpong		1.8	1.5	0.53	0.82	1.50	0.56	0.50	0.71	0.79	0.50	0.65
	Kototabang												
	Bandung												
Japan	Rishiri			1.8	2.55	2.40	2.61	2.39	2.44	2.94	2.50	2.74	2.71
	Ochiishi									2.73	2.61	2.31	2.13
	Tappi				3.32	3.89	3.92	4.10	4.02	4.67	4.29	4.12	3.99
	Sado-seki				3.11	3.55	4.08	3.07	3.64	4.17	3.58	3.20	3.50
	Happo				2.11	2.30	2.59	2.79	2.58	2.52	0.59	0.86	1.02
	Ijira				3.72	4.10	5.07	4.89	4.76	4.78	3.88	3.25	3.55
	Oki			4.4	3.91	3.94	6.29	5.73	5.21	4.54	4.29	4.43	4.76
	Banryu				3.82	4.43	6.33	6.55	6.41	5.11	5.44	4.37	4.55
	Yusuhara				4.09	5.16	6.15	5.81	6.44	4.54	5.16	4.46	4.03
	Hedo				4.01	3.40	5.32	6.51	5.95	5.69	5.62	3.53	2.48
	Ogasawara				1.26	1.36	0.87	1.65	3.91	2.72	2.64	2.17	2.46
	Tokyo								5.36	5.15	4.62	4.28	4.06
Malaysia	Tanah Rata	1.2	0.7	0.5	0.50	0.81	1.07	1.38	1.37	1.59	1.39	0.95	1.18
	Petaling Jaya		3.6	3.9	3.36	1.42	2.26	2.60	3.00	3.32	3.01	2.94	4.22
	Danum Valley							0.69	0.76	1.12	3.64	1.73	0.86
Mongolia	Ulaanbaatar	2.1	2.5	1.8	3.59	3.63	5.10	5.68	4.20	1.33	2.24	4.70	4.11
	Terelj	1.1	1.5	0.7	0.78	1.24	0.85	1.40	1.41	1.42	1.07	0.61	1.06
Myanmar	Yangon												3.77
Philippines	Metro Manila	2.0	1.9	2.3	3.74	3.19	3.31	2.63	3.15	2.37	***	1.43	***
	Los Banos	0.5	0.9	1.5	2.59	1.64	1.71	1.52	2.29	1.86	***	***	***
	Mt. Sto. Tomas							0.14	0.22	0.91	0.16	1.40	***
Republic of Korea	Kanghwa		4.9	6.9	5.65	4.26	6.56	3.43	2.35	3.11	6.04	6.19	***
	Cheju (Kosan)		2.7	6.7	6.99	8.90	7.11	8.05	6.75	5.51	4.68	3.82	***
	Imsil		2.1	5.1	8.23	10.12	9.29	10.31	5.90	4.18	4.66	5.03	***
Russia	Mondy	0.5	0.8	0.5	0.99	0.66	0.34	0.49	0.22	0.38	0.39	0.14	0.19
	Listvyanka	1.4	2.5	1.7	2.75	1.79	0.79	1.16	1.57	1.02	1.58	0.89	1.00
	Irkutsk	2.4	3.8	3.9	2.51	1.70	2.67	2.13	2.91	2.55	2.36	2.29	2.28
	Primorskaya		3.9	2.1	2.59	3.32	3.77	4.11	4.89	3.59	3.71	4.04	3.60
Thailand	Bangkok				3.63	4.02	2.13	4.71	2.97	2.65	2.71	3.63	3.31
	Samutprakarn												
	Pathumthani				2.34	3.46	1.39	3.14	4.69	1.41	3.12	3.78	1.64
	Khanchanaburi			<0.1	***	5.59	0.15	2.74	3.24	2.54	1.32	0.29	2.08
	Chiang Mai (Mae Hia)		0.9	2.0	2.11	3.93	1.11	2.22	2.60	1.75	1.97	1.29	1.34
	Nakhon Ratchasima							3.64	4.80	3.78	3.44	2.12	2.74
Vietnam	Hanoi	1.1	1.4	8.6	16.19	19.30	20.33	16.46	20.35	9.53	8.77	15.63	14.40
	Hoa Binh	2.3	2.6	4.2	2.34	2.13	12.41	7.80	8.38	4.51	2.49	2.26	3.81

[***]: No data or not measured

Black column: Monitoring was not carried out

The reporting limits for the components in the particulate matters for the descriptive purposes defined by the Network Center were changed from 0.1 µg/m³ to 0.01 µg/m³ in 2003.

Table 4.32 Annual NO₃⁻ in PM concentration

		unit: µg/m ³											
Country	Name of sites	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cambodia	Phnom Penh											1.19	1.16
China	Jinyunshan												
	Weishuiyuan												
	Hongwen								5.81	8.10	7.98	11.66	11.66
	Xiang Zhou												
Indonesia	Jakarta												
	Serpong		0.7	1.4	0.61	0.81	1.55	0.37	0.17	0.18	0.13	0.21	0.57
	Kototabang												
	Bandung												
Japan	Rishiri			0.3	0.59	0.66	0.53	0.58	0.60	0.76	0.64	0.77	0.66
	Ochiishi									0.71	0.67	0.55	0.67
	Tappi				1.24	1.13	0.92	1.17	1.18	1.23	1.29	1.24	1.27
	Sado-seki				0.77	0.89	0.68	0.80	0.96	1.07	1.05	0.82	1.13
	Happo				0.27	0.36	0.27	0.25	0.20	0.22	0.10	0.11	0.14
	Ijira				0.41	0.49	0.48	0.54	0.49	0.39	0.40	0.40	0.47
	Oki			0.9	0.71	1.03	1.26	1.28	1.34	1.22	1.31	1.50	1.85
	Banryu				0.69	1.09	1.43	1.54	1.57	1.35	1.43	1.53	1.68
	Yusuhara				0.30	0.59	0.59	0.59	0.55	0.29	0.52	0.66	0.61
	Hedo				1.50	1.16	1.11	1.65	1.48	1.52	1.63	1.09	0.80
	Ogasawara				0.32	0.29	0.12	0.36	0.74	0.57	0.60	0.53	0.53
	Tokyo								3.86	4.03	3.85	3.80	3.76
Malaysia	Tanah Rata	0.2	<0.1	0.1	0.11	0.18	0.18	0.18	0.13	0.16	0.15	0.12	0.13
	Petaling Jaya		0.6	0.2	0.10	0.56	0.97	0.81	1.18	1.17	1.22	1.25	1.14
	Danum Valley							0.05	0.04	0.06	0.21	0.36	0.04
Mongolia	Ulaanbaatar	0.9	1.4	1.0	1.71	1.53	1.61	1.74	1.66	0.90	0.93	1.25	1.81
	Terelj	0.2	0.2	0.2	0.16	0.15	0.18	0.19	0.71	0.65	0.24	0.11	0.29
Myanmar	Yangon												0.31
Philippines	Metro Manila	0.7	1.1	0.9	2.26	1.77	1.11	1.03	1.27	0.99	***	0.85	***
	Los Banos	0.2	0.8	0.5	1.18	0.64	0.42	0.29	0.39	0.27	***	***	***
	Mt. Sto. Tomas							0.02	0.07	1.15	0.12	0.78	***
Republic of Korea	Kanghwa		0.5	2.3	4.19	1.12	1.85	2.03	1.03	1.92	2.38	3.50	***
	Cheju (Kosan)		<0.1	0.3	0.53	1.44	0.27	0.39	0.57	0.34	0.49	0.67	***
	Imsil		0.3	0.6	0.51	1.23	1.56	3.99	3.05	2.86	2.67	3.82	***
Russia	Mondy	<0.1	0.1	0.1	0.11	0.02	0.02	0.06	0.01	0.13	0.02	0.19	0.02
	Listvyanka	0.5	0.4	0.2	0.68	0.19	0.17	0.19	0.19	0.20	0.25	0.17	0.25
	Irkutsk	0.8	1.2	1.5	0.96	0.53	0.68	0.69	0.61	0.89	0.83	0.91	0.88
	Primorskaya		1.8	0.3	0.39	0.57	1.24	1.18	1.04	1.03	1.10	0.79	0.27
Thailand	Bangkok				1.51	2.07	2.83	1.60	1.51	1.44	1.62	1.86	2.00
	Samutprakarn												
	Pathumthani				0.63	1.11	1.13	0.81	2.02	0.77	1.73	1.93	0.92
	Khanchanaburi			<0.1	***	0.58	0.06	0.09	0.10	0.15	3.55	0.06	0.04
	Chiang Mai (Mae Hia)		0.6	0.2	0.28	0.64	0.33	0.67	0.62	0.36	0.66	10.25	0.24
	Nakhon Ratchasima							0.52	0.48	0.41	0.34	0.18	0.31
Vietnam	Hanoi	0.3	0.3	1.9	5.33	8.74	10.52	5.34	6.21	2.89	3.52	7.81	6.82
	Hoa Binh	0.5	0.4	0.9	0.54	0.69	1.71	1.09	1.46	1.24	0.49	0.61	1.14

[***]: No data or not measured

Black column: Monitoring was not carried out

The reporting limits for the components in the particulate matters for the descriptive purposes defined by the Network Center were changed from 0.1 µg/m³ to 0.01 µg/m³ in 2003.

Table 4.33 Annual CI[†] in PM concentration

		unit: $\mu\text{g}/\text{m}^3$											
Country	Name of sites	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cambodia	Phnom Penh											0.18	0.22
China	Jinyunshan												
	Weishuiyuan												
	Hongwen								2.07	1.85	1.73	2.28	1.51
	Xiang Zhou												
Indonesia	Jakarta												
	Serpong		0.1	1.5	1.24	0.79	1.07	0.21	0.46	0.10	0.09	0.25	0.10
	Kototabang												
	Bandung												
Japan	Rishiri			2.4	2.04	2.73	2.35	2.03	2.25	2.20	2.42	2.79	2.31
	Ochiishi									4.44	6.88	4.34	3.28
	Tappi				3.38	7.64	6.02	8.08	6.51	8.26	8.97	6.01	5.93
	Sado-seki				3.08	3.88	3.08	3.56	3.30	4.61	3.38	3.78	3.06
	Happo				0.02	0.03	0.02	0.03	0.02	0.01	0.02	0.03	0.02
	Ijira				0.05	0.05	0.04	0.05	0.05	0.04	0.06	0.05	0.04
	Oki			1.4	1.30	2.12	2.55	2.42	2.36	2.71	3.69	4.54	4.29
	Banryu				0.41	1.31	1.43	1.47	0.97	1.13	1.59	1.38	1.53
	Yusuhara				0.03	0.07	0.07	0.08	0.04	0.03	0.21	0.10	0.08
	Hedo				6.12	4.60	7.29	6.35	5.79	4.40	6.02	4.62	3.09
	Ogasawara				2.86	1.66	0.94	2.69	3.82	3.04	3.93	3.44	3.79
	Tokyo								0.62	0.63	0.68	0.66	0.70
Malaysia	Tanah Rata	<0.1	<0.1	<0.1	0.08	0.03	0.03	0.04	0.03	0.02	0.03	0.05	0.03
	Petaling Jaya		<0.1	<0.1	0.02	0.10	0.18	0.10	0.13	0.09	0.11	0.19	0.11
	Danum Valley							0.04	0.02	0.04	0.15	0.33	0.04
Mongolia	Ulaanbaatar	0.5	0.7	0.4	0.82	1.02	1.06	1.25	0.87	0.47	1.84	1.06	1.18
	Terelj	<0.1	0.2	<0.1	0.20	0.18	0.30	0.19	0.36	0.24	0.22	0.18	0.23
Myanmar	Yangon												0.59
Philippines	Metro Manila	2.6	0.5	0.5	0.86	0.77	0.39	0.62	0.62	0.59	***	0.66	***
	Los Banos	1.1	0.9	0.9	1.09	0.65	0.58	0.67	1.15	0.82	***	***	***
	Mt. Sto. Tomas							0.03	0.07	0.35	0.05	0.32	***
Republic of Korea	Kanghwa		0.3	0.3	0.24	0.16	0.18	0.15	0.19	0.19	0.64	0.44	***
	Cheju (Kosan)		0.3	0.3	0.41	0.53	0.14	0.13	0.30	0.32	0.29	0.46	***
	Imsil		0.3	0.3	0.31	0.14	0.12	0.29	0.38	0.50	0.45	0.61	***
Russia	Mondy	<0.1	<0.1	<0.1	0.12	0.02	<0.01	0.03	0.01	<0.01	<0.01	0.33	0.04
	Listvyanka	0.4	0.8	0.3	0.13	0.26	0.03	0.08	0.12	0.11	0.11	0.11	0.04
	Irkutsk	0.1	0.4	0.4	0.24	0.15	0.12	0.19	0.30	0.32	0.40	0.31	0.43
	Primorskaya		0.5	0.2	0.25	0.18	0.21	0.12	0.19	0.17	0.14	0.20	0.09
Thailand	Bangkok				0.22	1.06	0.59	0.19	0.29	0.18	0.26	0.28	0.32
	Samutprakarn												
	Pathumthani				0.07	0.11	0.31	0.09	0.39	0.07	0.20	0.14	0.15
	Khanchanaburi			<0.1	***	0.06	0.02	0.08	0.02	0.06	0.04	0.10	0.05
	Chiang Mai (Mae Hia)		<0.1	0.1	0.03	0.30	0.08	0.29	0.11	0.05	0.09	0.16	0.12
	Nakhon Ratchasima							0.09	0.06	0.06	0.07	0.02	0.06
Vietnam	Hanoi	0.4	1.5	1.8	1.22	1.67	3.10	2.90	2.81	0.79	0.58	1.66	1.33
	Hoa Binh	0.3	0.1	1.7	1.17	0.94	1.41	0.65	0.58	0.64	0.11	0.35	0.27

[***]: No data or not measured

Black column: Monitoring was not carried out

The reporting limits for the components in the particulate matters for the descriptive purposes defined by the Network Center were changed from $0.1 \mu\text{g}/\text{m}^3$ to $0.01 \mu\text{g}/\text{m}^3$ in 2003.

Table 4.34 Annual NH₄⁺ in PM concentration

		unit: µg/m ³											
Country	Name of sites	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cambodia	Phnom Penh											0.55	0.45
China	Jinyunshan												
	Weishuiyuan												
	Hongwen								3.66	5.55	5.48	6.72	5.85
	Xiang Zhou												
Indonesia	Jakarta												
	Serpong		0.4	0.6	0.09	0.18	0.25	0.08	0.24	0.08	0.11	0.14	0.32
	Kototabang												
	Bandung												
Japan	Rishiri			0.3	0.48	0.35	0.44	0.41	0.39	0.53	0.45	0.47	0.47
	Ochiishi									0.40	0.40	0.29	0.37
	Tappi				0.60	0.67	0.57	0.63	0.64	0.77	0.66	0.68	0.64
	Sado-seki				0.45	0.49	0.83	0.48	0.54	0.68	0.53	0.50	0.56
	Happo				0.58	0.57	0.69	0.64	0.65	0.66	0.15	0.22	0.26
	Ijira				1.24	1.17	1.45	1.39	1.32	1.36	1.06	0.87	0.95
	Oki			0.8	0.60	0.68	1.27	1.19	1.07	0.97	0.86	0.92	0.93
	Banryu				0.62	0.97	1.43	1.51	1.60	1.32	1.30	1.02	1.06
	Yusuhara				0.88	1.15	1.40	1.41	1.53	1.12	1.25	1.00	0.96
	Hedo				0.56	0.46	0.67	0.80	0.88	0.98	0.86	0.42	0.43
	Ogasawara				0.10	0.15	0.08	0.17	0.46	0.24	0.21	0.17	0.22
	Tokyo								1.82	1.96	1.83	1.71	1.57
Malaysia	Tanah Rata	0.3	0.3	0.3	0.13	0.23	0.23	0.40	0.32	0.35	0.29	0.25	0.49
	Petaling Jaya		0.9	1.3	1.01	0.30	0.59	0.76	0.76	0.82	0.73	0.80	1.12
	Danum Valley							0.10	0.08	0.12	0.39	0.12	0.13
Mongolia	Ulaanbaatar	0.4	0.4	0.5	0.67	0.92	1.60	1.95	1.96	0.23	0.95	1.69	1.80
	Terelj	0.3	0.4	0.3	0.29	0.33	0.28	0.43	0.40	0.37	0.28	0.12	0.43
Myanmar	Yangon												0.34
Philippines	Metro Manila	<0.1	0.3	0.9	1.09	0.48	0.73	0.25	0.43	0.42	***	0.14	***
	Los Banos	<0.1	0.4	0.3	0.70	0.21	0.67	0.23	0.28	0.34	***	***	***
	Mt. Sto. Tomas							0.03	0.09	0.33	0.03	0.10	***
Republic of Korea	Kanghwa		2.0	2.6	2.69	1.59	2.23	1.38	0.85	1.34	2.51	2.93	***
	Cheju (Kosan)		0.7	2.0	2.44	2.98	2.05	2.39	2.15	1.61	1.54	1.32	***
	Imsil		0.5	1.4	2.59	2.85	2.66	3.67	2.37	1.82	2.34	2.54	***
Russia	Mondy	0.1	0.2	0.2	0.36	0.17	0.12	0.09	0.02	0.09	0.07	0.01	0.02
	Listvyanka	0.8	1.2	0.8	0.92	0.63	0.37	0.27	0.33	0.21	0.24	0.15	0.22
	Irkutsk	1.0	1.6	1.5	0.76	0.59	0.69	0.46	0.93	0.80	0.66	0.49	0.62
	Primorskaya		1.2	1.1	0.78	0.74	1.10	1.32	1.43	0.94	0.99	0.75	0.77
Thailand	Bangkok				1.08	0.71	0.42	1.30	1.29	1.15	0.70	0.69	0.60
	Samutprakarn												
	Pathumthani				0.46	0.73	0.38	0.86	1.37	0.71	1.50	0.84	0.26
	Khanchanaburi			<0.1	***	1.41	0.04	0.65	0.91	1.10	0.83	0.18	0.46
	Chiang Mai (Mae Hia)		0.6	0.3	1.23	0.72	0.59	0.67	0.74	0.49	0.58	3.70	0.31
	Nakhon Ratchasima							1.13	1.37	1.13	0.87	0.73	0.96
Vietnam	Hanoi	1.0	1.5	2.1	3.86	4.97	7.30	3.18	3.99	2.20	1.68	3.28	4.50
	Hoa Binh	0.8	0.8	2.1	6.25	1.46	4.27	2.29	2.24	0.84	0.90	0.64	1.55

[***]: No data or not measured

Black column: Monitoring was not carried out

The reporting limits for the components in the particulate matters for the descriptive purposes defined by the Network Center were changed from 0.1 µg/m³ to 0.01 µg/m³ in 2003.

Table 4.35 Annual Na⁺ in PM concentration

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

Country	Name of sites	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cambodia	Phnom Penh											0.48	0.57
China	Jinyunshan												
	Weishuiyuan												
	Hongwen								1.39	1.40	1.55	1.76	1.62
	Xiang Zhou												
Indonesia	Jakarta												
	Serpong		0.4	1.0	0.47	0.63	0.22	0.32	0.11	0.06	0.10	0.09	0.16
	Kototabang												
	Bandung												
Japan	Rishiri			1.7	1.65	2.02	1.76	1.62	1.78	1.82	1.91	2.14	1.84
	Ochiishi									3.09	4.37	2.87	2.45
	Tappi				2.99	4.99	4.18	5.23	4.30	5.31	6.01	4.24	3.97
	Sado-seki				2.39	2.92	2.22	2.52	2.53	3.32	2.56	2.67	2.43
	Happo				0.09	0.14	0.08	0.08	0.08	0.10	0.03	0.03	0.05
	Ijira				0.26	0.27	0.27	0.26	0.29	0.25	0.25	0.22	0.25
	Oki			2.3	2.00	1.59	2.38	2.26	2.21	2.26	2.75	3.35	3.28
	Banryu				1.18	1.42	1.61	1.68	1.33	1.32	1.64	1.41	1.59
	Yusuhara				0.34	0.44	0.43	0.45	0.43	0.26	0.54	0.41	0.42
	Hedo				4.85	3.18	5.22	4.85	4.54	3.77	4.63	3.38	2.28
	Ogasawara				1.86	1.24	0.68	1.78	2.95	2.38	2.80	2.38	2.61
	Tokyo								0.99	0.80	0.94	0.91	0.89
Malaysia	Tanah Rata	0.1	0.1	0.1	0.09	0.08	0.09	0.13	0.14	0.13	0.10	0.10	0.12
	Petaling Jaya		0.3	0.2	0.17	0.24	0.18	0.21	0.32	0.34	0.24	0.26	0.32
	Danum Valley							0.13	0.13	0.16	0.59	0.72	0.17
Mongolia	Ulaanbaatar	0.3	0.3	0.2	0.60	0.49	0.47	0.38	0.32	0.09	0.08	0.21	0.20
	Terelj	<0.1	0.1	<0.1	0.09	0.17	0.14	0.11	0.12	0.08	0.11	0.02	0.09
Myanmar	Yangon												0.59
Philippines	Metro Manila	1.3	1.1	0.3	0.92	0.89	0.62	0.61	0.79	0.97	***	0.54	***
	Los Banos	0.6	1.4	0.8	0.72	0.64	0.65	0.70	0.98	0.67	***	***	***
	Mt. Sto. Tomas							0.05	0.05	0.38	0.16	0.52	***
Republic of Korea	Kanghwa		0.3	0.6	0.33	0.19	0.33	0.25	0.26	0.34	0.52	0.40	***
	Cheju (Kosan)		<0.1	0.4	0.52	0.72	0.35	0.40	0.39	0.41	0.51	0.45	***
	Imsil		0.3	0.4	0.52	0.52	0.44	0.39	0.42	0.46	0.54	0.40	***
Russia	Mondy	<0.1	<0.1	<0.1	0.04	0.04	0.02	0.04	<0.01	0.02	0.03	0.36	<0.01
	Listvyanka	<0.1	0.2	<0.1	0.18	0.20	0.05	0.06	0.07	0.12	0.16	0.08	0.04
	Irkutsk	0.1	<0.1	0.1	0.19	0.13	0.21	0.17	0.12	0.23	0.50	0.26	0.28
	Primorskaya		0.3	0.2	0.21	0.26	0.22	0.22	0.25	0.26	0.25	0.26	0.11
Thailand	Bangkok				0.46	1.53	0.48	0.68	0.38	0.33	0.57	0.54	0.54
	Samutprakarn												
	Pathumthani				0.23	0.54	0.27	0.34	0.40	0.27	0.38	0.30	0.22
	Khanchanaburi			<0.1	***	0.38	0.01	0.17	0.12	0.17	0.09	0.06	0.09
	Chiang Mai (Mae Hia)		0.1	0.1	0.12	0.33	0.08	0.21	0.23	0.15	0.48	0.17	0.10
	Nakhon Ratchasima							0.17	0.28	0.24	0.21	0.16	0.17
Vietnam	Hanoi	0.6	0.5	0.5	0.57	1.21	1.95	1.99	1.64	0.56	0.58	1.03	0.67
	Hoa Binh	0.3	0.2	0.5	0.12	0.61	0.92	0.52	0.25	0.24	0.13	0.28	0.23

[***]: No data or not measured

Black column: Monitoring was not carried out

 The reporting limits for the components in the particulate matters for the descriptive purposes defined by the Network Center were changed from $0.1 \mu\text{g}/\text{m}^3$ to $0.01 \mu\text{g}/\text{m}^3$ in 2003.

Table 4.36 Annual K⁺ in PM concentration

		unit: $\mu\text{g}/\text{m}^3$											
Country	Name of sites	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cambodia	Phnom Penh											0.57	0.54
China	Jinyunshan												
	Weishuiyuan												
	Hongwen								0.57	0.62	0.68	3.46	0.72
	Xiang Zhou												
Indonesia	Jakarta												
	Serpong		0.4	0.5	0.28	0.15	0.25	0.11	0.05	0.07	0.08	0.14	0.37
	Kototabang												
	Bandung												
Japan	Rishiri			<0.1	0.13	0.14	0.13	0.15	0.13	0.16	0.14	0.15	0.14
	Ochiishi									0.16	0.18	0.13	0.12
	Tappi				0.19	0.27	0.21	0.28	0.25	0.26	0.31	0.28	0.23
	Sado-seki				0.11	0.17	0.14	0.15	0.16	0.19	0.18	0.17	0.17
	Happo				0.05	0.06	0.06	0.06	0.05	0.05	0.02	0.01	0.02
	Ijira				0.16	0.14	0.18	0.17	0.15	0.14	0.13	0.09	0.11
	Oki			0.2	0.19	0.22	0.26	0.23	0.21	0.18	0.20	0.22	0.24
	Banryu				0.18	0.19	0.21	0.25	0.21	0.19	0.21	0.16	0.19
	Yusuhara				0.11	0.18	0.21	0.21	0.18	0.11	0.16	0.12	0.15
	Hedo				0.23	0.19	0.29	0.32	0.31	0.27	0.29	0.21	0.12
	Ogasawara				0.10	0.07	0.03	0.08	0.16	0.16	0.16	0.13	0.13
	Tokyo								0.20	0.19	0.21	0.18	0.17
Malaysia	Tanah Rata	0.1	0.1	0.3	0.07	0.09	0.21	0.10	0.08	0.09	0.08	0.08	0.12
	Petaling Jaya		0.3	0.4	0.25	0.24	0.23	0.19	0.25	0.23	0.23	0.27	0.34
	Danum Valley							0.09	0.09	0.12	0.43	0.29	0.16
Mongolia	Ulaanbaatar	0.2	0.3	0.2	0.53	0.42	0.61	0.60	0.25	0.12	0.16	0.22	0.29
	Terelj	<0.1	0.2	0.2	0.24	0.24	0.20	0.13	0.14	0.09	0.16	0.04	0.08
Myanmar	Yangon												1.24
Philippines	Metro Manila	14.3	1.0	0.3	0.74	0.33	0.26	0.46	0.41	0.43	***	0.22	***
	Los Banos	0.4	1.0	0.2	0.26	0.17	0.22	0.22	0.28	0.17	***	***	***
	Mt. Sto. Tomas							0.03	0.06	0.39	0.14	0.15	***
Republic of Korea	Kanghwa		0.5	0.5	0.61	0.27	0.48	0.33	0.30	0.25	0.49	0.20	***
	Cheju (Kosan)		0.2	0.4	1.29	0.72	0.45	0.46	0.40	0.33	0.21	0.12	***
	Imsil		0.3	0.5	1.17	0.84	0.55	0.50	0.32	0.37	0.35	0.25	***
Russia	Mondy	0.1	<0.1	<0.1	0.08	0.05	0.02	0.04	0.01	0.02	0.02	0.04	0.02
	Listvyanka	0.3	0.2	<0.1	0.23	0.15	0.09	0.05	0.06	0.09	0.11	0.07	0.06
	Irkutsk	0.5	0.2	0.1	0.21	0.09	0.18	0.10	0.11	0.21	0.16	0.13	0.25
	Primorskaya		0.5	0.2	0.38	0.35	0.28	0.37	0.44	0.37	0.37	0.44	0.27
Thailand	Bangkok				0.59	0.98	0.28	0.65	0.43	0.36	0.43	0.39	0.41
	Samutprakarn												
	Pathumthani				0.49	0.61	0.47	0.48	1.82	0.26	0.54	0.47	0.24
	Khanchanaburi			<0.1	***	0.88	0.99	0.34	0.16	0.19	0.27	0.06	0.13
	Chiang Mai (Mae Hia)		0.5	0.5	0.4	0.54	0.29	0.86	0.58	0.37	0.47	0.42	0.27
	Nakhon Ratchasima							0.25	0.37	0.34	0.31	0.18	0.64
Vietnam	Hanoi	0.1	0.2	0.8	0.8	1.90	2.61	1.70	2.04	1.00	0.79	1.15	0.85
	Hoa Binh	0.3	0.4	1.2	0.4	0.61	2.37	1.19	1.41	0.94	0.70	0.65	0.32

[***]: No data or not measured

Black column: Monitoring was not carried out

The reporting limits for the components in the particulate matters for the descriptive purposes defined by the Network Center were changed from $0.1 \mu\text{g}/\text{m}^3$ to $0.01 \mu\text{g}/\text{m}^3$ in 2003.

Table 4.37 Annual Mg²⁺ in PM concentration

		unit: µg/m ³											
Country	Name of sites	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cambodia	Phnom Penh											0.11	0.12
China	Jinyunshan												
	Weishuiyuan												
	Hongwen								0.28	0.31	0.33	0.48	0.31
	Xiang Zhou												
Indonesia	Jakarta												
	Serpong		0.2	<0.1	0.04	0.12	0.08	0.04	0.05	0.03	0.02	0.02	0.05
	Kototabang												
	Bandung												
Japan	Rishiri			0.2	0.20	0.24	0.21	0.20	0.22	0.24	0.24	0.26	0.22
	Ochiishi									0.44	0.56	0.34	0.30
	Tappi				0.39	0.61	0.49	0.63	0.52	0.56	0.68	0.48	0.46
	Sado-seki				0.30	0.36	0.31	0.28	0.31	0.39	0.31	0.32	0.30
	Happo				0.02	0.03	0.02	0.02	0.03	0.03	<0.01	<0.01	0.01
	Ijira				0.05	0.04	0.04	0.04	0.05	0.04	0.04	0.04	0.04
	Oki			0.2	0.23	0.27	0.31	0.30	0.29	0.28	0.34	0.44	0.36
	Banryu				0.15	0.19	0.23	0.26	0.22	0.17	0.20	0.20	0.21
	Yusuhara				0.07	0.08	0.08	0.09	0.09	0.05	0.08	0.08	0.07
	Hedo				0.61	0.38	0.67	0.60	0.58	0.47	0.58	0.44	0.29
	Ogasawara				0.25	0.14	0.08	0.22	0.37	0.33	0.36	0.30	0.32
	Tokyo								0.15	0.12	0.13	0.12	0.13
Malaysia	Tanah Rata	<0.1	<0.1	<0.1	0.01	0.01	0.01	0.02	0.04	0.02	0.01	0.02	0.02
	Petaling Jaya		<0.1	<0.1	0.02	0.03	0.03	0.03	0.09	0.05	0.03	0.05	0.04
	Danum Valley							0.01	0.04	0.05	0.07	0.10	0.02
Mongolia	Ulaanbaatar	0.1	0.3	0.1	0.40	0.33	0.35	0.26	0.19	0.11	0.04	0.18	0.38
	Terelj	<0.1	<0.1	<0.1	0.04	0.06	0.06	0.06	0.02	0.02	0.04	0.04	0.05
Myanmar	Yangon												0.18
Philippines	Metro Manila	2.7	<0.1	<0.1	0.15	0.10	0.11	0.24	0.14	0.17	***	0.10	***
	Los Banos	0.1	<0.1	0.1	0.10	0.07	0.06	0.09	0.14	0.11	***	***	***
	Mt. Sto. Tomas							0.01	<0.01	0.07	<0.01	0.06	***
Republic of Korea	Kanghwa		<0.1	<0.1	0.07	0.01	0.01	0.01	<0.01	0.01	0.03	0.04	***
	Cheju (Kosan)		<0.1	<0.1	0.05	0.04	0.01	0.02	0.09	0.02	<0.01	0.04	***
	Imsil		<0.1	<0.1	0.06	0.05	0.03	0.04	0.03	0.01	0.02	0.05	***
Russia	Mondy	<0.1	<0.1	<0.1	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Listvyanka	<0.1	<0.1	<0.1	0.04	0.04	0.02	0.02	0.03	0.02	0.03	0.02	0.02
	Irkutsk	0.1	<0.1	<0.1	0.08	0.06	0.07	0.08	0.09	0.13	0.08	0.08	0.09
	Primorskaya		<0.1	<0.1	0.03	0.19	0.08	0.07	0.07	0.08	0.07	0.08	0.07
Thailand	Bangkok				0.12	0.43	0.10	0.13	0.09	0.08	0.09	0.14	0.09
	Samutprakarn												
	Pathumthani				0.05	0.80	0.05	0.05	0.08	0.06	0.07	0.05	0.04
	Khanchanaburi			<0.1	***	0.14	<0.01	0.04	0.04	0.10	0.03	<0.01	0.03
	Chiang Mai (Mae Hia)		<0.1	<0.1	0.32	0.03	0.02	0.22	0.07	0.04	0.04	0.04	0.02
	Nakhon Ratchasima							0.05	0.06	0.05	0.04	0.02	0.01
Vietnam	Hanoi	0.1	0.2	0.4	0.16	0.51	0.67	0.52	0.44	0.18	0.32	0.48	0.35
	Hoa Binh	0.1	<0.1	0.2	0.04	0.66	0.49	0.13	0.15	0.09	0.11	0.11	0.08

[***]: No data or not measured

Black column: Monitoring was not carried out

The reporting limits for the components in the particulate matters for the descriptive purposes defined by the Network Center were changed from 0.1 µg/m³ to 0.01 µg/m³ in 2003.

