

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

Data Report 2010

January 2012

Network Center for EANET

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CHAPTER 1

Introduction

1. Introduction

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

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

Acid deposition monitoring of EANET covers five environmental items – wet deposition, dry deposition (air concentration), soil and vegetation, inland aquatic environment, and catchment-scale monitoring. Monitoring of wet and dry deposition was implemented in order to measure atmospheric concentrations and to evaluate fluxes of acidic substances to the land surface, while monitoring for soil/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 of 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 2010, which contains the monitoring data from the participating countries at the Eleventh Session of Scientific Advisory Committee (SAC11), held in October 2011. The draft Data Report was considered at SAC11 by the experts from the participating countries. Following the comments and guidance at the SAC11, the NC has elaborated and finalized the report.

The Data Report 2010 contains the data obtained from monitoring activities carried out in 2010.

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 2010

Thirteen EANET countries, namely, China, Japan, Mongolia, Republic of Korea and Russian Federation of the North-East Asian region, and Cambodia, Indonesia, Malaysia, Myanmar, Lao PDR, Philippines, Thailand and Vietnam participated in monitoring of acid deposition in 2010. Monitoring data 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 is provided in [Figure 2.1](#). The details on the location of the monitoring sites are presented in [Table 2.2](#).



Figure 2.1 Locations of EANET Sites in 2010

(Note) Khao Lam Dam and Vachiralongkorn Dam (of earlier Data Reports in 2000-2003) were renamed Khanchanaburi and also Mae Hia was renamed Chiang Mai in 2004.

**Table 2.2 Locations of EANET Wet and Dry Deposition (Air Concentration)
Monitoring Sites**

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

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

Table 2.3 provides further details on the sites, including the types of measurements carried out and equipment used for making dry deposition (air concentration) measurements. Filter packs are used at 36 sites for measurements of air concentrations of pollutants for determination of dry deposition. Automatic or manual gas monitors for NO_x and SO₂ were used at 24 sites, while 22 sites used automatic instruments to monitor ozone concentration. Concentrations of particulate matter as PM₁₀ were measured by automatic or manual instruments at 23 sites. Meteorological observations such as wind speed, wind direction, air temperature, relative humidity, and solar radiation were measured by meteorological equipment installed at the sites or at the nearby meteorological observatories.

Ecological survey sites established for soil and vegetation monitoring and inland aquatic monitoring are basically located in the vicinity of the acid deposition monitoring sites. Further information on the ecological survey sites and their activities was described in Chapters 5 and 6.

Table 2.3 Outline of Wet and Dry Deposition (Air Concentration) Monitoring

Country	Name of sites	Characteristics of sites	Wet Dep.	Dry Dep.			
				Automatic			Filter Pack
				SO ₂ ,NO _x	O ₃	PM	
Cambodia	Phnom Penh	Urban	✓	None	None	None	✓
China	Chongqing-Haifu	Urban	✓	None	None	None	None
	- Jinyunshan	Rural	✓	✓	None	✓	None
	Xi'an - Shizhan	Urban	✓	None	None	None	None
	- Jiwozi	Remote	✓	None	None	None	None
	Xiamen - Hongwen	Urban	✓	✓	None	✓	✓
	- Xiaoping	Remote	✓	None	None	None	None
	Zhuhai - Xiang Zhou	Urban	✓	✓	None	✓	None
	- Zhuxiandong	Urban	✓	None	None	None	None
Indonesia	Jakarta	Urban	✓	None	None	None	PS
	Serpong	Rural	✓	None	None	None	✓
	Kototabang	Remote	✓	None	None	None	PS
	Bandung	Urban	✓	None	None	None	PS
	Maros	Rural	✓	None	None	None	None
Japan	Rishiri	Remote	✓	✓	✓	✓	✓
	Ochiishi	Remote	✓	✓	✓	✓	✓
	Tappi	Remote	✓	✓	✓	✓	✓
	Sado-seki	Remote	✓	✓	✓	✓	✓
	Happo	Remote	✓	✓	✓	✓	✓
	Ijira	Rural	✓	✓	✓	✓	✓
	Oki	Remote	✓	✓	✓	✓	✓
	Banryu	Urban	✓	✓	✓	✓	✓
	Yusuhara	Remote	✓	✓	✓	✓	✓
	Hedo	Remote	✓	✓	✓	✓	✓
	Ogasawara	Remote	✓	✓	✓	✓	✓
	Tokyo	Urban	✓	None	None	None	✓
Lao PDR	Vientiane	Urban	✓	None	None	None	None
Malaysia	Tanah Rata	Remote	✓	✓	✓	None	✓
	Petaling Jaya	Urban	✓	None	None	None	✓
	Danum Valley	Remote	✓	None	None	None	✓
	Kuching	Urban	✓	None	None	None	None
Mongolia	Ulaanbaatar	Urban	✓	None	None	None	✓
	Terelj	Remote	✓	None	None	None	✓
Myanmar	Yangon	Urban	✓	None	None	None	None
Philippines	Metro Manila	Urban	✓	None	None	None	✓
	Los Banos	Rural	✓	None	None	None	✓
	Mt. Sto. Tomas	Remote	✓	None	None	None	✓
Republic of Korea	Kanghwa	Rural	✓	✓	✓	✓	✓
	Cheju (Kosan)	Remote	✓	✓	✓	✓	✓
	Imsil	Rural	✓	✓	✓	✓	✓

Country	Name of sites	Characteristics of sites	Wet Dep.	Dry Dep.			
				Automatic			Filter Pack
				SO ₂ ,NO _x	O ₃	PM	
Russia	Mondy	Remote	✓	None	✓	None	✓
	Listvyanka	Rural	✓	None	None	None	✓
	Irkutsk	Urban	✓	None	None	None	✓
	Primorskaya	Rural	✓	None	None	None	✓
Thailand	Bangkok	Urban	✓	✓	✓	✓	✓
	Samutprakarn	Urban	✓	✓	✓	✓	None
	Pathumthani	Rural	✓	None	None	None	✓
	Khanchanaburi	Remote	✓	✓	✓	✓	✓
	(Vachiralongkorn Dam)						
	Chiang Mai (Mae Hia)	Rural	✓	✓	✓	✓	✓
Vietnam	Nakhon Ratchasima	Rural	✓	None	None	None	✓
	Hanoi	Urban	✓	None	None	None	✓
	Hoa Binh	Rural	✓	None	None	None	✓
	Da Nang	Urban	✓	✓	✓	✓	None
	Cuc Phuong	Remote	✓	✓	✓	✓	None

(Note 1) PS: Passive sampler

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.

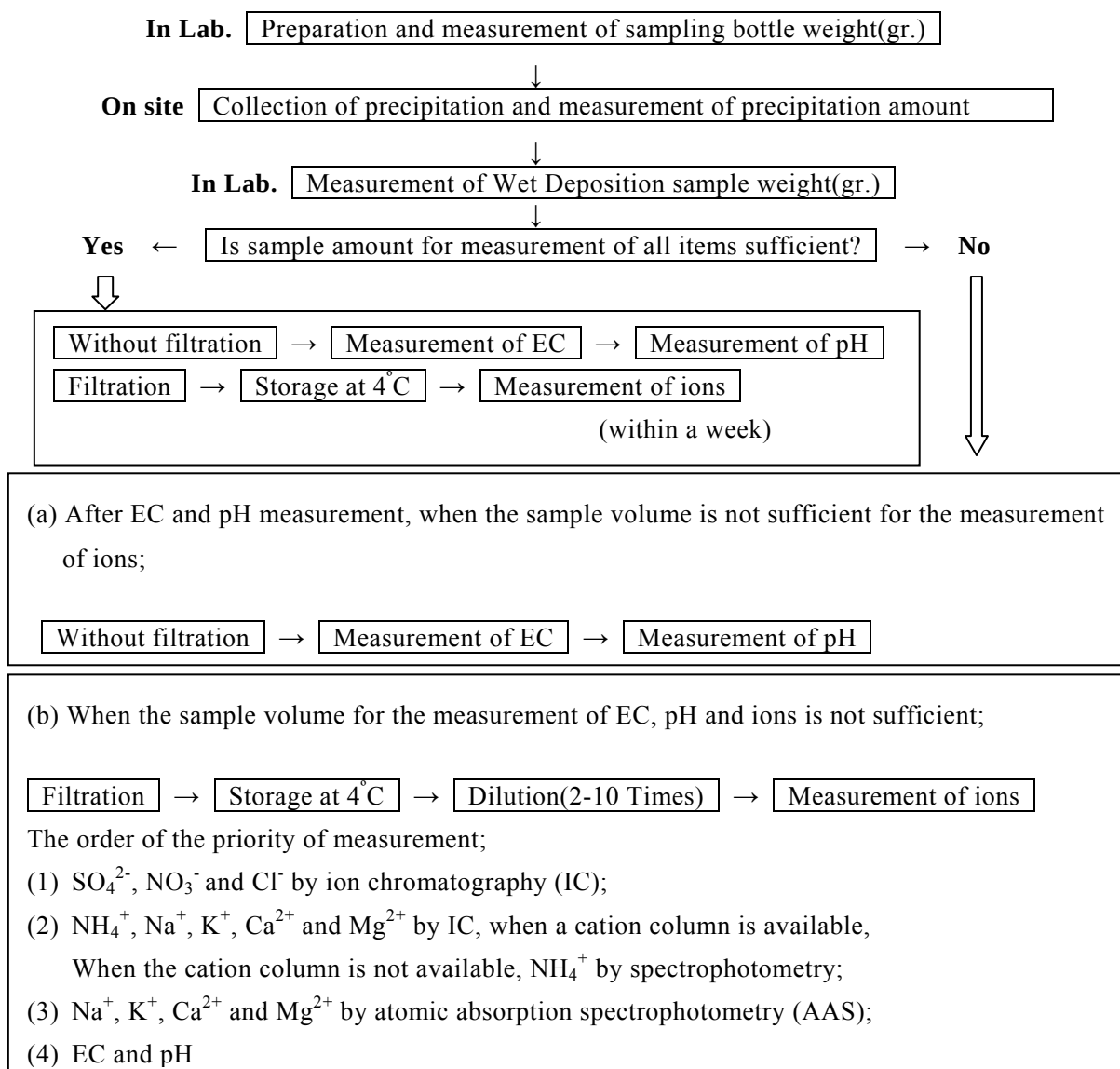


Figure 3.1 Flow chart of sampling and chemical analysis of Wet Deposition

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^+ , Ca^{2+} , and Mg^{2+} , and spectrophotometry for NH_4^+ are the secondary methods for the determination of these ions. Laboratories that use other non-recommended methods with insufficient analytical sensitivity, such as titration method, will encounter problems of unsatisfactory detection limit.

3.1.3 Data Management

The participating laboratories have to submit the analyzed data of the precipitation samples

to the National Centers of EANET (NC). By the end of June in the following year, each National Center is expected to submit the compiled data in the required format to the NC. 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 (S cm² 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)

The constants are the molar conductivity of the individual ion at infinite dilution at 25°C (S cm² mol⁻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.

Volume-weighted mean concentrations / precipitation / deposition (monthly)

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

Detection Limits

- i) For H^+ concentration,
 - [<0.1] : $<0.1 \mu\text{mol L}^{-1}$
- ii) For concentration of other constituent,
 - [<0.2], [<0.3], [<0.4], [<1] : The values are 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^+ : $<1 \mu\text{mol L}^{-1}$
 - K^+ : $<0.3 \mu\text{mol L}^{-1}$ - Mg^{2+} : $<0.4 \mu\text{mol L}^{-1}$
 - Ca^{2+} , nss- Ca^{2+} : $<0.2 \mu\text{mol L}^{-1}$
- iii) For deposition,
 - [0.00] : Deposition amount is zero. (Precipitation was 0 mm.)
 - [<0.01] : $<0.01 \text{mmol m}^{-2}$

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 37 out of 54 sites, while weekly and 10days collection are performed at 17 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 of countries 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	Daily	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 of countries 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 2010 are shown in [Table 3.6](#) through [Table 3.58](#). The annual summaries of wet deposition monitoring in 2010 are shown in [Table 3.59](#) through [Table 3.61](#).

Results of ion balance (R_1) and the conductivity agreement (R_2) of each monitoring site are shown in [Table 3.62](#). [Figure 3.2](#) to [Figure 3.54](#) 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^-
- Tokyo (Japan): NO_2^-
- Mondy and Primorskaya (Russia): HCO_3^- , NO_2^- , Br^-
- Listvyanka and Irkutsk (Russia): HCO_3^- , NO_2^- , Br^- , F^-
- Sado-seki(Japan), Ulaanbaatar and Terelj (Mongolia), Metro Manila and Los Banos (Philippines), Cuc Phuong and Da Nang (Vietnam): HCO_3^-
- Bangkok, Samutprakarn, Pathumthani, Khanchanaburi, Chiang Mai and Nakhon Ratchasima (Thailand): PO_4^{3-}

The summaries of annual data from 2000 to 2010 are shown in [Table 3.63](#) through [Table 3.87](#). The site identification codes are given in [Table 3.88](#). 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.

Table 3.6 Monthly results

Site: Phnom Penh

Country: Cambodia

Volume-weighted mean concentrations/ Precipitation (Monthly)

2010	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	7.05	6.86	10.7	5.84	49.4	3.24	1.33	13.4	13.3	0.722	0.702	6.15	0.837	20.1
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Mar	12.7	11.9	21.5	16.1	44.3	13.1	4.65	12.9	12.6	2.80	2.63	5.58	1.95	61.1
Apr	9.60	9.13	15.7	11.7	21.8	7.83	3.27	9.13	8.96	1.36	4.37	5.36	1.15	77.3
May	10.7	10.4	14.4	8.09	26.2	4.58	1.45	12.3	12.2	0.483	1.08	5.97	1.05	141
June	9.46	9.15	11.5	7.39	32.8	5.11	0.953	18.7	18.5	1.69	0.517	6.29	0.957	160
July	7.45	7.29	6.68	5.41	20.7	2.52	1.20	9.61	9.55	<0.4	0.743	6.13	0.609	263
Aug	7.41	7.24	5.64	4.86	21.5	2.80	0.440	9.45	9.39	1.06	0.700	6.16	0.780	316
Sept	5.60	5.50	8.81	2.12	21.6	1.66	<0.3	6.20	6.16	0.773	0.807	6.09	0.760	234
Oct	5.76	5.69	5.52	1.90	19.4	1.24	0.356	3.13	3.11	<0.4	0.955	6.02	0.468	366
Nov	4.19	4.09	4.11	2.74	11.0	1.66	<0.3	4.17	4.13	<0.4	0.958	6.02	0.368	167
Dec	12.1	11.9	12.8	4.23	29.3	3.09	1.15	3.09	3.03	0.535	2.69	5.57	0.885	45.2
Annual	7.37	7.18	8.37	4.93	22.6	3.10	0.861	8.33	8.26	0.717	1.07	5.97	0.747	1851
Max.	21.6	20.8	22.1	23.7	59.4	37.8	13.0	68.6	68.4	5.80	4.37	6.69	2.23	
Min.	2.61	2.47	3.05	<1	9.37	<1	<0.3	2.35	2.35	<0.4	0.204	5.36	0.341	

Wet deposition (Monthly)

2010	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	0.142	0.138	0.215	0.117	0.992	0.0652	0.0267	0.269	0.267	0.0145	0.0141
Feb	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar	0.777	0.728	1.31	0.983	2.71	0.803	0.284	0.787	0.770	0.171	0.161
Apr	0.742	0.706	1.21	0.903	1.68	0.606	0.253	0.706	0.693	0.105	0.338
May	1.50	1.46	2.02	1.14	3.68	0.645	0.205	1.73	1.72	0.0680	0.152
June	1.51	1.46	1.83	1.18	5.24	0.815	0.152	2.98	2.96	0.270	0.0826
July	1.95	1.92	1.75	1.42	5.44	0.660	0.316	2.52	2.51	0.0937	0.195
Aug	2.34	2.29	1.78	1.54	6.81	0.886	0.139	2.99	2.97	0.334	0.221
Sept	1.31	1.29	2.06	0.497	5.05	0.389	<0.01	1.45	1.44	0.181	0.189
Oct	2.11	2.08	2.02	0.696	7.11	0.456	0.130	1.15	1.14	0.0544	0.350
Nov	0.701	0.684	0.687	0.459	1.83	0.278	0.0302	0.697	0.691	0.0116	0.160
Dec	0.545	0.536	0.578	0.191	1.32	0.139	0.0520	0.140	0.137	0.0242	0.122
Annual	13.6	13.3	15.5	9.12	41.9	5.74	1.59	15.4	15.3	1.33	1.98

Data completeness (Monthly)

2010	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	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/m² 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%)

Note

Table 3.7 Monthly results

Site: Haifu

Country: China

Volume-weighted mean concentrations/ Precipitation (Monthly)

2010	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	327	325	221	42.2	341	30.6	31.0	174	173	30.8	219	3.66	19.0	13.5
Feb	215	214	164	39.0	358	13.2	25.3	110	110	20.3	60.7	4.22	10.7	12.0
Mar	288	287	169	46.8	281	30.7	24.6	191	191	33.6	61.4	4.21	12.0	47.8
Apr	138	138	80.7	23.8	132	11.1	10.6	66.0	65.8	11.6	77.7	4.11	6.98	128
May	153	152	74.4	12.5	166	4.34	9.93	62.6	62.5	8.88	78.9	4.10	7.10	113
June	107	106	50.1	7.07	107	3.72	5.97	37.2	37.2	4.62	80.6	4.09	5.62	158
July	77.8	77.5	43.3	10.7	84.6	4.84	7.29	44.4	44.3	5.34	35.6	4.45	3.86	186
Aug	96.4	96.2	47.2	8.02	59.3	2.10	7.10	76.6	76.6	6.04	29.9	4.52	4.01	95.4
Sept	209	208	111	23.9	249	9.00	12.9	102	101	8.09	75.3	4.12	9.17	68.9
Oct	145	145	79.0	15.8	132	4.05	7.13	55.3	55.2	4.61	99.5	4.00	7.47	61.0
Nov	177	177	113	17.2	172	7.89	11.1	75.4	75.2	8.13	123	3.91	9.10	61.4
Dec	167	166	134	18.5	173	12.8	14.0	90.9	90.6	11.9	93.0	4.03	8.67	32.3
Annual	139	138	77.6	16.2	141	7.56	10.0	69.2	69.0	8.95	71.0	4.15	6.71	977
Max.	1064	1062	765	276	1391	264	144	958	952	268	676	7.22	55.9	
Min.	48.2	48.1	25.6	1.97	34.4	<1	1.53	12.2	12.2	1.23	0.0603	3.17	2.05	

Wet deposition (Monthly)

2010	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	4.41	4.39	2.98	0.569	4.60	0.413	0.419	2.35	2.34	0.415	2.95
Feb	2.58	2.57	1.97	0.468	4.30	0.159	0.303	1.32	1.31	0.243	0.729
Mar	13.8	13.7	8.08	2.23	13.4	1.47	1.18	9.15	9.12	1.61	2.94
Apr	17.7	17.6	10.3	3.04	16.9	1.42	1.35	8.44	8.41	1.48	9.93
May	17.2	17.2	8.40	1.41	18.8	0.490	1.12	7.07	7.06	1.00	8.90
June	16.8	16.8	7.89	1.11	16.9	0.586	0.941	5.87	5.85	0.728	12.7
July	14.5	14.4	8.07	1.99	15.8	0.902	1.36	8.27	8.25	0.995	6.63
Aug	9.19	9.18	4.50	0.765	5.65	0.200	0.677	7.31	7.31	0.576	2.86
Sept	14.4	14.3	7.67	1.65	17.2	0.620	0.889	7.00	6.98	0.557	5.19
Oct	8.85	8.83	4.82	0.962	8.08	0.247	0.435	3.37	3.37	0.281	6.07
Nov	10.9	10.9	6.97	1.06	10.6	0.484	0.683	4.63	4.62	0.499	7.54
Dec	5.40	5.37	4.33	0.597	5.59	0.413	0.451	2.94	2.93	0.386	3.01
Annual	136	135	75.9	15.8	137	7.38	9.78	67.6	67.5	8.75	69.3

Data completeness (Monthly)

2010	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	95.6	95.6	95.6	95.6	95.6	95.6	95.6	95.6	95.6	95.6	95.6	95.6	95.6	100
Feb	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
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	99.8	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
May	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	100
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	96.7
July	100	100	100	100	100	100	100	100	100	100	100	100	100	93.5
Aug	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dec	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
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	99.2

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

[0.00] for deposition: The deposition was 0 mmol/m² 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%)

Note

Table 3.8 Monthly results

Site: Jinyunshan

Country: China

Volume-weighted mean concentrations/ Precipitation (Monthly)

2010	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	443	442	218	34.5	363	18.6	30.0	200	200	15.6	371	3.43	24.4	11.0
Feb	389	387	230	69.6	406	27.7	33.5	235	234	22.4	185	3.73	18.4	13.9
Mar	248	247	134	30.8	194	18.6	15.7	154	153	14.4	135	3.87	11.6	59.4
Apr	147	146	77.1	18.3	134	10.8	10.5	46.9	46.7	5.55	136	3.87	8.87	160
May	144	144	67.3	14.2	115	8.18	9.86	63.4	63.3	6.99	117	3.93	7.61	129
June	143	143	56.4	8.38	154	3.91	8.00	39.3	39.2	3.23	120	3.92	7.63	128
July	53.1	52.8	27.5	10.3	42.1	4.51	3.48	24.8	24.7	1.88	47.0	4.33	2.92	171
Aug	106	106	53.9	10.6	69.9	5.81	4.78	103	103	4.92	35.1	4.45	4.74	51.9
Sept	136	136	60.1	16.6	111	7.86	18.0	62.8	62.6	5.87	95.4	4.02	6.97	111
Oct	159	159	73.3	13.9	77.7	3.75	5.50	80.4	80.3	3.60	119	3.92	7.96	60.7
Nov	263	262	133	18.4	171	7.96	15.9	128	128	6.99	177	3.75	13.9	51.9
Dec	317	316	195	24.3	240	14.0	14.5	126	126	9.19	274	3.56	19.0	30.9
Annual	151	151	75.0	16.1	124	8.17	10.4	68.7	68.6	5.76	115	3.94	8.07	979
Max.	1084	1067	675	845	798	635	109	1352	1339	175	1072	5.88	65.6	
Min.	35.4	35.1	20.6	1.97	6.10	<1	1.53	16.2	16.2	1.23	1.32	2.97	1.99	

Wet deposition (Monthly)

2010	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	4.87	4.86	2.40	0.380	3.99	0.204	0.330	2.20	2.20	0.172	4.08
Feb	5.40	5.38	3.20	0.968	5.65	0.385	0.465	3.26	3.25	0.312	2.57
Mar	14.7	14.7	7.99	1.83	11.5	1.11	0.932	9.12	9.10	0.857	8.00
Apr	23.4	23.3	12.3	2.93	21.4	1.72	1.68	7.49	7.46	0.887	21.7
May	18.6	18.6	8.69	1.84	14.8	1.06	1.27	8.19	8.17	0.903	15.1
June	18.4	18.4	7.24	1.08	19.7	0.502	1.03	5.05	5.04	0.414	15.4
July	9.09	9.04	4.71	1.76	7.21	0.772	0.595	4.25	4.24	0.322	8.05
Aug	5.50	5.48	2.80	0.550	3.63	0.302	0.248	5.34	5.33	0.255	1.82
Sept	15.1	15.1	6.66	1.84	12.3	0.870	1.99	6.96	6.94	0.650	10.6
Oct	9.67	9.65	4.45	0.845	4.71	0.228	0.334	4.88	4.87	0.219	7.24
Nov	13.6	13.6	6.91	0.957	8.89	0.413	0.823	6.64	6.63	0.363	9.18
Dec	9.78	9.75	6.04	0.751	7.40	0.433	0.447	3.91	3.90	0.284	8.45
Annual	148	148	73.4	15.7	121	8.00	10.2	67.3	67.1	5.64	112

Data completeness (Monthly)

2010	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/m² 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%)

Note

Table 3.9 Monthly results

Site: Shizhan

Country: China

Volume-weighted mean concentrations/ Precipitation (Monthly)

2010	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	293	291	140	52.4	343	30.7	271	274	274	28.4	0.442	6.35	14.3	41.3
Apr	84.7	83.9	41.3	19.2	136	12.2	91.8	124	124	11.0	0.0133	7.88	6.34	23.6
May	62.6	62.3	61.5	20.0	70.2	6.57	5.78	195	195	14.7	0.0418	7.38	6.43	47.4
June	102	102	38.4	29.8	79.4	1.87	2.25	78.3	78.3	19.0	0.251	6.60	3.59	9.20
July	60.1	59.9	20.2	25.2	195	3.56	0.474	94.3	94.2	10.6	0.0340	7.47	4.44	96.8
Aug	68.2	67.9	12.6	15.8	171	5.11	4.81	46.5	46.4	9.08	0.475	6.32	4.16	119
Sept	69.7	69.5	34.6	19.2	151	3.69	3.56	66.7	66.6	5.02	0.139	6.86	3.69	77.8
Oct	194	194	59.7	19.3	303	5.13	7.30	91.9	91.8	5.48	0.0739	7.13	6.71	43.9
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Annual	100.0	99.5	41.0	22.9	187	7.30	32.4	105	105	11.0	0.211	6.68	5.63	459
Max.	309	307	144	56.2	350	31.8	370	288	287	28.7	1.78	8.07	15.5	
Min.	3.83	3.60	4.76	2.71	<1	<1	<0.3	28.1	28.1	3.58	0	5.75	1.77	

Wet deposition (Monthly)

2010	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	12.1	12.0	5.78	2.16	14.2	1.27	11.2	11.3	11.3	1.17	0.0182
Apr	2.00	1.98	0.974	0.454	3.22	0.287	2.17	2.92	2.92	0.260	<0.01
May	2.97	2.95	2.91	0.947	3.33	0.311	0.274	9.26	9.25	0.698	<0.01
June	0.938	0.937	0.353	0.275	0.731	0.0172	0.0207	0.721	0.720	0.174	<0.01
July	5.81	5.79	1.96	2.43	18.8	0.344	0.0459	9.12	9.12	1.02	<0.01
Aug	8.08	8.05	1.49	1.87	20.3	0.606	0.570	5.51	5.49	1.08	0.0563
Sept	5.42	5.41	2.69	1.49	11.7	0.287	0.277	5.19	5.18	0.391	0.0108
Oct	8.52	8.51	2.62	0.845	13.3	0.225	0.320	4.04	4.03	0.241	<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	45.8	45.6	18.8	10.5	85.6	3.35	14.9	48.1	48.0	5.04	0.0965

Data completeness (Monthly)

2010	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
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/m² 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%)

Note

Table 3.10 Monthly results

Site: Jiwozi

Country: China

Volume-weighted mean concentrations/ Precipitation (Monthly)

2010	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	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Apr	19.9	19.3	20.7	16.0	44.0	10.4	5.98	158	158	11.2	0.0163	7.79	3.84	44.0
May	74.3	73.1	44.7	19.8	36.5	20.0	9.15	136	136	25.0	0.0614	7.21	4.68	61.3
June	86.3	85.6	26.1	21.2	15.9	12.1	19.6	91.4	91.1	17.7	0.511	6.29	3.31	106
July	33.1	32.7	12.1	18.8	15.6	7.36	2.76	29.9	29.8	6.27	5.84	5.23	1.62	443
Aug	18.4	18.1	3.62	4.06	1.09	4.46	5.11	16.9	16.8	4.51	1.92	5.72	0.779	191
Sept	11.9	11.9	4.25	3.04	20.6	<1	1.27	11.6	11.6	2.15	1.08	5.97	0.633	242
Oct	17.8	17.7	10.2	51.4	24.1	2.05	3.60	46.4	46.4	3.53	1.52	5.82	1.59	55.8
Nov	9.82	9.48	2.50	1.57	60.1	5.76	2.73	12.3	12.2	2.07	0.137	6.86	0.925	11.3
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Annual	31.8	31.4	12.2	14.6	17.3	6.47	4.89	40.7	40.6	7.17	2.91	5.54	1.67	1155
Max.	177	176	141	116	144	76.9	60.0	255	254	63.1	19.1	7.83	8.86	
Min.	2.65	2.65	<1	<1	<1	<1	<0.3	3.74	3.69	0.905	0.0148	4.72	0.428	

Wet deposition (Monthly)

2010	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr	0.875	0.847	0.909	0.703	1.93	0.456	0.263	6.97	6.96	0.491	<0.01
May	4.56	4.48	2.74	1.21	2.24	1.22	0.561	8.35	8.32	1.53	<0.01
June	9.15	9.07	2.77	2.25	1.68	1.29	2.08	9.69	9.66	1.88	0.0542
July	14.7	14.5	5.36	8.32	6.91	3.26	1.22	13.3	13.2	2.78	2.59
Aug	3.51	3.46	0.693	0.776	0.209	0.853	0.977	3.22	3.20	0.861	0.368
Sept	2.89	2.88	1.03	0.736	5.00	0.218	0.308	2.82	2.81	0.520	0.261
Oct	0.995	0.988	0.571	2.87	1.34	0.114	0.201	2.59	2.59	0.197	0.0851
Nov	0.111	0.107	0.0282	0.0178	0.680	0.0650	0.0309	0.139	0.138	0.0234	<0.01
Dec	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	36.8	36.3	14.1	16.9	20.0	7.47	5.64	47.0	46.9	8.28	3.36

Data completeness (Monthly)

2010	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	--	--	--	--	--	--	--	--	--	--	--	--	--	6.45
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	75.9

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

[0.00] for deposition: The deposition was 0 mmol/m² 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%)

Note

Table 3.11 Monthly results

Site: Hongwen

Country: China

Volume-weighted mean concentrations/ Precipitation (Monthly)

2010	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	20.6	20.2	10.5	8.40	29.6	7.80	16.0	13.3	13.2	2.29	50.3	4.30	3.33	32.9
Feb	27.0	26.0	30.5	28.3	36.4	17.4	4.20	14.1	13.7	3.33	32.6	4.49	2.08	113
Mar	43.6	42.1	55.1	40.7	75.2	24.5	3.51	8.97	8.44	3.17	70.0	4.16	3.73	51.8
Apr	30.7	30.3	39.4	13.2	59.6	7.04	2.40	6.41	6.25	1.64	61.8	4.21	2.74	184
May	29.0	28.6	38.7	11.1	57.4	6.60	1.81	8.13	7.98	1.36	25.5	4.59	2.46	159
June	14.3	14.0	18.9	6.90	29.9	5.38	0.984	3.94	3.82	1.04	16.4	4.79	1.54	413
July	20.7	20.3	33.2	8.77	39.5	7.10	0.678	10.6	10.5	1.61	20.0	4.70	1.90	193
Aug	30.0	29.3	38.3	13.0	64.8	11.4	2.53	22.6	22.4	3.05	5.33	5.27	2.23	95.8
Sept	45.2	40.4	22.4	28.5	22.7	79.5	2.96	9.64	7.92	3.28	18.5	4.73	1.72	238
Oct	21.2	21.0	22.0	12.8	5.06	3.86	0.495	16.9	16.8	2.36	16.6	4.78	1.60	49.6
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Annual	26.7	25.5	29.0	15.0	39.8	19.4	2.24	9.11	8.70	2.00	26.6	4.57	2.05	1530
Max.	108	91.3	102	122	144	272	35.5	53.2	52.8	11.3	182	5.90	8.41	
Min.	4.15	4.04	3.10	<1	<1	<1	<0.3	0.525	0.268	<0.4	1.26	3.74	0.575	

Wet deposition (Monthly)

2010	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	0.679	0.664	0.347	0.277	0.975	0.257	0.525	0.439	0.433	0.0755	1.66
Feb	3.05	2.94	3.45	3.20	4.11	1.97	0.475	1.59	1.55	0.377	3.69
Mar	2.26	2.18	2.85	2.11	3.89	1.27	0.182	0.464	0.437	0.164	3.62
Apr	5.65	5.58	7.26	2.43	11.0	1.30	0.442	1.18	1.15	0.302	11.4
May	4.62	4.56	6.16	1.77	9.13	1.05	0.288	1.29	1.27	0.216	4.05
June	5.90	5.76	7.79	2.85	12.4	2.22	0.407	1.63	1.58	0.427	6.76
July	4.00	3.92	6.40	1.69	7.62	1.37	0.131	2.05	2.02	0.311	3.85
Aug	2.87	2.81	3.67	1.25	6.21	1.09	0.243	2.17	2.14	0.292	0.511
Sept	10.7	9.59	5.31	6.76	5.39	18.9	0.704	2.29	1.88	0.780	4.40
Oct	1.05	1.04	1.09	0.636	0.251	0.191	0.0246	0.838	0.834	0.117	0.822
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	40.8	39.0	44.3	23.0	60.9	29.6	3.42	13.9	13.3	3.06	40.7

Data completeness (Monthly)

2010	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
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/m² 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%)

Note

Table 3.12 Monthly results

Site: Xiaoping

Country: China

Volume-weighted mean concentrations/ Precipitation (Monthly)

2010	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	42.6	41.6	47.5	27.9	70.6	17.6	3.22	13.2	12.8	2.99	60.9	4.22	3.97	40.3
Feb	27.2	26.4	39.4	19.0	56.4	14.1	4.80	7.06	6.75	2.72	24.1	4.62	1.94	43.2
Mar	36.3	35.6	45.9	17.5	76.8	11.5	3.58	4.17	3.92	1.87	48.3	4.32	2.84	103
Apr	30.7	30.3	39.4	13.2	59.6	7.04	2.40	6.41	6.25	1.64	61.8	4.21	2.74	184
May	29.0	28.6	38.7	11.1	57.4	6.60	1.81	8.13	7.98	1.36	25.5	4.59	2.46	159
June	14.3	14.0	18.9	6.90	29.9	5.38	0.984	3.94	3.82	1.04	16.4	4.79	1.54	413
July	20.7	20.3	33.2	8.77	39.5	7.10	0.678	10.6	10.5	1.61	20.0	4.70	1.90	193
Aug	30.0	29.3	38.3	13.0	64.8	11.4	2.53	22.6	22.4	3.05	5.33	5.27	2.23	95.8
Sept	45.2	40.4	22.4	28.5	22.7	79.5	2.96	9.64	7.92	3.28	18.5	4.73	1.72	238
Oct	21.2	21.0	22.0	12.8	5.06	3.86	0.495	16.9	16.8	2.36	16.6	4.78	1.60	49.6
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Annual	27.3	26.2	30.3	13.9	42.9	18.8	1.94	8.37	7.96	1.89	26.5	4.58	2.06	1518
Max.	108	91.3	109	62.1	148	272	35.5	34.5	33.1	11.1	182	5.90	8.41	
Min.	4.15	4.04	3.10	<1	<1	<1	<0.3	0.525	0.268	<0.4	1.26	3.74	0.575	

Wet deposition (Monthly)

2010	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	1.68	1.92	1.13	2.85	0.711	0.130	0.531	0.516	0.121	2.46
Feb	1.18	1.14	1.70	0.822	2.44	0.608	0.207	0.305	0.292	0.118	1.04
Mar	3.73	3.65	4.71	1.80	7.88	1.18	0.367	0.428	0.402	0.192	4.96
Apr	5.65	5.58	7.26	2.43	11.0	1.30	0.442	1.18	1.15	0.302	11.4
May	4.62	4.56	6.16	1.77	9.13	1.05	0.288	1.29	1.27	0.216	4.05
June	5.90	5.76	7.79	2.85	12.4	2.22	0.407	1.63	1.58	0.427	6.76
July	4.00	3.92	6.40	1.69	7.62	1.37	0.131	2.05	2.02	0.311	3.85
Aug	2.87	2.81	3.67	1.25	6.21	1.09	0.243	2.17	2.14	0.292	0.511
Sept	10.7	9.59	5.31	6.76	5.39	18.9	0.704	2.29	1.88	0.780	4.40
Oct	1.05	1.04	1.09	0.636	0.251	0.191	0.0246	0.838	0.834	0.117	0.822
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	41.4	39.7	46.0	21.1	65.1	28.6	2.94	12.7	12.1	2.88	40.2

Data completeness (Monthly)

2010	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
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/m² 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%)

Note

Table 3.13 Monthly results

Site: Xiang Zhou

Country: China

Volume-weighted mean concentrations/ Precipitation (Monthly)

2010	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	71.8	68.9	81.4	67.7	79.9	48.4	3.82	8.74	7.69	5.75	78.9	4.10	7.36	23.5
Feb	20.9	19.6	22.7	23.8	26.0	22.7	1.80	6.29	5.80	3.49	12.1	4.92	1.95	108
Mar	71.3	70.1	73.9	30.3	99.0	20.7	7.66	18.5	18.1	4.09	31.1	4.51	4.46	18.0
Apr	37.3	35.9	53.2	29.3	50.3	23.1	2.68	9.35	8.86	3.30	40.0	4.40	3.30	133
May	13.1	12.3	18.3	16.2	16.3	14.2	0.967	4.25	3.95	2.11	11.3	4.95	1.34	258
June	7.44	6.86	8.23	8.96	9.73	9.70	1.24	4.23	4.02	0.909	4.75	5.32	0.672	414
July	6.64	4.94	6.89	32.3	8.07	28.1	2.53	6.14	5.53	3.33	1.67	5.78	0.771	256
Aug	16.0	14.6	27.3	25.4	20.4	23.5	2.62	11.7	11.1	3.10	12.2	4.91	1.94	123
Sept	23.3	22.3	18.9	19.4	28.3	16.5	1.82	7.01	6.66	2.19	12.1	4.92	1.72	427
Oct	83.3	79.6	168	63.2	96.8	61.0	3.92	23.2	21.9	8.12	76.6	4.12	6.68	56.0
Nov	37.8	36.3	5.03	28.4	34.2	26.3	11.5	22.7	22.2	2.36	13.3	4.88	2.79	30.0
Dec	51.4	47.6	56.9	85.5	69.9	63.5	19.2	36.4	35.0	10.3	34.7	4.46	5.46	13.0
Annual	19.8	18.6	23.9	22.4	24.4	19.8	2.21	7.40	6.97	2.57	14.1	4.85	1.74	1857
Max.	165	163	248	207	196	155	19.2	69.6	69.4	18.1	151	6.18	15.3	
Min.	3.60	3.42	1.80	2.80	3.90	<1	0.300	2.70	2.60	0.400	0.661	3.82	0.340	

Wet deposition (Monthly)

2010	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	1.69	1.62	1.91	1.59	1.88	1.14	0.0898	0.205	0.181	0.135	1.85
Feb	2.25	2.10	2.44	2.55	2.80	2.44	0.194	0.676	0.624	0.375	1.30
Mar	1.28	1.26	1.33	0.545	1.78	0.373	0.138	0.333	0.325	0.0736	0.559
Apr	4.97	4.78	7.07	3.89	6.69	3.07	0.356	1.24	1.18	0.439	5.32
May	3.38	3.16	4.71	4.17	4.21	3.66	0.249	1.10	1.02	0.545	2.92
June	3.08	2.84	3.40	3.70	4.02	4.01	0.513	1.75	1.66	0.376	1.97
July	1.70	1.27	1.76	8.26	2.07	7.20	0.648	1.57	1.42	0.852	0.428
Aug	1.96	1.79	3.34	3.12	2.50	2.88	0.320	1.43	1.37	0.380	1.49
Sept	9.94	9.51	8.04	8.28	12.1	7.05	0.775	2.99	2.84	0.933	5.18
Oct	4.66	4.46	9.43	3.54	5.42	3.42	0.219	1.30	1.22	0.455	4.29
Nov	1.14	1.09	0.151	0.851	1.03	0.789	0.346	0.682	0.665	0.0709	0.400
Dec	0.668	0.618	0.740	1.11	0.909	0.826	0.250	0.473	0.455	0.134	0.451
Annual	36.7	34.5	44.3	41.6	45.4	36.8	4.10	13.7	13.0	4.77	26.2

Data completeness (Monthly)

2010	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/m² 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%)

Note

Table 3.14 Monthly results

Site: Zhuxiandong

Country: China

Volume-weighted mean concentrations/ Precipitation (Monthly)

2010	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	76.6	73.0	85.2	64.8	84.4	59.6	7.90	15.0	13.7	7.89	94.2	4.03	6.89	8.50
Mar	74.6	71.9	70.8	54.1	110	44.6	10.0	29.2	28.2	7.81	38.3	4.42	4.43	17.5
Apr	35.3	33.9	49.4	30.0	59.3	22.6	4.44	12.1	11.6	3.81	27.2	4.57	2.43	175
May	10.1	9.58	13.4	10.4	12.3	8.21	1.05	5.65	5.47	1.52	13.1	4.88	0.943	251
June	9.35	8.17	10.4	17.0	14.6	19.6	4.62	34.5	34.1	2.02	2.90	5.54	0.785	416
July	6.95	5.18	7.15	33.4	6.75	29.4	2.48	5.70	5.06	3.89	3.38	5.47	0.920	271
Aug	10.8	9.66	18.6	19.6	16.4	18.1	2.56	9.46	9.07	2.61	7.64	5.12	1.13	244
Sept	21.0	20.4	13.8	11.8	23.9	10.3	2.15	8.29	8.07	2.36	14.3	4.84	1.42	366
Oct	46.3	42.9	76.5	63.1	45.8	57.0	3.63	31.2	30.0	8.17	29.0	4.54	3.38	58.0
Nov	35.4	33.0	44.2	28.4	30.3	38.4	14.6	76.0	75.2	2.14	12.0	4.92	3.24	32.5
Dec	71.2	68.1	59.0	69.6	116	51.7	8.38	39.5	38.4	7.75	12.5	4.90	4.92	15.5
Annual	17.1	15.9	19.7	21.7	22.7	19.9	3.29	16.4	15.9	2.86	11.3	4.95	1.37	1853
Max.	147	139	266	157	152	147	21.2	172	170	21.4	101	7.17	8.18	
Min.	4.20	3.49	4.50	5.10	3.90	3.00	0.300	3.00	2.48	0.400	0.0676	4.00	0.435	

Wet deposition (Monthly)

2010	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	0.651	0.621	0.725	0.551	0.717	0.507	0.0672	0.127	0.117	0.0671	0.801
Mar	1.30	1.26	1.24	0.948	1.92	0.780	0.176	0.511	0.494	0.137	0.670
Apr	6.16	5.92	8.62	5.24	10.3	3.95	0.775	2.12	2.03	0.664	4.75
May	2.53	2.40	3.35	2.62	3.08	2.06	0.264	1.42	1.37	0.382	3.30
June	3.89	3.40	4.31	7.06	6.06	8.15	1.92	14.4	14.2	0.840	1.21
July	1.88	1.40	1.93	9.04	1.83	7.97	0.672	1.54	1.37	1.05	0.913
Aug	2.62	2.35	4.53	4.78	3.98	4.42	0.623	2.30	2.21	0.636	1.86
Sept	7.67	7.44	5.06	4.32	8.72	3.78	0.787	3.03	2.95	0.864	5.23
Oct	2.68	2.49	4.44	3.66	2.66	3.31	0.210	1.81	1.74	0.474	1.68
Nov	1.15	1.07	1.44	0.923	0.985	1.25	0.474	2.47	2.44	0.0694	0.391
Dec	1.10	1.06	0.915	1.08	1.79	0.801	0.130	0.612	0.595	0.120	0.194
Annual	31.6	29.4	36.6	40.2	42.1	37.0	6.10	30.3	29.5	5.30	21.0

Data completeness (Monthly)

2010	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	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/m² 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%)

Note

Table 3.15 Monthly results

Site: Jakarta

Country: Indonesia

Volume-weighted mean concentrations/ Precipitation (Monthly)

2010	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	17.8	17.2	8.12	28.3	18.3	10.6	1.64	8.40	8.18	1.90	10.5	4.98	0.955	336
Feb	21.1	20.7	21.2	10.5	6.92	6.84	2.33	12.3	12.2	2.98	21.0	4.68	1.65	248
Mar	17.8	17.5	18.9	12.6	7.05	5.62	4.19	10.6	10.5	2.27	18.5	4.73	1.42	232
Apr	22.8	22.5	31.1	11.7	38.3	5.26	1.75	17.5	17.4	2.11	8.30	5.08	1.57	27.4
May	26.9	26.7	34.5	10.1	28.7	4.18	1.66	19.6	19.5	2.17	29.0	4.54	2.18	93.2
June	22.7	22.4	15.9	12.8	32.9	5.68	2.26	9.82	9.69	1.83	7.02	5.15	1.19	132
July	22.8	22.4	17.3	10.0	27.2	7.26	2.32	7.99	7.84	2.27	15.0	4.82	1.60	189
Aug	26.3	25.8	12.9	14.2	32.0	8.92	0.378	12.0	11.8	1.92	11.6	4.94	1.63	105
Sept	22.7	22.1	18.5	19.7	47.5	8.97	1.81	8.14	7.94	1.49	18.1	4.74	1.58	217
Oct	19.0	18.6	20.7	7.00	4.90	6.95	1.95	7.23	7.08	2.08	31.6	4.50	1.88	269
Nov	44.8	44.0	25.8	29.3	52.0	13.2	4.38	20.5	20.2	4.12	28.5	4.54	2.10	97.4
Dec	19.9	19.4	5.43	13.6	34.5	8.88	1.70	8.65	8.46	2.29	19.2	4.72	6.01	174
Annual	21.9	21.4	17.1	15.4	23.0	7.92	2.23	10.3	10.2	2.23	18.6	4.73	1.90	2120
Max.	63.5	61.9	65.4	62.7	92.3	26.5	46.7	91.3	90.9	6.95	44.7	5.87	9.41	
Min.	4.51	3.97	1.94	3.14	<1	1.68	<0.3	2.13	1.83	<0.4	1.35	4.35	0.418	

Wet deposition (Monthly)

2010	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	5.99	5.78	2.73	9.49	6.14	3.55	0.551	2.82	2.75	0.640	3.51
Feb	5.25	5.14	5.26	2.62	1.72	1.70	0.578	3.07	3.03	0.739	5.21
Mar	4.14	4.06	4.38	2.92	1.64	1.30	0.972	2.47	2.44	0.526	4.30
Apr	0.624	0.616	0.852	0.322	1.05	0.144	0.0480	0.479	0.476	0.0578	0.227
May	2.51	2.48	3.22	0.938	2.68	0.390	0.155	1.83	1.82	0.203	2.70
June	2.99	2.94	2.10	1.68	4.33	0.748	0.298	1.29	1.28	0.241	0.924
July	4.31	4.22	3.27	1.89	5.14	1.37	0.438	1.51	1.48	0.429	2.83
Aug	2.77	2.71	1.35	1.49	3.37	0.939	0.0398	1.26	1.24	0.202	1.22
Sept	4.93	4.81	4.02	4.27	10.3	1.95	0.392	1.77	1.73	0.323	3.93
Oct	5.11	5.00	5.57	1.88	1.32	1.87	0.524	1.95	1.91	0.560	8.50
Nov	4.37	4.29	2.52	2.85	5.06	1.28	0.426	1.99	1.97	0.401	2.78
Dec	3.46	3.37	0.944	2.36	5.99	1.54	0.296	1.50	1.47	0.398	3.34
Annual	46.4	45.4	36.2	32.7	48.8	16.8	4.72	21.9	21.6	4.72	39.5

Data completeness (Monthly)

2010	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	96.6
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	96.4
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	96.8
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	96.6
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	96.9
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	96.7
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	98.4

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

[0.00] for deposition: The deposition was 0 mmol/m² 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%)

Note

Table 3.16 Monthly results

Site: Serpong

Country: Indonesia

Volume-weighted mean concentrations/ Precipitation (Monthly)

2010	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	14.0	13.7	12.7	26.1	35.3	4.04	0.984	4.34	4.25	5.22	7.16	5.14	1.13	112
Feb	22.6	22.2	52.9	24.4	52.3	6.66	1.79	12.8	12.7	5.71	17.4	4.76	2.12	84.4
Mar	28.9	28.4	30.5	31.5	56.2	8.63	2.67	12.5	12.3	3.64	10.5	4.98	1.76	116
Apr	31.2	30.7	31.8	27.2	70.0	8.84	2.65	11.8	11.6	3.71	2.47	5.61	1.99	6.80
May	23.8	23.5	28.4	21.0	46.4	4.86	1.20	6.85	6.74	2.03	19.0	4.72	1.94	150
June	22.9	22.3	28.0	33.3	62.2	9.32	1.96	12.7	12.5	3.54	4.72	5.33	1.68	105
July	14.0	13.7	17.2	14.2	32.2	4.63	0.961	6.16	6.06	2.15	5.11	5.29	1.10	135
Aug	24.4	23.8	43.9	23.5	63.4	10.5	2.03	11.6	11.4	2.78	16.6	4.78	2.14	176
Sept	21.2	20.7	27.8	16.1	38.8	7.21	3.10	6.50	6.34	2.37	25.8	4.59	1.87	155
Oct	24.5	24.0	24.9	15.7	29.6	7.86	2.01	6.98	6.81	1.28	26.2	4.58	1.83	172
Nov	41.3	40.6	48.9	20.2	69.2	12.7	4.03	16.4	16.1	3.28	36.4	4.44	3.15	127
Dec	33.1	32.1	8.35	30.4	119	17.3	20.3	6.46	6.08	4.96	16.3	4.79	2.99	86.8
Annual	24.4	23.9	29.8	22.4	52.3	8.32	3.20	9.25	9.07	3.09	17.5	4.76	1.95	1426
Max.	97.3	96.6	157	82.6	444	64.8	65.0	39.9	39.2	20.8	95.5	7.90	7.30	
Min.	2.70	2.45	2.70	4.80	5.30	<1	<0.3	1.70	1.63	<0.4	0.0126	4.02	0.527	

Wet deposition (Monthly)

2010	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	1.54	1.42	2.92	3.94	0.451	0.110	0.485	0.475	0.583	0.801
Feb	1.91	1.88	4.46	2.06	4.41	0.562	0.151	1.08	1.07	0.482	1.47
Mar	3.34	3.28	3.53	3.65	6.51	1.000	0.309	1.44	1.42	0.421	1.21
Apr	0.212	0.209	0.216	0.185	0.476	0.0601	0.0180	0.0802	0.0789	0.0252	0.0168
May	3.58	3.53	4.27	3.16	6.97	0.730	0.180	1.03	1.01	0.306	2.85
June	2.40	2.34	2.94	3.49	6.53	0.979	0.206	1.34	1.32	0.371	0.496
July	1.89	1.85	2.32	1.92	4.35	0.626	0.130	0.831	0.818	0.290	0.690
Aug	4.30	4.19	7.73	4.14	11.2	1.85	0.358	2.05	2.01	0.489	2.92
Sept	3.27	3.21	4.31	2.49	6.00	1.11	0.480	1.01	0.981	0.366	3.99
Oct	4.21	4.13	4.29	2.71	5.08	1.35	0.346	1.20	1.17	0.219	4.50
Nov	5.27	5.17	6.23	2.58	8.82	1.62	0.514	2.09	2.05	0.418	4.63
Dec	2.88	2.79	0.725	2.63	10.3	1.51	1.76	0.561	0.528	0.430	1.41
Annual	34.8	34.1	42.4	31.9	74.6	11.9	4.57	13.2	12.9	4.40	25.0

Data completeness (Monthly)

2010	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/m² 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%)

Note

Table 3.17 Monthly results

Site: Kototabang

Country: Indonesia

Volume-weighted mean concentrations/ Precipitation (Monthly)

2010	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	6.74	6.60	<1	4.84	<1	2.40	2.39	3.79	3.74	0.877	12.1	4.92	0.718	307
Feb	7.54	7.30	<1	7.04	<1	4.08	2.61	6.52	6.43	0.969	12.3	4.91	0.737	183
Mar	5.13	4.94	<1	3.70	<1	3.04	1.78	2.53	2.47	1.13	18.0	4.74	0.823	307
Apr	4.25	4.19	2.17	7.93	4.21	1.33	6.49	1.58	1.55	0.796	14.2	4.85	0.777	347
May	5.46	5.18	1.35	8.34	1.33	4.66	4.56	4.18	4.08	1.62	20.4	4.69	1.10	351
June	9.07	8.89	1.89	16.8	5.79	5.80	3.21	6.90	6.78	2.96	23.2	4.63	1.28	225
July	5.65	4.42	1.25	10.2	3.22	20.3	17.3	11.5	11.1	2.35	17.6	4.75	1.42	83.0
Aug	7.20	6.79	13.1	14.4	<1	6.73	12.7	9.61	9.46	1.88	23.8	4.62	1.14	37.5
Sept	4.14	3.33	<1	5.58	<1	13.6	6.24	7.80	7.51	2.54	8.77	5.06	0.632	86.0
Oct	4.46	3.85	3.50	8.99	9.62	10.2	4.40	5.46	5.24	2.18	10.4	4.98	0.745	70.0
Nov	3.37	2.92	4.14	8.98	6.25	7.44	3.61	6.15	5.99	1.64	15.3	4.82	0.891	296
Dec	27.3	26.8	22.6	63.0	5.08	7.55	4.33	5.21	5.05	3.07	10.2	4.99	0.736	79.3
Annual	6.33	6.04	2.37	9.91	2.83	5.25	4.43	4.77	4.65	1.55	16.0	4.80	0.903	2370
Max.	42.0	40.2	47.6	98.1	118	239	204	68.3	63.2	19.4	56.2	6.62	5.65	
Min.	<1	<1	<1	<1	<1	<1	<0.3	0.400	0.398	<0.4	0.240	4.25	0.340	

Wet deposition (Monthly)

2010	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	2.07	2.02	0.106	1.48	0.159	0.736	0.734	1.16	1.15	0.269	3.70
Feb	1.38	1.34	<0.01	1.29	0.0482	0.748	0.479	1.19	1.18	0.177	2.25
Mar	1.58	1.52	<0.01	1.14	0.0793	0.934	0.548	0.778	0.758	0.347	5.53
Apr	1.47	1.45	0.751	2.75	1.46	0.462	2.25	0.547	0.537	0.276	4.93
May	1.91	1.82	0.472	2.92	0.467	1.63	1.60	1.46	1.43	0.569	7.15
June	2.04	1.99	0.425	3.77	1.30	1.30	0.721	1.55	1.52	0.665	5.22
July	0.469	0.367	0.104	0.843	0.267	1.69	1.44	0.955	0.919	0.195	1.46
Aug	0.270	0.255	0.490	0.538	<0.01	0.252	0.477	0.360	0.355	0.0705	0.892
Sept	0.356	0.286	<0.01	0.480	0.0130	1.17	0.537	0.671	0.646	0.218	0.754
Oct	0.312	0.269	0.245	0.629	0.673	0.713	0.308	0.382	0.367	0.153	0.725
Nov	0.995	0.863	1.22	2.66	1.85	2.20	1.07	1.82	1.77	0.486	4.52
Dec	2.16	2.13	1.79	5.00	0.403	0.598	0.344	0.413	0.400	0.243	0.806
Annual	15.0	14.3	5.61	23.5	6.72	12.4	10.5	11.3	11.0	3.67	37.9

Data completeness (Monthly)

2010	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	96.8
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	75.0
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	96.8
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	83.3
May	100	100	100	100	100	100	100	100	100	100	100	100	100	96.8
June	100	100	100	100	100	100	100	100	100	100	100	100	100	96.7
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	90.6
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	96.7
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	96.8
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	93.3
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	93.7

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

[0.00] for deposition: The deposition was 0 mmol/m² 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%)

Note

Table 3.18 Monthly results

Site: Bandung

Country: Indonesia

Volume-weighted mean concentrations/ Precipitation (Monthly)

2010	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	17.6	17.2	12.1	7.38	25.0	7.78	3.43	10.5	10.4	4.26	5.52	5.26	1.04	338
Feb	23.1	22.4	14.3	10.1	32.3	12.5	5.05	10.4	10.2	3.47	6.01	5.22	1.25	463
Mar	24.3	23.8	16.8	7.40	24.5	8.25	5.32	10.3	10.1	2.79	8.65	5.06	1.30	493
Apr	27.6	26.3	25.1	12.5	30.5	20.4	6.34	30.6	30.1	10.1	0.181	6.74	1.74	24.1
May	24.1	23.8	16.3	5.05	25.9	5.80	2.98	11.9	11.8	4.05	7.05	5.15	1.28	266
June	31.3	30.7	19.2	7.77	41.6	9.88	3.11	15.9	15.7	4.63	5.86	5.23	1.56	178
July	27.6	27.0	17.2	9.56	40.7	9.76	3.33	12.7	12.5	4.98	3.35	5.48	1.43	67.2
Aug	39.3	38.2	29.1	15.2	51.1	18.7	5.29	25.8	25.4	8.89	0.635	6.20	1.90	73.8
Sept	27.0	26.0	29.4	13.3	42.6	17.2	4.35	21.1	20.7	6.07	0.813	6.09	1.76	51.2
Oct	29.6	29.0	20.6	9.19	40.3	10.7	3.60	17.4	17.2	5.69	4.36	5.36	1.45	250
Nov	47.8	47.2	27.0	12.0	40.9	9.47	3.96	17.0	16.8	5.08	31.4	4.50	2.56	200
Dec	29.2	28.8	19.9	6.81	30.0	7.66	4.28	16.2	16.0	6.00	6.63	5.18	1.41	202
Annual	27.0	26.4	17.9	8.60	32.1	9.74	4.22	13.5	13.3	4.43	7.99	5.10	1.43	2606
Max.	119	116	81.8	82.9	129	51.1	77.1	104	103	29.2	100	6.90	4.80	
Min.	7.46	7.19	3.14	1.84	<1	2.06	0.693	5.06	5.01	1.33	0.126	4.00	0.400	

Wet deposition (Monthly)

2010	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	5.97	5.81	4.10	2.50	8.45	2.63	1.16	3.56	3.51	1.44	1.87
Feb	10.7	10.4	6.61	4.70	15.0	5.81	2.34	4.83	4.71	1.61	2.79
Mar	12.0	11.7	8.27	3.65	12.1	4.07	2.62	5.08	5.00	1.38	4.27
Apr	0.663	0.633	0.604	0.300	0.734	0.490	0.152	0.735	0.725	0.244	<0.01
May	6.42	6.32	4.34	1.34	6.90	1.54	0.794	3.18	3.15	1.08	1.87
June	5.57	5.46	3.41	1.38	7.41	1.76	0.553	2.84	2.80	0.824	1.04
July	1.85	1.81	1.15	0.642	2.73	0.655	0.224	0.854	0.840	0.334	0.225
Aug	2.90	2.81	2.15	1.12	3.77	1.38	0.391	1.90	1.87	0.656	0.0468
Sept	1.38	1.33	1.50	0.680	2.18	0.878	0.223	1.08	1.06	0.310	0.0416
Oct	7.41	7.25	5.17	2.30	10.1	2.69	0.900	4.35	4.30	1.43	1.09
Nov	9.55	9.43	5.40	2.41	8.16	1.89	0.790	3.39	3.35	1.02	6.26
Dec	5.90	5.81	4.01	1.37	6.06	1.55	0.864	3.26	3.23	1.21	1.34
Annual	70.3	68.8	46.8	22.4	83.7	25.4	11.0	35.1	34.6	11.6	20.8

Data completeness (Monthly)

2010	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	95.8	95.8	95.8	95.8	95.8	95.8	95.8	95.8	95.8	95.8	95.8	95.8	95.8	100
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	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

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

[0.00] for deposition: The deposition was 0 mmol/m² 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%)

Note

Table 3.19 Monthly results

Site: Maros

Country: Indonesia

Volume-weighted mean concentrations/ Precipitation (Monthly)

2010	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	11.8	10.4	14.7	29.9	9.07	24.3	2.00	5.34	4.81	3.55	5.75	5.24	0.920	26.5
Mar	18.2	17.4	9.32	14.2	23.3	13.6	3.35	9.95	9.66	2.21	8.81	5.06	1.17	247
Apr	10.3	9.14	25.4	6.06	16.7	18.7	1.92	15.9	15.5	3.22	1.79	5.75	0.895	118
May	9.96	8.41	3.79	19.6	17.0	25.7	3.32	11.8	11.3	1.55	7.09	5.15	1.09	392
June	21.2	20.8	16.7	169	9.88	5.96	2.93	26.9	26.8	3.55	3.52	5.45	1.20	95.2
July	5.19	4.79	1.92	29.6	1.94	6.74	2.67	6.54	6.40	1.98	7.65	5.12	0.585	179
Aug	45.6	44.6	15.2	55.5	9.34	16.0	3.22	15.8	15.5	3.08	12.7	4.90	1.26	89.7
Sept	8.64	8.29	3.22	15.0	1.58	5.79	2.22	6.92	6.79	1.64	1.60	5.80	0.360	311
Oct	6.50	4.82	2.39	9.75	2.18	27.8	3.47	23.3	22.7	3.33	9.20	5.04	0.640	202
Nov	6.72	6.39	4.95	5.97	3.67	5.38	1.25	6.31	6.19	1.70	4.69	5.33	0.451	265
Dec	8.33	7.77	4.93	12.2	11.3	9.36	2.08	3.73	3.52	2.12	6.29	5.20	0.505	738
Annual	10.8	10.0	6.35	21.1	10.1	13.2	2.52	9.58	9.30	2.17	6.16	5.21	0.718	2663
Max.	383	382	45.1	481	55.5	50.2	7.24	66.0	65.8	6.61	20.4	6.49	1.95	
Min.	1.59	1.40	<1	<1	<1	2.20	<0.3	2.79	2.46	0.815	0.324	4.69	0.224	