Table 4.38 Annual Ca²⁺ in PM concentration

		unit: µg/m ³											
Country	Name of sites	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cambodia	Phnom Penh											0.78	0.75
China	Jinyunshan												
	Weishuiyuan												
	Hongwen								2.84	2.79	2.73	9.44	1.59
	Xiang Zhou												
Indonesia	Jakarta												
	Serpong		0.4	0.3	0.22	0.61	0.28	0.36	0.26	0.13	0.07	0.09	0.18
	Kototabang												
	Bandung												
Japan	Rishiri			<0.1	0.13	0.16	0.14	0.13	0.14	0.17	0.16	0.18	0.13
	Ochiishi									0.15	0.24	0.14	0.14
	Tappi				0.22	0.38	0.27	0.35	0.30	0.30	0.39	0.36	0.29
	Sado-seki				0.16	0.31	0.22	0.23	0.25	0.29	0.25	0.24	0.25
	Happo				0.06	0.16	0.15	0.17	0.14	0.12	0.07	0.05	0.04
	Ijira				0.12	0.16	0.16	0.18	0.17	0.13	0.14	0.15	0.17
	Oki			0.2	0.19	0.28	0.33	0.29	0.28	0.22	0.30	0.47	0.38
	Banryu				0.17	0.22	0.27	0.31	0.30	0.22	0.29	0.44	0.26
	Yusuhara				0.16	0.27	0.25	0.27	0.28	0.14	0.36	0.33	0.21
	Hedo				0.32	0.36	0.37	0.48	0.43	0.34	0.43	0.48	0.18
	Ogasawara				0.11	0.10	0.04	0.13	0.22	0.16	0.20	0.23	0.17
	Tokyo								0.56	0.52	0.51	0.59	0.49
Malaysia	Tanah Rata	<0.1	0.2	<0.1	0.02	0.18	0.06	0.07	0.10	0.08	0.07	0.07	0.07
	Petaling Jaya		0.5	0.2	0.07	0.76	0.20	0.39	0.68	0.47	0.34	0.46	0.37
	Danum Valley							0.02	0.03	0.02	0.04	0.07	0.02
Mongolia	Ulaanbaatar	3.6	4.4	3.6	6.76	4.76	4.86	4.64	3.69	3.38	1.43	1.45	3.35
	Terej	0.3	0.4	0.3	0.26	0.30	0.27	0.30	0.43	0.42	0.32	0.16	0.32
Myanmar	Yangon												1.82
Philippines	Metro Manila	0.4	0.8	0.6	1.37	1.00	0.75	1.09	1.18	0.87	***	0.66	***
	Los Banos	1.0	0.6	1.8	0.69	0.38	0.14	0.13	0.23	0.27	***	***	***
	Mt. Sto. Tomas							0.02	0.07	0.77	0.22	0.50	***
Republic of Korea	Kanghwa		0.2	0.2	0.34	0.09	0.10	0.04	0.05	0.07	0.17	0.07	***
	Cheju (Kosan)		<0.1	0.2	0.25	0.20	0.08	0.05	0.09	0.11	0.08	0.07	***
	Imsil		<0.1	0.3	0.42	0.13	0.11	0.12	0.28	0.11	0.08	0.09	***
Russia	Mondy	0.1	<0.1	<0.1	0.08	0.08	0.03	0.07	0.03	0.05	0.05	0.04	0.04
	Listvyanka	0.5	0.3	0.1	0.26	0.19	0.07	0.13	0.22	0.15	0.19	0.12	0.10
	Irkutsk	0.6	0.5	0.5	0.45	0.29	0.46	0.47	0.62	0.82	0.49	0.59	0.35
	Primorskaya		0.6	0.2	0.23	0.25	0.36	0.38	0.40	0.45	0.37	0.41	0.28
Thailand	Bangkok				1.17	1.03	1.20	1.39	1.07	0.80	0.88	0.94	1.03
	Samutprakarn												
	Pathumthani				0.77	0.80	0.47	0.65	0.93	0.36	0.90	0.98	0.50
	Khanchanaburi			0.1	***	0.65	0.06	0.18	0.12	0.22	0.12	0.04	0.12
	Chiang Mai (Mae Hia)		0.5	0.4	1.17	0.42	0.29	0.61	0.57	0.44	0.72	0.53	0.22
	Nakhon Ratchasima							0.17	0.23	0.28	0.22	0.09	0.16
Vietnam	Hanoi	2.0	2.3	3.2	4.43	7.58	8.47	8.97	7.59	2.83	2.87	7.75	8.67
	Hoa Binh	1.2	0.8	1.5	0.95	3.25	4.51	2.39	2.19	1.27	1.27	1.24	1.62

[***]: No data or not measured

Black column: Monitoring was not carried out

The reporting limits for the components in the particulate matters for the descriptive purposes defined by the Network Center were changed from 0.1 µg/m³ to 0.01 µg/m³ in 2003.

Table 4.39 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 4.40 Reporting limits for summarizing air concentration data

Species	Reporting limits
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 Manual on Soil and Vegetation Monitoring in East Asia. 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 5m x 5m to 10m x 10m should be chosen randomly at each forest area (each soil type). Five subplots with 1m x 1m 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](#).

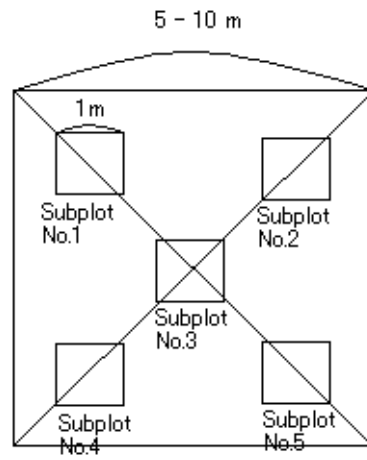


Figure 5.1 Plot for soil sampling

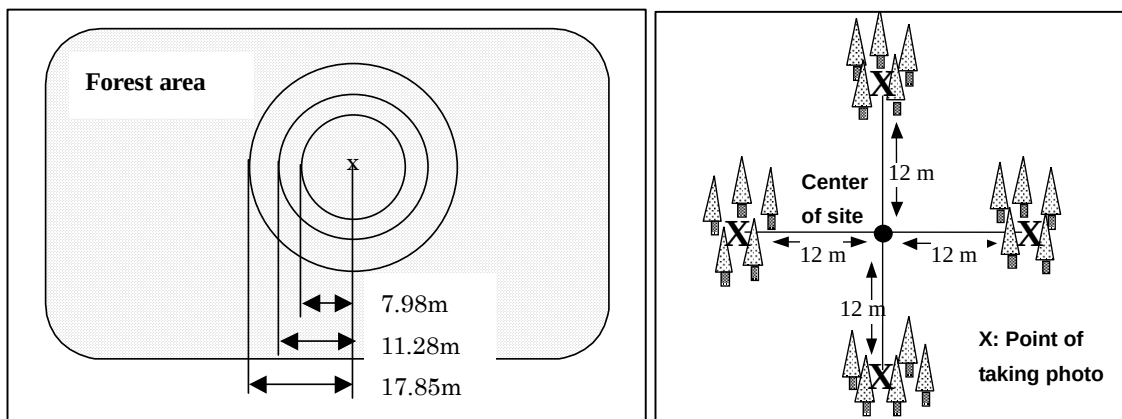


Figure 5.2 Plots for description of trees (Left) and selection of observation trees (Right)

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

Note: ^{*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, ICP-AES or ICP-MS (CH ₃ COONH ₄ -Extraction) Titration (KCl-Extraction)
d) Exchangeable Acidity	ibid.
e) Exchangeable Al, H	Calculation (as sum of exchangeable cations)
f) Effective Cation Exchange Capacity (ECEC)	Volumetric calcimeter
g) Carbonate Content (for calcareous soil)	Titration (Walkley-Black method) or CN-analyzer
h) Total Carbon Content	Titration (Kjeldahl method) or CN-analyzer
i) Total Nitrogen Content	Spectrophotometry (Bray-1 test)
j) Available Phosphate	Turbidimetry, IC, ICP-AES or ICP-MS
k) Sulfate	

<i>Physical Properties of Soil</i>	
a) Fine Earth Bulk Density b) Penetration Resistance (in the fieldwork)	Metal sampling cylinder, Drying oven, Balance Pocket penetrometer

5.1.3 Monitoring Sites

Soil and vegetation monitoring data of 7 areas of 3 countries were submitted this year. The list of monitoring site and reported items in 2011 were shown in [Table 5.4](#). Observation of the tree decline was conducted in 10 plots of China, Indonesia and Japan. The second or third survey on soil and forest vegetation monitoring were carried out in 4 plots of Japan.

Table 5.4 Outline of the Monitoring Sites in 2011

Country	Nearest deposition monitoring site	Site: Name of forests	Soil type	Items ^{*1}
China	Chongqing	Jinyunshan-1	Acidi-Udic Argosols	F^{*2}
		Jinyunshan-2	Acidi-Udic Argosols	F^{*2}
	Xiamen	Xiaoping	Red soil	F^{*2}
	Xi'an	Jiwozi	Brown soil	F^{*2}
	Zhunhai	Zhuxiandong	Ferrosols	F^{*2}
Indonesia	Serpong	Research Forest Station of Center and Development of Forestry Research	Typic Dystrudepts	F^{*2}
Japan	Banryu	Banryu-2	Cambisols	S, F
		Iwami Rinku Factory Park	Acrisols	S, F
	Ijira	Lake Ijira	Dystric Cambisol	S, F
		Yamato	Andosols	S, F

*1. S, Soil monitoring; F, Forest monitoring; *2. Observation of tree decline was only conducted;

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 5.6](#): Observation of tree decline

Table 5.7: Description of trees

Table 5.8: Understory vegetation survey

Figure 5.3: Photographic record of tree decline

Table 5.5 a) Soil chemical analysis: Lake Ijira (Japan)

Soil analysis: 12.10.2011 - 13.1.2012

Name of analysis laboratory: Gifu Prefectural Research Institute of Health and Environmental Science

Analyst: Oka

1st analysis

Location	Soil type	Plot No.	Subplot No.	Layer analyzed (cm)	Repeat analysis	Water contents	pH		Exchangeable base cations (B)					Ex-acidity (A) (cmol _c kg ⁻¹)	Ex-acid cations		ECEC (A) + (B)	Base saturation (%)
							H ₂ O	KCl	Ca	Mg	K	Na	Al		H			
Ijira	Dystric Cambisol	N	1	0-10	1	3.3	4.5	3.6	0.05	0.08	0.15	<0.01	7.4	6.6	0.83	7.7	7.7	
			2			3.0	4.6	3.7	0.08	0.08	0.21	<0.01	6.7	6.0	0.77	7.1	7.1	
			3			11.0	4.1	3.3	0.70	0.26	0.28	0.01	12.3	10.7	1.6	13.5	13.5	
			4			11.1	3.8	3.3	0.31	0.18	0.23	0.04	11.0	9.6	1.5	11.8	11.8	
			5			3.9	4.4	3.6	0.24	0.24	0.25	0.02	8.4	7.5	1.0	9.2	9.2	
			1	7.9	4.6	3.8	0.04	0.04	0.11	0.01	6.0	5.0	1.0	6.1	6.1			
			2	3.4	4.4	3.6	0.35	0.19	0.25	0.02	8.5	7.3	1.2	9.3	9.3			
			3	3.3	4.4	3.6	0.22	0.15	0.23	0.01	7.8	7.0	0.7	8.4	8.4			
			4	6.7	4.2	3.6	0.05	0.12	0.17	0.02	8.6	7.6	1.0	9.0	9.0			
			5	3.5	4.6	3.7	0.09	0.15	0.21	0.01	7.1	6.2	0.91	7.6	7.6			
		S	1	8.4	4.0	3.4	0.12	0.19	0.26	<0.01	13.5	12.1	1.3	14.0	14.0			
			2	4.7	4.3	3.5	0.39	0.22	0.24	0.03	10.9	9.2	1.7	11.8	11.8			
			3	9.9	4.2	3.6	0.03	0.10	0.19	<0.01	10.0	9.0	1.0	10.3	10.3			
			4	16.2	4.2	3.5	0.34	0.20	0.24	0.09	11.9	10.5	1.4	12.8	12.8			
			5	4.0	4.4	3.6	0.01	0.09	0.17	0.02	8.3	7.2	1.1	8.6	8.6			
			1	9.0	4.2	3.6	0.06	0.12	0.21	<0.01	11.1	9.5	1.6	11.5	11.5			
			2	3.6	4.6	3.7	0.15	0.14	0.15	0.03	7.6	6.6	1.0	8.1	8.1			
			3	13.0	4.4	3.7	<0.01	0.06	0.14	<0.01	7.8	7.3	0.43	8.0	8.0			
			4	4.7	4.6	3.7	0.04	0.10	0.16	0.03	8.8	7.7	1.0	9.1	9.1			
			5	3.2	4.6	3.8	0.02	0.06	0.12	0.03	6.6	6.0	0.61	6.8	6.8			

2nd analysis

Location	Soil type	Plot No.	Subplot No.	Layer analyzed (cm)	Repeat analysis	Water contents	pH		Exchangeable base cations (B)					Ex-acidity (A) (cmol _c kg ⁻¹)	Ex-acid cations		ECEC (A) + (B)	Base saturation (%)
							H ₂ O	KCl	Ca	Mg	K	Na	Al		H			
Ijira	Dystric Cambisol	N	1	0-10	2	3.4	4.5	3.7	0.10	0.08	0.13	0.01	7.3	6.5	0.80	7.6	7.6	
			3.0			4.6	3.7	0.13	0.08	0.19	0.01	6.7	5.8	0.89	7.2	7.2		
			3			10.2	4.2	3.4	0.66	0.25	0.25	0.01	11.7	10.3	1.5	12.9	12.9	
			4			11.0	3.9	3.4	0.27	0.16	0.21	0.01	10.7	9.1	1.6	11.3	11.3	
			5			4.0	4.5	3.6	0.26	0.23	0.23	0.02	8.1	6.9	1.2	8.8	8.8	
			1	10-20	2	8.4	4.6	3.8	0.06	0.04	0.10	0.01	5.8	4.9	0.88	6.0	6.0	
			3.5			4.5	3.6	0.37	0.19	0.23	0.01	7.9	7.0	0.87	8.7	8.7		
			3.2			4.5	3.6	0.25	0.15	0.21	0.01	7.8	6.8	1.0	8.5	8.5		
			6.7			4.3	3.6	0.07	0.11	0.15	0.01	8.9	7.7	1.2	9.2	9.2		
			3.3			4.6	3.7	0.13	0.15	0.19	0.02	7.2	6.2	0.99	7.7	7.7		
		1	S	2	8.1	4.0	3.5	0.20	0.20	0.26	0.01	12.5	11.1	1.4	13.2	13.2		
		4.5			4.3	3.6	0.39	0.21	0.22	0.01	10.0	8.6	1.4	10.8	10.8			
		9.8			4.3	3.6	0.07	0.11	0.18	0.02	9.7	8.4	1.3	10.0	10.0			
		16.3			4.3	3.5	0.26	0.14	0.21	0.02	11.4	10.0	1.4	12.1	12.1			
		3.8			4.5	3.7	0.05	0.11	0.17	0.02	8.8	7.9	0.90	9.1	9.1			
		8.3			4.3	3.6	0.10	0.12	0.20	0.01	11.1	9.8	1.3	11.5	11.5			
		3.5			4.6	3.7	0.15	0.12	0.14	0.01	7.5	6.7	0.87	8.0	8.0			
		13.1			4.5	3.8	0.04	0.07	0.14	0.01	7.6	6.6	1.0	7.9	7.9			
		5.0			4.6	3.7	0.06	0.10	0.16	0.02	8.4	7.3	1.1	8.7	8.7			
		3.2			4.7	3.8	0.03	0.06	0.12	0.02	6.7	5.9	0.78	6.9	6.9			

Table 5.5 b) Soil chemical analysis: Yamato (Japan)

Soil analysis: 18.11.2011 - 28.12.2011

Name of analysis laboratory: Gifu Prefectural Research Institute of Health and Environmental Science

Analyst: Oka

1st analysis

Location	Soil type	Plot No.	Subplot No.	Layer analyzed (cm)	Repeat analysis	Water contents	pH		Exchangeable base cations (B)				Ex-acidity (A) (cmol _c kg ⁻¹)	Ex-acid cations			ECEC (A) + (B)	Base saturation (%)
							H ₂ O	KCl	Ca	Mg	K	Na		Al	H			
Yamato	Andosols	N	1	0-10	1	14.6	3.9	3.7	0.08	0.26	0.31	0.04	13.8	12.2	1.6		14.5	4.8
			2			14.6	3.8	3.6	0.14	0.33	0.32	0.05	16.7	15.1	1.6		17.5	4.9
			3			15.3	3.8	3.6	2.33	0.47	0.37	0.05	15.1	13.6	1.5		18.4	17.6
			4			17.3	4.0	3.8	0.26	0.32	0.30	0.04	12.8	11.7	1.1		13.7	6.7
			5			15.3	4.0	3.8	0.33	0.29	0.30	0.04	12.1	11.0	1.1		13.0	7.4
		S	1	10-20	1	16.7	4.4	4.1	0.03	0.13	0.16	0.03	6.2	5.1	1.0		6.5	5.3
			2			14.2	4.5	4.1	0.03	0.14	0.17	0.04	6.9	5.9	1.0		7.3	5.2
			3			27.4	4.4	4.1	0.24	0.15	0.20	0.02	4.9	3.8	1.1		5.5	11.1
			4			26.1	4.5	4.2	0.06	0.11	0.16	0.03	5.4	4.8	0.64		5.8	6.1
			5			15.9	4.6	4.2	0.05	0.12	0.14	0.02	4.5	3.7	0.83		4.9	7.0
			1	10-20	1	12.6	4.7	4.0	0.29	0.19	0.19	0.02	5.3	4.3	1.0		6.0	11.5
			2			13.6	4.1	3.8	0.14	0.28	0.31	0.03	12.2	10.9	1.3		12.9	5.9
			3			12.0	4.1	3.8	0.17	0.23	0.25	0.02	12.0	10.7	1.3		12.7	5.4
			4			13.6	3.9	3.6	0.93	0.36	0.32	0.03	7.7	6.8	0.91		9.4	17.5
			5			14.8	4.3	4.0	0.28	0.22	0.22	0.04	13.6	10.0	3.6		14.3	5.3
			1			13.3	4.5	4.0	0.14	0.21	0.19	0.04	4.8	4.1	0.72		5.4	10.9
			2			13.9	4.4	4.0	0.05	0.21	0.20	0.05	6.9	6.2	0.8		7.4	6.9
			3			10.9	4.5	4.1	0.08	0.15	0.17	0.02	5.7	4.7	1.0		6.1	6.8
			4			11.4	4.4	4.0	0.21	0.20	0.22	0.04	5.6	4.7	0.90		6.2	10.7
			5			12.6	4.5	4.2	0.07	0.15	0.16	0.04	3.8	3.2	0.55		4.2	9.8

2nd analysis

Location	Soil type	Plot No.	Subplot No.	Layer analyzed (cm)	Repeat analysis	Water contents	pH		Exchangeable base cations (B)				Ex-acidity (A) (cmol _c kg ⁻¹)	Ex-acid cations			ECEC (A) + (B)	Base saturation (%)
							H ₂ O	KCl	Ca	Mg	K	Na		Al	H			
Yamato	Andosols	N	1	0-10	2	14.9	3.9	3.7	0.11	0.27	0.31	0.03	13.6	12.2	1.4		14.3	5.1
			2			14.2	3.9	3.5	0.16	0.32	0.32	0.03	15.4	13.8	1.7		16.2	5.2
			3			15.3	3.8	3.6	2.10	0.45	0.35	0.03	12.2	10.8	1.3		15.1	19.4
			4			16.9	4.1	3.8	0.27	0.32	0.30	0.02	10.6	9.4	1.2		11.5	7.9
			5			15.0	4.1	3.8	0.34	0.28	0.29	0.03	10.4	9.2	1.2		11.3	8.3
		S	1	10-20	2	17.7	4.4	4.1	0.06	0.14	0.15	0.02	5.9	5.1	0.77		6.3	5.9
			2			14.3	4.5	4.1	0.04	0.12	0.16	0.02	6.5	5.9	0.69		6.9	5.0
			3			27.0	4.5	4.1	0.27	0.15	0.18	0.01	5.3	4.6	0.72		5.9	10.4
			4			25.7	4.5	4.1	0.08	0.10	0.16	0.01	5.1	4.5	0.60		5.5	6.4
			5			15.5	4.7	4.2	0.08	0.11	0.14	0.02	4.7	3.9	0.74		5.0	6.8
			1	0-10	2	12.7	4.8	4.1	0.34	0.20	0.19	0.02	5.0	4.3	0.68		5.7	13.2
			2			13.4	4.1	3.8	0.16	0.28	0.30	0.04	11.1	10.0	1.1		11.9	6.5
			3			11.9	4.2	3.8	0.21	0.23	0.25	0.02	11.6	10.6	1.0		12.3	5.8
			4			13.6	4.0	3.6	0.95	0.37	0.33	0.03	12.6	11.4	1.2		14.3	11.7
			5			15.2	4.3	4.0	0.28	0.21	0.21	0.02	7.4	6.7	0.71		8.1	8.9
			1			13.6	4.6	4.1	0.18	0.20	0.19	0.02	5.5	4.8	0.68		6.0	9.7
			2			13.5	4.4	4.1	0.09	0.20	0.20	0.03	6.4	5.6	0.82		7.0	7.5
			3			10.9	4.5	4.1	0.10	0.13	0.16	0.01	5.6	4.9	0.70		6.0	6.6
			4			11.2	4.4	4.0	0.22	0.19	0.21	0.02	6.5	5.6	0.89		7.1	8.9
			5			12.8	4.6	4.2	0.09	0.13	0.15	0.02	3.6	3.0	0.58		4.0	9.8

Table 5.5 c) Soil chemical analysis: Banryu-2 (Japan)

Soil analysis: 18.11.2011 - 28.12.2011

Name of analysis laboratory: Shimane Agricultural Technology Center

Analyst: Ookura, Nakatani

1st analysis

Location	Soil type	Plot No.	Subplot No.	Layer analyzed (cm)	Repeat analysis	Water contents	pH		Exchangeable base cations (B)				Ex-acidity (A)	Ex-acid cations		ECEC (A) + (B)	Base saturation (%)	Total-C (g kg ⁻¹)	Total-N (g kg ⁻¹)	Ava-P (Pmg·kg ⁻¹)	Ava-SQ ²⁻ (Smg·kg ⁻¹)
Banryu-2	Cambisols	N	1	0-10	1	4.3	H ₂ O	KCl	Ca	Mg	K	Na	(cmol _c kg ⁻¹)	Al	H	4.6	69.8	64	3.1	2.2	22
			2			2.8	4.7	3.8	1.29	0.51	0.25	0.11	4.4	3.2	1.1						
			3			2.2	4.6	3.6	0.57	0.57	0.25	0.10	3.9	2.7	1.1						
			4			2.7	4.3	4.0	1.52	0.51	0.29	0.12	2.7	2.1	0.7						
			5			3.6	5.0	4.1	1.67	0.68	0.39	0.17	2.6	1.9	0.7						
			1	10-20	1	2.1	4.6	3.6	0.14	0.54	0.13	0.10	4.3	3.4	0.9	5.2	17.6	18	1.0	0.8	16
			2			1.9	4.7	3.8	0.22	0.34	0.11	0.09	4.1	2.8	1.3						
			3			1.9	4.7	3.6	0.20	0.47	0.21	0.12	3.8	2.9	1.0						
			4			2.0	4.9	4.0	0.96	0.37	0.21	0.10	3.2	2.4	0.87						
			5			1.7	5.3	4.1	0.71	0.40	0.27	0.12	2.1	1.6	0.48						
	S		1	0-10	1	2.8	4.5	3.6	0.45	0.41	0.26	0.11	4.5	3.4	1.1	5.7	21.3	30	1.5	1.3	21
			2			2.7	4.9	4.1	0.29	0.27	0.19	0.10	2.9	2.1	0.9						
			3			2.5	4.7	3.9	0.31	0.30	0.21	0.09	4.0	2.9	1.1						
			4			3.2	5.1	4.1	2.64	0.92	0.31	0.10	2.0	1.4	0.62						
			5			2.7	4.7	3.8	0.39	0.30	0.18	0.09	4.1	3.0	1.1						
			1	10-20	1	2.0	4.8	3.9	0.14	0.27	0.14	0.09	3.6	3.0	0.66	4.3	14.9	18	0.9	0.6	23
			2			1.9	4.9	4.0	0.16	0.20	0.13	0.09	3.0	2.2	0.8						
			3			2.0	4.8	4.0	0.18	0.20	0.15	0.09	3.4	2.4	1.1						
			4			2.0	5.0	3.9	0.51	0.34	0.14	0.08	2.9	2.1	0.81						
			5			2.3	4.8	3.9	0.29	0.24	0.14	0.08	3.9	2.8	1.07						

2nd analysis

Location	Soil type	Plot No.	Subplot No.	Layer analyzed (cm)	Repeat analysis	Water contents	pH		Exchangeable base cations (B)				Ex-acidity (A)	Ex-acid cations		ECEC (A) + (B)	Base saturation (%)	Total-C (g kg ⁻¹)	Total-N (g kg ⁻¹)	Ava-P (Pmg·kg ⁻¹)	Ava-SQ ²⁻ (Smg·kg ⁻¹)
Banryu-2	Cambisols	N	1	0-10	2	4.4	H ₂ O	KCl	Ca	Mg	K	Na	(cmol _c kg ⁻¹)	Al	H	4.0	70.2	49	2.5	3.6	19
			2			2.9	4.7	3.8	1.29	0.54	0.24	0.14	4.2	3.2	1.0						
			3			2.2	4.6	3.7	0.59	0.64	0.28	0.15	3.7	2.8	0.9						
			4			2.6	4.9	4.1	1.54	0.57	0.29	0.15	3.0	2.4	0.6						
			5			3.4	4.9	4.1	1.42	0.68	0.37	0.21	2.4	1.8	0.6						
			1	10-20	2	2.1	4.7	3.8	0.18	0.57	0.13	0.13	4.0	2.8	1.24	5.1	20.2	17	0.9	0.8	17
			2			1.9	4.7	3.8	0.16	0.30	0.09	0.11	3.6	3.0	0.62						
			3			1.9	4.7	3.8	0.26	0.47	0.22	0.14	3.7	2.4	1.31						
			4			2.2	4.9	4.1	0.94	0.34	0.23	0.12	3.1	2.5	0.61						
			5			1.8	5.3	4.2	0.59	0.37	0.28	0.16	2.3	1.7	0.58						
	S		1	0-10	2	2.8	4.6	3.8	0.55	0.44	0.26	0.16	4.6	3.7	0.88	6.0	23.4	28	1.3	2.0	24
			2			2.5	4.8	4.2	0.31	0.27	0.23	0.14	2.9	2.3	0.6						
			3			2.4	4.7	4.0	0.18	0.27	0.23	0.12	4.0	3.2	0.8						
			4			3.5	5.0	4.1	3.01	1.06	0.34	0.16	1.5	1.1	0.4						
			5			2.5	4.8	3.9	0.35	0.27	0.21	0.12	4.4	3.6	0.84						
			1	10-20	2	2.0	4.8	4.0	0.16	0.23	0.15	0.12	3.6	2.9	0.69	4.3	15.6	18	0.9	0.8	20
			2			1.9	4.9	4.2	0.12	0.13	0.14	0.13	3.2	2.4	0.79						
			3			2.1	4.8	4.1	0.12	0.13	0.16	0.11	3.2	2.7	0.50						
			4			2.0	5.0	4.1	0.43	0.30	0.15	0.10	2.8	2.3	0.55						
			5			2.4	4.8	4.0	0.35	0.20	0.16	0.10	4.0	3.4	0.67						

Table 5.5 d) Soil chemical analysis: Iwami-Rinku Factory Park (Japan)

Soil analysis: 18.11.2011 - 28.12.2011

Name of analysis laboratory: Shimane Agricultural Technology Center

Analyst: Ookura, Nakatani

1st analysis

Location	Soil type	Plot No.	Subplot No.	Layer analyzed (cm)	Repeat analysis	Water contents	pH		Exchangeable base cations (B)					Ex-acidity (A)	Ex-acid cations		ECEC (A) + (B)	Base saturation (%)	Total-C (g kg ⁻¹)	Total-N (g kg ⁻¹)	Ava-P (Pmg·kg ⁻¹)	Ava-SQ ²⁻ (Smg·kg ⁻¹)
							H ₂ O	KCl	Ca	Mg	K	Na	Al		H							
Iwami-Rinku Factory Park	Acrisols	N	1	0-10	1	5.9	4.0	3.2	0.53	0.56	0.30	0.12	9.7	7.0	2.7	11.2	13.4	72	3.4	1.6	46	
			2			11.4	3.6	2.7	1.56	2.13	0.54	0.32	3.8	2.1	1.6	8.3	54.7	226	10.1	5.3	25	
			3			5.1	4.4	3.6	0.21	0.28	0.18	0.10	9.1	7.2	1.9	9.8	7.8	45	2.2	1.2	42	
			4			14.5	3.9	3.0	1.14	0.83	0.40	0.18	2.6	1.5	1.1	5.1	49.5	355	16.7	5.2	58	
			5			12.9	3.8	2.9	2.84	1.41	0.54	0.25	1.1	0.8	0.3	6.1	82.1	301	17.2	8.0	20	
			1	4.4	4.4	3.6	0.15	0.27	0.19	0.09	9.4	7.4	2.0	10.1	7.0	20	1.1	0.4	70			
			2	6.0	4.1	3.2	0.38	0.52	0.23	0.14	9.3	7.3	2.0	10.6	12.0	79	3.2	1.4	50			
			3	4.6	4.7	3.8	0.13	0.24	0.17	0.09	7.7	6.2	1.6	8.3	7.5	19	1.0	0.5	55			
			4	4.1	4.7	3.8	0.08	0.21	0.17	0.09	5.7	4.4	1.32	6.2	8.8	22	1.2	0.5	42			
			5	4.3	4.6	3.7	0.60	0.31	0.34	0.12	5.9	4.5	1.41	7.3	18.8	42	2.0	1.0	38			
		S	1	9.0	4.4	3.6	0.78	0.50	0.21	0.12	2.0	1.4	0.7	3.7	44.2	168	8.6	3.0	29			
			2	5.1	4.1	3.3	0.08	0.35	0.21	0.11	3.1	1.9	1.2	3.9	19.3	69	3.6	2.8	33			
			3	5.8	4.2	3.4	0.17	0.42	0.26	0.16	4.8	3.5	1.4	5.8	17.1	79	4.0	2.4	37			
			4	5.7	4.2	3.4	0.30	0.35	0.19	0.11	4.8	3.5	1.36	5.8	16.3	46	3.5	2.9	33			
			5	11.0	4.6	3.8	0.31	0.29	0.18	0.11	1.9	1.4	0.5	2.7	32.5	134	7.3	4.9	38			
			1	4.5	4.5	3.7	0.13	0.24	0.14	0.11	6.2	4.7	1.56	6.9	9.0	27	1.4	0.8	58			
			2	3.9	4.4	3.6	0.04	0.27	0.24	0.10	5.7	4.2	1.4	6.3	10.5	28	1.4	1.0	65			
			3	4.4	4.4	3.6	0.27	0.31	0.21	0.09	5.7	4.3	1.5	6.6	13.3	190	9.5	0.9	49			
			4	3.9	4.5	3.6	0.23	0.44	0.28	0.10	5.7	4.2	1.58	6.8	15.5	80	4.7	1.2	43			
			5	4.9	4.6	3.8	0.27	0.24	0.22	0.09	6.3	4.8	1.44	7.1	11.7	75	3.7	1.6	63			

2nd analysis

Location	Soil type	Plot No.	Subplot No.	Layer analyzed (cm)	Repeat analysis	Water contents	pH		Exchangeable base cations (B)							Ex-acidity (A)	Ex-acid cations		ECEC (A) + (B)	Base saturation (%)	Total-C (g kg ⁻¹)	Total-N (g kg ⁻¹)	Ava-P (Pmg·kg ⁻¹)	Ava-SQ ²⁻ (Smg·kg ⁻¹)
							H ₂ O	KCl	Ca	Mg	K	Na	Al	H										
Iwami-Rinku Factory Park	Acrisols	N	1	0-10	2	14.9	3.9	3.7	0.11	0.27	0.31	0.03	13.6	12.2	1.4	14.3	5.1	40	2.1	2.4	42			
			2			14.2	3.9	3.5	0.16	0.32	0.32	0.03	15.4	13.8	1.7	16.2	5.2	220	9.4	10	26			
			3			15.3	3.8	3.6	2.10	0.45	0.35	0.03	12.2	10.8	1.3	15.1	19.4	30	1.5	1.5	39			
			4			16.9	4.1	3.8	0.27	0.32	0.30	0.02	10.6	9.4	1.2	11.5	7.9	267	12.5	10	53			
			5			15.0	4.1	3.8	0.34	0.28	0.29	0.03	10.4	9.2	1.2	11.3	8.3	308	15.1	11	17			
			1	17.7	4.4	4.1	0.06	0.14	0.15	0.02	5.9	5.1	0.77	6.3	5.9	18	0.9	0.1	65					
			2	14.3	4.5	4.1	0.04	0.12	0.16	0.02	6.5	5.9	0.69	6.9	5.0	47	2.1	2.1	45					
			3	27.0	4.5	4.1	0.27	0.15	0.18	0.01	5.3	4.6	0.72	5.9	10.4	15	0.8	0.1	50					
			4	25.7	4.5	4.1	0.08	0.10	0.16	0.01	5.1	4.5	0.60	5.5	6.4	16	0.9	0.2	37					
			5	15.5	4.7	4.2	0.08	0.11	0.14	0.02	4.7	3.9	0.74	5.0	6.8	33	1.6	1.4	33					
		S	1	0-10	2	12.7	4.8	4.1	0.34	0.20	0.19	0.02	5.0	4.3	0.68	5.7	13.2	136	6.6	5.3	19			
			2			13.4	4.1	3.8	0.16	0.28	0.30	0.04	11.1	10.0	1.1	11.9	6.5	48	2.7	4.9	29			
			3			11.9	4.2	3.8	0.21	0.23	0.25	0.02	11.6	10.6	1.0	12.3	5.8	58	2.9	4.6	32			
			4			13.6	4.0	3.6	0.95	0.37	0.33	0.03	12.6	11.4	1.2	14.3	11.7	65	3.8	5.2	29			
			5			15.2	4.3	4.0	0.28	0.21	0.21	0.02	7.4	6.7	0.71	8.1	8.9	181	9.0	8.8	33			
			1	13.6	4.6	4.1	0.18	0.20	0.19	0.02	5.5	4.8	0.68	6.0	9.7	20	1.0	0.8	52					
			2	13.5	4.4	4.1	0.09	0.20	0.20	0.03	6.4	5.6	0.82	7.0	7.5	22	1.1	1.1	59					
			3	10.9	4.5	4.1	0.10	0.13	0.16	0.01	5.6	4.9	0.70	6.0	6.6	27	1.4	1.3	44					
			4	11.2	4.4	4.0	0.22	0.19	0.21	0.02	6.5	5.6	0.89	7.1	8.9	38	2.1	2.0	38					
			5	12.8	4.6	4.2	0.09	0.13	0.15	0.02	3.6	3.0	0.58	4.0	9.8	38	1.9	2.1	58					

Table 5.6.a) Observation of tree decline: jinyushan 1 (China)

Date: 18 October 2011

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 sechuenensis</i>	<i>Symplocos sechuenensis</i>	<i>Symplocos sechuenensis</i>	<i>Symplocos sechuenensis</i>	<i>Symplocos sechuenensis</i>	<i>Symplocos sechuenensis</i>	<i>Symplocos sechuenensis</i>	<i>Symplocos sechuenensis</i>	<i>Symplocos sechuenensis</i>
Relative height										
Tree height (m)	17.4	8.9	6.0	12.8	11.5	7.3	10.0	9.3	11.1	11.2
DBH (cm)	18.7	12.4	10.4	12.1	12.9	7.8	7.9	11.5	11.0	10.0
Vitality of tree										
Form of tree	1									
Branch growth										
Dieback of stem										
Defoliation of crown										
Deformation of leaves	1									
Size of leaves										
Discoloration of leaves										
Injury of leaves										
Damage class										