Wet deposition (Monthly)

2010	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	0.314	0.275	0.388	0.793	0.240	0.643	0.0530	0.141	0.128	0.0940	0.152
Mar	4.48	4.28	2.30	3.50	5.76	3.36	0.825	2.45	2.38	0.544	2.17
Apr	1.21	1.08	2.99	0.715	1.97	2.20	0.226	1.87	1.83	0.379	0.212
May	3.90	3.29	1.48	7.65	6.65	10.1	1.30	4.62	4.41	0.607	2.78
June	2.02	1.98	1.59	16.0	0.941	0.567	0.279	2.56	2.55	0.338	0.335
July	0.930	0.857	0.344	5.30	0.347	1.21	0.478	1.17	1.15	0.354	1.37
Aug	4.09	4.00	1.37	4.97	0.838	1.44	0.289	1.42	1.39	0.276	1.14
Sept	2.69	2.58	1.00	4.67	0.491	1.80	0.691	2.15	2.11	0.510	0.497
Oct	1.31	0.972	0.482	1.97	0.439	5.62	0.701	4.70	4.58	0.671	1.86
Nov	1.78	1.69	1.31	1.58	0.972	1.43	0.330	1.67	1.64	0.450	1.24
Dec	6.15	5.73	3.64	8.98	8.37	6.91	1.53	2.75	2.60	1.57	4.64
Annual	28.9	26.7	16.9	56.2	27.0	35.3	6.71	25.5	24.8	5.79	16.4

Data completeness (Monthly)

2010	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	--	--	--	--	--	--	--	--	--	--	--	--	--	96.8
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	96.4
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	96.8
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	96.7
May	100	100	100	100	100	100	100	100	100	100	100	100	100	96.8
June	100	100	100	100	100	100	100	100	100	100	100	100	100	96.7
July	100	100	100	100	100	100	100	100	100	100	100	100	100	96.8
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	96.8
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	96.7
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	96.8
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	93.3
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	96.7

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

[0.00] for deposition: The deposition was 0 mmol/m² 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%)

Note

Table 3.20 Monthly results

Site: Rishiri

Country: Japan

Volume-weighted mean concentrations/ Precipitation (Monthly)

2010	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	33.2	15.1	13.9	350	9.20	300	8.51	9.61	3.26	34.4	35.2	4.45	6.08	85.0
Feb	47.5	24.1	31.0	440	23.8	389	10.4	16.2	7.83	48.0	35.5	4.45	8.40	68.5
Mar	25.0	11.6	10.8	241	9.02	224	4.99	9.99	5.16	27.1	16.4	4.79	4.66	37.0
Apr	21.7	15.0	22.4	121	17.2	111	3.84	18.6	16.2	14.6	5.88	5.23	2.73	65.5
May	28.4	26.9	25.2	29.0	34.4	25.2	2.38	9.52	8.98	4.93	22.9	4.64	2.39	62.0
June	43.8	42.5	37.5	26.1	63.6	22.7	4.48	4.36	3.87	3.09	47.1	4.33	3.69	28.5
July	12.8	10.7	8.35	37.6	15.7	34.4	0.990	1.17	0.427	3.78	13.0	4.89	1.47	267
Aug	6.09	5.72	7.27	7.58	6.89	6.21	0.340	0.741	0.607	0.801	9.19	5.04	0.775	87.3
Sept	16.0	6.14	8.97	189	7.56	163	3.36	4.39	0.991	17.5	12.6	4.90	3.35	116
Oct	29.3	16.3	14.7	249	17.1	216	5.09	5.99	1.48	23.1	27.6	4.56	5.05	84.6
Nov	24.7	8.77	10.2	299	9.12	264	6.11	8.14	2.43	29.3	14.3	4.84	4.99	123
Dec	52.3	19.6	28.5	620	16.2	543	13.2	21.2	9.50	63.2	24.3	4.61	10.2	48.8
Annual	23.4	13.6	14.3	184	15.7	162	4.28	6.89	3.44	18.6	18.7	4.73	3.77	1072
Max.	684	257	332	11872	267	10399	247	272	58.1	1192	447	6.08	163	
Min.	1.38	<1	<1	1.18	<1	<1	<0.3	<0.2	<0.2	<0.4	0.832	3.35	0.294	

Wet deposition (Monthly)

2010	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	2.82	1.28	1.18	29.7	0.782	25.5	0.723	0.817	0.277	2.92	2.99
Feb	3.25	1.65	2.13	30.2	1.63	26.6	0.710	1.11	0.536	3.29	2.43
Mar	0.926	0.428	0.400	8.92	0.334	8.27	0.185	0.370	0.191	1.00	0.605
Apr	1.42	0.980	1.47	7.94	1.13	7.27	0.252	1.22	1.06	0.957	0.385
May	1.76	1.67	1.56	1.80	2.13	1.56	0.147	0.590	0.557	0.305	1.42
June	1.25	1.21	1.07	0.744	1.81	0.646	0.128	0.124	0.110	0.0881	1.34
July	3.41	2.86	2.23	10.0	4.19	9.16	0.264	0.311	0.114	1.01	3.46
Aug	0.532	0.499	0.635	0.662	0.602	0.542	0.0297	0.0647	0.0530	0.0700	0.802
Sept	1.86	0.713	1.04	22.0	0.878	19.0	0.391	0.510	0.115	2.03	1.46
Oct	2.48	1.38	1.24	21.1	1.45	18.3	0.431	0.507	0.126	1.95	2.33
Nov	3.03	1.07	1.25	36.7	1.12	32.4	0.748	0.997	0.297	3.59	1.76
Dec	2.55	0.954	1.39	30.3	0.789	26.5	0.646	1.04	0.464	3.09	1.19
Annual	25.1	14.6	15.4	197	16.8	173	4.59	7.39	3.69	20.0	20.1

Data completeness (Monthly)

2010	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	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	97.6	97.6	98.2	100
Feb	87.6	87.6	87.6	87.6	87.6	87.6	87.6	87.6	87.6	87.6	80.3	80.3	87.6	100
Mar	64.9	64.9	64.9	64.9	64.9	64.9	64.9	64.9	64.9	64.9	64.9	64.9	64.9	100
Apr	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	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
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	100
Sept	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	100
Oct	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
Nov	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	100
Dec	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	100
Annual	96.5	96.5	96.5	96.5	96.5	96.5	96.5	96.5	96.5	96.5	96.0	96.0	96.5	100

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

[0.00] for deposition: The deposition was 0 mmol/m² 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%)

Note

Table 3.21 Monthly results

Site: Ochiishi

Country: Japan

Volume-weighted mean concentrations/ Precipitation (Monthly)

2010	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	17.9	8.34	11.2	186	7.05	158	4.15	12.1	8.72	19.5	6.14	5.21	3.04	24.4
Feb	2.25	<1	1.18	27.3	1.54	23.0	0.718	1.52	1.02	2.97	4.08	5.39	0.597	19.9
Mar	24.1	17.3	17.2	297	18.6	242	6.19	17.8	12.6	29.9	10.7	4.97	4.76	51.1
Apr	32.0	11.7	16.4	375	10.5	336	7.64	15.8	8.54	38.4	6.38	5.20	5.87	39.7
May	23.3	17.6	12.3	108	16.7	95.1	2.45	6.82	4.77	11.6	17.1	4.77	2.69	128
June	16.4	15.5	15.8	17.2	21.0	14.4	1.34	1.83	1.52	1.87	35.2	4.45	1.69	90.0
July	7.10	5.93	6.17	22.7	8.01	19.4	0.660	0.960	0.540	2.30	12.7	4.90	1.03	164
Aug	14.0	13.1	13.9	18.0	13.2	15.3	0.636	1.45	1.15	1.86	22.5	4.65	1.62	92.0
Sept	16.4	6.09	4.86	194	7.22	171	8.02	4.65	0.954	19.5	3.48	5.46	3.36	127
Oct	14.1	4.57	4.77	180	2.49	159	3.73	4.45	1.02	18.3	15.0	4.83	3.26	61.6
Nov	52.8	2.14	20.4	982	1.29	896	23.4	25.8	6.42	103	24.8	4.61	15.5	85.0
Dec	50.6	5.81	5.79	875	7.40	762	17.5	21.3	4.84	96.8	12.3	4.91	13.1	202
Annual	23.0	9.65	9.47	266	10.7	232	6.16	8.25	3.25	28.6	14.8	4.83	4.65	1085
Max.	407	223	78.6	5139	227	4458	101	144	51.9	527	78.7	6.67	71.3	
Min.	<1	<1	<1	6.12	<1	4.95	<0.3	<0.2	<0.2	0.613	0.215	4.10	0.391	

Wet deposition (Monthly)

2010	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	0.436	0.203	0.273	4.54	0.172	3.85	0.101	0.296	0.213	0.475	0.150
Feb	0.0448	0.0172	0.0235	0.545	0.0306	0.457	0.0143	0.0303	0.0204	0.0592	0.0813
Mar	1.23	0.885	0.880	15.2	0.950	12.3	0.316	0.910	0.643	1.53	0.545
Apr	1.27	0.467	0.652	14.9	0.417	13.3	0.304	0.628	0.339	1.53	0.253
May	2.98	2.25	1.58	13.8	2.14	12.2	0.313	0.873	0.610	1.49	2.19
June	1.47	1.40	1.42	1.55	1.89	1.30	0.121	0.165	0.137	0.168	3.17
July	1.17	0.974	1.01	3.72	1.32	3.19	0.108	0.158	0.0887	0.378	2.09
Aug	1.29	1.20	1.28	1.66	1.22	1.40	0.0585	0.134	0.106	0.171	2.07
Sept	2.08	0.774	0.618	24.7	0.917	21.7	1.02	0.591	0.121	2.47	0.443
Oct	0.871	0.282	0.294	11.1	0.153	9.78	0.230	0.274	0.0630	1.13	0.922
Nov	4.49	0.182	1.73	83.5	0.110	76.1	1.99	2.19	0.546	8.75	2.11
Dec	10.2	1.17	1.17	176	1.49	153	3.53	4.29	0.975	19.5	2.48
Annual	24.9	10.5	10.3	288	11.6	252	6.68	8.95	3.52	31.0	16.0

Data completeness (Monthly)

2010	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	42.6	42.6	42.6	42.6	42.6	42.6	42.6	42.6	42.6	42.6	42.6	42.6	42.6	100
Feb	82.1	82.1	82.1	82.1	82.1	82.1	82.1	82.1	82.1	82.1	82.1	82.1	82.1	100
Mar	96.9	96.9	96.9	96.9	96.9	96.9	96.9	96.9	96.9	96.9	95.0	95.0	95.0	100
Apr	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	97.0	97.0	97.0	100
May	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
June	100	100	100	100	100	100	100	100	100	100	97.2	97.2	97.2	100
July	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	98.5	98.5	98.5	100
Aug	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
Sept	100	100	100	100	100	100	100	100	100	100	99.1	99.1	99.1	100
Oct	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0	100
Nov	18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8	100
Dec	86.8	86.8	86.8	86.8	86.8	86.8	86.8	86.8	86.8	86.8	86.8	86.8	85.9	100
Annual	89.1	89.1	89.1	89.1	89.1	89.1	89.1	89.1	89.1	89.1	88.4	88.4	88.2	100

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

[0.00] for deposition: The deposition was 0 mmol/m² 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%)

Note

Table 3.22 Monthly results

Site: Tappi

Country: Japan

Volume-weighted mean concentrations/ Precipitation (Monthly)

2010	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	44.9	24.2	25.1	382	19.7	343	8.94	12.2	4.81	40.7	39.6	4.40	6.43	88.3
Feb	26.9	14.8	24.0	211	16.9	202	5.39	8.09	3.73	20.7	23.4	4.63	4.25	45.4
Mar	70.3	53.2	45.3	316	50.4	283	9.59	43.3	37.2	36.3	19.0	4.72	5.58	97.0
Apr	37.6	27.3	36.1	190	25.5	172	5.25	29.3	25.6	22.0	17.8	4.75	4.54	78.5
May	11.9	9.16	11.1	50.0	7.45	45.8	2.29	5.94	5.22	5.48	9.66	5.01	1.48	143
June	15.0	13.8	15.5	24.2	16.4	20.2	1.62	1.16	0.928	1.99	25.9	4.59	1.68	102
July	13.3	8.87	15.6	81.3	9.82	73.7	2.27	2.07	0.744	7.66	20.8	4.68	2.12	140
Aug	12.0	9.69	10.6	41.2	12.3	38.2	1.48	2.00	1.22	3.90	21.3	4.67	1.65	430
Sept	9.16	6.05	5.42	55.3	5.65	51.5	1.68	2.04	0.932	5.38	13.7	4.86	1.47	154
Oct	9.95	5.31	9.58	84.1	4.62	78.0	2.06	2.98	1.30	8.05	18.2	4.74	1.87	78.0
Nov	38.2	14.6	24.5	425	16.6	405	9.66	13.9	5.31	43.1	28.4	4.55	7.24	99.5
Dec	48.7	26.4	42.6	396	26.3	370	9.39	22.1	14.1	42.2	31.8	4.50	7.17	99.9
Annual	21.3	14.5	17.5	124	15.0	114	3.50	8.54	6.16	12.9	20.4	4.69	2.80	1555
Max.	421	205	269	6204	397	5565	136	127	114	673	178	6.50	34.1	
Min.	<1	<1	1.60	2.40	<1	1.20	<0.3	<0.2	<0.2	<0.4	0.316	3.75	0.330	

Wet deposition (Monthly)

2010	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	3.96	2.14	2.22	33.8	1.74	30.2	0.790	1.08	0.425	3.59	3.49
Feb	1.22	0.669	1.09	9.55	0.766	9.15	0.245	0.367	0.169	0.940	1.06
Mar	6.82	5.16	4.39	30.6	4.89	27.5	0.930	4.20	3.61	3.52	1.84
Apr	2.95	2.14	2.83	14.9	2.00	13.5	0.412	2.30	2.01	1.72	1.39
May	1.70	1.30	1.59	7.13	1.06	6.52	0.326	0.846	0.744	0.781	1.38
June	1.53	1.41	1.58	2.47	1.67	2.06	0.165	0.118	0.0946	0.202	2.64
July	1.86	1.24	2.18	11.3	1.37	10.3	0.316	0.289	0.104	1.07	2.91
Aug	5.16	4.17	4.57	17.7	5.28	16.4	0.635	0.860	0.524	1.68	9.18
Sept	1.41	0.932	0.834	8.51	0.870	7.93	0.259	0.315	0.143	0.828	2.11
Oct	0.776	0.414	0.747	6.56	0.360	6.08	0.160	0.233	0.101	0.628	1.42
Nov	3.80	1.45	2.44	42.3	1.65	40.3	0.962	1.39	0.528	4.29	2.83
Dec	4.86	2.64	4.26	39.6	2.62	36.9	0.937	2.21	1.41	4.21	3.17
Annual	33.1	22.5	27.2	192	23.3	177	5.45	13.3	9.58	20.1	31.7

Data completeness (Monthly)

2010	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	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	37.7	37.7	37.7	100
Feb	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3	59.5	59.5	59.5	100
Mar	86.1	86.1	86.1	86.1	86.1	86.1	86.1	86.1	86.1	86.1	78.4	78.4	78.4	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	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	97.5	97.5	97.5	100
July	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
Aug	90.9	90.9	90.9	90.9	90.9	90.9	90.9	90.9	90.9	90.9	90.9	90.9	90.9	100
Sept	97.4	97.4	97.4	97.4	97.4	97.4	97.4	97.4	97.4	97.4	97.4	97.4	97.4	100
Oct	100	100	100	100	100	100	100	100	100	100	98.7	98.7	98.7	100
Nov	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.3	66.3	66.3	100
Dec	72.0	72.0	72.0	72.0	72.0	72.0	72.0	72.0	72.0	72.0	71.1	71.1	71.1	100
Annual	87.7	87.7	87.7	87.7	87.7	87.7	87.7	87.7	87.7	87.7	86.8	86.8	86.8	100

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

[0.00] for deposition: The deposition was 0 mmol/m² 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%)

Note

Table 3.23 Monthly results

Site: Sado-seki

Country: Japan

Volume-weighted mean concentrations/ Precipitation (Monthly)

2010	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	114	32.3	38.2	1563	22.2	1433	31.4	41.3	12.5	158	37.8	4.42	13.0	75.6
Feb	40.3	20.1	22.9	350	13.2	339	9.31	18.1	10.8	38.0	17.6	4.75	4.39	56.9
Mar	20.6	13.7	14.1	127	8.11	115	3.77	11.2	8.70	14.0	15.6	4.81	2.69	81.9
Apr	24.8	18.1	30.4	122	18.9	110	4.01	27.5	25.1	18.0	1.49	5.83	2.86	93.0
May	24.2	21.2	18.4	54.0	19.1	49.0	2.96	6.51	5.45	7.92	27.5	4.56	2.41	84.0
June	9.12	8.03	12.8	19.8	11.2	18.1	1.76	3.04	2.65	3.05	11.7	4.93	1.08	111
July	12.5	10.3	17.4	43.5	16.9	37.2	1.49	2.69	1.89	4.92	19.8	4.70	1.83	116
Aug	27.7	22.4	26.2	98.1	29.6	88.4	3.08	4.64	2.73	10.5	33.5	4.48	3.62	45.8
Sept	6.49	4.12	7.25	48.4	2.67	39.3	1.13	1.81	0.964	4.69	9.89	5.00	1.18	277
Oct	11.7	7.89	10.8	66.9	6.64	62.7	2.06	2.65	1.30	7.38	15.7	4.80	1.95	108
Nov	90.3	26.5	43.4	1131	26.6	1058	27.7	44.3	21.5	126	33.8	4.47	17.8	87.1
Dec	50.2	14.2	18.3	672	8.58	598	14.0	20.0	7.08	72.2	25.1	4.60	9.67	233
Annual	32.3	13.4	18.1	351	11.9	320	8.08	12.7	5.94	37.7	19.8	4.70	5.08	1368
Max.	2956	200	637	55656	333	53328	983	1033	160	6088	84.1	6.12	90.8	
Min.	1.22	<1	1.29	3.86	<1	3.48	<0.3	0.399	<0.2	0.617	0.753	4.08	0.320	

Wet deposition (Monthly)

2010	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	8.58	2.44	2.89	118	1.68	108	2.37	3.12	0.946	11.9	2.85
Feb	2.29	1.14	1.30	19.9	0.751	19.3	0.529	1.03	0.616	2.16	1.00
Mar	1.69	1.12	1.15	10.4	0.665	9.42	0.309	0.917	0.713	1.15	1.28
Apr	2.30	1.68	2.83	11.4	1.75	10.3	0.373	2.56	2.33	1.67	0.139
May	2.03	1.79	1.55	4.54	1.61	4.12	0.248	0.547	0.458	0.665	2.31
June	1.02	0.894	1.43	2.21	1.24	2.01	0.196	0.338	0.295	0.339	1.30
July	1.45	1.19	2.02	5.03	1.95	4.31	0.172	0.311	0.218	0.569	2.29
Aug	1.27	1.03	1.20	4.49	1.36	4.05	0.141	0.212	0.125	0.481	1.53
Sept	1.80	1.14	2.01	13.4	0.741	10.9	0.313	0.503	0.267	1.30	2.74
Oct	1.26	0.849	1.16	7.20	0.715	6.74	0.222	0.285	0.139	0.794	1.69
Nov	7.86	2.31	3.78	98.5	2.32	92.1	2.41	3.86	1.87	11.0	2.95
Dec	11.7	3.30	4.26	156	2.00	139	3.25	4.65	1.65	16.8	5.85
Annual	44.2	18.3	24.8	481	16.2	437	11.1	17.4	8.12	51.6	27.0

Data completeness (Monthly)

2010	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	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	92.6	92.6	92.6	100
Feb	96.9	96.9	96.9	96.9	96.9	96.9	96.9	96.9	96.9	96.9	90.7	90.7	90.7	100
Mar	55.5	55.5	55.5	55.5	55.5	55.5	55.5	55.5	55.5	55.5	54.3	54.3	54.3	100
Apr	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	100
May	74.4	74.4	74.4	74.4	74.4	74.4	74.4	74.4	74.4	74.4	73.2	73.2	73.2	100
June	100	100	100	100	100	100	100	100	100	100	98.9	98.9	98.9	100
July	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.4	99.4	99.4	100
Aug	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	97.2	97.2	97.2	100
Sept	100	100	100	100	100	100	100	100	100	100	99.6	99.6	99.6	100
Oct	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
Nov	98.8	98.8	98.8	98.8	98.8	98.8	98.8	98.8	98.8	98.8	96.5	96.5	96.5	100
Dec	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	94.6	94.6	94.6	100
Annual	90.1	90.1	90.1	90.1	90.1	90.1	90.1	90.1	90.1	90.1	88.0	88.0	88.0	100

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

[0.00] for deposition: The deposition was 0 mmol/m² 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%)

Note

Table 3.24 Monthly results

Site: Happo

Country: Japan

Volume-weighted mean concentrations/ Precipitation (Monthly)

2010	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	*	*	*	*	*	*	*	*	*	*	*	*	*	193
Feb	*	*	*	*	*	*	*	*	*	*	*	*	*	229
Mar	12.9	12.7	20.4	5.05	14.7	3.99	0.688	6.61	6.53	1.71	13.4	4.87	1.18	239
Apr	7.48	7.23	8.52	5.17	8.04	4.09	0.532	8.25	8.17	1.76	2.54	5.60	0.503	167
May	8.25	8.17	5.45	1.93	7.24	1.44	0.316	3.02	2.99	0.827	5.69	5.24	0.588	156
June	2.65	2.60	3.69	1.34	2.37	<1	<0.3	1.14	1.12	<0.4	3.95	5.40	0.312	252
July	6.43	6.37	8.17	2.30	8.16	<1	<0.3	1.11	1.09	<0.4	9.54	5.02	0.642	244
Aug	10.7	10.6	9.07	2.94	14.8	1.27	0.359	1.44	1.41	<0.4	14.6	4.84	0.913	147
Sept	3.62	3.55	4.63	2.01	2.68	1.27	<0.3	1.12	1.09	<0.4	6.98	5.16	0.413	402
Oct	2.96	2.82	4.15	2.88	3.07	2.27	<0.3	1.37	1.32	0.522	5.29	5.28	0.354	181
Nov	9.30	8.61	8.16	14.1	6.84	11.4	0.672	3.52	3.27	1.67	12.4	4.90	0.975	142
Dec	8.59	7.81	8.81	15.7	6.13	12.9	0.674	3.02	2.74	1.90	13.0	4.89	0.974	272
Annual	6.11	5.88	6.51	4.99	5.88	3.76	0.356	2.40	2.32	0.810	8.00	5.10	0.597	2621
Max.	130	127	146	95.9	119	77.2	7.10	161	160	23.4	77.6	6.67	6.67	
Min.	<1	<1	1.10	<1	<1	<1	<0.3	0.400	0.385	<0.4	0.214	4.11	0.130	

Wet deposition (Monthly)

2010	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	3.08	3.02	4.87	1.20	3.51	0.952	0.164	1.58	1.56	0.408	3.19
Apr	1.25	1.20	1.42	0.861	1.34	0.682	0.0885	1.37	1.36	0.293	0.423
May	1.29	1.27	0.849	0.301	1.13	0.225	0.0492	0.471	0.466	0.129	0.887
June	0.666	0.653	0.929	0.338	0.596	0.221	0.0444	0.286	0.281	0.0661	0.994
July	1.57	1.55	1.99	0.560	1.99	0.231	0.0682	0.271	0.266	0.0707	2.33
Aug	1.57	1.56	1.33	0.431	2.17	0.186	0.0527	0.211	0.207	0.0541	2.14
Sept	1.46	1.43	1.86	0.810	1.08	0.510	0.0723	0.449	0.438	0.134	2.81
Oct	0.535	0.510	0.752	0.522	0.556	0.411	0.0483	0.248	0.239	0.0944	0.958
Nov	1.32	1.22	1.15	2.00	0.968	1.62	0.0950	0.497	0.462	0.236	1.76
Dec	2.34	2.12	2.40	4.26	1.67	3.52	0.183	0.821	0.745	0.517	3.54
Annual	16.0	15.4	17.1	13.1	15.4	9.86	0.934	6.30	6.09	2.12	21.0

Data completeness (Monthly)

2010	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	7.13	7.13	7.13	7.13	7.13	7.13	7.13	7.13	7.13	7.13	7.13	7.13	7.13	100
Apr	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	100
May	98.4	98.4	98.4	98.4	98.4	98.4	98.4	98.4	98.4	98.4	98.2	98.2	98.2	100
June	100	100	100	100	100	100	100	100	100	100	99.8	99.8	99.8	96.7
July	83.3	83.3	83.3	83.3	83.3	83.3	83.3	83.3	83.3	83.3	83.3	83.3	83.3	100
Aug	100	100	100	100	100	100	100	100	100	100	99.8	99.8	99.8	100
Sept	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.6	99.6	99.6	100
Oct	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
Nov	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.3	99.3	99.3	100
Dec	86.0	86.0	86.0	86.0	86.0	86.0	86.0	86.0	86.0	86.0	86.0	86.0	86.0	100
Annual	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.1	72.1	72.1	99.7

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

[0.00] for deposition: The deposition was 0 mmol/m² 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%)

Note

Table 3.25 Monthly results

Site: Ijira

Country: Japan

Volume-weighted mean concentrations/ Precipitation (Monthly)

2010	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	22.6	17.4	34.5	104	17.9	85.9	2.58	7.74	5.88	10.2	36.6	4.44	3.71	128
Feb	12.6	10.4	14.9	45.0	9.98	37.0	1.01	2.62	1.82	4.16	21.0	4.68	1.78	232
Mar	19.3	18.4	25.5	16.8	18.9	15.0	0.898	11.0	10.7	2.92	18.0	4.74	1.80	255
Apr	11.4	10.8	16.7	11.0	12.7	9.27	0.427	4.26	4.06	1.57	15.1	4.82	1.21	360
May	7.94	7.70	8.97	5.05	7.25	3.86	<0.3	1.75	1.66	0.590	11.1	4.95	0.806	378
June	10.5	10.4	13.5	4.50	14.2	2.45	<0.3	0.246	0.233	<0.4	17.6	4.75	1.15	456
July	12.0	11.7	15.1	5.91	16.6	3.73	<0.3	0.852	0.772	<0.4	19.6	4.71	1.29	676
Aug	14.9	14.5	19.5	8.32	20.8	6.54	<0.3	1.05	0.911	0.955	24.1	4.62	1.64	276
Sept	4.57	4.35	7.10	4.54	4.81	3.59	<0.3	1.06	0.986	<0.4	9.09	5.04	0.620	583
Oct	3.19	3.02	6.46	4.09	2.09	2.97	<0.3	0.254	0.216	<0.4	7.90	5.10	0.526	174
Nov	14.4	13.0	21.1	28.6	10.4	23.1	1.02	3.38	2.88	2.93	27.7	4.56	2.00	45.5
Dec	13.8	11.1	22.0	54.5	11.0	44.6	1.35	4.07	3.11	5.26	24.6	4.61	2.24	285
Annual	11.1	10.3	15.1	16.2	12.2	13.0	0.426	2.48	2.21	1.62	17.3	4.76	1.33	3847
Max.	50.9	45.2	135	150	104	123	5.80	16.7	16.3	14.6	58.9	5.46	5.09	
Min.	1.50	1.48	2.70	1.10	<1	<1	<0.3	<0.2	<0.2	<0.4	3.47	4.23	0.320	

Wet deposition (Monthly)

2010	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	2.88	2.22	4.39	13.3	2.28	11.0	0.329	0.987	0.750	1.30	4.66
Feb	2.93	2.41	3.45	10.4	2.32	8.59	0.234	0.607	0.421	0.965	4.88
Mar	4.93	4.70	6.51	4.28	4.81	3.83	0.229	2.80	2.72	0.745	4.60
Apr	4.10	3.90	6.01	3.96	4.58	3.34	0.154	1.54	1.46	0.566	5.45
May	3.00	2.91	3.39	1.91	2.74	1.46	0.0426	0.660	0.628	0.223	4.21
June	4.79	4.72	6.13	2.05	6.47	1.12	0.0930	0.112	0.106	0.171	8.03
July	8.09	7.93	10.2	4.00	11.2	2.52	0.0804	0.576	0.522	0.242	13.3
Aug	4.11	4.01	5.37	2.29	5.73	1.80	0.0308	0.290	0.251	0.263	6.64
Sept	2.66	2.53	4.14	2.65	2.80	2.09	0.0159	0.619	0.574	0.0910	5.30
Oct	0.556	0.525	1.12	0.712	0.363	0.516	<0.01	0.0443	0.0375	0.0258	1.38
Nov	0.653	0.590	0.962	1.30	0.473	1.05	0.0464	0.154	0.131	0.134	1.26
Dec	3.93	3.16	6.26	15.5	3.13	12.7	0.384	1.16	0.886	1.50	7.01
Annual	42.6	39.6	57.9	62.4	46.9	50.0	1.64	9.55	8.49	6.22	66.6

Data completeness (Monthly)

2010	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	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	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	99.7	99.7	99.7	100
Nov	100	100	100	100	100	100	100	100	100	100	95.6	95.6	95.6	100
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	100	100	100	100	100	100	100	100	100	100	99.9	99.9	99.9	100

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

[0.00] for deposition: The deposition was 0 mmol/m² 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%)

Note

Table 3.26 Monthly results

Site: Oki

Country: Japan

Volume-weighted mean concentrations/ Precipitation (Monthly)

2010	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	113	26.6	44.4	1633	27.2	1440	32.5	42.7	11.8	160	42.1	4.38	25.0	97.6
Feb	36.9	22.1	25.3	289	19.1	247	6.85	11.5	6.21	29.5	31.7	4.50	5.81	91.2
Mar	50.9	26.0	30.0	491	27.0	414	10.1	26.0	17.1	50.8	21.9	4.66	8.21	117
Apr	15.0	11.1	11.5	72.8	9.43	65.5	1.83	10.6	9.15	9.39	8.54	5.07	1.78	119
May	11.1	6.68	10.7	84.3	5.15	73.4	2.52	5.16	3.58	9.48	9.05	5.04	1.76	104
June	48.2	45.8	57.5	52.0	77.7	38.6	5.21	11.7	10.9	5.74	47.4	4.32	4.44	65.2
July	6.28	3.44	4.38	51.5	3.72	47.0	1.46	1.59	0.572	5.44	7.86	5.10	1.15	271
Aug	35.1	12.6	20.6	443	18.3	373	11.8	16.8	8.75	46.2	17.9	4.75	7.34	49.7
Sept	13.9	5.73	9.08	155	4.14	136	3.56	4.01	1.09	16.9	12.5	4.90	2.79	189
Oct	28.4	10.9	16.9	335	11.1	290	7.30	8.76	2.51	34.5	23.4	4.63	5.15	116
Nov	98.4	45.8	86.1	1003	58.0	873	23.1	47.8	29.0	103	58.7	4.23	17.4	64.1
Dec	107	25.1	45.7	1572	23.1	1362	30.5	39.8	10.4	160	31.7	4.50	21.5	167
Annual	40.8	16.2	24.2	471	17.8	409	10.1	16.1	7.24	48.1	21.8	4.66	7.56	1452
Max.	3142	170	496	56377	257	50251	1045	1151	280	5805	208	6.85	276	
Min.	<1	<1	<1	2.06	<1	1.17	<0.3	<0.2	<0.2	<0.4	0.142	3.68	0.138	

Wet deposition (Monthly)

2010	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	11.0	2.60	4.33	159	2.65	141	3.17	4.17	1.15	15.6	4.11
Feb	3.37	2.01	2.31	26.4	1.74	22.5	0.624	1.05	0.567	2.69	2.89
Mar	5.97	3.05	3.52	57.5	3.17	48.5	1.19	3.05	2.00	5.96	2.56
Apr	1.79	1.32	1.37	8.67	1.12	7.80	0.218	1.26	1.09	1.12	1.02
May	1.16	0.696	1.12	8.77	0.536	7.64	0.263	0.538	0.372	0.988	0.943
June	3.14	2.99	3.75	3.39	5.07	2.51	0.340	0.764	0.709	0.375	3.09
July	1.70	0.935	1.19	14.0	1.01	12.8	0.397	0.431	0.155	1.48	2.13
Aug	1.75	0.628	1.02	22.0	0.913	18.6	0.586	0.837	0.435	2.30	0.890
Sept	2.64	1.08	1.72	29.4	0.783	25.8	0.674	0.758	0.207	3.19	2.37
Oct	3.30	1.27	1.96	38.8	1.29	33.6	0.847	1.02	0.291	4.01	2.71
Nov	6.31	2.94	5.52	64.3	3.72	56.0	1.48	3.07	1.86	6.58	3.77
Dec	17.9	4.19	7.62	262	3.86	227	5.10	6.64	1.73	26.7	5.29
Annual	59.3	23.6	35.2	684	25.8	594	14.7	23.3	10.5	69.9	31.7

Data completeness (Monthly)

2010	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	99.6	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
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	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
Apr	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	98.7	98.7	98.7	100
May	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	100
June	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
July	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
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	99.5	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	99.6	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	99.5	100
Nov	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	98.2	100
Dec	93.7	93.7	93.7	93.7	93.7	93.7	93.7	93.7	93.7	93.7	93.7	93.7	93.4	100
Annual	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.8	98.8	98.7	100

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

[0.00] for deposition: The deposition was 0 mmol/m² 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%)

Note

Table 3.27 Monthly results

Site: Banryu

Country: Japan

Volume-weighted mean concentrations/ Precipitation (Monthly)

2010	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	65.5	53.7	91.1	217	59.5	197	7.33	21.9	17.6	25.5	81.1	4.09	8.12	30.5
Feb	37.4	25.7	20.9	244	77.6	193	49.7	15.8	11.7	28.7	26.0	4.58	5.59	91.0
Mar	21.9	17.7	16.3	78.4	16.4	70.0	2.27	13.1	11.6	9.53	12.9	4.89	2.26	192
Apr	13.8	11.8	11.8	36.1	9.82	33.2	0.891	5.38	4.66	4.39	14.6	4.84	1.47	177
May	14.6	12.8	18.4	34.0	17.7	29.4	0.873	6.61	5.98	4.29	12.3	4.91	1.47	94.8
June	7.52	7.23	10.3	6.65	9.74	4.74	0.784	1.67	1.56	1.27	11.7	4.93	0.797	178
July	6.13	5.91	8.92	4.85	11.3	3.63	<0.3	0.585	0.522	0.542	10.3	4.99	0.689	311
Aug	9.33	8.33	21.6	18.2	15.1	16.6	0.702	1.92	1.56	2.34	15.4	4.81	1.26	18.0
Sept	16.6	9.09	10.2	144	6.30	124	2.53	3.27	0.597	15.6	17.9	4.75	2.84	99.0
Oct	15.2	9.12	9.22	119	6.55	101	2.21	2.61	0.437	12.9	16.4	4.78	2.50	102
Nov	39.7	31.5	59.8	148	38.2	137	4.11	16.6	13.7	16.5	45.5	4.34	5.37	19.0
Dec	62.9	38.1	84.3	447	55.3	410	11.2	26.1	17.2	48.3	51.6	4.29	10.2	160
Annual	21.0	15.3	22.6	107	21.6	94.2	5.43	8.02	5.99	12.1	19.8	4.70	2.88	1471
Max.	223	207	369	691	243	645	125	76.4	75.4	76.2	308	6.05	24.0	
Min.	1.87	1.80	2.70	1.45	1.67	<1	<0.3	<0.2	<0.2	<0.4	0.894	3.51	0.292	

Wet deposition (Monthly)

2010	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	2.00	1.64	2.78	6.63	1.81	5.99	0.224	0.667	0.537	0.777	2.47
Feb	3.40	2.34	1.91	22.2	7.06	17.5	4.52	1.44	1.06	2.61	2.37
Mar	4.19	3.39	3.12	15.0	3.14	13.4	0.434	2.51	2.22	1.83	2.46
Apr	2.43	2.07	2.08	6.36	1.73	5.86	0.157	0.949	0.822	0.774	2.58
May	1.39	1.22	1.75	3.22	1.68	2.79	0.0828	0.627	0.567	0.407	1.17
June	1.34	1.29	1.83	1.18	1.73	0.844	0.140	0.297	0.278	0.226	2.08
July	1.90	1.84	2.77	1.51	3.52	1.13	0.0679	0.182	0.162	0.168	3.19
Aug	0.168	0.150	0.389	0.328	0.273	0.298	0.0126	0.0345	0.0281	0.0421	0.277
Sept	1.64	0.900	1.01	14.2	0.624	12.3	0.251	0.324	0.0591	1.54	1.77
Oct	1.54	0.927	0.937	12.1	0.665	10.2	0.225	0.266	0.0444	1.31	1.67
Nov	0.755	0.598	1.14	2.81	0.726	2.60	0.0781	0.316	0.260	0.314	0.865
Dec	10.1	6.10	13.5	71.6	8.84	65.6	1.79	4.18	2.76	7.73	8.25
Annual	30.8	22.5	33.2	157	31.8	139	7.98	11.8	8.80	17.7	29.2

Data completeness (Monthly)

2010	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	99.7	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	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
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/m² 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%)

Note

Table 3.28 Monthly results

Site: Yusuhara

Country: Japan

Volume-weighted mean concentrations/ Precipitation (Monthly)

2010	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	22.4	17.5	30.1	13.6	25.0	1.56	4.56	4.02	3.97	39.5	4.40	2.48	92.0
Feb	10.6	10.0	7.57	11.9	5.31	9.88	0.890	1.77	1.56	1.89	18.5	4.73	1.14	140
Mar	18.4	17.8	13.8	10.2	16.8	8.47	1.59	5.34	5.16	2.08	23.5	4.63	1.70	278
Apr	7.95	7.48	6.05	10.0	6.12	7.72	<0.3	2.57	2.48	1.40	12.3	4.91	0.864	341
May	5.26	5.16	4.46	3.00	3.92	1.69	<0.3	0.738	0.708	0.871	8.43	5.07	0.579	293
June	5.27	5.19	3.48	2.38	2.33	1.44	0.405	0.283	0.267	<0.4	9.86	5.01	0.612	391
July	9.74	9.57	6.50	4.19	7.04	2.89	0.646	0.458	0.397	0.798	16.3	4.79	0.984	312
Aug	4.23	3.09	3.63	22.5	1.85	18.9	0.705	0.273	<0.2	2.29	9.37	5.03	0.773	136
Sept	10.5	9.70	5.97	14.9	3.40	12.7	0.421	<0.2	<0.2	1.65	24.0	4.62	1.23	123
Oct	4.87	4.26	6.56	13.7	2.06	10.1	<0.3	0.477	0.302	1.45	13.7	4.86	0.793	195
Nov	18.4	18.1	16.0	9.22	7.17	5.32	<0.3	1.76	1.64	1.45	47.8	4.32	2.12	40.4
Dec	16.4	14.2	19.9	41.3	14.7	36.4	1.26	5.46	4.67	5.27	22.8	4.64	1.93	134
Annual	9.64	9.11	7.70	11.0	6.60	8.82	0.613	1.79	1.65	1.56	16.2	4.79	1.06	2476
Max.	221	221	208	823	160	651	22.7	111	108	83.2	195	6.40	16.1	
Min.	<1	<1	<1	<1	<1	<1	<0.3	<0.2	<0.2	<0.4	0.398	3.71	0.196	

Wet deposition (Monthly)

2010	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	2.20	2.06	1.61	2.77	1.25	2.30	0.143	0.420	0.370	0.365	3.64
Feb	1.49	1.40	1.06	1.67	0.746	1.39	0.125	0.248	0.218	0.266	2.60
Mar	5.11	4.97	3.85	2.83	4.67	2.36	0.443	1.49	1.44	0.580	6.54
Apr	2.71	2.55	2.06	3.42	2.09	2.63	0.0699	0.877	0.846	0.478	4.19
May	1.54	1.51	1.31	0.878	1.15	0.496	<0.01	0.216	0.207	0.255	2.47
June	2.06	2.03	1.36	0.928	0.911	0.563	0.158	0.110	0.104	0.110	3.85
July	3.04	2.99	2.03	1.31	2.20	0.902	0.202	0.143	0.124	0.249	5.10
Aug	0.577	0.421	0.494	3.06	0.253	2.57	0.0960	0.0371	0.0126	0.312	1.28
Sept	1.29	1.19	0.734	1.84	0.418	1.56	0.0517	0.0112	<0.01	0.202	2.95
Oct	0.950	0.832	1.28	2.68	0.402	1.97	0.0498	0.0931	0.0590	0.282	2.67
Nov	0.744	0.731	0.647	0.372	0.289	0.215	<0.01	0.0711	0.0664	0.0586	1.93
Dec	2.20	1.91	2.66	5.53	1.97	4.88	0.168	0.731	0.626	0.706	3.05
Annual	23.9	22.6	19.1	27.3	16.3	21.8	1.52	4.44	4.07	3.86	40.1

Data completeness (Monthly)

2010	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	96.7	96.7	96.7	100
Feb	100	100	100	100	100	100	100	100	100	100	97.5	97.5	97.5	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	99.9	99.9	99.9	100
July	100	100	100	100	100	100	100	100	100	100	99.3	99.3	99.3	100
Aug	100	100	100	100	100	100	100	100	100	100	99.9	99.9	99.9	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	99.6	99.6	99.6	100
Nov	91.6	91.6	91.6	91.6	91.6	91.6	91.6	91.6	91.6	91.6	91.6	91.6	91.6	100
Dec	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.1	99.1	99.1	100
Annual	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.4	99.4	99.4	100

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

[0.00] for deposition: The deposition was 0 mmol/m² 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%)

Note

Table 3.29 Monthly results

Site: Hedo

Country: Japan

Volume-weighted mean concentrations/ Precipitation (Monthly)

2010	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	38.0	24.9	27.3	244	34.4	217	6.32	9.91	5.23	24.9	32.2	4.49	5.27	90.4
Feb	20.2	12.2	10.4	145	12.7	132	3.81	5.44	2.58	15.4	12.8	4.89	3.09	254
Mar	26.1	12.9	22.9	252	29.6	219	7.03	8.15	3.41	25.3	13.9	4.86	5.04	79.5
Apr	20.9	13.3	14.6	138	17.5	126	3.79	8.00	5.28	14.8	9.27	5.03	3.13	203
May	8.50	4.09	4.30	80.3	5.28	73.2	1.93	2.81	1.23	8.46	3.56	5.45	1.65	493
June	7.29	3.17	4.49	74.0	3.44	68.2	1.79	2.38	0.908	7.91	4.25	5.37	1.54	253
July	4.35	1.58	2.66	49.8	1.87	45.9	1.20	1.51	0.514	5.25	3.19	5.50	1.03	325
Aug	40.6	1.06	<1	755	18.9	675	16.6	21.8	7.24	77.9	1.42	5.85	10.5	286
Sept	7.91	1.66	2.02	113	1.07	104	2.51	2.87	0.626	12.0	2.74	5.56	1.87	153
Oct	40.1	2.25	2.01	712	4.09	631	13.9	14.6	0.936	72.4	3.32	5.48	10.6	357
Nov	36.9	10.3	9.42	502	7.93	441	9.89	13.8	4.27	49.4	12.1	4.92	7.67	92.0
Dec	42.3	10.1	12.3	619	9.46	534	12.3	15.7	4.14	61.6	12.7	4.90	9.62	58.0
Annual	20.9	5.79	6.38	284	9.31	254	6.19	7.98	2.50	29.2	6.34	5.20	4.59	2643
Max.	261	194	159	4249	182	3714	81.7	160	151	433	182	6.78	61.3	
Min.	<1	<1	<1	7.66	<1	7.35	0.374	<0.2	<0.2	0.844	0.167	3.74	0.269	

Wet deposition (Monthly)

2010	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	2.26	2.47	22.1	3.11	19.6	0.571	0.896	0.473	2.25	2.91
Feb	5.12	3.10	2.63	36.8	3.23	33.5	0.966	1.38	0.654	3.91	3.25
Mar	2.08	1.03	1.82	20.0	2.35	17.4	0.559	0.648	0.271	2.01	1.10
Apr	4.25	2.70	2.96	28.2	3.55	25.6	0.772	1.63	1.07	3.02	1.89
May	4.19	2.02	2.12	39.6	2.60	36.1	0.953	1.39	0.605	4.17	1.75
June	1.84	0.802	1.14	18.7	0.870	17.2	0.452	0.602	0.229	2.00	1.07
July	1.41	0.514	0.865	16.2	0.608	14.9	0.388	0.490	0.167	1.71	1.04
Aug	11.6	0.302	0.282	216	5.40	193	4.74	6.23	2.07	22.3	0.405
Sept	1.21	0.253	0.309	17.3	0.163	15.8	0.382	0.437	0.0955	1.83	0.418
Oct	14.3	0.802	0.716	254	1.46	225	4.95	5.20	0.334	25.9	1.19
Nov	3.39	0.950	0.867	46.1	0.729	40.5	0.910	1.27	0.393	4.54	1.12
Dec	2.45	0.588	0.716	35.9	0.548	31.0	0.715	0.910	0.240	3.57	0.738
Annual	55.3	15.3	16.9	751	24.6	670	16.4	21.1	6.61	77.2	16.8

Data completeness (Monthly)

2010	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	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	95.6	95.6	95.6	100
Feb	100	100	100	100	100	100	100	100	100	100	99.2	99.2	99.2	100
Mar	100	100	100	100	100	100	100	100	100	100	98.1	98.1	98.1	100
Apr	100	100	100	100	100	100	100	100	100	100	98.3	98.3	98.3	100
May	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.3	99.3	99.3	100
June	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	98.7	98.7	98.7	100
July	100	100	100	100	100	100	100	100	100	100	99.2	99.2	99.2	100
Aug	100	100	100	100	100	100	100	100	100	100	98.4	98.4	98.4	100
Sept	100	100	100	100	100	100	100	100	100	100	99.0	99.0	99.0	100
Oct	100	100	100	100	100	100	100	100	100	100	99.2	99.2	99.2	100
Nov	100	100	100	100	100	100	100	100	100	100	97.1	97.1	97.1	100
Dec	100	100	100	100	100	100	100	100	100	100	90.5	90.5	90.5	100
Annual	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	98.6	98.6	98.6	100

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

[0.00] for deposition: The deposition was 0 mmol/m² 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%)

Note

Table 3.30 Monthly results

Site: Ogasawara

Country: Japan

Volume-weighted mean concentrations/ Precipitation (Monthly)

2010	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	17.0	9.46	169	12.7	143	3.88	5.05	1.95	16.7	27.9	4.55	3.70	42.0
Feb	8.95	5.70	4.27	63.7	5.81	53.8	1.78	2.47	1.30	6.51	9.16	5.04	1.27	84.0
Mar	5.85	2.41	3.01	66.9	4.63	57.0	1.79	1.72	0.490	6.44	5.05	5.30	1.26	122
Apr	11.4	5.05	5.47	120	10.4	105	3.05	4.19	1.92	12.1	5.29	5.28	2.14	236
May	11.7	6.53	7.89	93.4	8.71	85.5	2.26	4.02	2.18	9.65	7.98	5.10	1.76	127
June	6.55	2.80	3.22	71.3	8.35	62.3	1.74	1.84	0.498	7.08	4.62	5.34	1.33	175
July	3.27	1.72	1.14	30.7	4.73	25.6	0.816	1.11	0.555	2.95	5.08	5.29	0.670	55.8
Aug	2.32	1.04	<1	24.6	2.19	21.1	0.649	0.902	0.445	2.28	2.67	5.57	0.543	175
Sept	81.4	3.90	1.47	1296	5.32	1348	30.1	33.8	4.64	161	4.32	5.36	21.0	207
Oct	4.08	1.43	1.48	51.7	1.23	43.9	1.29	1.67	0.720	5.21	4.46	5.35	1.01	153
Nov	4.07	<1	1.74	77.5	2.42	66.5	1.89	1.53	0.262	7.35	5.02	5.30	1.31	328
Dec	4.16	1.15	2.86	70.6	3.18	61.6	1.75	2.49	1.16	6.94	6.35	5.20	1.34	151
Annual	15.0	3.02	3.07	211	5.29	208	5.02	5.82	1.35	24.5	5.68	5.25	3.58	1856
Max.	195	116	128	3475	96.5	3051	68.1	83.0	67.3	378	132	6.05	47.6	
Min.	<1	<1	<1	2.03	<1	1.18	<0.3	<0.2	<0.2	<0.4	0.891	3.88	0.231	

Wet deposition (Monthly)

2010	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	1.07	0.712	0.397	7.10	0.533	6.02	0.163	0.212	0.0821	0.700	1.17
Feb	0.752	0.479	0.359	5.35	0.488	4.52	0.149	0.207	0.109	0.547	0.769
Mar	0.716	0.295	0.368	8.18	0.567	6.97	0.219	0.211	0.0600	0.788	0.618
Apr	2.69	1.19	1.29	28.3	2.44	24.8	0.720	0.989	0.453	2.85	1.25
May	1.48	0.829	1.000	11.8	1.10	10.8	0.286	0.510	0.276	1.22	1.01
June	1.15	0.491	0.565	12.5	1.46	10.9	0.305	0.323	0.0873	1.24	0.810
July	0.182	0.0961	0.0637	1.72	0.264	1.43	0.0456	0.0619	0.0310	0.165	0.284
Aug	0.406	0.183	0.116	4.31	0.384	3.70	0.114	0.158	0.0780	0.399	0.467
Sept	16.8	0.805	0.303	268	1.10	279	6.22	6.98	0.958	33.2	0.892
Oct	0.624	0.219	0.226	7.92	0.189	6.72	0.198	0.256	0.110	0.798	0.683
Nov	1.33	0.129	0.570	25.4	0.795	21.8	0.620	0.500	0.0859	2.41	1.65
Dec	0.629	0.173	0.431	10.7	0.481	9.31	0.265	0.376	0.175	1.05	0.959
Annual	27.9	5.60	5.70	391	9.82	386	9.32	10.8	2.51	45.4	10.5

Data completeness (Monthly)

2010	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	97.6	97.6	97.6	97.6	97.6	97.6	97.6	97.6	97.6	97.6	97.6	97.6	97.6	100
Feb	100	100	100	100	100	100	100	100	100	100	97.0	97.0	97.0	100
Mar	98.8	98.8	98.8	98.8	98.8	98.8	98.8	98.8	98.8	98.8	98.1	98.1	98.1	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	98.2	98.2	98.2	100
June	100	100	100	100	100	100	100	100	100	100	100	100	100	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	97.6	97.6	97.6	97.6	97.6	97.6	97.6	97.6	97.6	97.6	97.6	97.6	97.6	100
Sept	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.3	99.3	99.3	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	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.4	99.4	99.4	100
Dec	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
Annual	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.1	99.1	99.1	100

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

[0.00] for deposition: The deposition was 0 mmol/m² 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%)

Note

Table 3.31 Monthly results

Site: Tokyo

Country: Japan

Volume-weighted mean concentrations/ Precipitation (Monthly)

2010	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	20.8	20.1	13.8	12.8	27.5	11.5	1.16	10.2	9.92	2.14	7.78	5.11	1.34	8.05
Feb	14.4	13.4	19.2	19.6	26.9	17.9	1.21	4.59	4.20	2.41	15.3	4.82	1.48	112
Mar	13.4	12.4	22.2	18.1	26.5	17.9	1.37	7.82	7.44	3.01	12.6	4.90	1.35	139
Apr	13.0	10.8	16.9	41.8	21.0	36.7	1.79	6.69	5.89	4.84	7.14	5.15	1.41	200
May	17.1	16.5	22.9	11.2	33.9	10.3	0.775	5.79	5.57	2.01	13.6	4.87	1.39	120
June	17.6	17.0	27.3	12.1	30.4	10.3	0.738	4.35	4.12	1.66	22.2	4.65	1.91	103
July	17.9	16.9	27.8	19.6	31.1	17.1	1.21	6.90	6.53	2.97	19.6	4.71	1.86	66.7
Aug	8.90	8.55	4.08	6.42	15.0	5.72	0.591	4.68	4.56	1.25	2.82	5.55	0.525	26.2
Sept	5.98	5.40	9.47	11.0	10.7	9.66	0.590	1.70	1.49	1.20	7.57	5.12	0.732	435
Oct	5.83	5.12	8.78	13.2	11.5	11.8	0.760	1.74	1.49	1.67	8.34	5.08	0.775	258
Nov	18.5	16.9	27.3	28.1	29.4	26.1	1.07	6.77	6.20	3.62	22.0	4.66	2.04	44.0
Dec	11.1	9.10	10.8	38.0	15.0	33.0	1.24	2.47	1.75	3.79	13.6	4.87	1.38	145
Annual	10.9	9.86	15.3	19.4	19.2	17.3	0.989	3.98	3.60	2.40	11.2	4.95	1.18	1656
Max.	149	139	426	525	299	548	21.8	228	216	72.4	222	5.72	12.7	
Min.	1.74	1.64	1.81	1.50	3.22	1.57	<0.3	0.499	0.280	<0.4	1.91	3.65	0.251	

Wet deposition (Monthly)

2010	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	0.167	0.162	0.111	0.103	0.221	0.0926	<0.01	0.0818	0.0798	0.0172	0.0626
Feb	1.61	1.49	2.15	2.19	3.01	2.00	0.135	0.513	0.470	0.270	1.71
Mar	1.87	1.72	3.08	2.52	3.68	2.49	0.190	1.09	1.03	0.418	1.75
Apr	2.60	2.16	3.38	8.38	4.22	7.37	0.360	1.34	1.18	0.971	1.43
May	2.05	1.98	2.74	1.35	4.07	1.24	0.0929	0.694	0.668	0.241	1.64
June	1.81	1.75	2.81	1.24	3.12	1.06	0.0759	0.447	0.424	0.171	2.29
July	1.19	1.12	1.85	1.31	2.07	1.14	0.0804	0.460	0.435	0.198	1.31
Aug	0.233	0.224	0.107	0.168	0.392	0.150	0.0155	0.123	0.120	0.0329	0.0739
Sept	2.60	2.35	4.12	4.77	4.64	4.20	0.256	0.740	0.649	0.520	3.29
Oct	1.50	1.32	2.26	3.39	2.97	3.04	0.196	0.448	0.383	0.431	2.15
Nov	0.813	0.743	1.20	1.24	1.29	1.15	0.0469	0.298	0.273	0.159	0.967
Dec	1.60	1.32	1.55	5.49	2.16	4.77	0.180	0.357	0.254	0.547	1.97
Annual	18.1	16.3	25.4	32.1	31.8	28.7	1.64	6.59	5.97	3.98	18.6

Data completeness (Monthly)

2010	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	99.4	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
Feb	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.1	99.1	99.1	100
Mar	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.2	99.2	99.2	100
Apr	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.0	99.0	99.0	100
May	100	100	100	100	100	100	100	100	100	100	98.8	98.8	98.8	100
June	100	100	100	100	100	100	100	100	100	100	99.2	99.2	99.2	100
July	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	96.8	96.8	96.8	100
Aug	95.4	95.4	95.4	95.4	95.4	95.4	95.4	95.4	95.4	95.4	93.5	93.5	93.5	100
Sept	100	100	100	100	100	100	100	100	100	100	99.7	99.7	99.7	100
Oct	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.2	99.2	99.2	100
Nov	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	97.6	97.6	97.6	100
Dec	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
Annual	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.0	99.0	99.0	100

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

[0.00] for deposition: The deposition was 0 mmol/m² 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%)

Note

Table 3.32 Monthly results

Site: Petaling Jaya

Country: Malaysia

Volume-weighted mean concentrations/ Precipitation (Monthly)

2010	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	19.1	18.6	62.4	11.3	2.21	8.52	1.77	14.7	14.5	1.20	53.9	4.27	3.17	278
Feb	30.9	30.3	109	14.8	4.54	10.7	2.87	10.7	10.5	1.70	108	3.97	5.94	245
Mar	17.9	17.4	50.2	11.1	5.96	8.20	2.08	4.23	4.05	1.11	56.4	4.25	3.12	394
Apr	16.5	16.3	47.1	8.66	<1	3.93	1.38	3.29	3.21	<0.4	56.0	4.25	2.84	419
May	13.0	12.8	34.4	4.76	2.90	2.14	1.08	3.98	3.93	<0.4	39.1	4.41	2.11	431
June	13.3	13.2	45.3	6.23	1.97	1.57	0.700	3.99	3.96	0.587	53.0	4.28	2.74	224
July	16.5	16.2	42.2	8.27	4.37	4.83	1.32	4.22	4.11	0.620	54.9	4.26	2.89	330
Aug	13.8	13.5	58.2	11.1	6.88	5.73	1.84	7.51	7.39	1.22	50.7	4.30	2.72	134
Sept	18.5	18.3	34.5	12.3	4.70	2.76	1.04	2.65	2.59	<0.4	53.6	4.27	2.68	293
Oct	20.7	20.4	45.5	9.33	13.8	3.91	1.53	4.40	4.32	0.511	38.7	4.41	2.16	224
Nov	12.7	12.5	39.5	4.52	6.56	3.50	0.941	3.85	3.77	0.446	42.0	4.38	2.30	252
Dec	14.1	13.7	44.4	12.0	5.52	5.15	1.70	4.95	4.83	0.686	51.1	4.29	2.16	294
Annual	17.1	16.8	49.5	9.26	4.60	4.99	1.50	5.40	5.29	0.698	54.4	4.26	2.90	3517
Max.	79.1	77.8	178	45.4	59.2	21.1	7.46	37.2	36.7	6.30	126	4.74	7.12	
Min.	5.39	5.25	<1	1.50	<1	<1	<0.3	1.30	1.27	<0.4	18.2	3.90	0.997	

Wet deposition (Monthly)

2010	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	5.31	5.17	17.3	3.14	0.613	2.36	0.492	4.08	4.03	0.332	15.0
Feb	7.57	7.41	26.8	3.63	1.11	2.62	0.702	2.63	2.57	0.416	26.5
Mar	7.03	6.84	19.7	4.35	2.34	3.23	0.818	1.67	1.60	0.438	22.2
Apr	6.93	6.83	19.8	3.63	0.381	1.65	0.579	1.38	1.35	0.152	23.5
May	5.58	5.53	14.8	2.05	1.25	0.920	0.463	1.71	1.69	0.158	16.8
June	2.98	2.96	10.2	1.40	0.441	0.351	0.157	0.896	0.888	0.132	11.9
July	5.45	5.35	13.9	2.73	1.44	1.59	0.434	1.39	1.36	0.205	18.1
Aug	1.85	1.81	7.80	1.49	0.923	0.769	0.247	1.01	0.991	0.164	6.80
Sept	5.42	5.37	10.1	3.61	1.38	0.809	0.304	0.776	0.758	0.0307	15.7
Oct	4.62	4.57	10.2	2.09	3.10	0.874	0.343	0.984	0.965	0.114	8.65
Nov	3.20	3.15	9.96	1.14	1.65	0.885	0.237	0.971	0.952	0.113	10.6
Dec	4.13	4.04	13.0	3.54	1.62	1.51	0.499	1.45	1.42	0.202	15.0
Annual	60.3	59.3	174	32.6	16.2	17.6	5.26	19.0	18.6	2.46	191

Data completeness (Monthly)

2010	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	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	100	100	100	100	100	100	100	100	100	100	98.9	98.9	98.9	100
Dec	72.5	72.5	72.5	72.5	72.5	72.5	72.5	72.5	72.5	72.5	45.5	45.5	45.5	80.0
Annual	97.7	97.7	97.7	97.7	97.7	97.7	97.7	97.7	97.7	97.7	95.4	95.4	95.4	98.1

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

[0.00] for deposition: The deposition was 0 mmol/m² 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%)

Note

Table 3.33 Monthly results

Site: Tanah Rata

Country: Malaysia

Volume-weighted mean concentrations/ Precipitation (Monthly)