Estimated cause of decline: unknown

Table 5.6 b) Observation of tree decline: Jinyunshan 2 (China)

Date: 18 October 2011

Individual No.	1 (67)	2 (68)	3 (74)	4 (76)	6 (41)	8 (71)	9 (70)	10 (69)	11 (61)	12 (77)
Direction (E, W, S, or N)	E	E	S	S	W	N	N	N	S	W
Plant Name	<i>Symplocos sechuenensis</i>	<i>Symplocos sechuenensis</i>	<i>Adiantum bockiana</i>	<i>Symplocos sechuenensis</i>	<i>Adiantum bockiana</i>	<i>Symplocos lancifolia</i>	<i>Elaeocarpus japonicus</i>	<i>Mitella pinguicula</i>	<i>Symplocos sechuenensis</i>	<i>Symplocos lancifolia</i>
Relative height										
Tree height (m)	9.8	8.8	14.9	15.7	18.9	13.5	16.8	14.8	15.3	13.2
DBH (cm)	9.9	13.5	15.2	24.7	20.7	15.7	38.4	21.0	23.7	15.1
Vitality of tree										
Form of tree				1						
Branch growth								1		
Dieback of stem										
Defoliation of crown										
Deformation of leaves	1									
Size of leaves										
Discoloration of leaves										
Injury of leaves										
Damage class										

Estimated cause of decline: unknown

Table 5.6 c) Observation of tree decline: Xiaoping (China)

Date: 23 September 2011

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	Michelia.Macclurei Dandy	Michelia.Macclurei Dandy	Michelia.Macclurei Dandy	Michelia.Macclurei Dandy	Michelia.Macclurei Dandy	Michelia.Macclurei Dandy	Michelia.Macclurei Dandy	Michelia.Macclurei Dandy	Michelia.Macclurei Dandy	Michelia.Macclurei Dandy	Michelia.Macclurei Dandy	Michelia.Macclurei Dandy	Michelia.Macclurei Dandy	Michelia.Macclurei Dandy	Michelia.Macclurei Dandy	Michelia.Macclurei Dandy	Michelia.Macclurei Dandy	Michelia.Macclurei Dandy
Relative height																		
Tree height (m)	16.5	16.7	18.5	18.5	16.9	17.8	18.4	18.3	18.0	18.3	18.4	17.9	19.0	17.3	16.5	17.2	17.0	20.0
DBH (cm)	21.0	21.1	20.1	20.0	21.7	24.9	21.6	20.5	18.6	23.8	20.5	20.8	19.1	21.6	20.7	20.7	21.8	30.4
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																		

Estimated cause of decline: no decline

Table 5.6 d) Observation of tree decline: Jiwoji (China)

Date: 29 October 2010

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	Pinus armandi Fench	Pinus armandi Fench	Pinus armandi Fench	Pinus armandi Fench	Pinus armandi Fench	Pinus armandi Fench	Pinus armandi Fench	Pinus armandi Fench	Pinus armandi Fench	Pinus armandi Fench	Pinus armandi Fench	Pinus armandi Fench	Pinus armandi Fench	Pinus armandi Fench	Pinus armandi Fench	Pinus armandi Fench	Pinus armandi Fench	Pinus armandi Fench	Pinus armandi Fench	Pinus armandi Fench
Relative height																				
Tree height (m)	15.9	13.5	11.5	14.1	11.0	11.4	9.1	7.9	9.6	14.0	13.4	11.0	10.1	14.7	10.2	12.8	11.3	13.0	10.6	8.4
DBH (cm)	23.8	24.9	16.0	21.5	24.8	16.5	12.4	18.2	14.9	19.2	26.0	21.9	14.7	22.4	15.7	24.0	16.3	24.3	15.2	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																				1
Injury of leaves																				
Damage class																				1

Estimated cause of decline: Trees are too much

Table 5.6 e) Observation of tree decline: Zhuxiandong (China)

Date: 23 September 2011

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)	N	N	N	N	N	W	W	W	W	W	S	S	S	S	S	E	E	E	E	E
Plant Name	<i>Acacia confusa</i>	<i>Acacia confusa</i>	<i>Acacia confusa</i>	<i>Archidendron lucidum</i>	<i>Archidendron lucidum</i>	<i>Acacia confusa</i>	<i>Acacia confusa</i>	<i>Acacia confusa</i>	<i>Acacia confusa</i>	<i>Acacia confusa</i>	<i>Acacia confusa</i>	<i>Acacia confusa</i>	<i>Acacia confusa</i>	<i>Acacia confusa</i>	<i>Mallosus paniculatus</i>	<i>Macitilus velutina</i>	<i>Michelia Macclurei Dandy</i>	<i>Litsea roundifolia</i> var. <i>oblongifolia</i>	<i>Microcos paniculata</i>	<i>Litsea roundifolia</i> var. <i>oblongifolia</i>
Relative height																				
Tree height (m)	10.0	11.0	10.5	8.5	5.5	9.5	5.8	8.8	13.0	13.5	12.5	9.8	12.8	11.0	7.8	13.8	6.8	6.5	6.8	5.5
DBH (cm)	27.7	27.5	19.1	10.6	9.7	26.5	5.1	7.5	15.5	9.0	12.2	11.1	21.0	15.9	15.3	59.7	7.8	11.5	6.2	27.6
Vitality of tree	1	1	1			2	3	2	2	4	2	1	2	1	1	4		1	1	2
Form of tree	1	1	1			2	3	2	2	4	2	1	2	2	1	4		1	1	2
Branch growth	2	2	2	1	1	2	3	2	2	3	2	2	2	1	1	3		1	1	2
Dieback of stem	1	1	1			2	2	2	2	4	1	1	2	1	1	4		2	1	2
Defoliation of crown	1	1	2	1	1	2	3	2	2	4	1	1	2	1	1	4		1	2	2
Deformation of leaves	1	1	2			2	1	1	1	–	1	1	1	1	2	–		1	2	2
Size of leaves	1	1	2	1	1	1	1	1	1	–	1	1	1	1	1	–		1	1	1
Discoloration of leaves	1	1	1			1	1	1	1	–	1	1	1	1	2	–		1	1	2
Injury of leaves	1	1	2			2	1	1	1	–	1	1	1	1	2	–		1	2	2
Damage class	1	1	2			1	1	1	1	–	1	1	1	1	2	–		1	1	2

Estimated cause of decline: : unknown

Table 5.6 f) Observation of tree decline: Bogor (Indonesia)

Date: 9 and 10 May 2011

Individual No.	1 (71)	4 (27)	5 (279)	6 (280)	8 (282)	12 (269)	16 (113)	21 (83)	23 (146)	27 (175)	28 (232)	31 (264)	33 (266)	34 (267)	39 (275)	42 (278)	44 (287)	46 (289)	49 (292)	51 (294)
Direction (E, W, S, or N)	N	N	N	N	N	W	W	W	W	W	S	S	S	S	S	E	E	E	E	E
Plant Name	<i>Hopeda mengurawan</i>	<i>Hopeda mengurawan</i>	<i>Hopeda mengurawan</i>	<i>Hopeda mengurawan</i>	<i>Hopeda mengurawan</i>	<i>Hopeda mengurawan</i>	<i>Hopeda mengurawan</i>	<i>Hopeda mengurawan</i>	<i>Hopeda mengurawan</i>	<i>Hopeda mengurawan</i>	<i>Hopeda mengurawan</i>	<i>Hopeda mengurawan</i>	<i>Melia excelsa</i>	<i>Maesopsis emeni</i>	<i>Hopeda mengurawan</i>	<i>Hopeda odorata</i>	<i>Khaya grandifolia</i>	<i>Hopeda mengurawan</i>	<i>Hopeda mengurawan</i>	<i>Hopeda mengurawan</i>
Relative height																				
Tree height (m)	28	33	40	43	45	30	24	47	31	7.5	42	10	6.5	5.81	43	30	45	42	35	40
DBH (cm)																				
Vitality of tree						1							2							
Form of tree	1	1		1		1		1		1	1	1	3	3	1	1		1	1	1
Branch growth		1		1	1		1	2	1		1		2	3	1	2		1		1
Dieback of stem														3						
Defoliation of crown																				
Density of foliage	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	2	1	1	1	1
Deformation of leaves							1													
Size of leaves		1			1					1		1			1	1				
Discoloration of leaves																				
Color of leaves	1			1			1	1			1		1			1			1	1
Injury of leaves		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		1	1	1
Damage class																				

Estimated cause of decline: Pest and very dense

Table 5.6 g) Observation of tree decline: Banryu-2 (Japan)

Date: 28 and 29 September 2011

Individual No.	72	82	76	63	64	65	54	83	34	35	37	8	9	80
Direction (E, W, S, or N)	N	N	N	E	E	E	S	S	W	W	W	W	W	W
Plant Name	<i>Castanopsis cuspidata</i>	<i>Machilus thunbergii</i>	<i>Symplocos lucida</i>	<i>Machilus thunbergii</i>	<i>Syrax japonica</i>	<i>Machilus thunbergii</i>	<i>Clethra barthensis</i>	<i>Quercus serrata</i>	<i>Machilus thunbergii</i>	<i>Machilus thunbergii</i>	<i>Acanthopanax sciadophylloides</i>	<i>Symplocos lucida</i>	<i>Symplocos lucida</i>	<i>Ilex integra</i>
Relative height	+	+	+	+	+	+		+	+	+	+	+	+	+
Tree height (m)	13.5	14.5	13.5	12.5	11.0	14.5		13.0	16.0	14.5		14.5	16.5	14.0
DBH (cm)	25.3	26.7	11.9	26.5	16.0	21.9		21.3	25.1	21.3		16.2	20.9	33.2
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														

Estimated cause of decline: No. 83, dead recorded in 2010 by specific disease for Fagaceae tree species (infection of *Raffaelea quercivora* through the beetle, *Platypus quercivorus*), broken tip of the trunk; No. 37, dead recorded in 2008; No. 54, dead recorded in 2011.

Remarks: No. 8, 9 and 80 were added in 2011.

Table 5.6 h) Observation of tree decline: Iwami Rinku Factory Park (Japan)

Date: 26 and 28 September 2011

Individual No.	92	93	122	100	104	108	127	128	63	137	138	140	112	113	114	142	141	138
Direction	N	N	N	E	E	E	E	E	S	S	S	S	W	W	W	W	W	W
Plant Name	<i>Machilus thunbergii</i>	<i>Machilus thunbergii</i>	<i>Ilex microcarpa</i>	<i>Quercus serrata</i>	<i>Castanopsis cuspidata</i>	<i>Castanopsis cuspidata</i>	<i>Castanopsis cuspidata</i>	<i>Castanopsis cuspidata</i>	<i>Castanopsis cuspidata</i>	<i>Quercus serrata</i>	<i>Machilus thunbergii</i>	<i>Quercus serrata</i>	<i>Machilus thunbergii</i>	<i>Machilus thunbergii</i>	<i>Machilus thunbergii</i>	<i>Castanea crenata</i>	<i>Machilus thunbergii</i>	<i>Machilus thunbergii</i>
Relative height			+		+						—						—	
Tree height (m)	15.5	16.2	18.2	18.0	17.4	17.0	18.0	18.0	18.0		12.6		18.6	19.6	15.1	12.5	14.5	12.6
DBH (cm)	24.2	28.1	29.0	29.7	29.0	26.0	30.0	35.6	32.9		24.5		21.8	22.3	28.5	35.4	25.1	24.5
Vitality of tree																3		
Form of tree					1	1			1							3		
Branch growth					1	1			1							3		
Dieback of stem					1	1			1							3		
Defoliation of crown																2		
Deformation of leaves																		
Size of leaves																		
Discoloration of leaves																2		
Injury of leaves																2		
Damage class																3		

Estimated cause of decline: No. 100, 137, 140 and 142, by specific disease for Fagaceae tree species (infection of *Raffaelea quercivora* through the beetle, *Platypus quercivorus*); No. 63, natural pruning; No. 127 and 128, perforations by the beetle, *Platypus quercivorus*, but no symptom of disease; No. 137, dead recorded in 2006; No. 140, dead recorded in 2008.

Remarks: No. 138 was added in 2011.

Table 5.6 i) Observation of tree decline: Lake Ijira (Japan)

Date: 4 November and 5 December 2011

Individual No.	1	2	3-3	4	5-2	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Direction	N	N	N	N	N	E	E	E	E	E	S	S	S	S	S	W	W	W	W	W
Plant Name	<i>Chamaecyparis obusa</i>	<i>Chamaecyparis obusa</i>	<i>Chamaecyparis obusa</i>	<i>Chamaecyparis obusa</i>	<i>Chamaecyparis obusa</i>	<i>Chamaecyparis obusa</i>	<i>Cryptomeria japonica</i>	<i>Chamaecyparis obusa</i>	<i>Chamaecyparis obusa</i>	<i>Chamaecyparis obusa</i>	<i>Chamaecyparis obusa</i>	<i>Chamaecyparis obusa</i>	<i>Chamaecyparis obusa</i>	<i>Chamaecyparis obusa</i>	<i>Chamaecyparis obusa</i>	<i>Chamaecyparis obusa</i>	<i>Chamaecyparis obusa</i>	<i>Chamaecyparis obusa</i>	<i>Chamaecyparis obusa</i>	<i>Chamaecyparis obusa</i>
Relative height	+			—		+	+					—						—	—	—
Tree height (m)	13.1	12.5	14.6	11.6	14.3	15.3	16.3	14.4	14.5	14.0	14.9	13.0	13.7	15.4	15.4	12.8	13.5	11.5	12.2	11.9
DBH (cm)	18.8	15.4	17.3	14.1	16.5	22.9	25.7	21.1	17.3	18.7	14.2	16.5	15.8	19.8	17.8	21.5	16.7	11.3	11.9	17.5
Vitality of tree												1	1					2	1	
Form of tree	2			2						1		2	2					2	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: No. 1, 4, 10, 12 and 13 broken top of the tree; No. 18, 19 and 20, suppression by other surrounding trees; No. 3-2 and 5, cutting for the management (thinning) in

Remarks: No. 3-3 and 5-2 were added in 2010.

Table 5.6 j) Observation of tree decline: Yamato (Japan)

Date: 19 November 2010

Individual No.	22	21	9	10	23	46	47	45	42	7	36	33	14	38	37	30	29	11	12	31
Direction	N	N	N	N	N	E	E	E	E	E	S	S	S	S	S	W	W	W	W	W
Plant Name	<i>Chamaecyparis obusa</i>	<i>Chamaecyparis obusa</i>	<i>Chamaecyparis obusa</i>	<i>Chamaecyparis obusa</i>	<i>Chamaecyparis obusa</i>	<i>Chamaecyparis obusa</i>	<i>Chamaecyparis obusa</i>	<i>Chamaecyparis obusa</i>	<i>Chamaecyparis obusa</i>	<i>Chamaecyparis obusa</i>	<i>Chamaecyparis obusa</i>	<i>Chamaecyparis obusa</i>	<i>Chamaecyparis obusa</i>	<i>Chamaecyparis obusa</i>	<i>Chamaecyparis obusa</i>	<i>Chamaecyparis obusa</i>	<i>Chamaecyparis obusa</i>	<i>Chamaecyparis obusa</i>	<i>Chamaecyparis obusa</i>	<i>Chamaecyparis obusa</i>
Relative height											—	—	—							—
Tree height (m)	29.9	28.4	29.9	28.5	28.5	31.4	29.0	30.8	30.2	29.2	25.7	29.8	30.2	29.0	28.7	30.1	26.6	28.6	30.0	24.0
DBH (cm)	37.7	38.5	41.7	42.8	41.0	43.9	38.0	36.1	41.1	38.6	33.7	43.2	44.7	34.2	40.9	31.4	33.9	43.4	38.7	34.3
Vitality of tree											1	1	1							1
Form of tree											1	3	3							1
Branch growth																				
Dieback of stem							1				2									
Defoliation of crown																				
Deformation of leaves																				
Size of leaves																				
Discoloration of leaves																				
Injury of leaves																				
Damage class																				

Estimated cause of decline: No. 10 & 36, broken tip of trunk; No. 31, curved shape by possibly heavy snow.

Remarks: No. 36, 33 and 14 were added in 2011; No. 38 was added in 2010.

Table 5.7 a-1) Description of trees: Lake Ijira (Japan)

Date: 5.12.2011

Surveyor: Tanaka, Gifu Prefectural Research Institute of Forest Science

Survey area 1: radius 7.98 m**(Height > 1.3 m)**

Tree No.	Scientific name	DBH (cm)	Tree Height (m)	Remarks
1	<i>Chamaecyparis obtusa</i>	16.0	14.5	
2	<i>Chamaecyparis obtusa</i>			thinning
3	<i>Chamaecyparis obtusa</i>			thinning
4	<i>Chamaecyparis obtusa</i>	23.8	16.7	
5	<i>Chamaecyparis obtusa</i>			thinning
6	<i>Chamaecyparis obtusa</i>	16.5	14.3	
7	<i>Chamaecyparis obtusa</i>	15.3	12.4	
8	<i>Chamaecyparis obtusa</i>			thinning
9	<i>Chamaecyparis obtusa</i>	22.5	16.1	
10	<i>Chamaecyparis obtusa</i>	19.0	16.1	
11	<i>Chamaecyparis obtusa</i>	18.1	15.3	
12	<i>Chamaecyparis obtusa</i>			thinning
13	<i>Chamaecyparis obtusa</i>	17.8	13.6	
14	<i>Chamaecyparis obtusa</i>			thinning
15	<i>Chamaecyparis obtusa</i>	17.4	15.1	
16	<i>Chamaecyparis obtusa</i>	18.8	16.0	
17	<i>Chamaecyparis obtusa</i>	17.0	14.7	
18	<i>Chamaecyparis obtusa</i>	21.3	15.5	
19	<i>Chamaecyparis obtusa</i>			thinning
20	<i>Chamaecyparis obtusa</i>	17.8	13.9	
21	<i>Chamaecyparis obtusa</i>	21.6	16.2	
22	<i>Chamaecyparis obtusa</i>			thinning
23	<i>Chamaecyparis obtusa</i>	16.8	13.5	
24	<i>Chamaecyparis obtusa</i>	15.8	12.9	
25	<i>Chamaecyparis obtusa</i>	15.6	14.1	
26	<i>Chamaecyparis obtusa</i>			thinning
27	<i>Chamaecyparis obtusa</i>	17.1	15.0	thinning
28	<i>Chamaecyparis obtusa</i>			thinning
29	<i>Chamaecyparis obtusa</i>			thinning
30	<i>Chamaecyparis obtusa</i>	14.2	12.2	
31	<i>Chamaecyparis obtusa</i>	18.2	13.5	
32	<i>Chamaecyparis obtusa</i>			thinning
33	<i>Chamaecyparis obtusa</i>			thinning
34	<i>Chamaecyparis obtusa</i>	21.3	15.2	
35	<i>Chamaecyparis obtusa</i>			thinning
36	<i>Chamaecyparis obtusa</i>			thinning
37	<i>Chamaecyparis obtusa</i>	17.6	15.0	
38	<i>Chamaecyparis obtusa</i>			thinning
39	<i>Chamaecyparis obtusa</i>	21.3	13.8	
40	<i>Chamaecyparis obtusa</i>	22.3	15.8	
41	<i>Chamaecyparis obtusa</i>			thinning
42	<i>Chamaecyparis obtusa</i>	28.0	18.3	

Table 5.7 a-2) Description of trees: Lake Ijira (Japan)

Date: 5.12.2011

Surveyor: Tanaka, Gifu Prefectural Research Institute of Forest Science

Survey area 1: radius 7.98 m

(Height > 1.3 m)

[illegible]

Table 5.7 a-3) Description of trees: Lake Ijira (Japan)

Date: 5.12.2011

Surveyor: Tanaka, Gifu Prefectural Research Institute of Forest Science

Survey area 2: radius 11.28 m**(DBH > 4 cm)**

Tree No.	Sceintific name	DBH (cm)	Tree Hight (m)	Remarks
52	<i>Chamaecyparis obtusa</i>	23.5	16.0	
53	<i>Chamaecyparis obtusa</i>	17.3	14.6	
54	<i>Chamaecyparis obtusa</i>			thinning
55	<i>Chamaecyparis obtusa</i>			thinning
56	<i>Chamaecyparis obtusa</i>			thinning
57	<i>Chamaecyparis obtusa</i>	18.2	14.0	
58	<i>Chamaecyparis obtusa</i>			thinning
59	<i>Chamaecyparis obtusa</i>	14.3	13.4	
60	<i>Chamaecyparis obtusa</i>	13.4	12.0	
61	<i>Chamaecyparis obtusa</i>			thinning
62	<i>Chamaecyparis obtusa</i>	18.3	14.8	
63	<i>Chamaecyparis obtusa</i>			thinning
64	<i>Chamaecyparis obtusa</i>	15.6	14.3	
65	<i>Chamaecyparis obtusa</i>	17.0	14.4	
66	<i>Chamaecyparis obtusa</i>			thinning
67	<i>Chamaecyparis obtusa</i>			thinning
68	<i>Chamaecyparis obtusa</i>			thinning
69	<i>Chamaecyparis obtusa</i>	21.5	12.8	
70	<i>Chamaecyparis obtusa</i>	16.7	13.5	
71	<i>Chamaecyparis obtusa</i>	26.1	15.5	
72	<i>Chamaecyparis obtusa</i>			thinning
73	<i>Chamaecyparis obtusa</i>	23.3	16.4	
74	<i>Chamaecyparis obtusa</i>			thinning
75	<i>Chamaecyparis obtusa</i>	18.9	15.3	
76	<i>Chamaecyparis obtusa</i>	19.7	13.7	
77	<i>Chamaecyparis obtusa</i>	22.0	16.1	
78	<i>Chamaecyparis obtusa</i>			thinning
79	<i>Chamaecyparis obtusa</i>	14.9	14.2	
80	<i>Chamaecyparis obtusa</i>	18.7	14.0	
81	<i>Chamaecyparis obtusa</i>	14.4	14.9	
82	<i>Chamaecyparis obtusa</i>	18.2	14.3	
83	<i>Chamaecyparis obtusa</i>	26.8	16.5	
84	<i>Chamaecyparis obtusa</i>	19.2	14.2	
85	<i>Chamaecyparis obtusa</i>	20.7	17.0	
86	<i>Chamaecyparis obtusa</i>	12.6	14.2	
87	<i>Chamaecyparis obtusa</i>	16.4	13.7	
88	<i>Chamaecyparis obtusa</i>	16.7	14.7	
89	<i>Chamaecyparis obtusa</i>	18.5	14.7	
90	<i>Chamaecyparis obtusa</i>	9.1		die back
91	<i>Chamaecyparis obtusa</i>			thinning
92	<i>Chamaecyparis obtusa</i>	17.3	13.0	
93	<i>Chamaecyparis obtusa</i>	14.1		die back

Table 5.7 a-4) Description of trees: Lake Ijira (Japan)

Date: 5.12.2011

Surveyor: Tanaka, Gifu Prefectural Research Institute of Forest Science

Survey area 2: radius 11.28 m

(DBH > 4 cm)

[illegible]

Date: 5.12.2011
Surveyor: Tanaka, Gifu Prefectural Research Institute of Forest Science

**Survey area 3: radius 17.85 m
(DBH > 18 cm)**

[illegible]

Surveyor: Tanaka, Gifu Prefectural Research Institute of Forest Science

[illegible]

Surveyor: Tanaka, Gifu Prefectural Research Institute of Forest Science

[illegible]

Table 5.7 b-3) Description of trees: Yamato (Japan)

Date: 25.11.2011, 16.12.2011

Surveyor: Tanaka, Gifu Prefectural Research Institute of Forest Science

Survey area 3: radius 17.85 m

(DBH > 18 cm)

[illegible]

Table 5.7 c-1) Description of trees: Banryu-2 (Japan)

Date: 28-29.9.2011

Surveyor: Yanai, Asaura, Oono, Suzukawa and Murakami, Tree doctor institute of Shimane Pref.

Survey area 1: radius 7.98 m**(Height > 1.3 m)**

Tree No.	Scientific name	DBH (cm)	Tree Height (m)	Remarks
1	<i>Ilex integra</i>	25.5	15.8	
2	<i>Myrica rubra</i>	10.1	7.0	
3	<i>Symplocos lucida</i>			logging
4	<i>Styrax japonica</i>			logging
5	<i>Lindera umbellata</i>			logging
6	<i>Lindera umbellata</i>			logging
7	<i>Ligustrum japonicum</i>			logging
8	<i>Symplocos lucida</i>	16.2	14.5	dead tree
9	<i>Symplocos lucida</i>	20.9	16.5	
10	<i>Ligustrum japonicum</i>			logging
11	<i>Eurya pubicalyx</i>			logging
12	<i>Clethra barbinervis</i>			logging
13	<i>Pieris japonica</i>			logging
14	<i>Symplocos lucida</i>			logging
15	<i>Machilus Thunbergii</i>			logging
16	<i>Symplocos lucida</i>			logging
17	<i>Symplocos lucida</i>			logging
18	<i>Symplocos lucida</i>			dead tree
19	<i>Ligustrum japonicum</i>			logging
20	<i>Ligustrum japonicum</i>			logging
21	<i>Callicarpa mollis</i>			logging
22	<i>Eurya pubicalyx</i>			logging
23	<i>Symplocos prunifolia</i>	24.9	14.0	
24	<i>Rhus succedanea</i>	11.3	9.0	dead of core
25	<i>Symplocos lucida</i>			logging
26	<i>Lindera umbellata</i>			logging
27	<i>Ligustrum japonicum</i>			logging
28	<i>Clethra barbinervis</i>			logging
29	<i>Clethra barbinervis</i>			logging
86	<i>Machilus Thunbergii</i>			dead by suppression 2011
87	<i>Clethra barbinervis</i>			dead by suppression 2011
88	<i>Clethra barbinervis</i>	2.0	6.5	recruitment 2006
89	<i>Clethra barbinervis</i>	1.0	2.5	recruitment 2006
90	<i>Dendropanax trifidus</i>	1.0	2.6	recruitment 2010
91	<i>Ligustrum japonicum</i>	1.3	2.6	recruitment 2011
92	<i>Ligustrum japonicum</i>	1.5	2.2	recruitment 2011

Table 5.7 c-2) Description of trees: Banryu-2 (Japan)

Date: 28-29.9.2011

Surveyor: Yanai, Asaura, Oono, Suzukawa and Murakami, Tree doctor institute of Shimane Pref.

Survey area 2: radius 11.28 m**(DBH > 4 cm)**

Tree No.	Scientific name	DBH (cm)	Tree Height (m)	Remarks
30	<i>Quercus serrata</i>			die back 2011
31	<i>Clethra barbinervis</i>	8.0	10.0	
32	<i>Machilus Thunbergii</i>	19.8	12.0	
33	<i>Machilus Thunbergii</i>	28.0	15.5	
34	<i>Machilus Thunbergii</i>	25.1	16.0	
35	<i>Machilus Thunbergii</i>	21.3	14.5	
37	<i>Acanthopanax sciadophylloides</i>			die back 2011
38	<i>Pinus densiflora</i>			logging
39	<i>Clethra barbinervis</i>	9.8	9.5	
40	<i>Clethra barbinervis</i>			logging
41	<i>Clethra barbinervis</i>			logging
42	<i>Clethra barbinervis</i>	8.9	10.0	
43	<i>Clethra barbinervis</i>	8.7	10.0	
44	<i>Clethra barbinervis</i>			logging
45	<i>Quercus serrata</i>			logging
46	<i>Quercus serrata</i>			logging
47	<i>Symplocos lucida</i>			logging
48	<i>Clethra barbinervis</i>			logging
49	<i>Clethra barbinervis</i>			logging
50	<i>Clethra barbinervis</i>			logging
51	<i>Clethra barbinervis</i>			logging
52	<i>Lyonia ovalifolia</i>			logging
53	<i>Lyonia ovalifolia</i>			logging
54	<i>Clethra barbinervis</i>			die back 2011
55	<i>Lyonia ovalifolia</i>			logging
56	<i>Lyonia ovalifolia</i>			logging
57	<i>Lyonia ovalifolia</i>			logging
58	<i>Ilex pedunculosa</i>			logging
59	<i>Ilex pedunculosa</i>	11.4	11.5	
60	<i>Ilex pedunculosa</i>	14.9	12.5	stand at an angle
61	<i>Ligustrum japonicum</i>			logging
62	<i>Pinus densiflora</i>			logging
63	<i>Machilus Thunbergii</i>	26.5	12.5	
64	<i>Styrax japonica</i>	16.0	11.0	
65	<i>Machilus Thunbergii</i>	21.9	14.5	
66	<i>Machilus Thunbergii</i>			logging
67	<i>Quercus serrata</i>			logging
68	<i>Symplocos lucida</i>	14.8	8.0	die back
69	<i>Dendropanax trifidus</i>	15.0	10.0	
70	<i>Ligustrum japonicum</i>	4.6	6.4	
71	<i>Machilus Thunbergii</i>	23.0	14.5	
72	<i>Castanopsis cuspidata</i>	25.3	13.5	
73	<i>Clethra barbinervis</i>	14.3	12.5	die back 2006

Table 5.7 c-3) Description of trees: Banryu-2 (Japan)

Date: 28-29.9.2011

Surveyor: Yanai, Asaura, Oono, Suzukawa and Murakami, Tree doctor institute of Shimane Pref.

Survey area 2: radius 11.28 m

(DBH > 4 cm)

[illegible]

Table 5.7 c-4) Description of trees: Banryu-2 (Japan)

Date: 28-29.9.2011

Surveyor: Yanai, Asaura, Oono, Suzukawa and Murakami, Tree doctor institute of Shimane Pref.

Survey area 3: radius 17.85 m

(DBH > 18 cm)

[illegible]

Table 5.7 d-1) Description of trees: Iwami Rinku Factory Park (Japan)

Date: 26-28.9.2011

Surveyor: Yanai, Asaura, Oono, Suzukawa and Murakami, Tree doctor institute of Shimane Pref.

Survey area 1: radius 7.98 m**(Height > 1.3 m)**

Tree No.	Scientific name	DBH (cm)	Tree Height (m)	Remarks
1	<i>Ligustrum japonicum</i>			dead by suppression
2	<i>Eurya pubicalyx</i>			dead by suppression
3	<i>Eurya pubicalyx</i>			dead by suppression
4	<i>Eurya pubicalyx</i>			dead by suppression
5	<i>Symplocos lucida</i>	5.3	6.8	
6	<i>Eurya pubicalyx</i>			dead by suppression
7	<i>Symplocos lucida</i>	2.7	3.3	broken of core
8	<i>Eurya pubicalyx</i>	1.3	1.7	broken of core
9	<i>Eurya pubicalyx</i>	2.3	2.6	
10	<i>Eurya pubicalyx</i>	1.7	1.6	
11	<i>Eurya pubicalyx</i>	1.5	1.7	broken of core
12	<i>Castanopsis cuspidata</i>	39.8	19.4	
13	<i>Castanopsis cuspidata</i>	69.0	19.4	
14	<i>Castanopsis cuspidata</i>	32.9	19.4	
15	<i>Castanopsis cuspidata</i>	57.2	19.4	
16	<i>Castanopsis cuspidata</i>	42.3	19.5	
17	<i>Castanopsis cuspidata</i>			dead by suppression
18	<i>Castanopsis cuspidata</i>			dead by suppression
19	<i>Castanopsis cuspidata</i>			dead by suppression
20	<i>Castanopsis cuspidata</i>			dead by suppression
21	<i>Castanopsis cuspidata</i>			dead by suppression
22	<i>Ilex integra</i>	1.6	3.8	
23	<i>Ilex integra</i>	3.0	5.8	
24	<i>Ilex integra</i>	1.6	3.5	broke of top branch
25	<i>Symplocos lucida</i>			dead by suppression
26	<i>Eurya pubicalyx</i>			dead by suppression
27	<i>Symplocos lucida</i>	13.5	14.0	
28	<i>Symplocos lucida</i>	14.1	13.0	
29	<i>Symplocos lucida</i>	7.8	6.0	broke of top branch
30	<i>Machilus Thunbergii</i>			dead by suppression
31	<i>Machilus Thunbergii</i>	9.5	12.2	
32	<i>Symplocos lucida</i>	8.8	9.5	
33	<i>Ilex rotunda</i>	4.1	4.8	
34	<i>Ilex rotunda</i>	2.4	2.2	
35	<i>Ilex rotunda</i>	3.0	2.7	
36	<i>Symplocos lucida</i>	12.1	12.0	
37	<i>Ilex micrococca</i>	28.7	21.0	
38	<i>Ilex micrococca</i>	34.7	19.0	broke of top branch
39	<i>Symplocos lucida</i>	9.8	7.0	
40	<i>Machilus Thunbergii</i>			dead by suppression
41	<i>Symplocos lucida</i>	8.7	9.5	
42	<i>Symplocos lucida</i>			dead by suppression

Table 5.7 d-2) Description of trees: Iwami Rinku Factory Park (Japan)

Date: 26-28.9.2011

Surveyor: Yanai, Asaura, Oono, Suzukawa and Murakami, Tree doctor institute of Shimane Pref.

Survey area 1: radius 7.98 m**(Height > 1.3 m)**

Tree No.	Scientific name	DBH (cm)	Tree Height (m)	Remarks
43	<i>Rhus succedanea</i>	9.7	10.5	
44	<i>Rhus succedanea</i>			dead by suppression
45	<i>Symplocos lucida</i>			dead by suppression
46	<i>Symplocos lucida</i>	4.8	4.2	
47	<i>Symplocos lucida</i>	7.5	7.0	
48	<i>Symplocos lucida</i>	4.9	4.6	die back
49	<i>Machilus Thunbergii</i>			dead by suppression
50	<i>Machilus Thunbergii</i>			dead by suppression
51	<i>Machilus Thunbergii</i>			dead by suppression
52	<i>Machilus Thunbergii</i>			dead by suppression
53	<i>Machilus Thunbergii</i>			dead by suppression
54	<i>Eurya pubicalyx</i>			dead by suppression
55	<i>Symplocos lucida</i>			dead by suppression
56	<i>Symplocos lucida</i>	7.9	8.0	
57	<i>Quercus glauca</i>			dead by suppression
58	<i>Symplocos lucida</i>	7.4	8.5	
59	<i>Symplocos lucida</i>	3.4	2.5	die back
60	<i>Castanopsis cuspidata</i>	32.3	15.0	
61	<i>Castanopsis cuspidata</i>	36.5	20.0	
62	<i>Castanopsis cuspidata</i>	41.1	20.0	
63	<i>Castanopsis cuspidata</i>	32.9	18.0	
64	<i>Symplocos lucida</i>	6.6	6.5	
65	<i>Symplocos lucida</i>	10.5	12.0	
66	<i>Rhus succedanea</i>	11.1	15.3	
67	<i>Rhus succedanea</i>	9.2	14.3	
68	<i>Ligustrum japonicum</i>	5.0	8.0	
69	<i>Symplocos lucida</i>	11.1	10.0	
70	<i>Machilus Thunbergii</i>	14.9	10.0	
71	<i>Symplocos lucida</i>	14.8	14.0	change of species
72	<i>Ilex rotunda</i>	5.1	5.5	die back
73	<i>Ilex rotunda</i>	5.3	1.6	die back
74	<i>Ilex rotunda</i>	13.6	15.0	
143	<i>Symplocos lucida</i>	20.1	13.0	
144	<i>Machilus Thunbergii</i>	2.4	3.1	recruitment 2006
145	<i>Eurya pubicalyx</i>	0.3	1.4	recruitment 2006
146	<i>Castanopsis cuspidata</i>	0.5	2.3	recruitment 2011
147	<i>Machilus Thunbergii</i>	0.5	1.7	recruitment 2011

Table 5.7 d-3) Description of trees: Iwami Rinku Factory Park (Japan)

Date: 26-28.9.2011

Surveyor: Yanai, Asaura, Oono, Suzukawa and Murakami, Tree doctor institute of Shimane Pref.

Survey area 2: radius 11.28 m**(DBH > 4 cm)**

Tree No.	Sceintific name	DBH (cm)	Tree Hight (m)	Remarks
75	<i>Machilus Thunbergii</i>	12.6	12.5	
76	<i>Machilus Thunbergii</i>	18.1	16.1	
77	<i>Machilus Thunbergii</i>	10.0	11.8	
78	<i>Machilus Thunbergii</i>	15.9	16.1	
79	<i>Machilus Thunbergii</i>	16.9	18.9	
80	<i>Machilus Thunbergii</i>	20.9	18.9	
81	<i>Machilus Thunbergii</i>	17.7	19.0	
82	<i>Symplocos lucida</i>	4.8	5.8	
83	<i>Symplocos lucida</i>	9.0	8.5	
84	<i>Symplocos lucida</i>	7.2	7.5	
85	<i>Quercus glauca</i>			dead by suppression
86	<i>Quercus glauca</i>			dead by suppression
87	<i>Symplocos lucida</i>	7.0	7.0	
88	<i>Symplocos lucida</i>	5.8	5.6	
89	<i>Ligustrum japonicum</i>			dead by suppression
90	<i>Ligustrum japonicum</i>	4.6	5.2	
91	<i>Quercus glauca</i>	10.0	14.0	
92	<i>Machilus Thunbergii</i>	24.2	15.5	
93	<i>Machilus Thunbergii</i>	28.1	16.2	
94	<i>Symplocos lucida</i>	11.8	10.4	
95	<i>Quercus serrata</i>	26.2	19.5	holes by beetles
96	<i>Myrica rubra</i>			dead by suppression
97	<i>Myrica rubra</i>	8.7	8.0	
98	<i>Myrica rubra</i>	14.8	11.0	
99	<i>Quercus serrata</i>	24.2	20.0	
100	<i>Quercus serrata</i>	29.7	18.0	holes by beetles
102	<i>Quercus serrata</i>			die back by beetle
103	<i>Quercus serrata</i>			die back by beetle
104	<i>Castanopsis cuspidata</i>	29.0	17.4	
105	<i>Castanopsis cuspidata</i>	31.9	18.5	
106	<i>Castanopsis cuspidata</i>	26.5	15.0	
107	<i>Castanopsis cuspidata</i>	29.2	15.0	
108	<i>Castanopsis cuspidata</i>	26.0	17.0	die back
109	<i>Quercus serrata</i>	28.4	23.0	holes by beetles
110	<i>Quercus serrata</i>	29.5	24.0	holes by beetles
111	<i>Quercus serrata</i>	18.0	15.8	

Table 5.7 d-4) Description of trees: Iwami Rinku Factory Park (Japan)

Date : 26-28.9.2011

Surveyor: Yanai, Asaura, Oono, Suzukawa and Murakami, Tree doctor institute of Shimane Pref.

Survey area 3: radius 17.85 m

(DBH > 18 cm)

[illegible]

Table 5.8 a) Understory vegetation survey: Lake Ijira (Japan)

Date: 4.11. 2011

Surveyor: Tanaka, Gifu Prefectural Research Institute of Forest Science

Number of Species: 22

Sceintific name	Abundance
<i>Camellia sinensis</i>	1
<i>Cleyera japonica</i>	1
<i>Camellia japonica</i>	+
<i>Eurya japonica</i>	+
<i>Acer palmatum</i>	+
<i>Castanopsis cuspidata</i>	+
<i>Clethra barvinervis</i>	+
<i>Illicium anisatum</i>	+
<i>Mallotus japonicus</i>	+
<i>Prunus spinulosa</i>	+
<i>Rubus buergeri</i>	+
<i>Blechnum niponicum</i>	+
<i>Dryopteris etythrosora</i>	+
<i>Stegnogramma pozoi</i>	+
<i>Pieris japonica</i>	+
<i>Quercus glauca</i>	+
<i>Ilex macropoda</i>	+
<i>Cinnamomum japonicum</i>	+
<i>Quercus variabilis</i>	+
<i>Rhus trichocarpa</i>	+
<i>Chamaecyparis obtusa</i>	+
<i>Arachniodes standishii</i>	+

Table 5.8 b) Understory vegetation survey: Yamato (Japan)

Date: 4.11. 2011

Surveyor: Tanaka, Gifu Prefectural Research Institute of Forest Science

Number of Species: 34

Sceintific name	Abundance
<i>Lindera triloba</i>	4
<i>Acanthopanax sciadophylloides</i>	1
<i>Clethra barvinervis</i>	1
<i>Rhus trichocarpa</i>	+
<i>Lindera umbellata</i>	+
<i>Acer crataegifolium</i>	+
<i>Acer distylum</i>	+
<i>Acer micranthum</i>	+
<i>Acer sieboldianum</i>	+
<i>Callicarpa japonica</i>	+
<i>Cephalotaxus harringtonia</i>	+
<i>Chamaecyparis obtusa</i>	+
<i>Hydrangea hirta</i>	+
<i>Ilex crenata</i>	+
<i>Ilex pedunculosa</i>	+
<i>Magnolia obovata</i>	+
<i>Magnolia salicifolia</i>	+
<i>Rubus crataegifolius</i>	+
<i>Rubus palmatus</i>	+
<i>Smilax china</i>	+
<i>Styrax japonica</i>	+
<i>Symplocos chinensis</i> var. <i>leucocarpa</i>	+
<i>Clerodendrum trichotomum</i>	+
<i>Mallotus japonicus</i>	+
<i>Oplismenus sinensis</i>	+
<i>Miscanthus sinensis</i>	+
<i>Dryopteris etythrosora</i>	+
<i>Arachniodes standishii</i>	+
<i>Stegnogramma pozoi</i>	+
<i>Blechnum niponicum</i>	+
<i>Osmunda japonica</i>	+
<i>Ilex macropoda</i>	+
<i>Lindera erythrocarpa</i>	+
<i>Cryptomeria japonica</i>	+

Table 5.8 c) Understory vegetation survey: Banryu-2 (Japan)

Date: 26-28.9.2011

Surveyor: Yanai, Asaura, Oono, Suzukawa and Murakami, Tree doctor institute of Shimane Pref.

Number of Species: 13

Sceintific name	Abundance
<i>Gleichenia glauca</i> Hook	5
<i>Dendropanax trifidus</i>	+
<i>Eurya pubicalyx</i>	+
<i>Ligustrum japonicum</i>	+
<i>Smilax china</i> L	+
<i>Callicarpa mollis</i> Sieb.et Zucc	+
<i>Lindera umbellata</i>	1
<i>Akebia trifoliata</i> Koidz	+
<i>Rhus succedanea</i> L	+
<i>Daphniphyllum teijsmannii</i>	+
<i>Symplocos lucida</i>	+
<i>Pieris japonica</i>	+
<i>Rhus trichocarpa</i>	+(recruitment)

Table 5.8 d) Understory vegetation survey: Iwami Rinku Factory Park (Japan)

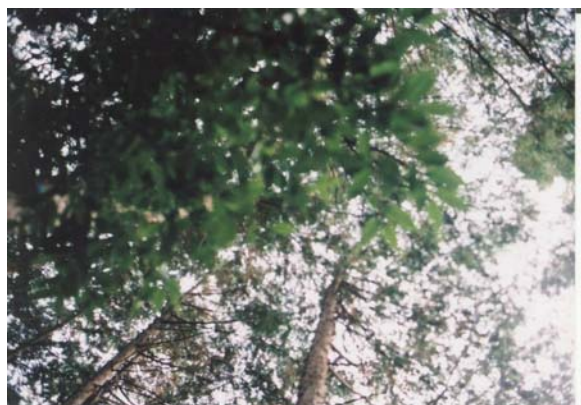
Date: 26-28.9.2011

Surveyor: Yanai, Asaura, Oono, Suzukawa and Murakami, Tree doctor institute of Shimane Pref.

Number of Species: 10

Sceintific name	Abundance
<i>Gleichenia glauca</i> Hook	3
<i>Castanopsis cuspidata</i>	1
<i>Symplocos lucida</i>	1
<i>Ardisia japonica</i> Bl	+
<i>Ligustrum japonicum</i>	+
<i>Quercus serrata</i>	+
<i>Akebia trifoliata</i> Koidz	+
<i>Machilus Thunbergii</i>	+
<i>Eurya pubicalyx</i>	1
<i>Damnacanthus indicus</i>	+

Figure 5.3 a) Photographic record of tree decline: Lake Ijira (Japan)



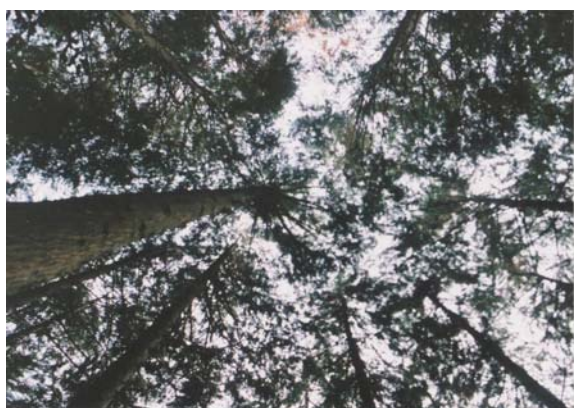
North



South



West



East

Figure 5.3 b) Photographic record of tree decline: Yamato (Japan)



North



South

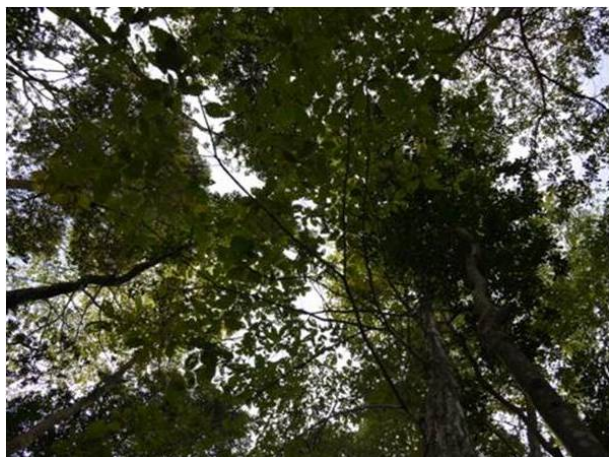


West



East

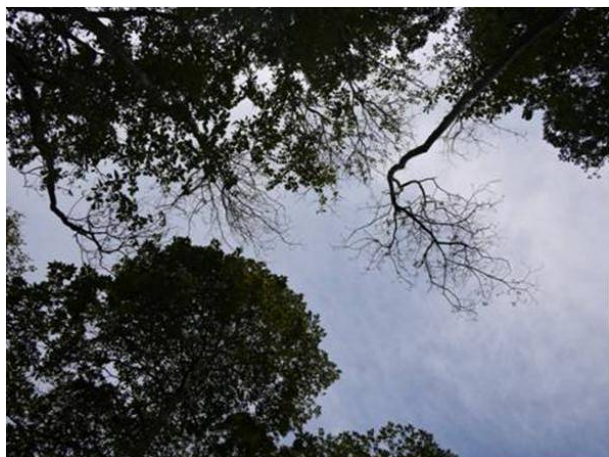
Figure 5.3 c) Photographic record of tree decline: Banryu2 (Japan)



North



South

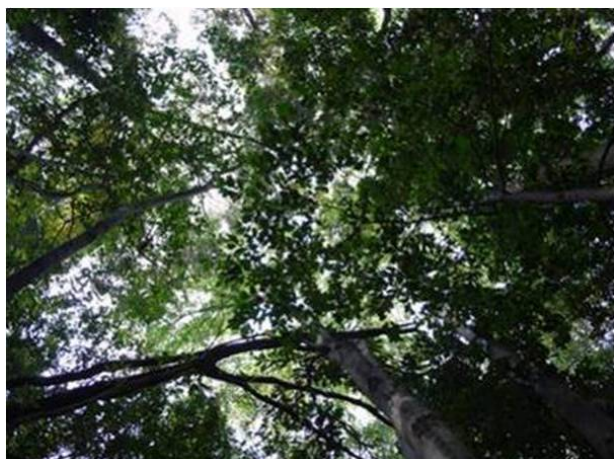


West

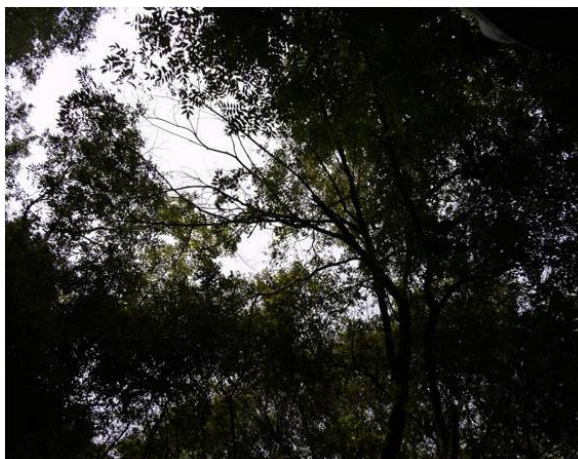


East

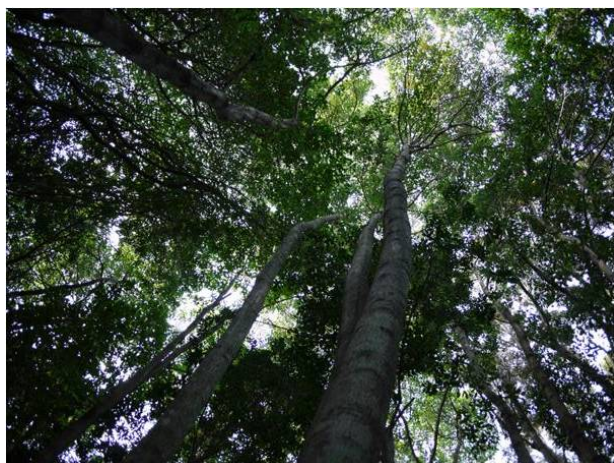
Figure 5.3 d) Photographic record of tree decline: Iwami Rinku Factory Park (Japan)



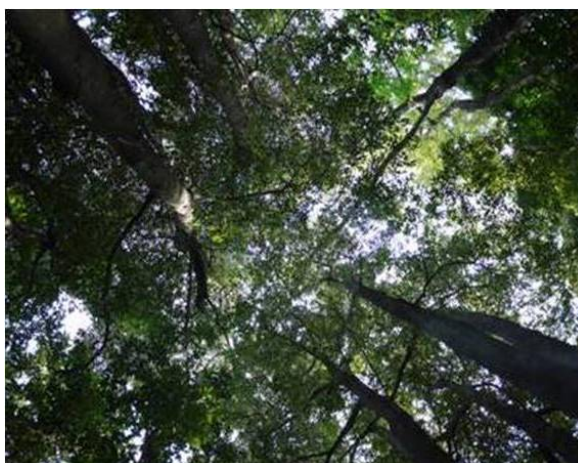
North



South



West



East

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 a results of this decrease, include 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.

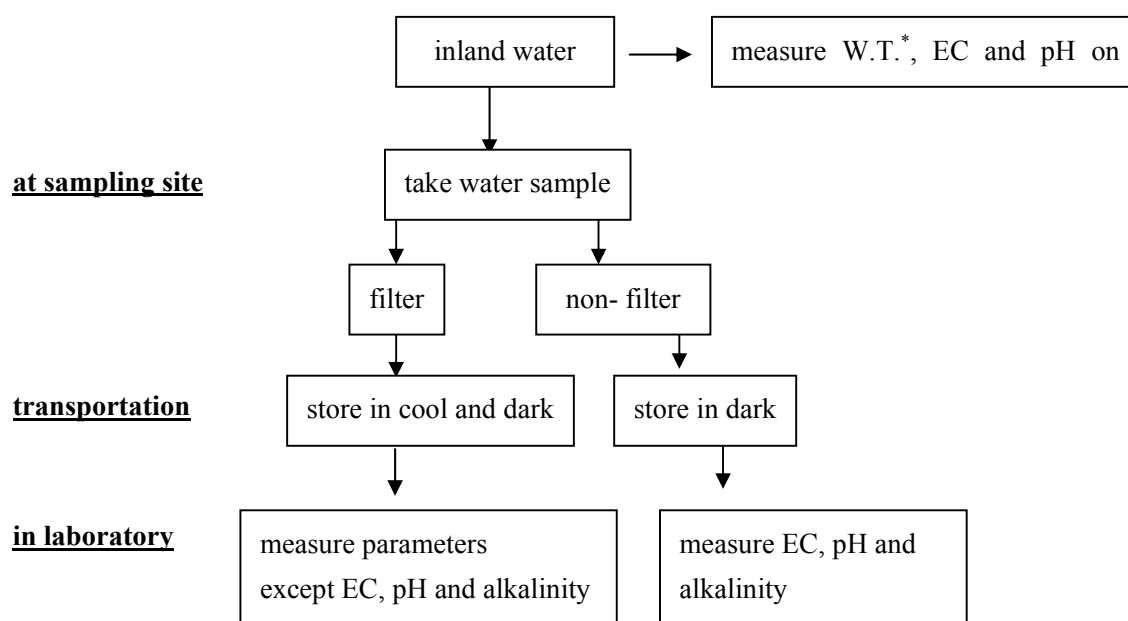
The participating countries of EANET are expected to carry out the monitoring of water temperature, pH, electric conductivity (EC), alkalinity and concentration of SO_4^{2-} , NO_3^- , Cl^- , NH_4^+ , Na^+ , K^+ , Ca^{2+} , and Mg^{2+} of targeted lakes/rivers at least four times a year (seasonally), and, transparency, water color, DOC (if impossible, COD), NO_2^- , PO_4^{3-} more than once a year while some other items are specified as optional parameters to be monitored.

6.1.1 Selection of Sampling Sites

According to the Technical Manual for Monitoring on Inland Aquatic Environment (2000), 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. 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.

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](#), 10 countries (China, Indonesia, Japan, Lao PDR, Malaysia, Mongolia, Philippines, Russia, Thailand, and Vietnam) carried out inland aquatic environment monitoring. The monitoring sites were established in 12 lakes/reservoirs and 6 streams. For 2011, the data of Num Hum Lake and Ambulalakao Lake has not been submitted yet. Properties of these monitoring sites are shown on [Table 6.3](#). However, more information should be appended to these tables in the future.

Table 6.2 Outline of Inland Aquatic Environment Monitoring of 2011

Country	Name of site	Distance from the site	Nearest deposition monitoring site	Start year	Interval
China	Jinyunshan Lake (Chongqing)	-	Rural	2001	3 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.
Indonesia	Patengang Lake (Bandung)	47 km	Urban	2001	5 times/yr.
	Gunung Lake (Sukabumi)	-	-	2008	5 times/yr.
Japan	Ijira Lake (Gifu Pref.)	1.1 km	Rural/Ecolog. (Ijira)	2001	4 times/yr.
	Banryu Lake (Shimane Pref.)	0.5 km	Urban/Ecolog. (Banryu)	2001	4 times/yr.
Lao PDR	Nam Hum Lake (Vientiane province)	-	Vientiane	2009	
Malaysia	Semenyih Dam	26 km	Urban (Petaling Jaya)	2005	4 times/yr.
	Tembaling River (Sabah)	-	Remote (Danum Valley)	2007	3 times/yr.
Mongolia	Terelj River	-	Remote (Terelj)	2002	6 times/yr.
Philippines	Pandin Lake (San Pablo)	30 km	Rural (Los Banos)	2004	4 times/yr.
	Ambulalakao 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	Vachiralongkorn Dam (Kanchanaburi Province)	-	Remote	2002	4 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 (11). 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 the 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 (12).

There were two sites (Semenyih Dam in Malaysia and Terelj River in Mongolia) which have results exceeding allowable range of R_1 and/or R_2 . However, the main reasons could not be identified.

The annual mean values of each parameter from 2000 to 2011 are shown in Table 6.5(1) to (19).

Table 6.3(1) Properties of lakes or streams

Lake Name: Jinyunshan Lake

Country	China
Location	Chongqing Prefecture
Altitude	-
Origin	Artificial lake
Area and shape	0.999 ha
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	18.8°C (mean) *1
Precipitation	839.5 mm/year *1
Solar radiation	-
Wind speed	Mean 0.48 m/s *1
Wind direction	S (dominant) *1
Residence time of water	-
Lake utilization	For drink, Irrigation water
Watershed area	-
River (inflow)	-

- : no information

*1 Chongqing, 2011

Table 6.3(2) Properties of lakes or streams

Lake Name: Xiaoping Dam

Country	China
Location	Xiaoping, Xiamen
Altitude	595 m
Origin	Artificial lake
Area and shape	26.4 ha
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	20.8°C (mean) *1
Precipitation	916.7 mm/year *1
Solar radiation	-
Wind speed	Mean 2.7 m/s *1
Wind direction	ESE, NE (dominant) *1
Residence time of water	15 days
Lake utilization	Water power
Watershed area	18.1 km ²
River (flows into)	Dingxi lake

- : no information

*1 Xiamen, 2011

Table 6.3(3) Properties of lakes or streams

Lake Name: Jiwozi River

Country	China
Location	Xi'an
Origin	Natural stream
River length	-
Drainage area	-
The mean height of the river basin	-
Annual air temperature	14.5°C (mean) *1
Precipitation	723.6 mm/year *1
Solar radiation	-
Wind speed	Mean 1.2 m/s *1
Wind direction	E (dominant) *1
Lake (flows into)	-

- : no information

*1 Xi'an, 2011

Table 6.3(4) Properties of lakes or streams

Lake Name: Zhuxiandong Stream

Country	China
Location	Zhuhai
Origin	Natural stream
River length	-
Drainage area	-
The mean height of the river basin	-
Annual air temperature	22.5°C (mean) *1
Precipitation	1,226.9 mm *1
Solar radiation	-
Wind speed	Mean 2.5 m/s *1
Wind direction	ENE (dominant) *1
Lake (flows into)	-

- : no information

*1 Zhuhai, 2011

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 from 2004 at Zhuxiandong Stream.

Table 6.3(5) Properties of lakes or streams

Lake Name: Patengang Lake

Country	Indonesia
Location	Bandung
Altitude(including watershed)	1600-1700 m
Origin	Natural lake
Area and shape	65 km ²
Shore line length	-
Lake hydrologic type	-
Lake trophic type	-
Water depth	7 m (max)
Water volume	4.98 x 10 ⁶ m ³
Annual water level fluctuation	1.42 m-4.20 m
Annual air temperature	23.8°C (mean) *1
Precipitation	1,477.6 mm *1
Solar radiation	-
Wind speed	Mean 1.5 m/s *1
Wind direction	WNW (dominant) *1
Residence time of water	-
Lake utilization	Sightseeing
River (inflow)	-

Watershed area	650 km ²
Vegetation (dominant plants)	Strawberry, tea

- : no information

*1 Bandung, 2011

Table 6.3(6) Properties of lakes or streams

Lake Name: Gunung Lake

Country	Indonesia
Location	Sukabumi, West Java
Altitude (including watershed)	950-1036 m
Origin	Natural lake
Area and shape	9.5 ha
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	-
Precipitation	-
Solar radiation	-
Wind speed	-
Wind direction	-
Residence time of water	-
Lake utilization	Irrigation
River (inflow)	1

Watershed area	120 ha
Vegetation (dominant plants)	Pine Tree, <i>Agathis Damara</i>
Land uses	Agricultural area (5%), Residential area (1%, population <500)

- : no information

Table 6.3(7) Properties of lakes or streams

Lake Name: Ijira Lake

Country	Japan
Location	Gifu prefecture
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)
Precipitation	1,959.5 mm/year *1
Solar radiation	Daylight time Ave. 168.2 hr/month *1
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

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

*1 Gifu Local Meteorological Observatory, JFY2011

Table 6.3(8) Properties of lakes or streams

Lake Name: Banryu Lake

Country	Japan
Location	Shimane prefecture
Altitude	25 m
Origin	Natural damming lake
Area and shape	0.13 km ²
Shore line length	5.7 km
Lake hydrologic type	Reservoir
Lake trophic type	Mesotrophic
Water depth	Ave. 8-8.5 m
Water volume	Unknown (Max 500,000 m ³)
Annual water level fluctuation	0-1.1 m
Precipitation	1,460.5 mm/year *1
Solar radiation	Daylight time Ave. 130 hr/month *2
Wind speed	Mean 1.8 m/s *2
Wind direction	S, WNW (dominant) *2
Residence time of water	222 days (2004)
Lake utilization	Irrigation and sightseeing
River (inflow)	None

- : no information

*1 Lake Banryu national acid rain monitoring station, JFY2011

*2 Masuda AMeDAS of Japan Meteorological Agency, JFY2011

Watershed area	0.73 km ²
Surface geology	Grave, sand, clay
Vegetation (dominant plants)	<i>Pinus thunbergii</i> , <i>Pinus densiflora</i>

Table 6.3(9) Properties of lakes or streams

Lake Name: Nam Hum Lake

Country	Lao PDR
Location	Vientiane Province
Latitude and longitude	18° 10'44.41" N, 102° 27'35.45" E
Altitude	185 m
Area and shape	
Shore line length	
Lake hydrologic type	
Lake trophic type	
Water depth	
Water volume	
Annual water level fluctuation	
Precipitation	
Solar radiation	
Wind speed	
Wind direction	
Residence time of water	
Lake utilization	
Watershed area	
River (inflow)	

- : no information

Table 6.3(10) Properties of lakes or streams

Lake Name: Semenyih Dam

Country	Malaysia
Location	
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	-
Precipitation	-
Solar radiation	-
Wind speed	-
Wind direction	-
Residence time of water	More than 1 year
Lake utilization	-
Watershed area	-
River (inflow)	-

- : no information

Table 6.3(11) Properties of lakes or streams

Lake 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 Volume	-
Watershed area	-
River length	-
Drainage area	-
The mean height of the river basin	-
Annual air temperature	-
Precipitation	3,892.2 mm *1
Solar radiation	-
Wind speed	-
Wind direction	-
River (meet in 10m from sampling point)	Segama river

- : no information

*1 Danum Valley, 2011

Table 6.3(12) Properties of lakes or streams

Lake Name: Terelj River

Country	Mongolia
Location	Terelj
Origin	Natural stream
River length	65 km
Drainage area	1220 km ²
The mean height of the river basin	-
Annual air temperature	-4.6°C (mean) *1
Precipitation	334.8 mm *1
Solar radiation	-
Wind speed	Mean 1.8 m/s *1
Wind direction	WS (dominant) *1
Lake (flows into)	-

- : no information

*1 Terelj, 2011

Table 6.3(13) Properties of lakes or streams

Lake Name: Pandin Lake

Country	Philippines
Location	San Pablo City
Altitude	200m
Origin	Natural lake
Area and shape	0.24 km ²
Shore line length	-
Lake hydrologic type	-
Lake trophic type	Oligotrophic
Water depth	61.75 m (mean), 63 m (max)
Water volume	6600 m ³
Annual water level fluctuation	-
Precipitation	-
Solar radiation	-
Wind speed	-
Wind direction	-
Residence time of water	-
Lake utilization	Domestic, electric power and tourism
Watershed area	-
River (inflow)	-

- : no information

Table 6.3(14) Properties of lakes or streams

Lake Name: Ambulalakao Lake

Country	Philippines
Location	Kabayan, Benguet
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	-
Precipitation	-
Solar radiation	-
Wind speed	-
Wind direction	-
Residence time of water	-
Lake utilization	Tourism
Watershed area	-
River (inflow)	-

- : no information

Table 6.3(15) Properties of lakes or stream

Stream Name: Pereemnaya River

Country	Russia
Location	Southern Baikal
Origin	Natural stream
Altitude(including watershed)	460 m-1500 m
Water depth	0.9 m (mean), 2 m (max)
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
Solar radiation	-
Wind speed	-
Wind direction	-
Lake (flows into)	Kholodnoe lake

Watershed area	About 360 km ²
Surface geology	Archaean rocks, presented mainly by gneisses, crystal schists, and pegmatites
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

- : no information

Table 6.3(16) Properties of lakes or stream

Stream Name: Komarovka River

Country	Russia
Location	Primorskli Kray, Ussuriyskii district, near Kamenushka settlement
Latitude	43°42' N
Altitude	386 m
Origin	Natural stream
Water depth	Mean 0.8 m Maximum 1.5 m
Water discharge	0.14 m ³ /sec
River length	66 km
Drainage area	-
Annual air temperature	-
Precipitation	737 mm/year (2005)
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

Watershed area	About 1490 km ²
Surface geology Rocks, sandstones, clayey schist	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(17) Properties of lakes or streams

Lake Name: Vachiralongkorn Dam

Country	Thailand
Location	Kanchanaburi Province
Latitude	14°46' N
Altitude	170 m
Origin	Artificial (Dam made lake)
Area and shape	3,720 km ²
Shore line length	-
Lake hydrologic type	Reservoir
Lake trophic type	-
Water depth	136.9-151.8 m (mean: 143.7 m) (2011)
Water volume	4.599-6.985 km ³ (mean: 5.345 km ³) (2011)
Annual water level fluctuation	Depth: 4.2 m (2010)
Precipitation	1941.4 mm/year *1
Solar radiation	-
Wind speed	0.02-0.26 (Ave. 0.07) m/s (2011)
Wind direction	NNW, NW and SE (2010)
Residence time of water	165 days
Lake utilization	Irrigation, Electric power, Fishery, Flooding protection and Sight seeing
Watershed area	3,720 km ²
River (inflow)	

- : no information

*1 Thongpaphum Meteorological station, 2011

Table 6.3(18) Properties of lakes or streams

Lake Name: Hoa Binh Reservoir

Country	Vietnam
Location	Hoa Binh Province
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	22.9°C (mean) *2
Precipitation	1,7604 mm *2
Solar radiation	-
Wind speed	Mean 1.1 m/s *2
Wind direction	NE (dominant) *2
Residence time of water	365 days
Lake utilization	Electric power and flood control
Watershed area	51,700 km ² -13,700 km ² *1
River (inflow)	Da River

- : no information

*1 The second value is in affected area of reservoir.

*2 Hoa Binh, 2011

Table 6.4(1) Result of Inland Aquatic Environment Monitoring

Duration: 2011.3.-2011.12.

Country: China

Lake Name: (See below)

Site	Sampling Date	Temp. (°C)	pH	EC (mS/m)	Alkalinity (meq/L)	Mandatory Parameters : 4 times/year										Mandatory Parameters : Once /year				
						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)	Water Color	PO ₄ ³⁻ (mg/l)	NO ₂ ⁻ (mg/l)	COD (mg/l)		
Chongqing -Jinyunshan Lake	30-Mar-11	12.0	6.85	13.1	0.162	36.4	9.70	3.81	0.25	2.59	1.89	11.9	3.15	1.4	-	-	-	-	-	
	12-Jun-11	14.0	5.08	14.1	0.016	38.0	18.3	3.58	0.001	2.53	2.35	11.9	3.82	5.6	-	-	-	-	-	
	*2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Xiamei -Xiaoping Dam	25-Dec-11	10.0	5.07	15.3	0.013	44.5	17.5	3.90	0.10	3.00	2.57	14.5	4.73	6.6	-	-	*1	*1	<10*1	
	mean*3	-	5.25	14.2	0.064	39.6	15.2	3.76	0.12	2.71	2.27	12.8	3.90	4.5	-	-	*1	*1	<10*1	
	02-Mar-11	16.0	7.25	5.28	0.168	2.61	2.98	3.97	0.06	4.27	2.12	2.30	0.76	0.5	-	-	-	-	0.020	
	05-May-11	19.2	6.65	4.91	0.205	2.09	2.30	2.13	0.16	4.06	2.63	2.41	0.24	0.1	-	-	-	0.045	2.25	
	06-Jul-11	28.2	6.46	4.50	0.088	3.92	4.07	3.55	0.07	3.07	2.01	2.93	0.58	0.5	-	-	-	0.010	1.49	
	03-Nov-11	21.2	7.45	4.72	0.212	1.76	2.22	2.90	0.05	2.60	1.63	2.64	0.51	1.8	-	-	0.05	0.013	1.50	
Xi'an -Jiwozi River	mean*3	-	6.78	4.85	0.168	2.60	2.89	3.14	0.09	3.50	2.10	2.57	0.52	0.7	-	-	0.05	0.022	1.83	
	01-Apr-11	3.2	7.07	7.86	0.250	16.5	1.47	0.63	*1	0.78	0.84	8.76	2.07	-	-	-	-	-	-	
	30-Jun-11	15.3	7.22	5.95	0.280	10.2	0.96	0.54	*1	0.77	0.88	7.80	2.05	-	-	-	-	-	-	
	01-Sep-11	-	6.54	6.52	0.290	12.3	0.64	0.53	*1	0.72	0.84	8.16	1.96	-	-	-	-	-	-	
	02-Dec-11	-	6.88	7.00	0.280	12.6	0.42	0.35	*1	0.68	0.80	7.64	1.96	-	-	-	<0.01*1	<0.003*1	3.00	
	mean*3	-	6.85	6.83	0.275	12.9	0.87	0.51	*1	0.74	0.84	8.09	2.01	-	-	-	<0.01*1	<0.003*1	3.00	
Zhuhai -Zhuxiandong stream	01-Mar-11	15.0	7.25	7.64	0.489	2.52	1.60	5.22	0.12	8.08	1.58	5.40	1.93	1.1	-	-	*1	*1	1.20	
	05-May-11	24.0	7.10	7.49	0.512	1.44	0.53	3.37	0.13	8.37	0.88	4.68	1.56	1.0	-	-	*1	*1	1.30	
	02-Aug-11	26.5	7.10	7.50	0.450	2.05	1.04	4.35	0.07	7.04	1.08	4.35	1.68	0.9	-	-	*1	*1	1.40	
	01-Nov-11	21.0	7.21	7.05	0.418	1.79	0.84	4.37	0.04	7.32	1.06	4.29	1.60	1.2	-	-	*1	*1	1.20	
	mean*3	-	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	1.28	
	note																			

- : Items were not analyzed.