2010	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	3.49	3.31	5.75	3.10	4.43	3.11	1.04	1.56	1.50	<0.4	7.10	5.15	0.514	147
Feb	4.51	4.34	5.41	2.31	8.83	2.71	0.996	0.622	0.581	<0.4	9.32	5.03	0.633	153
Mar	3.64	3.48	6.81	4.06	3.23	3.95	2.39	2.13	2.04	0.778	7.25	5.14	0.591	124
Apr	3.75	3.64	7.08	5.93	1.78	1.89	0.664	1.72	1.68	<0.4	8.73	5.06	0.549	194
May	3.43	3.38	4.47	1.48	<1	<1	0.639	0.491	0.474	<0.4	11.3	4.95	0.643	177
June	3.52	3.51	6.92	1.67	6.34	<1	<0.3	1.89	1.88	<0.4	7.32	5.14	0.519	215
July	2.51	2.49	5.38	1.26	3.34	<1	0.477	1.11	1.10	<0.4	6.00	5.22	0.383	189
Aug	3.89	3.84	6.05	1.38	3.73	<1	0.683	1.65	1.63	<0.4	7.73	5.11	0.538	294
Sept	3.29	3.24	2.27	<1	<1	<1	0.378	0.672	0.658	<0.4	7.97	5.10	0.480	265
Oct	5.57	5.51	4.88	1.59	2.50	<1	0.717	1.57	1.55	<0.4	13.8	4.86	0.668	135
Nov	1.64	1.61	1.73	<1	<1	<1	0.464	0.958	0.946	<0.4	7.64	5.12	0.389	326
Dec	1.88	1.77	<1	2.71	15.0	1.88	4.70	0.790	0.754	<0.4	11.7	4.93	0.846	231
Annual	3.25	3.17	4.40	1.91	4.05	1.29	1.06	1.22	1.19	<0.4	8.64	5.06	0.550	2451
Max.	10.6	10.3	13.7	19.3	60.5	17.7	27.4	5.90	5.88	1.47	27.5	6.20	1.49	
Min.	<1	<1	<1	<1	<1	<1	<0.3	<0.2	<0.2	<0.4	0.631	4.56	0.187	

Wet deposition (Monthly)

2010	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	0.513	0.485	0.844	0.454	0.650	0.456	0.152	0.229	0.220	0.0141	1.04
Feb	0.691	0.666	0.828	0.353	1.35	0.416	0.153	0.0952	0.0890	0.0130	1.43
Mar	0.450	0.431	0.842	0.502	0.399	0.488	0.296	0.263	0.253	0.0962	0.896
Apr	0.729	0.707	1.37	1.15	0.346	0.368	0.129	0.334	0.326	0.0157	1.70
May	0.607	0.598	0.789	0.262	0.0508	0.138	0.113	0.0868	0.0838	<0.01	2.01
June	0.755	0.753	1.49	0.358	1.36	0.0282	0.0291	0.405	0.404	0.0509	1.57
July	0.475	0.470	1.02	0.238	0.632	0.0865	0.0903	0.209	0.207	<0.01	1.14
Aug	1.14	1.13	1.78	0.406	1.10	0.234	0.201	0.484	0.479	0.0122	2.27
Sept	0.873	0.860	0.603	0.116	0.168	0.205	0.100	0.178	0.175	<0.01	2.11
Oct	0.754	0.746	0.661	0.216	0.339	0.128	0.0971	0.213	0.210	<0.01	1.87
Nov	0.536	0.525	0.565	<0.01	0.0493	0.176	0.152	0.313	0.309	<0.01	2.49
Dec	0.435	0.409	<0.01	0.626	3.47	0.435	1.09	0.183	0.174	0.0104	2.70
Annual	7.96	7.78	10.8	4.67	9.92	3.15	2.60	2.99	2.93	0.210	21.2

Data completeness (Monthly)

2010	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	97.6	97.6	97.6	97.6	97.6	97.6	97.6	97.6	97.6	97.6	97.6	97.6	97.6	100
Apr	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
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	91.1	91.1	91.1	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	99.3	99.3	99.3	100

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

[0.00] for deposition: The deposition was 0 mmol/m² 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%)

Note

Table 3.34 Monthly results

Site: Danum Valley

Country: Malaysia

Volume-weighted mean concentrations/ Precipitation (Monthly)

2010	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	3.16	2.15	<1	19.5	<1	16.8	1.27	0.266	<0.2	1.27	5.78	5.24	0.621	368
Feb	<1	<1	4.52	102	49.1	69.2	13.5	4.80	3.30	5.20	*	*	*	11.5
Mar	4.13	3.32	<1	13.6	<1	13.5	2.63	1.60	1.31	2.00	3.02	5.52	0.581	91.5
Apr	1.88	1.53	<1	7.94	<1	5.80	1.14	1.57	1.45	0.983	6.08	5.22	0.486	107
May	<1	<1	<1	3.69	<1	2.04	0.884	<0.2	<0.2	<0.4	6.51	5.19	0.371	232
June	*	*	*	*	*	*	*	*	*	*	*	*	*	181
July	20.7	13.1	6.22	36.5	14.5	137	10.6	58.5	55.5	3.83	0.550	6.26	3.38	186
Aug	26.4	26.0	9.66	65.5	31.4	6.52	6.53	5.42	5.28	6.16	*	*	*	251
Sept	2.53	2.23	<1	6.38	<1	5.01	2.23	2.14	2.03	0.688	7.83	5.11	0.487	103
Oct	1.50	<1	<1	19.4	9.28	19.1	12.6	4.67	4.26	2.49	*	*	*	229
Nov	1.68	1.52	<1	1.41	<1	2.52	1.32	0.624	0.578	<0.4	6.76	5.17	0.384	135
Dec	<1	<1	<1	4.04	<1	2.05	1.01	0.413	0.391	<0.4	6.44	5.19	0.369	475
Annual	5.08	4.32	1.42	17.1	4.89	13.8	3.24	3.82	3.59	1.48	5.99	5.22	0.552	2370
Max.	32.3	31.8	18.8	102	62.5	247	19.3	97.4	96.3	12.2	21.4	6.26	3.38	
Min.	<1	<1	<1	<1	<1	<1	0.430	<0.2	<0.2	<0.4	0.550	4.67	0.243	

Wet deposition (Monthly)

2010	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	1.16	0.791	0.204	7.16	0.232	6.19	0.468	0.0978	0.0597	0.465	2.12
Feb	<0.01	<0.01	0.0519	1.17	0.565	0.796	0.156	0.0552	0.0380	0.0598	*
Mar	0.378	0.304	<0.01	1.24	<0.01	1.24	0.241	0.146	0.120	0.183	0.276
Apr	0.202	0.165	<0.01	0.852	0.0161	0.623	0.122	0.169	0.155	0.105	0.653
May	0.227	0.198	<0.01	0.857	<0.01	0.475	0.205	<0.01	<0.01	<0.01	1.51
June	*	*	*	*	*	*	*	*	*	*	*
July	3.85	2.43	1.16	6.79	2.69	25.5	1.97	10.9	10.3	0.713	0.102
Aug	6.62	6.52	2.42	16.4	7.89	1.64	1.64	1.36	1.32	1.54	*
Sept	0.261	0.230	<0.01	0.659	<0.01	0.517	0.231	0.221	0.210	0.0711	0.809
Oct	0.344	0.181	0.0832	4.46	2.13	4.39	2.89	1.07	0.976	0.570	*
Nov	0.226	0.205	<0.01	0.189	<0.01	0.340	0.178	0.0842	0.0779	0.0277	0.911
Dec	0.370	0.312	0.0115	1.92	<0.01	0.974	0.478	0.196	0.186	0.0636	3.06
Annual	12.0	10.2	3.36	40.5	11.6	32.7	7.67	9.05	8.51	3.51	14.2

Data completeness (Monthly)

2010	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	21.7	21.7	21.7	21.7	21.7	21.7	21.7	21.7	21.7	21.7	0	0	0	100
Mar	58.6	58.6	58.6	58.6	58.6	58.6	58.6	58.6	58.6	58.6	58.6	58.6	58.6	100
Apr	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0	52.9	52.9	52.9	100
May	67.4	67.4	67.4	67.4	67.4	67.4	67.4	67.4	67.4	67.4	67.4	67.4	67.4	100
June	0	0	0	0	0	0	0	0	0	0	0	0	0	100
July	36.6	36.6	36.6	36.6	36.6	36.6	36.6	36.6	36.6	36.6	20.7	20.7	20.7	100
Aug	66.1	66.1	66.1	66.1	66.1	66.1	66.1	66.1	66.1	66.1	0	0	0	100
Sept	45.2	45.2	45.2	45.2	45.2	45.2	45.2	45.2	45.2	45.2	40.9	40.9	40.9	100
Oct	67.0	67.0	67.0	67.0	67.0	67.0	67.0	67.0	67.0	67.0	0	0	0	100
Nov	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5	100
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	68.9	68.9	68.9	68.9	68.9	68.9	68.9	68.9	68.9	68.9	53.8	53.8	53.8	100

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

[0.00] for deposition: The deposition was 0 mmol/m² 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%)

Note

Table 3.35 Monthly results

Site: Kuching

Country: Malaysia

Volume-weighted mean concentrations/ Precipitation (Monthly)

2010	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	2.62	1.86	2.01	13.7	<1	12.7	0.731	1.35	1.08	0.810	4.48	5.35	0.509	968
Feb	3.93	2.95	5.23	20.1	1.34	16.3	0.899	1.18	0.833	1.14	6.02	5.22	0.633	446
Mar	4.46	3.74	6.32	13.3	2.96	12.0	0.837	1.68	1.42	1.16	7.58	5.12	0.665	299
Apr	4.13	3.95	8.33	4.09	1.02	2.94	0.509	3.69	3.63	<0.4	6.96	5.16	0.557	314
May	3.57	3.51	6.94	2.10	1.43	<1	<0.3	3.68	3.66	<0.4	7.05	5.15	0.496	364
June	4.00	3.79	6.68	5.38	1.60	3.52	0.488	3.84	3.76	<0.4	6.01	5.22	0.502	176
July	2.25	2.17	4.43	1.62	1.06	1.32	0.403	2.70	2.67	<0.4	3.69	5.43	0.338	429
Aug	2.86	2.78	4.58	2.54	2.05	1.44	0.646	3.61	3.58	<0.4	4.31	5.37	0.380	378
Sept	4.03	3.93	5.45	2.28	3.50	1.60	0.566	2.48	2.45	<0.4	5.79	5.24	0.476	337
Oct	4.88	4.71	6.53	4.64	2.31	2.86	0.736	2.77	2.71	<0.4	6.58	5.18	0.510	378
Nov	3.86	3.65	2.12	2.95	4.07	3.52	0.939	2.84	2.76	<0.4	2.80	5.55	0.365	174
Dec	4.51	4.10	5.25	9.03	5.93	6.89	0.671	4.30	4.15	0.516	2.97	5.53	0.520	382
Annual	3.57	3.17	4.91	8.04	1.94	6.67	0.650	2.60	2.45	0.457	5.25	5.28	0.500	4645
Max.	12.0	10.6	16.2	52.0	24.0	49.0	2.68	12.0	11.9	4.80	14.5	6.25	1.45	
Min.	<1	<1	<1	<1	<1	<1	<0.3	<0.2	<0.2	<0.4	0.562	4.84	0.159	

Wet deposition (Monthly)

2010	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	2.54	1.80	1.95	13.3	0.173	12.3	0.708	1.31	1.04	0.785	4.34
Feb	1.75	1.32	2.33	8.94	0.597	7.25	0.400	0.528	0.371	0.508	2.68
Mar	1.33	1.12	1.89	3.98	0.883	3.58	0.250	0.501	0.424	0.346	2.26
Apr	1.30	1.24	2.62	1.28	0.319	0.924	0.160	1.16	1.14	0.0346	2.19
May	1.30	1.28	2.53	0.763	0.520	0.349	0.107	1.34	1.33	<0.01	2.57
June	0.703	0.666	1.17	0.945	0.281	0.619	0.0858	0.674	0.661	0.0630	1.06
July	0.963	0.929	1.90	0.696	0.453	0.566	0.173	1.16	1.15	<0.01	1.58
Aug	1.08	1.05	1.73	0.959	0.775	0.545	0.244	1.36	1.35	0.0359	1.63
Sept	1.36	1.32	1.84	0.767	1.18	0.539	0.191	0.836	0.827	0.0354	1.95
Oct	1.85	1.78	2.47	1.76	0.873	1.08	0.278	1.05	1.03	0.0867	2.49
Nov	0.672	0.635	0.370	0.514	0.708	0.612	0.163	0.494	0.480	0.0323	0.487
Dec	1.73	1.57	2.01	3.45	2.27	2.64	0.257	1.64	1.59	0.197	1.14
Annual	16.6	14.7	22.8	37.3	9.03	31.0	3.02	12.1	11.4	2.12	24.4

Data completeness (Monthly)

2010	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/m² 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%)

Note

Table 3.36 Monthly results

Site: Ulaanbaatar

Country: Mongolia

Volume-weighted mean concentrations/ Precipitation (Monthly)

2010	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	25.8	25.3	12.6	14.5	40.9	9.01	5.72	54.7	54.5	6.45	0.381	6.42	1.73	12.2
June	41.0	40.8	42.6	18.5	84.4	3.59	8.80	44.3	44.2	5.15	0.521	6.28	2.50	25.8
July	25.2	25.1	24.0	6.16	64.8	1.61	1.32	28.4	28.4	2.09	1.29	5.89	1.57	46.8
Aug	8.72	8.59	9.13	4.85	26.1	2.19	0.659	22.6	22.5	1.39	1.93	5.71	0.822	59.6
Sept	39.4	38.4	42.5	8.18	133	15.5	2.36	92.0	91.7	7.77	1.01	6.00	3.05	8.12
Oct	*	*	*	*	*	*	*	*	*	*	2.51	5.60	1.54	0.182
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Annual	22.2	22.0	21.4	8.49	54.7	3.50	2.72	34.3	34.2	2.98	1.33	5.88	1.53	153
Max.	205	203	183	47.1	149	42.2	31.7	427	426	30.0	4.68	7.32	14.3	
Min.	4.80	4.78	4.80	2.50	<1	<1	<0.3	7.00	6.99	<0.4	0.0479	5.33	0.380	

Wet deposition (Monthly)

2010	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	0.314	0.308	0.153	0.177	0.498	0.110	0.0696	0.666	0.663	0.0785	<0.01
June	1.06	1.05	1.10	0.477	2.18	0.0926	0.227	1.14	1.14	0.133	0.0134
July	1.18	1.18	1.12	0.288	3.04	0.0754	0.0616	1.33	1.33	0.0976	0.0606
Aug	0.520	0.512	0.544	0.289	1.56	0.130	0.0393	1.34	1.34	0.0827	0.115
Sept	0.320	0.312	0.346	0.0665	1.08	0.126	0.0192	0.747	0.745	0.0631	<0.01
Oct	*	*	*	*	*	*	*	*	*	*	<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	3.39	3.36	3.26	1.30	8.35	0.535	0.416	5.23	5.22	0.455	0.202

Data completeness (Monthly)

2010	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	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	0	0	0	0	0	0	0	0	0	0	100	100	100	100
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Annual	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	100	100	100	100

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

[0.00] for deposition: The deposition was 0 mmol/m² 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%)

Note

Table 3.37 Monthly results

Site: Terelj

Country: Mongolia

Volume-weighted mean concentrations/ Precipitation (Monthly)

2010	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	1048	1034	289	130	<1	243	118	916	911	127	0.0513	7.29	31.2	0.450
Feb	26.2	24.0	19.7	25.4	43.2	37.0	15.3	58.7	57.9	7.80	0.105	6.98	2.94	4.57
Mar	108	105	39.6	19.9	33.5	55.4	18.1	157	156	24.0	0.316	6.50	5.65	7.12
Apr	305	296	212	54.3	<1	140	76.8	413	410	77.6	0.0771	7.11	15.2	1.80
May	15.4	15.1	18.7	8.24	25.6	5.47	1.58	24.0	23.9	3.50	1.48	5.83	1.10	17.3
June	43.3	42.6	45.5	16.6	52.8	10.9	5.24	60.8	60.6	6.97	2.24	5.65	2.58	21.5
July	11.0	11.0	19.5	8.00	38.8	<1	1.46	12.7	12.7	0.919	2.45	5.61	1.00	33.2
Aug	6.66	5.63	14.0	5.22	20.9	4.04	0.764	17.3	17.2	1.28	2.10	5.68	0.718	25.0
Sept	21.2	20.8	26.7	4.50	47.9	5.74	7.47	20.3	20.1	2.53	4.03	5.39	1.48	12.4
Oct	7.16	7.16	9.27	<1	16.5	<1	1.72	15.3	15.3	1.39	9.07	5.04	0.691	6.07
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Annual	30.5	29.8	27.6	10.6	35.0	11.1	5.43	42.3	42.1	5.54	2.44	5.61	1.88	130
Max.	1048	1034	320	140	259	300	247	916	911	159	23.4	7.29	31.2	
Min.	2.20	1.96	6.10	<1	<1	<1	<0.3	6.00	6.00	<0.4	0.0513	4.63	0.350	

Wet deposition (Monthly)

2010	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	0.472	0.465	0.130	0.0585	<0.01	0.109	0.0532	0.412	0.410	0.0570	<0.01
Feb	0.120	0.110	0.0899	0.116	0.197	0.169	0.0699	0.268	0.265	0.0356	<0.01
Mar	0.772	0.748	0.282	0.142	0.239	0.395	0.129	1.12	1.11	0.171	<0.01
Apr	0.549	0.534	0.383	0.0979	<0.01	0.252	0.139	0.744	0.739	0.140	<0.01
May	0.266	0.260	0.324	0.143	0.443	0.0946	0.0273	0.415	0.412	0.0606	0.0256
June	0.931	0.917	0.978	0.357	1.14	0.234	0.113	1.31	1.30	0.150	0.0482
July	0.365	0.365	0.647	0.266	1.29	<0.01	0.0486	0.421	0.421	0.0305	0.0813
Aug	0.167	0.141	0.351	0.131	0.523	0.101	0.0191	0.433	0.431	0.0319	0.0526
Sept	0.263	0.259	0.332	0.0559	0.595	0.0713	0.0929	0.252	0.250	0.0315	0.0501
Oct	0.0435	0.0435	0.0563	<0.01	0.100	<0.01	0.0105	0.0932	0.0932	<0.01	0.0551
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	3.96	3.86	3.58	1.37	4.53	1.44	0.703	5.48	5.45	0.718	0.316

Data completeness (Monthly)

2010	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	98.4	98.4	98.4	98.4	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	98.7	100	100	98.7	98.7	98.7	98.7	98.7	98.7	100	100	100	100
Sept	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Oct	92.3	92.3	92.3	92.3	98.1	98.1	98.1	98.1	98.1	98.1	100	100	100	100
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Annual	99.4	99.1	99.4	99.4	99.7	99.7	99.7	99.7	99.7	99.7	100	100	100	100

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

[0.00] for deposition: The deposition was 0 mmol/m² 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%)

Note

Table 3.38 Monthly results

Site: Yangon

Country: Myanmar

Volume-weighted mean concentrations/ Precipitation (Monthly)

2010	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	1.28	1.13	1.41	22.5	18.6	21.7	3.66	11.6	11.2	3.02	0.376	6.43	6.10	291
June	5.41	4.54	5.73	15.8	12.0	14.5	1.34	6.93	6.62	2.21	0.324	6.49	0.612	481
July	3.73	3.01	4.38	12.9	11.5	11.9	1.57	4.54	4.28	1.64	0.308	6.51	0.551	292
Aug	4.62	3.93	4.33	11.3	13.1	11.4	1.68	5.25	5.00	1.70	0.604	6.22	0.515	476
Sept	3.49	3.09	5.81	6.42	13.4	6.60	1.55	4.13	3.98	0.936	0.395	6.40	0.486	355
Oct	6.36	5.66	4.86	11.0	18.3	11.7	2.56	5.74	5.49	1.24	0.241	6.62	0.964	352
Nov	16.3	15.1	96.2	25.3	4.21	20.5	20.5	21.6	21.2	4.11	0.240	6.62	2.86	7.51
Dec	17.8	16.6	12.2	15.5	51.1	20.5	5.55	13.0	12.6	3.09	0.229	6.64	1.88	25.4
Annual	4.52	3.90	4.96	13.2	14.6	12.9	2.07	6.37	6.09	1.80	0.384	6.42	1.34	2280
Max.	18.5	16.6	96.2	28.3	70.5	33.4	20.5	40.2	39.7	5.55	1.78	6.85	8.75	
Min.	<1	<1	<1	4.49	4.21	4.87	0.588	2.67	2.54	0.658	0.141	5.75	0.358	

Wet deposition (Monthly)

2010	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	0.371	0.327	0.410	6.54	5.40	6.30	1.06	3.38	3.24	0.878	0.109
June	2.60	2.18	2.76	7.61	5.76	6.96	0.645	3.34	3.19	1.06	0.156
July	1.09	0.878	1.28	3.77	3.34	3.46	0.459	1.32	1.25	0.479	0.0897
Aug	2.20	1.87	2.06	5.36	6.23	5.43	0.800	2.50	2.38	0.808	0.288
Sept	1.24	1.10	2.06	2.28	4.75	2.34	0.551	1.47	1.42	0.333	0.140
Oct	2.24	1.99	1.71	3.89	6.45	4.13	0.900	2.02	1.93	0.436	0.0846
Nov	0.123	0.113	0.723	0.190	0.0317	0.154	0.154	0.163	0.159	0.0309	<0.01
Dec	0.452	0.421	0.309	0.393	1.30	0.520	0.141	0.330	0.319	0.0783	<0.01
Annual	10.3	8.88	11.3	30.0	33.3	29.3	4.71	14.5	13.9	4.11	0.875

Data completeness (Monthly)

2010	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	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/m² 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%)

Note

Table 3.39 Monthly results

Site: Metro Manila

Country: Philippines

Volume-weighted mean concentrations/ Precipitation (Monthly)

2010	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	25.3	13.9	26.8	205	43.6	188	19.1	31.4	27.4	2.84	0.447	6.35	4.49	5.10
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Mar	27.9	27.3	44.2	207	40.4	10.0	20.1	58.9	58.7	53.5	0.550	6.26	3.54	2.40
Apr	*	*	*	*	*	*	*	*	*	*	*	*	*	3.60
May	12.1	10.4	88.5	19.4	56.0	28.5	14.7	18.4	17.8	16.6	0.427	6.37	1.68	20.9
June	25.1	23.9	61.1	14.9	50.6	20.4	12.0	31.6	31.1	1.55	0.897	6.05	2.38	414
July	*	*	*	*	*	*	*	*	*	*	*	*	*	491
Aug	*	*	*	*	*	*	*	*	*	*	*	*	*	615
Sept	*	*	*	*	*	*	*	*	*	*	*	*	*	310
Oct	14.7	12.9	32.8	25.6	58.8	30.5	14.0	3.71	3.05	5.60	3.61	5.44	1.66	471
Nov	17.8	17.2	61.4	9.92	33.0	8.76	23.4	4.61	4.42	16.1	0.259	6.59	1.55	206
Dec	39.7	39.0	86.8	20.2	73.6	12.6	25.1	30.2	29.9	19.1	3.43	5.46	2.54	136
Annual	20.3	18.9	50.5	20.6	53.1	22.3	17.0	12.8	12.3	9.12	2.25	5.65	1.89	2676
Max.	47.9	47.1	105	207	99.2	188	166	58.9	58.7	53.5	7.41	7.48	4.49	
Min.	9.93	8.63	16.8	5.90	27.1	5.44	5.88	1.30	1.18	<0.4	0.0331	5.13	1.10	

Wet deposition (Monthly)

2010	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	0.129	0.0711	0.137	1.05	0.222	0.961	0.0976	0.160	0.140	0.0145	<0.01
Feb	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar	0.0670	0.0655	0.106	0.497	0.0970	0.0241	0.0482	0.141	0.141	0.128	<0.01
Apr	*	*	*	*	*	*	*	*	*	*	*
May	0.252	0.216	1.85	0.405	1.17	0.596	0.308	0.385	0.372	0.347	<0.01
June	10.4	9.89	25.3	6.17	20.9	8.44	4.99	13.1	12.9	0.640	0.372
July	*	*	*	*	*	*	*	*	*	*	*
Aug	*	*	*	*	*	*	*	*	*	*	*
Sept	*	*	*	*	*	*	*	*	*	*	*
Oct	6.93	6.06	15.5	12.1	27.7	14.4	6.58	1.75	1.44	2.64	1.70
Nov	3.67	3.56	12.7	2.05	6.80	1.81	4.83	0.952	0.913	3.33	0.0535
Dec	5.42	5.32	11.8	2.76	10.0	1.72	3.42	4.12	4.08	2.61	0.468
Annual	54.2	50.6	135	55.2	142	59.7	45.6	34.2	32.9	24.4	6.01

Data completeness (Monthly)

2010	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	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
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	0	0	0	0	0	0	0	0	0	0	0	0	0	100
May	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
June	41.8	41.8	41.8	41.8	41.8	41.8	41.8	41.8	41.8	41.8	41.8	41.8	41.8	100
July	0	0	0	0	0	0	0	0	0	0	0	0	0	100
Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	100
Sept	0	0	0	0	0	0	0	0	0	0	0	0	0	100
Oct	87.9	87.9	87.9	87.9	87.9	87.9	87.9	87.9	87.9	87.9	87.9	87.9	87.9	100
Nov	100	100	37.7	100	100	100	100	100	100	100	100	100	100	100
Dec	79.1	79.1	79.1	79.1	79.1	79.1	79.1	79.1	79.1	79.1	79.1	79.1	79.1	100
Annual	34.7	34.7	29.9	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	100

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

[0.00] for deposition: The deposition was 0 mmol/m² 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%)

Note

Table 3.40 Monthly results

Site: Los Banos

Country: Philippines

Volume-weighted mean concentrations/ Precipitation (Monthly)

2010	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	12.6	9.14	52.6	76.1	142	57.8	20.0	11.9	10.7	18.6	0.108	6.97	3.23	15.3
Feb	25.0	16.6	48.5	122	<1	139	15.4	43.7	40.7	12.6	0.347	6.46	3.33	3.00
Mar	13.7	12.2	46.9	31.3	20.2	25.0	13.5	37.4	36.9	3.41	0.251	6.60	1.88	26.6
Apr	8.51	7.98	*	13.3	24.4	8.79	4.86	<0.2	<0.2	0.452	4.17	5.38	1.60	49.7
May	10.3	9.73	*	16.9	47.5	10.1	5.34	9.07	8.85	3.66	0.847	6.07	1.13	33.8
June	13.1	11.6	39.0	10.3	43.5	25.5	3.53	0.574	<0.2	0.823	6.61	5.18	1.10	143
July	*	*	*	*	*	*	*	*	*	*	*	*	*	783
Aug	*	*	*	*	*	*	*	*	*	*	*	*	*	192
Sept	*	*	*	*	*	*	*	*	*	*	*	*	*	109
Oct	6.41	5.15	19.7	29.3	37.9	20.9	7.57	24.3	23.8	11.6	0.490	6.31	1.07	414
Nov	5.00	3.73	29.7	22.7	32.8	21.1	7.51	32.0	31.6	7.05	0.174	6.76	1.16	140
Dec	4.01	1.95	170	25.1	35.6	34.2	8.36	12.9	12.2	11.2	0.547	6.26	1.08	158
Annual	7.39	6.02	55.4	25.3	38.2	22.7	7.43	20.1	19.7	8.20	1.32	5.88	1.22	2068
Max.	25.0	16.6	250	145	209	139	32.0	56.9	56.4	22.8	6.61	8.29	3.82	
Min.	1.97	<1	6.71	9.96	<1	5.74	2.58	<0.2	<0.2	<0.4	0	5.18	0.531	

Wet deposition (Monthly)

2010	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	0.193	0.140	0.805	1.16	2.17	0.884	0.306	0.183	0.164	0.285	<0.01
Feb	0.0750	0.0498	0.146	0.365	<0.01	0.418	0.0463	0.131	0.122	0.0378	<0.01
Mar	0.366	0.325	1.25	0.833	0.537	0.664	0.359	0.996	0.981	0.0908	<0.01
Apr	0.423	0.396	*	0.663	1.21	0.437	0.242	<0.01	<0.01	0.0225	0.207
May	0.349	0.329	*	0.570	1.60	0.341	0.180	0.307	0.299	0.124	0.0286
June	1.88	1.66	5.59	1.47	6.23	3.66	0.505	0.0822	<0.01	0.118	0.946
July	*	*	*	*	*	*	*	*	*	*	*
Aug	*	*	*	*	*	*	*	*	*	*	*
Sept	*	*	*	*	*	*	*	*	*	*	*
Oct	2.65	2.13	8.15	12.1	15.7	8.65	3.14	10.1	9.88	4.81	0.203
Nov	0.700	0.522	4.15	3.17	4.59	2.95	1.05	4.48	4.42	0.987	0.0243
Dec	0.634	0.308	26.9	3.97	5.63	5.41	1.32	2.04	1.92	1.78	0.0865
Annual	15.3	12.5	115	52.3	79.1	46.9	15.4	41.6	40.7	17.0	2.73

Data completeness (Monthly)

2010	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	98.7	98.7	98.7	98.7	98.7	98.7	98.7	98.7	98.7	98.7	98.7	98.7	98.7	100
Feb	83.3	83.3	83.3	83.3	83.3	83.3	83.3	83.3	83.3	83.3	83.3	83.3	83.3	100
Mar	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
Apr	97.6	97.6	0	97.6	97.6	97.6	97.6	97.6	97.6	97.6	97.6	97.6	97.6	100
May	100	100	0	100	100	100	100	100	100	100	100	100	100	100
June	48.6	48.6	48.6	48.6	48.6	48.6	48.6	48.6	48.6	48.6	48.6	48.6	48.6	100
July	0	0	0	0	0	0	0	0	0	0	0	0	0	100
Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	100
Sept	0	0	0	0	0	0	0	0	0	0	0	0	0	100
Oct	67.5	67.5	16.4	67.5	67.5	67.5	67.5	67.5	67.5	67.5	67.5	67.5	67.5	100
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Dec	40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9	100
Annual	32.8	32.8	18.6	32.8	32.8	32.8	32.8	32.8	32.8	32.8	32.8	32.8	32.8	100

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

[0.00] for deposition: The deposition was 0 mmol/m² 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%)

Note

Table 3.41 Monthly results

Site: Mt. Sto. Tomas

Country: Philippines

Volume-weighted mean concentrations/ Precipitation (Monthly)

2010	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	*	*	*	*	*	*	*	*	*	*	*	*	*	3.90
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Mar	6.51	5.80	7.59	8.37	10.5	11.8	10.5	36.6	36.4	10.1	0.0905	7.04	1.29	36.0
Apr	7.02	6.28	11.7	8.58	21.3	12.4	3.56	26.4	26.2	5.42	0.107	6.97	1.05	123
May	10.7	10.1	12.0	9.82	14.1	10.7	1.47	25.1	24.9	4.96	0.230	6.64	0.783	201
June	7.69	7.36	7.58	10.3	3.97	5.57	0.652	27.5	27.4	4.49	0.230	6.64	0.618	227
July	5.36	5.10	3.58	2.43	4.32	4.30	0.808	21.3	21.2	3.35	0.179	6.75	0.429	585
Aug	2.38	2.12	2.43	2.44	2.27	4.32	0.670	24.2	24.2	2.31	0.192	6.72	0.441	759
Sept	3.04	2.81	2.69	2.20	2.01	3.77	0.673	23.9	23.8	2.52	0.209	6.68	0.452	498
Oct	5.88	5.30	3.61	8.75	5.08	9.60	2.28	20.8	20.5	3.70	0.199	6.70	0.601	809
Nov	4.15	3.86	3.69	2.96	1.76	4.88	1.60	16.9	16.8	2.79	0.256	6.59	0.406	336
Dec	7.74	7.17	6.32	5.62	3.83	9.45	4.50	19.5	19.3	3.71	0.288	6.54	0.574	32.0
Annual	4.94	4.56	4.29	5.07	4.65	6.30	1.41	22.7	22.5	3.34	0.201	6.70	0.533	3610
Max.	25.0	24.4	34.0	40.1	47.3	17.7	21.7	60.7	60.4	17.3	0.794	7.40	2.14	
Min.	<1	<1	<1	<1	<1	2.78	<0.3	11.3	11.3	1.85	0.0398	6.10	0.219	

Wet deposition (Monthly)

2010	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar	0.234	0.209	0.273	0.301	0.378	0.425	0.377	1.32	1.31	0.364	<0.01
Apr	0.864	0.772	1.44	1.06	2.62	1.52	0.437	3.25	3.22	0.666	0.0131
May	2.15	2.02	2.42	1.97	2.83	2.14	0.296	5.05	5.00	0.996	0.0461
June	1.74	1.67	1.72	2.33	0.900	1.26	0.148	6.23	6.20	1.02	0.0521
July	3.14	2.98	2.10	1.42	2.53	2.52	0.473	12.5	12.4	1.96	0.105
Aug	1.80	1.61	1.84	1.85	1.72	3.28	0.508	18.4	18.3	1.75	0.146
Sept	1.52	1.40	1.34	1.09	1.00	1.88	0.335	11.9	11.9	1.25	0.104
Oct	4.75	4.28	2.92	7.07	4.11	7.76	1.85	16.8	16.6	2.99	0.161
Nov	1.40	1.30	1.24	0.996	0.590	1.64	0.539	5.70	5.66	0.937	0.0862
Dec	0.248	0.230	0.202	0.180	0.123	0.303	0.144	0.623	0.616	0.119	<0.01
Annual	17.8	16.5	15.5	18.3	16.8	22.7	5.09	81.8	81.4	12.1	0.726

Data completeness (Monthly)

2010	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	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	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
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	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	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/m² 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%)

Note

Table 3.42 Monthly results

Site: Kanghwa

Country: Republic of Korea

Volume-weighted mean concentrations/ Precipitation (Monthly)

2010	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	105	98.0	224	221	80.3	117	76.2	86.8	84.2	27.4	80.2	4.10	9.53	13.5
Feb	62.8	60.3	49.9	37.5	49.9	40.6	12.2	18.2	17.4	7.14	19.6	4.71	3.89	28.5
Mar	39.4	37.5	54.6	68.5	50.6	30.7	14.0	22.4	21.7	5.84	56.4	4.25	3.91	34.0
Apr	54.9	51.7	73.5	84.8	65.2	52.6	9.99	32.8	31.7	10.3	60.7	4.22	5.57	69.0
May	34.9	33.3	42.9	58.2	30.8	26.0	20.6	10.4	9.79	4.85	48.2	4.32	3.12	112
June	47.5	46.3	70.7	42.6	83.3	18.8	25.5	10.6	10.2	4.11	27.0	4.57	3.86	44.5
July	31.8	29.4	35.9	61.1	34.0	39.1	8.14	3.85	3.01	3.51	52.0	4.28	2.77	387
Aug	10.7	10.1	13.5	16.7	8.95	9.60	0.717	1.23	1.02	1.63	25.1	4.60	1.24	412
Sept	17.5	16.4	16.4	24.3	14.7	17.2	2.59	2.07	1.70	1.78	33.3	4.48	1.74	441
Oct	18.6	16.9	33.5	98.9	37.5	29.7	47.4	2.50	1.86	3.73	42.5	4.37	3.25	12.0
Nov	69.3	65.4	107	90.0	103	63.9	8.46	12.8	11.5	8.11	129	3.89	5.98	9.00
Dec	232	202	328	669	133	484	133	217	206	75.5	1.57	5.80	17.9	7.50
Annual	26.3	24.7	31.8	43.9	26.5	27.0	7.78	7.02	6.44	3.64	39.0	4.41	2.46	1570
Max.	248	220	351	689	155	506	224	246	236	85.7	200	6.55	18.1	
Min.	4.26	3.91	7.87	6.57	3.26	5.85	<0.3	0.452	0.255	0.699	0.282	3.70	0.456	

Wet deposition (Monthly)

2010	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	1.42	1.32	3.02	2.98	1.08	1.58	1.03	1.17	1.14	0.371	1.08
Feb	1.79	1.72	1.42	1.07	1.42	1.16	0.347	0.520	0.495	0.204	0.558
Mar	1.34	1.28	1.86	2.33	1.72	1.04	0.477	0.760	0.738	0.198	1.92
Apr	3.79	3.57	5.07	5.85	4.50	3.63	0.689	2.26	2.19	0.708	4.19
May	3.91	3.73	4.81	6.52	3.45	2.92	2.31	1.16	1.10	0.543	5.40
June	2.11	2.06	3.15	1.89	3.71	0.835	1.13	0.470	0.452	0.183	1.20
July	12.3	11.4	13.9	23.6	13.2	15.1	3.15	1.49	1.16	1.36	20.1
Aug	4.40	4.16	5.58	6.88	3.69	3.95	0.295	0.505	0.420	0.673	10.3
Sept	7.70	7.24	7.22	10.7	6.50	7.60	1.14	0.913	0.749	0.784	14.7
Oct	0.224	0.202	0.402	1.19	0.450	0.357	0.568	0.0300	0.0223	0.0448	0.509
Nov	0.623	0.589	0.960	0.810	0.923	0.575	0.0761	0.116	0.103	0.0730	1.16
Dec	1.74	1.52	2.46	5.02	1.000	3.63	0.997	1.63	1.55	0.566	0.0118
Annual	41.3	38.8	49.8	68.9	41.6	42.4	12.2	11.0	10.1	5.71	61.2

Data completeness (Monthly)

2010	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/m² 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%)

Note

Table 3.43 Monthly results

Site: Cheju

Country: Republic of Korea

Volume-weighted mean concentrations/ Precipitation (Monthly)

2010	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	46.8	19.5	35.9	518	33.8	452	20.4	14.2	4.47	36.7	1.58	5.80	8.53	13.0
Feb	38.8	28.3	58.7	198	29.1	175	7.30	11.5	7.97	14.1	33.5	4.48	4.76	30.0
Mar	29.1	23.5	34.3	98.4	21.9	92.7	5.84	12.4	10.6	6.62	28.2	4.55	3.08	141
Apr	21.3	15.3	26.5	100	19.7	99.5	8.32	8.64	6.73	6.39	3.31	5.48	1.97	139
May	53.1	48.0	57.4	109	147	83.7	24.6	17.2	15.4	7.05	0.279	6.55	4.46	49.0
June	50.5	40.8	22.2	174	51.7	162	20.4	26.1	22.6	29.7	0.586	6.23	4.34	37.0
July	11.3	6.15	19.1	80.0	15.6	85.8	4.56	1.35	<0.2	1.84	6.25	5.20	1.41	92.1
Aug	8.66	2.76	8.91	104	2.24	97.9	5.74	2.01	<0.2	4.25	6.87	5.16	1.59	297
Sept	13.8	4.13	16.5	168	9.18	161	16.7	3.78	0.598	8.14	2.23	5.65	2.69	72.1
Oct	8.51	4.73	21.4	51.1	7.28	62.8	0.789	2.86	1.50	3.88	9.03	5.04	0.929	100
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Dec	18.5	17.4	18.9	182	212	17.5	4.91	5.22	4.84	10.4	1.57	5.81	3.00	33.3
Annual	19.3	13.1	22.7	114	26.8	103	7.96	6.72	4.70	6.90	9.19	5.04	2.32	1003
Max.	134	100	173	753	832	553	52.2	131	122	63.9	100	7.35	14.0	
Min.	3.56	<1	6.26	14.6	<1	17.2	<0.3	<0.2	<0.2	0.609	0.0447	4.00	0.0700	

Wet deposition (Monthly)

2010	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	0.608	0.254	0.467	6.74	0.440	5.88	0.265	0.185	0.0581	0.477	0.0206
Feb	1.17	0.848	1.76	5.95	0.873	5.25	0.219	0.346	0.239	0.423	1.00
Mar	4.09	3.31	4.83	13.8	3.09	13.0	0.822	1.75	1.49	0.932	3.96
Apr	2.95	2.12	3.67	13.9	2.74	13.8	1.15	1.20	0.934	0.886	0.460
May	2.60	2.35	2.81	5.36	7.23	4.10	1.20	0.843	0.754	0.346	0.0137
June	1.87	1.51	0.823	6.44	1.91	5.98	0.754	0.966	0.837	1.10	0.0217
July	1.04	0.566	1.76	7.37	1.43	7.90	0.420	0.124	<0.01	0.170	0.576
Aug	2.57	0.818	2.64	31.0	0.663	29.0	1.70	0.595	0.0418	1.26	2.04
Sept	0.997	0.298	1.19	12.1	0.662	11.6	1.20	0.273	0.0431	0.587	0.161
Oct	0.852	0.473	2.15	5.11	0.729	6.29	0.0789	0.287	0.151	0.388	0.904
Nov	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dec	0.615	0.580	0.628	6.05	7.06	0.584	0.164	0.174	0.161	0.345	0.0522
Annual	19.4	13.1	22.7	114	26.8	103	7.98	6.74	4.72	6.91	9.21

Data completeness (Monthly)

2010	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
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/m² 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%)

Note

Table 3.44 Monthly results

Site: Imsil

Country: Republic of Korea

Volume-weighted mean concentrations/ Precipitation (Monthly)

2010	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	54.9	45.0	91.3	178	93.8	164	28.0	19.3	15.7	9.94	54.8	4.26	5.66	20.9
Feb	21.5	18.1	37.9	47.6	27.6	57.0	14.1	4.73	3.59	2.49	3.06	5.51	1.95	93.6
Mar	43.9	39.1	66.2	70.8	39.7	80.3	11.4	33.1	31.4	7.85	10.3	4.99	3.44	61.6
Apr	44.3	37.3	62.1	110	57.9	116	21.5	33.3	30.7	12.1	1.31	5.88	4.45	89.1
May	15.6	12.7	24.7	62.7	29.8	48.8	28.0	7.29	6.23	1.99	6.21	5.21	2.35	102
June	31.2	27.8	75.7	38.2	101	57.3	14.1	3.26	2.06	1.89	0.780	6.11	3.79	37.9
July	5.07	3.43	15.5	16.7	6.40	27.2	3.94	0.929	0.417	1.28	4.86	5.31	0.680	310
Aug	17.2	15.3	19.4	21.8	22.9	32.1	3.51	1.16	0.535	0.727	24.6	4.61	1.46	708
Sept	6.44	4.29	12.7	40.2	9.90	35.6	15.6	2.14	1.47	1.55	1.16	5.94	0.892	142
Oct	20.6	10.8	48.3	136	41.2	163	24.6	3.43	1.14	5.49	1.11	5.96	3.04	49.8
Nov	81.3	71.9	39.1	140	92.4	157	20.3	54.9	51.6	24.2	9.63	5.02	5.33	11.5
Dec	165	159	240	485	576	111	94.9	29.9	27.5	226	0.769	6.11	13.7	16.5
Annual	19.5	16.6	29.0	44.4	31.2	48.2	10.3	5.74	4.79	4.68	13.5	4.87	1.89	1642
Max.	505	452	602	1022	738	910	170	617	598	275	79.4	7.30	36.6	
Min.	2.40	<1	5.82	9.91	<1	16.7	<0.3	<0.2	<0.2	<0.4	0.0501	4.10	0.277	

Wet deposition (Monthly)

2010	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	1.15	0.941	1.91	3.72	1.96	3.43	0.584	0.402	0.328	0.208	1.15
Feb	2.01	1.69	3.55	4.45	2.58	5.34	1.32	0.442	0.336	0.233	0.286
Mar	2.70	2.41	4.08	4.36	2.44	4.95	0.701	2.04	1.93	0.484	0.633
Apr	3.95	3.32	5.53	9.81	5.16	10.4	1.92	2.96	2.74	1.07	0.117
May	1.59	1.29	2.52	6.40	3.03	4.98	2.86	0.743	0.636	0.203	0.633
June	1.18	1.05	2.87	1.45	3.82	2.17	0.536	0.124	0.0781	0.0716	0.0296
July	1.57	1.06	4.80	5.16	1.98	8.42	1.22	0.287	0.129	0.395	1.50
Aug	12.2	10.8	13.7	15.4	16.2	22.7	2.48	0.824	0.379	0.515	17.4
Sept	0.911	0.607	1.80	5.69	1.40	5.04	2.20	0.302	0.208	0.219	0.164
Oct	1.02	0.535	2.41	6.78	2.05	8.11	1.22	0.171	0.0568	0.273	0.0551
Nov	0.936	0.827	0.450	1.62	1.06	1.80	0.234	0.632	0.593	0.278	0.111
Dec	2.73	2.62	3.96	8.00	9.50	1.82	1.57	0.493	0.454	3.73	0.0127
Annual	32.0	27.2	47.6	72.9	51.2	79.2	16.8	9.42	7.87	7.69	22.1

Data completeness (Monthly)

2010	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/m² 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%)

Note

Table 3.45 Monthly results

Site: Mondy

Country: Russia

Volume-weighted mean concentrations/ Precipitation (Monthly)

2010	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	10.3	10.1	8.70	3.10	7.22	3.48	2.81	17.0	16.9	3.70	0.832	6.08	0.660	3.70
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Mar	8.00	7.74	5.80	3.90	2.22	4.35	2.56	13.2	13.1	2.46	1.26	5.90	0.570	10.6
Apr	--	--	--	--	--	--	--	--	--	--	--	--	--	0
May	22.5	22.0	25.0	5.90	38.3	8.70	4.35	44.9	44.7	8.21	0.794	6.10	2.12	8.80
June	--	--	--	--	--	--	--	--	--	--	--	--	--	0
July	4.74	4.62	6.94	3.38	20.8	1.96	2.70	3.70	3.65	0.762	3.19	5.50	0.507	56.8
Aug	1.90	1.87	1.50	<1	<1	<1	<0.3	0.250	0.241	0.410	5.37	5.27	0.240	8.80
Sept	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Oct	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Nov	4.30	4.20	7.30	2.50	5.00	1.70	3.60	13.0	13.0	2.90	0.676	6.17	0.580	1.50
Dec	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Annual	6.80	6.63	8.11	3.39	17.5	2.81	2.62	9.20	9.14	1.81	2.80	5.55	0.653	90.2
Max.	22.5	22.0	25.0	15.0	92.7	16.1	10.5	44.9	44.7	8.21	14.1	6.28	2.12	
Min.	1.90	1.87	1.50	<1	<1	<1	<0.3	0.250	0.241	0.410	0.525	4.85	0.240	

Wet deposition (Monthly)

2010	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	0.0381	0.0374	0.0322	0.0115	0.0267	0.0129	0.0104	0.0629	0.0626	0.0137	<0.01
Feb	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar	0.0848	0.0820	0.0615	0.0413	0.0235	0.0461	0.0271	0.140	0.139	0.0261	0.0133
Apr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May	0.198	0.193	0.220	0.0519	0.337	0.0765	0.0383	0.395	0.393	0.0722	<0.01
June	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
July	0.269	0.262	0.394	0.192	1.18	0.111	0.153	0.210	0.208	0.0433	0.181
Aug	0.0167	0.0165	0.0132	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0473
Sept	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Oct	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nov	<0.01	<0.01	0.0110	<0.01	<0.01	<0.01	<0.01	0.0195	0.0194	<0.01	<0.01
Dec	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	0.613	0.598	0.732	0.306	1.58	0.253	0.237	0.830	0.824	0.163	0.253

Data completeness (Monthly)

2010	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
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	--	--	--	--	--	--	--	--	--	--	--	--	--	100
July	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sept	--	--	--	--	--	--	--	--	--	--	--	--	--	100
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/m² 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%)

Note

Table 3.46 Monthly results

Site: Listvyanka

Country: Russia

Volume-weighted mean concentrations/ Precipitation (Monthly)

2010	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	14.9	14.5	42.1	4.10	6.99	6.57	2.44	22.2	22.1	5.21	6.45	5.19	1.19	16.4
Feb	38.3	37.6	78.4	7.40	11.8	11.3	3.80	67.9	67.7	14.6	1.12	5.95	2.66	4.81
Mar	32.3	31.5	61.7	7.66	23.0	13.6	3.71	29.1	28.8	8.32	23.3	4.63	2.44	14.9
Apr	30.9	30.1	51.5	10.9	23.4	12.9	4.40	31.0	30.7	7.50	10.1	5.00	2.00	7.81
May	34.1	33.8	20.6	3.14	31.4	4.62	2.01	20.7	20.6	4.25	10.2	4.99	1.58	21.9
June	32.3	32.2	28.3	6.43	44.4	2.63	2.50	16.2	16.1	3.29	23.0	4.64	2.01	44.2
July	14.4	14.3	10.9	1.63	14.1	1.20	0.737	5.42	5.39	1.11	17.1	4.77	1.06	63.9
Aug	14.2	14.1	7.12	1.05	7.13	<1	0.553	2.51	2.49	0.688	24.7	4.61	1.18	88.5
Sept	14.7	14.6	6.58	<1	11.7	2.47	0.952	5.02	4.97	1.50	13.8	4.86	0.942	37.5
Oct	35.1	34.6	32.0	7.15	16.7	8.49	7.68	34.5	34.3	15.6	9.70	5.01	1.93	4.84
Nov	27.5	26.7	42.5	11.7	26.3	13.3	3.66	34.6	34.3	6.42	2.00	5.70	1.83	4.02
Dec	23.9	23.4	33.0	8.36	26.9	7.84	3.14	28.7	28.6	5.77	6.07	5.22	1.59	18.1
Annual	20.7	20.5	20.2	3.43	18.3	3.60	1.66	12.6	12.5	2.97	17.6	4.76	1.41	327
Max.	149	148	110	172	118	169	24.8	212	212	111	49.0	7.83	7.64	
Min.	6.14	6.06	3.87	<1	4.40	<1	<0.3	1.00	0.991	<0.4	0.0148	4.31	0.410	

Wet deposition (Monthly)

2010	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	0.245	0.238	0.692	0.0673	0.115	0.108	0.0402	0.365	0.363	0.0856	0.106
Feb	0.184	0.181	0.377	0.0356	0.0567	0.0545	0.0183	0.327	0.325	0.0704	<0.01
Mar	0.482	0.470	0.920	0.114	0.343	0.203	0.0553	0.433	0.429	0.124	0.348
Apr	0.242	0.235	0.402	0.0853	0.183	0.100	0.0343	0.242	0.240	0.0586	0.0786
May	0.746	0.740	0.451	0.0689	0.688	0.101	0.0441	0.454	0.452	0.0932	0.222
June	1.43	1.42	1.25	0.284	1.96	0.116	0.110	0.716	0.713	0.145	1.02
July	0.919	0.914	0.695	0.104	0.898	0.0766	0.0471	0.346	0.344	0.0706	1.10
Aug	1.25	1.25	0.630	0.0926	0.631	0.0885	0.0489	0.222	0.220	0.0609	2.19
Sept	0.552	0.546	0.247	0.0350	0.441	0.0928	0.0357	0.188	0.186	0.0561	0.516
Oct	0.170	0.167	0.155	0.0346	0.0809	0.0411	0.0372	0.167	0.166	0.0754	0.0470
Nov	0.111	0.107	0.171	0.0470	0.106	0.0533	0.0147	0.139	0.138	0.0258	<0.01
Dec	0.433	0.425	0.598	0.152	0.488	0.142	0.0570	0.521	0.518	0.105	0.110
Annual	6.76	6.69	6.59	1.12	5.99	1.18	0.543	4.12	4.09	0.970	5.74

Data completeness (Monthly)

2010	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	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	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	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	100	100	100	100

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

[0.00] for deposition: The deposition was 0 mmol/m² 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%)

Note

Table 3.47 Monthly results

Site: Irkutsk

Country: Russia

Volume-weighted mean concentrations/ Precipitation (Monthly)

2010	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	59.6	55.1	47.6	95.5	49.6	75.0	12.8	66.1	64.5	20.6	0.712	6.15	3.82	26.3
Feb	45.8	42.5	47.4	59.1	28.6	54.3	5.50	61.0	59.8	14.1	1.03	5.99	3.17	10.2
Mar	112	100	50.4	196	37.7	199	25.2	98.3	94.0	30.0	1.81	5.74	7.08	3.09
Apr	79.0	74.8	41.5	96.6	61.1	69.5	10.8	98.8	97.3	14.4	0.551	6.26	4.76	12.3
May	39.9	39.1	22.3	14.4	40.1	12.6	3.80	31.8	31.5	5.81	12.5	4.90	2.22	23.3
June	41.3	40.9	36.9	12.7	67.9	5.96	5.32	31.4	31.2	6.47	14.5	4.84	2.63	60.2
July	23.8	23.6	21.8	5.64	29.6	3.77	4.29	29.8	29.8	4.78	3.80	5.42	1.49	38.4
Aug	12.6	12.5	6.48	3.37	9.91	1.24	1.16	9.78	9.76	1.81	8.74	5.06	0.806	141
Sept	46.3	45.9	11.9	8.19	51.9	6.47	12.7	30.6	30.5	7.08	6.59	5.18	2.04	24.3
Oct	121	119	40.7	49.0	77.0	38.3	45.5	119	118	26.0	0.321	6.49	6.16	3.94
Nov	65.0	61.0	29.9	73.3	54.5	65.8	11.9	75.0	73.6	12.7	0.552	6.26	4.09	9.44
Dec	39.3	36.7	31.8	50.4	37.0	43.9	5.56	49.6	48.7	9.48	1.39	5.86	2.73	23.1
Annual	33.5	32.4	22.3	23.8	34.5	18.4	5.52	32.2	31.8	6.75	7.41	5.13	2.05	375
Max.	1634	1471	347	2544	611	2696	639	1497	1439	574	251	7.37	85.0	
Min.	5.00	4.97	<1	<1	<1	<1	<0.3	1.70	1.68	0.410	0.0427	3.60	0.420	

Wet deposition (Monthly)

2010	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	1.57	1.45	1.25	2.51	1.30	1.97	0.337	1.74	1.70	0.542	0.0187
Feb	0.466	0.433	0.483	0.601	0.291	0.553	0.0560	0.621	0.609	0.143	0.0105
Mar	0.347	0.310	0.156	0.606	0.117	0.616	0.0780	0.304	0.291	0.0927	<0.01
Apr	0.974	0.923	0.511	1.19	0.754	0.857	0.133	1.22	1.20	0.177	<0.01
May	0.927	0.910	0.519	0.335	0.933	0.293	0.0884	0.740	0.734	0.135	0.292
June	2.48	2.46	2.22	0.766	4.09	0.359	0.320	1.89	1.88	0.390	0.873
July	0.912	0.903	0.837	0.216	1.13	0.145	0.165	1.14	1.14	0.183	0.146
Aug	1.77	1.76	0.912	0.475	1.39	0.175	0.163	1.38	1.37	0.255	1.23
Sept	1.13	1.12	0.289	0.199	1.26	0.157	0.310	0.745	0.741	0.172	0.160
Oct	0.477	0.468	0.160	0.193	0.303	0.151	0.179	0.468	0.465	0.102	<0.01
Nov	0.614	0.576	0.282	0.692	0.515	0.622	0.112	0.708	0.695	0.120	<0.01
Dec	0.908	0.847	0.735	1.17	0.854	1.01	0.128	1.15	1.12	0.219	0.0322
Annual	12.6	12.2	8.36	8.95	12.9	6.91	2.07	12.1	11.9	2.53	2.78

Data completeness (Monthly)

2010	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/m² 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%)

Note

Table 3.48 Monthly results

Site: Primorskaya

Country: Russia

Volume-weighted mean concentrations/ Precipitation (Monthly)

2010	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	80.8	74.5	87.2	81.3	39.5	105	23.3	48.7	46.4	21.6	26.4	4.58	5.28	1.80
Feb	90.5	86.9	55.2	53.6	81.4	58.7	8.05	55.6	54.4	18.8	3.06	5.51	4.14	11.4
Mar	50.7	46.4	53.5	74.4	32.3	71.1	10.6	49.4	47.9	18.0	2.33	5.63	3.26	36.8
Apr	49.5	48.4	30.0	19.0	46.0	17.8	4.86	25.9	25.5	5.50	28.3	4.55	3.09	68.7
May	22.0	21.2	17.3	16.1	24.0	12.2	1.20	13.8	13.6	3.06	4.49	5.35	1.26	60.0
June	37.6	36.9	34.8	16.1	65.2	10.1	12.5	14.5	14.3	3.50	12.7	4.90	2.25	32.0
July	18.2	18.0	13.5	28.0	42.9	4.55	4.14	7.38	7.28	1.84	9.54	5.02	1.43	87.6
Aug	11.9	11.3	11.3	18.5	33.0	9.08	1.27	3.78	3.59	1.41	3.85	5.41	0.890	113
Sept	23.6	22.6	13.9	30.0	38.5	17.1	5.59	11.5	11.1	2.81	19.5	4.71	1.97	49.9
Oct	44.5	41.0	29.7	44.3	78.8	57.7	11.3	13.1	11.9	2.72	7.18	5.14	2.54	93.3
Nov	41.5	39.8	15.7	30.9	33.5	28.4	7.79	27.5	26.9	5.67	8.26	5.08	1.92	58.5
Dec	30.2	29.2	15.1	25.3	18.6	17.0	5.27	21.2	20.8	4.03	16.8	4.77	1.83	60.0
Annual	31.9	30.4	21.9	29.4	42.7	23.9	5.84	16.9	16.3	4.27	10.7	4.97	1.96	673
Max.	391	375	224	381	300	348	89.5	241	236	62.1	93.3	7.32	15.6	
Min.	1.15	<1	<1	9.00	2.20	<1	0.300	1.90	1.84	<0.4	0.0479	4.03	0.380	

Wet deposition (Monthly)

2010	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	0.145	0.134	0.157	0.146	0.0711	0.189	0.0420	0.0876	0.0836	0.0388	0.0475
Feb	1.03	0.991	0.630	0.611	0.928	0.669	0.0918	0.634	0.620	0.214	0.0349
Mar	1.87	1.71	1.97	2.74	1.19	2.62	0.389	1.82	1.76	0.662	0.0857
Apr	3.40	3.33	2.06	1.30	3.16	1.22	0.334	1.78	1.75	0.378	1.94
May	1.32	1.27	1.04	0.967	1.44	0.735	0.0722	0.830	0.814	0.183	0.269
June	1.20	1.18	1.11	0.516	2.09	0.322	0.401	0.465	0.458	0.112	0.407
July	1.60	1.57	1.18	2.45	3.76	0.398	0.363	0.647	0.638	0.161	0.836
Aug	1.35	1.28	1.28	2.10	3.74	1.03	0.144	0.429	0.406	0.160	0.436
Sept	1.18	1.13	0.695	1.50	1.92	0.854	0.279	0.572	0.553	0.140	0.971
Oct	4.15	3.82	2.77	4.13	7.35	5.39	1.05	1.22	1.11	0.254	0.670
Nov	2.43	2.33	0.918	1.81	1.96	1.66	0.456	1.61	1.57	0.332	0.483
Dec	1.81	1.75	0.908	1.52	1.11	1.02	0.316	1.27	1.25	0.242	1.01
Annual	21.5	20.5	14.7	19.8	28.8	16.1	3.93	11.3	11.0	2.88	7.23

Data completeness (Monthly)

2010	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	97.4	97.4	97.4	97.4	97.4	97.4	97.4	97.4	97.4	97.4	100	100	97.4	100
Mar	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	100	100	99.7	100
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100
June	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	100	100	99.1	100
July	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	100	100	99.7	100
Aug	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	98.1	98.1	97.2	100
Sept	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0	100	100	98.0	100
Oct	98.4	98.4	98.4	98.4	98.4	98.4	98.4	98.4	98.4	98.4	100	100	98.4	100
Nov	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	81.2	81.2	78.5	100
Dec	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	100	100	95.0	100
Annual	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.0	98.0	96.7	100

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

[0.00] for deposition: The deposition was 0 mmol/m² 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%)

Note

Table 3.49 Monthly results

Site: Bangkok

Country: Thailand

Volume-weighted mean concentrations/ Precipitation (Monthly)