*1: Less than determination limit.

*2: No monitoring data since the lake dried up in autumn 2011.

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

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)	Transparency (m)	Water Color	PO ₄ ³⁻ (mg/l)	NO ₂ ⁻ (mg/l)	COD (mg/l)
Chongqing -Jinyunshan Lake	30-Mar-11	1183.8	1028.4	-7.0	O	14.7	5.7	O										
	12-Jun-11	1201.6	1086.0	-5.1	O	15.8	5.6	O										
	*2	-	-	-	-	-	-	-										
Xiamei -Xiaoping	25-Dec-11	1332.2	1322.8	-0.4	O	18.2	8.7	O										
	02-Mar-11	382.8	420.6	4.7	O	4.8	-5.2	O										
	05-May-11	346.7	393.1	6.3	O	4.3	-7.0	O										
	06-Jul-11	335.6	383.1	6.6	O	4.5	-0.1	O										
	03-Nov-11	368.1	331.3	-5.3	O	4.0	-7.8	O										
Xi'an -Jiwozi	01-Apr-11	635.2	663.0	2.1	O	8.0	1.0	O										
	30-Jun-11	523.6	613.0	7.9	O	6.7	6.2	O										
	01-Sep-11	570.9	621.3	4.2	O	7.1	4.6	O										
	02-Dec-11	558.0	592.8	3.0	O	6.9	-0.7	O										
Zhuhai -Zhuxiandong stream	01-Mar-11	714.5	826.8	7.3	O	8.5	5.2	O										
	05-May-11	645.6	755.7	7.9	O	7.4	-0.4	O										
	02-Aug-11	632.2	693.0	4.6	O	7.2	-2.0	O										
	01-Nov-11	592.1	693.4	7.9	O	7.0	-3.5	O										

Table 6.4(2) Result of Inland Aquatic Environment Monitoring

Duration: 2011.2.-2011.12.
Country: Indonesia
Lake Name: (See below)

Site	Sampling Date	Temp. (°C)	pH	EC (mS/m)	Mandatory Parameters: 4 times/year							Mandatory Parameters: Once/year						
					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)	Transparency (m)	Water Color (PtCo unit)	PO ₄ ³⁻ (mg/L)	NO ₂ ⁻ (mg/L)	DOC (mg/L)
Patengang Lake	21-Feb-11	-	8.60	7.40	0.516	6.70	0.030	3.00	0.31	3.00	1.05	8.80	1.95	-	-	-	-	-
	28-Apr-11	20.0	7.40	5.90	0.520	6.20	0.022	0.40	0.43	3.10	1.53	4.70	2.10	0.7	*1	0.004	0.011	3.8
	22-Jun-11	21.1	7.90	7.70	0.442	8.90	0.020	5.00	0.02	3.40	1.49	5.90	3.50	1.0	4.8	0.580	0.004	7.8
	29-Sep-11	-	8.80	8.20	0.530	9.70	*1	2.00	0.37	3.70	1.49	5.90	2.50	-	-	-	-	-
	21-Dec-11	21.5	7.80	7.80	0.600	8.90	0.020	2.00	0.55	2.70	1.32	7.00	3.00	0.5	2.2	*1	0.004	9.0
	mean*2	-	7.84	7.40	0.522	8.08	0.023	2.48	0.34	3.18	1.38	6.46	2.61	0.7	3.5	0.292	0.006	6.9
Gunung Lake	9-Mar-11	24.1	7.60	5.30	0.480	3.30	0.020	1.00	0.22	2.10	0.51	5.50	1.90	1.2	15.0	0.028	*1	8.8
	26-May-11	25.1	7.00	4.50	0.332	4.40	0.130	1.00	0.01	1.70	0.84	5.10	1.33	0.9	9.4	0.008	*1	5.7
	22-Jul-11	23.6	7.50	6.05	0.500	3.70	0.130	1.00	0.01	3.20	1.62	5.60	2.26	0.5	10.0	*1	0.004	9.3
	29-Sep-11	24.2	7.60	5.42	0.480	1.80	0.030	1.00	0.24	3.20	0.57	5.10	2.26	-	9.5	0.022	*1	15.0
	29-Nov-11	24.0	7.60	4.47	0.280	7.00	0.030	1.00	0.09	1.60	0.67	3.90	2.33	0.3	11.0	0.089	*1	12.0
	mean*2	-	7.38	5.15	0.414	4.04	0.068	1.00	0.12	2.36	0.84	5.04	2.02	0.7	11.0	0.037	0.004	10.2

note

- : Items were not analyzed.

*1: Less than detection limit.

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

Patengang Lake	Amion	Cation	R1	Judge	
	21-Feb-11	740.6	773.8	2.2	O
	28-Apr-11	661.1	605.2	-4.4	O
	22-Jun-11	787.1	769.4	-1.1	O
	29-Sep-11	788.4	719.4	-4.6	O
	21-Dec-11	842.1	777.8	-4.0	O
Gunung Lake	Amion	Cation	R1	Judge	
	9-Mar-11	578.1	547.3	-2.7	O
	26-May-11	454.2	459.9	0.6	O
	22-Jul-11	607.4	646.5	3.1	O
	29-Sep-11	546.9	607.7	5.3	O
	29-Nov-11	457.2	478.2	2.2	O

	Acalc	R2	Judge
	8.5	7.0	O
	6.9	7.8	O
	9.0	7.7	O
	8.5	1.8	O
	9.1	7.4	O
	Acalc	R2	Judge
	6.0	6.4	O
	5.1	6.1	O
	6.7	5.4	O
	6.1	5.7	O
	5.3	9.0	O

Table 6.4(3) Result of Inland Aquatic Environment Monitoring

Duration: 2011.4.-2012.1
Country: Japan
Lake Name: Ijira Lake

Site	Sampling Date	Temp. (degreesC)	pH	EC (mS/m)	Alkalinity (meq/L)	Mandatory Parameters : 4times/year										Site	Sampling Date	Mandatory Parameters : Once/year					Optional Parameters	
						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)	Water Color (Fore-Ule Scale)			Water Color (sample)	PO ₄ ³⁻ (mg/L)	NO ₂ ⁻ (mg/L)	DOC (mg/L)	Chl-a (ug/L)		
Center (Surface)	21-Apr-11	15.1	7.19	4.11	0.169	5.53	0.69	2.07	0.021	2.01	0.20	3.22	1.23	Center	21-Apr-11	2.0	16	clear, colorless	<0.1*	<0.01*	0.8	2.0		
	28-Jul-11	22.2	7.11	3.72	0.152	4.16	1.70	1.64	<0.01*	1.84	0.26	2.68	1.23	(Surface)	28-Jul-11	1.2	16	clear, colorless	-	<0.01*	-	5.5		
	17-Oct-11	18.5	6.93	3.50	0.143	4.09	1.79	1.77	0.01	1.77	0.26	2.70	1.15		17-Oct-11	2.1	17	clear, colorless	-	<0.01*	-	4.6		
	23-Jan-12	6.6	7.31	4.06	0.172	5.31	1.17	1.95	<0.01*	1.95	0.21	3.60	1.26		23-Jan-12	2.0	16	clear, colorless	-	<0.01*	-	8.0		
	mean*2	-	7.11	3.85	0.159	4.77	1.34	1.86	<0.01*	1.89	0.23	3.05	1.22		mean	1.8	-	-	<0.1*	<0.01*	0.8	5.0		
Center (near bottom)	21-Apr-11	12.1	7.02	4.23	0.181	5.36	0.65	2.06	0.05	1.99	0.21	3.32	1.27	Center (near bottom)	21-Apr-11	-	-	clear, colorless	<0.1*	<0.01*	0.8	4.4		
	28-Jul-11	19.9	6.62	4.42	0.220	4.28	0.83	1.79	0.31	1.91	0.30	2.95	1.57		28-Jul-11	-	-	clear, colorless	-	0.02	-	3.9		
	17-Oct-11	17.3	6.83	3.66	0.149	4.25	2.08	1.73	0.08	1.76	0.26	2.72	1.24		17-Oct-11	-	-	clear, colorless	-	0.01	-	1.6		
	23-Jan-12	6.3	7.19	4.03	0.172	5.25	1.18	1.95	0.02	1.95	0.22	3.56	1.26		23-Jan-12	-	-	clear, colorless	-	<0.01*	-	14.2		
	mean*2	-	6.86	4.09	0.181	4.78	1.19	1.88	0.11	1.90	0.25	3.14	1.33		mean	-	-	-	<0.1*	<0.01*	0.8	6.0		
Kamagatani River (Input)	21-Apr-11	12.4	7.11	4.64	0.154	7.34	1.67	2.03	<0.01*	2.36	0.27	3.22	1.47	Kamagatani River (Input)	21-Apr-11	-	-	clear, colorless	<0.1*	<0.01*	0.6	-		
	28-Jul-11	18.9	7.03	3.92	0.141	4.79	2.23	1.70	<0.01*	1.84	0.26	2.75	1.32		28-Jul-11	-	-	clear, colorless	-	<0.01*	-	-		
	17-Oct-11	16.1	7.07	3.81	0.137	5.01	2.63	1.72	<0.01*	1.83	0.26	2.83	1.31		17-Oct-11	-	-	clear, colorless	-	<0.01*	-	-		
	23-Jan-12	8.6	7.04	4.34	0.134	7.36	1.93	1.89	<0.01*	2.05	0.20	3.33	1.50		23-Jan-12	-	-	clear, colorless	-	<0.01*	-	-		
	mean*2	-	7.06	4.18	0.141	6.13	2.11	1.83	<0.01*	2.02	0.25	3.03	1.40		mean	-	-	-	<0.1*	<0.01*	0.6	-		
Kobora River (Input)	21-Apr-11	10.1	7.04	3.97	0.144	5.49	1.14	2.12	<0.01*	2.40	0.20	2.21	1.40	Kobora River (Input)	21-Apr-11	-	-	clear, colorless	<0.1*	<0.01*	0.5	-		
	28-Jul-11	18.7	7.03	3.20	0.118	3.66	1.35	1.77	<0.01*	1.92	0.23	1.79	1.13		28-Jul-11	-	-	clear, colorless	-	<0.01*	-	-		
	17-Oct-11	16.2	6.99	3.24	0.119	3.86	2.03	1.79	<0.01*	1.98	0.22	1.90	1.20		17-Oct-11	-	-	clear, colorless	-	<0.01*	-	-		
	*3	-	-	-	-	-	-	-	-	-	-	-	-		23-Jan-12	-	-	-	-	-	-	-		
	mean*2	-	7.02	3.47	0.127	4.34	1.51	1.89	<0.01*	2.10	0.22	1.96	1.24		mean	-	-	-	<0.1*	<0.01*	0.5	-		
Ijira River (Output)	21-Apr-11	16.1	7.22	4.12	0.170	5.44	0.56	2.15	0.02	2.01	0.22	3.31	1.13	Ijira River (Output)	21-Apr-11	-	-	clear, colorless	<0.1*	<0.01*	0.9	-		
	28-Jul-11	22.3	7.11	3.89	0.155	4.45	1.76	1.67	<0.01*	1.85	0.28	2.88	1.28		28-Jul-11	-	-	clear, colorless	-	<0.01*	-	-		
	17-Oct-11	17.7	7.08	3.56	0.147	4.21	1.85	1.76	0.01	1.75	0.27	2.81	1.15		17-Oct-11	-	-	clear, colorless	-	<0.01*	-	-		
	23-Jan-12	7.2	7.23	4.08	0.172	5.37	1.15	1.96	<0.01*	1.96	0.22	3.61	1.25		23-Jan-12	-	-	clear, colorless	-	<0.01*	-	-		
	mean*2	-	7.30	3.91	0.161	4.87	1.33	1.88	<0.01*	1.90	0.25	3.15	1.20		mean	-	-	-	<0.1*	<0.01*	0.9	-		
Discharge	21-Apr-11	11.0	7.04	4.22	0.178	5.33	0.64	2.06	0.05	1.99	0.21	3.27	1.25	Discharge	21-Apr-11	-	-	clear, colorless	<0.1*	<0.01*	0.8	-		
	28-Jul-11	18.9	6.68	4.26	0.197	4.33	1.21	1.77	0.20	1.90	0.30	2.85	1.54		28-Jul-11	-	-	clear, colorless	-	0.01	-	-		
	17-Oct-11	17.2	6.72	3.85	0.172	4.23	1.67	1.77	0.19	1.76	0.30	2.77	1.37		17-Oct-11	-	-	clear, colorless	-	0.04	-	-		
	23-Jan-12	6.5	7.24	4.05	0.173	5.25	1.17	1.95	0.01	1.96	0.22	3.56	1.25		23-Jan-12	-	-	clear, colorless	-	<0.01*	-	-		
	mean*2	-	6.86	4.10	0.180	4.78	1.17	1.89	0.12	1.90	0.26	3.11	1.35		mean	-	-	-	<0.1*	0.01	0.8	-		
note																								
- : Items were not analyzed.																								
*1: Less than detection limit.																								
*2: Mean of pH takes an average of hydrogen ion.																								
*3: No monitoring data since the river dried up on 23-Jan-12.																								
# Pick up 2 samples on site and measure three times per sample for almost all parameters.																								
# When the value is under detection limit, it considers "0". Then the average and RIR2 were calculated by using it.																								
# Annual precipitation is 1959.5mm/year in JFY 2011 (Gifu pref. Meteorological observatory).																								

note
- : Items were not analyzed.
*1: Less than detection limit.
*2: Mean of pH takes an average of hydrogen ion.
*3: No monitoring data since the river dried up on 23-Jan-12.
Pick up 2 samples on site and measure three times per sample for almost all parameters.
When the value is under detection limit, it considers "0". Then the average and RI R2 were calculated by using it.
Annual precipitation is 1959.5mm/year in JFY2011 (Gifu pref. Meteorological observatory).

Center (Surface)	21-Apr-11	353.5	355.2	0.2	O
	28-Jul-11	311.8	321.3	1.5	O
	17-Oct-11	306.5	313.7	1.2	O
	23-Jan-12	356.4	373.5	2.3	O
Center (near bottom)	21-Apr-11	361.4	363.9	0.4	O
	28-Jul-11	374.0	384.5	1.4	O
	17-Oct-11	320.4	325.1	0.7	O
	23-Jan-12	355.6	372.4	2.3	O
Kamagatani River (Input)	21-Apr-11	390.8	391.4	0.1	O
	28-Jul-11	324.2	332.7	1.3	O
	17-Oct-11	332.3	334.9	0.4	O
	23-Jan-12	371.4	383.9	1.7	O
Kobora River (Input)	21-Apr-11	336.4	335.3	-0.2	O
	28-Jul-11	266.0	271.5	1.0	O
	17-Oct-11	282.6	285.0	0.4	O
	23-Jan-12	-	-	-	-
Ijira River (Output)	21-Apr-11	353.3	353.0	0.0	O
	28-Jul-11	322.6	336.4	2.1	O
	17-Oct-11	314.3	318.7	0.7	O
	23-Jan-12	357.8	374.1	2.2	O
Discharge	21-Apr-11	357.5	360.9	0.5	O
	28-Jul-11	357.2	370.6	1.8	O
	17-Oct-11	338.3	345.4	1.0	O
	23-Jan-12	355.9	372.5	2.3	O

Δale	R2	Judge
4.2	0.9	O
3.7	-0.2	O
3.7	2.1	O
4.3	2.8	O
4.3	0.3	O
4.4	-0.8	O
3.8	1.9	O
4.3	3.1	O
4.7	0.8	O
3.9	-0.3	O
4.0	2.3	O
4.6	2.8	O
4.0	0.1	O
3.2	-0.6	O
3.4	1.8	O
-	-	-
4.2	0.6	O
3.9	-0.3	O
3.7	2.3	O
4.3	2.8	O
4.2	0.0	O
4.2	-0.6	O
4.0	1.9	O
4.3	2.8	O

Table 6.4(4) Result of Inland Aquatic Environment Monitoring

Duration: 2011.5-2012.1
 Country: Japan
 Lake Name: Banryu Lake

Site	Sampling Date	Temp. (°C)	pH	EC (mS/m)	Alkalinity (meq/L)	Mandatory Parameters : 4 times/year									
						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)		
NO 2 (center) surface	25-May-11	21.6	6.90	10.5	0.137	4.64	0.283	23.2	0.040	14.0	1.84	1.71	1.89		
	09-Aug-11	30.4	7.12	10.8	0.164	3.98	<0.005*1	23.3	<0.02*1	14.3	1.88	1.77	1.95		
	19-Oct-11	19.7	6.95	10.9	0.194	3.66	<0.005*1	23.8	<0.02*1	14.6	1.95	1.94	2.27		
	mean*2	5.5	6.93	11.3	0.178	4.03	0.554	24.1	0.11	14.5	1.93	2.00	2.16		
NO 2 (center) near bottom	25-May-11	11.5	6.56	12.2	0.270	4.51	0.112	23.8	0.17	14.9	1.98	2.44	2.49		
	09-Aug-11	12.1	6.54	15.3	0.710	1.01	<0.005*1	23.9	0.14	15.5	2.27	5.07	3.66		
	19-Oct-11	14.0	6.67	15.5	0.683	1.84	0.017	24.0	0.69	15.3	2.30	5.36	3.67		
	mean*2	5.3	7.03	11.2	0.172	4.04	0.625	24.1	0.11	14.6	1.92	2.00	2.16		
NO.3 surface	25-May-11	21.4	6.85	10.2	0.141	4.74	0.218	22.4	<0.02*1	13.7	1.84	1.78	1.81		
	09-Aug-11	30.1	7.05	10.5	0.176	4.07	<0.005*1	22.9	<0.02*1	14.1	1.88	1.87	1.96		
	19-Oct-11	19.3	6.94	10.7	0.210	3.73	<0.005*1	23.1	<0.02*1	14.3	1.94	2.28	2.31		
	mean*2	4.9	7.02	11.1	0.180	4.25	0.485	24.0	0.10	14.5	1.94	2.09	2.18		
note		-	6.96	10.6	0.177	4.20	0.176	23.1	0.03	14.2	1.90	2.01	2.07		

-: Items were not analyzed

*1: Less than determination limit

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

Pick up 2 samples on site and measure three times per sample for almost all parameters.

When the value is under detection limit, it considers "0". Then the average and RIR2 were calculated by using it.

Annual precipitation is 1460.5mm/year in JFY2011 (Lake Banryu national acid rain monitoring station).

Site	Sampling Date	Mandatory Parameters : Once/year					Optional Parameters							
		Transparency (m)	Water Color (Forel-Ulle Scale)	PO ₄ ³⁻ (mg/L)	NO ₂ ⁻ (mg/L)	DOC (mg/L)	COD (mg/L)	D-Al (mg/L)	Chl-a (µg/L)	Fe ³⁺ (mg/L)	Mn ²⁺ (mg/L)	TOC (mg/L)	TN (mg/L)	TP (mg/L)
NO 2 (center) surface	25-May-11	4.9	13	<0.003*1	<0.003*1	2.5	4.7	<0.01*1	2.0	0.03	<0.005*1	2.7	0.30	0.02
	09-Aug-11	2.6	14	<0.003*1	<0.003*1	2.7	5.6	<0.01*1	4.6	0.03	<0.005*1	3.1	0.26	0.01
	19-Oct-11	1.8	15	<0.003*1	0.01	2.6	5.3	<0.01*1	2.2	0.04	0.020	2.6	0.30	0.01
	17-Jan-12	3.4	13	0.005	<0.003*1	2.1	4.6	<0.01*1	5.2	0.01	<0.005*1	2.2	0.45	0.01
	mean	3.2	-	<0.003*1	<0.003*1	2.4	5.0	<0.01*1	3.5	0.03	<0.005*1	2.6	0.32	0.01
NO 2 (center) near bottom	25-May-11	-	-	0.005	0.015	2.4	5.0	<0.01*1	7.9	0.20	0.482	2.7	0.54	0.03
	09-Aug-11	-	-	0.014	0.022	4.0	11.3	<0.01*1	45.3	7.97	1.704	6.1	0.94	0.06
	19-Oct-11	-	-	0.026	0.085	3.8	11.2	<0.01*1	23.5	8.99	1.250	5.7	1.63	0.06
	17-Jan-12	-	-	0.006	0.005	2.1	4.0	<0.01*1	5.2	0.01	<0.005*1	2.3	0.43	0.01
	mean	-	-	0.012	0.032	3.0	7.9	<0.01*1	20.5	4.29	0.859	4.2	0.88	0.03
NO 3 surface	25-May-11	4.1	13	<0.003*1	0.005	2.5	5.0	0.01	2.5	0.05	0.015	2.7	0.29	0.02
	09-Aug-11	2.7	14	0.003	0.00	2.6	5.4	<0.01*1	2.4	0.03	<0.005*1	3.0	0.25	0.01
	19-Oct-11	1.7	15	<0.003*1	0.005	2.5	5.4	<0.01*1	2.8	0.06	0.013	2.7	0.36	0.02
	17-Jan-12	2.9	13	<0.003*1	0.004	2.0	3.8	<0.01*1	4.5	0.02	<0.005*1	2.1	0.45	0.01
	mean	2.9	-	<0.003*1	0.005	2.4	4.9	<0.01*1	3.1	0.04	0.007	2.6	0.34	0.02

		Anion	Cation	R1	Judge
NO.2 (center) surface	25-May-11	890.6	896.2	0.3	O
	09-Aug-11	904.0	915.9	0.7	O
	19-Oct-11	940.3	968.4	1.5	O
	17-Jan-12	950.8	963.1	0.6	O
NO.2 (center) near bottom	25-May-11	1036.9	1034.3	-0.1	O
	09-Aug-11	1406.0	1291.4	-4.2	O
	19-Oct-11	1399.4	1329.5	-2.6	O
	17-Jan-12	945.8	965.4	1.0	O
NO.3 surface	25-May-11	875.2	880.8	0.3	O
	09-Aug-11	906.9	916.0	0.5	O
	19-Oct-11	939.4	975.5	1.9	O
	17-Jan-12	953.4	969.5	0.8	O

Acate	R2	Judge
11.1	2.9	O
11.2	2.3	O
11.7	3.6	O
11.8	2.3	O
12.6	1.8	O
15.5	0.5	O
15.8	1.0	O
11.8	2.9	O
10.9	3.4	O
11.2	3.4	O
11.7	4.5	O
11.9	3.4	O

Table 6.4(5) Result of Inland Aquatic Environment Monitoring

Duration: 2011.*-2011.*

Country: Lao PDR

Lake Name: Nam Hum Lake

Site	Sampling Date	Temp. (°C)	pH	EC (mS/m)	Alkalinity (meq/L)	Mandatory Parameters: 4 times/year						Mandatory Parameters: Once/year						
						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)	COD (mg/L)	DO (mg/L)
Nam Hum Lake																		
	mean*1	-																
note																		
- : Items were not analyzed.																		
*1: Mean of pH takes an average of hydrogen ion.																		
# The monitoring at Nam Hum Lake was started from Sep 2009.																		
Pandin Lake																		

Acate	R2	Judge

	Anion	Cation	R1	Judge

Table 6.4(6) Result of Inland Aquatic Environment Monitoring

Duration: 2011.3.-2011.12
Country: Malaysia
Lake Name: (See below)

Site	Sampling Date	Temp. (°C)	pH	EC (mS/m)	Alkalinity (meq/L)	Mandatory Parameters: 4 times/year					Mandatory Parameters: Once/year				
						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)	PO ₄ ³⁻ (mg/L)	COD (mg/L)
Semenyih Dair	28-Apr-11	24.3	7.30	2.73	0.200	1.46	0.69	0.84	0.057	1.98	1.96	1.72	0.59	-	-
	21-Jun-11	25.2	6.70	2.40	0.300	3.22	0.57	1.02	0.006	2.08	1.94	2.57	0.53	-	-
	14-Sep-11	28.2	6.98	3.03	0.220	3.19	0.44	1.09	0.022	2.20	1.99	3.20	0.66	-	-
	8-Dec-11	27.7	7.28	2.60	0.360	3.52	0.46	0.89	0.102	2.33	2.15	2.61	0.63	-	-
	mean*2	-	6.99	2.69	0.270	2.85	0.54	0.96	0.047	2.15	2.01	2.53	0.60	-	-
Tembalang river	21-Mar-11	27.2	8.20	13.6	1.298	5.55	1.85	1.37	0.008	4.33	0.38	13.17	6.52	<0.10*1	2.90
	22-Jun-11	-	8.23	20.0	1.918	8.65	1.20	1.68	0.016	6.03	0.48	19.93	8.38	<0.10*1	10.97
	27-Sep-11	-	8.12	18.7	1.662	7.49	0.52	1.00	<0.003*1	4.62	0.35	15.85	7.59	<0.10*1	9.55
	mean*2	-	8.18	17.4	1.626	7.23	1.19	1.35	0.012	4.99	0.40	16.32	7.50	<0.10*1	7.81
note - : Items were not analyzed. *1: Less than determination limit. *2: Mean of pH takes an average of hydrogen ion.															
Semenyih Dair	28-Apr-11	265.2	274.2	1.7	O										
	21-Jun-11	405.1	312.8	-12.9	×										
	14-Sep-11	324.3	362.2	5.5	O										
	8-Dec-11	465.8	344.3	-15.0	×										
Tembalang river	21-Mar-11	1481.6	1391.6	-3.1	O										
	22-Jun-11	2165.2	1959.2	-5.0	O										
	27-Sep-11	1854.1	1624.6	-6.6	O										
note # Concerning "×" judging, it was not able to specify the main reasons.															
						Acate	R2	Judge							
						3.0	4.6	O							
						4.0	24.8	×							
						3.9	12.7	×							
						4.4	26.2	×							
						15.0	5.1	O							
						21.5	3.5	O							
						18.0	-1.7	O							

Table 6.4(7) Result of Inland Aquatic Environment Monitoring

Duration: 2011.5-2011.10
Country: Mongolia
Lake Name: Terelj river

Site	Sampling Date	Temp. (°C)	pH	EC (mS/m)	Alkalinity (meq/L)	Mandatory Parameters: 4 times/year						Mandatory Parameters : Once/year			
						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)	PO ₄ ³⁻ (mg/L)	NO ₂ ⁻ (mg/L)
Terelj river	5-May-11	8.4	6.39	4.73	0.301	3.94	0.83	0.84	0.12	1.30	0.84	5.63	0.68	0.005	0.001
	8-Jun-11	16.6	6.42	4.18	0.286	3.69	0.76	0.65	0.06	1.39	0.55	5.45	0.64	0.002	
	20-Jul-11	18.2	6.31	6.20	0.368	4.00	0.41	0.67	0.07	1.59	0.62	8.30	0.88	0.008	0.001
	17-Aug-07	12.0	6.20	4.91	0.333	3.73	0.86	0.94	0.05	1.65	0.58	4.68	0.76	0.002	0.002
	21-Sep-11	5.4	6.16	5.24	0.318	3.22	0.69	0.59	0.04	1.94	0.56	4.96	1.03	0.025	0.003
	19-Oct-11	2.8	6.24	6.72	0.354	3.80	0.98	1.02	0.02	1.55	0.91	5.80	1.24	0.007	0.003
	mean*1	-	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
note															
- : Items were not analyzed.															
*1: Mean of pH takes an average of hydrogen ion.															
Terelj river	5-May-11	420.3	421.9	0.2	0		Acalc	R2	Judge						
	8-Jun-11	393.5	402.8	1.2	0		4.8	0.3	0						
	20-Jul-11	477.1	575.9	9.4	×		4.5	3.3	0						
	17-Aug-07	451.2	386.0	-7.8	0		5.9	-2.7	0						
	21-Sep-11	413.7	433.8	2.4	0		4.6	-2.8	0						
	19-Oct-11	478.0	483.8	0.6	0		4.7	-5.8	0						
							5.4	-11.3	×						
note															
# Concerning "×" judging, it was not able to specify the main reasons.															

Table 6.4(9) Result of Inland Aquatic Environment Monitoring

Duration: 2011.2.-2011.11
Country: Russian Federation
Lake Name: (See below)

Site	Sampling Date	Temp. (°C)	pH	EC (mS/m)	Alkalinity (meq/L)	Mandatory Parameters: 4 times/year							Mandatory Parameters: Once/year					Optional Parameters				
						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)	Water color	PO ₄ ³⁻ (mg/L)	NO ₂ ⁻ (mg/L)	COD (mg/L)	Fe (mg/L)	TP (mg/L)	O ₂ (mg/L)	Si (mg/L)
Pereemnaya River	28-Mar-11	0.2	6.94	5.53	0.147	14.0	0.96	0.24	0.02	1.26	0.72	5.90	0.88	-	colorless	0.009	0.003	0.28	-	0.012	12.7	2.52
	12-May-11	5.7	6.76	3.11	0.107	6.37	0.86	0.09	0.02	0.79	0.54	2.98	0.70	-	yellow	0.001	0.003	1.72	-	0.030	12.5	2.05
	20-Jul-11	15.1	7.04	4.57	0.145	11.2	0.47	0.07	0.02	0.97	0.71	5.01	0.82	-	colorless	0.002	0.002	0.91	-	0.018	9.13	2.35
	26-Sep-11	7.5	6.71	5.96	0.155	14.0	0.41	0.23	0.01	1.05	0.76	5.99	0.91	-	colorless	0.005	*1	0.62	-	0.021	10.4	2.76
	mean*2	-	6.85	4.79	0.138	11.4	0.67	0.16	0.02	1.02	0.68	4.97	0.83	-	-	0.004	0.003	0.88	-	0.020	11.2	2.42
Komarovka River	21-Feb-11	0.1	6.90	8.97	0.370	14.8	1.37	3.20	0.09	4.80	1.02	8.40	2.40	-	colorless	0.015	0.007	3.42	0.11	-	13.9	5.05
	26-Apr-11	4.5	7.00	8.42	0.261	13.5	1.24	2.77	0.37	2.62	0.40	8.42	1.48	-	colorless	0.015	0.036	7.50	0.37	-	13.0	4.05
	20-Jun-11	17.8	7.25	8.78	0.480	10.0	1.42	3.23	0.37	4.17	1.10	8.42	2.42	-	colorless	0.005	0.020	4.40	0.26	-	9.51	5.27
	20-Sep-11	13.0	7.20	9.08	0.452	13.2	2.10	2.80	0.18	4.03	0.70	8.60	2.40	-	colorless	0.007	0.020	4.32	0.16	-	10.5	5.52
	22-Nov-11	0.1	7.20	9.06	0.462	11.8	2.02	3.53	0.36	3.78	0.50	9.07	2.40	-	colorless	0.007	0.005	2.57	0.18	-	10.3	5.46
mean*2	-	7.09	8.86	0.405	12.7	1.63	3.11	0.27	3.88	0.74	8.58	2.22	-	-	0.010	0.018	4.44	0.22	-	11.4	5.07	

note

- : Items were not analyzed.

*1: Less than determination limit.

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

Pick up 2 samples on site and measure three times per sample.

Mean of pH takes an average of hydrogen ion.

The sample of March from Pereemnaya River was taken from the ice-hole.

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)	Transparency (m)	Water color	PO ₄ ³⁻ (mg/L)	NO ₂ ⁻ (mg/L)	COD (mg/L)	Fe (mg/L)	TP (mg/L)	O ₂ (mg/L)	Si (mg/L)
Pereemnaya River	28-Mar-11	460.8	441.0	-2.2	O		5.7	1.6	O													
	12-May-11	256.4	255.5	-0.2	O		3.1	0.5	O													
	20-Jul-11	387.7	378.5	-1.2	O		4.8	2.4	O													
	26-Sep-11	459.2	439.3	-2.2	O		5.7	-2.4	O													
Komarovka River	21-Feb-11	791.1	856.4	4.0	O		9.8	4.4	O													
	26-Apr-11	641.6	686.7	3.4	O		8.1	-1.8	O													
	20-Jun-11	803.6	848.7	2.7	O		9.5	4.0	O													
	20-Sep-11	840.0	829.8	-0.6	O		9.8	3.6	O													
	22-Nov-11	839.7	847.2	0.4	O		9.8	4.1	O													

- : Items were not analyzed

*1: Less than determination limit.

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

Pick up 2 samples on site and measure three times per sample.

Mean of pH takes an average of hydrogen ion.

The sample of March from Pereemnaya River was taken from the ice-hole.

Pereemnaya River	Anion		Cation		R1	Judge	
	28-Mar-11	460.8	441.0	-2.2	O	Acide	R2 Judge
	12-May-11	256.4	255.5	-0.2	O	5.7	1.6 O
	20-Jul-11	387.7	378.5	-1.2	O	3.1	0.5 O
	26-Sep-11	459.2	439.3	-2.2	O	4.8	2.4 O
Komarovka River	21-Feb-11	791.1	856.4	4.0	O	5.7	-2.4 O
	26-Apr-11	641.6	686.7	3.4	O	9.8	4.4 O
	20-Jun-11	803.6	848.7	2.7	O	8.1	-1.8 O
	20-Sep-11	840.0	829.8	-0.6	O	9.5	4.0 O
	22-Nov-11	839.7	847.2	0.4	O	9.8	3.6 O

Table 6.4(10) Result of Inland Aquatic Environment Monitoring

Duration: 2011.2-2011.11
 Country: Thailand
 Lake Name: Vachiralongkorn Dam

Site	Sampling Date	Temp. (°C)	pH	EC (mS/m)	Alkalinity (meq/L)	Mandatory Parameters : 4 times/year						Mandatory Parameters : Once/year						
						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)	Water color	PO ₄ ³⁻ (mg/L)	NO ₂ ⁻ (mg/L)	COD (mg/L)
Station1 (Ban Pong Chang)	10-Feb-11	-	7.94	13.3	1.250	1.29	0.06	0.76	<0.01*1	1.17	0.90	18.1	3.75	-	-	<0.01*1	<0.01*1	4.80
	24-May-11	-	8.08	13.3	1.255	1.85	0.10	0.85	<0.01*1	1.27	0.98	19.3	3.82	-	-	0.02	<0.01*1	-
	9-Aug-11	28.7	7.00	11.3	1.045	1.61	0.04	0.84	<0.01*1	1.22	1.11	17.0	3.46	3.0	-	0.01	<0.01*1	6.20
	24-Nov-11	29.3	7.32	13.2	1.160	0.98	<0.01*1	0.82	0.01	1.21	1.19	17.4	3.78	3.0	-	0.01	<0.01*1	6.20
Station2 (Ban Pang Pueng)	mean*2	-	7.38	12.8	1.178	1.43	0.07	0.82	0.01	1.22	1.04	17.9	3.70	3.0	-	0.01	<0.01*1	5.73
	10-Feb-11	-	7.98	12.1	1.130	1.47	0.06	0.76	0.03	1.16	0.94	17.2	2.90	-	-	<0.01*1	<0.01*1	4.80
	24-May-11	-	8.31	12.1	1.130	1.64	0.06	0.92	<0.01*1	1.24	0.87	17.3	2.86	-	-	0.01	<0.01*1	-
	9-Aug-11	28.3	6.90	10.9	1.010	1.68	0.02	0.72	0.01	1.17	0.97	16.5	2.94	4.0	-	<0.01*1	<0.01*1	12.00
	24-Nov-11	28.5	7.82	12.1	1.120	1.26	0.15	0.77	0.03	1.16	1.13	16.9	3.00	3.0	-	0.01	<0.01*1	<4*1
	mean*2	-	7.41	11.8	1.098	1.51	0.07	0.79	0.02	1.18	0.98	16.9	2.92	3.5	-	0.01	<0.01*1	8.40

note

- : Items were not analyzed

*1: Less than determination limit.

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

Pick up 2 samples on site.

NH4+ concentration at V.L.K reservoir is very low.

Station1 (Ban Pong Chang)	Date	Anion	Cation	R1	Judge
	10-Feb-11	1299.3	1285.1	-0.5	O
	24-May-11	1319.5	1355.0	1.3	O
	9-Aug-11	1103.1	1211.6	4.7	O
	24-Nov-11	1203.7	1262.4	2.4	O
	Station2 (Ban Pang Pueng)	10-Feb-11	1182.8	1170.0	-0.5
	24-May-11	1191.2	1172.0	-0.8	O
	9-Aug-11	1065.5	1138.6	3.3	O
	24-Nov-11	1170.4	1167.7	-0.1	O

Acale	R2	Judge
13.42	0.4	O
13.97	2.6	O
12.16	3.6	O
12.84	-1.4	O
12.27	0.9	O
12.34	1.0	O
11.57	3.0	O
12.19	0.4	O

note
 -: Items were not analyzed.

*1: Less than determination limit.

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

Pick up 2 samples on site.

NH4+ concentration at VLK reservoir is very low.

Station1 (Ban Pong Chang)	Date	Anion	Cation	R1	Judge
	10-Feb-11	1299.3	1285.1	-0.5	O
	24-May-11	1319.5	1355.0	1.3	O
	9-Aug-11	1103.1	1211.6	4.7	O
Station2 (Ban Pang Pueng)	24-Nov-11	1203.7	1262.4	2.4	O
	10-Feb-11	1182.8	1170.0	-0.5	O
	24-May-11	1191.2	1172.0	-0.8	O
	9-Aug-11	1065.5	1138.6	3.3	O
	24-Nov-11	1170.4	1167.7	-0.1	O

Station1 (Ban Pong Chang)	Acalc	R2	Judge
	13.42	0.4	O
	13.97	2.6	O
	12.16	3.6	O
Station2 (Ban Pang Pueng)	12.84	-1.4	O
	12.27	0.9	O
	12.34	1.0	O
	11.57	3.0	O
	12.19	0.4	O

Table 6.4(11) Result of Inland Aquatic Environment Monitoring

Duration: 2011.3.-2011.12.
 Country: Vietnam
 Lake Name: Hoa Binh Reservoir

Site	Sampling Date	Temp. (°C)	pH	EC (mS/m)	Mandatory Parameters: 4 times/year					Mandatory Parameters: Once/year								
					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)	Transparency (m)	Water Color (PtCo unit)	PO ₄ ³⁻ (mg/L)	NO ₂ ⁻ (mg/L)	COD (mg/L)
Hoa Binh Reservoir	15-Mar-11	24.5	7.11	18.6	1.550	8.31	1.44	1.66	0.08	3.40	0.97	23.7	4.84	1.2	-	-	0.013	3.80
	15-Jun-11	27.3	7.33	18.9	1.520	8.64	1.51	3.76	0.07	4.46	1.28	23.0	4.55	0.95	-	-	0.018	4.50
	15-Sep-11	25.7	7.87	18.0	1.550	5.85	1.21	1.88	0.03	3.02	0.84	22.4	4.44	1.2	-	-	0.008	2.00
	15-Dec-11	24.5	7.92	18.3	1.540	6.63	2.19	1.75	0.08	3.14	1.93	23.5	4.38	1.2	2	0.010	0.010	3.20
mean*1		-	7.43	18.5	1.540	7.36	1.59	2.26	0.07	3.51	1.26	23.2	4.55	1.1	2	0.010	0.012	3.38
note																		
- : Items were not analyzed.																		
*1 : Mean of pH takes an average of hydrogen ion.																		
Hoa Binh Reservoir	15-Mar-11	1793.3	1759.5	-1.0	O						Ascale					R2	Judge	
	15-Jun-11	1830.7	1753.7	-2.1	O						19.0					0.9	O	
	15-Sep-11	1744.5	1638.5	-3.1	O						19.3					1.0	O	
	15-Dec-11	1763.3	1724.1	-1.1	O						17.9					-0.4	O	

Acalc	R2	Judge
19.0	0.9	O
19.3	1.0	O
17.9	-0.4	O
18.6	1.0	O

R1	Judge
-1.0	O
-2.1	O
-3.1	O
-1.1	O

Table 6.4 (12) Summary of Inland Aquatic Environment Monitoring

Country	Location	Site	Mandatory Parameters : 4 times/year ^{*2*3}											Mandatory Parameters : Once/year				
			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)	Transparency (m)	PO ₄ ³⁻ (mg/L)	NO ₂ ⁻ (mg/L)	DOC (mg/L)	COD (mg/L)
China	Chongqing	Jinyunshan Lake ^{*3}	5.25	14.2	0.064	39.6	15.2	3.76	0.12	2.71	2.27	12.8	3.90	4.5	*1	*1	-	<10*1
	Xiamen	Xiaoping Dam	6.78	4.85	0.168	2.60	2.89	3.14	0.09	3.50	2.10	2.57	0.52	0.7	0.05	0.022	-	1.83
	Xi'an	Jiwozi River	6.85	6.83	0.275	12.9	0.87	0.51	*1	0.74	0.84	8.09	2.01	-	<0.01*1	<0.003*1	-	3.00
	Zhuhai	Zhuxiandong Stream	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	-	1.28
Indonesia	Bandung	Patenggang Lake	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	6.87	-
	Sukabumi, West Java	Gunung Lake	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	10.16	-
Japan	Gifu pref.	Ijira Lake (Center, surface)	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	0.83	-
	Shimane pref.	Banyu Lake (Center, surface)	6.97	10.9	0.168	4.08	0.21	23.6	0.04	14.3	1.90	1.85	2.07	3.2	<0.003*1	<0.003*1	2.44	5.04
Lao PDR	Vientiane province	Nam Hum Lake																
Malaysia		Semenyih Dam	6.99	2.69	0.270	2.85	0.54	0.96	0.05	2.15	2.01	2.53	0.60	-	-	-	-	-
	Sabah	Tembaling river ^{*3}	8.18	17.4	1.626	7.23	1.19	1.35	0.01	4.99	0.40	16.3	7.50	-	<0.10*1	-	-	7.81
Mongolia	Terelj	Terelj river	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	-	-
Philippines	Los Banos	Pandin Lake	7.67	20.5	1.738	0.49	2.08	3.29	0.17	7.99	4.14	14.9	7.58	-	0.086	-	-	-
	Kabayan, Benguet	Ambulalakao Lake																
Russia	Southern Baikal	Pereemnaya River	6.85	4.79	0.138	11.4	0.67	0.16	0.02	1.02	0.68	4.97	0.83	-	0.004	0.003	-	0.88
	Primorskaya	Komarovka River	7.09	8.86	0.405	12.7	1.63	3.11	0.27	3.88	0.74	8.58	2.22	-	0.010	0.018	-	4.44
Thailand		Vachiralongkorn Dam (Ban Pong Chang)	7.38	12.8	1.178	1.43	0.07	0.82	0.01	1.22	1.04	17.9	3.70	3.0	0.012	<0.01*1	-	5.73
	Kanchanaburi Province	Vachiralongkorn Dam (Ban Pang Pueng)	7.41	11.8	1.098	1.51	0.07	0.79	0.02	1.18	0.98	16.9	2.92	3.5	0.010	<0.01*1	-	8.40
Vietnam	Hoa Binh Province	Hoa Binh Reservoir	7.43	18.5	1.540	7.36	1.59	2.26	0.07	3.51	1.26	23.2	4.55	1.1	0.010	0.012	-	3.38

note

- : Items were not analyzed.

*1: Less than determination/detection limit.

*2: Some monitoring sites were investigated more than 4 times (5 or 6 times) a year.

*3: Jinyunshan Lake, Tembaling river were investigated 3 times a year.

Table 6.5(1) Annual mean values of each parameters from 2001 to 2011 at Jinyushan Lake (China)

	Mandatory Parameters - 4 times/year										Mandatory Parameters - Once/year					
	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	Transparency m	PO ₄ ³⁻ mg/L	NO ₂ ⁻ mg/L	DOC mg/L	COD mg/L
2001	7.50	9.05	-	26.1	7.68	2.58	0.65	1.78	1.58	6.63	2.63	-	-	-	-	-
2002	6.12	9.52	-	26.4	7.99	2.53	0.09	2.50	1.79	9.08	3.28	-	-	-	-	-
2003	6.55	9.79	0.210	23.2	5.16	2.68	0.21	2.60	1.72	9.03	3.30	0.9	-	-	-	-
2004	6.34	9.61	0.075	25.7	7.94	1.74	0.30	1.98	1.65	9.66	2.71	2.6	-	-	-	7.6
2005	6.04	10.2	0.073	28.1	8.16	2.63	0.04	2.70	1.82	9.36	3.22	3.7	*1	*1	-	2.9
2006	6.36	11.9	0.113	32.7	9.53	3.05	0.11	2.96	2.27	11.1	3.82	5.0	*1	*1	-	3.2
2007	6.24	12.4	0.086	37.2	10.2	3.12	0.12	2.81	2.18	11.2	3.81	3.0	*1	*1	-	4.4
2008	5.42	12.2	0.066	33.3	12.8	2.77	0.16	2.65	1.98	11.3	3.77	3.7	*1	*1	-	2.9
2009	5.84	11.2	0.048	29.3	8.29	2.95	0.23	2.59	1.96	10.1	3.63	2.3	*1	*1	-	<10*1
2010	5.76	12.8	0.157	34.5	10.6	3.00	0.14	2.90	2.07	11.7	3.98	3.4	*1	*1	-	<10*1
2011	5.25	14.2	0.064	39.6	15.2	3.76	0.12	2.71	2.27	12.8	3.90	4.5	*1	*1	-	<10*1

Table 6.5(2) Annual mean values of each parameters from 2001 to 2011 at Xiaoping Dam (China)

	Mandatory Parameters - 4 times/year										Mandatory Parameters - Once/year					
	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	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	-	0.02	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	0.02	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	0.02	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	12.9	0.14	4.97	2.46	3.90	0.56	-	0.01	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	-	0.01	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	0.02	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	0.05	0.022	-	1.8

Table 6.5(3) Annual mean values of each parameters from 2001 to 2011 at Jiwozi River (China)

	Mandatory Parameters - 4 times/year										Mandatory Parameters - Once/year					
	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	Transparency m	PO ₄ ³⁻ mg/L	NO ₂ ⁻ mg/L	DOC mg/L	COD mg/L
2001	7.11	4.50	0.225	10.0	1.47	1.06	0.04	1.90	0.70	8.83	1.38	-	-	-	-	-
2002	7.60	8.47	0.110	12.2	1.70	1.80	*1	2.80	1.20	12.7	1.72	-	-	-	-	-
2003	7.54	7.83	0.140	11.4	2.01	1.63	*1	2.08	0.95	12.0	1.59	-	-	-	-	-
2004	7.20	6.63	0.243	11.7	2.30	1.06	*1	1.79	0.68	9.04	1.35	-	*1	*1	-	3.2
2005	6.99	7.99	0.208	15.3	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	11.8	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	16.7	3.46	1.31	0.13	2.09	0.96	11.0	0.96	-	*1	*1	-	2.2
2008	7.05	8.42	0.248	13.9	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	15.5	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	13.9	2.83	1.27	*1	1.22	0.81	10.5	1.35	-	<0.01*1	<0.003*1	-	3.0
2011	6.85	6.83	0.275	12.9	0.87	0.51	*1	0.74	0.84	8.09	2.01	-	<0.01*1	<0.003*1	-	3.0

Table 6.5(4) Annual mean values of each parameters from 2004 to 2011 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	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	-	-	17.7	0.63	43.1	0.20	-	-	-	-	-	-	-	-	-
2002	7.93	6.70	0.963	19.9	0.83	23.8	0.23	7.27	1.57	17.0	2.50	-	-	-	-	-
2003	7.82	7.54	1.603	17.5	0.29	19.6	0.17	7.34	1.96	16.8	2.36	-	-	-	-	-
2004	7.12	8.49	0.645	5.67	1.90	6.03	*1	8.95	1.88	5.41	2.84	-	-	*1	-	1.7
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

- Items were not analyzed

*1: Less than determination/detection limit.

Table 6.5(5) Annual mean values of each parameters from 2001 to 2011 at Patenggang Lake (Indonesia)

	Mandatory Parameters : 4 times/year										Mandatory Parameters : Once/year					
	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	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	-

Table 6.5(6) Annual mean values of each parameters from 2008 to 2011 at Gunung Lake (Indonesia)

	Mandatory Parameters : 4 times/year								Mandatory Parameters : Once/year							
	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	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	-

Table 6.5(7) Annual mean values of each parameters from 2001 to 2011 at Ujira Lake (Japan)

	Mandatory Parameters : 4 times/year										Mandatory Parameters : Once/year					
	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	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*	-	-	-
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*	<0.01*	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*	<0.03*	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*	<0.02*	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*	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*	<0.02*	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*	<0.02*	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*	<0.01*	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*	<0.01*	0.7*2	-
2010	7.01	3.74	0.158	4.58	1.10	1.96	<0.01*	1.88	0.25	2.61	1.18	2.3	<0.1*	<0.01*	0.5	-
2011	7.11	3.85	0.159	4.77	1.34	1.86	<0.01*	1.89	0.23	3.05	1.22	1.8	<0.1*	<0.01*	0.8	-

Table 6.5(8) Annual mean values of each parameters from 2001 to 2011 at Banryu Lake (Japan)

	Mandatory Parameters : 4 times/year										Mandatory Parameters : Once/year					
	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	Transparency m	PO ₄ ³⁻ mg/L	NO ₂ ⁻ mg/L	DOC mg/L	COD mg/L
2001	6.98	9.43	0.174	4.07	0.11	19.7	0.15	12.2	1.75	1.23	1.60	-	<0.003*	-	5.3	-
2002	7.07	10.1	0.176	3.93	0.30	21.9	0.12	13.0	1.80	1.21	1.76	1.6	<0.003*	<0.003*	2.5	5.7
2003	6.98	10.9	0.170	3.96	0.14	22.3	0.19	13.4	1.78	1.09	1.69	1.5	<0.003*	<0.003*	2.6	5.6
2004	7.10	10.7	0.165	3.96	0.21	23.0	0.09	14.0	1.84	1.05	1.69	2.5	<0.003*	<0.003*	3.3	4.8
2005	7.09	10.7	0.156	4.31	0.14	23.1	0.04	14.2	1.91	1.47	1.82	2.2	0.003	<0.003*	2.6	5.0
2006	7.01	10.3	0.162	4.44	0.13	21.6	0.11	13.8	1.83	1.49	1.77	2.5	<0.003*	0.003	2.7	4.8
2007	7.02	10.8	0.176	4.49	0.10	22.5	0.02	14.3	1.94	1.52	1.62	2.5	<0.003*	<0.003*	2.6	5.0
2008	7.05	10.7	0.175	4.24	0.14	22.8	0.03	14.3	1.87	1.37	1.65	3.0	<0.003*	<0.003*	2.5	-
2009	7.02	10.1	0.171	4.14	0.10	22.0	0.03	13.7	1.79	1.52	1.81	2.7	<0.003*	<0.003*	2.9	-
2010	7.03	10.1	0.144	4.00	0.16	21.9	0.04	13.5	1.77	1.67	1.88	2.9	<0.003*	<0.003*	2.9	5.5
2011	6.97	10.9	0.168	4.08	0.21	23.6	0.04	14.3	1.90	1.85	2.07	3.2	<0.003*	<0.003*	2.4	5.0

- : Items were not analyzed.

*1: Less than determination/detection limit.

Table 6.5(9) Annual mean values of each parameters from 2009 to 2011 at Nam Hum Lake (Lao PDR)

	Mandatory Parameters : 4 times/year										Mandatory Parameters : Once/year				
	pH	EC mS/m	Alkalinity mcq/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
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
2011															

Table 6.5(10) Annual mean values of each parameters from 2005 to 2011 at Semenyih Dam (Malaysia)

	Mandatory Parameters : 4 times/year										Mandatory Parameters : Once/year				
	pH	EC mS/m	Alkalinity mg/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	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	14.5	16.8	14.4	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	-	-	-	-

Table 6.5(11) Annual mean values of each parameters from 2007 to 2011 at Tembaling River (Malaysia)

	Mandatory Parameters : 4 times/year										Mandatory Parameters : Once/year				
	pH	EC mS/m	Alkalinity mg/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	COD mg/L
2007	6.80	13.9	1.640	7.03	0.63	2.20	0.05	3.01	3.37	16.5	8.68	-	-	-	-
2008	7.07	18.6	1.850	8.10	0.75	1.20	0.01	5.83	0.40	22.0	10.4	-	-	-	-
2009	7.97	20.3	1.975	9.38	0.72	1.33	0.01	6.25	0.53	20.5	10.2	-	-	-	-
2010	8.11	21.8	2.070	9.94	0.59	1.55	0.03	6.99	0.81	18.4	16.0	-	<-0.10*1	-	4.01
2011	8.18	17.4	1.626	7.23	1.19	1.35	0.01	4.99	0.40	16.3	7.50	-	<-0.10*1	-	7.81

Table 6.5(12) Annual mean values of each parameters from 2002 to 2011 at Terelj river (Mongolia)

	Mandatory Parameters : 4 times/year										Mandatory Parameters : Once/year				
	pH	EC mS/m	Alkalinity mg/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	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	13.7	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	-

-. Items were not analyzed.

*1: Less than determination/detection limit.

Table 6.5(13) Annual mean values of each parameters from 2004 to 2011 at Pandin Lake (Philippines)

	Mandatory Parameters : 4 times/year										Mandatory Parameters : Once/year					
	pH	EC mS/m	Alkalinity mcu/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	18.2	1.808	0.33	0.08	3.16	0.02	8.91	5.81	12.1	6.91	-	0.014	0.072	-	-
2005	7.96	18.1	1.723	1.11	0.58	3.76	0.69	8.18	4.89	14.3	7.84	-	-	0.005	0.295	-
2006	7.72	17.3	1.758	0.43	0.19	2.40	0.22	8.08	5.08	15.1	7.30	2.2	0.004	0.012	-	-
2007	7.76	17.6	1.708	0.52	0.10	3.37	0.26	7.28	6.29	12.1	9.03	-	-	0.002	0.013	-
2008	7.48	18.0	1.627	0.76	5.23	3.70	0.02	7.33	4.92	12.6	7.97	-	-	0.013	-	-
2009	7.68	18.7	1.813	0.66	5.72	3.78	1.02	8.61	4.35	14.1	7.32	1.8	0.087	-	-	-
2010	8.25	18.4	1.837	0.34	3.36	3.28	*	8.79	5.59	13.1	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	-	-

Table 6.5(14) Annual mean values of each parameters from 2005 to 2011 at Ambulakao Lake (Philippines)

	Mandatory Parameters : 4 times/year										Mandatory Parameters : Once/year					
	pH	EC mS/m	Alkalinity mg/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	-	-
2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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	30.3	0.275	23.1	14.8	9.27	0.13	6.54	0.33	32.6	2.84	-	-	-	-	-
2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 6.5(15) Annual mean values of each parameters from 2004 to 2011 at Pereennaya River (Russia)

	Mandatory Parameters : 4 times/year										Mandatory Parameters : Once/year					
	pH	EC mS/m	Alkalinity mg/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	11.7	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	12.9	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	11.4	0.67	0.16	0.02	1.02	0.68	4.97	0.83	-	0.004	0.003	-	0.9

Table 6.5(16) Annual mean values of each parameters from 2005 to 2011 at Komarovka River (Russia)

	pH	EC mS/cm	Alkalinity mg/L	SO ₄ ²⁻ mg/L	Mandatory Parameters : 4 times/year							Mandatory Parameters : Once/year					
					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	11.2	0.33	3.09	0.15	3.34	0.60	9.07	2.25	-	-	-	-	-	
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	10.5	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	12.1	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	12.6	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	12.7	1.63	3.11	0.27	3.88	0.74	8.58	2.22	-	0.010	0.018	-	4.4	

- : Items were not analyzed.

*1: Less than determination/detection limit.

Table 6.5(17) Annual mean values of each parameters from 2002 to 2011 at Vachiralongkorn Dam (Ban Pong Chang) (Thailand)

pH	EC mS/m	Alkalinity mg/L	Mandatory Parameters - 4 times/year							Mandatory Parameters - Once/year						
			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	12.1	0.625	1.15	0.04	0.89	*1	1.14	1.01	13.3	2.98	5.3	0.024	*1	-	4.0
2003	7.45	10.8	0.625	1.29	0.01	0.84	*1	1.14	0.97	16.2	3.52	5.0	*1	-	5.8	-
2004	7.77	11.5	1.050	1.27	0.20	0.98	0.05	1.18	0.97	15.7	3.26	5.6	0.023	0.00	-	7.5
2005	7.33	11.2	1.276	1.47	0.11	1.05	0.01	1.26	1.02	15.8	3.12	3.6	0.010	0.00	-	<4.0*1
2006	7.21	10.4	1.125	1.31	0.20	0.85	0.06	1.14	1.03	16.2	3.17	4.6	<0.01*1	-	10.0	-
2007	7.80	10.4	1.090	1.17	0.20	0.75	0.01	1.21	0.96	16.5	3.26	5.1	0.010	0.00	-	5.2
2008	7.71	10.6	1.178	1.11	0.05	0.75	<0.01*1	1.16	0.97	16.3	3.23	4.4	<0.01*1	0.00	-	6.8
2009	7.79	10.8	1.111	1.33	0.06	0.74	-	1.16	0.95	16.1	3.39	4.4	0.010	<0.01*1	-	-
2010	7.70	11.8	1.176	1.55	0.06	0.83	0.01	1.24	1.01	16.6	3.62	3.6	0.010	0.00	-	4.7
2011	7.38	12.8	1.178	1.43	0.07	0.82	0.01	1.22	1.04	17.9	3.70	3.0	0.012	<0.01*1	-	5.7

Table 6.5(18) Annual mean values of each parameters from 2002 to 2011 at Vachiralongkorn Dam (Ban Pong Pueng) (Thailand)

pH	EC mS/m	Alkalinity mg/L	Mandatory Parameters - 4 times/year							Mandatory Parameters - Once/year						
			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	12.0	0.633	1.24	0.06	0.90	*1	1.19	0.99	13.3	2.90	5.5	0.034	*1	-	3.0
2003	7.87	10.5	0.590	1.41	0.01	0.84	*1	1.17	0.98	16.2	2.94	5.8	*1	-	7.3	-
2004	7.24	11.1	1.005	1.54	0.20	0.95	0.05	1.21	1.03	16.0	2.83	8.1	0.020	0.00	-	5.0
2005	6.98	11.2	1.015	1.29	0.11	1.15	0.03	1.52	1.02	16.2	2.98	4.4	0.135	0.00	-	*1
2006	7.12	10.0	1.046	1.44	0.20	0.83	0.03	1.14	1.04	16.2	2.64	5.0	<0.01*	-	11.0	-
2007	7.84	10.2	1.050	1.25	0.20	0.70	0.01	1.13	0.98	16.8	2.98	5.3	0.010	0.00	-	4.0
2008	7.78	9.88	1.104	1.49	<0.06*	0.75	<0.01*	1.17	1.00	15.7	2.49	4.4	<0.01*	0.00	-	4.7
2009	7.93	10.3	1.065	1.42	0.06	0.73	-	1.14	2.04	15.9	2.79	4.6	0.010	<0.01*	-	-
2010	7.79	11.2	1.113	1.61	0.06	0.76	0.01	1.16	0.99	16.4	2.86	4.1	0.010	0.00	-	7.1
2011	7.41	11.8	1.098	1.51	0.07	0.79	0.02	1.18	0.98	16.9	2.92	3.5	0.010	<0.01*	-	8.4

Table 6.5(19) Annual mean values of each parameters from 2001 to 2011 at Hoa Binh Reservoir (Vietnam)

pH	EC mS/m	Alkalinity mg/L	Mandatory Parameters - 4 times/year							Mandatory Parameters - Once/year						
			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		
2001	7.59	17.4	1.575	5.44	0.59	1.16	0.15	1.97	1.22	21.8	6.12	-	-	-	-	-
2002	7.88	17.1	1.613	3.90	0.46	1.35	0.21	1.70	1.16	22.5	5.49	-	-	-	-	-
2003	7.29	18.4	1.595	6.13	0.63	1.33	0.08	2.14	1.36	24.5	4.78	-	-	-	-	-
2004	6.55	19.3	1.675	4.51	1.16	1.38	0.17	2.45	1.11	27.2	4.11	-	-	-	-	-
2005	7.58	19.0	1.605	5.62	1.04	1.62	0.16	4.40	1.31	23.1	4.77	-	-	-	-	-
2006	7.22	19.1	1.605	7.71	0.87	1.41	0.12	3.62	1.46	25.2	4.87	0.7	0.005	0.006	-	2.2
2007	7.62	19.1	1.613	8.14	1.44	1.54	0.11	3.53	1.48	24.9	4.64	0.9	0.015	0.016	-	1.9
2008	7.73	18.3	1.533	7.36	1.04	1.65	0.04	2.33	0.91	22.9	5.01	1.5	0.021	0.025	-	2.2
2009	7.98	16.7	1.390	6.55	0.67	2.05	0.02	3.10	0.84	20.8	4.49	1.1	0.019	0.010	-	1.4
2010	7.80	17.7	1.420	7.26	1.66	2.07	0.11	4.20	1.56	23.3	2.94	1.0	0.013	0.014	-	0.9
2011	7.43	18.5	1.540	7.36	1.59	2.26	0.07	3.51	1.26	23.2	4.55	1.1	0.010	0.012	-	3.4

-: 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 a selected small forest catchment 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. Moreover, 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 EAENET 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 to be monitored		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 to be measured
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 to be measured for the respective monitoring items were 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 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 the national monitoring. 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. Moreover, the new project in the Philippines is under discussion. Some countries may have an intention to start the regular catchment-scale monitoring as a part of the EANET activities.

Japanese government submitted the data of the water year 2009-2010 based on the regular catchment-scale monitoring in the Lake Ijira Catchment, which was started in 2007. Site characteristics and the survey outline were shown in Table 7.3 and 7.4, respectively.

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 (%) and major species	Start year
Japan	Lake Ijira Catchment (Kamagatani River)	2.98	Chert Cambisols (brown forest soils)	99.6%, Japanese cedar (<i>Cryptomeria japonica</i>), Japanese cypress (<i>Chamaecyparis obtusa</i>), and Japanese red pine (<i>Pinus densiflora</i>)	November 2007 (the water year here: from November to the next October)

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 points) ^{*1} 2. Wet deposition ^{*1} 3. Dry deposition (Air concentration measurement for Inferential method) ^{*1} 4. Total deposition (calculated as wet+dry)
	Output (chemical discharge from the stream)	1. Water discharge (by H-Q curve method) 2. Stream water chemistry: biweekly 3. Chemical discharge
	Soil ^{*2}	Soil chemical properties
	Vegetation ^{*2}	1. Plant growth (field measurement) 2. Species composition (field measurement)

Note: ^{*1}, The EANET data collected at the Ijira deposition monitoring site will be used; ^{*2}, The EANET data collected in the Lake Ijira soil and vegetation monitoring plots will be referred.

7.2 Results of Monitoring

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

Table 7.5 List of the dataset submitted for Data Report 2011

Site	Items	Detailed items	Water year
Lake Ijira Catchment	Input (total deposition) ^{*1}	1. Precipitation amount (at 3 points) ^{*2} Calculation of total deposition is still under discussion for precise estimation.	2009-2010 ^{*3}
	Output (chemical discharge from the stream)	1. Water discharge 2. Stream water chemistry: biweekly 3. Chemical discharge	2009-2010 ^{*3}

Note. ^{*1}, The data of wet deposition and dry deposition (air concentration) in the Ijira deposition monitoring site for the same period can be found in Data Reports 2009 and 2010; ^{*2}, Precipitation data at 3 points (approx. 260, 140 and 110 m above sea level) including the Ijira deposition monitoring site were submitted; ^{*3}, The water year was defined as the period from November to October in the following year. Soil chemical properties, plant growth and understory-species composition are surveyed in 2011 as a part of soil and vegetation monitoring.

The submitted data above were 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

Table 7.6 Water balance in the catchment: Lake Ijira Catchment

Fluxes*1	Points	Water year*2
		2009-2010
Input by precipitation, mm y ⁻¹	Akatani (260 m)	4522
	Ijira monitoring site (140 m)	3920
	Youth house (110 m)	3717
	Mean	4053
Output by the stream, mm y ⁻¹	Outlet of Kamagatani River	2687
Runoff rate, %		66.3

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

Table 7.7 Stream water chemistry: Lake Ijira Catchment

Collection date	pH	EC	Gran's ANC ^{*1}	SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	Na ⁺	Ca ²⁺	Mg ²⁺	K ⁺	NH ₄ ⁺	TOC	SiO ₂	Water level, m
		mS m ⁻¹											mg-SiO ₂ L ⁻¹	
				μmol _e L ⁻¹								mg-C L ⁻¹		
2009/11/16	7.04	4.94	135	144	45.2	58.7	92.6	137	128	6.91	0.55	0.28	7.83	0.18
2009/11/30	7.09	5.11	153	165	25.6	62.6	97.9	140	131	6.14	7.21	0.19	8.14	0.15
2009/12/14	7.04	4.94	148	161	39	58.7	94.8	135	130	6.14	1.11	0.27	8.03	0.16
2009/12/24	6.99	4.69	124	166	33.7	60.4	92.2	118	128	5.63	5.54	0.31	7.7	0.19
2010/1/12	7	4.56	116	153	36.4	60.4	91.9	124	123	5.43	3.92	0.24	7.98	0.20
2010/1/25	6.95	4.08	105	134	37.4	62.6	87.3	108	112	5.47	1.23	0.25	7.8	0.23
2010/2/8	7.04	4.51	110	140	34.3	66.9	89.6	113	115	5.6	1.33	0.4	7.56	0.21
2010/2/22	6.93	4.42	108	136	31.1	63.2	89.5	111	110	5.71	0.93	0.29	7.61	0.19
2010/3/8	6.94	4.14	103	122	32.3	60.9	85.3	102	110	5.72	1.78	0.34	7.68	0.26
2010/3/23	6.94	4.22	120	126	29.5	61.5	96.6	111	108	7.32	1.11	0.31	7.3	0.25
2010/4/6	7.04	4.35	127	138	26.9	62	93.4	115	113	6.21	1.57	0.25	6.91	0.23
2010/4/19	7.04	4.03	119	119	30.2	60.5	84.9	102	102	6.04	4.73	0.29	6.95	0.26
2010/5/6	7.03	4.35	128	125	27.6	60.9	89.8	108	108	6.55	1.68	0.26	8.48	0.22
2010/5/17	7.08	4.49	134	129	25.8	59.3	90	114	111	6.3	1.3	0.24	9.53	0.19
2010/5/31	7.1	4.01	123	109	28	60.6	82.2	100	100	6.14	1.6	0.22	8.31	0.22
2010/6/14	7.08	4.66	149	137	27.2	61.1	95.6	115	115	7.42	6.34	0.34	6.97	0.18
2010/6/28	6.91	3.34	74	91	29.7	55.8	74.6	76.1	75.9	6.53	8.33	0.32	5.91	0.41
2010/7/12	6.78	2.97	60	100	34	36.5	60.5	95.4	78.8	8.18	1.48	1.4	5.44	0.58
2010/7/26	6.95	3.88	113	108	23.9	60.2	89.8	128	109	6.9	0.27	0.3	8.29	0.23
2010/8/9	7.05	4.26	150	122	25.4	58.6	95	148	125	7.69	2.12	0.36	9.02	0.21
2010/8/23	6.96	4.16	125	119	24.4	58.9	85	132	114	7.45	4.24	0.33	8.49	0.24
2010/9/6	7.04	4.49	140	130	25.9	59.2	92.9	142	124	7.7	3.48	0.26	9.2	0.19
2010/9/21	6.99	3.75	104	106	26.1	57.5	81.2	115	99.7	7.05	2.52	0.32	8.36	0.24
2010/10/4	6.97	3.79	108	108	43.5	45.5	76.3	123	105	6.93	2.02	0.53	7.13	0.28
2010/10/18	7	4.03	104	123	25.9	55.9	85.9	126	109	5.71	8.24	0.25	8.4	0.23
2010/11/2	6.7	4.08	108	132	33.4	50	83.9	133	114	5.53	0.96	0.31	8.02	0.22

Note. The water year was defined as the period from November to October in the following year. The lines indicate the border of the water years.*1, The data of the pH 4.8 endpoint alkalinity are also available.