2010	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	9.88	8.91	26.1	16.4	62.7	16.1	2.09	5.93	5.60	3.99	23.0	4.64	3.06	105
Feb	17.2	15.7	33.6	12.2	51.0	25.7	3.26	16.8	16.2	3.22	21.9	4.66	2.54	52.0
Mar	21.5	20.7	53.4	9.87	103	13.5	46.0	23.0	22.7	2.47	26.3	4.58	3.22	32.2
Apr	66.7	64.5	160	54.5	<1	36.7	9.56	88.4	87.6	7.79	*	*	*	13.5
May	9.27	8.60	23.6	4.42	38.9	11.1	2.38	15.3	15.0	2.41	2.78	5.56	0.832	168
June	5.12	4.61	10.4	11.8	18.1	8.36	0.730	4.21	4.03	1.03	0.922	6.04	0.691	267
July	11.6	11.2	15.6	8.55	29.6	6.47	0.975	7.34	7.20	1.01	2.40	5.62	0.825	407
Aug	10.8	10.1	22.2	11.5	38.7	10.2	1.40	12.6	12.4	1.50	5.42	5.27	1.19	329
Sept	11.7	11.3	32.6	5.84	29.6	5.99	1.35	11.6	11.5	0.810	19.4	4.71	1.69	315
Oct	16.3	16.1	40.6	5.15	38.1	4.71	2.02	12.8	12.7	1.35	9.09	5.04	1.21	273
Nov	29.2	28.7	83.4	28.6	142	7.46	19.0	32.5	32.3	1.94	7.51	5.12	2.78	37.2
Dec	23.5	23.2	56.1	12.8	87.2	17.7	3.07	17.8	17.4	1.75	6.00	5.22	2.25	24.4
Annual	12.0	11.5	26.8	9.33	37.8	8.79	2.58	11.2	11.1	1.52	8.48	5.07	1.31	2023
Max.	146	139	416	95.1	485	115	46.0	369	366	42.8	67.6	7.38	5.65	
Min.	<1	<1	2.26	<1	<1	<1	<0.3	<0.2	<0.2	<0.4	0.0417	4.17	0.0330	

Wet deposition (Monthly)

2010	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	1.04	0.937	2.74	1.72	6.60	1.70	0.220	0.624	0.589	0.419	2.42
Feb	0.895	0.814	1.75	0.634	2.65	1.33	0.169	0.872	0.844	0.168	1.14
Mar	0.694	0.668	1.72	0.318	3.30	0.434	1.48	0.739	0.730	0.0795	0.847
Apr	0.901	0.871	2.16	0.736	<0.01	0.496	0.129	1.19	1.18	0.105	*
May	1.55	1.44	3.96	0.740	6.53	1.86	0.399	2.56	2.52	0.405	0.467
June	1.37	1.23	2.77	3.16	4.84	2.23	0.195	1.12	1.08	0.275	0.246
July	4.71	4.55	6.35	3.48	12.1	2.64	0.397	2.99	2.93	0.412	0.976
Aug	3.54	3.33	7.29	3.78	12.7	3.35	0.460	4.15	4.07	0.494	1.78
Sept	3.68	3.57	10.3	1.84	9.32	1.89	0.426	3.67	3.63	0.255	6.11
Oct	4.45	4.38	11.1	1.40	10.4	1.28	0.549	3.48	3.45	0.367	2.48
Nov	1.09	1.07	3.10	1.06	5.28	0.278	0.706	1.21	1.20	0.0722	0.279
Dec	0.575	0.567	1.37	0.313	2.13	0.433	0.0750	0.435	0.426	0.0426	0.146
Annual	24.3	23.3	54.1	18.9	76.5	17.8	5.22	22.8	22.4	3.07	17.2

Data completeness (Monthly)

2010	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	97.3	97.3	97.3	100
Feb	100	100	100	100	100	100	100	100	100	100	96.5	96.5	96.5	100
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Apr	56.3	56.3	56.3	56.3	56.3	56.3	56.3	56.3	56.3	56.3	0	0	0	100
May	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	96.8	96.8	96.8	100
June	91.2	91.2	91.2	91.2	91.2	91.2	91.2	91.2	91.2	91.2	90.0	90.0	90.0	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	97.7	97.7	97.7	100
Sept	98.7	98.7	98.7	98.7	98.7	98.7	98.7	98.7	98.7	98.7	98.7	98.7	98.7	100
Oct	100	100	100	100	100	100	100	100	100	100	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	98.3	98.3	98.3	98.3	98.3	98.3	98.3	98.3	98.3	98.3	96.7	96.7	96.7	100

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

[0.00] for deposition: The deposition was 0 mmol/m² 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%)

Note

Table 3.50 Monthly results

Site: Samutprakarn

Country: Thailand

Volume-weighted mean concentrations/ Precipitation (Monthly)

2010	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	67.5	62.2	149	103	186	88.1	38.8	94.7	92.8	25.2	1.81	5.74	6.70	18.4
Feb	*	*	*	*	*	*	*	*	*	*	*	*	*	0.400
Mar	43.7	41.6	130	84.0	69.0	33.8	8.19	49.8	49.1	9.87	0.468	6.33	3.22	8.30
Apr	8.48	7.88	16.7	9.30	18.0	9.97	2.28	9.16	8.95	1.97	4.23	5.37	1.01	34.6
May	6.04	4.54	12.3	29.9	35.5	24.8	2.30	7.24	6.70	3.29	0.813	6.09	0.930	236
June	12.5	9.87	11.3	55.6	21.6	43.5	5.88	11.0	10.0	9.05	0.375	6.43	0.641	222
July	8.00	7.13	7.83	15.9	24.7	14.5	1.79	8.46	8.15	3.08	0.260	6.58	0.737	252
Aug	27.0	24.8	12.9	26.2	29.4	37.8	50.2	5.50	4.69	2.06	1.08	5.97	0.643	402
Sept	7.93	7.72	12.1	3.66	22.3	3.50	1.02	4.22	4.14	0.827	11.9	4.92	1.53	468
Oct	24.4	23.7	32.9	13.3	28.3	11.5	3.45	15.8	15.6	1.89	*	*	*	134
Nov	*	*	*	*	*	*	*	*	*	*	*	*	*	17.7
Dec	*	*	*	*	*	*	*	*	*	*	*	*	*	86.7
Annual	15.6	14.5	15.4	16.2	28.1	18.6	17.0	7.78	7.38	2.20	4.82	5.32	1.13	1880
Max.	158	152	332	144	252	118	151	236	234	38.8	28.2	7.83	11.8	
Min.	2.91	2.86	1.29	<1	<1	<1	0.512	<0.2	<0.2	0.411	0.0148	4.55	0.440	

Wet deposition (Monthly)

2010	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	1.24	1.14	2.73	1.90	3.41	1.62	0.715	1.74	1.71	0.463	0.0333
Feb	*	*	*	*	*	*	*	*	*	*	*
Mar	0.362	0.346	1.08	0.697	0.573	0.280	0.0679	0.413	0.407	0.0819	<0.01
Apr	0.293	0.273	0.577	0.322	0.622	0.345	0.0787	0.317	0.310	0.0682	0.147
May	1.42	1.07	2.89	7.05	8.37	5.85	0.543	1.71	1.58	0.776	0.192
June	2.78	2.20	2.51	12.4	4.81	9.67	1.31	2.44	2.23	2.01	0.0834
July	2.01	1.79	1.97	3.99	6.22	3.65	0.449	2.13	2.05	0.774	0.0654
Aug	10.9	9.96	5.17	10.6	11.8	15.2	20.2	2.21	1.89	0.830	0.433
Sept	3.71	3.61	5.68	1.71	10.5	1.64	0.475	1.97	1.94	0.387	5.59
Oct	3.27	3.17	4.42	1.79	3.80	1.55	0.462	2.12	2.09	0.253	*
Nov	*	*	*	*	*	*	*	*	*	*	*
Dec	*	*	*	*	*	*	*	*	*	*	*
Annual	29.3	27.2	28.9	30.4	52.9	35.0	31.9	14.6	13.9	4.14	9.06

Data completeness (Monthly)

2010	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	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
Feb	0	0	0	0	0	0	0	0	0	0	0	0	0	100
Mar	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
Apr	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
May	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	100
June	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	61.4	61.4	100
July	88.8	88.8	88.8	88.8	88.8	88.8	88.8	88.8	88.8	88.8	88.8	43.5	43.5	100
Aug	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	59.1	59.1	100
Sept	97.6	97.6	97.6	97.6	97.6	97.6	97.6	97.6	97.6	97.6	97.6	66.5	66.5	100
Oct	40.2	40.2	40.2	40.2	40.2	40.2	40.2	40.2	40.2	40.2	40.2	0	0	100
Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	100
Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	100
Annual	63.1	63.1	63.1	63.1	63.1	63.1	63.1	63.1	63.1	63.1	63.1	46.9	46.9	100

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

[0.00] for deposition: The deposition was 0 mmol/m² 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%)

Note

Table 3.51 Monthly results

Site: Pathumthani

Country: Thailand

Volume-weighted mean concentrations/ Precipitation (Monthly)

2010	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	7.21	6.85	18.0	9.95	34.5	5.83	4.23	0.681	0.555	6.64	22.9	4.64	1.76	9.70
Feb	17.2	16.1	47.0	21.4	64.0	18.4	4.21	16.0	15.6	3.38	11.7	4.93	2.30	19.7
Mar	42.9	41.2	130	51.3	122	28.0	31.2	60.8	60.2	9.03	22.4	4.65	5.11	23.9
Apr	20.5	18.3	43.8	29.3	51.9	36.0	3.68	15.3	14.5	6.97	2.00	5.70	1.85	1.30
May	9.64	9.06	23.7	10.8	42.1	9.65	1.25	14.0	13.7	2.04	1.43	5.84	1.16	129
June	10.2	9.23	24.6	8.45	38.6	29.2	4.17	12.5	12.0	1.94	3.26	5.49	1.12	236
July	5.84	5.58	15.4	4.90	24.5	4.43	0.828	6.83	6.73	0.916	3.54	5.45	0.756	255
Aug	6.24	6.03	12.9	4.71	16.5	3.45	0.853	4.94	4.86	1.36	4.68	5.33	0.713	431
Sept	6.70	6.60	21.4	2.59	25.0	1.75	0.960	8.95	8.91	0.837	8.65	5.06	0.947	422
Oct	7.81	7.70	17.7	2.08	24.3	1.87	0.927	7.67	7.63	0.668	7.94	5.10	0.882	219
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Dec	18.2	17.8	25.9	10.9	65.2	6.87	3.58	18.6	18.4	2.16	0.362	6.44	1.56	16.4
Annual	8.01	7.67	20.4	5.77	28.0	7.46	1.85	9.17	9.03	1.38	5.82	5.24	0.975	1763
Max.	78.3	77.6	132	51.3	217	197	31.2	133	132	11.3	56.2	6.52	5.32	
Min.	<1	<1	<1	<1	1.65	<1	<0.3	0.681	<0.2	<0.4	0.302	4.25	0.120	

Wet deposition (Monthly)

2010	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	0.0699	0.0665	0.174	0.0965	0.334	0.0565	0.0410	<0.01	<0.01	0.0644	0.222
Feb	0.339	0.317	0.926	0.421	1.26	0.363	0.0830	0.316	0.308	0.0665	0.231
Mar	1.02	0.985	3.11	1.23	2.91	0.668	0.746	1.45	1.44	0.216	0.535
Apr	0.0266	0.0238	0.0570	0.0381	0.0674	0.0467	<0.01	0.0198	0.0188	<0.01	<0.01
May	1.25	1.17	3.07	1.39	5.44	1.25	0.161	1.80	1.78	0.264	0.185
June	2.40	2.18	5.81	1.99	9.10	6.89	0.983	2.94	2.83	0.458	0.770
July	1.49	1.42	3.93	1.25	6.25	1.13	0.211	1.74	1.72	0.234	0.904
Aug	2.69	2.60	5.57	2.03	7.09	1.49	0.368	2.13	2.10	0.586	2.02
Sept	2.83	2.78	9.03	1.09	10.6	0.736	0.405	3.77	3.76	0.353	3.65
Oct	1.71	1.69	3.86	0.454	5.32	0.410	0.203	1.68	1.67	0.146	1.74
Nov	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dec	0.298	0.291	0.425	0.179	1.07	0.113	0.0587	0.305	0.302	0.0354	<0.01
Annual	14.1	13.5	36.0	10.2	49.4	13.1	3.26	16.2	15.9	2.43	10.3

Data completeness (Monthly)

2010	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	99.6	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	99.9	99.9	99.9	100
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	100	100	100	100	100	100	100	100	100	100	99.9	99.9	99.9	100

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

[0.00] for deposition: The deposition was 0 mmol/m² 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%)

Note

Table 3.52 Monthly results

Site: Khanchanaburi

Country: Thailand

Volume-weighted mean concentrations/ Precipitation (Monthly)

2010	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	19.7	18.6	25.8	8.22	72.2	18.1	4.50	10.1	9.72	4.10	33.1	4.48	2.90	20.3
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Mar	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Apr	15.4	15.0	35.3	10.9	123	6.87	5.66	11.3	11.2	3.44	0.461	6.34	1.41	21.4
May	5.02	4.95	11.9	5.06	9.57	1.29	<0.3	1.70	1.67	0.944	0.772	6.11	0.570	143
June	1.05	<1	2.81	2.72	2.37	2.43	0.805	1.28	1.22	0.421	1.72	5.76	0.229	148
July	<1	<1	2.02	2.76	4.03	2.33	0.393	1.36	1.31	0.483	1.82	5.74	0.190	321
Aug	1.09	<1	1.32	3.82	13.7	4.34	0.604	1.86	1.77	0.520	1.26	5.90	0.0702	423
Sept	<1	<1	2.23	2.09	2.37	2.27	0.719	1.38	1.33	<0.4	2.47	5.61	0.262	339
Oct	1.55	1.35	4.45	2.99	5.05	3.28	0.939	1.96	1.89	0.577	2.45	5.61	0.179	163
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Dec	*	*	*	*	*	*	*	*	*	*	*	*	*	47.9
Annual	1.79	1.60	3.76	3.30	8.90	3.11	0.710	1.80	1.73	0.575	2.03	5.69	0.249	1626
Max.	50.3	48.9	36.9	38.9	133	36.5	12.5	43.4	42.7	5.35	123	6.87	6.47	
Min.	<1	<1	<1	<1	<1	<1	<0.3	0.250	0.221	<0.4	0.135	3.91	0.0200	

Wet deposition (Monthly)

2010	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	0.399	0.377	0.524	0.167	1.47	0.367	0.0915	0.205	0.197	0.0833	0.673
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	0.330	0.321	0.755	0.234	2.64	0.147	0.121	0.242	0.239	0.0735	<0.01
May	0.719	0.708	1.71	0.724	1.37	0.185	0.0410	0.244	0.240	0.135	0.111
June	0.156	0.134	0.416	0.403	0.351	0.360	0.119	0.189	0.181	0.0625	0.256
July	0.268	0.222	0.649	0.886	1.29	0.747	0.126	0.437	0.421	0.155	0.583
Aug	0.462	0.351	0.557	1.62	5.81	1.84	0.256	0.789	0.749	0.220	0.533
Sept	0.335	0.288	0.756	0.710	0.803	0.771	0.244	0.469	0.452	0.0994	0.839
Oct	0.251	0.219	0.723	0.486	0.820	0.533	0.153	0.319	0.307	0.0938	0.399
Nov	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dec	*	*	*	*	*	*	*	*	*	*	*
Annual	2.91	2.61	6.11	5.37	14.5	5.05	1.15	2.93	2.82	0.935	3.30

Data completeness (Monthly)

2010	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	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	68.5	68.5	68.5	100
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Mar	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Apr	80.8	80.8	80.8	80.8	80.8	80.8	80.8	80.8	80.8	80.8	80.8	80.8	80.8	100
May	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
June	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
July	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
Aug	97.1	97.1	97.1	97.1	97.1	97.1	97.1	97.1	97.1	97.1	94.9	94.9	94.9	100
Sept	89.5	89.5	89.5	89.5	89.5	89.5	89.5	89.5	89.5	89.5	82.5	82.5	82.5	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
Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	100
Annual	93.0	93.0	93.0	93.0	93.0	93.0	93.0	93.0	93.0	93.0	90.8	90.8	90.8	100

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

[0.00] for deposition: The deposition was 0 mmol/m² 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%)

Note

Table 3.53 Monthly results

Site: Chiang Mai

Country: Thailand

Volume-weighted mean concentrations/ Precipitation (Monthly)

2010	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	7.91	7.80	14.1	2.76	35.4	1.86	3.90	3.40	3.36	1.55	0.487	6.31	0.874	40.9
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Mar	37.5	37.0	92.5	23.9	231	8.76	21.9	43.3	43.1	8.80	7.48	5.13	5.28	11.4
Apr	21.0	20.4	82.2	32.9	199	24.2	22.0	89.4	88.9	10.9	0.572	6.24	4.59	6.60
May	9.47	9.06	18.5	9.65	45.9	6.74	4.92	20.5	20.4	1.86	1.01	6.00	1.13	98.2
June	3.15	2.95	7.14	3.69	14.3	3.26	0.339	4.93	4.86	0.428	0.405	6.39	0.526	143
July	1.28	1.18	4.52	2.28	13.3	1.54	<0.3	2.20	2.17	<0.4	0.519	6.29	0.332	145
Aug	1.05	<1	3.16	2.03	8.80	1.66	<0.3	1.36	1.34	<0.4	0.396	6.40	0.247	425
Sept	1.88	1.72	4.01	3.24	17.3	2.62	1.41	0.760	0.724	<0.4	0.587	6.23	0.387	185
Oct	5.44	5.29	6.40	2.67	13.3	2.49	<0.3	1.23	1.19	<0.4	1.41	5.85	0.595	104
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Dec	7.61	7.35	13.6	3.59	37.1	4.39	2.91	4.36	4.26	<0.4	2.95	5.53	0.810	8.50
Annual	3.32	3.16	7.30	3.58	19.3	2.72	1.21	4.40	4.36	0.451	0.676	6.17	0.519	1167
Max.	68.2	67.3	175	48.7	413	39.1	73.7	142	142	45.2	17.0	6.69	8.69	
Min.	<1	<1	<1	<1	<1	<1	<0.3	<0.2	<0.2	<0.4	0.204	4.77	0.160	

Wet deposition (Monthly)

2010	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	0.324	0.319	0.575	0.113	1.45	0.0763	0.160	0.139	0.137	0.0632	0.0199
Feb	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar	0.428	0.421	1.05	0.272	2.63	0.0998	0.250	0.494	0.491	0.100	0.0852
Apr	0.139	0.135	0.543	0.217	1.31	0.160	0.145	0.590	0.587	0.0717	<0.01
May	0.930	0.890	1.81	0.947	4.51	0.662	0.483	2.02	2.00	0.183	0.0990
June	0.448	0.420	1.02	0.526	2.03	0.465	0.0483	0.702	0.693	0.0610	0.0577
July	0.185	0.171	0.653	0.330	1.93	0.223	0.0172	0.319	0.314	<0.01	0.0750
Aug	0.445	0.402	1.34	0.861	3.74	0.704	0.0125	0.576	0.569	<0.01	0.168
Sept	0.347	0.318	0.742	0.599	3.21	0.485	0.260	0.141	0.134	0.0434	0.109
Oct	0.567	0.552	0.667	0.278	1.39	0.259	0.0110	0.128	0.124	<0.01	0.147
Nov	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dec	0.0647	0.0624	0.115	0.0305	0.315	0.0374	0.0247	0.0370	0.0362	<0.01	0.0251
Annual	3.88	3.69	8.52	4.17	22.5	3.17	1.41	5.14	5.09	0.526	0.789

Data completeness (Monthly)

2010	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	99.0	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	99.8	99.8	99.8	100
June	100	100	100	100	100	100	100	100	100	100	99.8	99.8	99.8	100
July	100	100	100	100	100	100	100	100	100	100	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	99.8	99.8	99.8	100
Nov	--	--	--	--	--	--	--	--	--	--	--	--	--	100
Dec	100	100	100	100	100	100	100	100	100	100	97.6	97.6	97.6	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/m² 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%)

Note

Table 3.54 Monthly results

Site: Nakhon Ratchasima

Country: Thailand

Volume-weighted mean concentrations/ Precipitation (Monthly)

2010	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	6.58	6.35	14.8	9.10	32.1	3.81	1.58	2.46	2.37	0.622	5.43	5.26	0.654	26.6
Feb	22.9	22.1	59.5	13.0	74.2	13.6	4.34	10.1	9.83	3.37	43.9	4.36	2.73	12.4
Mar	24.5	23.5	47.7	14.7	92.1	15.7	6.82	8.44	8.10	3.03	63.8	4.20	3.39	62.4
Apr	14.9	14.3	28.4	8.96	43.0	9.68	1.93	2.41	2.20	1.19	43.9	4.36	2.29	176
May	9.22	8.98	33.2	6.44	57.8	4.03	1.40	6.36	6.27	1.13	23.7	4.63	1.92	76.0
June	4.86	4.76	12.5	5.41	22.7	1.71	<0.3	3.56	3.53	1.29	18.7	4.73	0.746	136
July	4.48	4.46	8.29	1.73	11.5	<1	<0.3	0.211	0.208	<0.4	14.8	4.83	0.612	296
Aug	3.83	3.76	5.89	3.42	10.1	1.18	0.307	0.931	0.909	<0.4	4.76	5.32	0.388	270
Sept	2.72	2.67	5.67	2.27	11.3	<1	0.620	1.77	1.76	0.503	3.48	5.46	0.311	214
Oct	*	*	*	*	*	*	*	*	*	*	*	*	*	314
Nov	2.91	2.81	2.58	1.69	12.7	1.74	<0.3	<0.2	<0.2	<0.4	2.88	5.54	0.330	23.6
Dec	11.5	11.2	22.4	10.7	38.8	4.35	<0.3	4.99	4.90	<0.4	3.63	5.44	1.22	19.8
Annual	7.04	6.85	14.6	4.81	24.6	3.21	0.940	2.21	2.15	0.703	17.8	4.75	0.992	1627
Max.	35.1	31.9	77.1	35.3	135	143	9.97	30.9	27.9	27.1	141	6.13	5.59	
Min.	<1	<1	2.58	<1	<1	<1	<0.3	<0.2	<0.2	<0.4	0.741	3.85	0.190	

Wet deposition (Monthly)

2010	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	0.175	0.169	0.394	0.242	0.854	0.101	0.0421	0.0653	0.0631	0.0165	0.145
Feb	0.284	0.274	0.738	0.161	0.920	0.169	0.0538	0.126	0.122	0.0418	0.545
Mar	1.53	1.47	2.98	0.916	5.75	0.980	0.425	0.527	0.506	0.189	3.98
Apr	2.62	2.52	4.99	1.57	7.55	1.70	0.339	0.423	0.387	0.209	7.71
May	0.701	0.682	2.52	0.489	4.40	0.306	0.107	0.483	0.476	0.0861	1.80
June	0.661	0.647	1.70	0.735	3.08	0.232	0.0377	0.485	0.480	0.175	2.54
July	1.33	1.32	2.46	0.513	3.41	0.0742	<0.01	0.0625	0.0615	<0.01	4.39
Aug	1.04	1.02	1.59	0.924	2.73	0.318	0.0830	0.252	0.246	0.0923	1.29
Sept	0.582	0.570	1.21	0.485	2.42	0.190	0.132	0.378	0.375	0.107	0.742
Oct	*	*	*	*	*	*	*	*	*	*	*
Nov	0.0688	0.0663	0.0609	0.0399	0.301	0.0411	<0.01	<0.01	<0.01	<0.01	0.0681
Dec	0.227	0.222	0.444	0.212	0.768	0.0861	<0.01	0.0988	0.0969	<0.01	0.0719
Annual	11.5	11.1	23.7	7.82	40.0	5.22	1.53	3.60	3.50	1.14	29.0

Data completeness (Monthly)

2010	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	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
Sept	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	100
Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	100
Nov	93.2	93.2	93.2	93.2	93.2	93.2	93.2	93.2	93.2	93.2	93.2	93.2	93.2	100
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual	80.2	80.2	80.2	80.2	80.2	80.2	80.2	80.2	80.2	80.2	80.2	80.2	80.2	100

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

[0.00] for deposition: The deposition was 0 mmol/m² 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%)

Note

Table 3.55 Monthly results

Site: Hanoi

Country: Vietnam

Volume-weighted mean concentrations/ Precipitation (Monthly)

2010	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	59.7	59.2	40.0	13.6	85.3	8.53	5.45	36.2	36.0	7.42	6.87	5.16	2.86	78.3
Feb	190	187	123	53.6	173	47.1	46.5	111	110	31.5	10.7	4.97	8.30	8.00
Mar	*	*	*	*	*	*	*	*	*	*	*	*	*	4.70
Apr	125	123	84.3	47.0	191	41.4	7.98	73.8	72.9	19.9	0.238	6.62	5.90	76.2
May	22.4	22.2	19.2	8.72	41.1	4.89	2.27	22.1	22.0	5.76	0.301	6.52	1.42	130
June	18.2	18.0	11.2	4.64	24.5	2.61	0.961	10.4	10.3	2.92	1.69	5.77	0.863	163
July	18.0	17.7	8.62	6.50	38.8	4.28	2.05	13.2	13.1	2.68	0.303	6.52	1.02	305
Aug	25.3	25.1	11.7	7.89	33.8	3.28	0.856	16.5	16.4	5.37	0.908	6.04	1.18	264
Sept	31.8	31.7	14.2	4.96	45.2	1.26	2.79	19.2	19.2	3.69	0.694	6.16	1.40	172
Oct	67.6	67.0	40.0	13.8	84.5	8.75	1.64	46.7	46.5	5.38	1.96	5.71	3.01	24.9
Nov	*	*	*	*	*	*	*	*	*	*	*	*	*	0.300
Dec	319	312	192	131	231	125	27.5	272	269	49.2	0.249	6.60	14.1	11.6
Annual	35.4	35.0	20.8	10.9	52.4	7.28	2.78	23.7	23.5	5.68	1.16	5.93	1.72	1236
Max.	451	444	320	196	565	136	46.5	323	320	61.1	34.7	7.84	20.1	
Min.	11.2	11.1	4.04	2.86	13.7	<1	0.408	8.49	8.43	0.601	0.0145	4.46	0.625	

Wet deposition (Monthly)

2010	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	4.67	4.63	3.14	1.07	6.68	0.668	0.427	2.83	2.82	0.581	0.538
Feb	1.52	1.50	0.985	0.429	1.38	0.377	0.372	0.888	0.880	0.252	0.0857
Mar	*	*	*	*	*	*	*	*	*	*	*
Apr	9.54	9.35	6.43	3.58	14.6	3.15	0.608	5.62	5.56	1.51	0.0181
May	2.91	2.87	2.49	1.13	5.32	0.633	0.294	2.86	2.85	0.747	0.0390
June	2.96	2.93	1.82	0.755	3.99	0.425	0.156	1.69	1.68	0.474	0.275
July	5.47	5.39	2.63	1.98	11.8	1.30	0.624	4.01	3.99	0.817	0.0923
Aug	6.67	6.62	3.07	2.08	8.90	0.866	0.226	4.35	4.33	1.42	0.239
Sept	5.46	5.45	2.43	0.853	7.76	0.216	0.479	3.30	3.29	0.635	0.119
Oct	1.68	1.67	0.995	0.344	2.10	0.218	0.0409	1.16	1.16	0.134	0.0488
Nov	*	*	*	*	*	*	*	*	*	*	*
Dec	3.70	3.61	2.23	1.52	2.68	1.45	0.319	3.15	3.12	0.571	<0.01
Annual	43.8	43.3	25.7	13.4	64.8	9.00	3.43	29.2	29.0	7.02	1.44

Data completeness (Monthly)

2010	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	96.7	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
Feb	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	100
Mar	0	0	0	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0	0	0	0	100
Dec	79.3	79.3	79.3	79.3	79.3	79.3	79.3	79.3	79.3	79.3	79.3	79.3	79.3	100
Annual	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

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

[0.00] for deposition: The deposition was 0 mmol/m² 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%)

Note

Table 3.56 Monthly results

Site: Hoa Binh

Country: Vietnam

Volume-weighted mean concentrations/ Precipitation (Monthly)

2010	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	42.2	41.7	36.4	12.6	43.4	8.96	6.67	36.4	36.2	9.53	2.80	5.55	2.19	48.3
Feb	*	*	*	*	*	*	*	*	*	*	*	*	*	3.30
Mar	*	*	*	*	*	*	*	*	*	*	*	*	*	2.60
Apr	83.5	82.5	56.7	17.8	88.1	17.0	13.1	67.8	67.5	16.5	0.377	6.42	3.95	63.4
May	31.8	31.5	20.5	8.73	37.6	6.15	5.49	30.4	30.2	10.6	0.205	6.69	1.76	119
June	43.8	43.5	18.7	6.94	42.9	5.24	5.00	39.3	39.2	14.7	0.177	6.75	2.15	66.5
July	15.5	15.2	7.26	5.76	20.7	5.38	2.64	15.5	15.4	3.95	0.358	6.45	0.930	292
Aug	12.0	11.9	6.54	2.59	10.8	1.61	0.658	10.8	10.7	2.02	3.10	5.51	0.644	494
Sept	33.2	32.9	17.4	6.01	34.4	4.38	1.88	23.1	23.0	7.28	0.897	6.05	1.40	188
Oct	58.2	57.8	37.4	12.0	64.7	7.02	2.52	19.1	19.0	1.77	53.2	4.27	3.95	71.7
Nov	*	*	*	*	*	*	*	*	*	*	*	*	*	0.500
Dec	51.5	50.5	42.1	23.3	59.3	16.9	7.76	44.2	43.8	8.91	0.698	6.16	2.69	20.9
Annual	26.3	26.0	15.5	6.35	28.3	4.86	2.88	21.1	21.0	5.56	4.26	5.37	1.39	1370
Max.	381	378	341	142	306	109	62.3	434	433	55.3	53.2	7.01	19.0	
Min.	9.88	9.78	4.08	1.14	6.93	<1	0.476	5.86	5.82	0.590	0.0977	4.27	0.514	

Wet deposition (Monthly)

2010	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	2.04	2.01	1.76	0.608	2.10	0.433	0.322	1.76	1.75	0.460	0.135
Feb	*	*	*	*	*	*	*	*	*	*	*
Mar	*	*	*	*	*	*	*	*	*	*	*
Apr	5.29	5.23	3.60	1.13	5.58	1.08	0.829	4.30	4.28	1.05	0.0239
May	3.77	3.73	2.43	1.03	4.46	0.728	0.651	3.60	3.58	1.26	0.0243
June	2.91	2.89	1.24	0.461	2.85	0.349	0.333	2.61	2.61	0.976	0.0118
July	4.53	4.43	2.12	1.68	6.04	1.57	0.772	4.52	4.49	1.15	0.104
Aug	5.92	5.87	3.23	1.28	5.32	0.793	0.325	5.33	5.31	0.998	1.53
Sept	6.25	6.20	3.27	1.13	6.47	0.825	0.354	4.35	4.34	1.37	0.169
Oct	4.17	4.14	2.68	0.858	4.64	0.504	0.181	1.37	1.36	0.127	3.81
Nov	*	*	*	*	*	*	*	*	*	*	*
Dec	1.08	1.05	0.879	0.487	1.24	0.353	0.162	0.923	0.915	0.186	0.0146
Annual	36.1	35.7	21.3	8.70	38.8	6.65	3.94	28.9	28.7	7.61	5.84

Data completeness (Monthly)

2010	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	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	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
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	99.3	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	0	0	0	0	0	0	0	0	0	0	0	0	0	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/m² 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%)

Note

Table 3.57 Monthly results

Site: Cuc Phuong

Country: Vietnam

Volume-weighted mean concentrations/ Precipitation (Monthly)

2010	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	17.5	17.4	25.6	8.62	12.1	2.08	6.86	20.1	20.1	1.78	8.68	5.06	1.27	122
Feb	136	134	146	67.9	197	40.4	21.9	80.2	79.3	13.5	15.5	4.81	7.33	15.1
Mar	152	144	161	153	102	138	70.8	287	284	36.3	1.25	5.90	12.7	19.7
Apr	64.7	62.0	80.9	75.7	49.4	45.5	14.3	77.7	76.7	14.1	11.5	4.94	4.47	55.7
May	40.1	39.1	36.9	29.5	11.9	16.8	4.85	56.1	55.8	8.88	4.91	5.31	2.37	41.4
June	3.75	3.75	3.44	6.99	<1	<1	1.16	21.9	21.9	0.807	1.66	5.78	0.584	142
July	4.30	4.14	8.45	8.61	1.61	2.66	3.47	36.2	36.2	2.94	1.40	5.86	0.980	205
Aug	5.49	4.70	11.2	27.1	<1	13.1	5.32	32.6	32.3	2.31	1.33	5.88	1.08	586
Sept	14.7	14.4	11.2	17.1	<1	4.60	1.65	20.5	20.4	3.33	2.59	5.59	0.851	279
Oct	51.9	51.2	48.4	25.9	25.8	11.8	5.68	45.5	45.2	9.46	31.1	4.51	3.64	169
Nov	277	272	272	123	179	85.1	19.8	328	326	26.5	4.39	5.36	13.0	9.30
Dec	159	153	173	91.8	73.0	87.5	17.4	158	156	22.0	32.4	4.49	9.70	11.5
Annual	20.3	19.6	23.2	24.3	9.90	12.0	5.61	38.3	38.0	4.41	5.88	5.23	1.71	1654
Max.	284	279	307	189	349	193	90.8	679	675	61.2	81.3	6.93	21.5	
Min.	2.14	2.12	<1	1.64	<1	<1	<0.3	9.88	9.88	<0.4	0.117	4.09	0.410	

Wet deposition (Monthly)

2010	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	2.13	2.11	3.11	1.05	1.48	0.253	0.833	2.44	2.44	0.216	1.05
Feb	2.06	2.02	2.20	1.02	2.98	0.610	0.331	1.21	1.20	0.204	0.234
Mar	3.00	2.83	3.18	3.01	2.01	2.72	1.39	5.65	5.60	0.716	0.0246
Apr	3.61	3.45	4.51	4.21	2.75	2.54	0.795	4.33	4.27	0.783	0.641
May	1.66	1.62	1.53	1.22	0.495	0.696	0.201	2.32	2.31	0.368	0.203
June	0.532	0.532	0.488	0.993	<0.01	<0.01	0.165	3.11	3.11	0.115	0.236
July	0.881	0.848	1.73	1.76	0.329	0.545	0.711	7.42	7.40	0.602	0.286
Aug	3.22	2.75	6.55	15.8	<0.01	7.69	3.12	19.1	18.9	1.35	0.781
Sept	4.10	4.02	3.13	4.78	<0.01	1.28	0.460	5.71	5.69	0.930	0.723
Oct	8.76	8.64	8.15	4.37	4.35	1.99	0.957	7.66	7.62	1.60	5.24
Nov	2.57	2.53	2.53	1.14	1.67	0.792	0.184	3.05	3.03	0.247	0.0409
Dec	1.82	1.76	1.99	1.06	0.840	1.01	0.200	1.82	1.79	0.253	0.372
Annual	33.7	32.5	38.4	40.2	16.4	19.8	9.28	63.3	62.9	7.30	9.73

Data completeness (Monthly)

2010	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	90.1	90.1	90.1	90.1	90.1	90.1	90.1	90.1	90.1	90.1	90.1	90.1	90.1	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	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	68.7	68.7	68.7	68.7	68.7	68.7	68.7	68.7	68.7	68.7	68.7	68.7	68.7	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/m² 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%)

Note

Table 3.58 Monthly results

Site: Da Nang

Country: Vietnam

Volume-weighted mean concentrations/ Precipitation (Monthly)

2010	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	52.1	46.0	11.0	121	23.2	102	7.13	29.1	26.9	18.0	11.2	4.95	3.27	76.0
Feb	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Mar	39.2	35.4	3.40	74.6	31.5	63.7	8.82	20.5	19.1	14.5	0.661	6.18	2.40	5.00
Apr	19.5	16.3	23.8	80.1	21.1	52.6	25.0	17.8	16.6	8.43	4.47	5.35	2.28	3.00
May	9.38	8.75	6.84	12.0	3.25	10.5	2.29	5.15	4.92	3.43	7.41	5.13	0.707	39.0
June	8.81	7.60	24.6	34.7	20.5	20.1	3.69	7.70	7.26	5.19	4.84	5.32	1.14	59.0
July	5.34	4.84	3.78	13.5	5.11	8.41	1.73	5.98	5.80	2.57	2.32	5.63	0.499	209
Aug	4.17	3.65	2.10	13.5	2.19	8.61	1.79	2.74	2.55	2.32	3.62	5.44	0.394	282
Sept	11.8	11.0	3.50	19.9	6.91	13.5	0.570	5.21	4.92	4.80	5.00	5.30	0.751	141
Oct	15.5	13.3	8.47	48.0	6.79	36.5	2.63	11.6	10.8	11.7	9.64	5.02	1.52	526
Nov	24.0	18.6	<1	96.5	8.43	88.9	4.95	5.63	3.71	11.0	9.98	5.00	2.30	307
Dec	71.2	60.8	62.3	198	58.1	173	22.1	31.9	28.1	25.5	28.7	4.54	6.40	43.0
Annual	16.4	13.9	7.02	50.4	8.67	41.3	3.41	8.87	7.98	8.52	7.71	5.11	1.46	1690
Max.	200	176	198	387	267	394	30.8	73.4	64.8	70.4	63.1	6.18	13.7	
Min.	4.07	3.61	<1	4.51	<1	4.22	<0.3	2.59	2.34	0.576	0.661	4.20	0.350	

Wet deposition (Monthly)

2010	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	3.96	3.49	0.833	9.22	1.76	7.72	0.542	2.21	2.04	1.36	0.854
Feb	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar	0.196	0.177	0.0170	0.373	0.157	0.319	0.0441	0.102	0.0954	0.0726	<0.01
Apr	0.0584	0.0489	0.0714	0.240	0.0632	0.158	0.0750	0.0533	0.0499	0.0253	0.0134
May	0.366	0.341	0.267	0.470	0.127	0.411	0.0893	0.201	0.192	0.134	0.289
June	0.520	0.448	1.45	2.05	1.21	1.19	0.217	0.454	0.428	0.306	0.285
July	1.12	1.01	0.790	2.83	1.07	1.76	0.361	1.25	1.21	0.537	0.485
Aug	1.18	1.03	0.592	3.80	0.617	2.43	0.505	0.772	0.720	0.653	1.02
Sept	1.67	1.55	0.493	2.80	0.974	1.90	0.0804	0.735	0.694	0.677	0.705
Oct	8.15	6.99	4.46	25.2	3.57	19.2	1.38	6.12	5.70	6.15	5.07
Nov	7.36	5.71	0.210	29.6	2.59	27.3	1.52	1.73	1.14	3.38	3.07
Dec	3.06	2.61	2.68	8.53	2.50	7.44	0.949	1.37	1.21	1.10	1.23
Annual	27.6	23.4	11.9	85.2	14.6	69.9	5.76	15.0	13.5	14.4	13.0

Data completeness (Monthly)

2010	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	97.4	97.4	97.4	97.4	97.4	97.4	97.4	97.4	97.4	97.4	97.4	97.4	97.4	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	99.9	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/m² 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%)

Note

Table 3.59 Annual precipitation and volume-weighted mean concentrations in 2010

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	μmol/L	μmol/L	μmol/L	μmol/L	μmol/L	μmol/L	μmol/L	μmol/L	μmol/L	μmol/L		mS/m
Cambodia	Phnom Penh	KH 11052	1851	7.37	7.18	8.37	4.93	22.6	3.10	0.861	8.33	8.26	0.717	1.07	5.97	0.747
China	Haifu	CN 11058	977	139	138	77.6	16.2	141	7.56	10.0	69.2	69.0	8.95	71.0	4.15	6.71
	Jinyunshan	CN 11003	979	151	151	75.0	16.1	124	8.17	10.4	68.7	68.6	5.76	115	3.94	8.07
	Shizhan	CN 11004	459	100.0	99.5	41.0	22.9	187	7.30	32.4	105	105	11.0	0.211	6.68	5.63
	Jiwozi	CN 11007	1155	31.8	31.4	12.2	14.6	17.3	6.47	4.89	40.7	40.6	7.17	2.91	5.54	1.67
	Hongwen	CN 11008	1530	26.7	25.5	29.0	15.0	39.8	19.4	2.24	9.11	8.70	2.00	26.6	4.57	2.05
	Xiaoping	CN 11009	1518	27.3	26.2	30.3	13.9	42.9	18.8	1.94	8.37	7.96	1.89	26.5	4.58	2.06
	Xiang Zhou	CN 11010	1857	19.8	18.6	23.9	22.4	24.4	19.8	2.21	7.40	6.97	2.57	14.1	4.85	1.74
	Zhuxiandong	CN 11011	1853	17.1	15.9	19.7	21.7	22.7	19.9	3.29	16.4	15.9	2.86	11.3	4.95	1.37
Indonesia	Jakarta	ID 11012	2120	21.9	21.4	17.1	15.4	23.0	7.92	2.23	10.3	10.2	2.23	18.6	4.73	1.90
	Serpong	ID 11013	1426	24.4	23.9	29.8	22.4	52.3	8.32	3.20	9.25	9.07	3.09	17.5	4.76	1.95
	Kototabang	ID 11014	2370	6.33	6.04	2.37	9.91	2.83	5.25	4.43	4.77	4.65	1.55	16.0	4.80	0.903
	Bandung	ID 11015	2606	27.0	26.4	17.9	8.60	32.1	9.74	4.22	13.5	13.3	4.43	7.99	5.10	1.43
	Maros	ID 11059	2663	10.8	10.0	6.35	21.1	10.1	13.2	2.52	9.58	9.30	2.17	6.16	5.21	0.718
Japan	Rishiri	JP 11016	1072	23.4	13.6	14.3	184	15.7	162	4.28	6.89	3.44	18.6	18.7	4.73	3.77
	Ochiishi	JP 11050	1085	23.0	9.65	9.47	266	10.7	232	6.16	8.25	3.25	28.6	14.8	4.83	4.65
	Tappi	JP 11017	1555	21.3	14.5	17.5	124	15.0	114	3.50	8.54	6.16	12.9	20.4	4.69	2.80
	Sado-seki	JP 11019	1368	32.3	13.4	18.1	351	11.9	320	8.08	12.7	5.94	37.7	19.8	4.70	5.08
	Happo	JP 11021	2621	6.11	5.88	6.51	4.99	5.88	3.76	0.356	2.40	2.32	0.810	8.00	5.10	0.597
	Ijira	JP 11022	3847	11.1	10.3	15.1	16.2	12.2	13.0	0.426	2.48	2.21	1.62	17.3	4.76	1.33
	Oki	JP 11023	1452	40.8	16.2	24.2	471	17.8	409	10.1	16.1	7.24	48.1	21.8	4.66	7.56
	Banryu	JP 11024	1471	21.0	15.3	22.6	107	21.6	94.2	5.43	8.02	5.99	12.1	19.8	4.70	2.88
	Yusuhara	JP 11025	2476	9.64	9.11	7.70	11.0	6.60	8.82	0.613	1.79	1.65	1.56	16.2	4.79	1.06
	Hedo	JP 11027	2643	20.9	5.79	6.38	284	9.31	254	6.19	7.98	2.50	29.2	6.34	5.20	4.59
	Ogasawara	JP 11018	1856	15.0	3.02	3.07	211	5.29	208	5.02	5.82	1.35	24.5	5.68	5.25	3.58
	Tokyo	JP 11057	1656	10.9	9.86	15.3	19.4	19.2	17.3	0.989	3.98	3.60	2.40	11.2	4.95	1.18
Lao PDR	Vientian	LA 11051	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Malaysia	Petaling Jaya	MY 11029	3517	17.1	16.8	49.5	9.26	4.60	4.99	1.50	5.40	5.29	0.698	54.4	4.26	2.90
	Tanah Rata	MY 11030	2451	3.25	3.17	4.40	1.91	4.05	1.29	1.06	1.22	1.19	<0.4	8.64	5.06	0.550
	Danum Valley	MY 11053	2370	5.08	4.32	1.42	17.1	4.89	13.8	3.24	3.82	3.59	1.48	5.99	5.22	0.552
	Kuching	MY 11060	4645	3.57	3.17	4.91	8.04	1.94	6.67	0.650	2.60	2.45	0.457	5.25	5.28	0.500
Mongolia	Ulaanbaatar	MN 11031	153	22.2	22.0	21.4	8.49	54.7	3.50	2.72	34.3	34.2	2.98	1.33	5.88	1.53
	Terelj	MN 11032	130	30.5	29.8	27.6	10.6	35.0	11.1	5.43	42.3	42.1	5.54	2.44	5.61	1.88
Myanmar	Yangon	MM 11056	2280	4.52	3.90	4.96	13.2	14.6	12.9	2.07	6.37	6.09	1.80	0.384	6.42	1.34
Philippines	Metro Manila	PH 11033	2676	20.3	18.9	50.5	20.6	53.1	22.3	17.0	12.8	12.3	9.12	2.25	5.65	1.89
	Los Banos	PH 11034	2068	7.39	6.02	31.4	25.3	38.2	22.7	7.43	20.1	19.7	8.20	1.32	5.88	1.22
	Mt. Sto. Tomas	PH 11055	3610	4.94	4.56	4.29	5.07	4.65	6.30	1.41	22.7	22.5	3.34	0.201	6.70	0.533
Republic of Korea	Kanghwa	KR 11035	1570	26.3	24.7	31.8	43.9	26.5	27.0	7.78	7.02	6.44	3.64	39.0	4.41	2.46
	Cheju (Kosan)	KR 11036	1003	19.3	13.1	22.7	114	26.8	103	7.96	6.72	4.70	6.90	9.19	5.04	2.32
	Imsil	KR 11037	1642	19.5	16.6	29.0	44.4	31.2	48.2	10.3	5.74	4.79	4.68	13.5	4.87	1.89
Russia	Mondy	RU 11038	90	6.80	6.63	8.11	3.39	17.5	2.81	2.62	9.20	9.14	1.81	2.80	5.55	0.653
	Listvyanka	RU 11039	327	20.7	20.5	20.2	3.43	18.3	3.60	1.66	12.6	12.5	2.97	17.6	4.76	1.41
	Irkutsk	RU 11040	375	33.5	32.4	22.3	23.8	34.5	18.4	5.52	32.2	31.8	6.75	7.41	5.13	2.05
	Primorskaya	RU 11041	673	31.9	30.4	21.9	29.4	42.7	23.9	5.84	16.9	16.3	4.27	10.7	4.97	1.96
Thailand	Bangkok	TH 11042	2023	12.0	11.5	26.8	9.33	37.8	8.79	2.58	11.2	11.1	1.52	8.48	5.07	1.31
	Samutprakarn	TH 11043	1880	15.6	14.5	15.4	16.2	28.1	18.6	17.0	7.78	7.38	2.20	4.82	5.32	1.13
	Pathumthani	TH 11044	1763	8.01	7.67	20.4	5.77	28.0	7.46	1.85	9.17	9.03	1.38	5.82	5.24	0.975
	Khanchanaburi	TH 11045	1626	1.79	1.60	3.76	3.30	8.90	3.11	0.710	1.80	1.73	0.575	2.03	5.69	0.249
	Chiang Mai (Mae Hia)	TH 11046	1167	3.32	3.16	7.30	3.58	19.3	2.72	1.21	4.40	4.36	0.451	0.676	6.17	0.519
	Nakhon Ratchasima	TH 11054	1627	7.04	6.85	14.6	4.81	24.6	3.21	0.940	2.21	2.15	0.703	17.8	4.75	0.992
Vietnam	Hanoi	VN 11047	1236	35.4	35.0	20.8	10.9	52.4	7.28	2.78	23.7	23.5	5.68	1.16	5.93	1.72
	Hoa Binh	VN 11048	1370	26.3	26.0	15.5	6.35	28.3	4.86	2.88	21.1	21.0	5.56	4.26	5.37	1.39
	Cuc Phuong	VN 11061	1654	20.3	19.6	23.2	24.3	9.90	12.0	5.61	38.3	38.0	4.41	5.88	5.23	1.71
	Da Nang	VN 11062	1690	16.4	13.9	7.02	50.4	8.67	41.3	3.41	8.87	7.98	8.52	7.71	5.11	1.46

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

[***] Not measured

Table 3.60 Annual deposition in 2010

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	13.6	13.3	15.5	9.12	41.9	5.74	1.59	15.4	15.3	1.33	1.98
China	Haifu	CN 11058	136	135	75.9	15.8	137	7.38	9.78	67.6	67.5	8.75	69.3
	Jinyunshan	CN 11003	148	148	73.4	15.7	121	8.00	10.2	67.3	67.1	5.64	112
	Shizhan	CN 11004	45.8	45.6	18.8	10.5	85.6	3.35	14.9	48.1	48.0	5.04	0.1
	Jiwozi	CN 11007	36.8	36.3	14.1	16.9	20.0	7.47	5.64	47.0	46.9	8.28	3.36
	Hongwen	CN 11008	40.8	39.0	44.3	23.0	60.9	29.6	3.42	13.9	13.3	3.06	40.7
	Xiaoping	CN 11009	41.4	39.7	46.0	21.1	65.1	28.6	2.94	12.7	12.1	2.88	40.2
	Xiang Zhou	CN 11010	36.7	34.5	44.3	41.6	45.4	36.8	4.10	13.7	13.0	4.77	26.2
	Zhuxiandong	CN 11011	31.6	29.4	36.6	40.2	42.1	37.0	6.10	30.3	29.5	5.30	21.0
Indonesia	Jakarta	ID 11012	46.4	45.4	36.2	32.7	48.8	16.8	4.72	21.9	21.6	4.72	39.5
	Serpong	ID 11013	34.8	34.1	42.4	31.9	74.6	11.9	4.57	13.2	12.9	4.40	25.0
	Kototabang	ID 11014	15.0	14.3	5.61	23.5	6.72	12.4	10.5	11.3	11.0	3.67	37.9
	Bandung	ID 11015	70.3	68.8	46.8	22.4	83.7	25.4	11.0	35.1	34.6	11.6	20.8
	Maros	ID 11059	28.9	26.7	16.9	56.2	27.0	35.3	6.71	25.5	24.8	5.79	16.4
Japan	Rishiri	JP 11016	25.1	14.6	15.4	197	16.8	173	4.59	7.39	3.69	20.0	20.1
	Ochiishi	JP 11050	24.9	10.5	10.3	288	11.6	252	6.68	8.95	3.52	31.0	16.0
	Tappi	JP 11017	33.1	22.5	27.2	192	23.3	177	5.45	13.3	9.58	20.1	31.7
	Sado-seki	JP 11019	44.2	18.3	24.8	481	16.2	437	11.1	17.4	8.12	51.6	27.0
	Happo	JP 11021	16.0	15.4	17.1	13.1	15.4	9.86	0.934	6.30	6.09	2.12	21.0
	Ijira	JP 11022	42.6	39.6	57.9	62.4	46.9	50.0	1.64	9.55	8.49	6.22	66.6
	Oki	JP 11023	59.3	23.6	35.2	684	25.8	594	14.7	23.3	10.5	69.9	31.7
	Banryu	JP 11024	30.8	22.5	33.2	157	31.8	139	7.98	11.8	8.80	17.7	29.2
	Yusuhara	JP 11025	23.9	22.6	19.1	27.3	16.3	21.8	1.52	4.44	4.07	3.86	40.1
	Hedo	JP 11027	55.3	15.3	16.9	751	24.6	670	16.4	21.1	6.61	77.2	16.8
	Ogasawara	JP 11018	27.9	5.60	5.70	391	9.82	386	9.32	10.8	2.51	45.4	10.5
	Tokyo	JP 11057	18.1	16.3	25.4	32.1	31.8	28.7	1.64	6.59	5.97	3.98	18.6
Lao PDR	Vientian	LA 11051	***	***	***	***	***	***	***	***	***	***	***
Malaysia	Petaling Jaya	MY 11029	60.3	59.3	174	32.6	16.2	17.6	5.26	19.0	18.6	2.46	191
	Tanah Rata	MY 11030	7.96	7.78	10.8	4.67	9.92	3.15	2.60	2.99	2.93	0.210	21.2
	Danum Valley	MY 11053	12.0	10.2	3.36	40.5	11.6	32.7	7.67	9.05	8.51	3.51	14.2
	Kuching	MY 11060	16.6	14.7	22.8	37.3	9.03	31.0	3.02	12.1	11.4	2.12	24.4
Mongolia	Ulaanbaatar	MN 11031	3.39	3.36	3.26	1.30	8.35	0.535	0.416	5.23	5.22	0.455	0.202
	Terelj	MN 11032	3.96	3.86	3.58	1.37	4.53	1.44	0.703	5.48	5.45	0.718	0.316
Myanmar	Yangon	MM 11056	10.3	8.88	11.3	30.0	33.3	29.3	4.71	14.5	13.9	4.11	0.875
Philippines	Metro Manila	PH 11033	54.2	50.6	135	55.2	142	59.7	45.6	34.2	32.9	24.4	6.01
	Los Banos	PH 11034	15.3	12.5	64.9	52.3	79.1	46.9	15.4	41.6	40.7	17.0	2.73
	Mt. Sto. Tomas	PH 11055	17.8	16.5	15.5	18.3	16.8	22.7	5.09	81.8	81.4	12.1	0.726
Republic of Korea	Kanghwa	KR 11035	41.3	38.8	49.8	68.9	41.6	42.4	12.2	11.0	10.1	5.71	61.2
	Cheju (Kosan)	KR 11036	19.4	13.1	22.7	114	26.8	103	7.98	6.74	4.72	6.91	9.21
	Imsil	KR 11037	32.0	27.2	47.6	72.9	51.2	79.2	16.8	9.42	7.87	7.69	22.1
Russia	Mondy	RU 11038	0.613	0.598	0.732	0.306	1.58	0.253	0.237	0.830	0.824	0.163	0.253
	Listvyanka	RU 11039	6.76	6.69	6.59	1.12	5.99	1.18	0.543	4.12	4.09	0.970	5.74
	Irkutsk	RU 11040	12.6	12.2	8.36	8.95	12.9	6.91	2.07	12.1	11.9	2.53	2.78
	Primorskaya	RU 11041	21.5	20.5	14.7	19.8	28.8	16.1	3.93	11.3	11.0	2.88	7.23
Thailand	Bangkok	TH 11042	24.3	23.3	54.1	18.9	76.5	17.8	5.22	22.8	22.4	3.07	17.2
	Samutprakarn	TH 11043	29.3	27.2	28.9	30.4	52.9	35.0	31.9	14.6	13.9	4.14	9.06
	Pathumthani	TH 11044	14.1	13.5	36.0	10.2	49.4	13.1	3.26	16.2	15.9	2.43	10.3
	Khanchanaburi	TH 11045	2.91	2.61	6.11	5.37	14.5	5.05	1.15	2.93	2.82	0.935	3.30
	Chiang Mai (Mae Hia)	TH 11046	3.88	3.69	8.52	4.17	22.5	3.17	1.41	5.14	5.09	0.526	0.789
	Nakhon Ratchasima	TH 11054	11.5	11.1	23.7	7.82	40.0	5.22	1.53	3.60	3.50	1.14	29.0
Vietnam	Hanoi	VN 11047	43.8	43.3	25.7	13.4	64.8	9.00	3.43	29.2	29.0	7.02	1.44
	Hoa Binh	VN 11048	36.1	35.7	21.3	8.70	38.8	6.65	3.94	28.9	28.7	7.61	5.84
	Cuc Phuong	VN 11061	33.7	32.5	38.4	40.2	16.4	19.8	9.28	63.3	62.9	7.30	9.73
	Da Nang	VN 11062	27.6	23.4	11.9	85.2	14.6	69.9	5.76	15.0	13.5	14.4	13.0

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

[***] Not measured

Table 3.61 Data completeness for annual summaries in 2010 (%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	99.2	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
	Jinyunshan	CN 11003	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Shizhan	CN 11004	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Jiwozi	CN 11007	75.9	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	98.4	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	93.7	100	100	100	100	100	100	100	100	100	100	100	100	100
	Bandung	ID 11015	100	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
	Maros	ID 11059	96.7	100	100	100	100	100	100	100	100	100	100	100	100	100
Japan	Rishiri	JP 11016	100	96.5	96.5	96.5	96.5	96.5	96.5	96.5	96.5	96.5	96.5	96.0	96.0	96.5
	Ochiishi	JP 11050	100	89.1	89.1	89.1	89.1	89.1	89.1	89.1	89.1	89.1	89.1	88.4	88.4	88.2
	Tappi	JP 11017	100	87.7	87.7	87.7	87.7	87.7	87.7	87.7	87.7	87.7	87.7	86.8	86.8	86.8
	Sado-seki	JP 11019	100	90.1	90.1	90.1	90.1	90.1	90.1	90.1	90.1	90.1	90.1	88.0	88.0	88.0
	Happo	JP 11021	99.7	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.1	72.1	72.1
	Ijira	JP 11022	100	100	100	100	100	100	100	100	100	100	100	99.9	99.9	99.9
	Oki	JP 11023	100	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.8	98.8	98.7
	Banryu	JP 11024	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Yusuhara	JP 11025	100	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.4	99.4	99.4
	Hedo	JP 11027	100	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	98.6	98.6	98.6
	Ogasawara	JP 11018	100	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.1	99.1	99.1
	Tokyo	JP 11057	100	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.0	99.0	99.0
Lao PDR	Vientian	LA 11051	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Malaysia	Petaling Jaya	MY 11029	98.1	97.7	97.7	97.7	97.7	97.7	97.7	97.7	97.7	97.7	97.7	95.4	95.4	95.4
	Tanah Rata	MY 11030	100	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.3	99.3	99.3
	Danum Valley	MY 11053	100	68.9	68.9	68.9	68.9	68.9	68.9	68.9	68.9	68.9	68.9	53.8	53.8	53.8
	Kuching	MY 11060	100	100	100	100	100	100	100	100	100	100	100	100	100	100
			100	100	100	100	100	100	100	100	100	100	100	100	100	100
Mongolia	Ulaanbaatar	MN 11031	100	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	100	100	100
	Terelj	MN 11032	100	99.4	99.1	99.4	99.4	99.7	99.7	99.7	99.7	99.7	99.7	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	34.7	34.7	29.9	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7
	Los Banos	PH 11034	100	32.8	32.8	32.8	32.8	32.8	32.8	32.8	32.8	32.8	32.8	32.8	32.8	32.8
	Mt. Sto. Tomas	PH 11055	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
Republic of Korea	Kanghwa	KR 11035	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Cheju (Kosan)	KR 11036	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Imsil	KR 11037	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	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	100	100	100
	Irkutsk	RU 11040	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Primorskaya	RU 11041	100	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.0	98.0	96.7
Thailand	Bangkok	TH 11042	100	98.3	98.3	98.3	98.3	98.3	98.3	98.3	98.3	98.3	98.3	96.7	96.7	96.7
	Samutprakarn	TH 11043	100	63.1	63.1	63.1	63.1	63.1	63.1	63.1	63.1	63.1	63.1	46.9	46.9	46.9
	Pathumthani	TH 11044	100	100	100	100	100	100	100	100	100	100	100	99.9	99.9	99.9
	Khanchanaburi	TH 11045	100	93.0	93.0	93.0	93.0	93.0	93.0	93.0	93.0	93.0	93.0	90.8	90.8	90.8
	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	80.2	80.2	80.2	80.2	80.2	80.2	80.2	80.2	80.2	80.2	80.2	80.2	80.2
Vietnam	Hanoi	VN 11047	100	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
	Hoa Binh	VN 11048	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
	Cuc Phuong	VN 11061	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
	Da Nang	VN 11062	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