Table 7.8 Periodic chemical discharges from the stream: Lake Ijira Catchment

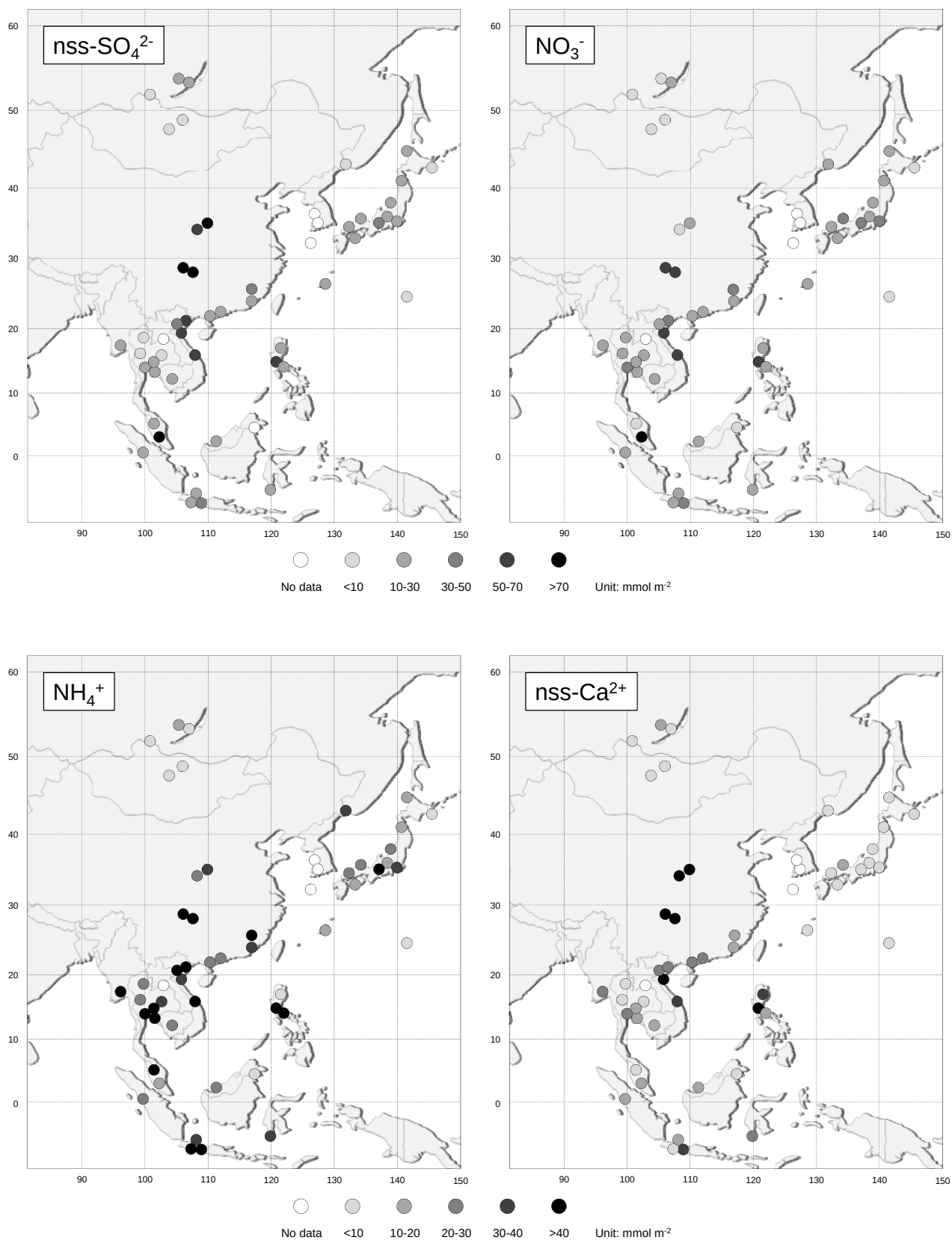
Start date	End date	Gran's ANC	SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	Na ⁺	Ca ²⁺	Mg ²⁺	K ⁺	NH ₄ ⁺	H ⁺	TOC	SiO ₂	Periodic discharge,
kmol _e ha ⁻¹												kg-C ha ⁻¹	kg-SiO ₂ ha ⁻¹	mm
11/2/09	11/16/09	0.05	0.05	0.01	0.02	0.03	0.05	0.05	0.00	0.00	0.00	0.09	2.77	34.5
11/16/09	11/30/09	0.03	0.04	0.01	0.01	0.02	0.03	0.03	0.00	0.00	0.00	0.05	1.82	22.7
11/30/09	12/14/09	0.03	0.04	0.01	0.01	0.02	0.03	0.03	0.00	0.00	0.00	0.05	1.76	21.8
12/14/09	12/24/09	0.02	0.03	0.01	0.01	0.02	0.02	0.02	0.00	0.00	0.00	0.05	1.43	18.1
12/24/09	1/12/10	0.06	0.09	0.02	0.03	0.05	0.07	0.07	0.00	0.00	0.00	0.15	4.23	53.9
1/12/10	1/25/10	0.07	0.08	0.02	0.04	0.05	0.07	0.07	0.00	0.00	0.00	0.15	4.68	59.3
1/25/10	2/8/10	0.06	0.08	0.02	0.04	0.05	0.07	0.07	0.00	0.00	0.00	0.19	4.60	59.9
2/8/10	2/22/10	0.09	0.11	0.03	0.05	0.07	0.09	0.09	0.00	0.00	0.00	0.27	5.99	79.0
2/22/10	3/8/10	0.12	0.15	0.04	0.07	0.10	0.12	0.13	0.01	0.00	0.00	0.37	8.88	116.1
3/8/10	3/23/10	0.13	0.15	0.04	0.07	0.11	0.13	0.13	0.01	0.00	0.00	0.38	8.81	117.6
3/23/10	4/6/10	0.11	0.11	0.02	0.05	0.08	0.10	0.09	0.01	0.00	0.00	0.24	6.10	85.8
4/6/10	4/19/10	0.17	0.18	0.04	0.08	0.12	0.15	0.15	0.01	0.00	0.00	0.37	9.58	138.2
4/19/10	5/6/10	0.18	0.18	0.04	0.09	0.13	0.15	0.15	0.01	0.00	0.00	0.40	11.3	146.2
5/6/10	5/17/10	0.09	0.08	0.02	0.04	0.06	0.07	0.07	0.00	0.00	0.00	0.16	5.94	66.0
5/17/10	5/31/10	0.24	0.22	0.05	0.11	0.16	0.20	0.20	0.01	0.00	0.00	0.43	16.7	186.8
5/31/10	6/14/10	0.05	0.05	0.01	0.02	0.03	0.04	0.04	0.00	0.00	0.00	0.11	2.99	39.2
6/14/10	6/28/10	0.24	0.25	0.06	0.13	0.19	0.21	0.21	0.02	0.02	0.00	0.72	14.1	218.8
6/28/10	7/12/10	0.15	0.22	0.07	0.11	0.15	0.20	0.18	0.02	0.01	0.00	1.97	13.0	229.1
7/12/10	7/26/10	0.25	0.30	0.08	0.14	0.22	0.32	0.27	0.02	0.00	0.00	2.44	19.7	287.3
7/26/10	8/9/10	0.11	0.09	0.02	0.05	0.08	0.11	0.10	0.01	0.00	0.00	0.27	7.13	82.4
8/9/10	8/23/10	0.25	0.22	0.05	0.11	0.16	0.25	0.22	0.01	0.01	0.00	0.62	15.9	181.1
8/23/10	9/6/10	0.05	0.05	0.01	0.02	0.03	0.05	0.04	0.00	0.00	0.00	0.11	3.25	36.8
9/6/10	9/21/10	0.25	0.25	0.05	0.12	0.18	0.27	0.23	0.02	0.01	0.00	0.60	18.3	208.1
9/21/10	10/4/10	0.07	0.07	0.02	0.03	0.05	0.07	0.06	0.00	0.00	0.00	0.27	4.87	62.9
10/4/10	10/18/10	0.08	0.09	0.03	0.04	0.06	0.09	0.08	0.00	0.00	0.00	0.29	5.83	75.1
10/18/10	11/2/10	0.06	0.08	0.02	0.03	0.05	0.08	0.07	0.00	0.00	0.00	0.17	4.93	60.0

Note. Periodic chemical discharges were calculated based on the mean concentrations and the water discharge for the respective sampling intervals.

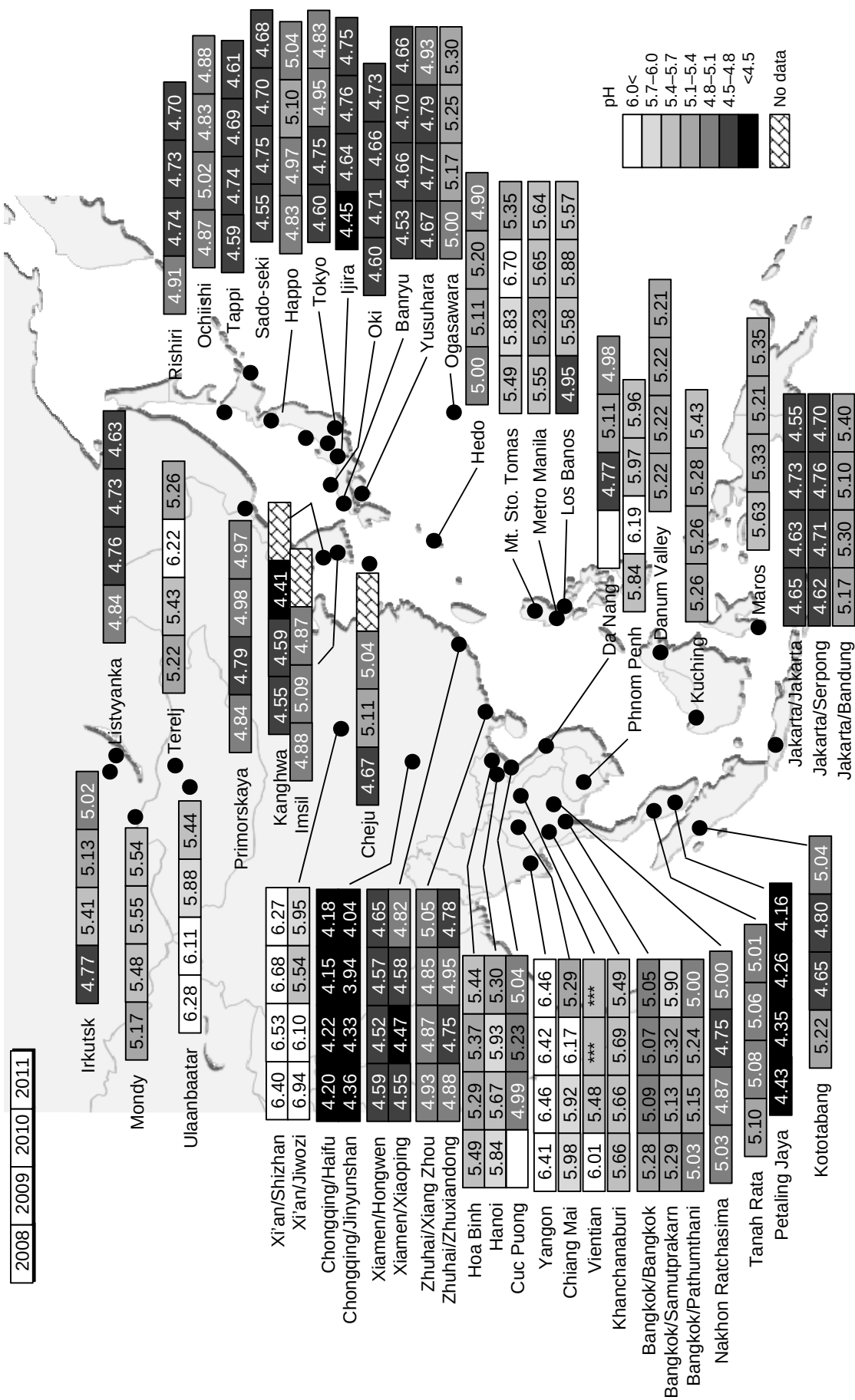
Table 7.9 Annual chemical discharges from the stream: Lake Ijira Catchment

Water year	alkalinity											
	Gran's ANC	SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	Na ⁺	Ca ²⁺	Mg ²⁺	K ⁺	NH ₄ ⁺	H ⁺	TOC	SiO ₂
kmol _e ha ⁻¹												kg-C ha ⁻¹ kg-SiO ₂ ha ⁻¹
2009 - 2010	3.03	3.24	0.79	1.54	2.29	3.04	2.84	0.18	0.08	0.00	10.9	204

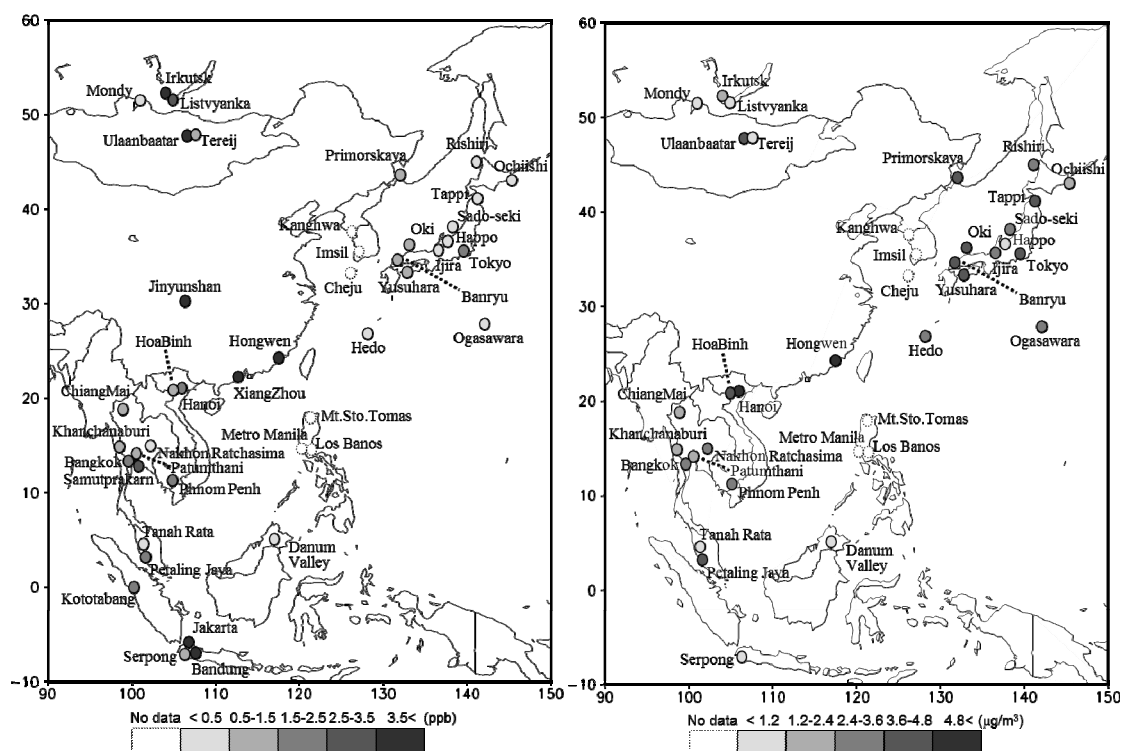
Appendix I
Overview of Data Report 2011



Appendix Fig. 1-1 Annual deposition levels of nss-SO_4^{2-} , NO_3^- , NH_4^+ and nss-Ca^{2+}

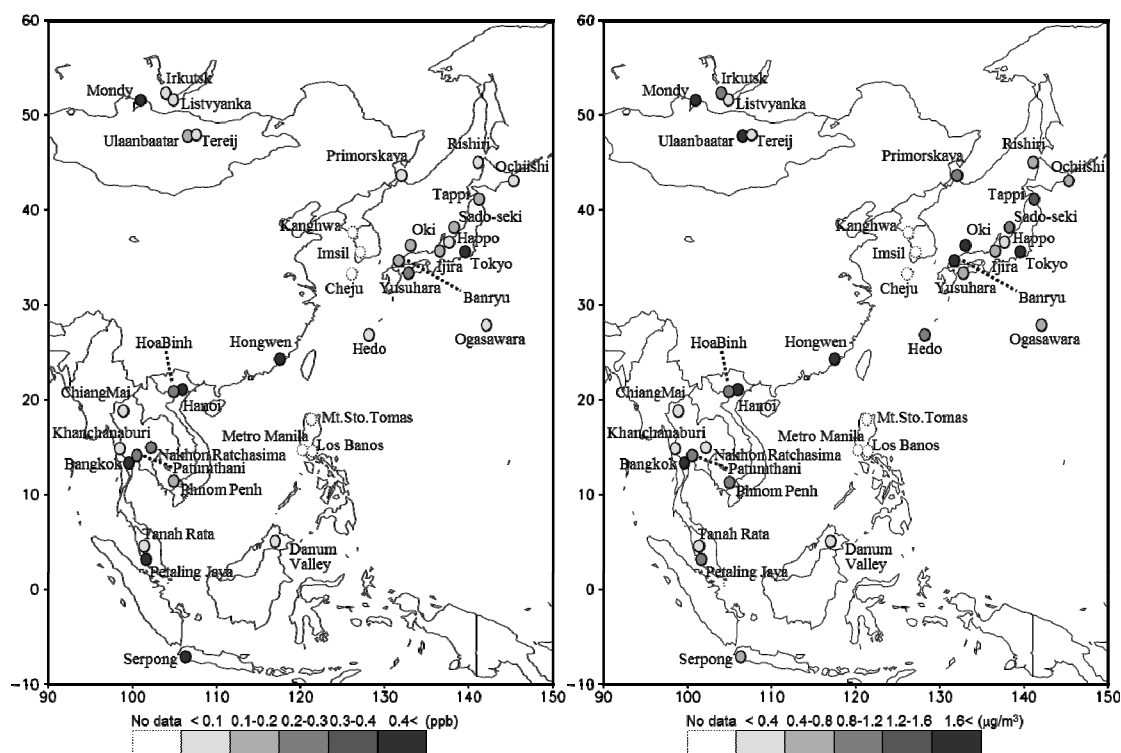


Appendix Fig. 1-2 Trends of pH in each EANET site from 2008 to 2011



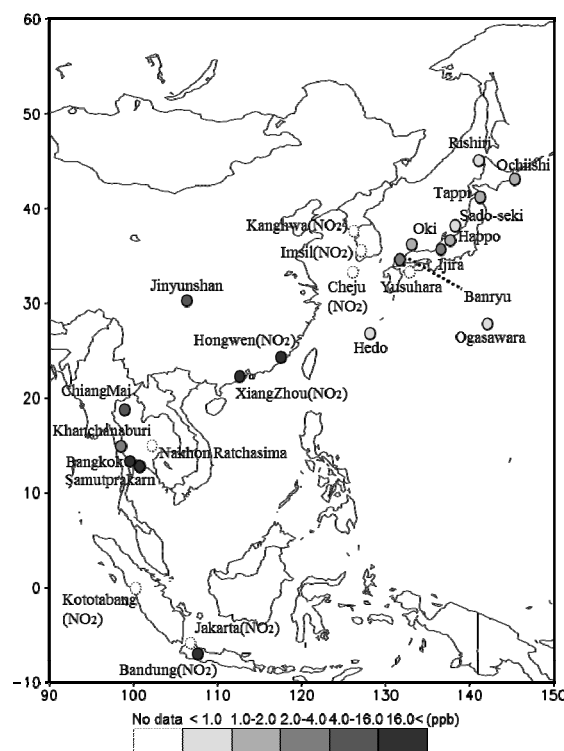
Appendix Fig. 2-1 Levels of annual SO_2 concentration in at EANET monitoring sites in 2011.

Appendix Fig. 2-2 Levels of annual particulate SO_4^{2-} concentration in at EANET monitoring sites in 2011.

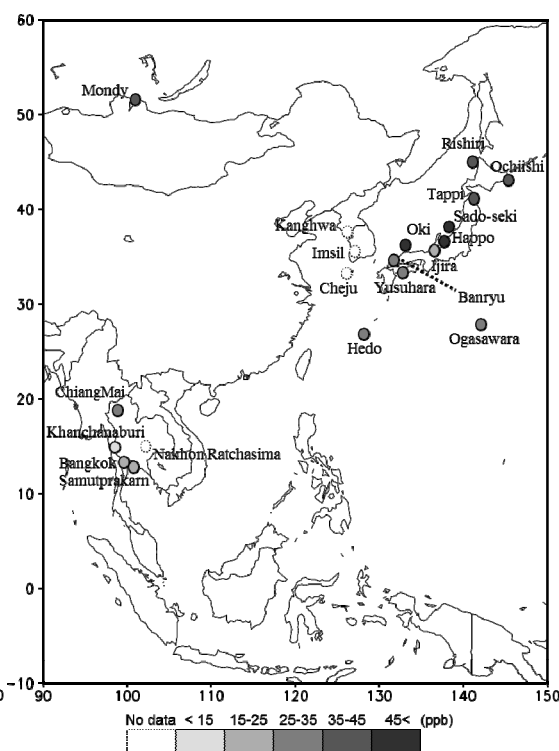


Appendix Fig. 2-3 Levels of annual HNO_3 concentration in at EANET monitoring sites in 2011.

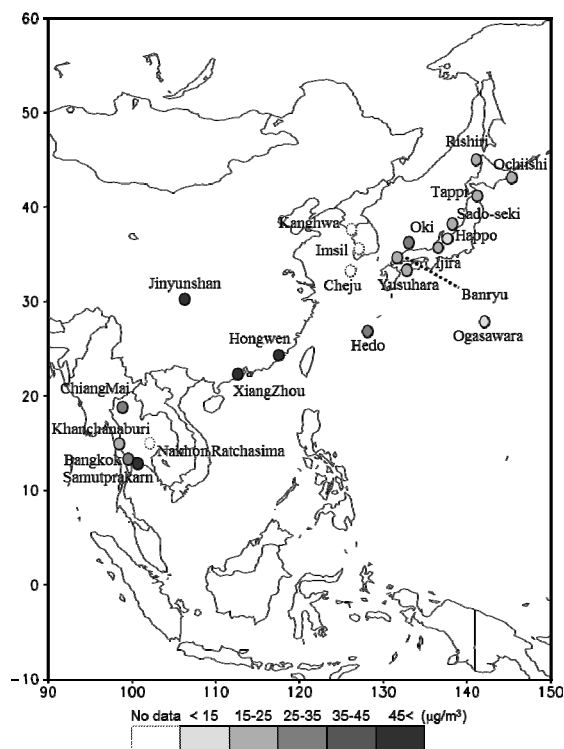
Appendix Fig. 2-4 Levels of annual particulate NO_3^- concentration in at EANET monitoring sites in 2011.



Appendix Fig. 2-5 Levels of annual NO_x or NO₂ concentration at EANET monitoring sites in 2011.



Appendix Fig. 2-6 Levels of annual O₃ concentration at EANET monitoring sites in 2011.



Appendix Fig. 2-7 Levels of annual PM₁₀ concentration at EANET monitoring sites in 2011.

Appendix II

Meteorological Statistics at the Monitoring Sites

Appendix Table II-1 Meteorological statistics at the monitoring sites

Meteorological Statistics : Chongqing

2011

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	5.2	10.2	12.2	18.9	23.8	26.0	29.3	30.7	24.8	18.8	16.5	8.9
	max.daily mean	9.9	24.5	23.4	34.5	38.9	37.1	39.6	42.7	41.0	30.7	23.0	15.0
	min.daily mean	1.2	1.6	3.9	12.7	14.0	18.6	20.4	21.5	15.3	13.1	11.2	5.1
Relative humidity (%)	monthly mean	75	67	63	66	60	66	56	46	64	73	77	75
	max.daily mean	88	90	92	93	87	88	87	87	90	88	92	91
	min.daily mean	51	47	36	36	32	44	36	29	27	50	55	51
Mean wind speed (m/s)		0.3	0.4	0.5	0.5	0.6	0.5	0.6	0.5	0.6	0.5	0.5	0.3
Most frequent wind direction (bearings)		S	S	S	S	S	S	S	SWS	S	S	SWS	S
Precipitation amount (mm/month)		22	9	38	96	106	146	60	37	54	146	75	52
Sunshine duration (hours/month)		—	—	—	—	—	—	—	—	—	—	—	—
Solar radiation (MJ/m ² /month)		—	—	—	—	—	—	—	—	—	—	—	—

Meteorological Statistics : Xi'an

2011

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	-2.0	4.2	8.8	18.0	21.0	26.3	27.4	24.9	19.0	15.0	9.8	2.0
	max.daily mean	6.0	16.2	23.7	34.5	36.9	40.3	39.3	38.6	32.8	25.8	17.8	10.2
	min.daily mean	-7.3	-5.9	-0.4	4.8	9.8	17.2	17.6	17.5	9.5	6.6	1.5	-4.5
Relative humidity (%)	monthly mean	51	59	45	49	60	56	63	77	84	77	82	70
	max.daily mean	—	—	—	—	—	—	—	—	—	—	—	—
	min.daily mean	18	21	11	10	10	13	12	42	41	22	33	20
Mean wind speed (m/s)		1.1	1.2	1.2	1.3	1.4	1.4	1.4	1.2	1.2	1.1	1.1	1.0
Most frequent wind direction (bearings)		W	E	W	E	E	E	E	NNE	ENE	ENE	C, ENE	WSW C
Precipitation amount (mm/month)		2	13	12	18	78	39	72	76	299	52	54	9
Sunshine duration (hours/month)		109	77	184	223	176	186	176	142	51	115	65	91
Solar radiation (MJ/m ² /month)		—	—	—	—	—	—	—	—	—	—	—	—

Appendix Table II-1 Meteorological statistics at the monitoring sites

Meteorological Statistics : Xiamen

2011

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	10.5	13.0	14.1	19.7	22.7	27.5	28.0	28.3	26.8	23.4	21.0	14.8
	max.daily mean	14.2	17.7	18.6	25.2	26.8	31.3	32.1	32.5	30.2	27.4	24.4	18.4
	min.daily mean	8.2	10.2	11.5	16.3	20.0	25.2	25.5	25.6	24.7	20.9	18.8	12.3
Relative humidity (%)	monthly mean	64	71	58	64	81	79	79	74	70	63	71	61
	max.daily mean	—	—	—	—	—	—	—	—	—	—	—	—
	min.daily mean	20	30	13	13	33	38	45	40	38	32	34	22
Mean wind speed (m/s)		2.9	2.3	2.9	2.4	2.2	2.9	2.5	2.6	2.4	3.2	2.8	3.1
Most frequent wind direction (bearings)		E	ESE	ENE	ESE	ESE	SW	SSE	SSE	NE	NE	NNE	NE
Precipitation amount (mm/month)		4	29	26	39	165	109	145	159	25	3	207	5
Sunshine duration (hours/month)		100	139	107	203	143	197	239	244	137	170	130	146
Solar radiation (MJ/m ² /month)		—	—	—	—	—	—	—	—	—	—	—	—

Meteorological Statistics : Zhuhai

2011

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	11.8	15.3	17.1	22.8	25.8	28.2	28.7	29.5	27.8	24.4	22.6	16.0
	max.daily mean	15.0	18.8	20.3	27.1	29.0	31.3	32.2	33.0	30.6	27.1	25.5	19.2
	min.daily mean	9.4	13.2	14.9	20.3	23.5	25.9	26.3	27.0	25.4	22.4	20.6	13.3
Relative humidity (%)	monthly mean	62	77	70	77	78	78	73	72	73	73	73	54
	max.daily mean	—	—	—	—	—	—	—	—	—	—	—	—
	min.daily mean	30	37	25	27	29	38	30	34	47	31	35	21
Mean wind speed (m/s)		2.4	2.1	2.2	2.5	2.4	2.9	2.6	2.2	3.4	2.7	2.4	2.4
Most frequent wind direction (bearings)		ENE	ENE	ENE	ESE	ESE	ESE	WSW	WSW	ESE	ENE	ENE	NE
Precipitation amount (mm/month)		13	28	24	26	208	407	110	109	132	100	71	1
Sunshine duration (hours/month)		149	114	68	180	155	172	231	275	177	149	139	181
Solar radiation (MJ/m ² /month)		—	—	—	—	—	—	—	—	—	—	—	—

Appendix Table II-1 Meteorological statistics at the monitoring sites

Meteorological Statistics : Serpong

2011

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	27.1	27.2	27.6	28.0	28.0	28.4	27.8	28.2	28.3	28.4	28.0	28.1
	max.daily mean	35.1	36.3	36.7	37.2	37.1	36.6	37.2	37.7	38.6	39.4	38.0	37.2
	min.daily mean	22.3	21.6	22.9	22.8	22.4	21.3	22.1	21.1	21.7	22.6	22.4	23.2
Relative humidity (%)	monthly mean	84	85	82	83	86	81	84	78	79	82	86	88
	max.daily mean	99	99	99	99	99	99	99	99	99	99	99	99
	min.daily mean	46	36	41	39	39	31	25	24	30	27	26	36
Mean wind speed (m/s)		0.4	0.3	0.4	0.4	0.2	0.3	0.3	0.3	0.3	0.4	0.3	0.4
Most frequent wind direction (bearings)		WSW	WSW	WSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	WSW
Precipitation amount (mm/month)		28	67	363	237	74	66	76	4	33	81	145	43
Sunshine duration (hours/month)		—	—	—	—	—	—	—	—	—	—	—	—
Solar radiation (MJ/m ² /month)		—	—	—	—	—	—	—	—	—	—	—	—

Meteorological Statistics : Bandung

2011

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	23.4	24.0	23.8	23.4	23.9	24.0	23.6	23.6	24.0	24.3	23.2	24.1
	max.daily mean	30.0	30.0	30.0	31.0	31.0	32.0	32.0	32.0	33.0	32.0	32.0	31.9
	min.daily mean	19.9	19.3	19.6	19.3	19.8	17.3	17.3	17.1	18.2	29.2	18.8	20.0
Relative humidity (%)	monthly mean	83	76	81	84	86	80	80	76	76	81	89	86
	max.daily mean	98	97	98	98	98	97	97	97	96	98	99	99
	min.daily mean	57	34	50	45	50	44	44	43	35	44	57	52
Mean wind speed (m/s)		3.0	2.4	2.0	2.3	0.9	2.2	0.7	1.1	1.1	1.0	0.5	1.3
Most frequent wind direction (bearings)		WNW	WNW	WNW	W	WNW	W	W	N	N	SSW	SSW	SSW
Precipitation amount (mm/month)		55	58	75	362	120	100	47	4	104	122	233	200
Sunshine duration (hours/month)		—	—	—	—	—	—	—	—	—	—	—	—
Solar radiation (MJ/m ² /month)		468	475	451	424	418	404	429	487	466	417	316	431

Appendix Table II-1 Meteorological statistics at the monitoring sites

Meteorological Statistics : Rishiri

2011

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	-7.4	-2.4	-0.9	4.2	7.3	13.1	18.4	20.7	17.6	11.1	4.0	-2.9
	max.daily mean	-1.1	4.5	4.0	9.4	14.8	16.4	21.8	23.4	23.7	16.5	13.0	1.1
	min.daily mean	-29.9	-8.0	-4.6	-1.8	2.2	9.5	14.6	18.2	12.7	5.6	-5.2	-8.0
Relative humidity (%)	monthly mean	77	70	69	78	82	91	88	91	84	77	76	80
	max.daily mean	89	88	83	94	98	99	100	100	99	92	93	96
	min.daily mean	69	54	46	57	39	75	49	80	66	56	58	61
Mean wind speed (m/s)		3.7	3.8	3.5	3.7	3.4	1.8	1.9	1.7	3.0	3.6	3.9	3.6
Most frequent wind direction (bearings)		NNW	WNW	WNW	E	ENE	W	E	NE	SW	WSW	NW	NW
Precipitation amount (mm/month)		52	22	59	83	124	84	111	102	253	139	81	120
Sunshine duration (hours/month)		—	—	—	—	—	—	—	—	—	—	—	—
Solar radiation (MJ/m ² /month)		151	225	410	460	473	388	521	463	351	272	150	90

Meteorological Statistics : Ochiishi

2011

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	-5.9	-3.9	-2.5	1.3	3.5	8.1	12.4	14.7	14.8	10.4	5.1	-2.5
	max.daily mean	-1.3	-0.2	1.2	3.7	7.2	14.9	17.7	17.2	17.7	12.7	10.1	1.5
	min.daily mean	-10.2	-8.7	-5.7	-2.6	0.5	4.4	8.9	9.3	11.2	5.9	-2.0	-7.0
Relative humidity (%)	monthly mean	65	74	74	82	89	94	93	96	89	80	69	61
	max.daily mean	86	98	90	100	100	100	100	100	100	100	96	89
	min.daily mean	48	50	60	64	65	77	77	79	68	51	44	43
Mean wind speed (m/s)		8.2	7.8	6.9	8.6	7.2	6.1	5.4	5.5	7.0	8.2	7.9	9.0
Most frequent wind direction (bearings)		NW	NW	WSW	WSW	WSW	SW	ENE	WSW	SSW	WSW	NNW	NW
Precipitation amount (mm/month)		0	8	5	46	84	67	58	110	177	118	20	40
Sunshine duration (hours/month)		—	—	—	—	—	—	—	—	—	—	—	—
Solar radiation (MJ/m ² /month)		252	289	358	457	468	479	564	417	348	291	226	210

Appendix Table II-1 Meteorological statistics at the monitoring sites

Meteorological Statistics : Tappi

2011

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	-2.2	0.8	1.3	6.7	9.8	14.9	19.8	22.4	19.5	13.7	8.3	0.3
	max.daily mean	1.6	8.8	6.6	12.9	14.3	19.1	23.2	25.9	24.5	17.2	14.2	7.0
	min.daily mean	-5.6	-3.2	-4.5	1.1	5.6	9.2	15.8	19.1	15.0	8.8	0.0	-3.9
Relative humidity (%)	monthly mean	70	67	66	74	85	87	90	84	80	68	69	70
	max.daily mean	83	81	78	92	94	97	98	96	94	94	89	92
	min.daily mean	57	54	52	54	67	70	75	72	68	51	51	57
Mean wind speed (m/s)		10.9	7.7	8.1	7.2	6.1	4.9	5.1	4.6	4.1	7.0	7.9	10.8
Most frequent wind direction (bearings)		WSW	WSW	WSW	WSW	WSW	SW	ENE	ENE	ENE	WSW	WSW	WSW
Precipitation amount (mm/month)		8	23	6	65	191	60	70	219	225	55	90	54
Sunshine duration (hours/month)		—	—	—	—	—	—	—	—	—	—	—	—
Solar radiation (MJ/m ² /month)		102	200	318	422	424	471	446	509	300	264	129	75