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

*** Not measured

Table 3.62 Results of ion balance and conductivity agreement check in 2010

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	34	34	7	20.6	34	25	73.5	34	5	14.7
China	Haifu *	CN 11058	124	124	110	88.7	124	122	98.4	124	109	87.9
	Jinyunshan *	CN 11003	128	128	123	96.1	128	125	97.7	128	120	93.8
	Shizhan	CN 11004	30	30	5	16.7	30	19	63.3	30	4	13.3
	Jiwozi	CN 11007	83	83	28	33.7	83	69	83.1	83	28	33.7
	Hongwen *	CN 11008	71	71	55	77.5	71	60	84.5	71	51	71.8
	Xiaoping *	CN 11009	72	72	57	79.2	72	63	87.5	72	53	73.6
	Xiang Zhou	CN 11010	79	79	56	70.9	79	69	87.3	79	52	65.8
	Zhuxiandong	CN 11011	63	63	45	71.4	63	58	92.1	63	45	71.4
Indonesia	Jakarta	ID 11012	45	46	33	71.7	46	41	89.1	46	30	65.2
	Serpong	ID 11013	98	98	92	93.9	98	95	96.9	98	91	92.9
	Kototabang	ID 11014	50	50	10	20.0	50	43	86.0	50	8	16.0
	Bandung	ID 11015	114	116	74	63.8	116	114	98.3	116	73	62.9
	Maros	ID 11059	40	40	14	35.0	40	29	72.5	40	11	27.5
Japan	Rishiri	JP 11016	195	134	134	100	134	133	99.3	134	133	99.3
	Ochiishi	JP 11050	128	96	90	93.8	95	88	92.6	95	85	89.5
	Tappi	JP 11017	138	121	120	99.2	121	121	100	121	120	99.2
	Sado-seki *	JP 11019	178	127	126	99.2	127	127	100	127	126	99.2
	Happo	JP 11021	156	144	140	97.2	144	144	100	144	140	97.2
	Ijira	JP 11022	50	47	47	100	47	47	100	47	47	100
	Oki	JP 11023	247	153	149	97.4	149	148	99.3	149	145	97.3
	Banryu	JP 11024	50	46	44	95.7	46	46	100	46	44	95.7
	Yusuhara	JP 11025	184	163	162	99.4	163	162	99.4	163	161	98.8
	Hedo	JP 11027	195	152	150	98.7	152	152	100	152	150	98.7
	Ogasawara	JP 11018	196	140	134	95.7	140	135	96.4	140	129	92.1
	Tokyo *	JP 11057	162	113	102	90.3	113	111	98.2	113	101	89.4
Lao PDR	Vientiane	LA 11051	***	***	***	***	***	***	***	***	***	***
Malaysia	Petaling Jaya	MY 11029	51	49	24	49.0	49	48	98.0	49	24	49.0
	Tanah Rata	MY 11030	51	47	34	72.3	47	42	89.4	47	33	70.2
	Danum Valley	MY 11053	32	21	12	57.1	21	19	90.5	21	11	52.4
	Kuching	MY 11060	53	53	49	92.5	53	52	98.1	53	49	92.5
Mongolia	Ulaanbaatar *	MN 11031	27	25	12	48.0	25	22	88.0	25	11	44.0
	Terelj *	MN 11032	48	44	18	40.9	44	39	88.6	44	16	36.4
Myanmar	Yangon	MM 11056	26	26	5	19.2	26	15	57.7	26	5	19.2
Philippines	Metro Manila *	PH 11033	14	13	6	46.2	13	11	84.6	13	6	46.2
	Los Banos *	PH 11034	17	12	1	8.3	12	7	58.3	12	1	8.3
	Mt. Sto. Tomas	PH 11055	33	33	0	0.0	33	32	97.0	33	0	0.0
Republic of Korea	Kanghwa	KR 11035	40	40	31	77.5	40	25	62.5	40	18	45.0
	Cheju (Kosan)	KR 11036	49	49	42	85.7	49	38	77.6	49	31	63.3
	Imsil	KR 11037	79	79	53	67.1	79	42	53.2	79	30	38.0
Russia	Mondy *	RU 11038	12	12	12	100	12	12	100	12	12	100
	Listvyanka *	RU 11039	64	63	62	98.4	63	63	100	63	62	98.4
	Irkutsk *	RU 11040	97	97	96	99.0	97	97	100	97	96	99.0
	Primorskaya *	RU 11041	98	80	80	100	80	80	100	80	80	100
Thailand	Bangkok *	TH 11042	90	77	17	22.1	77	60	77.9	77	12	15.6
	Samutprakarn *	TH 11043	69	28	8	28.6	28	18	64.3	28	4	14.3
	Pathumthani *	TH 11044	85	83	19	22.9	83	75	90.4	83	16	19.3
	Khanchanaburi *	TH 11045	92	85	37	43.5	85	50	58.8	85	28	32.9
	Chiang Mai (Mae Hia) *	TH 11046	104	99	34	34.3	98	40	40.8	98	7	7.1
	Nakhon Ratchasima *	TH 11054	98	97	46	47.4	97	74	76.3	97	36	37.1
Vietnam	Hanoi *	VN 11047	34	34	19	55.9	34	34	100	34	19	55.9
	Hoa Binh *	VN 11048	30	30	14	46.7	30	30	100	30	14	46.7
	Cuc Phuong *	VN 11061	34	31	31	100	31	31	100	31	31	100
	Da Nang *	VN 11062	27	26	26	100	26	26	100	26	26	100

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 R₁

R₂(N) : Number of samples measured and calculated conductivity agreement (R₂)

R₂(AA) : Number of samples within allowable ranges for R₂

R₁&R₂(N) : Number of samples measured and calculated both R₁ and R₂

R₁&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 3.63 Annual precipitation

unit: mm y⁻¹

Country	Name of sites	Code	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Cambodia	Phnom Penh	KH 11052					419	1308	949	1374	1834	1326	1851
China	Guanyinqiac	CN 11001	1081	752	1445	987	1387	1077	842	1299			
	Nanshan	CN 11002	1259										
	Haifu	CN 11058									1010	1066	977
	Jinyunshar	CN 11003		710	1607	1233	1518	1461	1196	1645	1213	1098	979
	Shizhan	CN 11004	559	364	349	1273	601	509	483	527	385	592	459
	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
	Hongwen	CN 11008	1517	296	1568	1301	1065	1702	2134	1347	945	737	1530
	Xiaoping	CN 11009	1566	2682	2171	1768	1958	2921	2352	1044	2000	1134	1518
	Xiang Zhou	CN 11010	2031	1990	1731	1726	1340	1179	1529	1442	2815	2010	1857
	Zhuxiandong	CN 11011	1779	2571	1581	1755	1277	1062	887	***	2311	1580	1853
Indonesia	Jakarta	ID 11012	1577	1237	1572	1617	1469	2125	1481	2171	1717	1557	2120
	Serpong	ID 11014	***	1607	2505	2143	1462	824	1603	2015	2370	1344	1426
	Kototabang	ID 11013	2340	1209	1798	3127	2111	2194	1248	2772	2481	2656	2370
	Bandung	ID 11015	893	2605	2541	1606	894	1749	1311	1969	2334	2683	2606
	Maros	ID 11059									3037	3237	2663
Japan	Rishiri	JP 11016	770	615	957	709	945	961	1294	883	828	1054	1072
	Ochiishi	JP 11050				782	648	822	997	866	730	1580	1085
	Tappi	JP 11017	1049	1082	1329	1150	1473	1240	964	1055	824	1337	1555
	Sado-seki	JP 11019	1068	971	1433	1126	1539	1143	1264	1163	1021	1037	1368
	Happo	JP 11021	2188	2345	2607	2461	3088	2997	2755	2329	1645	2352	2621
	Ijira	JP 11022	2685	2237	2648	2967	3424	2569	2829	2263	2250	2876	3847
	Oki	JP 11023	1209	1246	1571	1597	1409	1313	1396	1160	1110	1123	1452
	Banryu	JP 11024	1565	1788	1303	1752	1738	1290	1960	1273	1268	1735	1471
	Yusuhara	JP 11025	2801	2080	2346	2839	3970	2321	3160	2373	2189	2068	2476
	Hedo	JP 11027	2907	2126	2032	1393	1778	1780	1863	2701	1961	1975	2643
	Ogasawara	JP 11018	1985	1806	1331	1398	1171	2050	1585	1567	1674	1675	1856
	Tokyo	JP 11057								1080	1860	1727	1656
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
	Tanah Rata	MY 11030	3127	2626	2783	3010	2415	2886	2785	2968	3925	3077	2451
	Danum Valley	MY 11053						1256	3005	2988	2999	3391	2370
	Kuching	MY 11060									4286	4671	4645
Mongolia	Ulaanbaatar	MN 11031	197	166	179	297	83.4	150	188	126	155	228	153
	Terelj	MN 11032	208	88.6	246	312	207	246	215	185	206	111	130
Myanmar	Yangon	MM 11056								3981	6375	3010	2280
Philippines	Metro Manila	PH 11033	4036	2291	2975	2205	2164	2377	2696	3505	2381	3782	2676
	Los Banos	PH 11034	2635	1817	1702	1608	1743	1643	2222	3097	1894	2900	2068
	Mt. Sto. Tomas	PH 11055							431	3379	5078	4727	3610
Republic of Korea	Kanghwa	KR 11035	1118	1139	824	1573	878	811	1092	883	1546	1266	1570
	Cheju (Kosan)	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
	Listvyanka	RU 11039	442	494	360	540	551	452	311	408	391	312	327
	Irkutsk	RU 11040	534	468	303	457	553	442	357	478	527	430	375
	Primorskaya	RU 11041			835	323	692	737	623	989	553	864	673
Thailand	Bangkok	TH 11042	1148	1174	1300	1385	1211	2006	1589	1579	1776	2072	2023
	Samutprakarn	TH 11043	978				1260	1625	1420	1871	1734	1989	1880
	Pathumthani	TH 11044	956	1349	948	1658	976	1268	1608	1381	1670	1314	1763
	Khanchanaburi	TH 11045	881	1516	2200	1627	1392	2043	2518	1704	1962	1998	1626
	Chiang Mai (Mae Hia)	TH 11046		1084	1473	808	1151	1430	1420	937	1286	1052	1167
	Nakhon Ratchasima	TH 11054							1190	1386	1722	1259	1627
Vietnam	Hanoi	VN 11047	1256	2255	1416	1586	1575	1761	1231	1659	2267	1609	1236
	Hoa Binh	VN 11048	1894	2223	1626	1691	1831	2279	1546	1949	1978	1357	1370
	Cuc Phuong	VN 11061										2266	1654
	Da Nang	VN 11062										2966	1690

[***]: 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 3.64 Volume-weighted annual mean concentrations of SO₄²⁻

unit: µmol/L													
Country	Name of sites	Code	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Cambodia	Phnom Penh	KH 11052					***	5.68	5.31	22.5	11.6	11.6	7.37
China	Guanyinqiac	CN 11001	152	205	114	110	165	186	177	130			
	Nanshan	CN 11002	130										
	Haifu	CN 11058									144	99.3	139
	Jinyunshar	CN 11003		124	78.3	83.2	109	102	141	90.4	120	114	151
	Shizhan	CN 11004	356	470	850	203	173	126	274	183	191	136	100.0
	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
	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
	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
	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
	Zhuxiandong	CN 11011	48.0	19.3	32.0	18.5	26.9	29.5	19.3	***	21.5	21.0	17.1
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
	Serpong	ID 11014	***	38.2	25.7	23.1	28.1	33.3	28.2	30.5	27.8	23.1	24.4
	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
	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
	Maros	ID 11059									5.38	6.96	10.8
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
	Ochiishi	JP 11050				19.1	34.5	22.6	27.7	21.3	18.7	16.7	23.0
	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
	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
	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
	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
	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
	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
	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
	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
	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
	Tokyo	JP 11057								17.1	19.6	16.0	10.9
Lao PDR	Vientian	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
	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
	Danum Valley	MY 11053						4.40	3.41	2.29	2.49	2.82	5.08
	Kuching	MY 11060									4.14	3.78	3.57
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
	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
Myanmar	Yangon	MM 11056								***	***	8.01	4.52
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
	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
	Mt. Sto. Tomas	PH 11055							1.37	5.74	3.47	5.04	4.94
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 (Kosan)	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
	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
	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
	Primorskaya	RU 11041			29.0	43.1	37.2	38.2	46.0	30.8	40.6	22.6	31.9
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
	Samutprakarn	TH 11043	25.5				16.5	19.1	20.7	14.8	15.7	15.1	15.6
	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
	Khanchanaburi	TH 11045	3.64	5.22	5.62	3.56	3.39	2.80	4.04	2.47	3.78	3.60	1.79
	Chiang Mai (Mae Hia)	TH 11046		2.79	4.46	4.13	6.90	5.90	4.54	6.00	4.96	4.30	3.32
	Nakhon Ratchasima	TH 11054							8.24	6.44	7.36	6.44	7.04
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
	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
	Cuc Phuong	VN 11061										18.5	20.3
	Da Nang	VN 11062										18.8	16.4

[***]: 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 3.65 Volume-weighted annual mean concentrations of nss-SO_4^{2-}

unit: $\mu\text{mol/L}$													
Country	Name of sites	Code	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Cambodia	Phnom Penh	KH 11052					***	***	5.08	22.0	8.67	11.2	7.18
China	Guanyinqiac	CN 11001	151	205	114	109	165	185	177	130			
	Nanshan	CN 11002	130										
	Haifu	CN 11058									144	99.0	138
	Jinyunshar	CN 11003		123	78.0	82.9	109	101	140	90.0	120	113	151
	Shizhan	CN 11004	353	460	835	199	171	125	271	182	190	135	99.5
	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
	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
	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
	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
	Zhuxiandong	CN 11011	46.3	18.0	29.3	16.4	23.8	26.1	18.0	***	19.0	18.3	15.9
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
	Serpong	ID 11014	***	36.8	24.2	22.4	26.9	32.3	27.7	29.8	27.2	22.5	23.9
	Kototabang	ID 11013	***	4.41	7.09	8.59	4.58	5.16	7.28	6.47	2.61	4.38	6.04
	Bandung	ID 11015	***	32.5	27.2	20.0	27.0	34.6	25.7	26.0	27.5	28.5	26.4
	Maros	ID 11059									4.43	6.18	10.0
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
	Ochiishi	JP 11050				7.47	12.9	10.1	11.3	10.1	8.41	5.88	9.65
	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
	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
	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
	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
	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
	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
	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
	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
	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
	Tokyo	JP 11057								15.0	18.4	14.5	9.86
Lao PDR	Vientian	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
	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
	Danum Valley	MY 11053						4.13	3.07	2.04	2.30	2.47	4.32
	Kuching	MY 11060									3.82	3.33	3.17
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
	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
Myanmar	Yangon	MM 11056								***	***	6.90	3.90
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
	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
	Mt. Sto. Tomas	PH 11055							1.20	5.40	3.17	4.54	4.56
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 (Kosan)	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
	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
	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
	Primorskaya	RU 11041			27.6	41.1	35.8	36.9	45.0	29.6	39.3	21.8	30.4
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
	Samutprakarn	TH 11043	24.9				15.5	17.9	19.7	14.1	14.8	14.5	14.5
	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
	Khanchanaburi	TH 11045	3.09	4.54	5.11	2.96	2.84	2.40	3.67	2.04	3.22	3.03	1.60
	Chiang Mai (Mae Hia)	TH 11046		2.56	3.92	3.97	6.72	5.84	4.34	5.82	4.81	4.14	3.16
	Nakhon Ratchasima	TH 11054							7.97	6.18	7.11	6.27	6.85
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
	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
	Cuc Phuong	VN 11061										17.8	19.6
	Da Nang	VN 11062										13.1	13.9

[***]: 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 3.66 Volume-weighted annual mean concentrations of NO₃⁻

unit: µmol/L

Country	Name of sites	Code	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Cambodia	Phnom Penh	KH 11052					7.68	***	9.05	8.26	9.40	10.3	8.37
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
	Jinyunshar	CN 11003		40.3	29.4	34.4	36.8	34.4	46.1	31.5	46.5	54.4	75.0
	Shizhan	CN 11004	87.0	153	150	68.0	61.7	12.1	81.7	75.9	40.2	57.7	41.0
	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
	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
	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
	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
	Zhuxiandong	CN 11011	33.5	22.2	20.8	11.5	25.0	21.5	13.2	***	14.7	19.8	19.7
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
	Serpong	ID 11014	***	50.7	32.6	30.8	39.7	39.4	28.3	30.4	30.3	25.4	29.8
	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
	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
	Maros	ID 11059									3.51	5.36	6.35
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
	Ochiishi	JP 11050				7.95	13.5	9.31	11.4	9.57	8.44	5.42	9.47
	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
	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
	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
	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
	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
	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
	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
	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
	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
	Tokyo	JP 11057								19.5	24.4	18.1	15.3
Lao PDR	Vientian	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
	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
	Danum Valley	MY 11053						2.50	1.41	<1.0	1.37	1.65	1.42
	Kuching	MY 11060									4.98	4.55	4.91
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
	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
Myanmar	Yangon	MM 11056								***	***	7.23	4.96
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
	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
	Mt. Sto. Tomas	PH 11055							1.87	5.47	3.92	3.94	4.29
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 (Kosan)	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
	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
	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
	Primorskaya	RU 11041			10.2	15.4	21.4	21.6	29.2	19.1	33.1	18.6	21.9
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
	Samutprakarn	TH 11043	15.4				9.79	17.9	14.1	16.6	17.4	20.0	15.4
	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
	Khanchanaburi	TH 11045	5.74	6.75	6.06	4.89	4.78	2.50	6.15	2.94	5.02	4.55	3.76
	Chiang Mai (Mae Hia)	TH 11046		4.13	6.64	6.53	6.12	8.36	7.87	7.97	9.11	8.44	7.30
	Nakhon Ratchasima	TH 11054							11.3	11.4	11.5	12.7	14.6
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
	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
	Cuc Phuong	VN 11061										10.9	23.2
	Da Nang	VN 11062										11.4	7.02

[***]: 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 3.67 Volume-weighted annual mean concentrations of CI

unit: $\mu\text{mol/L}$

Country	Name of sites	Code	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Cambodia	Phnom Penh	KH 11052					***	6.21	6.20	12.6	8.68	10.3	4.93
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
	Jinyunshar	CN 11003		56.8	12.9	10.3	12.8	15.5	13.6	8.70	15.4	16.1	16.1
	Shizhan	CN 11004	49.0	81.3	349	83.3	36.1	34.4	35.8	39.9	33.6	26.2	22.9
	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
	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
	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
	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
	Zhuxiandong	CN 11011	39.4	27.7	59.5	40.2	58.8	52.6	29.3	***	45.6	51.4	21.7
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
	Serpong	ID 11014	***	32.3	23.0	27.2	23.8	19.8	10.9	14.3	17.0	17.6	22.4
	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
	Bandung	ID 11015	105	25.0	20.3	13.0	17.4	14.6	14.1	7.53	8.33	11.8	8.60
	Maros	ID 11059									20.1	15.3	21.1
Japan	Rishiri	JP 11016	372	235	217	201	256	233	126	161	268	193	184
	Ochiishi	JP 11050				227	410	232	317	219	194	205	266
	Tappi	JP 11017	178	156	191	154	231	250	326	262	226	217	124
	Sado-seki	JP 11019	274	378	307	107	154	337	256	257	236	364	351
	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
	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
	Oki	JP 11023	449	359	419	201	321	696	253	312	371	436	471
	Banryu	JP 11024	31.0	86.5	88.9	92.5	133	110	76.0	89.2	82.5	114	107
	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
	Hedo	JP 11027	515	175	593	451	982	488	217	146	138	141	284
	Ogasawara	JP 11018	164	123	278	286	139	115	119	154	98.8	227	211
	Tokyo	JP 11057								41.1	23.7	27.8	19.4
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
	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
	Danum Valley	MY 11053						6.00	7.15	4.90	6.10	6.79	17.1
	Kuching	MY 11060									6.35	8.41	8.04
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
	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
Myanmar	Yangon	MM 11056								***	***	25.0	13.2
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
	Los Banos	PH 11034	33.0	34.5	24.6	16.2	14.3		21.0	24.4	18.8	25.0	25.3
	Mt. Sto. Tomas	PH 11055							1.57	7.38	5.24	8.31	5.07
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 (Kosan)	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
	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
	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
	Primorskaya	RU 11041			33.9	35.6	21.3	21.7	18.0	18.6	25.6	14.7	29.4
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
	Samutprakarn	TH 11043	12.9				12.8	19.0	12.5	11.2	12.8	8.45	16.2
	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
	Khanchanaburi	TH 11045	17.6	9.96	14.1	8.80	9.96	7.79	6.30	6.62	10.3	8.84	3.30
	Chiang Mai (Mae Hia)	TH 11046		4.53	10.1	4.71	3.82	4.21	3.73	5.85	4.59	4.91	3.58
	Nakhon Ratchasima	TH 11054							5.52	5.11	5.93	4.62	4.81
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
	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
	Cuc Phuong	VN 11061										44.2	24.3
	Da Nang	VN 11062										110	50.4

[***]: 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 3.68 Volume-weighted annual mean concentrations of NH₄⁺

unit: µmol/L													
Country	Name of sites	Code	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Cambodia	Phnom Penh	KH 11052					10.8	16.3	17.9	19.7	11.8	13.1	22.6
China	Guanyinqiac	CN 11001	161	211	120	132	137	157	179	140			
	Nanshan	CN 11002	105										
	Haifu	CN 11058									148	105	141
	Jinyunshar	CN 11003		111	83.5	85.6	105	105	121	75.2	98.8	110	124
	Shizhan	CN 11004	421	255	203	144	146	77.2	167	206	164	169	187
	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
	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
	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
	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
	Zhuxiandong	CN 11011	51.0	30.3	48.4	29.9	59.5	26.1	27.4	***	18.6	25.6	22.7
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
	Serpong	ID 11014	***	67.6	46.0	45.0	42.3	44.6	40.3	44.3	47.2	43.0	52.3
	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
	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
	Maros	ID 11059									8.85	12.7	10.1
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
	Ochiishi	JP 11050				7.65	11.8	7.51	15.6	7.84	6.45	8.40	10.7
	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
	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
	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
	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
	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
	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
	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
	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
	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
	Tokyo	JP 11057								27.7	29.9	26.2	19.2
Lao PDR	Vientian	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
	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
	Danum Valley	MY 11053						2.03	2.05	1.32	9.76	3.44	4.89
	Kuching	MY 11060									4.61	4.94	1.94
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
	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
Myanmar	Yangon	MM 11056								***	***	16.2	14.6
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
	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
	Mt. Sto. Tomas	PH 11055							<1.0	8.69	10.5	14.1	4.65
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 (Kosan)	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
	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
	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
	Primorskaya	RU 11041			35.9	39.1	30.4	41.6	49.8	29.6	50.6	28.8	42.7
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
	Samutprakarn	TH 11043	31.8				34.5	37.4	49.9	47.1	56.4	41.0	28.1
	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
	Khanchanaburi	TH 11045	6.84	11.0	10.9	12.5	8.40	4.96	17.5	13.9	10.1	26.1	8.90
	Chiang Mai (Mae Hia)	TH 11046		15.8	18.5	15.8	15.7	21.0	15.2	18.8	19.9	20.2	19.3
	Nakhon Ratchasima	TH 11054							23.1	18.3	21.1	22.9	24.6
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
	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
	Cuc Phuong	VN 11061										6.30	9.90
	Da Nang	VN 11062										13.5	8.67

[***]: 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 3.69 Volume-weighted annual mean concentrations of Na⁺

unit: µmol/L

Country	Name of sites	Code	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Cambodia	Phnom Penh	KH 11052					***	***	1.85	8.25	10.3	6.95	3.10
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
	Jinyunshar	CN 11003		10.2	5.90	4.99	12.3	15.3	6.65	6.20	10.3	7.70	8.17
	Shizhan	CN 11004	44.1	164	246	69.2	19.1	16.1	45.2	15.6	24.4	13.4	7.30
	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
	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
	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
	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
	Zhuxiandong	CN 11011	31.2	27.5	45.2	36.0	94.4	60.9	22.6	***	40.7	45.3	19.9
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
	Serpong	ID 11014	***	23.8	25.2	11.3	19.6	16.0	7.46	11.7	10.5	10.2	8.32
	Kototabang	ID 11013	***	4.52	6.29	9.65	10.9	5.69	6.21	8.65	5.33	6.12	5.25
	Bandung	ID 11015	***	20.2	8.64	7.10	10.8	11.9	18.3	6.65	8.62	11.8	9.74
	Maros	ID 11059									15.7	13.3	13.2
Japan	Rishiri	JP 11016	325	212	197	176	229	203	110	143	247	176	162
	Ochiishi	JP 11050				198	360	208	278	186	171	182	232
	Tappi	JP 11017	149	134	165	141	199	218	289	234	197	199	114
	Sado-seki	JP 11019	258	355	268	93.8	135	290	224	227	215	321	320
	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
	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
	Oki	JP 11023	396	316	363	185	295	602	225	275	324	376	409
	Banryu	JP 11024	28.9	78.2	79.4	80.9	113	92.1	66.4	78.6	72.2	98.8	94.2
	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
	Hedo	JP 11027	454	160	515	430	873	449	189	129	124	127	254
	Ogasawara	JP 11018	139	104	236	251	125	97.3	103	133	86.2	188	208
	Tokyo	JP 11057								34.5	19.5	23.5	17.3
Lao PDR	Vientian	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
	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
	Danum Valley	MY 11053						4.45	5.64	4.15	3.22	5.83	13.8
	Kuching	MY 11060									5.39	7.35	6.67
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
	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
Myanmar	Yangon	MM 11056								***	***	18.5	12.9
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
	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
	Mt. Sto. Tomas	PH 11055							2.81	5.68	5.11	8.26	6.30
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 (Kosan)	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
	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
	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
	Primorskaya	RU 11041			23.1	33.7	22.5	21.7	16.8	19.8	22.9	12.8	23.9
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
	Samutprakarn	TH 11043	10.1				16.5	19.8	14.6	12.2	15.4	10.0	18.6
	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
	Khanchanaburi	TH 11045	9.71	11.3	8.34	10.3	8.99	6.70	6.86	7.05	9.23	9.49	3.11
	Chiang Mai (Mae Hia)	TH 11046		3.94	9.66	3.21	3.05	***	3.53	2.93	2.61	2.69	2.72
	Nakhon Ratchasima	TH 11054							4.45	4.45	4.20	2.73	3.21
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
	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
	Cuc Phuong	VN 11061										11.2	12.0
	Da Nang	VN 11062										94.6	41.3

[***]: 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 3.70 Volume-weighted annual mean concentrations of K⁺

unit: µmol/L

Country	Name of sites	Code	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Cambodia	Phnom Penh	KH 11052					1.63	***	1.48	3.64	10.3	1.50	0.861
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
	Jinyunshar	CN 11003		44.4	10.3	8.60	11.7	11.4	11.4	6.78	9.54	8.71	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
	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
	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
	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
	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
	Zhuxiandong	CN 11011	6.18	5.86	13.2	6.62	22.7	5.60	2.62	***	4.50	2.56	3.29
Indonesia	Jakarta	ID 11012	***	24.3	11.3	9.28	10.3	5.73	8.01	11.2	3.51	2.22	2.23
	Serpong	ID 11014	***	7.04	3.95	7.96	5.65	6.18	4.46	2.76	2.21	1.75	3.20
	Kototabang	ID 11013	***	1.32	5.10	20.0	6.27	4.36	4.56	8.40	3.40	9.35	4.43
	Bandung	ID 11015	***	12.6	2.04	4.13	3.29	4.66	4.81	2.03	2.31	4.08	4.22
	Maros	ID 11059									5.76	3.89	2.52
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
	Ochiishi	JP 11050				4.63	8.08	5.28	7.66	4.58	3.81	4.09	6.16
	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
	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
	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
	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
	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
	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
	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
	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
	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
	Tokyo	JP 11057								1.40	1.14	1.10	0.989
Lao PDR	Vientian	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
	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
	Danum Valley	MY 11053						1.17	1.01	1.08	2.53	1.59	3.24
	Kuching	MY 11060									<1.0	<1.0	0.650
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
	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
Myanmar	Yangon	MM 11056								***	***	6.46	2.07
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
	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
	Mt. Sto. Tomas	PH 11055							1.32	2.29	<1.0	1.95	1.41
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 (Kosan)	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
	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
	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
	Primorskaya	RU 11041			5.35	10.1	7.24	7.07	5.47	6.18	8.99	4.40	5.84
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
	Samutprakarn	TH 11043	5.29				4.88	4.92	4.31	2.88	6.12	2.77	17.0
	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
	Khanchanaburi	TH 11045	8.88	4.98	2.38	2.02	1.09	<1.0	2.44	<1.0	1.15	1.21	0.710
	Chiang Mai (Mae Hia)	TH 11046		2.94	4.41	3.95	1.41	<1.0	1.70	2.87	2.63	1.47	1.21
	Nakhon Ratchasima	TH 11054							<1.0	1.38	1.24	1.31	0.940
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
	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
	Cuc Phuong	VN 11061										14.0	5.61
	Da Nang	VN 11062										6.27	3.41

[***]: 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 3.71 Volume-weighted annual mean concentrations of Ca²⁺

unit: µmol/L													
Country	Name of sites	Code	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Cambodia	Phnom Penh	KH 11052					<0.2	***	9.11	19.2	32.6	20.4	8.33
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
	Jinyunshar	CN 11003		44.9	29.7	30.7	70.5	57.7	98.3	55.1	68.3	66.7	68.7
	Shizhan	CN 11004	229	675	479	258	147	107	301	116	150	138	105
	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
	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
	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
	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
	Zhuxiandong	CN 11011	25.0	14.3	20.7	20.2	24.7	17.0	17.1	***	13.6	7.40	16.4
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
	Serpong	ID 11014	***	13.6	9.93	6.60	10.5	12.0	7.19	7.37	7.97	5.17	9.25
	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
	Bandung	ID 11015	***	24.2	17.1	10.9	18.3	15.9	14.8	9.50	11.3	15.3	13.5
	Maros	ID 11059									8.39	8.11	9.58
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
	Ochiishi	JP 11050				5.74	12.2	8.96	10.2	6.96	5.29	5.20	8.25
	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
	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
	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
	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
	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
	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
	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
	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
	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
	Tokyo	JP 11057								4.99	4.09	3.42	3.98
Lao PDR	Vientian	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
	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
	Danum Valley	MY 11053						1.35	1.26	0.513	0.353	1.01	3.82
	Kuching	MY 11060									1.91	1.79	2.60
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
	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
Myanmar	Yangon	MM 11056								***	***	9.66	6.37
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
	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
	Mt. Sto. Tomas	PH 11055							5.64	23.4	3.09	5.87	22.7
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 (Kosan)	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
	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
	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
	Primorskaya	RU 11041			18.1	25.3	21.5	21.1	25.0	14.0	19.4	11.7	16.9
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
	Samutprakarn	TH 11043	11.1				7.84	9.68	14.8	11.0	13.8	13.2	7.78
	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
	Khanchanaburi	TH 11045	4.76	9.05	4.92	8.45	4.78	2.45	2.71	3.03	4.59	4.93	1.80
	Chiang Mai (Mae Hia)	TH 11046		6.95	18.0	5.72	4.77	3.75	4.74	8.03	6.68	5.69	4.40
	Nakhon Ratchasima	TH 11054							9.54	3.75	3.35	2.53	2.21
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
	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
	Cuc Phuong	VN 11061										24.8	38.3
	Da Nang	VN 11062										6.35	8.87

[***]: 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 Volume-weighted annual mean concentrations of nss-Ca²⁺

unit: µmol/L													
Country	Name of sites	Code	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Cambodia	Phnom Penh	KH 11052					***	***	9.07	19.1	32.5	20.3	8.26
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
	Jinyunshar	CN 11003		44.7	29.6	30.6	70.2	57.4	98.2	55.0	68.1	66.5	68.6
	Shizhan	CN 11004	228	672	474	257	147	107	300	116	149	138	105
	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
	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
	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
	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
	Zhuxiandong	CN 11011	24.3	13.7	19.7	19.4	22.7	15.7	16.7	***	12.7	6.44	15.9
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
	Serpong	ID 11014	***	13.1	9.40	6.38	10.1	11.7	7.03	7.19	7.75	5.03	9.07
	Kototabang	ID 11013	***	1.36	4.78	5.32	6.75	3.26	5.06	4.51	4.76	5.34	4.65
	Bandung	ID 11015	***	23.7	16.9	10.7	18.0	15.4	14.4	9.36	11.1	15.1	13.3
	Maros	ID 11059									8.05	7.83	9.30
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
	Ochiishi	JP 11050				1.60	4.48	4.44	4.30	2.96	1.66	1.38	3.25
	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
	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
	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
	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
	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
	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
	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
	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
	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
	Tokyo	JP 11057								4.24	3.67	2.91	3.60
Lao PDR	Vientian	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
	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
	Danum Valley	MY 11053						1.26	1.16	0.453	0.315	0.919	3.59
	Kuching	MY 11060									1.81	1.66	2.45
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
	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
Myanmar	Yangon	MM 11056								***	***	9.26	6.09
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
	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
	Mt. Sto. Tomas	PH 11055							5.58	23.3	2.98	5.69	22.5
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 (Kosan)	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
	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
	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
	Primorskaya	RU 11041			17.6	24.6	21.0	20.7	24.7	13.5	18.9	11.4	16.3
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
	Samutprakarn	TH 11043	10.8				7.48	9.25	14.5	10.7	13.5	13.0	7.38
	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
	Khanchanaburi	TH 11045	4.56	8.81	4.74	8.22	4.59	2.31	2.56	2.88	4.39	4.72	1.73
	Chiang Mai (Mae Hia)	TH 11046		6.86	17.8	5.65	4.71	3.73	4.68	7.97	6.63	5.63	4.36
	Nakhon Ratchasima	TH 11054							9.45	3.66	3.26	2.48	2.15
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
	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
	Cuc Phuong	VN 11061										24.6	38.0
	Da Nang	VN 11062										4.31	7.98

[***]: 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 3.73 Volume-weighted annual mean concentrations of Mg²⁺

unit: µmol/L													
Country	Name of sites	Code	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Cambodia	Phnom Penh	KH 11052					<0.4	***	0.661	3.27	3.45	2.00	0.717
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
	Jinyunshar	CN 11003		5.76	3.37	2.89	3.55	3.17	4.00	2.81	4.64	5.56	5.76
	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
	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
	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
	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
	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
	Zhuxiandong	CN 11011	7.91	3.33	7.08	7.37	8.49	9.08	4.99	***	5.70	6.15	2.86
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
	Serpong	ID 11014	***	3.53	4.52	2.69	3.99	3.74	1.73	2.65	4.12	1.36	3.09
	Kototabang	ID 11013	***	1.04	2.58	6.76	1.78	0.939	2.26	3.81	1.000	1.10	1.55
	Bandung	ID 11015	***	4.07	1.64	1.70	3.28	2.45	3.26	1.68	4.40	4.13	4.43
	Maros	ID 11059									2.56	1.86	2.17
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
	Ochiishi	JP 11050				22.1	42.2	22.2	31.2	21.5	19.8	19.9	28.6
	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
	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
	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
	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
	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
	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
	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
	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
	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
	Tokyo	JP 11057								4.22	2.78	2.97	2.40
Lao PDR	Vientian	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
	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
	Danum Valley	MY 11053						<0.4	0.481	0.402	0.528	0.549	1.48
	Kuching	MY 11060									<0.4	<0.4	0.457
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
	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
Myanmar	Yangon	MM 11056								***	***	2.84	1.80
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
	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
	Mt. Sto. Tomas	PH 11055							0.971	2.08	<0.4	1.53	3.34
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 (Kosan)	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
	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
	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
	Primorskaya	RU 11041			5.66	11.2	7.05	5.67	5.50	4.30	6.26	3.11	4.27
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
	Samutprakarn	TH 11043	2.39				1.87	3.43	4.63	2.69	3.99	2.80	2.20
	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
	Khanchanaburi	TH 11045	1.67	2.52	1.75	2.23	1.64	1.13	0.983	0.997	1.61	1.44	0.575
	Chiang Mai (Mae Hia)	TH 11046		1.10	3.54	2.08	1.82	1.00	2.42	1.24	1.78	2.73	0.451
	Nakhon Ratchasima	TH 11054							1.98	1.78	1.22	1.27	0.703
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
	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
	Cuc Phuong	VN 11061										4.37	4.41
	Da Nang	VN 11062										10.2	8.52

[***]: 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 Volume-weighted annual mean concentrations of H⁺

unit: $\mu\text{mol/L}$

Country	Name of sites	Code	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Cambodia	Phnom Penh	KH 11052					4.79	0.478	0.191	0.203	1.45	0.649	1.07
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
	Jinyunshar	CN 11003		65.4	43.6	50.3	25.9	23.7	20.4	30.0	44.0	47.1	115
	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
	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
	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
	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
	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
	Zhuxiandong	CN 11011	23.0	16.7	12.8	7.88	23.2	24.4	15.0	***	13.1	17.7	11.3
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
	Serpong	ID 11014	***	23.7	22.6	24.1	20.8	25.6	25.0	25.8	23.9	19.3	17.5
	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
	Bandung	ID 11015	***	10.1	34.9	10.0	9.30	9.33	7.00	11.8	6.81	4.99	7.99
	Maros	ID 11059									2.35	4.64	6.16
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
	Ochiishi	JP 11050				12.2	20.7	14.6	13.8	16.7	13.5	9.64	14.8
	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
	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
	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
	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
	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
	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
	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
	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
	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
	Tokyo	JP 11057								16.3	24.8	17.7	11.2
Lao PDR	Vientian	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
	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
	Danum Valley	MY 11053						10.5	8.93	8.03	6.02	6.00	5.99
	Kuching	MY 11060									5.55	5.47	5.25
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
	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
Myanmar	Yangon	MM 11056								2.66	0.392	0.346	0.384
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
	Los Banos	PH 11034	3.64	2.98	1.81	32.5	5.47		2.44	2.91	11.2	2.64	1.32
	Mt. Sto. Tomas	PH 11055							0.475	2.97	3.22	1.47	0.201
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 (Kosan)	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
	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
	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
	Primorskaya	RU 11041			6.30	13.2	14.5	8.67	15.0	14.5	16.3	10.5	10.7
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
	Samutprakarn	TH 11043	14.8				3.41	3.42	1.36	2.46	5.08	7.40	4.82
	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
	Khanchanaburi	TH 11045	2.73	5.47	2.30	3.47	0.847	2.87	1.78	1.66	2.19	2.18	2.03
	Chiang Mai (Mae Hia)	TH 11046		1.94	1.89	2.47	2.54	5.94	2.00	1.12	1.04	1.20	0.676
	Nakhon Ratchasima	TH 11054							7.61	8.30	9.31	13.6	17.8
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
	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
	Cuc Phuong	VN 11061										10.3	5.88
	Da Nang	VN 11062										16.8	7.71

[***]: 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 Volume-weighted annual mean pH

Country	Name of sites	Code	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Cambodia	Phnom Penh	KH 11052					5.32	6.32	6.72	6.69	5.84	6.19	5.97
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
	Jinyunshar	CN 11003		4.18	4.36	4.30	4.59	4.62	4.69	4.52	4.36	4.33	3.94
	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
	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
	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
	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
	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
	Zhuxiandong	CN 11011	4.64	4.78	4.89	5.10	4.63	4.61	4.82	***	4.88	4.75	4.95
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
	Serpong	ID 11014	***	4.63	4.65	4.62	4.68	4.59	4.60	4.59	4.62	4.71	4.76
	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
	Bandung	ID 11015	***	4.99	4.46	5.00	5.03	5.03	5.15	4.93	5.17	5.30	5.10
	Maros	ID 11059									5.63	5.33	5.21
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
	Ochiishi	JP 11050				4.91	4.68	4.84	4.86	4.78	4.87	5.02	4.83
	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
	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
	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
	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
	Oki	JP 11023	4.64	4.77	4.73	4.76	4.80	4.56	4.73	4.64	4.60	4.71	4.66
	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
	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
	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
	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
	Tokyo	JP 11057								4.79	4.60	4.75	4.95
Lao PDR	Vientian	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
	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
	Danum Valley	MY 11053						4.98	5.05	5.10	5.22	5.22	5.22
	Kuching	MY 11060									5.26	5.26	5.28
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
	Terelj	MN 11032	5.52	6.04	5.75	5.40	5.78	5.26	5.16	5.22	5.43	6.22	5.61
Myanmar	Yangon	MM 11056								5.57	6.41	6.46	6.42
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
	Los Banos	PH 11034	5.44	5.53	5.74	4.49	5.26		5.61	5.54	4.95	5.58	5.88
	Mt. Sto. Tomas	PH 11055							6.32	5.53	5.49	5.83	6.70
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 (Kosan)	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
	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
	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
	Primorskaya	RU 11041			5.20	4.88	4.84	5.06	4.83	4.84	4.79	4.98	4.97
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
	Samutprakarn	TH 11043	4.83				5.47	5.47	5.87	5.61	5.29	5.13	5.32
	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
	Khanchanaburi	TH 11045	5.56	5.26	5.64	5.46	6.07	5.54	5.75	5.78	5.66	5.66	5.69
	Chiang Mai (Mae Hia)	TH 11046		5.71	5.72	5.61	5.59	5.23	5.70	5.95	5.98	5.92	6.17
	Nakhon Ratchasima	TH 11054							5.12	5.08	5.03	4.87	4.75
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
	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
	Cuc Phuong	VN 11061										4.99	5.23
	Da Nang	VN 11062										4.77	5.11

[***]: 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 Volume-weighted annual mean EC

unit: mS/m

Country	Name of sites	Code	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Cambodia	Phnom Penh	KH 11052					1.17	0.807	1.17	1.37	1.53	0.880	0.747
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
	Jinyunshan	CN 11003		6.23	3.69	4.19	4.35	4.23	5.45	3.76	5.13	5.27	8.07
	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
	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
	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
	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
	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
	Zhuxiandong	CN 11011	3.04	2.08	3.63	2.42	3.15	2.49	2.67	***	1.94	2.15	1.37
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
	Serpong	ID 11014	***	2.94	1.87	2.26	2.25	2.63	2.10	2.14	2.10	1.66	1.95
	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
	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
	Maros	ID 11059									0.623	1.06	0.718
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
	Ochiishi	JP 11050				3.45	6.72	4.01	5.00	3.69	3.33	3.31	4.65
	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
	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
	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
	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
	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
	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
	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
	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
	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
	Tokyo	JP 11057								1.80	1.96	1.66	1.18
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
	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
	Danum Valley	MY 11053						0.562	0.465	0.347	0.461	0.445	0.552
	Kuching	MY 11060									0.443	0.521	0.500
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
	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
Myanmar	Yangon	MM 11056								0.595	0.949	1.54	1.34
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
	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
	Mt. Sto. Tomas	PH 11055							0.221	1.03	0.347	0.495	0.533
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 (Kosan)	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
	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
	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
	Primorskaya	RU 11041			1.77	2.66	2.20	2.03	2.47	1.90	2.58	1.48	1.96
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
	Samutprakarn	TH 11043	1.52				1.01	1.30	1.56	1.34	1.66	1.48	1.13
	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
	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
	Chiang Mai (Mae Hia)	TH 11046		0.885	0.476	0.458	0.486	0.812	0.593	0.630	0.622	0.608	0.519
	Nakhon Ratchasima	TH 11054							0.918	0.775	0.833	0.981	0.992
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
	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
	Cuc Phuong	VN 11061										1.74	1.71
	Da Nang	VN 11062										2.53	1.46

[***]: 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 SO₄²⁻ deposition

			unit: mmol m ⁻² y ⁻¹											
Country	Name of sites	Code	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
Cambodia	Phnom Penh	KH 11052					***	7.43	5.04	30.9	21.3	15.4	13.6	
China	Guanyinqiao	CN 11001	164	154	165	108	229	200	149	169				
	Nanshan	CN 11002	164											
	Haifu	CN 11058									145	106	136	
	Jinyunshan	CN 11003		87.7	126	103	166	149	169	149	146	125	148	
	Shizhan	CN 11004	199	171	297	258	104	63.9	132	96.7	73.6	80.5	45.8	
	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	
	Hongwen	CN 11008	30.7	16.7	67.0	48.0	73.6	80.4	61.1	102	29.9	19.2	40.8	
	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	
	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	
Zhuxiandong	CN 11011	85.4	49.5	50.6	32.4	34.3	31.3	17.1	***	49.6	33.2	31.6		
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	
	Serpong	ID 11014	***	61.4	64.3	49.5	41.0	27.5	45.2	61.5	65.9	31.0	34.8	
	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	
	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	
	Maros	ID 11059									16.3	22.5	28.9	
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	
	Ochiishi	JP 11050				14.9	22.3	18.6	27.6	18.4	13.7	26.3	24.9	
	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	
	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	
	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	
	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	
	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	
	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	
	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	
	Hedo	JP 11027	93.6	33.9	75.0	49.0	137	64.1	35.8	38.8	27.8	25.9	55.3	
	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	
	Tokyo	JP 11057								18.4	36.5	27.6	18.1	
	Lao PDR	Vientian	LA 11051				***	***	***	2.45	6.54	8.43	0.733	***
Malaysia	Petaling 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	
	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	
	Danum Valley	MY 11053						5.53	10.2	6.85	7.46	9.56	12.0	
	Kuching	MY 11060									17.8	17.6	16.6	
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	
	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	
Myanmar	Yangon	MM 11056								***	***	24.1	10.3	
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	
	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	
	Mt. Sto. Tomas	PH 11055							0.592	19.4	17.6	23.8	17.8	
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 (Kosan)	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	
	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	
	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	
	Primorskaya	RU 11041			24.2	13.9	25.7	28.2	28.6	30.4	22.5	19.5	21.5	
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	
	Samutprakarn	TH 11043	25.0				20.7	31.1	29.4	27.7	27.2	30.0	29.3	
	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	
	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	
	Chiang Mai (Mae Hia)	TH 11046		3.02	6.57	3.34	7.95	8.43	6.44	5.62	6.38	4.52	3.88	
	Nakhon Ratchasima	TH 11054							9.80	8.93	12.7	8.11	11.5	
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	
	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	
	Cuc Phuong	VN 11061										41.9	33.7	
	Da Nang	VN 11062										55.6	27.6	

[***]: 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 nss-SO₄²⁻ deposition

			unit: mmol m ⁻² y ⁻¹											
Country	Name of sites	Code	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
Cambodia	Phnom Penh	KH 11052					***	***	4.82	30.2	15.9	14.9	13.3	
China	Guanyinqiao	CN 11001	163	154	164	108	228	200	149	169				
	Nanshan	CN 11002	164											
	Haifu	CN 11058									145	106	135	
	Jinyunshan	CN 11003		87.3	125	102	165	148	168	148	145	124	148	
	Shizhan	CN 11004	198	167	291	253	103	63.4	131	96.2	73.0	80.1	45.6	
	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	
	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	
	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	
	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	
	Zhuxiandong	CN 11011	82.4	46.2	46.3	28.8	30.4	27.7	15.9	***	44.0	28.9	29.4	
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	
	Serpong	ID 11014	***	59.1	60.5	48.0	39.3	26.7	44.4	60.1	64.5	30.2	34.1	
	Kototabang	ID 11013	***	5.33	12.7	26.9	9.66	11.3	9.08	17.9	6.47	11.6	14.3	
	Bandung	ID 11015	***	84.6	69.1	32.1	24.2	60.5	33.7	51.2	64.2	76.4	68.8	
	Maros	ID 11059									13.5	20.0	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	
	Ochiishi	JP 11050				5.84	8.33	8.28	11.3	8.73	6.14	9.29	10.5	
	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	
	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	
	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	
	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	
	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	
	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	
	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	
	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	
	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	
	Tokyo	JP 11057								16.2	34.3	25.1	16.3	
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	
	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	
	Danum Valley	MY 11053						5.19	9.23	6.11	6.89	8.36	10.2	
	Kuching	MY 11060									16.4	15.6	14.7	
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	
	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	
Myanmar	Yangon	MM 11056								***	***	20.8	8.88	
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	
	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	
	Mt. Sto. Tomas	PH 11055							0.519	18.2	16.1	21.5	16.5	
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 (Kosan)	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	
	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	
	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	
	Primorskaya	RU 11041			23.0	13.3	24.8	27.2	28.0	29.2	21.7	18.8	20.5	
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	
	Samutprakarn	TH 11043	24.4				19.5	29.1	28.0	26.3	25.6	28.8	27.2	
	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	
	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	
	Chiang Mai (Mae Hia)	TH 11046		2.78	5.78	3.21	7.74	8.36	6.16	5.46	6.18	4.36	3.69	
	Nakhon Ratchasima	TH 11054							9.48	8.56	12.2	7.90	11.1	
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	
	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	
	Cuc Phuong	VN 11061										40.4	32.5	
	Da Nang	VN 11062										38.7	23.4	

[***]: 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 3.79 Annual NO₃⁻ deposition

unit: mmol m⁻²y⁻¹

Country	Name of sites	Code	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Cambodia	Phnom Penh	KH 11052					3.22	***	8.59	11.3	17.2	13.7	15.5
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
	Jinyunshan	CN 11003		28.6	47.3	42.5	55.9	50.2	55.2	51.8	56.4	59.7	73.4
	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
	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
	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
	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
	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
	Zhuxiandong	CN 11011	59.6	57.1	32.9	20.2	31.9	22.8	11.7	***	33.9	31.3	36.6
Indonesia	Jakarta	ID 11012	27.8	66.4	44.3	94.5	114	115	30.4	67.4	24.1	23.8	36.2
	Serpong	ID 11014	***	81.4	81.6	66.1	58.0	32.5	45.4	61.3	71.8	34.2	42.4
	Kototabang	ID 11013	14.4	3.32	10.1	154	9.94	3.46	1.74	9.88	6.93	0.679	5.61
	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
	Maros	ID 11059									10.7	17.4	16.9
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
	Ochiishi	JP 11050				6.22	8.78	7.65	11.3	8.29	6.16	8.57	10.3
	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
	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
	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
	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
	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
	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
	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
	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
	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
	Tokyo	JP 11057								21.0	45.5	31.3	25.4
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
	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
	Danum Valley	MY 11053						3.14	4.24	2.02	4.11	5.61	3.36
	Kuching	MY 11060									21.3	21.2	22.8
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
	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
Myanmar	Yangon	MM 11056								***	***	21.8	11.3
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
	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
	Mt. Sto. Tomas	PH 11055							0.804	18.5	19.9	18.6	15.5
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 (Kosan)	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
	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
	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
	Primorskaya	RU 11041			8.51	4.97	14.8	15.9	18.2	18.9	18.3	16.1	14.7
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
	Samutprakarn	TH 11043	15.1				12.3	29.1	20.0	31.0	30.2	39.7	28.9
	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
	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
	Chiang Mai (Mae Hia)	TH 11046		4.47	9.78	5.27	7.04	12.0	11.2	7.47	11.7	8.88	8.52
	Nakhon Ratchasima	TH 11054							13.5	15.7	19.8	16.0	23.7
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
	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
	Cuc Phuong	VN 11061										24.6	38.4
	Da Nang	VN 11062										33.7	11.9

[***]: 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 3.80 Annual Cl⁻ depositionunit: mmol m⁻² y⁻¹

Country	Name of sites	Code	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Cambodia	Phnom Penh	KH 11052					***	8.12	5.88	17.4	15.9	13.6	9.12
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
	Jinyunshan	CN 11003		40.3	20.8	12.6	19.5	22.6	16.2	14.3	18.6	17.7	15.7
	Shizhan	CN 11004	27.4	29.6	122	106	21.7	17.5	17.3	21.0	12.9	15.5	10.5
	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
	Hongwen	CN 11008	48.6	10.6	67.3	66.7	64.1	112	98.0	52.6	29.5	23.8	23.0
	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
	Xiang Zhou	CN 11010	101	75.2	119	81.8	48.8	77.6	68.1	44.5	98.1	90.2	41.6
	Zhuxiandong	CN 11011	70.2	71.2	94.1	70.5	75.1	55.9	25.9	***	105	81.2	40.2
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
	Serpong	ID 11014	***	51.8	57.6	58.2	34.8	16.3	17.4	28.8	40.3	23.6	31.9
	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
	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
	Maros	ID 11059									60.9	49.7	56.2
Japan	Rishiri	JP 11016	286	145	207	142	242	224	163	142	222	203	197
	Ochiishi	JP 11050				178	266	191	316	189	142	323	288
	Tappi	JP 11017	187	169	253	178	341	310	314	276	186	290	192
	Sado-seki	JP 11019	292	367	439	121	236	385	324	298	241	377	481
	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
	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
	Oki	JP 11023	543	448	658	321	453	914	353	362	412	489	684
	Banryu	JP 11024	48.5	155	116	162	232	142	149	114	105	197	157
	Yusuhara	JP 11025	52.4	25.6	74.6	45.4	112	69.4	44.4	38.5	22.0	28.8	27.3
	Hedo	JP 11027	1500	373	1200	628	1750	869	404	394	270	278	751
	Ogasawara	JP 11018	325	222	370	400	162	235	188	241	165	379	391
	Tokyo	JP 11057								44.4	44.0	48.0	32.1
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
	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
	Danum Valley	MY 11053						7.54	21.5	14.6	18.3	23.0	40.5
	Kuching	MY 11060									27.2	39.3	37.3
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
	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
Myanmar	Yangon	MM 11056								***	***	75.3	30.0
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
	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
	Mt. Sto. Tomas	PH 11055							0.677	24.9	26.6	39.3	18.3
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 (Kosan)	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
	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
	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
	Primorskaya	RU 11041			28.3	11.5	14.7	16.0	11.2	18.3	14.2	12.7	19.8
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
	Samutprakarn	TH 11043	12.6				16.2	30.9	17.7	21.0	22.1	16.8	30.4
	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
	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
	Chiang Mai (Mae Hia)	TH 11046		4.91	14.8	3.81	4.40	6.01	5.29	5.48	5.90	5.16	4.17
	Nakhon Ratchasima	TH 11054							6.56	7.08	10.2	5.81	7.82
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
	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
	Cuc Phuong	VN 11061										100	40.2
	Da Nang	VN 11062										325	85.2

[***]: 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 NH₄⁺ deposition

unit: mmol m⁻²y⁻¹

Country	Name of sites	Code	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Cambodia	Phnom Penh	KH 11052					4.51	21.3	17.0	27.0	21.6	17.3	41.9
China	Guanyinqiao	CN 11001	174	158	173	131	189	169	151	181			
	Nanshan	CN 11002	132										
	Haifu	CN 11058									149	112	137
	Jinyunshan	CN 11003		79.1	134	106	160	154	145	124	120	121	121
	Shizhan	CN 11004	235	92.8	70.7	183	87.5	39.3	80.7	109	63.3	99.7	85.6
	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
	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
	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
	Xiang Zhou	CN 11010	41.7	49.8	166	58.7	67.9	121	86.6	28.0	55.0	44.4	45.4
	Zhuxiandong	CN 11011	90.7	77.8	76.5	52.5	75.9	27.8	24.3	***	42.9	40.5	42.1
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
	Serpong	ID 11014	***	109	115	96.4	61.9	36.8	64.6	89.2	112	57.7	74.6
	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
	Bandung	ID 11015	29.3	98.8	75.9	52.6	32.9	62.6	61.0	94.3	104	130	83.7
	Maros	ID 11059									26.9	41.2	27.0
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
	Ochiishi	JP 11050				5.98	7.64	6.17	15.6	6.79	4.71	13.3	11.6
	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
	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
	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
	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
	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
	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
	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
	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
	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
	Tokyo	JP 11057								29.9	55.6	45.3	31.8
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
	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
	Danum Valley	MY 11053						2.55	6.15	3.95	29.3	11.7	11.6
	Kuching	MY 11060									19.7	23.1	9.03
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
	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
Myanmar	Yangon	MM 11056								***	***	48.9	33.3
Philippines	Metro Manila	PH 11033	143	177	137	52.2	76.6	71.0	109	118	148	79.7	142
	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
	Mt. Sto. Tomas	PH 11055							0.293	29.4	53.3	66.7	16.8
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 (Kosan)	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
	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
	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
	Primorskaya	RU 11041			30.0	12.6	21.0	30.7	31.0	29.2	28.0	24.9	28.8
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
	Samutprakarn	TH 11043	31.1				43.5	60.8	70.8	88.1	97.8	81.5	52.9
	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
	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
	Chiang Mai (Mae Hia)	TH 11046		17.1	27.3	12.8	18.1	30.1	21.6	17.7	25.6	21.2	22.5
	Nakhon Ratchasima	TH 11054							27.5	25.4	36.4	28.8	40.0
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
	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
	Cuc Phuong	VN 11061										14.3	16.4
	Da Nang	VN 11062										40.0	14.6

[***]: 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 Na⁺ deposition

			unit: mmol m ⁻² y ⁻¹											
Country	Name of sites	Code	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
Cambodia	Phnom Penh	KH 11052					***	***	1.75	11.3	18.8	9.22	5.74	
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	
	Jinyunshan	CN 11003		7.25	9.48	6.15	18.7	22.3	7.95	10.2	12.5	8.45	8.00	
	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	
	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	
	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	
	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	
	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	
	Zhuxiandong	CN 11011	55.5	70.7	71.4	63.2	120	64.7	20.0	***	94.1	71.5	37.0	
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	
	Serpong	ID 11014	***	38.2	63.2	24.2	28.7	13.2	12.0	23.7	24.8	13.7	11.9	
	Kototabang	ID 11013	***	5.46	11.3	30.2	23.0	12.5	7.75	24.0	13.2	16.3	12.4	
	Bandung	ID 11015	***	52.7	22.0	11.4	9.66	20.9	24.0	13.1	20.1	31.6	25.4	
	Maros	ID 11059										47.5	43.0	35.3
Japan	Rishiri	JP 11016	250	130	188	125	217	195	142	126	204	185	173	
	Ochiishi	JP 11050				155	233	171	277	161	125	287	252	
	Tappi	JP 11017	156	145	219	162	292	270	278	247	162	266	177	
	Sado-seki	JP 11019	275	345	384	106	208	332	283	264	219	333	437	
	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	
	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	
	Oki	JP 11023	479	394	570	296	416	791	315	319	360	422	594	
	Banryu	JP 11024	45.2	140	104	142	197	119	130	100	91.6	171	139	
	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	
	Hedo	JP 11027	1320	341	1050	599	1550	800	351	349	243	250	670	
	Ogasawara	JP 11018	277	189	314	351	146	199	163	209	144	315	386	
	Tokyo	JP 11057									37.3	36.2	40.7	28.7
	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	
	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	
	Danum Valley	MY 11053						5.59	16.9	12.4	9.65	19.8	32.7	
	Kuching	MY 11060									23.1	34.3	31.0	
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	
	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	
Myanmar	Yangon	MM 11056								***	***	55.7	29.3	
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	
	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	
	Mt. Sto. Tomas	PH 11055							1.21	19.2	25.9	39.1	22.7	
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 (Kosan)	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	
	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	
	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	
	Primorskaya	RU 11041			19.3	10.9	15.6	16.0	10.5	19.6	12.7	11.0	16.1	
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	
	Samutprakarn	TH 11043	9.91				20.8	32.2	20.8	22.8	26.8	19.9	35.0	
	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	
	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	
	Chiang Mai (Mae Hia)	TH 11046		4.27	14.2	2.60	3.52	1.31	5.02	2.75	3.35	2.83	3.17	
	Nakhon Ratchasima	TH 11054							5.30	6.17	7.24	3.44	5.22	
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	
	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	
	Cuc Phuong	VN 11061										25.5	19.8	
	Da Nang	VN 11062										281	69.9	

[***]: 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 K⁺ deposition

			unit: mmol m ⁻² y ⁻¹											
Country	Name of sites	Code	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
Cambodia	Phnom Penh	KH 11052					0.682	***	1.41	5.00	19.0	1.98	1.59	
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	
	Jinyunshan	CN 11003		31.6	16.5	10.6	17.8	16.6	13.6	11.1	11.6	9.56	10.2	
	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	
	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	
	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	
	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	
	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	
	Zhuxiandong	CN 11011	11.0	15.1	20.8	11.6	28.9	5.95	2.32	***	10.4	4.04	6.10	
Indonesia	Jakarta	ID 11012	***	30.1	17.8	15.0	15.2	12.2	11.9	24.3	6.03	3.46	4.72	
	Serpong	ID 11014	***	11.3	9.89	17.0	8.26	5.09	7.14	5.56	5.24	2.36	4.57	
	Kototabang	ID 11013	***	1.59	9.16	62.6	13.2	9.57	5.69	23.3	8.42	24.8	10.5	
	Bandung	ID 11015	***	32.7	5.19	6.63	2.95	8.15	6.31	4.01	5.38	11.0	11.0	
	Maros	ID 11059									17.5	12.6	6.71	
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	
	Ochiishi	JP 11050				3.62	5.23	4.34	7.64	3.97	2.78	6.47	6.68	
	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	
	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	
	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	
	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	
	Oki	JP 11023	12.7	10.9	15.0	8.70	13.6	20.4	9.16	10.6	13.2	11.3	14.7	
	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	
	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	
	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	
	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	
	Tokyo	JP 11057								1.51	2.12	1.90	1.64	
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	
	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	
	Danum Valley	MY 11053						1.47	3.05	3.22	7.58	5.39	7.67	
	Kuching	MY 11060									2.77	3.24	3.02	
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	
	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	
Myanmar	Yangon	MM 11056								***	***	19.4	4.71	
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	
	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	
	Mt. Sto. Tomas	PH 11055							0.569	7.73	3.57	9.24	5.09	
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 (Kosan)	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	
	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	
	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	
	Primorskaya	RU 11041			4.47	3.25	5.01	5.21	3.41	6.11	4.97	3.81	3.93	
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	
	Samutprakarn	TH 11043	5.17				6.15	7.99	6.12	5.38	10.6	5.51	31.9	
	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	
	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	
	Chiang Mai (Mae Hia)	TH 11046		3.19	6.49	3.19	1.62	1.02	2.41	2.69	3.38	1.55	1.41	
	Nakhon Ratchasima	TH 11054							0.791	1.91	2.13	1.65	1.53	
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	
	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	
	Cuc Phuong	VN 11061										31.7	9.28	
	Da Nang	VN 11062										18.6	5.76	

[***]: 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 Ca²⁺ deposition

			unit: mmol m ⁻² y ⁻¹											
Country	Name of sites	Code	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
Cambodia	Phnom Penh	KH 11052					0	***	8.64	26.4	59.9	27.1	15.4	
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	
	Jinyunshan	CN 11003		31.9	47.7	37.8	107	84.3	118	90.7	82.9	73.2	67.3	
	Shizhan	CN 11004	128	246	167	329	88.5	54.4	145	61.3	57.6	81.7	48.1	
	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	
	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	
	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	
	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	
	Zhuxiandong	CN 11011	44.4	36.8	32.7	35.5	31.5	18.1	15.2	***	31.4	11.7	30.3	
Indonesia	Jakarta	ID 11012	138	79.6	67.5	164	74.8	36.9	27.9	30.2	7.48	19.6	21.9	
	Serpong	ID 11014	***	21.8	24.9	14.1	15.4	9.89	11.5	14.9	18.9	6.95	13.2	
	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	
	Bandung	ID 11015	***	63.0	43.4	17.5	16.3	27.7	19.4	18.7	26.4	41.1	35.1	
	Maros	ID 11059									25.5	26.3	25.5	
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	
	Ochiishi	JP 11050				4.49	7.92	7.37	10.2	6.03	3.86	8.21	8.95	
	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	
	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	
	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	
	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	
	Oki	JP 11023	19.4	16.1	18.1	11.0	16.7	24.4	15.9	15.8	12.1	16.3	23.3	
	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	
	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	
	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	
	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	
	Tokyo	JP 11057								5.38	7.61	5.91	6.59	
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	
	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	
	Danum Valley	MY 11053						1.70	3.79	1.53	1.06	3.43	9.05	
	Kuching	MY 11060									8.19	8.35	12.1	
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	
	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	
Myanmar	Yangon	MM 11056								***	***	29.1	14.5	
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	
	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	
	Mt. Sto. Tomas	PH 11055							2.43	79.0	15.7	27.8	81.8	
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 (Kosan)	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	
	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	
	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	
	Primorskaya	RU 11041			15.1	8.16	14.9	15.6	15.6	13.8	10.7	10.1	11.3	
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	
	Samutprakarn	TH 11043	10.8				9.88	15.7	21.0	20.5	24.0	26.2	14.6	
	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	
	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	
	Chiang Mai (Mae Hia)	TH 11046		7.53	26.5	4.62	5.50	5.36	6.72	7.53	8.60	5.98	5.14	
	Nakhon Ratchasima	TH 11054							11.4	5.20	5.78	3.19	3.60	
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	
	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	
	Cuc Phuong	VN 11061										56.2	63.3	
	Da Nang	VN 11062										18.8	15.0	

[***]: 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 Annual nss-Ca²⁺ deposition

			unit: mmol m ⁻² y ⁻¹											
Country	Name of sites	Code	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
Cambodia	Phnom Penh	KH 11052					***	***	8.61	26.2	59.5	26.9	15.3	
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	
	Jinyunshan	CN 11003		31.7	47.5	37.7	107	83.9	117	90.4	82.6	73.0	67.1	
	Shizhan	CN 11004	128	244	165	327	88.3	54.3	145	61.2	57.4	81.5	48.0	
	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	
	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	
	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	
	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	
	Zhuxiandong	CN 11011	43.2	35.3	31.1	34.1	28.9	16.7	14.8	***	29.3	10.2	29.5	
Indonesia	Jakarta	ID 11012	136	78.5	66.3	163	73.8	35.9	27.5	29.5	7.11	19.2	21.6	
	Serpong	ID 11014	***	21.0	23.5	13.7	14.7	9.60	11.3	14.5	18.4	6.76	12.9	
	Kototabang	ID 11013	***	1.65	8.60	16.6	14.2	7.15	6.31	12.5	11.8	14.2	11.0	
	Bandung	ID 11015	***	61.8	42.9	17.2	16.1	26.9	18.9	18.4	25.9	40.4	34.6	
	Maros	ID 11059									24.4	25.3	24.8	
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	
	Ochiishi	JP 11050				1.25	2.90	3.65	4.29	2.56	1.21	2.18	3.52	
	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	
	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	
	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	
	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	
	Oki	JP 11023	9.07	7.60	6.14	4.55	7.76	7.24	9.57	8.91	4.37	7.23	10.5	
	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	
	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	
	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	
	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	
	Tokyo	JP 11057								4.58	6.83	5.03	5.97	
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	
	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	
	Danum Valley	MY 11053						1.58	3.49	1.36	0.944	3.12	8.51	
	Kuching	MY 11060									7.77	7.76	11.4	
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	
	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	
Myanmar	Yangon	MM 11056								***	***	27.9	13.9	
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	
	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	
	Mt. Sto. Tomas	PH 11055							2.40	78.7	15.1	26.9	81.4	
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 (Kosan)	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	
	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	
	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	
	Primorskaya	RU 11041			14.7	7.92	14.5	15.2	15.4	13.4	10.4	9.86	11.0	
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	
	Samutprakarn	TH 11043	10.6				9.43	15.0	20.6	20.0	23.4	25.8	13.9	
	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	
	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	
	Chiang Mai (Mae Hia)	TH 11046		7.44	26.2	4.57	5.42	5.33	6.64	7.47	8.52	5.92	5.09	
	Nakhon Ratchasima	TH 11054							11.2	5.07	5.62	3.12	3.50	
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	
	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	
	Cuc Phuong	VN 11061										55.7	62.9	
	Da Nang	VN 11062										12.8	13.5	

[***]: 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 3.86 Annual Mg²⁺ deposition

			unit: mmol m ⁻² y ⁻¹											
Country	Name of sites	Code	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
Cambodia	Phnom Penh	KH 11052					0.00	***	0.627	4.49	6.33	2.66	1.33	
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	
	Jinyunshan	CN 11003		4.09	5.41	3.56	5.39	4.63	4.78	4.61	5.62	6.10	5.64	
	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	
	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	
	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	
	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	
	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	
Zhuxiandong	CN 11011	14.1	8.56	11.2	12.9	10.8	9.65	4.43	***	13.2	9.71	5.30		
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	
	Serpong	ID 11014	***	5.67	11.3	5.76	5.84	3.09	2.78	5.33	9.76	1.83	4.40	
	Kototabang	ID 11013	***	1.25	4.63	21.1	3.76	2.06	2.82	10.6	2.48	2.92	3.67	
	Bandung	ID 11015	***	10.6	4.16	2.73	2.93	4.29	4.27	3.31	10.3	11.1	11.6	
	Maros	ID 11059									7.77	6.02	5.79	
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	
	Ochiishi	JP 11050				17.3	27.3	18.2	31.1	18.6	14.5	31.4	31.0	
	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	
	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	
	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	
	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	
	Oki	JP 11023	54.4	45.6	63.8	33.9	48.4	91.8	37.6	36.8	40.8	48.3	69.9	
	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	
	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	
	Hedo	JP 11027	145	35.8	120	68.7	162	84.3	40.7	40.0	27.9	28.6	77.2	
	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	
	Tokyo	JP 11057								4.56	5.17	5.13	3.98	
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	
	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	
	Danum Valley	MY 11053						0.406	1.45	1.20	1.58	1.86	3.51	
	Kuching	MY 11060									1.24	1.84	2.12	
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	
	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	
Myanmar	Yangon	MM 11056								***	***	8.54	4.11	
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	
	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	
	Mt. Sto. Tomas	PH 11055							0.418	7.03	1.76	7.23	12.1	
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 (Kosan)	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	
	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	
	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	
	Primorskaya	RU 11041			4.73	3.60	4.87	4.18	3.43	4.25	3.46	2.68	2.88	
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	
	Samutprakarn	TH 11043	2.33				2.36	5.57	6.57	5.03	6.91	5.57	4.14	
	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	
	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	
	Chiang Mai (Mae Hia)	TH 11046		1.19	5.22	1.68	2.10	1.43	3.44	1.16	2.29	2.87	0.526	
	Nakhon Ratchasima	TH 11054							2.36	2.47	2.11	1.60	1.14	
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	
	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	
	Cuc Phuong	VN 11061										9.89	7.30	
	Da Nang	VN 11062										30.1	14.4	

[***]: 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 3.87 Annual H⁺ deposition

			unit: mmol m ⁻² y ⁻¹											
Country	Name of sites	Code	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
Cambodia	Phnom Penh	KH 11052					2.01	0.625	0.181	0.279	2.65	0.861	1.98	
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	
	Jinyunshan	CN 11003		46.5	70.1	62.0	39.3	34.7	24.4	49.4	53.3	51.7	112	
	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	
	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	
	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	
	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	
	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	
	Zhuxiandong	CN 11011	40.8	43.0	20.3	13.8	29.6	25.9	13.3	***	30.2	28.0	21.0	
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	
	Serpong	ID 11014	***	38.0	56.6	51.6	30.5	21.1	40.1	52.0	56.7	25.9	25.0	
	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	
	Bandung	ID 11015	***	26.4	88.7	16.1	8.31	16.3	9.18	23.2	15.9	13.4	20.8	
	Maros	ID 11059									7.15	15.0	16.4	
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	
	Ochiishi	JP 11050				9.53	13.4	12.0	13.8	14.5	9.86	15.2	16.0	
	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	
	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	
	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	
	Ijira	JP 11022	80.7	82.9	80.5	115	75.8	79.4	87.6	66.3	80.2	66.0	66.6	
	Oki	JP 11023	27.6	21.1	29.2	27.9	22.4	36.0	26.1	26.8	27.7	21.8	31.7	
	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	
	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	
	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	
	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	
	Tokyo	JP 11057								17.6	46.2	30.6	18.6	
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	
	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	
	Danum Valley	MY 11053						13.1	26.8	24.0	18.1	20.4	14.2	
	Kuching	MY 11060									23.8	25.5	24.4	
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	
	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	
Myanmar	Yangon	MM 11056								10.6	2.50	1.04	0.875	
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	
	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	
	Mt. Sto. Tomas	PH 11055							0.204	10.0	16.3	6.96	0.726	
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 (Kosan)	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	
	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	
	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	
	Primorskaya	RU 11041			5.26	4.27	10.0	6.39	9.32	14.4	9.02	9.11	7.23	
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	
	Samutprakarn	TH 11043	14.5				4.29	5.55	1.93	4.60	8.81	14.7	9.06	
	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	
	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	
	Chiang Mai (Mae Hia)	TH 11046		2.10	2.79	2.00	2.93	8.50	2.83	1.05	1.34	1.26	0.789	
	Nakhon Ratchasima	TH 11054							9.06	11.5	16.0	17.1	29.0	
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	
	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	
	Cuc Phuong	VN 11061										23.4	9.73	
	Da Nang	VN 11062										49.9	13.0	

[***]: 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 3.88 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

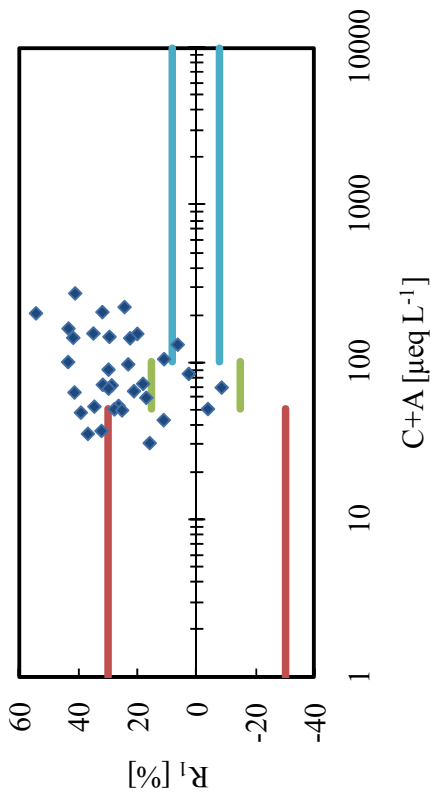


Fig. 3.2 a) Phnom Penh Ion Balance (R_1)

Calculated including F^-

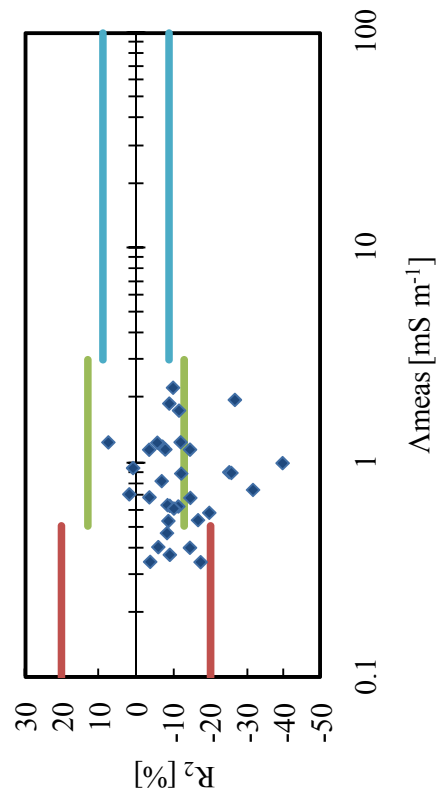


Fig. 3.2 b) Phnom Penh Conductivity Agreement (R_2)

Calculated including F^-

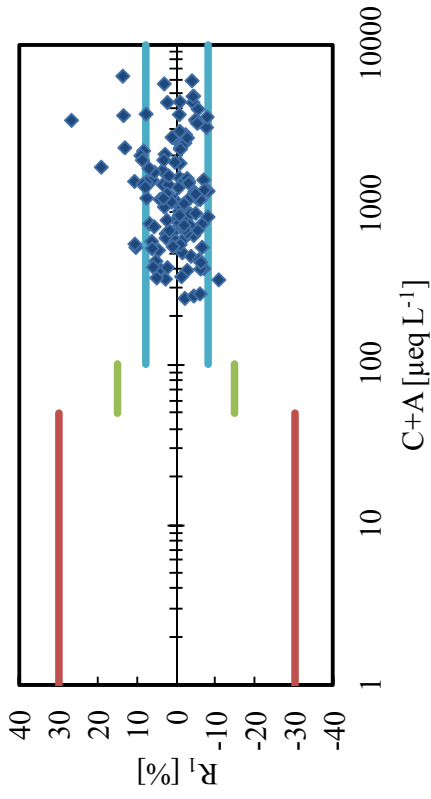


Fig. 3.3 a) Haifu Ion Balance (R_1)

Calculated including F^-

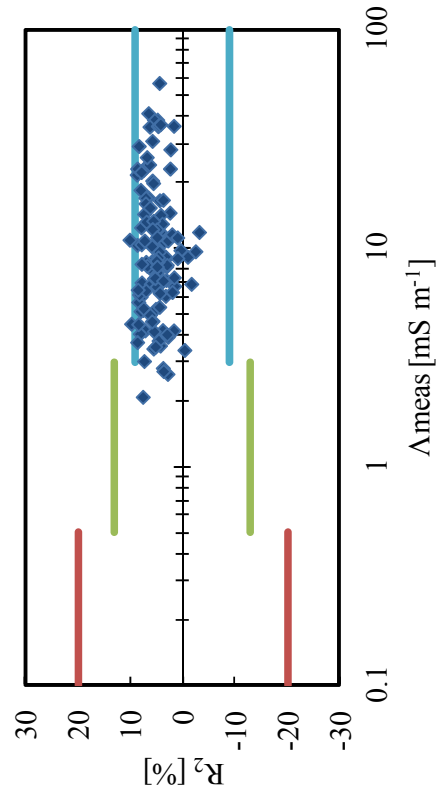


Fig. 3.3 b) Haifu Conductivity Agreement (R_2)

Calculated including F^-

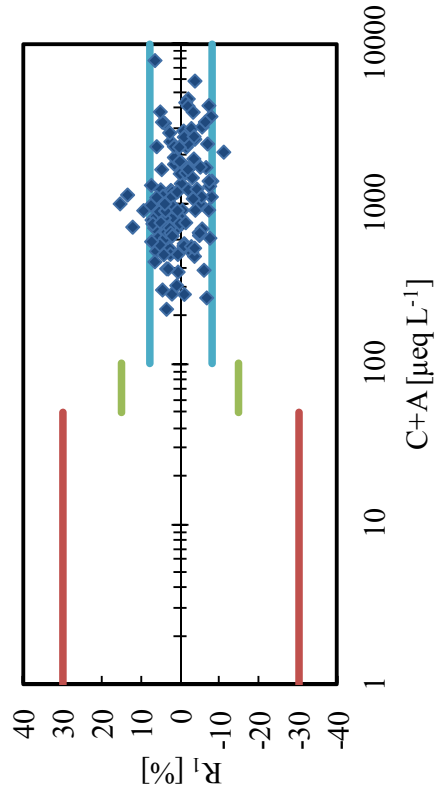


Fig. 3.4 a) Jinyushan Ion Balance (R_1)

Calculated including F^-

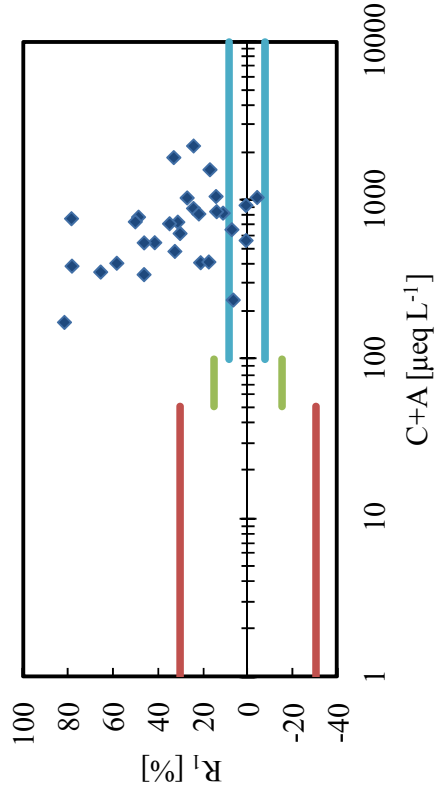


Fig. 3.5 a) Shizhan Ion Balance (R_1)

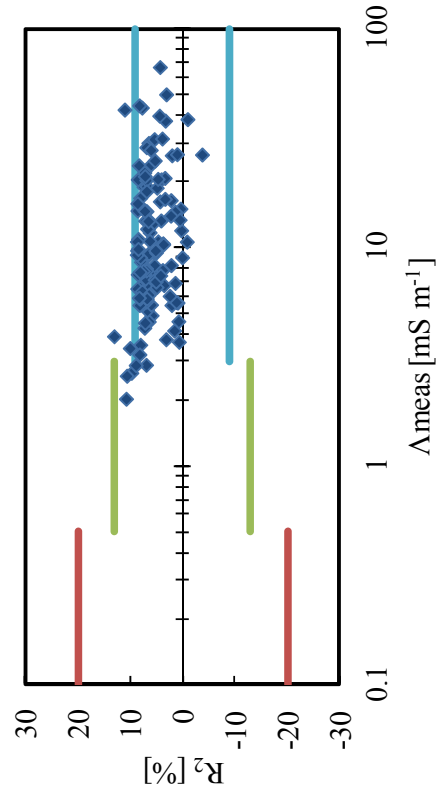


Fig. 3.4 b) Jinyushan Conductivity Agreement (R_2)

Calculated including F^-

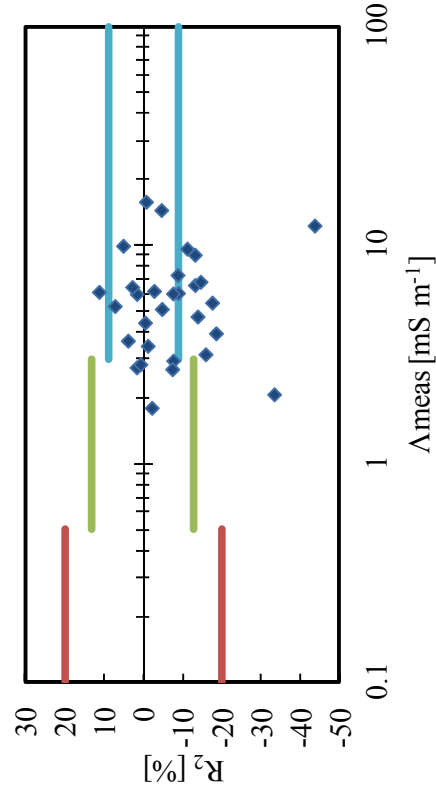


Fig. 3.5 b) Shizhan Conductivity Agreement (R_2)

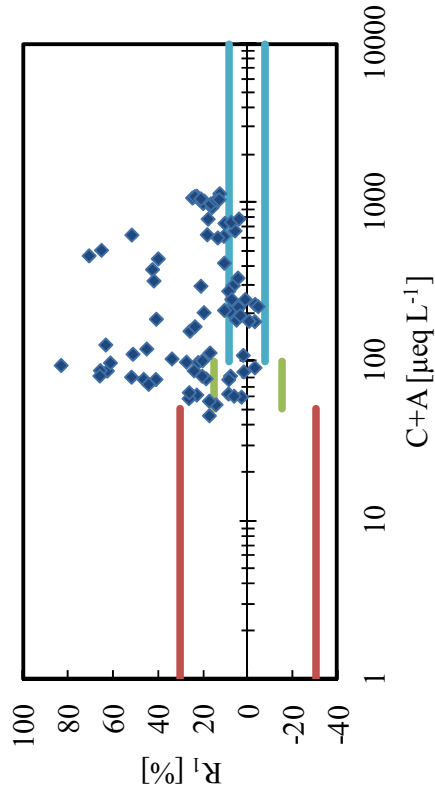


Fig. 3.6 a) Jiwozi Ion Balance (R_1)

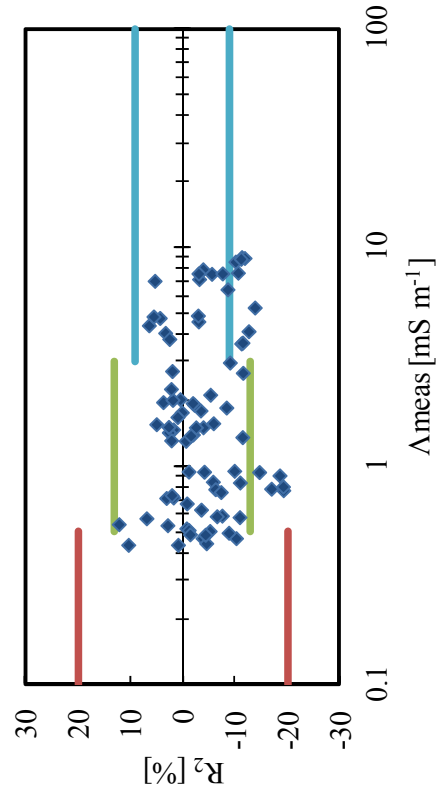


Fig. 3.6 b) Jiwozi Conductivity Agreement (R_2)

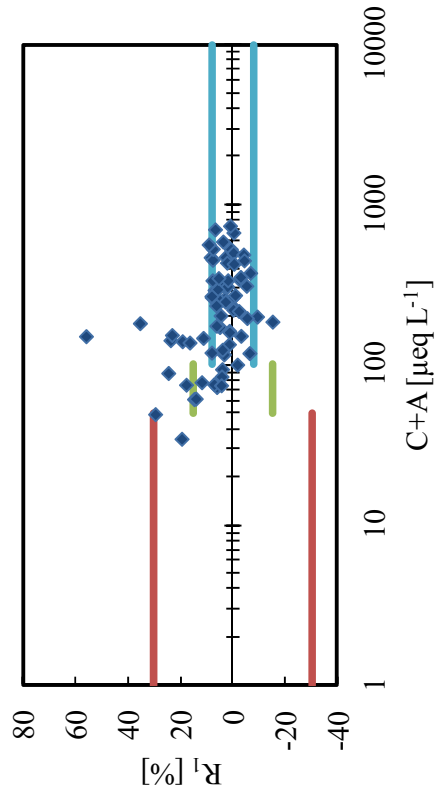


Fig. 3.7 a) Hongwen Ion Balance (R_1)
Calculated including F^-

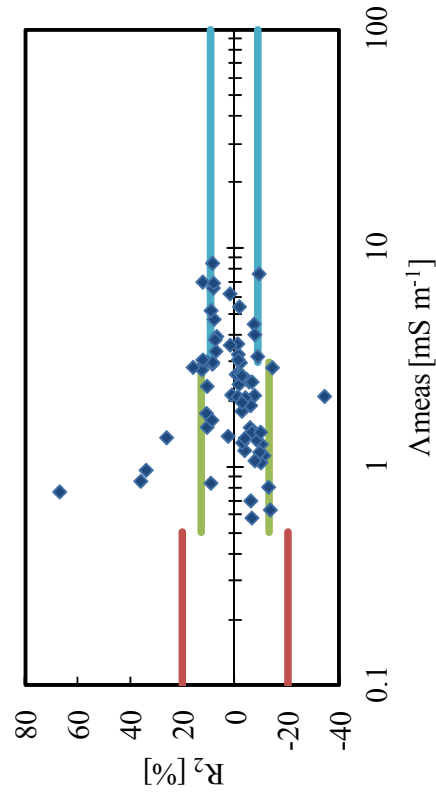


Fig. 3.7 b) Hongwen Conductivity Agreement (R_2)
Calculated including F^-

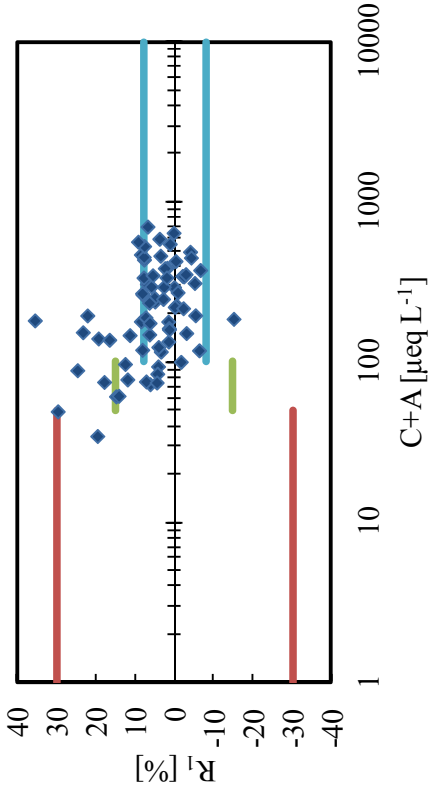


Fig. 3.8 a) Xiaoping Ion Balance (R_1)

Calculated including F^-

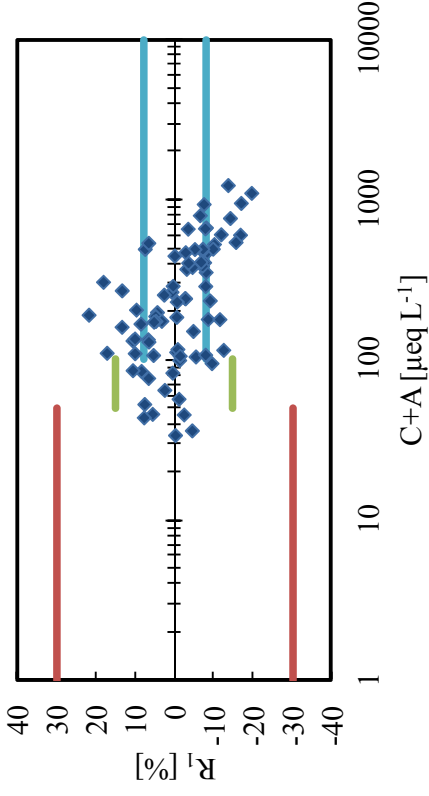


Fig. 3.9 a) Xiang Zhou Ion Balance (R_1)

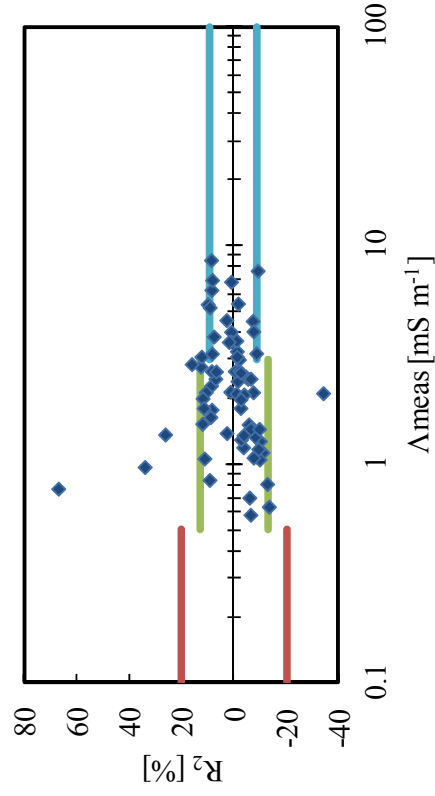


Fig. 3.8 b) Xiaoping Conductivity Agreement (R_2)

Calculated including F^-

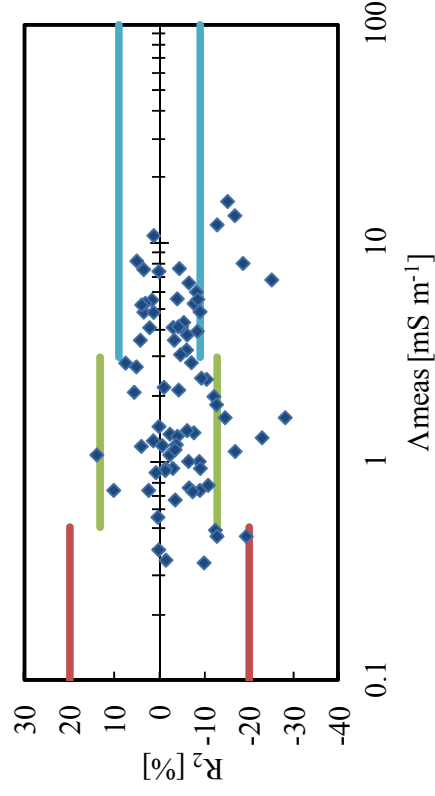


Fig. 3.9 b) Xiang Zhou Conductivity Agreement (R_2)

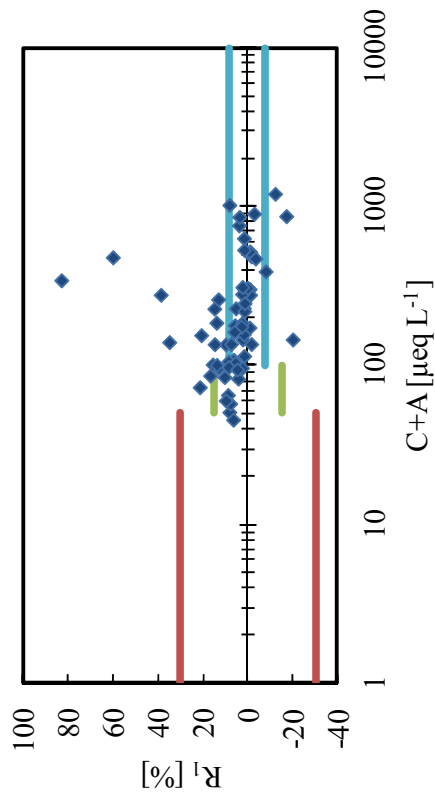


Fig. 3.10 a) Zhuxiandong Ion Balance (R_1)

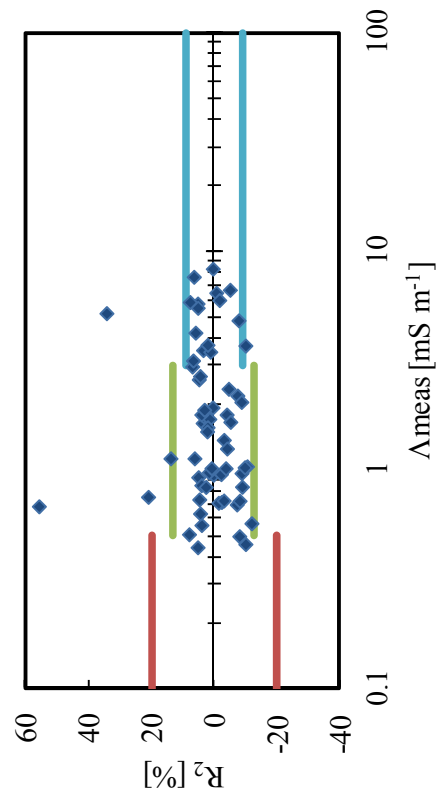


Fig. 3.10 b) Zhuxiandong Conductivity Agreement (R_2)

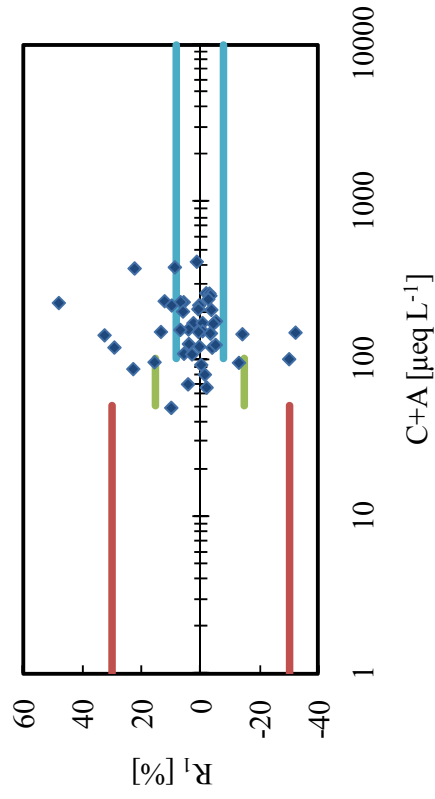


Fig. 3.11 a) Jakarta Ion Balance (R_1)

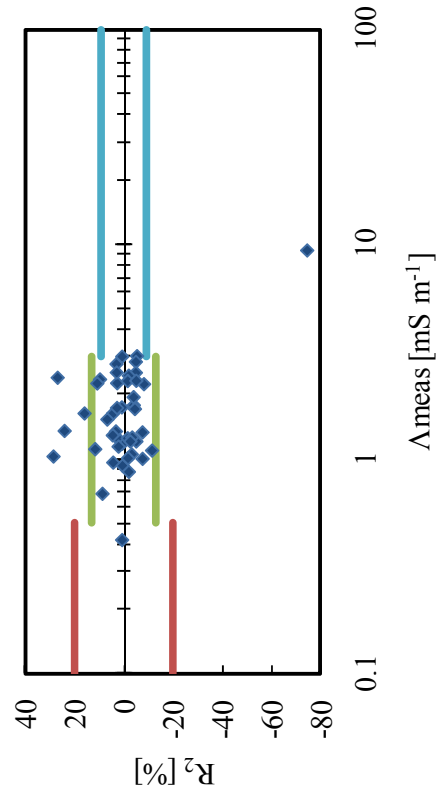


Fig. 3.11 b) Jakarta Conductivity Agreement (R_2)

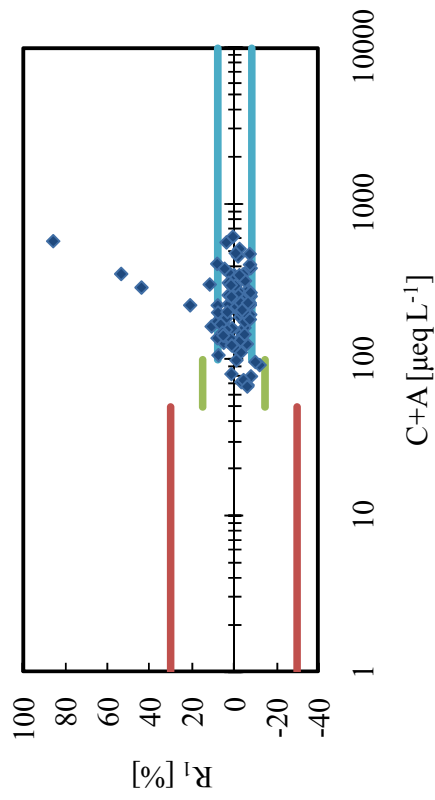


Fig. 3.12 a) Serpong Ion Balance (R_1)

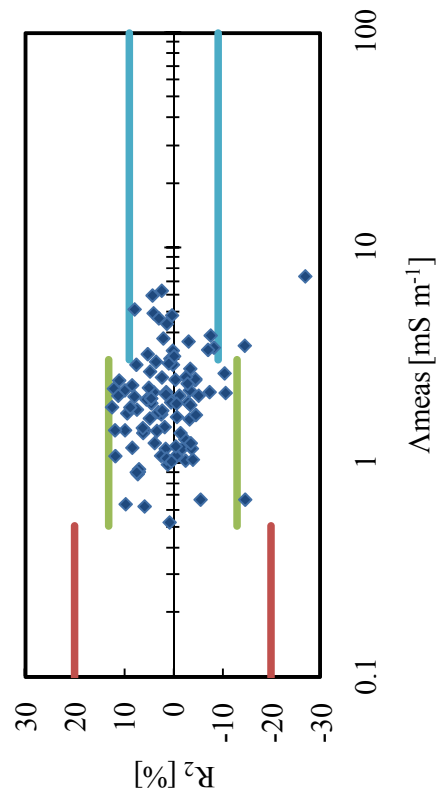


Fig. 3.12 b) Serpong Conductivity Agreement (R_2)

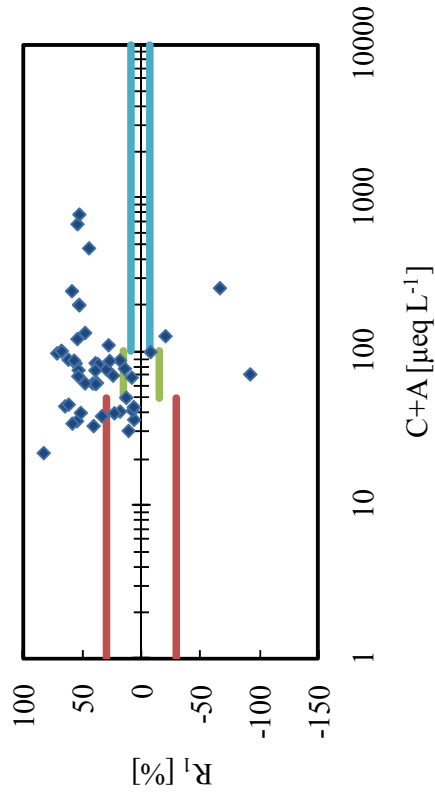


Fig. 3.13 a) Kototabang Ion Balance (R_1)

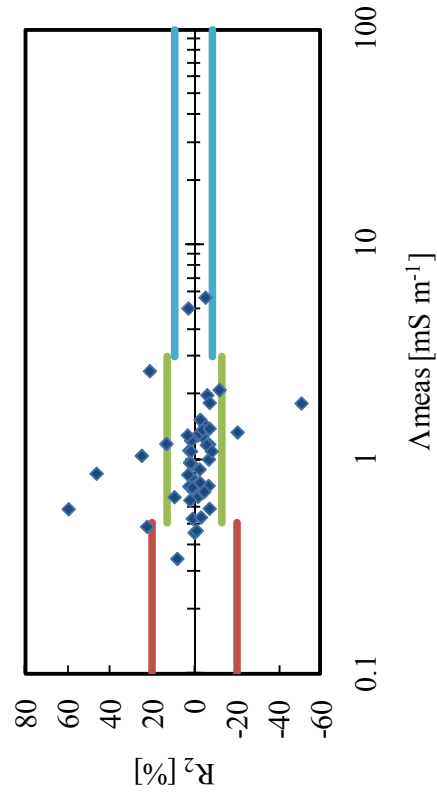


Fig. 3.13 b) Kototabang Conductivity Agreement (R_2)

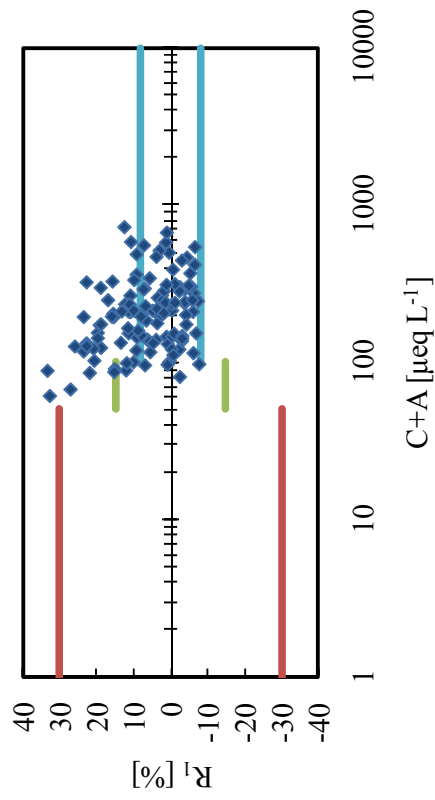


Fig. 3.14 a) Bandung Ion Balance (R_1)

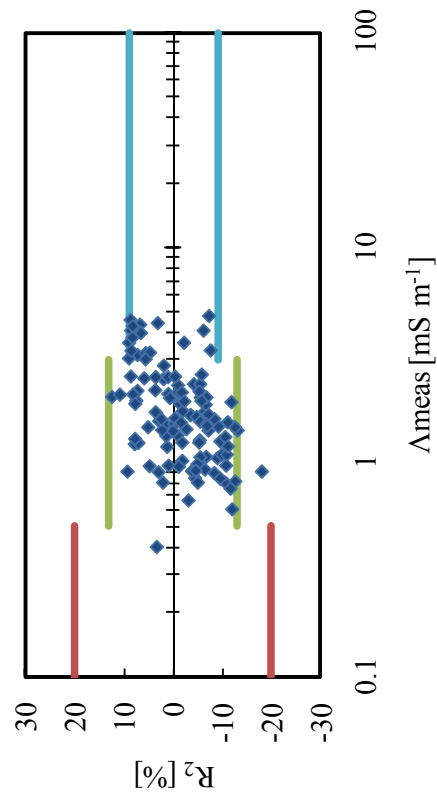


Fig. 3.14 b) Bandung Conductivity Agreement (R_2)

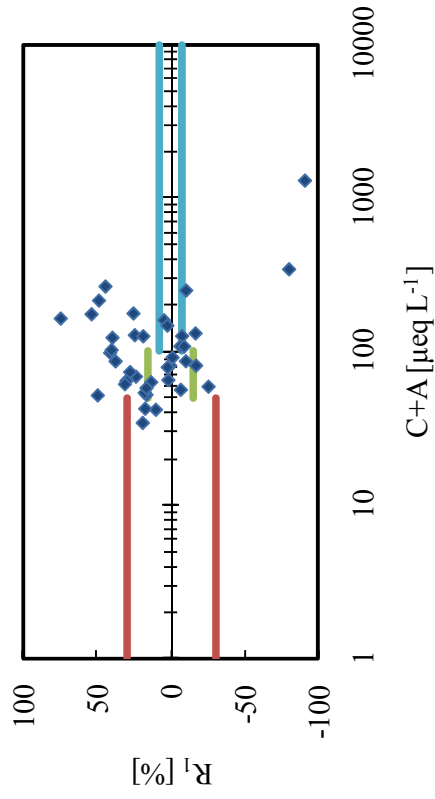


Fig. 3.15 a) Maros Ion Balance (R_1)

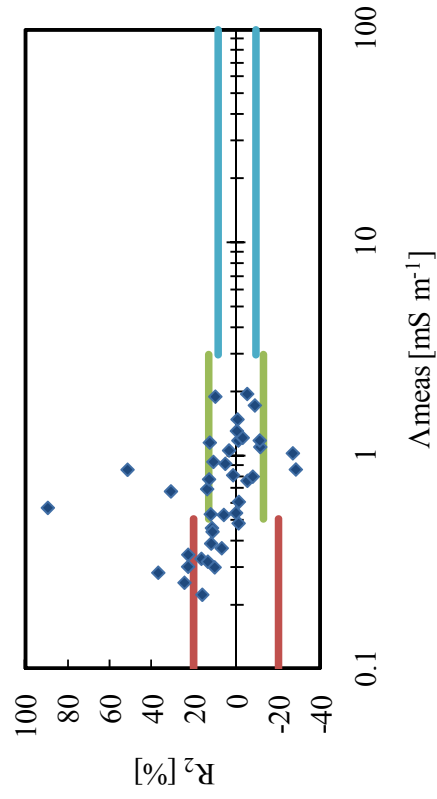


Fig. 3.15 b) Maros Conductivity Agreement (R_2)

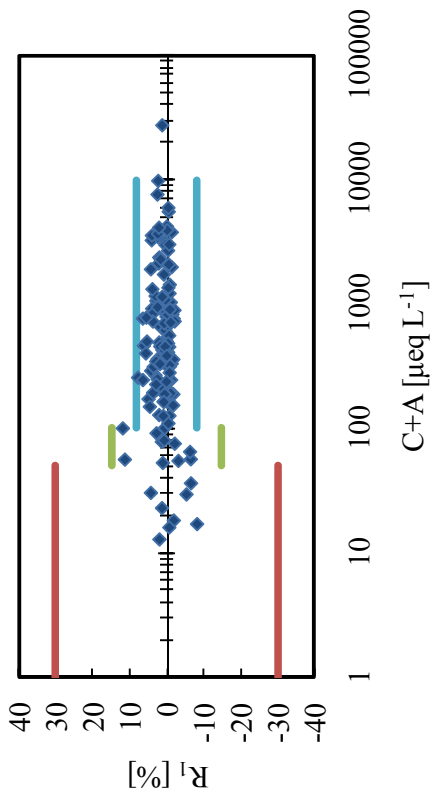


Fig. 3.16 a) Rishiri Ion Balance (R_1)

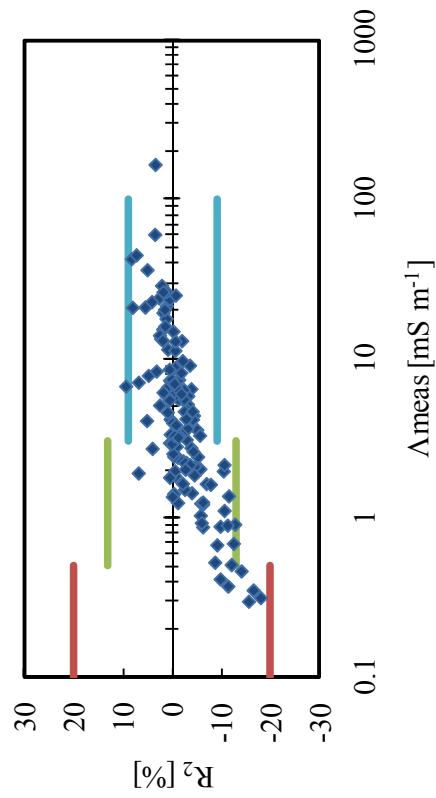


Fig. 3.16 b) Rishiri Conductivity Agreement (R_2)

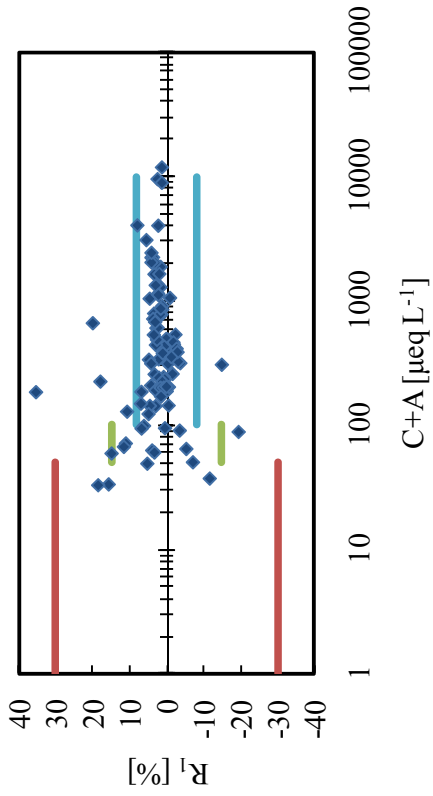


Fig. 3.17 a) Ochiishi Ion Balance (R_1)

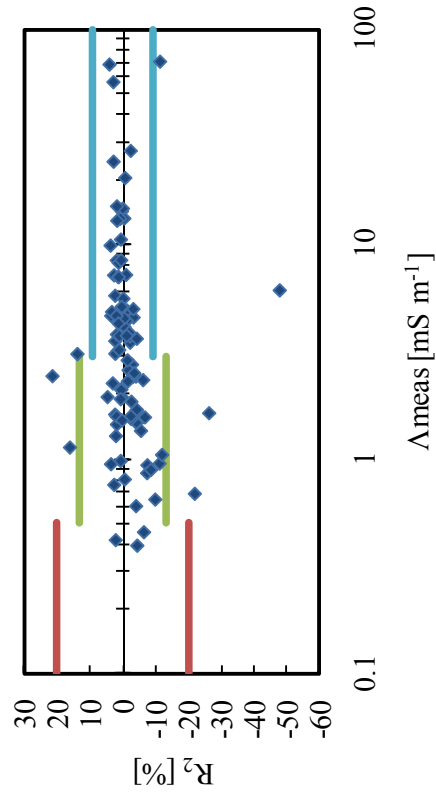


Fig. 3.17 b) Ochiishi Conductivity Agreement (R_2)

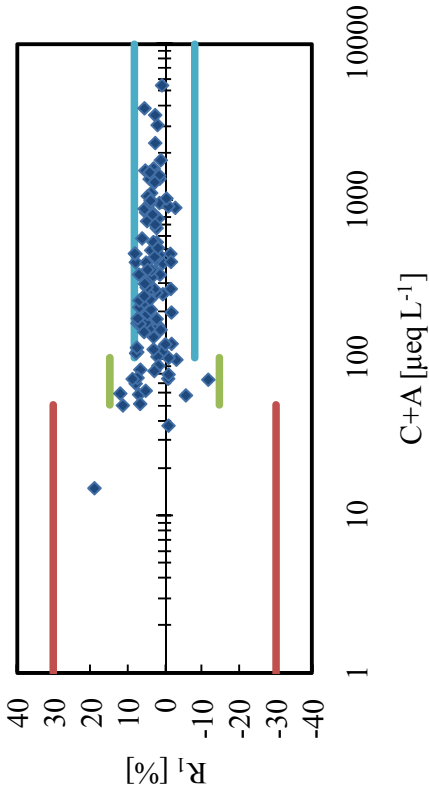


Fig. 3.18 a) Tappi Ion Balance (R_1)

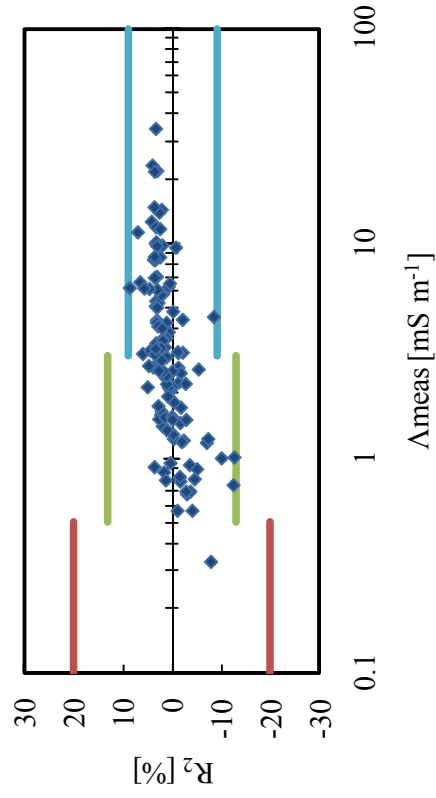


Fig. 3.18 b) Tappi Conductivity Agreement (R_2)

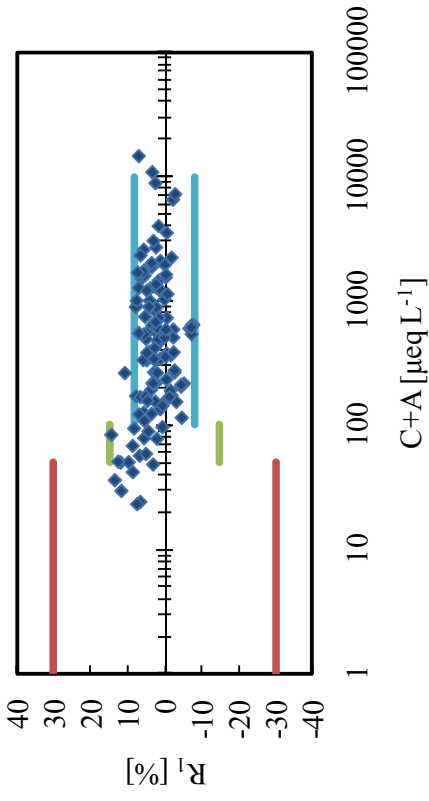


Fig. 3.19 a) Sado-seki Ion Balance (R_1)

Calculated including HCO_3^-

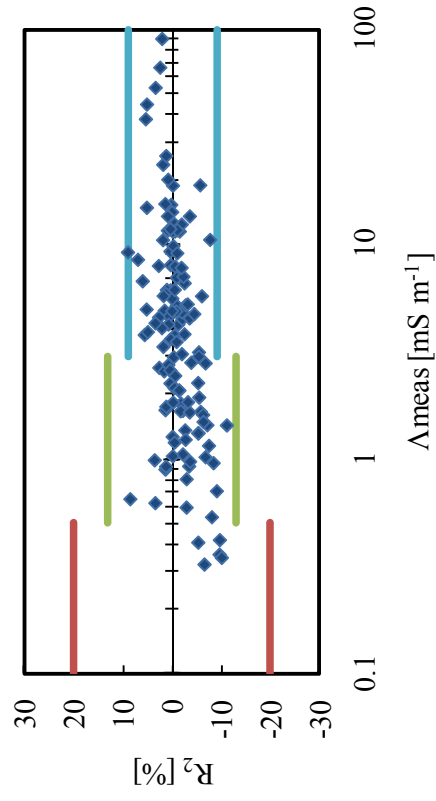


Fig. 3.19 b) Sado-seki Conductivity Agreement (R_2)

Calculated including HCO_3^-

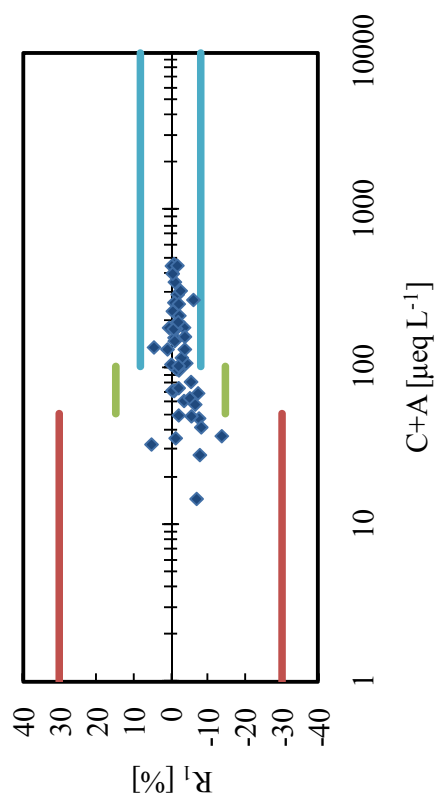


Fig. 3.21 a) Ijira Ion Balance (R_1)

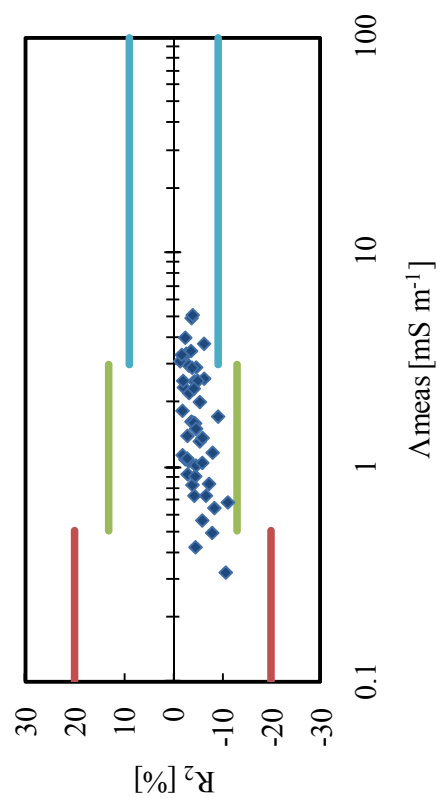


Fig. 3.21 b) Ijira Conductivity Agreement (R_2)

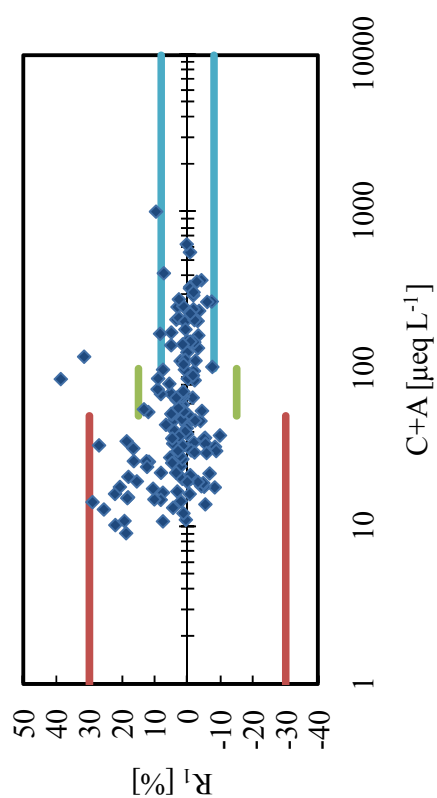


Fig. 3.20 a) Happo Ion Balance (R_1)

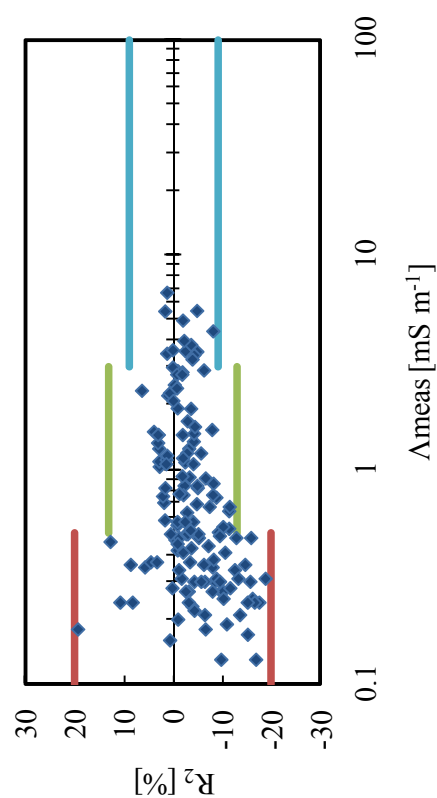


Fig. 3.20 b) Happo Conductivity Agreement (R_2)

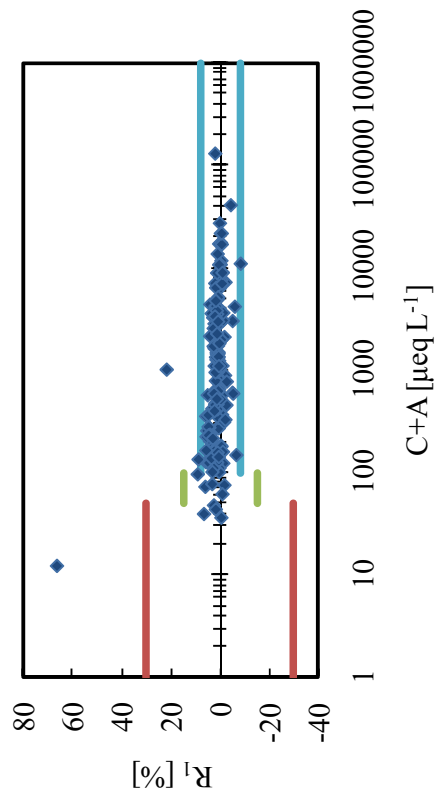


Fig. 3.22 a) Oki Ion Balance (R_1)

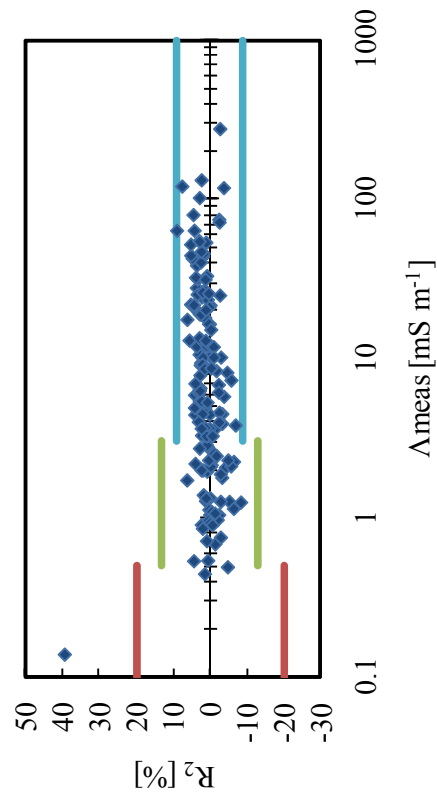


Fig. 3.22 b) Oki Conductivity Agreement (R_2)