Meteorological Statistics : Sado-seki

2011

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	0.2	3.6	3.3	9.7	14.3	19.0	24.6	25.0	22.2	15.8	11.7	3.3
	max.daily mean	4.0	13.1	9.6	16.5	19.7	23.5	27.8	28.3	28.5	21.8	18.2	11.5
	min.daily mean	-3.5	-1.1	-2.2	4.5	8.8	14.5	20.2	21.2	16.2	10.8	4.3	-1.0
Relative humidity (%)	monthly mean	75	66	68	62	72	81	79	80	75	68	72	73
	max.daily mean	90	85	89	92	96	93	97	94	96	85	94	93
	min.daily mean	64	46	45	33	35	44	57	63	56	49	55	55
Mean wind speed (m/s)		9.6	5.9	6.7	5.7	5.0	3.8	3.1	3.4	4.5	4.6	5.0	7.8
Most frequent wind direction (bearings)		W	W	W	SW	SW	SSW	SSW	SSW	NNE,	WSW	WSW	WSW
Precipitation amount (mm/month)		63	44	51	157	148	212	111	108	236	48	96	68
Sunshine duration (hours/month)		—	—	—	—	—	—	—	—	—	—	—	—
Solar radiation (MJ/m ² /month)		93	220	331	453	441	485	582	552	403	318	178	77

Appendix Table II-1 Meteorological statistics at the monitoring sites

Meteorological Statistics : Happo

2011

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	-11.0	-5.2	-6.7	0.8	7.7	12.2	16.1	16.3	13.0	6.2	2.5	-6.9
	max.daily mean	-7.0	1.2	2.7	8.0	14.0	16.9	18.8	19.1	17.2	11.1	9.6	2.6
	min.daily mean	-15.3	-12.7	-14.5	-8.1	2.4	6.7	14.4	11.2	5.3	-1.5	-6.1	-12.9
Relative humidity (%)	monthly mean	83	61	67	55	65	81	88	85	83	79	77	87
	max.daily mean	93	89	91	98	95	94	93	92	96	98	98	98
	min.daily mean	72	17	22	21	30	64	84	66	49	43	31	36
Mean wind speed (m/s)		6.2	4.3	4.9	3.9	3.0	2.2	2.1	1.7	2.9	2.4	2.8	4.7
Most frequent wind direction (bearings)		NNW	NW	NNW	S	S	SSE	SSE	SSE	SSE	SSE	S	NW
Precipitation amount (mm/month)		156	84	119	152	377	617	476	224	262	168	255	164
Sunshine duration (hours/month)		—	—	—	—	—	—	—	—	—	—	—	—
Solar radiation (MJ/m ² /month)		263	395	531	644	571	412	355	344	311	378	230	241

Meteorological Statistics : Ijira

2011

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	-0.5	2.9	4.1	9.8	15.7	20.2	23.9	24.4	21.2	14.7	10.6	3.3
	max.daily mean	1.6	8.2	11.2	15.4	20.2	25.5	25.9	27.5	26.0	18.8	16.4	10.4
	min.daily mean	-2.9	-0.8	-0.3	5.8	11.9	14.0	20.0	21.3	15.7	9.9	4.4	-1.1
Relative humidity (%)	monthly mean	91	80	75	69	79	91	91	92	90	88	91	93
	max.daily mean	98	97	97	95	98	100	100	100	100	100	100	100
	min.daily mean	67	63	53	35	51	73	80	79	75	63	66	74
Mean wind speed (m/s)		0.3	0.5	0.6	0.7	0.5	0.2	0.3	0.3	0.4	0.3	0.4	0.4
Most frequent wind direction (bearings)		Calm	Calm	Calm	Calm	Calm	Calm	Calm	Calm	Calm	Calm	Calm	Calm
Precipitation amount (mm/month)		153	110	52	253	476	312	414	263	577	233	153	85
Sunshine duration (hours/month)		—	—	—	—	—	—	—	—	—	—	—	—
Solar radiation (MJ/m ² /month)		194	262	421	458	413	339	413	394	345	323	222	180

Appendix Table II-1 Meteorological statistics at the monitoring sites

Meteorological Statistics : Oki

2011

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	2.7	5.7	6.1	11.2	15.6	20.4	24.6	25.7	22.4	17.2	14.3	6.7
	max.daily mean	6.0	12.9	11.6	18.0	21.0	24.6	27.3	29.0	26.8	20.6	19.2	11.2
	min.daily mean	-1.2	1.1	1.4	6.1	11.0	16.7	20.9	20.7	17.1	12.2	7.9	1.4
Relative humidity (%)	monthly mean	—	—	68	74	84	90	89	89	88	81	80	79
	max.daily mean	—	—	82	97	98	98	99	97	98	96	97	93
	min.daily mean	—	—	47	51	61	66	79	76	70	64	65	66
Mean wind speed (m/s)		6.3	5.8	5.6	6.5	5.5	4.6	4.5	4.5	5.7	4.7	5.1	5.9
Most frequent wind direction (bearings)		N	N	N	S	S	S	S	SW	NNE	E	NNE	N
Precipitation amount (mm/month)		107	50	49	197	253	115	47	126	287	86	70	143
Sunshine duration (hours/month)		—	—	—	—	—	—	—	—	—	—	—	—
Solar radiation (MJ/m ² /month)		152	250	377	473	466	497	548	538	451	370	215	156

Meteorological Statistics : Banryu

2011

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	2.2	5.9	6.4	11.9	17.4	21.8	25.3	26.1	22.2	16.7	13.8	6.6
	max.daily mean	5.1	14.0	12.6	20.1	22.7	28.2	27.9	29.5	25.9	19.7	19.8	11.2
	min.daily mean	-1.5	2.2	1.7	6.4	13.3	18.4	21.7	21.9	16.6	11.9	7.8	2.9
Relative humidity (%)	monthly mean	74	80	75	74	82	91	88	90	91	86	85	81
	max.daily mean	96	95	96	93	98	98	98	98	98	98	97	94
	min.daily mean	59	67	51	56	44	78	77	73	75	71	64	64
Mean wind speed (m/s)		3.2	3.2	3.1	3.2	2.7	1.8	2.4	2.0	3.5	2.9	2.7	3.2
Most frequent wind direction (bearings)		S	S	S	S	S	S	SSE	S	N	S	S	S
Precipitation amount (mm/month)		72	91	64	69	258	122	138	111	205	124	72	97
Sunshine duration (hours/month)		—	—	—	—	—	—	—	—	—	—	—	—
Solar radiation (MJ/m ² /month)		162	269	402	531	487	473	566	547	449	381	236	161

Appendix Table II-1 Meteorological statistics at the monitoring sites

Meteorological Statistics : Yusuhara

2011

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	-2.5	3.6	3.0	9.3	14.9	18.8	21.6	22.1	19.1	14.2	10.8	2.4
	max.daily mean	0.5	10.3	10.7	12.9	19.5	23.6	23.5	24.5	23.1	17.5	16.2	9.6
	min.daily mean	-8.2	-3.1	-2.7	2.7	11.0	13.6	18.9	20.0	14.0	8.7	2.7	-4.5
Relative humidity (%)	monthly mean	74	70	64	62	75	88	86	86	85	80	77	74
	max.daily mean	90	96	96	92	97	97	96	95	97	97	97	96
	min.daily mean	56	40	43	26	38	62	70	75	57	57	47	49
Mean wind speed (m/s)		3.1	1.9	2.6	2.0	1.7	1.2	1.5	1.1	1.8	1.7	1.8	2.7
Most frequent wind direction (bearings)		NNW	NNW	N	NNW	SSE	SSE	SSE	SSE	SSE	NNW	NNW	N
Precipitation amount (mm/month)		22	100	66	116	256	628	674	168	798	246	153	74
Sunshine duration (hours/month)		—	—	—	—	—	—	—	—	—	—	—	—
Solar radiation (MJ/m ² /month)		297	324	486	410	435	392	508	507	386	350	267	277

Meteorological Statistics : Hedo

2011

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	14.1	16.6	16.1	19.2	22.4	26.9	27.9	27.4	26.9	24.1	22.5	17.8
	max.daily mean	17.2	20.5	21.7	22.6	25.1	29.0	28.8	28.6	28.4	25.5	25.3	21.9
	min.daily mean	10.1	12.2	13.2	16.0	18.1	22.3	26.1	25.3	24.8	22.3	18.8	14.2
Relative humidity (%)	monthly mean	66	73	63	70	86	82	81	79	76	77	76	69
	max.daily mean	87	90	83	91	94	93	88	90	85	92	92	83
	min.daily mean	54	55	48	52	58	74	75	73	57	61	51	55
Mean wind speed (m/s)		5.9	4.1	5.0	3.7	3.8	3.9	3.8	4.3	4.8	4.7	5.2	5.9
Most frequent wind direction (bearings)		NNW	NNW	NNW	SE	ESE	SSW	SE	E	NW	NE	E	N
Precipitation amount (mm/month)		57	83	52	73	402	160	0	11	30	301	158	77
Sunshine duration (hours/month)		—	—	—	—	—	—	—	—	—	—	—	—
Solar radiation (MJ/m ² /month)		176	276	352	539	371	579	213	650	474	346	221	185

Appendix Table II-1 Meteorological statistics at the monitoring sites

Meteorological Statistics : Ogasawara

2011

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	14.1	15.7	15.8	17.2	22.1	25.3	25.6	25.3	24.9	24.2	21.7	17.5
	max.daily mean	17.0	18.6	19.7	21.3	25.5	27.0	26.5	26.6	25.7	25.3	24.0	22.6
	min.daily mean	11.7	10.9	12.7	13.0	17.1	19.8	24.2	23.3	23.0	22.8	18.6	13.9
Relative humidity (%)	monthly mean	74	76	72	82	96	92	90	88	91	91	80	82
	max.daily mean	93	97	89	100	100	100	100	97	98	98	99	100
	min.daily mean	60	60	60	61	81	82	84	81	85	78	63	62
Mean wind speed (m/s)		1.3	1.2	1.5	1.7	1.6	1.4	1.7	2.0	1.9	1.4	1.7	1.2
Most frequent wind direction (bearings)		WSW	SSW	SW	NNE, SW	SSW	SSW	SSW	NE	SSW	NE	SSW	SSW
Precipitation amount (mm/month)		32	47	36	85	86	14	112	231	307	166	35	120
Sunshine duration (hours/month)		—	—	—	—	—	—	—	—	—	—	—	—
Solar radiation (MJ/m ² /month)		319	405	447	492	476	696	639	586	449	387	364	267

Meteorological Statistics : Tanah Rata

2011

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	16.8	17.5	17.6	18.0	18.3	18.3	18.0	17.5	17.5	17.7	17.6	17.5
	max.daily mean	17.8	18.5	18.6	19.3	19.2	18.8	18.7	18.6	18.3	18.6	18.8	18.3
	min.daily mean	15.5	16.5	16.4	17.4	17.6	17.3	16.7	16.2	16.3	16.5	16.3	16.5
Relative humidity (%)	monthly mean	91	87	91	91	92	89	89	92	92	91	91	90
	max.daily mean	95	93	95	94	95	94	94	96	96	95	96	95
	min.daily mean	83	77	85	82	87	83	82	84	88	86	83	84
Mean wind speed (m/s)		2.4	2.0	1.7	1.4	1.5	1.7	1.4	1.8	1.7	2.4	2.2	2.3
Most frequent wind direction (bearings)		ENE	ENE	W	ENE	W	WNW	W	WNW	WNW	E	ENE	ENE
Precipitation amount (mm/month)		140	65	377	410	430	135	110	443	241	359	356	176
Sunshine duration (hours/month)		—	—	—	—	—	—	—	—	—	—	—	—
Solar radiation (MJ/m ² /month)		—	—	—	—	289	474	511	431	393	444	254	383

Appendix Table II-1 Meteorological statistics at the monitoring sites

Meteorological Statistics : Petaling Jaya

2011

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	27.0	28.3	28.0	28.3	29.0	29.2	28.9	28.3	28.4	27.9	27.5	27.6
	max.daily mean	28.4	30.0	30.2	30.4	31.5	30.5	30.5	30.0	30.4	30.4	29.9	29.3
	min.daily mean	24.3	27.0	25.5	26.5	26.9	27.7	27.0	26.6	26.3	26.1	25.8	26.1
Relative humidity (%)	monthly mean	81	77	81	82	78	75	74	78	77	80	83	82
	max.daily mean	96	85	93	89	90	83	85	85	90	89	92	92
	min.daily mean	72	66	69	73	64	69	66	69	63	64	71	63
Mean wind speed (m/s)		0.9	1.0	1.1	1.1	1.1	1.2	1.3	1.3	1.3	1.1	1.0	1.1
Most frequent wind direction (bearings)		WSW	SW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW
Precipitation amount (mm/month)		244	364	422	497	309	189	133	346	164	287	382	306
Sunshine duration (hours/month)		—	—	—	—	—	—	—	—	—	—	—	—
Solar radiation (MJ/m ² /month)		—	—	—	—	—	—	—	—	—	—	—	—

Meteorological Statistics : Danum Valley

2011

Month		1	2	3	4	5	6	7	8	9	10	11	12
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)		—	—	—	—	—	—	—	—	—	—	—	—
Most frequent wind direction (bearings)		—	—	—	—	—	—	—	—	—	—	—	—
Precipitation amount (mm/month)		398	289	434	438	428	254	222	210	264	256	381	319
Sunshine duration (hours/month)		—	—	—	—	—	—	—	—	—	—	—	—
Solar radiation (MJ/m ² /month)		—	—	—	—	—	—	—	—	—	—	—	—

Appendix Table II-1 Meteorological statistics at the monitoring sites

Meteorological Statistics : Kuching

2011

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	25.5	25.9	26.3	26.5	26.9	26.7	26.9	27.1	26.8	26.1	26.4	26.1
	max.daily mean	27.0	27.6	27.7	27.6	29.3	28.7	28.7	29.3	28.9	27.7	28.1	27.4
	min.daily mean	23.4	23.7	25.0	25.5	24.8	24.5	25.3	25.5	23.6	23.8	24.9	24.5
Relative humidity (%)	monthly mean	87	86	84	86	86	84	83	83	85	88	86	88
	max.daily mean	97	94	90	94	92	93	90	92	98	96	93	95
	min.daily mean	78	80	77	77	79	73	74	76	74	81	79	80
Mean wind speed (m/s)		2.0	1.9	1.8	1.8	1.7	1.7	1.7	1.8	1.9	1.8	1.8	1.8
Most frequent wind direction (bearings)		N	N	NNW	NE	WSW	S	SSE	S,WNW, NW	SSE SSW	E,SW, W,NW	NW	NNW
Precipitation amount (mm/month)		842	669	190	222	149	248	205	199	182	291	482	937
Sunshine duration (hours/month)		—	—	—	—	—	—	—	—	—	—	—	—
Solar radiation (MJ/m ² /month)		397	381	453	449	511	476	472	469	474	426	481	413

Meteorological Statistics : Ulaanbaatar

2011

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	-23.8	-15.6	-9.6	4.2	8.2	17.3	17.4	18.4	8.0	3.7	-10.4	-22.1
	max.daily mean	-10.5	0.8	12.6	23.5	27.2	32.1	29.7	31.8	23.9	22.0	9.3	-11.3
	min.daily mean	-32.5	-27.5	-27.1	-10.2	-5.4	5.9	6.1	5.7	-6.9	-7.7	-24.6	-31.3
Relative humidity (%)	monthly mean	69	70	59	37	48	49	61	55	49	57	65	77
	max.daily mean	79	79	85	96	96	97	96	98	88	85	84	84
	min.daily mean	42	43	11	7	9	8	18	12	12	13	18	59
Mean wind speed (m/s)		1.3	1.7	2.3	3.1	3.2	3.0	2.8	2.7	2.6	2.2	2.0	1.2
Most frequent wind direction (bearings)		W	E	NWN	NWN	NWN	E	E	E	NWN	E	EES	W
Precipitation amount (mm/month)		1	8	0	11	27	77	58	44	8	11	12	2
Sunshine duration (hours/month)		191	204	284	295	282	259	286	252	279	236	187	159
Solar radiation (MJ/m ² /month)		—	—	—	—	—	—	—	—	—	—	—	—

Appendix Table II-1 Meteorological statistics at the monitoring sites

Meteorological Statistics : Terelj

2011

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	-27.3	-20.3	-13.7	-0.9	5.5	12.8	13.9	13.8	3.8	-0.3	-16.0	-26.3
	max.daily mean	-8.8	-1.6	9.4	21.4	24.3	28.0	27.9	29.6	22.8	19.0	4.3	-8.9
	min.daily mean	-39.1	-38.1	-36.6	-16.2	-8.0	-4.2	1.0	-1.2	-13.9	-18.0	-34.5	-39.2
Relative humidity (%)	monthly mean	68	72	63	9	55	61	73	70	59	67	75	75
	max.daily mean	85	89	93	99	100	100	100	100	100	100	100	99
	min.daily mean	34	30	20	9	12	15	25	16	12	14	26	45
Mean wind speed (m/s)		1.1	1.2	2.2	2.9	3.0	1.7	1.9	1.8	1.9	1.7	1.0	0.9
Most frequent wind direction (bearings)		WS	WS	WS	NWN	NWN	WS	WWS	WWS	WS	WWS	WWS	WS
Precipitation amount (mm/month)		1	15	2	26	46	72	72	46	20	22	13	2
Sunshine duration (hours/month)		—	—	—	—	—	—	—	—	—	—	—	—
Solar radiation (MJ/m ² /month)		—	—	—	—	—	—	—	—	—	—	—	—

Meteorological Statistics : Mondy

2011

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	-23.0	-15.3	-8.7	1.8	5.6	14.0	14.7	13.2	4.7	0.2	-13.6	-17.0
	max.daily mean	-13.6	-4.7	0.5	10.9	14.2	22.2	22.9	21.2	14.6	11.4	-2.5	-8.0
	min.daily mean	-29.4	-23.6	-17.0	-6.3	-2.5	6.2	8.0	6.0	-3.6	-8.4	-21.0	-23.1
Relative humidity (%)	monthly mean	78	73	57	56	55	68	72	76	64	65	79	77
	max.daily mean	92	91	81	86	88	95	96	97	94	94	95	88
	min.daily mean	56	45	35	29	28	39	46	46	32	31	52	59
Mean wind speed (m/s)		1.3	1.7	2.9	2.5	2.5	1.6	2.1	1.9	2.0	1.6	1.3	1.8
Most frequent wind direction (bearings)		W	W	W	W	W	—	E	W	E	W	W	W
Precipitation amount (mm/month)		2	2	6	19	29	37	133	61	4	8	4	2
Sunshine duration (hours/month)		156	206	263	260	286	242	266	249	251	220	185	143
Solar radiation (MJ/m ² /month)		108	183	354	445	488	503	589	456	387	262	149	91

Appendix Table II-1 Meteorological statistics at the monitoring sites

Meteorological Statistics : Listvyanka

2011

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	-20.8	-14.5	-6.8	2.0	5.6	11.6	12.5	13.1	7.1	4.4	-6.2	-11.5
	max.daily mean	-17.0	-9.3	-1.3	8.5	10.6	17.7	16.8	17.0	11.3	8.8	-1.4	-8.3
	min.daily mean	-23.5	-18.4	-11.5	-1.8	1.8	7.6	8.9	10.0	3.6	0.8	-9.4	-14.0
Relative humidity (%)	monthly mean	84	84	76	64	69	77	84	85	76	76	78	86
	max.daily mean	—	—	—	—	—	—	—	—	—	—	—	—
	min.daily mean	80	71	57	45	49	60	70	72	58	59	61	80
Mean wind speed (m/s)		4.4	3.0	3.8	3.6	3.0	2.2	2.6	2.4	3.3	3.3	4.4	5.3
Most frequent wind direction (bearings)		N	N	N	N	N	S	N	N	N	N	N	N
Precipitation amount (mm/month)		12	8	23	53	29	44	101	93	13	30	5	19
Sunshine duration (hours/month)		—	—	—	—	—	—	—	—	—	—	—	—
Monthly average solar radiation (W/m ²)		—	—	—	—	—	—	—	—	—	—	—	—

Meteorological Statistics : Irkutsk

2011

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	-21.9	-13.4	-5.2	5.5	9.7	18.6	17.3	16.4	8.8	4.6	-8.2	-15.1
	max.daily mean	-17.5	-6.7	1.5	13.4	16.5	26.3	24.5	22.7	15.6	11.1	-2.9	-11.2
	min.daily mean	-25.2	-18.5	-10.7	-0.4	3.4	11.8	11.6	11.5	3.5	-0.1	-12.1	-18.5
Relative humidity (%)	monthly mean	84	75	63	50	53	61	72	76	68	71	78	86
	max.daily mean	—	—	—	—	—	—	—	—	—	—	—	—
	min.daily mean	79	54	41	28	32	37	52	56	44	48	65	80
Mean wind speed (m/s)		1.5	1.8	2.4	2.7	2.5	1.9	2.1	2.1	2.0	1.9	2.0	1.3
Most frequent wind direction (bearings)		ESE, SE	SE	SE	SE	WNW	SE	W	ESE	W	ESE	ESE, W	NE
Precipitation amount (mm/month)		17	7	13	59	18	41	113	66	20	36	7	25
Sunshine duration (hours/month)		117	163	228	263	310	308	278	226	204	183	114	73
Solar radiation (MJ/m ² /month)		108	191	354	454	557	592	565	443	353	233	132	75

Appendix Table II-1 Meteorological statistics at the monitoring sites

Meteorological Statistics : Primorskaya

2011

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	-19.6	-10.0	-4.3	4.6	10.2	16.5	20.8	21.4	14.3	7.8	-3.0	-16.2
	max.daily mean	-6.7	4.0	9.8	15.9	22.9	28.8	28.0	28.8	21.9	17.1	13.2	-1.6
	min.daily mean	-22.1	-15.5	-9.9	1.9	6.3	11.3	19.9	19.4	13.3	1.7	-15.6	-20.2
Relative humidity (%)	monthly mean	72	70	65	65	78	82	84	83	82	75	75	70
	max.daily mean	87	100	97	98	93	95	91	94	94	87	84	68
	min.daily mean	31	24	26	20	44	48	55	50	54	41	46	54
Mean wind speed (m/s)		1.6	1.8	1.9	2.0	1.6	1.2	1.1	1.2	1.4	2.0	1.7	1.6
Most frequent wind direction (bearings)		ENE	E	ENE	ENE	Calm	Calm	Calm	Calm	ENE	E	E	E
Precipitation amount (mm/month)		2	31	4	60	75	90	43	95	101	60	44	1
Sunshine duration (hours/month)		—	—	—	—	—	—	—	—	—	—	—	—
Solar radiation (MJ/m ² /month)		238	277	459	465	528	546	483	470	402	346	227	214

Meteorological Statistics : Bangkok

2011

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	—	28.7	27.4	—	—	29.3	28.7	28.4	28.3	28.0	29.2	26.5
	max.daily mean	—	—	—	—	—	—	—	—	—	—	—	—
	min.daily mean	—	—	—	—	—	—	—	—	—	—	—	—
Relative humidity (%)	monthly mean	—	68	71	—	—	—	—	—	—	—	—	—
	max.daily mean	—	—	—	—	—	—	—	—	—	—	—	—
	min.daily mean	—	—	—	—	—	—	—	—	—	—	—	—
Mean wind speed (m/s)		—	1.0	0.7	—	—	1.0	0.9	0.8	0.8	0.4	0.3	0.3
Most frequent wind direction (bearings)		—	—	—	—	—	—	—	—	—	—	—	—
Precipitation amount (mm/month)		0	70	180	188	191	290	321	243	331	287	0	0
Sunshine duration (hours/month)		—	—	—	—	—	—	—	—	—	—	—	—
Monthly average solar radiation (W/m ²)		—	121	103	—	—	—	119	108	101	93	134	132

Appendix Table II-1 Meteorological statistics at the monitoring sites

Meteorological Statistics : Samutprakarn

2011

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	—	—	28.5	30.5	29.1	28.1	28.7	—	29.7	29.2	—	27.4
	max.daily mean	—	—	—	—	—	—	—	—	—	—	—	—
	min.daily mean	—	—	—	—	—	—	—	—	—	—	—	—
Relative humidity (%)	monthly mean	—	—	66	67	—	—	—	—	—	—	—	—
	max.daily mean	—	—	—	—	—	—	—	—	—	—	—	—
	min.daily mean	—	—	—	—	—	—	—	—	—	—	—	—
Mean wind speed (m/s)		—	—	2.2	2.2	2.0	2.2	2.3	—	2.3	1.9	—	2.1
Most frequent wind direction (bearings)		—	—	—	—	—	—	—	—	—	—	—	—
Precipitation amount (mm/month)		2	64	102	82	248	312	337	446	263	248	0	0
Sunshine duration (hours/month)		—	—	—	—	—	—	—	—	—	—	—	—
Monthly average solar radiation (W/m ²)		—	—	—	—	—	—	—	—	—	—	—	—

Meteorological Statistics : Pathumthani

2011

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	25.7	27.3	26.5	28.7	28.9	28.8	28.0	28.1	27.9	27.3	—	25.6
	max.daily mean	—	—	—	—	—	—	—	—	—	—	—	—
	min.daily mean	—	—	—	—	—	—	—	—	—	—	—	—
Relative humidity (%)	monthly mean	62	71	71	73	74	73	75	75	76	78	—	60
	max.daily mean	—	—	—	—	—	—	—	—	—	—	—	—
	min.daily mean	—	—	—	—	—	—	—	—	—	—	—	—
Mean wind speed (m/s)		1.2	1.7	1.7	1.7	1.6	1.9	2.0	1.7	1.7	1.3	—	1.3
Most frequent wind direction (bearings)		—	—	—	—	—	—	—	—	—	—	—	—
Precipitation amount (mm/month)		0	35	235	75	197	105	225	203	193	277	—	0
Sunshine duration (hours/month)		—	—	—	—	—	—	—	—	—	—	—	—
Monthly average solar radiation (W/m ²)		218	198	168	200	178	140	149	167	159	148	—	181

Appendix Table II-1 Meteorological statistics at the monitoring sites

Meteorological Statistics : Khanchanaburi

2011

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	24.2	27.0	26.5	28.4	27.4	26.8	26.4	26.3	26.2	26.9	26.1	24.1
	max.daily mean	—	—	—	—	—	—	—	—	—	—	—	—
	min.daily mean	—	—	—	—	—	—	—	—	—	—	—	—
Relative humidity (%)	monthly mean	75	69	75	77	85	87	88	88	89	84	77	73
	max.daily mean	—	—	—	—	—	—	—	—	—	—	—	—
	min.daily mean	—	—	—	—	—	—	—	—	—	—	—	—
Mean wind speed (m/s)		0.07	0.06	0.10	0.08	0.03	0.03	0.04	0.03	0.02	0.03	0.10	0.26
Most frequent wind direction (bearings)		—	—	—	—	—	—	—	—	—	—	—	—
Precipitation amount (mm/month)		11	65	138	69	254	372	396	326	235	76	0	0
Sunshine duration (hours/month)		—	—	—	—	—	—	—	—	—	—	—	—
Solar radiation (MJ/m ² /month)		—	—	—	—	—	—	—	—	—	—	—	—

Meteorological Statistics : Chiang Mai

2011

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	22.7	24.5	25.4	27.3	27.3	27.8	27.7	26.9	27.2	26.5	25.0	23.1
	max.daily mean	—	—	—	—	—	—	—	—	—	—	—	—
	min.daily mean	—	—	—	—	—	—	—	—	—	—	—	—
Relative humidity (%)	monthly mean	70	59	66	70	79	78	78	82	82	79	70	71
	max.daily mean	—	—	—	—	—	—	—	—	—	—	—	—
	min.daily mean	—	—	—	—	—	—	—	—	—	—	—	—
Mean wind speed (m/s)		0.6	0.3	1.0	0.8	0.8	0.9	0.4	0.3	0.6	0.5	0.5	0.5
Most frequent wind direction (bearings)		—	—	—	—	—	—	—	—	—	—	—	—
Precipitation amount (mm/month)		0	0	69	81	325	228	111	339	348	107	6	0
Sunshine duration (hours/month)		—	—	—	—	—	—	—	—	—	—	—	—
Monthly average solar radiation (W/m ²)		144	167	143	154	145	120	125	106	123	131	150	130

Appendix Table II-1 Meteorological statistics at the monitoring sites

Meteorological Statistics : Nakhon Ratchasima

2011

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	22.7	26.7	26.1	28.8	29.0	29.3	27.8	27.8	27.5	26.6	26.4	23.1
	max.daily mean	—	—	—	—	—	—	—	—	—	—	—	—
	min.daily mean	—	—	—	—	—	—	—	—	—	—	—	—
Relative humidity (%)	monthly mean	69	65	65	72	77	75	75	80	82	80	70	67
	max.daily mean	—	—	—	—	—	—	—	—	—	—	—	—
	min.daily mean	—	—	—	—	—	—	—	—	—	—	—	—
Mean wind speed (m/s)		1.8	1.0	1.8	1.0	1.3	1.9	1.7	1.4	1.3	1.3	1.6	1.8
Most frequent wind direction (bearings)		—	—	—	—	—	—	—	—	—	—	—	—
Precipitation amount (mm/month)		1	55	75	75	160	202	130	209	377	221	4	0
Sunshine duration (hours/month)		—	—	—	—	—	—	—	—	—	—	—	—
Solar radiation (MJ/m ² /month)		—	—	—	—	—	—	—	—	—	—	—	—

Meteorological Statistics : Hanoi

2011

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	12.8	17.7	17.1	23.8	27.2	29.5	29.9	28.9	27.6	24.5	23.8	17.4
	max.daily mean	18.1	22.9	21.5	27.1	31.0	31.3	33.3	32.1	32.5	27.3	26.3	20.2
	min.daily mean	9.8	12.1	10.0	19.8	22.0	26.8	26.2	25.9	23.2	19.7	21.1	14.3
Relative humidity (%)	monthly mean	71	83	81	80	76	80	78	81	81	79	77	68
	max.daily mean	90	96	96	94	89	92	93	95	94	96	86	93
	min.daily mean	52	67	58	60	62	74	68	71	58	63	60	50
Mean wind speed (m/s)		1	1	1	1	1	1	1	1	1	1	1	1
Most frequent wind direction (bearings)		NE	SE	NE	SE	SE	SW	SE	N	NW	NE	NE	NE
Precipitation amount (mm/month)		9	18	107	40	160	397	273	303	256	172	32	52
Sunshine duration (hours/month)		40	38	15	57	139	128	151	151	103	77	106	96
Solar radiation (MJ/m ² /month)		—	—	—	—	—	—	—	—	—	—	—	—

Appendix Table II-1 Meteorological statistics at the monitoring sites

Meteorological Statistics : Hoa Binh

2011

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	12.7	18.0	17.3	24.3	27.1	28.9	29.4	28.4	26.8	23.5	22.3	15.5
	max.daily mean	15.0	21.6	19.9	28.1	32.3	33.6	34.3	32.8	31.1	27.7	27.8	19.5
	min.daily mean	11.1	15.7	15.6	21.5	23.6	25.7	25.7	25.3	24.5	21.7	20.2	13.1
Relative humidity (%)	monthly mean	81	80	82	76	74	77	76	82	83	85	79	72
	max.daily mean	89	93	89	91	90	90	89	95	96	94	93	85
	min.daily mean	73	66	69	61	55	61	61	69	69	67	57	50
Mean wind speed (m/s)		1	1	1	1	1	1	1	2	1	1	1	1
Most frequent wind direction (bearings)		NE	NE	N	NE	NE	SE	NW	SE	NNW	NE	N	N
Precipitation amount (mm/month)		8	4	103	64	210	333	258	377	262	116	18	8
Sunshine duration (hours/month)		7	55	32	81	180	161	183	215	128	95	157	92
Solar radiation (MJ/m ² /month)		—	—	—	—	—	—	—	—	—	—	—	—

Meteorological Statistics : Da Nang

2011

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	20.0	21.5	21.5	24.9	28.1	29.3	29.8	29.2	26.9	25.7	24.6	20.8
	max.daily mean	23.9	23.5	24.6	27.7	30.9	30.7	30.9	31.3	29.5	27.5	26.9	24.3
	min.daily mean	17.6	18.6	18.0	20.7	26.1	27.2	27.8	27.0	23.6	22.8	23.2	17.4
Relative humidity (%)	monthly mean	83	83	82	84	77	75	70	77	88	87	86	89
	max.daily mean	93	89	89	90	84	86	77	86	98	98	98	97
	min.daily mean	74	76	71	76	62	55	57	63	75	77	79	79
Mean wind speed (m/s)		2	2	2	2	2	1	1	1	1	2	2	1
Most frequent wind direction (bearings)		NW	NNW	NW	E	S	SSW	SSW	NNW	SSW	ENE	N	WNW
Precipitation amount (mm/month)		161	0	31	8	35	101	13	139	812	785	1217	338
Sunshine duration (hours/month)		40	162	113	175	259	223	233	231	105	107	115	18
Solar radiation (MJ/m ² /month)		—	—	—	—	—	—	—	—	—	—	—	—

Appendix Table II-1 Meteorological statistics at the monitoring sites

Meteorological Statistics : Cuc Phuong

2011

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	12.0	16.5	16.0	22.0	25.6	28.0	27.8	26.8	25.8	22.7	21.5	15.4
	max.daily mean	14.3	19.9	19.2	26.4	31.1	33.2	32.5	31.6	29.9	26.4	26.3	19.6
	min.daily mean	10.3	14.8	14.0	19.6	22.3	24.9	24.8	24.1	23.3	20.5	18.8	12.9
Relative humidity (%)	monthly mean	80	88	86	87	82	84	84	87	87	87	85	77
	max.daily mean	94	97	96	98	96	95	96	97	97	96	97	95
	min.daily mean	67	73	73	70	60	63	65	69	70	71	65	57
Mean wind speed (m/s)		2	1	1	1	1	1	1	1	1	1	1	1
Most frequent wind direction (bearings)		NE	SW	NW	NW	SW	SW	SW	NW	NW	NNW	NW	WNW
Precipitation amount (mm/month)		11	25	101	33	57	373	364	306	320	168	88	9
Sunshine duration (hours/month)		8	42	25	69	159	157	179	184	119	82	133	75
Solar radiation (MJ/m ² /month)		—	—	—	—	—	—	—	—	—	—	—	—

Network Center for EANET
Asia Center for Air Pollution Research (ACAP)
1182 Sowa, Nishi-ku, Niigata-shi, 950-2144, Japan
Phone +81-25-263-0550
FAX +81-25-263-0566
E-mail eanetdata@acap.asia
URL <http://www.acap.asia/>