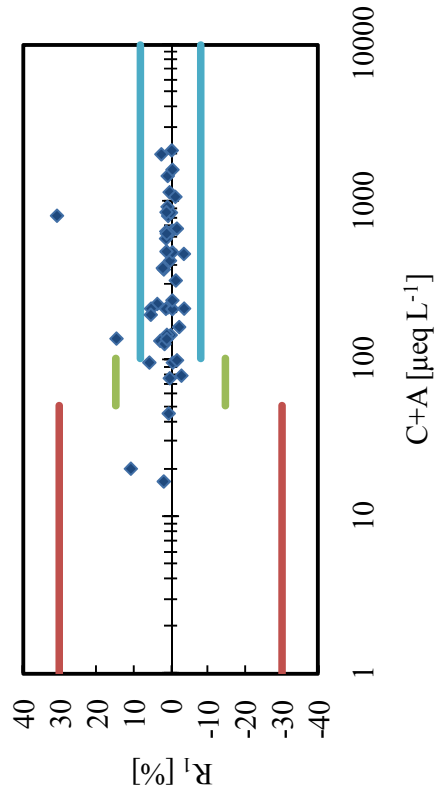


Fig. 3.23 a) Banryu Ion Balance (R_1)

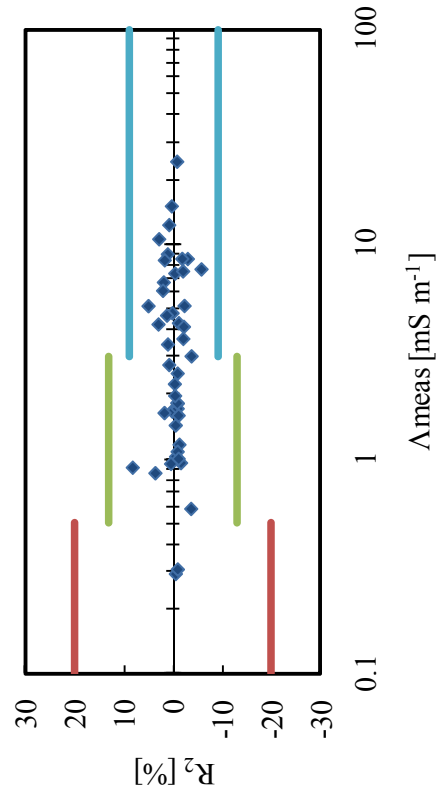


Fig. 3.23 b) Banryu Conductivity Agreement (R_2)

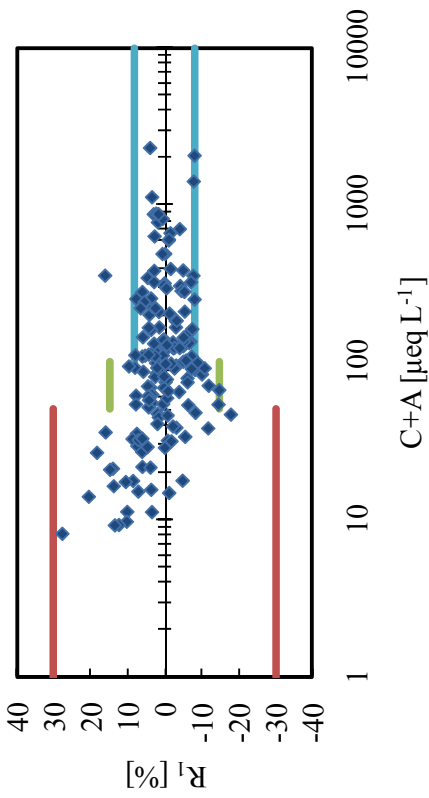


Fig. 3.24 a) Yusuhara Ion Balance (R_1)

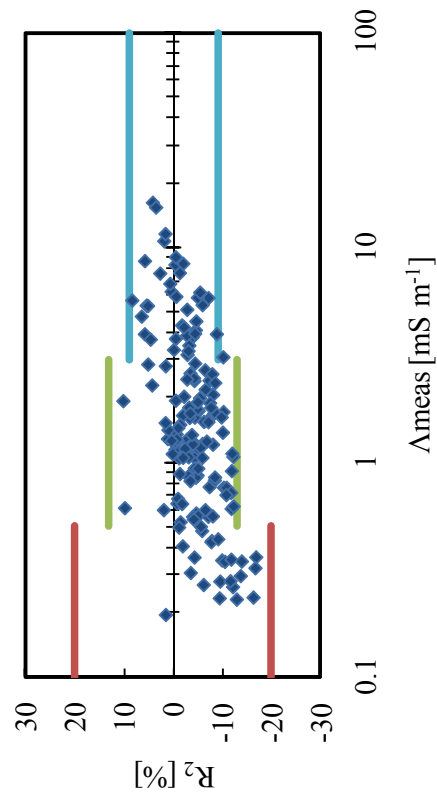


Fig. 3.24 b) Yusuhara Conductivity Agreement (R_2)

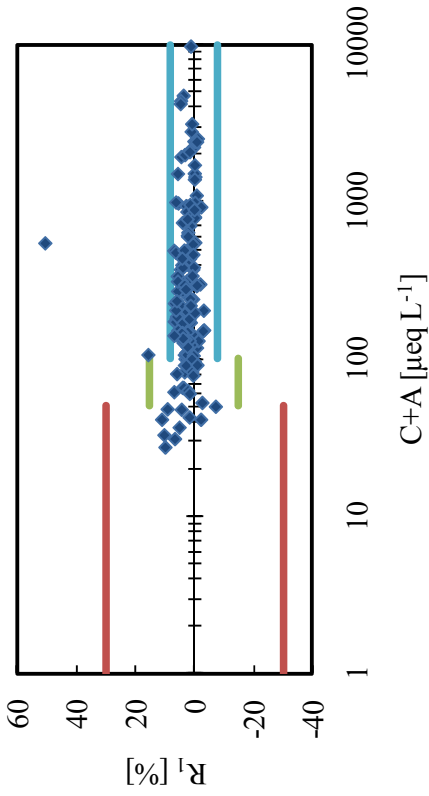


Fig. 3.25 a) Hedo Ion Balance (R_1)

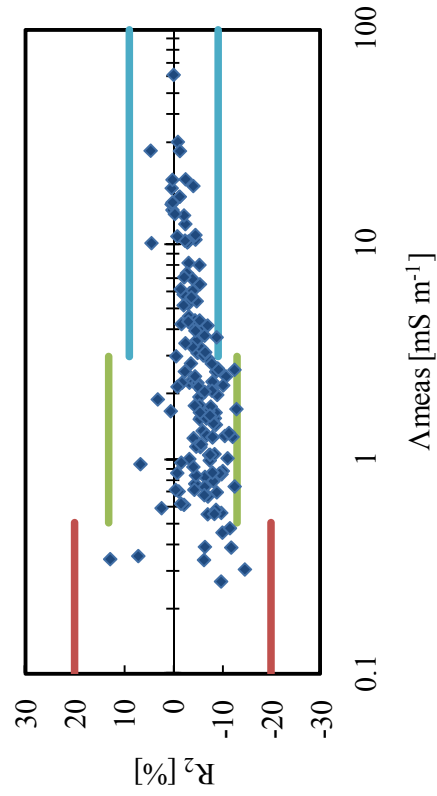


Fig. 3.25 b) Hedo Conductivity Agreement (R_2)

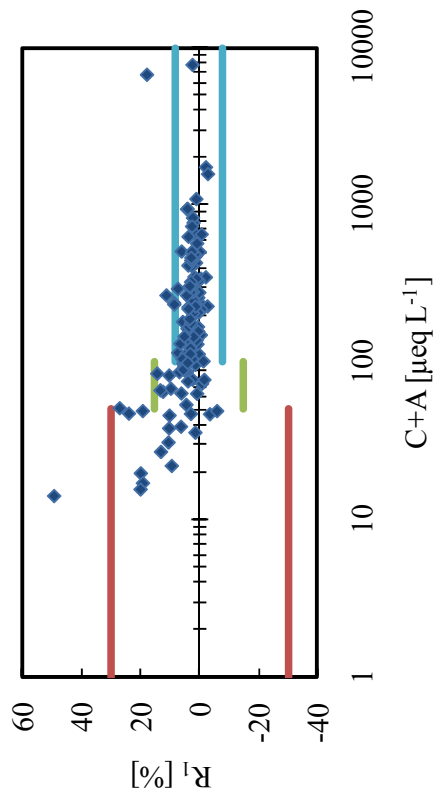


Fig. 3.26 a) Ogasawara Ion Balance (R_1)

— 121 —

Fig. 3.27 a) Tokyo Ion Balance (R_1)

Calculated including NO_2^-

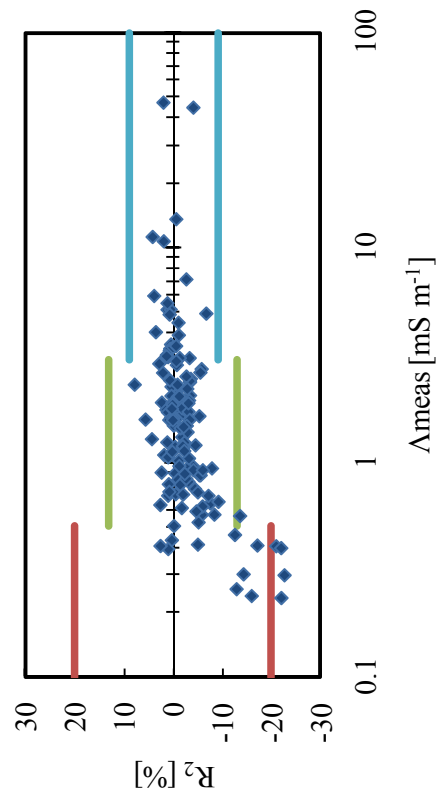
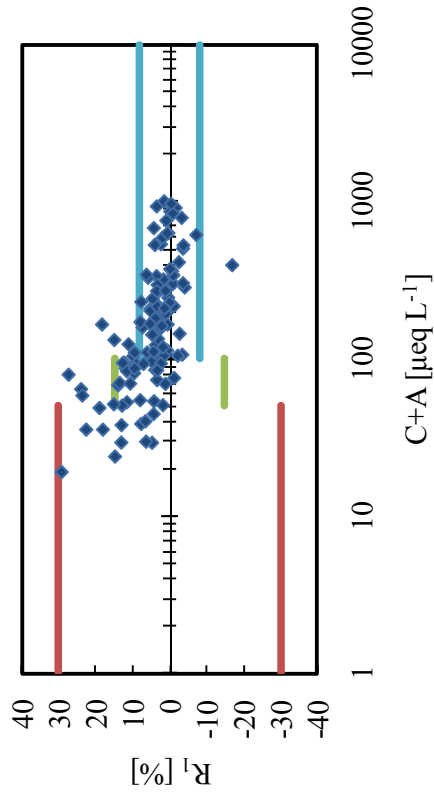


Fig. 3.26 b) Ogasawara Conductivity Agreement (R_2)

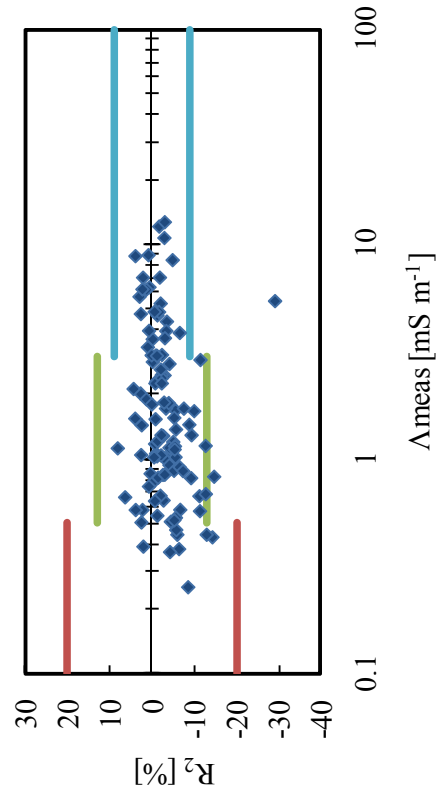


Fig. 3.27 b) Tokyo Conductivity Agreement (R_2)

Calculated including NO_2^-

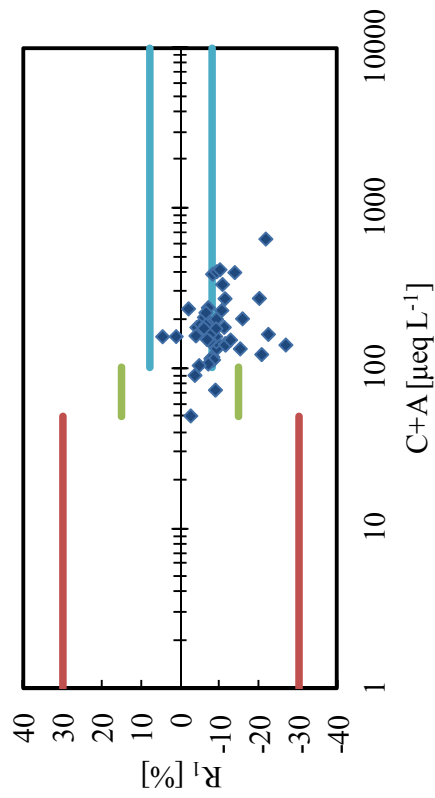


Fig. 3.28 a) Petaling Jaya Ion Balance (R_1)

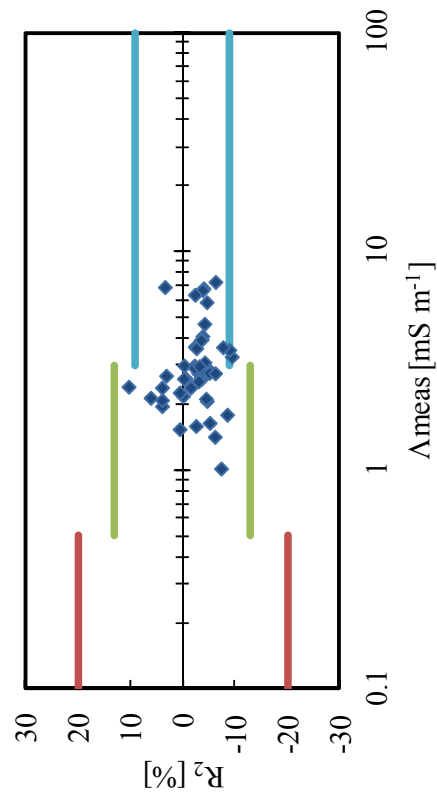


Fig. 3.28 b) Petaling Jaya Conductivity Agreement (R_2)

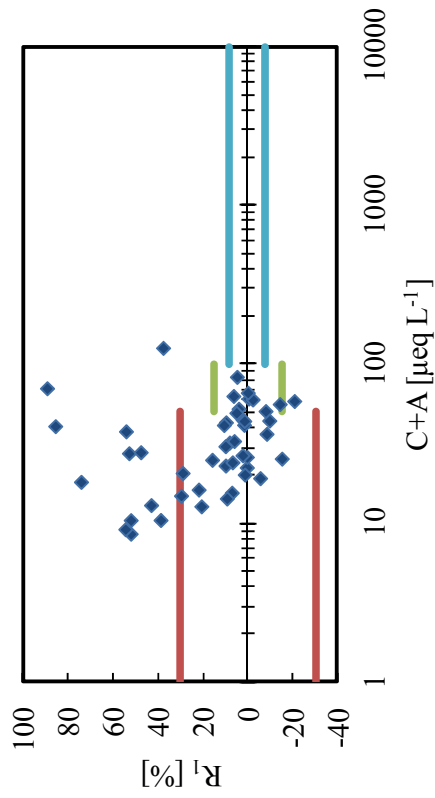


Fig. 3.29 a) Tanah Rata Ion Balance (R_1)

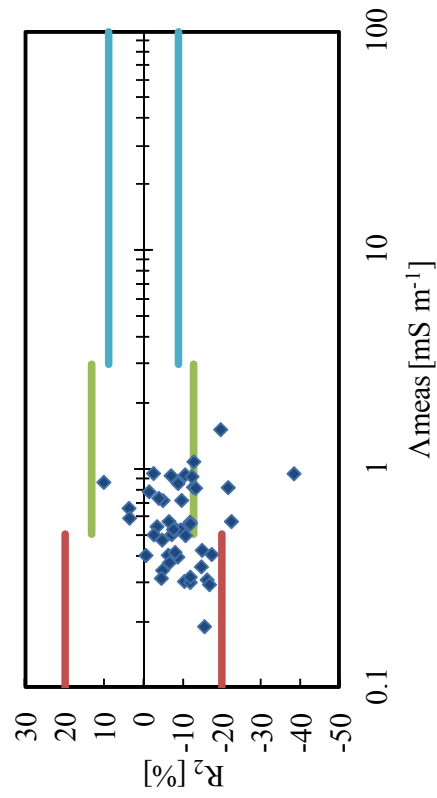


Fig. 3.29 b) Tanah Rata Conductivity Agreement (R_2)

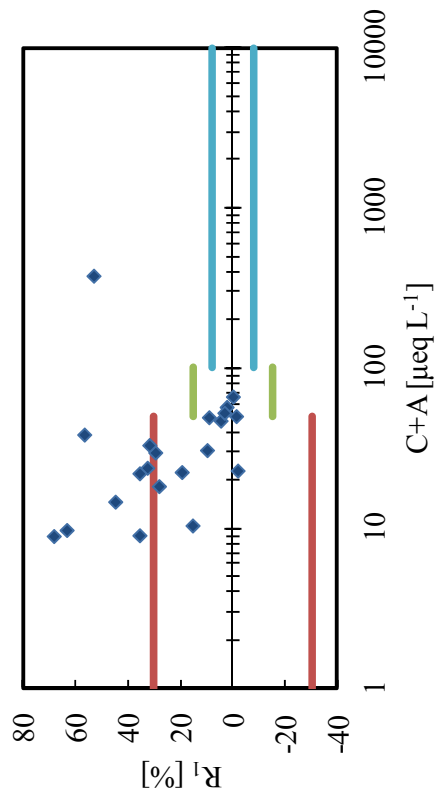


Fig. 3.30 a) Danum Valley Ion Balance (R_1)

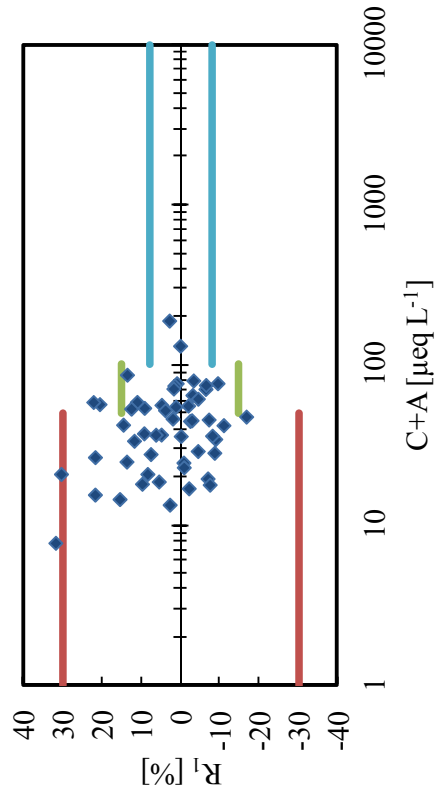


Fig. 3.31 a) Kuching Ion Balance (R_1)

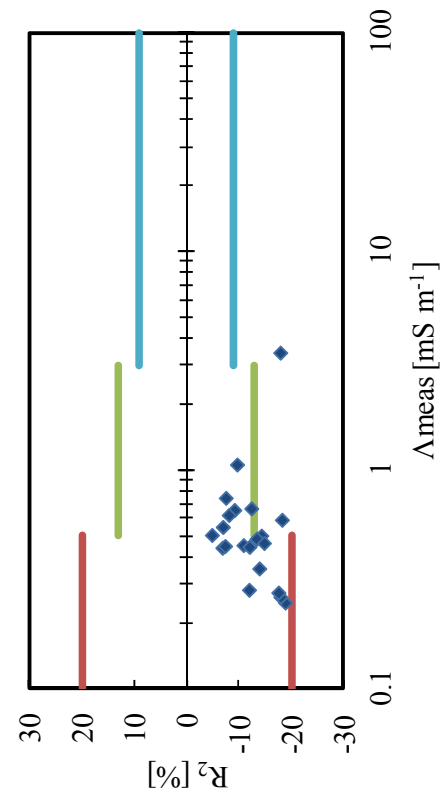


Fig. 3.30 b) Danum Valley Conductivity Agreement (R_2)

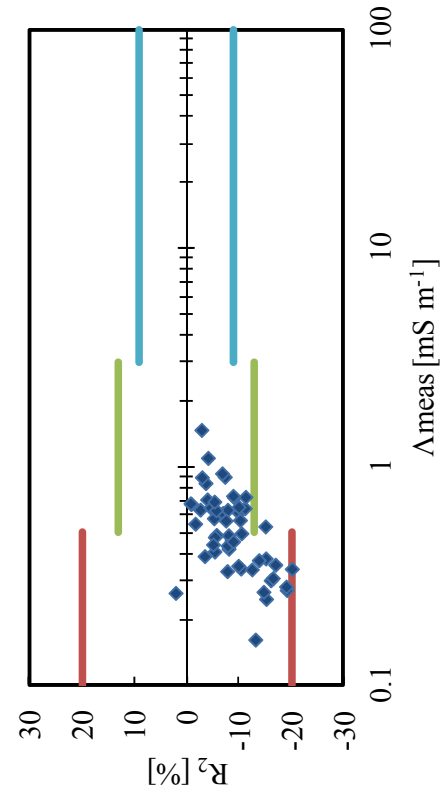


Fig. 3.31 b) Kuching Conductivity Agreement (R_2)

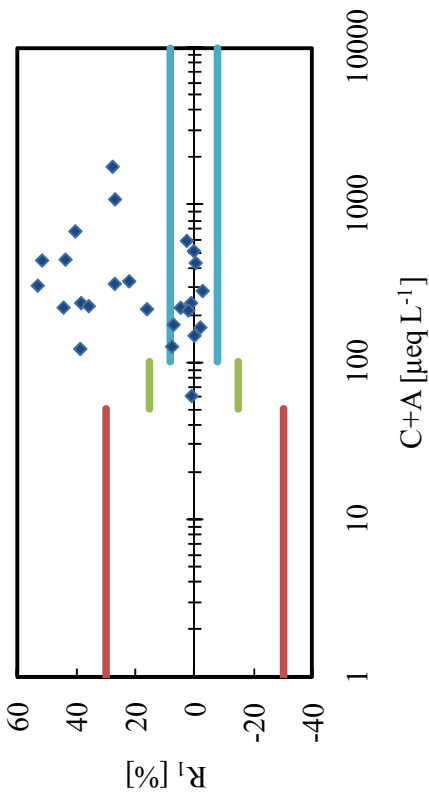


Fig. 3.32 a) Ulanbaatar Ion Balance (R_1)
Calculated including HCO_3^-

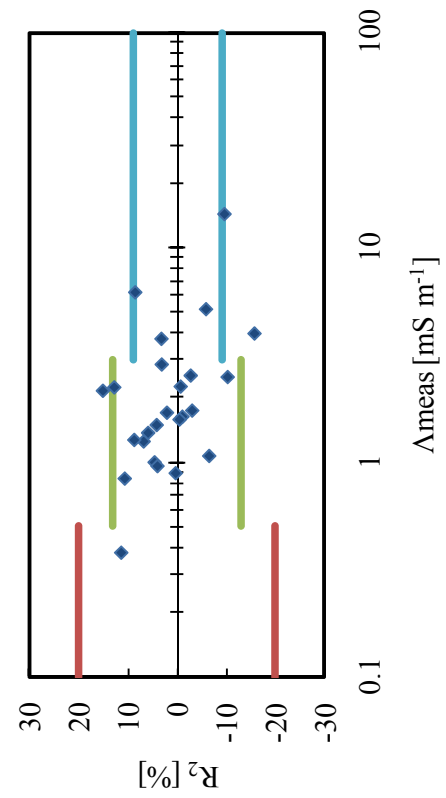


Fig. 3.32 b) Ulanbaatar Conductivity Agreement (R_2)
Calculated including HCO_3^-

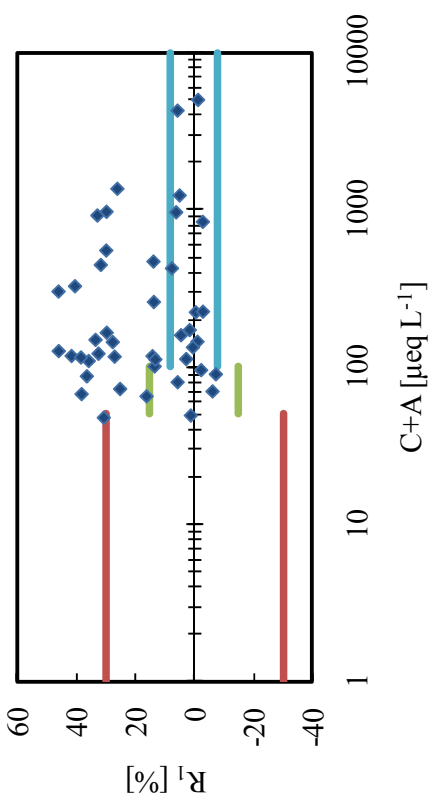


Fig. 3.33 a) Terelj Ion Balance (R_1)
Calculated including HCO_3^-

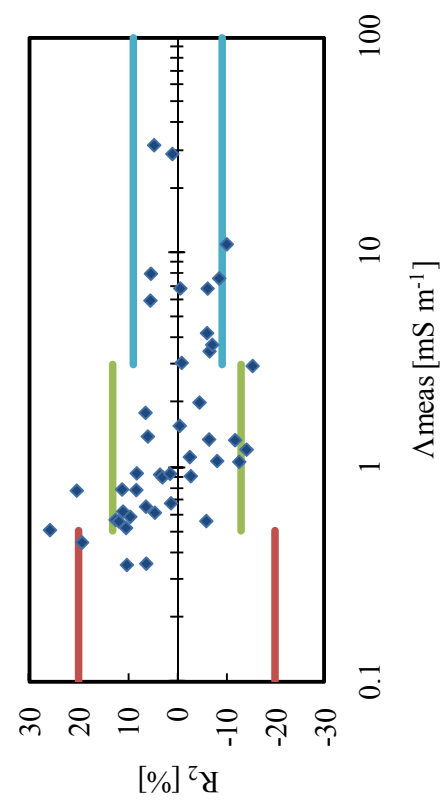


Fig. 3.33 b) Terelj Conductivity Agreement (R_2)
Calculated including HCO_3^-

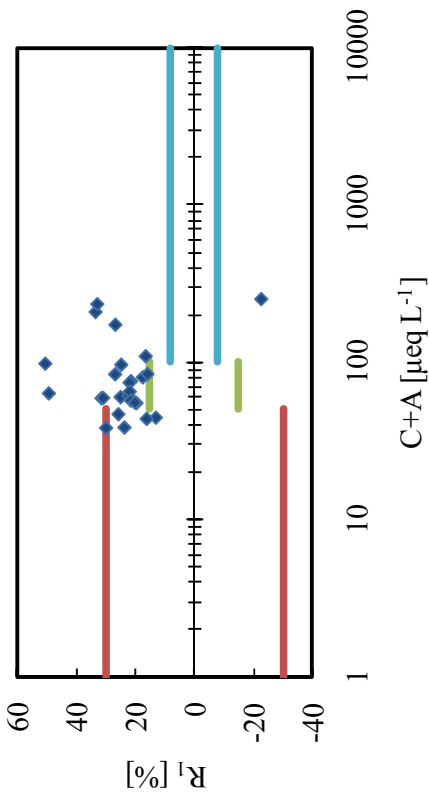


Fig. 3.34 a) Yangon Ion Balance (R_1)

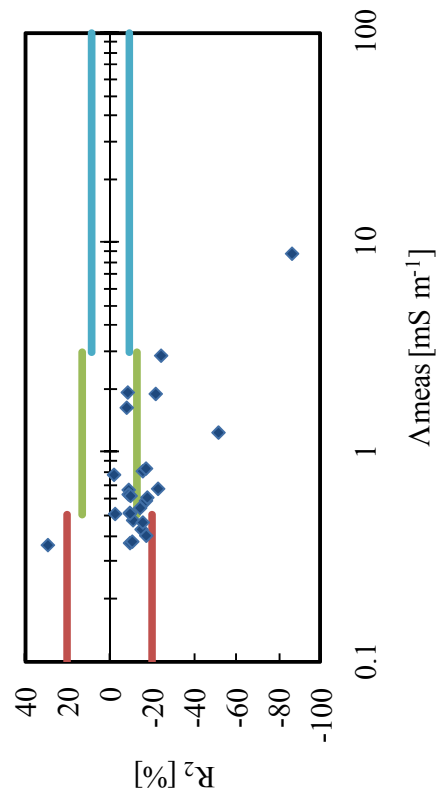


Fig. 3.34 b) Yangon Conductivity Agreement (R_2)

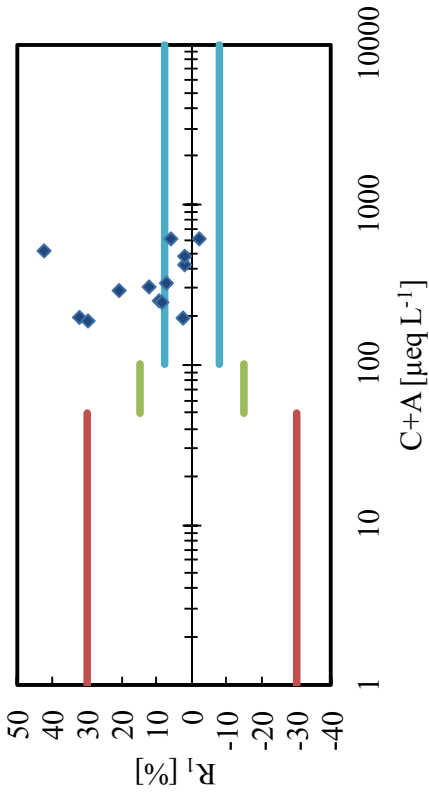


Fig. 3.35 a) Metro Manila Ion Balance (R_1)
Calculated including HCO_3^-

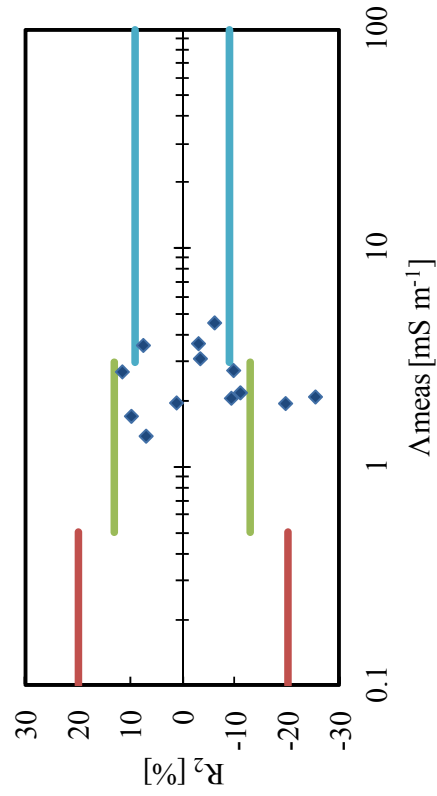


Fig. 3.35 b) Metro Manila Conductivity Agreement (R_2)
Calculated including HCO_3^-

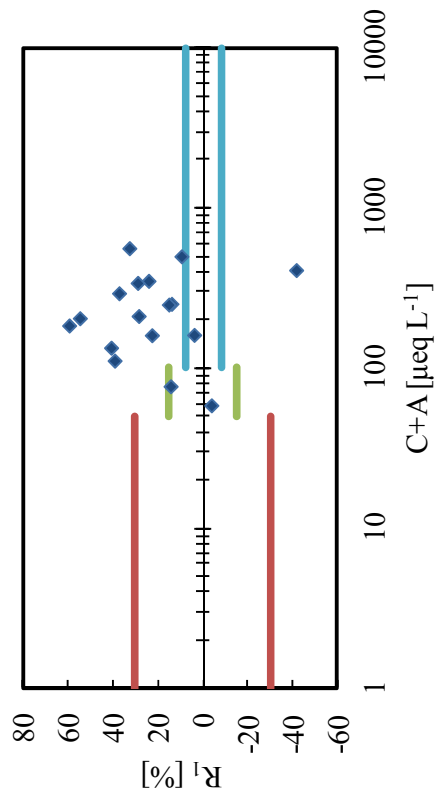


Fig. 3.36 a) Los Banos Ion Balance (R_1)

Calculated including HCO_3^-

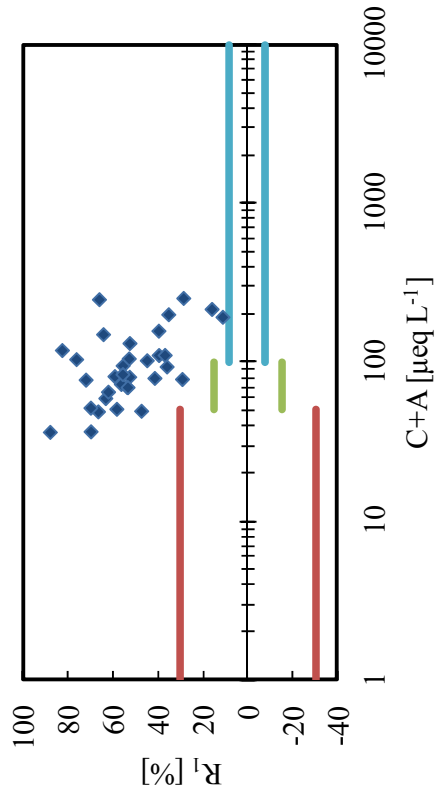


Fig. 3.37 a) Mt. Sto. Tomas Ion Balance (R_1)

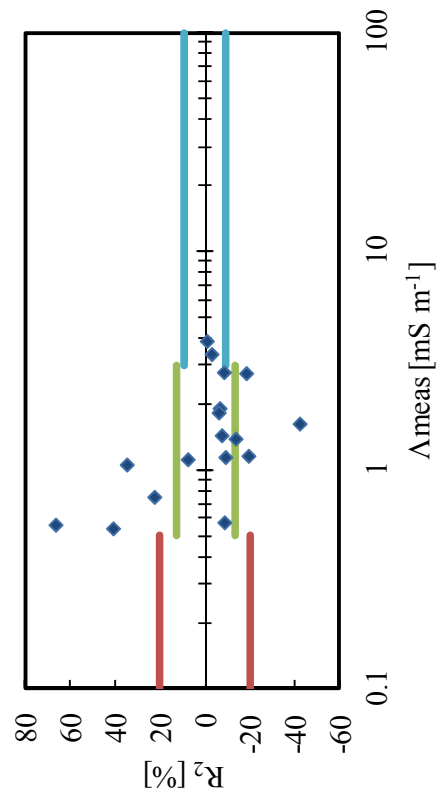


Fig. 3.36 b) Los Banos Conductivity Agreement (R_2)

Calculated including HCO_3^-

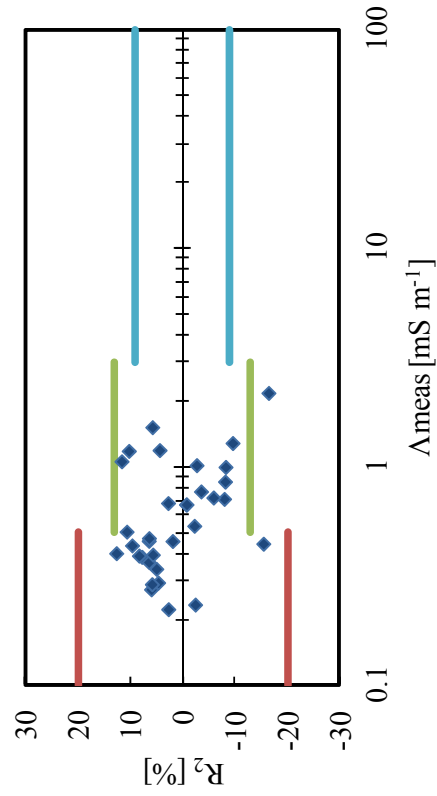


Fig. 3.37 b) Mt. Sto. Tomas Conductivity Agreement (R_2)

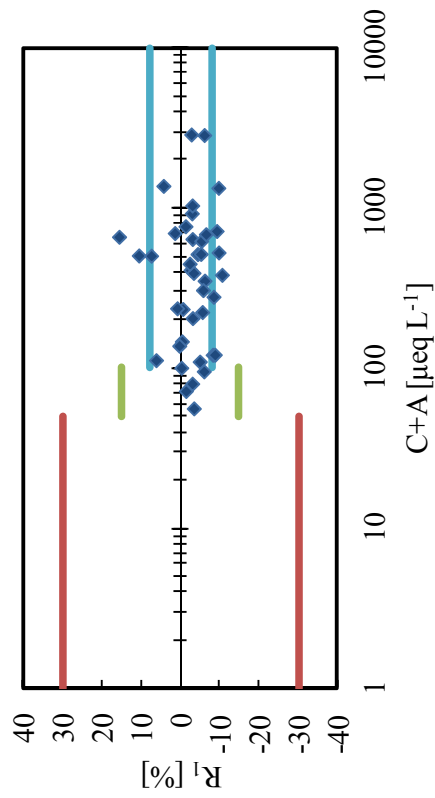


Fig. 3.38 a) Kanghwa Ion Balance (R_1)

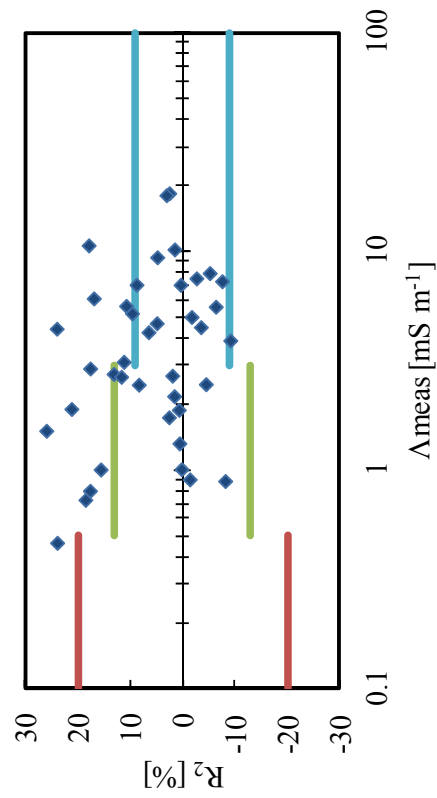


Fig. 3.38 b) Kanghwa Conductivity Agreement (R_2)

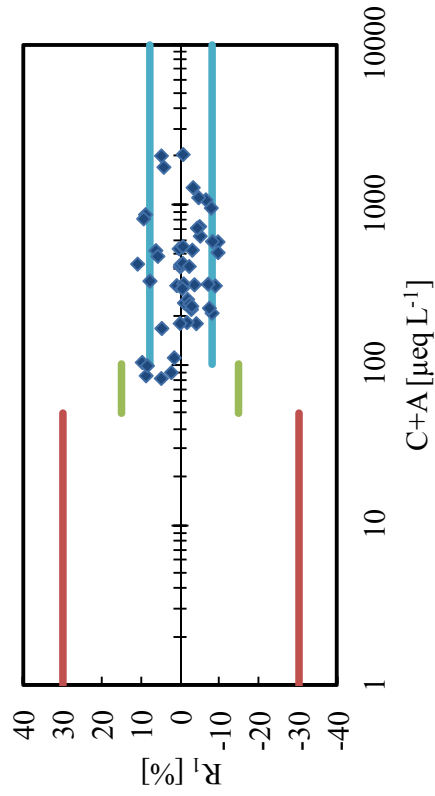


Fig. 3.39 a) Cheju Ion Balance (R_1)

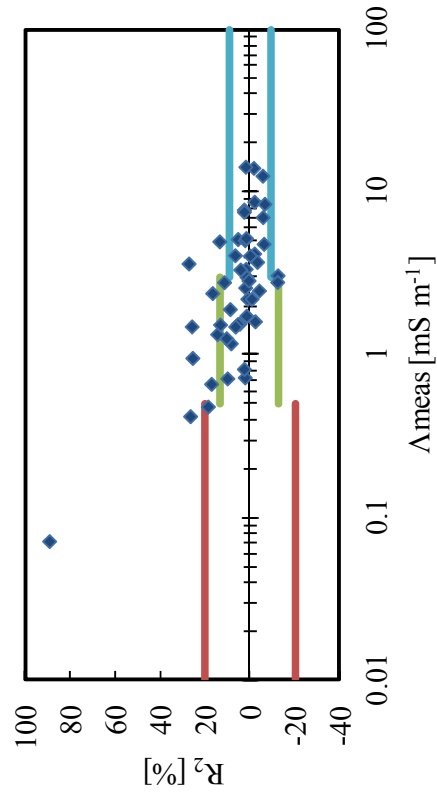


Fig. 3.39 b) Cheju Conductivity Agreement (R_2)

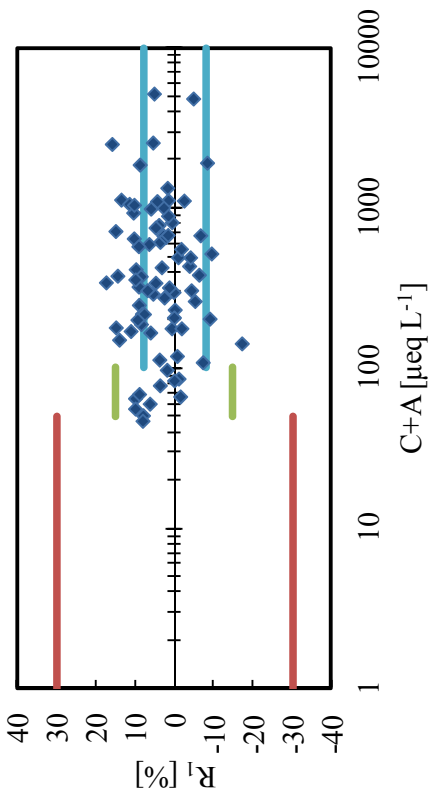


Fig. 3.40 a) Imsil Ion Balance (R_1)

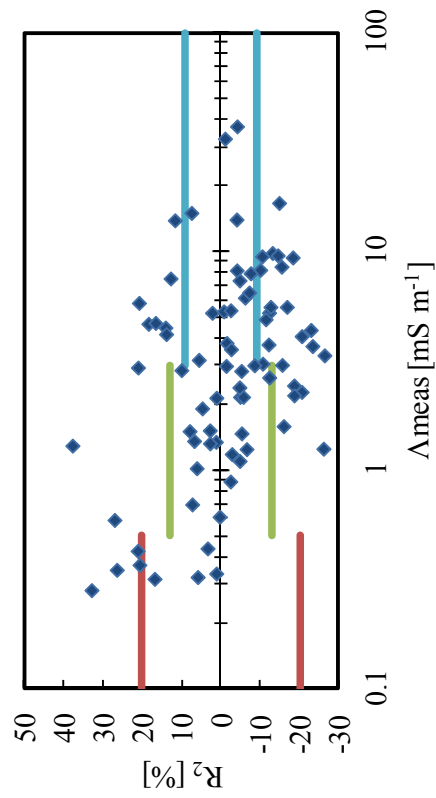


Fig. 3.40 b) Imsil Conductivity Agreement (R_2)

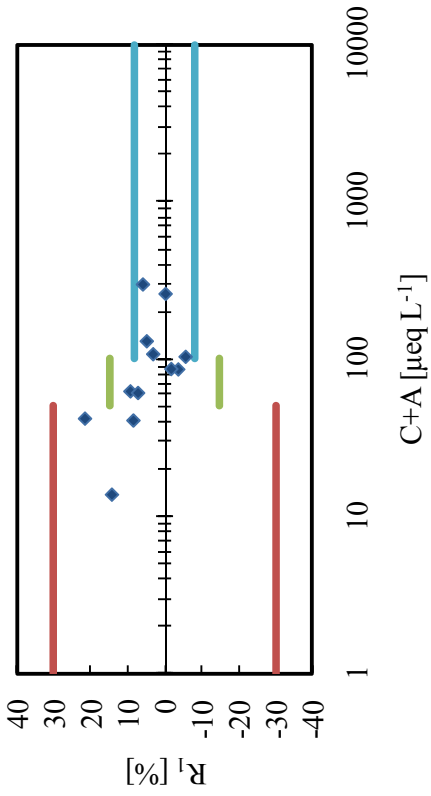


Fig. 3.41 a) Mondy Ion Balance (R_1)
Calculated including HCO_3^- , Br^- and NO_2^-

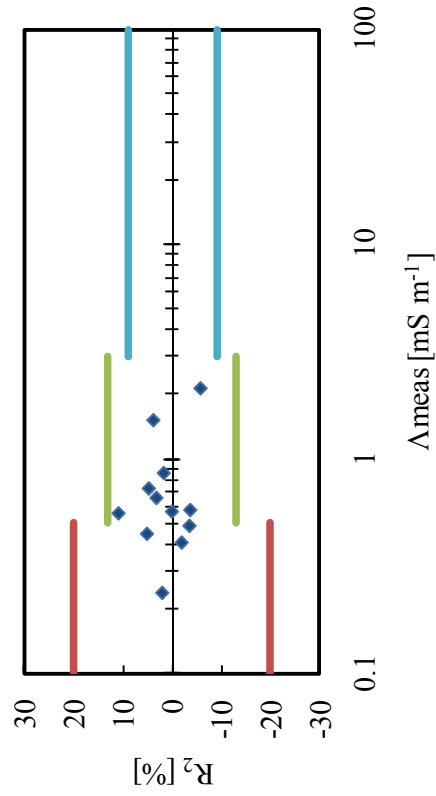


Fig. 3.41 b) Mondy Conductivity Agreement (R_2)
Calculated including HCO_3^- , Br^- and NO_2^-

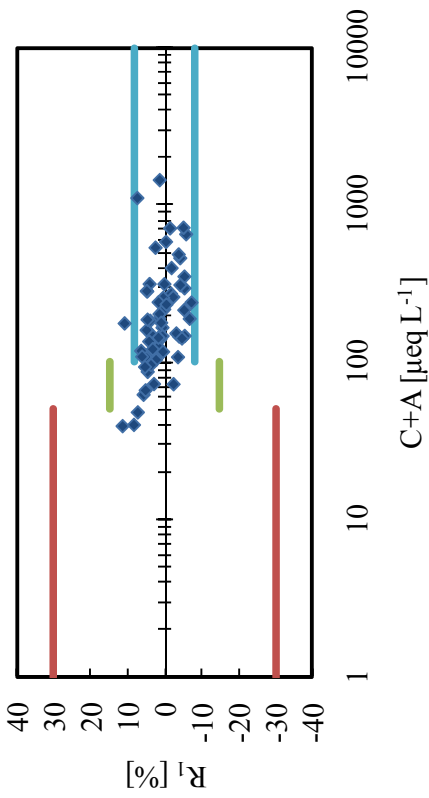


Fig. 3.42 a) Listvyanka Ion Balance (R_1)
Calculated including HCO_3^- , F^- , Br^- and NO_2^-

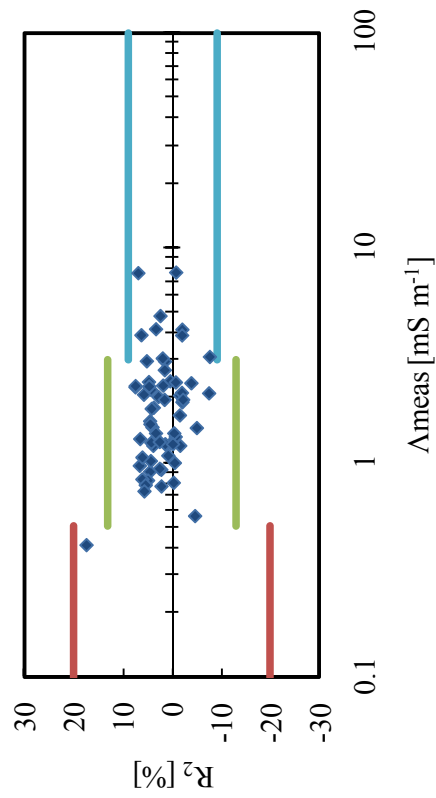


Fig. 3.42 b) Listvyanka Conductivity Agreement (R_2)
Calculated including HCO_3^- , F^- , Br^- and NO_2^-

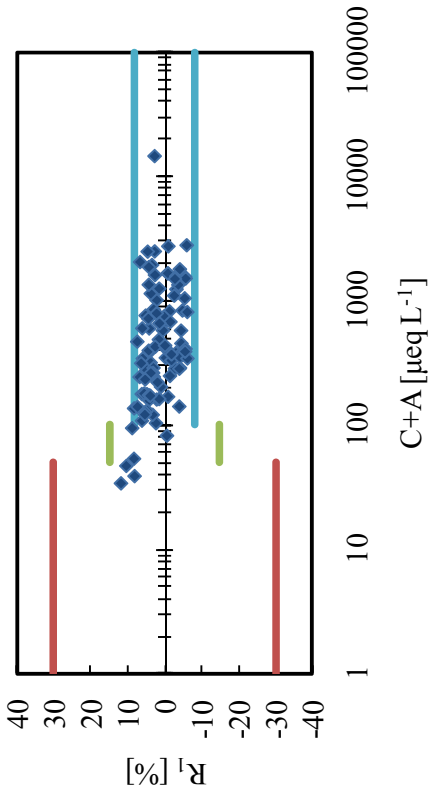


Fig. 3.43 a) Irkutsk Ion Balance (R_1)
Calculated including HCO_3^- , F^- , Br^- and NO_2^-

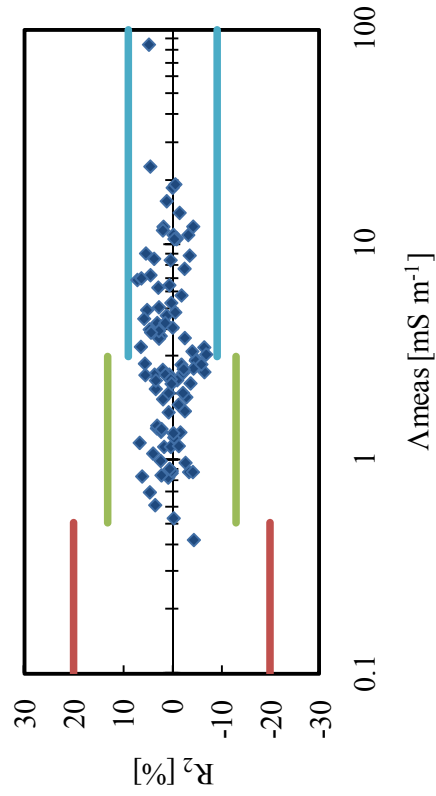


Fig. 3.43 b) Irkutsk Conductivity Agreement (R_2)
Calculated including HCO_3^- , F^- , Br^- and NO_2^-

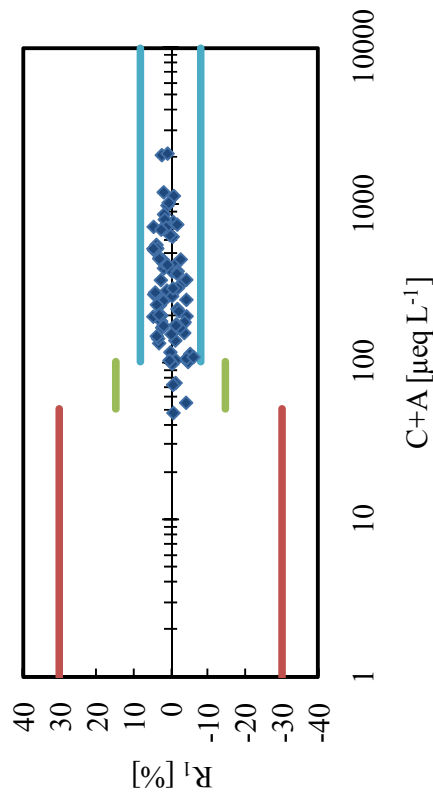


Fig. 3.44 a) Primorskaya Ion Balance (R_1)
Calculated including HCO_3^- , Br^- and NO_2^-

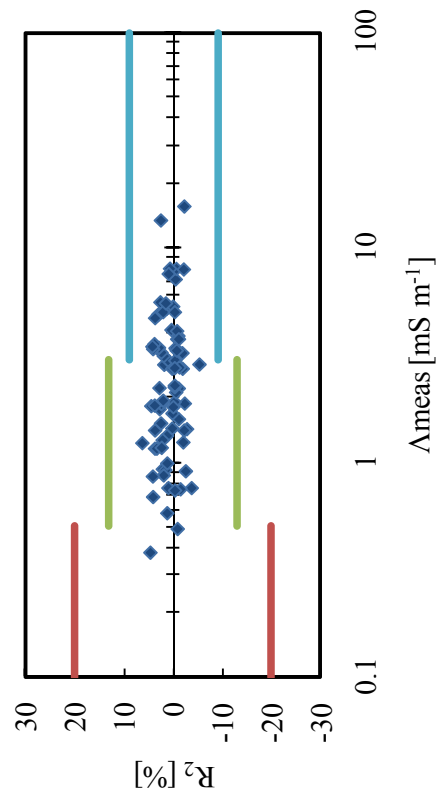


Fig. 3.44 b) Primorskaya Conductivity Agreement (R_2)
Calculated including HCO_3^- , Br^- and NO_2^-

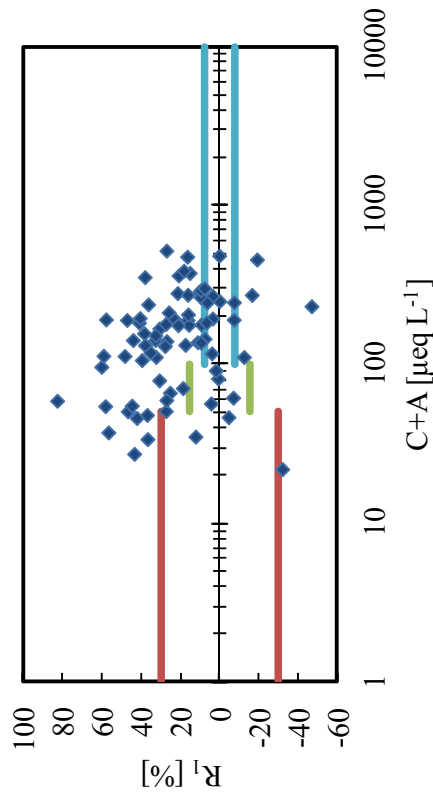


Fig. 3.45 a) Bangkok Ion Balance (R_1)
Calculated including PO_4^{3-}

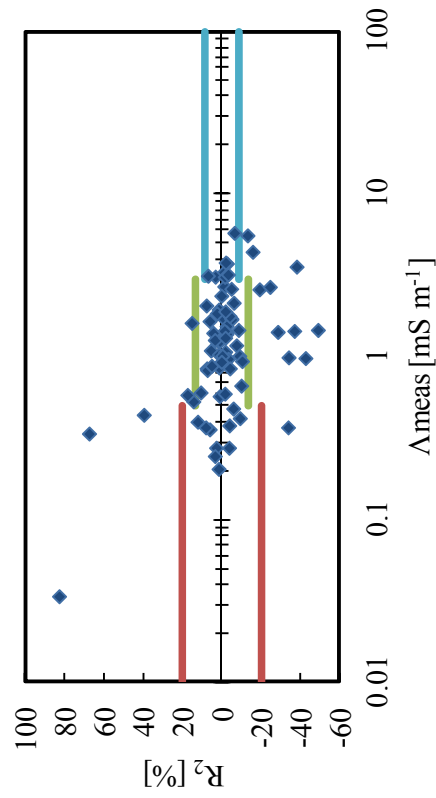


Fig. 3.45 b) Bangkok Conductivity Agreement (R_2)
Calculated including PO_4^{3-}

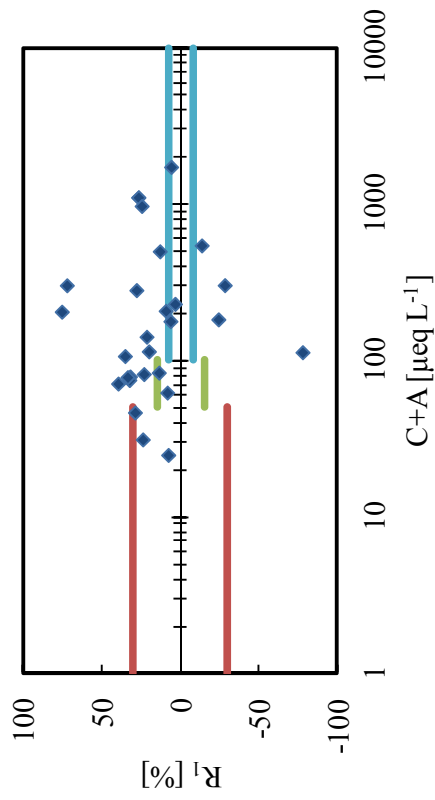


Fig. 3.46 a) Samutprakarn Ion Balance (R_1)
Calculated including PO_4^{3-}

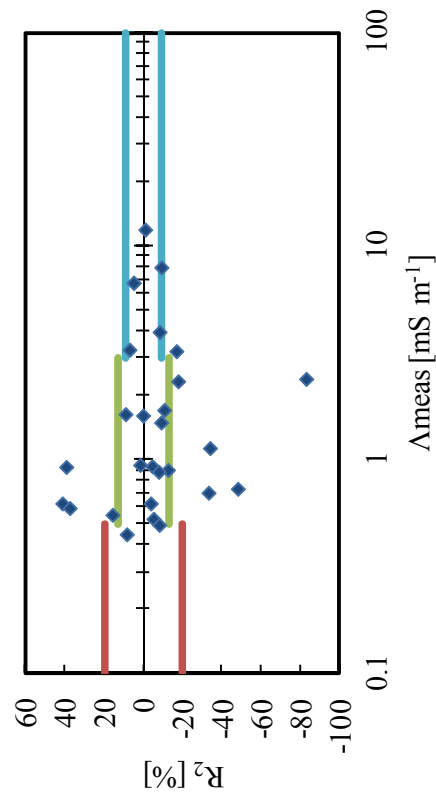


Fig. 3.46 b) Samutprakarn Conductivity Agreement (R_2)
Calculated including PO_4^{3-}

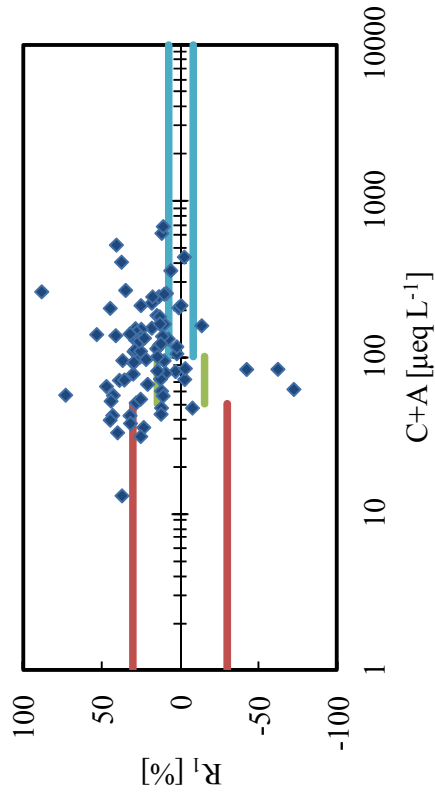


Fig. 3.47 a) Pathumthani Ion Balance (R_1)
Calculated including PO_4^{3-}

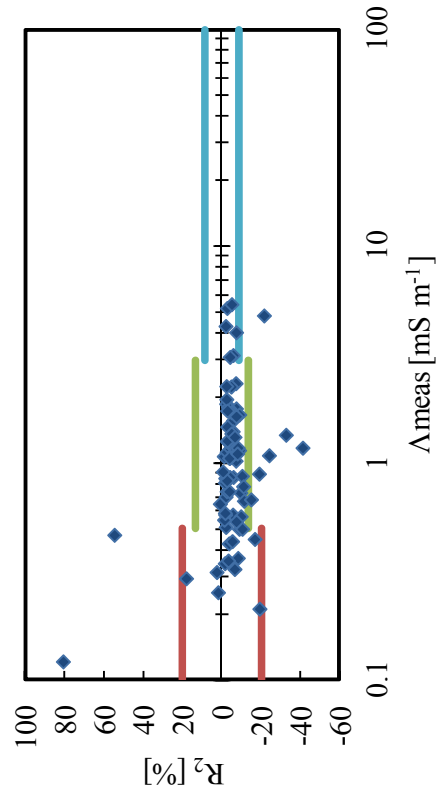


Fig. 3.47 b) Pathumthani Conductivity Agreement (R_2)
Calculated including PO_4^{3-}

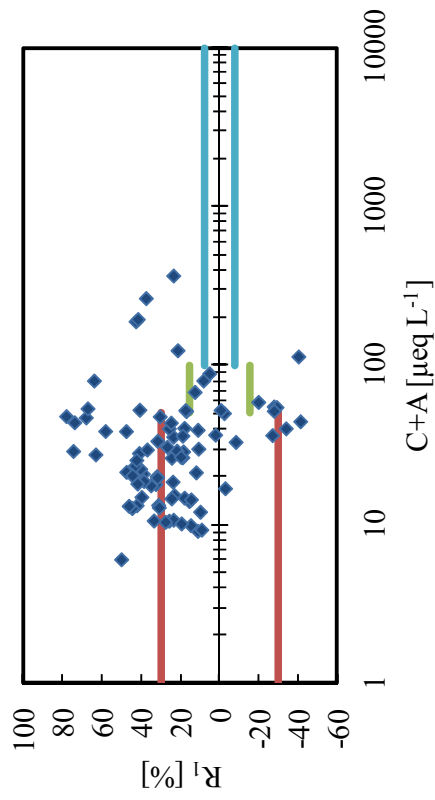


Fig. 3.48 a) Khanchanaburi Ion Balance (R_1)
Calculated including PO_4^{3-}

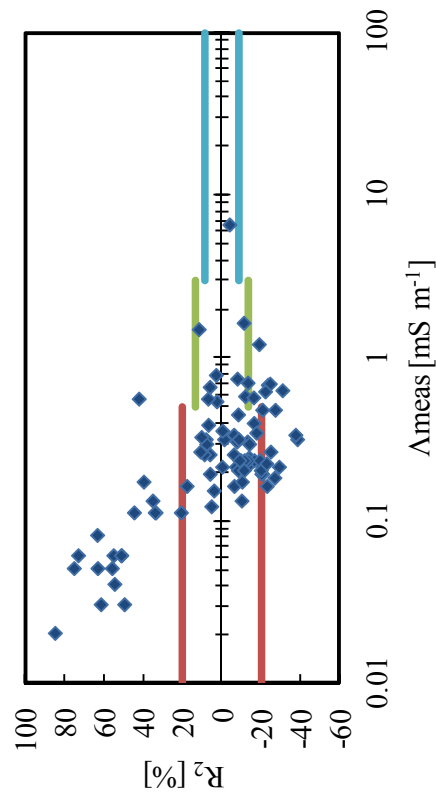


Fig. 3.48 b) Khanchanaburi Conductivity Agreement (R_2)
Calculated including PO_4^{3-}

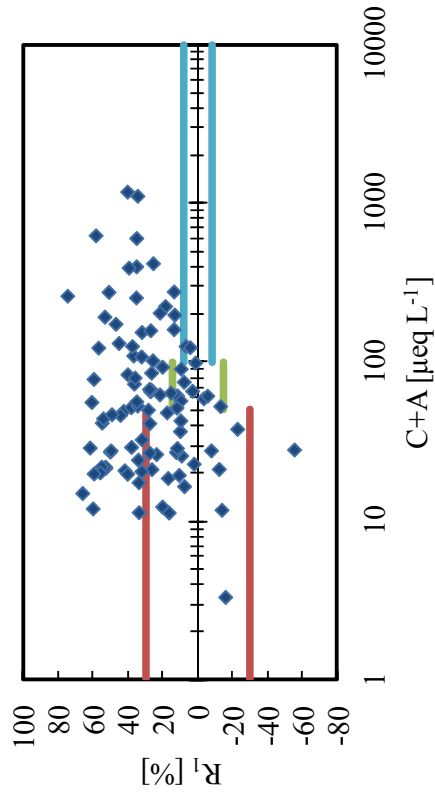


Fig. 3.49 a) Chang Mai Ion Balance (R_1)
Calculated including PO_4^{3-}

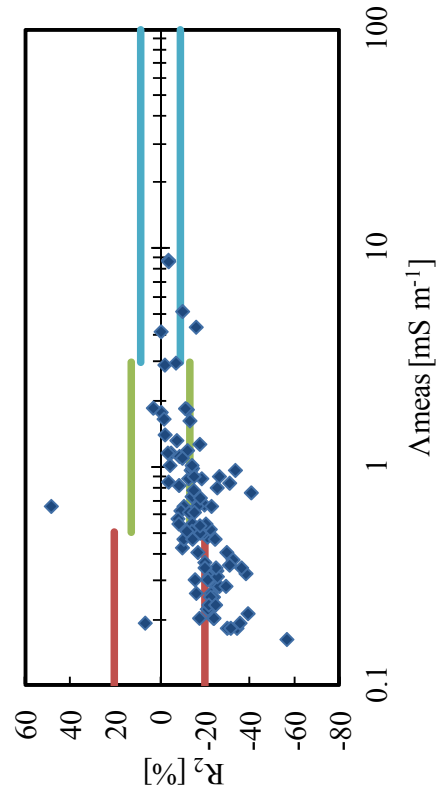


Fig. 3.49 b) Chang Mai Conductivity Agreement (R_2)
Calculated including PO_4^{3-}

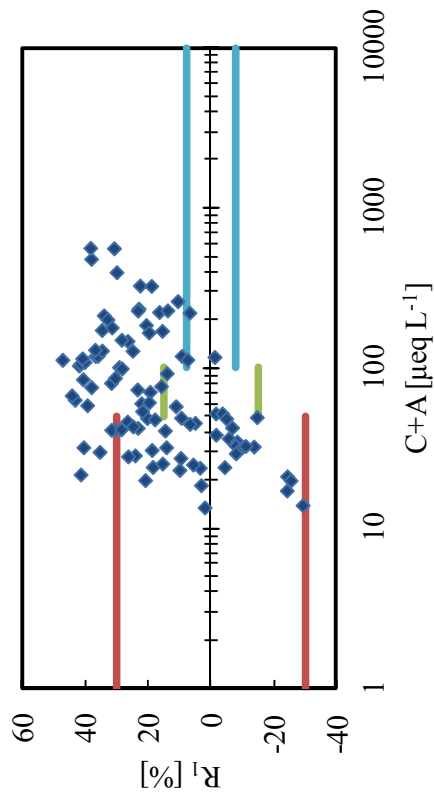


Fig. 3.50 a) Nakhon Ratchasima Ion Balance (R_1)
Calculated including PO_4^{3-}

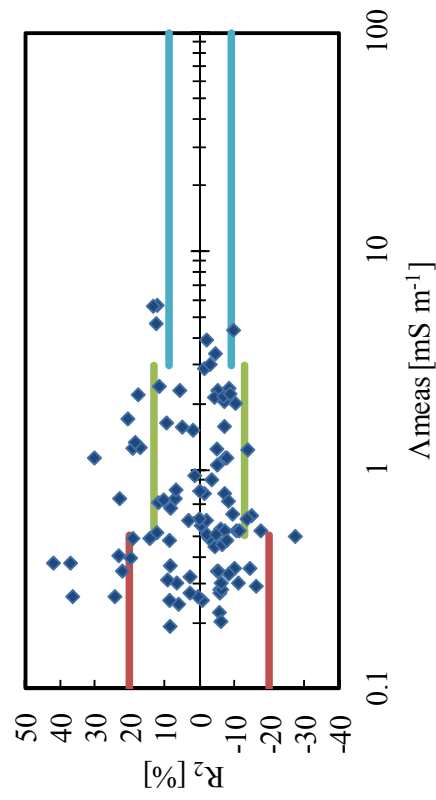


Fig. 3.50 b) Nakhon Ratchasima Conductivity Agreement (R_2)
Calculated including PO_4^{3-}

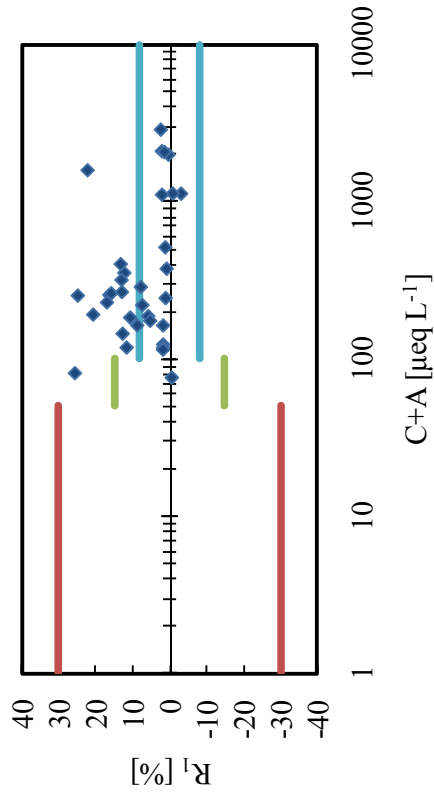


Fig. 3.51 a) Hanoi Ion Balance (R_1)
Calculated including F^-

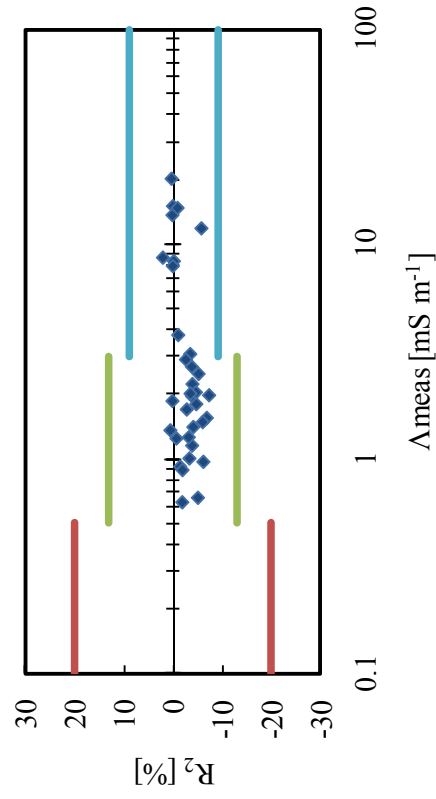


Fig. 3.51 b) Hanoi Conductivity Agreement (R_2)
Calculated including F^-

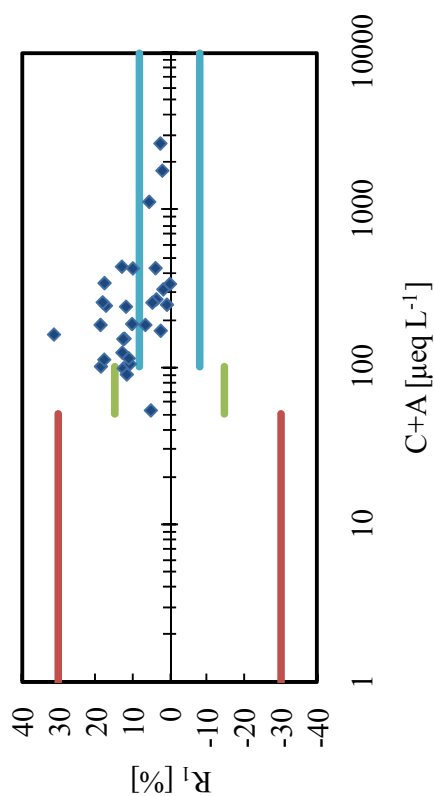


Fig. 3.52 a) Hoa Binh Ion Balance (R_1)

Calculated including F^-

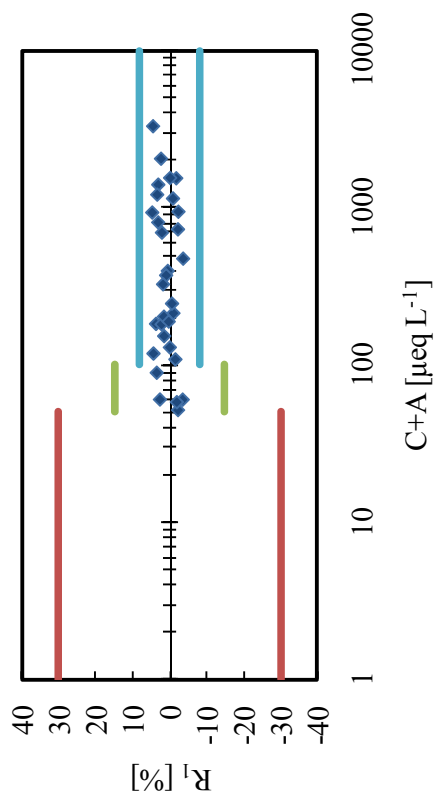


Fig. 3.53 a) Cuc Phuong Ion Balance (R_1)

Calculated including HCO_3^-

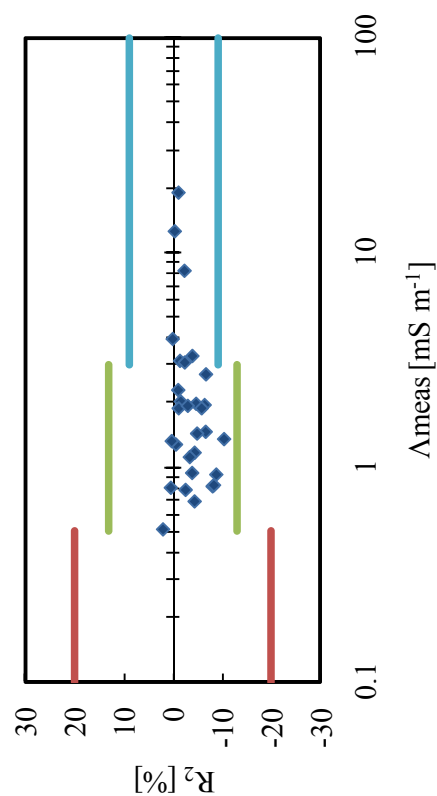


Fig. 3.52 b) Hoa Binh Conductivity Agreement (R_2)

Calculated including F^-

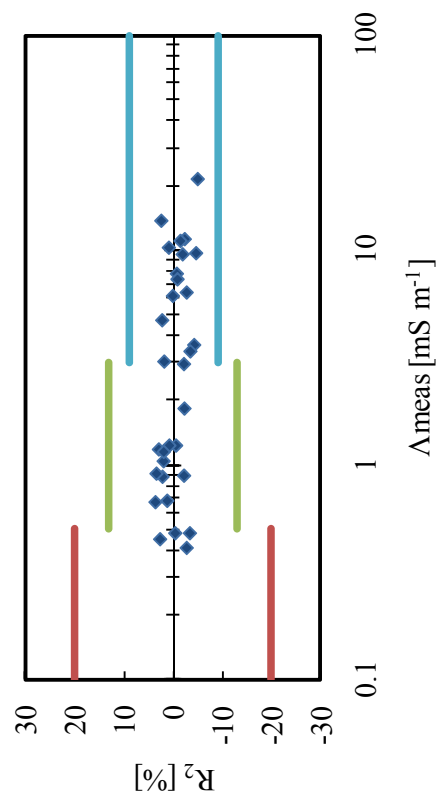


Fig. 3.53 b) Cuc Phuong Conductivity Agreement (R_2)

Calculated including HCO_3^-

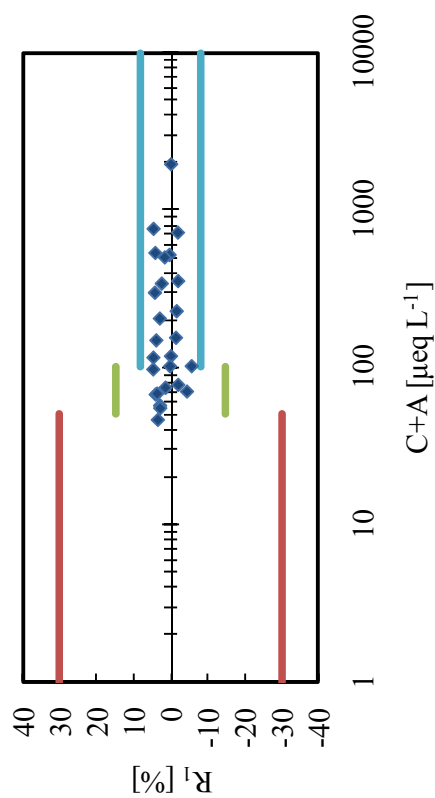


Fig. 3.54 a) Da Nang Ion Balance (R_1)

Calculated including HCO_3^-

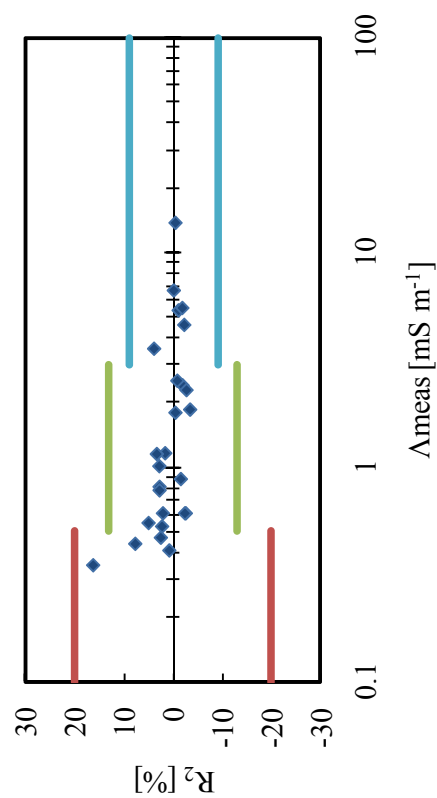


Fig. 3.54 b) Da Nang Conductivity Agreement (R_2)

Calculated including HCO_3^-

Appendix Results of the additional items in 2010

Appendix Table 1 Concentration, deposition and data completeness of F⁻

Volume-weighted mean concentrations (Monthly)														
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	18.4	10.5	13.8	6.70	3.63	2.89	3.73	4.86	10.9	6.98	10.5	5.88	6.05
	Jinyushan	25.2	15.4	8.51	3.67	4.46	3.60	2.60	5.27	5.79	5.05	12.5	12.7	5.44
	Hongwen	3.06	3.60	3.00	6.06	3.10	1.21	1.68	6.05	1.46	3.61	--	--	2.75
	Xiaoping	3.64	2.27	<1	6.06	3.10	1.21	1.68	6.05	1.46	3.61	--	--	2.54
Russia	Listvyanka	<1	<1	<1	2.72	3.29	3.40	1.99	<1	<1	*	<1	<1	1.45
	Irkutsk	<1	<1	<1	3.14	4.58	4.37	2.48	<1	<1	<1	<1	<1	1.36
Vietnam	Hanoi	12.3	12.0	*	7.63	1.91	2.05	1.45	2.26	1.90	7.66	*	42.6	3.36
	Hoa Binh	13.0	*	*	8.52	4.24	3.39	2.54	<1	1.59	4.00	*	9.00	2.72
Wet deposition(Monthly)														
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	0.249	0.126	0.657	0.857	0.409	0.455	0.694	0.463	0.750	0.426	0.642	0.190	5.91
	Jinyushan	0.277	0.214	0.506	0.585	0.576	0.463	0.445	0.273	0.641	0.306	0.648	0.391	5.33
	Hongwen	0.101	0.407	0.155	1.12	0.493	0.499	0.323	0.579	0.348	0.179	<0.01	<0.01	4.20
	Xiaoping	0.147	0.0981	0.0727	1.12	0.493	0.499	0.323	0.579	0.348	0.179	0.00	0.00	3.85
Russia	Listvyanka	<0.01	<0.01	<0.01	0.0212	0.0720	0.150	0.127	<0.01	<0.01	*	<0.01	<0.01	0.473
	Irkutsk	<0.01	<0.01	<0.01	0.0387	0.106	0.263	0.0949	<0.01	<0.01	<0.01	<0.01	<0.01	0.509
Vietnam	Hanoi	0.964	0.0960	*	0.581	0.247	0.334	0.441	0.596	0.326	0.191	*	0.495	4.16
	Hoa Binh	0.630	*	*	0.540	0.502	0.225	0.742	0.298	0.300	0.287	*	0.188	3.73
Data completeness (Monthly)														
%TP														
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
China	Haifu	95.6	93.3	99.6	99.8	98.9	99.4	100	99.7	100	100	100	99.1	99.5
	Jinyushan	100	100	100	100	100	100	100	100	100	100	100	100	100
	Hongwen	100	100	100	100	100	100	100	100	100	100	--	--	100
	Xiaoping	100	100	100	100	100	100	100	100	100	100	--	--	100
Russia	Listvyanka	89.8	100	100	100	98.6	100	100	75.4	32.0	0.0	3.2	26.5	78.2
	Irkutsk	100	100	100	100	100	100	100	100	100	100	100	80.5	98.8
Vietnam	Hanoi	96.7	82.5	0.0	100	100	100	100	100	100	100	0.0	79.3	99.1
	Hoa Binh	100	0.0	0.0	99.2	100	100	100	100	100	99.3	0.0	100	99.5

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

[0.00] for deposition: The deposition was 0 mmol/m² 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⁻

Volume-weighted mean concentrations (Monthly) 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
	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
Wet deposition(Monthly) 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	<0.01	0.00	<0.01	0.00	<0.01	0.00	<0.01	<0.01	0.00	0.00	<0.01	0.00	<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
	Irkutsk	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	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
Data completeness (Monthly) %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
	Listvyanka	89.8	100	100	100	98.6	100	100	100	100	100	100	100	99.4
	Irkutsk	100	100	100	100	100	100	100	100	100	100	100	100	100
	Primorskaya	100	97.4	99.7	100	100	99.1	99.7	99.1	98.0	98.4	97.3	95.0	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%)

Appendix Table 3 Concentration, deposition and data completeness of NO₂⁻

Volume-weighted mean concentrations (Monthly)														
unit : $\mu\text{mol L}^{-1}$														
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Japan	Tokyo	*	1.54	1.43	*	1.63	*	*	*	*	5.48	*	*	1.68
Russia	Mondy	<1	--	<1	--	<1	--	<1	<1	--	--	<1	--	<1
	Listvyanka	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Irkutsk	9.45	<1	<1	1.40	<1	<1	<1	<1	<1	1.07	<1	<1	<1
	Primorskaya	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Wet deposition(Monthly)														
unit: $\text{mmol m}^{-2}\text{month}^{-1}$ or $\text{mmol m}^{-2}\text{year}^{-1}$														
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Japan	Tokyo	*	0.173	0.199	*	0.196	*	*	*	*	1.41	*	*	2.79
Russia	Mondy	<0.01	0.00	<0.01	0.00	<0.01	0.00	<0.01	<0.01	0.00	0.00	<0.01	0.00	0.0156
	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	0.0459
	Irkutsk	0.248	<0.01	<0.01	0.0173	<0.01	0.0256	0.0146	0.0193	0.0123	<0.01	<0.01	<0.01	0.367
	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
Data completeness (Monthly)														
%TP														
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Japan	Tokyo	0.0	1.6	30.9	0.0	4.6	0.0	0.0	0.0	0.0	1.2	0.0	0.0	3.2
Russia	Mondy	100	--	100	--	100	--	100	100	--	--	100	--	100
	Listvyanka	89.8	100	100	100	98.6	100	100	100	100	100	100	100	99.4
	Irkutsk	100	100	100	100	100	100	100	100	100	100	100	100	100
	Primorskaya	100	97.4	99.7	100	100	99.1	99.7	99.1	98.0	98.4	97.3	95.0	98.6

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

[0.00] for deposition: The deposition was 0 mmol/m² 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^-

Volume-weighted mean concentrations (Monthly)															unit : $\mu\text{mol L}^{-1}$	
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual		
Japan	Sado-seki	*	*	*	5.16	*	*	*	*	*	*	*	*	5.16		
Mongolia	Ulaanbaatar	--	--	--	--	*	65.7	34.7	37.1	*	*	--	--	40.8		
	Terelj	*	*	*	*	24.6	19.7	17.7	29.0	*	*	--	--	22.7		
Russia	Mondy	19.7	--	19.0	--	63.7	--	12.5	<1	--	--	25.6	--	17.5		
	Listvyanka	5.53	51.6	11.6	2.25	<1	<1	<1	<1	<1	31.6	11.9	27.1	3.73		
	Irkutsk	54.8	52.7	46.5	76.8	13.7	21.8	23.8	5.98	25.9	151	64.3	51.3	25.2		
	Primorskaya	<1	13.5	10.8	5.45	4.50	8.50	6.03	5.38	13.8	14.5	3.38	2.10	7.39		
Philippines	Metro Manila	*	--	*	*	*	*	*	*	*	5.66	11.9	6.31	7.75		
	Los Banos	*	*	*	1.80	*	*	*	*	*	5.78	8.77	3.80	5.96		
Vietnam	Cuc Phuong	<1	<1	292	27.1	13.1	28.0	59.7	39.8	<1	<1	12.3	<1	28.8		
	Da Nang	<1	--	10.00	<1	<1	<1	5.12	<1	<1	5.99	<1	<1	2.68		
Wet deposition(Monthly)															unit: $\text{mmol m}^{-2}\text{month}^{-1}$ or $\text{mmol m}^{-2}\text{year}^{-1}$	
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual		
Japan	Sado-seki	*	*	*	0.480	*	*	*	*	*	*	*	*	7.06		
Mongolia	Ulaanbaatar	0.00	0.00	0.00	0.00	*	1.70	1.62	2.21	*	*	0.00	0.00	6.23		
	Terelj	*	*	*	*	0.425	0.423	0.588	0.727	*	*	0.00	0.00	2.94		
Russia	Mondy	0.0729	0.00	0.201	0.00	0.561	0.00	0.708	<0.01	0.00	0.00	0.0384	0.00	1.58		
	Listvyanka	0.0908	0.248	0.174	0.0176	<0.01	<0.01	<0.01	<0.01	<0.01	0.153	0.0478	0.491	1.22		
	Irkutsk	1.44	0.536	0.144	0.947	0.319	1.31	0.913	0.842	0.630	0.595	0.607	1.18	9.47		
	Primorskaya	<0.01	0.154	0.396	0.374	0.270	0.272	0.528	0.610	0.690	1.35	0.198	0.126	4.98		
Philippines	Metro Manila	*	0.00	*	*	*	*	*	*	*	2.66	2.46	0.861	20.7		
	Los Banos	*	*	*	0.0896	*	*	*	*	*	2.39	1.23	0.601	12.3		
Vietnam	Cuc Phuong	<0.01	<0.01	5.76	1.51	0.544	3.98	12.2	23.3	<0.01	<0.01	0.114	<0.01	47.6		
	Da Nang	<0.01	0.00	0.0500	<0.01	<0.01	0.0120	1.07	0.240	<0.01	3.15	<0.01	<0.01	4.52		
Data completeness (Monthly)															%TP	
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual		
Japan	Sado-seki	0.0	0.0	0.0	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3		
Mongolia	Ulaanbaatar	--	--	--	--	0.0	70.0	87.4	91.2	0.0	0.0	--	--	74.2		
	Terelj	0.0	0.0	0.0	0.0	86.3	12.8	91.3	84.0	0.0	0.0	--	--	53.3		
Russia	Mondy	100	--	100	--	100	--	100	100	--	--	100	--	100		
	Listvyanka	89.8	100	100	100	98.6	100	100	100	100	100	100	100	99.4		
	Irkutsk	100	100	100	100	100	100	100	100	100	100	100	100	100		
	Primorskaya	100	97.4	99.7	100	100	99.1	99.7	99.1	98.0	98.4	97.3	95.0	98.6		
Philippines	Metro Manila	0.0	--	0.0	0.0	0.0	0.0	0.0	0.0	0.0	45.8	70.8	79.1	17.5		
	Los Banos	0.0	0.0	0.0	97.6	0.0	0.0	0.0	0.0	0.0	67.5	100	40.9	25.8		
Vietnam	Cuc Phuong	100	90.1	100	100	100	100	100	100	100	100	100	68.7	99.7		
	Da Nang	100	--	100	100	97.4	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/m² 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

Volume-weighted mean concentrations (Monthly)														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	*	3.03	6.15	<1	3.02	<1	<1	1.04	
	Kuching	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Thailand	Bangkok	<1	3.50	29.1	<1	1.60	2.74	1.65	1.26	<1	5.27	17.4	<1	2.70	
	Samutprakarn	*	*	*	*	<1	<1	<1	<1	<1	<1	*	*	<1	
	Pathumthani	21.7	<1	2.78	24.3	1.43	<1	1.09	1.90	1.85	1.66	--	3.01	1.61	
	Khanchanaburi	<1	--	--	<1	<1	<1	<1	<1	<1	<1	--	*	<1	
	Chiang Mai	2.37	--	19.2	5.53	6.49	1.25	<1	<1	<1	<1	--	<1	1.08	
	Nakhon Ratchasima	4.17	10.5	31.6	1.58	6.05	7.20	<1	1.20	2.74	*	1.33	21.8	4.07	
Wet deposition(Monthly)														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	<0.01	<0.01	0.0364	<0.01	<0.01	<0.01	<0.01	0.0111	0.0114	<0.01	0.0280	0.0895	
	Tanah Rata	<0.01	<0.01	0.0135	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0268	<0.01	0.0120	0.0620	
	Danum Valley	<0.01	<0.01	<0.01	<0.01	<0.01	*	0.563	1.54	<0.01	0.693	<0.01	<0.01	2.47	
	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	<0.01	
Thailand	Bangkok	0.0456	0.182	0.937	<0.01	0.269	0.731	0.672	0.413	0.0873	1.44	0.646	0.0147	5.46	
	Samutprakarn	*	*	*	*	0.0524	0.0494	0.0604	0.0600	0.0848	0.0181	*	*	0.341	
	Pathumthani	0.211	0.0146	0.0665	0.0316	0.185	0.0339	0.278	0.818	0.779	0.364	0.00	0.0494	2.83	
	Khanchanaburi	<0.01	0.00	0.00	<0.01	0.0400	0.146	0.0364	0.0677	<0.01	0.0296	0.00	*	0.340	
	Chiang Mai	0.0968	0.00	0.219	0.0365	0.638	0.178	<0.01	0.0192	0.0582	0.0115	0.00	<0.01	1.26	
	Nakhon Ratchasima	0.111	0.130	1.97	0.277	0.460	0.979	0.0282	0.324	0.584	*	0.0315	0.431	6.62	
Data completeness (Monthly)														%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	99.9	100	100	100	100	100	72.5	97.7	
	Tanah Rata	100	100	97.6	99.3	100	100	100	100	100	100	100	100	99.8	
	Danum Valley	100	21.7	58.6	54.0	67.4	0.0	36.6	66.1	45.2	67.0	62.5	100	68.9	
	Kuching	100	100	100	100	100	100	100	100	100	100	100	100	100	
Thailand	Bangkok	100	100	100	56.3	99.9	91.2	100.0	100	98.7	100	100	100	98.3	
	Samutprakarn	0.0	0.0	0.0	0.0	12.1	1.1	88.8	90.0	97.6	40.2	0.0	0.0	59.9	
	Pathumthani	100	100	100	100	100	100	100	100	100	100	--	100	100	
	Khanchanaburi	81.8	--	--	80.8	97.2	99.0	99.0	97.1	89.5	99.3	--	0.0	93.0	
	Chiang Mai	100	--	100	100	100	100	100	100	100	100	--	100	100	
	Nakhon Ratchasima	100	100	100	100	100	100	100	99.4	97.8	0.0	93.2	100	80.2	

[--] 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

Volume-weighted mean concentrations (Monthly)										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	*	3.04	6.55	<1	<1	<1	<1	1.01
	Kuching	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Thailand	Bangkok	<1	5.98	38.2	<1	1.38	2.55	2.18	1.97	<1	3.01	4.02	2.83	2.66
	Samutprakarn	*	*	*	*	<1	<1	<1	8.92	<1	<1	*	*	3.24
	Pathumthani	14.5	<1	4.19	5.75	1.47	<1	1.41	1.59	2.81	1.57	--	1.15	1.78
	Khanchanaburi	<1	--	--	22.2	<1	<1	<1	<1	<1	<1	--	*	<1
	Chiang Mai	<1	--	33.4	5.93	1.60	2.57	<1	<1	<1	<1	--	1.44	1.14
	Nakhon Ratchasima	1.26	9.88	25.8	23.3	9.36	7.58	<1	1.72	4.06	*	<1	5.25	6.97
Wet deposition(Monthly)										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	<0.01	<0.01	0.0114	<0.01	<0.01	<0.01	<0.01	0.141	0.0132	0.0442	0.0483	0.256
	Tanah Rata	0.0154	<0.01	<0.01	<0.01	<0.01	0.0296	<0.01	0.0583	0.0504	0.0902	0.0642	0.0383	0.367
	Danum Valley	0.0663	<0.01	<0.01	<0.01	<0.01	*	0.566	1.64	0.0695	0.175	0.0568	0.0959	2.38
	Kuching	0.0247	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0346	0.0500	<0.01	0.116
Thailand	Bangkok	0.0426	0.311	1.23	<0.01	0.231	0.681	0.887	0.646	0.295	0.820	0.150	0.0690	5.39
	Samutprakarn	*	*	*	*	0.0399	0.113	0.129	3.59	0.263	0.108	*	*	6.09
	Pathumthani	0.141	<0.01	0.100	<0.01	0.189	0.0966	0.359	0.687	1.18	0.345	0.00	0.0188	3.14
	Khanchanaburi	<0.01	0.00	0.00	0.476	0.0582	0.0766	0.0129	0.347	0.137	0.0308	0.00	*	1.10
	Chiang Mai	0.0382	0.00	0.381	0.0392	0.157	0.366	0.0334	0.162	0.107	0.0354	0.00	0.0122	1.33
	Nakhon Ratchasima	0.0335	0.123	1.61	4.10	0.711	1.03	0.0722	0.464	0.867	*	<0.01	0.104	11.3
Data completeness (Monthly)										%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	99.9	100	100	100	100	100	72.5	97.7
	Tanah Rata	100	100	97.6	99.3	100	100	100	100	100	100	100	100	99.8
	Danum Valley	100	21.7	58.6	54.0	67.4	0.0	36.6	66.1	45.2	67.0	62.5	100	68.9
	Kuching	100	100	100	100	100	100	100	100	100	100	100	100	100
Thailand	Bangkok	100	100	100	56.3	99.9	91.2	100.0	100	98.7	100	100	100	98.3
	Samutprakarn	0.0	0.0	0.0	0.0	12.1	1.1	88.8	90.0	97.6	40.2	0.0	0.0	59.9
	Pathumthani	100	100	100	100	100	100	100	100	100	100	--	100	100
	Khanchanaburi	81.8	--	--	80.8	97.2	99.0	99.0	97.1	89.5	99.3	--	0.0	93.0
	Chiang Mai	100	--	100	100	100	100	100	100	100	100	--	100	100
	Nakhon Ratchasima	100	100	100	100	100	100	100	99.4	97.8	0.0	93.2	100	80.2

[--] 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

Volume-weighted mean concentrations (Monthly)										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	
Wet deposition(Monthly)										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	0.0100	0.0109	<0.01	0.249	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.285	
	Tanah Rata	0.0154	<0.01	<0.01	<0.01	<0.01	0.0296	<0.01	0.0583	0.0504	0.0902	0.0642	0.0383	0.367	
	Danum Valley	<0.01	<0.01	<0.01	<0.01	<0.01	*	0.155	0.178	<0.01	0.0944	<0.01	<0.01	0.362	
	Kuching	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0146	<0.01	<0.01	0.0192	
Data completeness (Monthly)										%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	99.9	100	100	100	100	100	72.5	97.7	
	Tanah Rata	100	100	97.6	99.3	100	100	100	100	100	100	100	100	99.8	
	Danum Valley	100	21.7	58.6	54.0	67.4	0.0	36.6	66.1	45.2	67.0	62.5	100	68.9	
	Kuching	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%)

Appendix Table 8 Concentration, deposition and data completeness of PO₄³⁻

Volume-weighted mean concentrations (Monthly)										unit : $\mu\text{mol L}^{-1}$				
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Thailand	Bangkok	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Samutprakarn	*	*	*	*	<1	<1	<1	<1	<1	<1	*	*	<1
	Pathumthani	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	--	<1	<1
	Khanchanaburi	<1	--	--	<1	<1	<1	<1	<1	<1	<1	--	*	<1
	Chiang Mai	<1	--	2.09	<1	<1	<1	<1	<1	<1	<1	--	<1	<1
	Nakhon Ratchasima	<1	<1	1.58	<1	<1	<1	<1	<1	<1	*	<1	<1	<1
Wet deposition(Monthly)										unit: $\text{mmol m}^{-2}\text{month}^{-1}$ or $\text{mmol m}^{-2}\text{year}^{-1}$				
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Thailand	Bangkok	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0225
	Samutprakarn	*	*	*	*	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	*	*	<0.01
	Pathumthani	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0568	0.0121	<0.01	0.00	<0.01	0.112
	Khanchanaburi	<0.01	0.00	0.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.00	*	<0.01
	Chiang Mai	<0.01	0.00	0.0238	<0.01	0.0448	<0.01	<0.01	<0.01	0.0886	<0.01	0.00	<0.01	0.160
	Nakhon Ratchasima	<0.01	<0.01	0.0983	<0.01	0.0154	<0.01	0.0249	<0.01	<0.01	*	<0.01	0.0125	0.215
Data completeness (Monthly)										%TP				
Country	Name of sites	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Thailand	Bangkok	100	100	100	56.3	99.9	91.2	100.0	100	98.7	100	100	100	98.3
	Samutprakarn	0.0	0.0	0.0	0.0	12.1	1.1	88.8	90.0	97.6	40.2	0.0	0.0	59.9
	Pathumthani	100	100	100	100	100	100	100	100	100	100	--	100	100
	Khanchanaburi	81.8	--	--	80.8	97.2	99.0	99.0	97.1	89.5	99.3	--	0.0	93.0
	Chiang Mai	100	--	100	100	100	100	100	100	100	100	--	100	100
	Nakhon Ratchasima	100	100	100	100	100	100	100	100	99.4	97.8	0.0	93.2	80.2

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

4.1.1 Automatic Monitoring Method

In the “Strategy Paper for Future Direction of Dry Deposition Monitoring of EANET (Second Edition)”, it was mentioned that the first priority chemical species for dry deposition monitoring, namely SO₂, NO, NO₂ (urban), O₃, and PM could be monitored by use of automatic monitoring methods. The quality assurance/quality control (QA/QC) program for monitoring SO₂, NO, NO₂ (urban), O₃, and PM using automatic monitors 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 could be used to determine gaseous substances (SO₂, HNO₃, HCl, NH₃) and particulate matter components (SO₄²⁻, NO₃⁻, Cl⁻, NH₄⁺, Na⁺, K⁺, Mg²⁺, Ca²⁺).

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 specification of the four-stage filter pack method is shown in [Fig. 4.1](#).

4.1.3 Monitoring Sites

The measurement methods and parameters in each monitoring site for dry deposition (air concentration) monitoring in 2010 are shown in [Table 4.1](#). Automatic monitors were used by 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 by Cambodia, China, Indonesia, Japan, Malaysia, Mongolia, Philippines, Republic of Korea, Russia, Thailand and Vietnam in 2010.

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 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 four-stage filter pack method

Table 4.1 Sampling Method and Parameter for Dry Deposition (Air Concentration) Monitoring in 2010

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
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
Philippines	Metro Manila	Urban	FP	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC
	Mt. Sto. Tomas	Remote	FP	SO ₂ , HNO ₃ , HCl, NH ₃ , PMC

Table 4.1 Sampling Method and Parameter for Dry Deposition (Air Concentration) Monitoring in 2010 (continued)

Country	Name of sites	Characteristics of sites	Method	Parameter
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	Remote	AT	SO ₂ , NO, NO _x *, O ₃ , PM ₁₀
	(Vachiralongkorn Dam)		FP	HNO ₃ , HCl, NH ₃ , PMC
	Chiang Mai	Rural	AT	SO ₂ , NO, NO _x *, O ₃ , PM ₁₀
	(Mae Hia)		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 Phnom Penh in February, 2010.

(Note 4) Purposely monitor for 2 weeks and 3 times per year at Khanchanaburi (Vachiralongkorn Dam) due to the site located in remote area.

Table 4.2 Methods of automatic monitors in 2010

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 for a month. For the calculations of monthly averages, non-detected data were regarded as zero. 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 2010 are summarized in [Table 4.21](#) through [Table 4.38](#).

In the [Table 4.3](#) through [Table 4.38](#), ppb unit was used for gases and $\mu\text{g}/\text{m}^3$ unit was used for particulate matter. Approximate conversion ratios from ppb to $\mu\text{g}/\text{m}^3$, which are based on 20 °C, 1 atm, were shown in [Table 4.39](#).

Detection limits for individual species depend on specification of instrument or procedures of sampling and analysis. NC set up expedient detection limits as shown in [Table 4.40](#) taking into account methods adopted by each country. Data under the detection limit were treated as “N.D.” in the 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.

Table 4.3 SO₂

Unit : ppb			2010												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Cambodia	Phnom Penh	Mean	†	1.4	1.7	1.7	1.6	1.5	1.7	0.6	1.4	1.8	2.2	0.7	1.6
		%	†	59	100	46	96	100	100	100	100	100	100	100	81
		Max-2w	†	1.4	1.8	1.7	1.6	1.7	1.9	0.7	2.0	1.8	2.4	1.4	2.4
		Min-2w	†	1.4	1.6	1.7	1.5	1.2	1.5	0.6	0.8	1.8	1.9	N.D.	N.D.
China	Jinyunshan	Mean	25.3	18.6	18.1	14.4	8.1	9.0	6.7	6.1	8.5	9.5	15.7	15.5	12.9
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-d	44.6	33.8	45.8	28.5	21.4	22.9	10.1	19.5	15.8	17.6	29.3	25.1	45.8
		Min-d	10.5	6.0	5.6	3.8	2.6	2.3	1.1	1.5	1.5	2.6	6.0	7.9	1.1
	Hongwen	Mean	10.9	3.0	4.3	4.7	4.3	2.8	3.3	4.3	4.1	4.1	5.6	6.9	4.9
		%	100	93	94	100	100	100	100	100	100	97	100	100	99
		Max-d	71.3	6.0	9.8	9.4	9.4	6.8	6.4	11.3	7.5	10.9	9.0	13.1	71.3
		Min-d	3.4	0.8	1.5	1.1	0.4	1.1	1.9	2.6	1.5	1.1	2.3	1.5	0.4
	Xiang Zhou	Mean	9.8	4.4	7.8	3.5	2.5	2.8	2.0	3.5	3.8	6.2	10.2	14.1	5.9
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-d	22.9	18.4	28.9	12.0	7.5	15.4	3.0	14.6	15.0	15.8	18.0	25.5	28.9
		Min-d	4.1	1.1	1.5	1.1	1.1	1.1	1.5	0.8	0.8	1.5	6.4	7.5	0.8
Indonesia	Jakarta	Mean	6.5	5.4	4.8	5.5	5.1	5.8	9.6	8.8	4.1	8.2	5.8	4.3	6.3
		%	100	100	100	100	100	100	100	100	60	100	80	80	93
		Max-w	9.3	6.8	7.2	7.3	6.0	6.3	24.3	18.5	8.5	10.9	9.9	5.9	24.3
		Min-w	4.2	4.8	2.3	3.4	4.0	5.4	1.8	3.1	N.D.	6.2	3.7	3.2	N.D.
	Serpong	Mean	0.4	1.3	1.0	0.7	0.9	0.9	1.0	0.9	0.6	0.6	0.5	1.0	0.8
		%	100	100	100	100	100	97	100	100	100	100	100	50	96
		Max-2w	0.7	1.4	1.1	0.7	1.0	1.1	1.1	0.9	0.8	0.6	0.6	1.0	1.4
		Min-2w	0.2	1.3	0.9	0.6	0.9	0.8	0.9	0.8	0.5	0.6	0.5	1.0	0.2
	Kototabang	Mean	10.6	13.4	11.1	16.3	5.5	-	8.2	-	4.7	11.1	14.4	15.6	11.7
		%	100	100	100	96	80	0	100	0	50	100	100	100	77
		Max-w	12.5	15.3	13.2	20.7	8.6	-	9.1	-	11.5	16.9	15.1	22.5	22.5
		Min-w	8.8	12.1	7.2	14.6	4.4	-	7.2	-	N.D.	4.0	13.3	6.5	N.D.
	Bandung	Mean	9.3	5.7	5.6	4.0	4.0	2.6	4.4	2.5	1.4	3.5	-	3.0	4.2
		%	100	100	100	100	100	100	100	100	100	100	0	100	92
		Max-m	9.3	5.7	5.6	4.0	4.0	2.6	4.4	2.5	1.4	3.5	-	3.0	9.3
		Min-m	9.3	5.7	5.6	4.0	4.0	2.6	4.4	2.5	1.4	3.5	-	3.0	1.4
Japan	Rishiri	Mean	0.6	0.6	0.3	N.D.	0.2	0.1	N.D.	N.D.	N.D.	0.1	0.4	0.8	0.3
		%	99	98	98	99	98	98	98	98	90	99	98	98	98
		Max-d	2.6	1.5	0.8	0.3	0.9	0.3	0.1	0.1	0.2	0.6	1.2	3.5	3.5
		Min-d	N.D.	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0.1	N.D.
	Ochiishi	Mean	0.2	0.3	0.2	0.1	0.1	N.D.	N.D.	N.D.	0.1	0.1	0.2	0.4	0.2
		%	97	100	99	95	90	98	97	97	96	97	92	98	96
		Max-d	0.9	0.8	0.4	0.3	0.7	0.6	0.4	0.4	0.5	0.3	0.8	1.9	1.9
		Min-d	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
	Tappi	Mean	-	-	-	-	-	-	-	-	-	-	-	-	-
		%	0	0	0	0	0	0	0	0	0	0	0	0	0
		Max-d	-	-	-	-	-	-	-	-	-	-	-	-	-
		Min-d	-	-	-	-	-	-	-	-	-	-	-	-	-
	Sado-seki	Mean	0.8	0.6	0.3	0.3	0.3	0.2	0.2	0.2	0.1	0.2	0.4	0.6	0.3
		%	97	97	98	98	98	93	93	98	99	98	98	97	97
		Max-d	7.4	1.7	1.0	1.2	1.0	0.6	1.3	0.4	0.4	0.6	1.5	2.7	7.4
		Min-d	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
	Happo	Mean	0.8	-	-	-	-	-	-	-	-	-	-	0.7	0.8
		%	91	0	0	0	0	0	0	0	0	0	0	36	11
		Max-d	2.5	-	-	-	-	-	-	-	-	-	-	1.6	2.5
		Min-d	N.D.	-	-	-	-	-	-	-	-	-	-	N.D.	N.D.
	Ijira	Mean	N.D.	0.2	0.1	0.2	0.3	0.2	N.D.	N.D.	0.1	0.1	0.1	N.D.	0.1
		%	99	99	99	99	99	99	99	99	99	99	94	94	98
		Max-d	0.2	0.8	0.7	0.9	1.2	0.8	0.3	0.3	0.7	0.5	0.3	0.4	1.2
		Min-d	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
	Okii	Mean	1.7	1.0	0.5	0.6	0.6	0.3	0.2	0.3	0.1	0.4	1.1	1.1	0.6
		%	98	97	98	98	98	98	98	97	98	97	84	96	97
		Max-d	6.2	5.7	1.5	2.5	1.9	0.7	0.6	1.0	0.4	2.6	3.3	5.2	6.2
		Min-d	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0.2	N.D.	N.D.
	Banryu	Mean	1.8	1.0	0.5	0.5	0.5	0.2	0.2	0.3	0.3	0.7	0.6	0.9	0.6
		%	98	97	98	98	98	98	98	87	98	98	91	98	97
		Max-d	5.8	3.8	1.5	1.5	1.2	0.4	1.0	0.9	1.2	5.4	2.0	2.3	5.8
		Min-d	0.2	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0.2	N.D.
	Yusuhara	Mean	2.3	1.5	-	-	-	-	-	-	-	0.1	1.5	1.5	1.6
		%	98	74	0	0	0	0	0	0	0	44	98	98	34
		Max-d	5.2	4.8	-	-	-	-	-	-	-	0.5	5.7	4.8	5.7
		Min-d	0.8	0.1	-	-	-	-	-	-	-	N.D.	N.D.	0.2	N.D.
	Hedo	Mean	0.5	0.3	0.3	0.3	0.2	N.D.	N.D.	N.D.	N.D.	0.2	0.6	0.6	0.3
		%	98	97	72	98	97	98	97	96	89	98	98	98	95
		Max-d	2.2	1.1	1.1	0.8	1.7	0.2	0.1	0.2	0.1	2.2	1.8	2.0	2.2
		Min-d	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
	Ogasawara	Mean	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
		%	97	74	84	95	97	99	99	97	98	98	97	98	95
		Max-d	0.5	0.3	N.D.	N.D.	0.2	0.1	N.D.	0.1	N.D.	N.D.	0.2	0.5	0.5
		Min-d	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
	Tokyo	Mean	1.4	1.8	1.3	1.3	2.0	2.4	2.9	3.1	2.7	1.0	1.2	1.0	1.8
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	1.5	2.1	1.5	1.5	2.2	2.5	4.1	3.2	3.8	1.2	1.3	1.0	4.1
		Min-2w	1.4	1.5	1.2	1.2	1.8	2.2	1.8	3.0	1.6	0.8	1.1	0.9	0.8

Table 4.3 SO₂

Unit : ppb			2010												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Malaysia	Tanah Rata	Mean	N.D.	N.D.	N.D.	N.D.	0.2	N.D.	N.D.	0.1	0.1	N.D.	N.D.	N.D.	0.1
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	N.D.	N.D.	0.2	N.D.	0.4	N.D.	N.D.	0.5	0.3	N.D.	N.D.	N.D.	0.5
		Min-w	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
	Petaling Jaya	Mean	1.5	1.5	1.6	1.5	1.9	1.2	2.0	1.2	1.3	1.0	1.3	0.9	1.4
		%	100	100	100	80	100	100	100	100	100	100	100	100	98
		Max-w	2.4	1.9	1.9	1.8	2.3	1.5	2.7	1.8	2.0	1.8	1.9	1.5	2.7
		Min-w	1.1	1.1	1.3	1.3	1.1	1.0	1.1	0.7	1.0	0.5	0.8	0.3	0.3
	Danum Valley	Mean	0.1	0.1	0.4	-	-	-	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0.1
		%	100	100	67	0	0	0	100	100	100	100	100	100	73
		Max-2w	0.2	0.2	0.5	-	-	-	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0.5
		Min-2w	0.1	N.D.	0.2	-	-	-	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Mongolia	Ulaanbaatar	Mean	14.0	11.4	2.3	4.8	2.7	6.3	9.2	4.0	4.6	6.0	8.7	35.1	9.1
		%	100	100	100	100	100	100	100	100	100	100	37	80	92
		Max-w	16.9	14.0	4.4	5.9	5.1	10.1	15.0	7.1	6.1	6.3	12.0	96.7	96.7
		Min-w	11.8	7.6	0.5	3.7	0.9	3.7	2.3	2.1	3.0	5.6	3.9	3.5	0.5
	Tereij	Mean	0.2	0.1	0.3	0.4	0.2	0.2	0.6	0.3	0.8	0.8	0.9	2.4	0.6
		%	100	100	100	100	100	100	100	100	100	100	100	84	99
		Max-2w	0.2	0.2	0.4	0.4	0.3	0.3	0.9	0.4	1.3	1.0	1.0	2.5	2.5
		Min-2w	0.1	N.D.	0.2	0.3	0.1	N.D.	0.4	0.2	0.4	0.6	0.9	2.3	N.D.
Philippines	Metro Manila	Mean	2.2	2.3	3.6	2.5	1.8	1.4	-	-	-	2.6	1.3	-	2.2
		%	78	100	79	47	76	32	0	0	0	48	100	0	46
		Max-w	2.9	2.6	5.3	3.0	2.9	1.4	-	-	-	2.6	2.2	-	5.3
		Min-w	1.7	1.8	1.9	2.1	N.D.	1.4	-	-	-	2.6	0.6	-	N.D.
	Mt. Sto. Tomas	Mean	0.6	0.8	0.3	0.3	2.1	1.9	1.6	2.0	0.8	1.3	1.2	0.8	1.1
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.9	1.1	0.4	0.5	2.6	2.6	2.3	2.3	0.8	1.7	1.6	0.9	2.6
		Min-w	N.D.	0.3	0.2	0.2	1.8	1.5	0.5	1.8	0.7	0.6	0.7	0.7	N.D.
Republic of Korea	Kanghwa	Mean	5.0	3.5	2.7	3.9	2.1	2.1	1.1	1.7	1.3	2.5	4.6	4.8	2.9
		%	98	100	98	93	99	100	100	100	93	100	100	98	98
		Max-d	9.3	5.0	4.1	8.8	4.4	3.3	1.4	2.1	2.6	4.2	7.8	9.5	9.5
		Min-d	2.2	2.6	1.8	1.9	0.9	1.1	0.7	1.0	0.8	1.4	2.7	1.9	0.7
	Cheju (Kosan)	Mean	5.4	4.7	2.9	3.1	2.4	1.5	1.2	1.9	1.1	1.3	3.0	2.0	2.5
		%	96	93	96	93	82	95	97	97	97	99	93	98	95
		Max-d	11.2	9.4	3.7	4.5	3.5	2.3	1.5	2.6	2.2	2.8	3.9	3.3	11.2
		Min-d	3.7	1.9	2.2	2.0	0.5	0.8	0.9	1.3	0.5	0.3	1.4	1.1	0.3
	Imsil	Mean	2.5	1.9	2.4	2.7	4.3	4.1	0.6	1.0	5.6	1.9	2.6	2.5	2.7
		%	96	97	93	100	97	97	74	97	98	99	97	96	95
		Max-d	4.4	2.1	3.4	6.4	6.4	5.4	1.2	1.4	7.0	3.0	3.9	4.0	7.0
		Min-d	1.5	1.6	1.6	1.7	3.6	0.8	0.2	0.3	1.1	1.2	1.7	0.7	0.2
Russia	Mondy	Mean	-	-	-	-	-	-	0.1	0.2	0.7	1.1	0.6	0.4	0.6
		%	0	0	0	0	0	0	100	100	100	100	100	100	50
		Max-2w	-	-	-	-	-	-	0.1	0.3	1.0	1.1	0.8	0.7	1.1
		Min-2w	-	-	-	-	-	-	0.1	0.2	0.3	1.1	0.5	0.2	0.1
	Listvianka	Mean	8.2	8.3	12.0	2.5	2.5	1.1	0.4	0.8	0.6	2.1	4.6	9.1	4.5
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	11.7	16.1	31.5	2.9	3.1	1.5	0.5	1.8	1.4	2.7	11.1	21.4	31.5
		Min-w	5.0	4.7	3.0	2.0	1.7	0.5	N.D.	0.3	0.3	1.4	1.0	0.3	N.D.
	Irkutsk	Mean	6.8	36.9	13.5	5.8	3.3	1.1	1.0	2.0	3.1	4.9	4.8	7.4	7.3
		%	100	100	100	100	100	100	100	100	100	80	100	100	98
		Max-w	21.3	43.2	24.1	7.6	6.8	1.5	1.8	3.3	4.1	9.9	9.6	14.3	43.2
		Min-w	0.7	25.9	8.0	4.4	1.0	0.7	0.5	0.9	2.4	2.9	0.8	0.5	0.5
	Primorskaya	Mean	3.0	3.2	1.8	0.7	1.0	0.8	0.7	0.4	0.4	0.9	2.8	4.1	1.7
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	3.9	3.9	2.0	0.7	1.3	1.2	0.8	0.5	0.5	1.2	4.2	4.3	4.3
		Min-2w	2.2	2.5	1.6	0.7	0.7	0.4	0.5	0.4	0.4	0.6	1.5	4.0	0.4

Table 4.3 SO₂

Unit : ppb			2010												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Thailand	Bangkok	Mean	2.0	1.1	1.7	1.2	1.6	1.6	1.7	1.8	1.7	1.3	2.0	1.8	1.6
		%	94	97	100	100	100	93	90	87	100	100	100	84	96
		Max-d	5.0	1.8	3.1	2.3	6.1	4.3	3.2	4.6	3.7	2.8	4.0	5.4	6.1
		Min-d	0.8	0.2	0.6	0.3	N.D.	0.5	0.7	0.6	0.7	N.D.	0.4	0.3	N.D.
	Samutprakarn	Mean	4.3	2.4	3.6	2.4	4.1	4.1	4.9	5.4	5.1	6.1	7.2	5.6	4.6
		%	94	86	100	100	74	97	90	97	93	84	100	94	93
		Max-d	7.4	4.3	7.0	5.3	7.9	8.0	7.8	11.4	8.5	14.5	16.9	7.5	16.9
		Min-d	1.9	0.3	N.D.	N.D.	0.3	2.0	2.1	2.4	1.7	2.3	3.6	2.6	N.D.
	Pathumthani	Mean	-	-	-	1.4	0.3	1.2	1.5	0.9	1.3	1.2	1.0	1.4	1.2
		%	0	0	0	96	100	100	84	100	100	100	94	100	72
		Max-10d	-	-	-	2.3	0.6	1.3	1.9	1.4	1.5	1.7	1.4	2.6	2.6
		Min-10d	-	-	-	0.7	N.D.	1.1	1.1	N.D.	1.1	0.8	0.6	0.8	N.D.
	Khanchanaburi (Vachiralongkorn Dam)	Mean	-	-	0.8	-	-	-	2.2	3.9	-	-	1.6	2.0	1.6
		%	0	0	52	0	0	0	39	6	0	0	47	6	13
		Max-d	-	-	1.8	-	-	-	3.6	4.0	-	-	2.0	2.0	4.0
		Min-d	-	-	N.D.	-	-	-	1.7	3.8	-	-	1.0	2.0	N.D.
	Chiangmai (Mae Hia)	Mean	0.5	0.7	1.0	1.9	0.8	0.4	0.5	0.6	0.5	0.4	0.9	1.0	0.8
		%	100	97	100	97	100	97	87	94	80	100	90	97	95
		Max-d	1.5	1.8	3.5	3.4	3.1	1.9	1.9	2.0	1.4	1.1	2.3	2.2	3.5
		Min-d	N.D.	N.D.	N.D.	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
	Nakhon Ratchasima	Mean	0.2	0.3	0.6	0.5	0.3	0.1	0.1	0.1	0.1	-	N.D.	N.D.	0.2
		%	100	100	68	100	100	100	100	100	100	0	100	100	89
		Max-10d	0.2	0.4	0.8	0.6	0.4	0.2	0.1	0.1	0.2	-	N.D.	N.D.	0.8
		Min-10d	0.1	0.1	0.4	0.3	0.1	0.1	N.D.	N.D.	N.D.	-	N.D.	N.D.	N.D.
Vietnam	Hanoi	Mean	1.8	2.6	2.0	1.4	1.2	1.1	1.0	1.3	1.3	1.4	1.4	1.4	1.4
		%	100	75	100	100	100	100	100	100	100	100	100	100	98
		Max-w	2.0	3.7	3.7	3.8	2.0	1.2	1.1	1.2	1.6	1.4	1.6	2.7	3.8
		Min-w	1.6	2.0	1.0	0.7	0.9	1.0	0.8	0.9	1.2	1.1	1.1	0.9	0.7
	Hoa Binh	Mean	0.7	0.4	0.8	0.4	0.6	0.4	0.6	0.8	0.8	1.2	1.3	0.8	0.7
		%	100	100	100	100	100	100	80	100	100	100	100	100	98
		Max-w	1.1	1.0	1.2	0.9	1.0	1.0	1.1	1.0	1.1	1.5	2.0	1.7	2.0
		Min-w	0.4	0.2	0.4	0.2	0.2	0.2	0.3	0.3	0.7	0.7	0.3	0.2	0.2

† Filterpack monitoring at Phnom Penh was started in February, 2010.

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			2010												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Cambodia	Phnom Penh	Mean	†	0.3	0.4	0.6	0.4	0.2	0.2	0.2	0.3	0.3	0.2	0.3	0.3
		%	†	59	100	46	96	100	100	100	100	100	100	100	81
		Max-2w	†	0.3	0.5	0.6	0.5	0.3	0.2	0.2	0.4	0.3	0.2	0.6	0.6
		Min-2w	†	0.3	0.4	0.6	0.3	0.2	0.1	0.1	0.1	0.2	0.1	N.D.	N.D.
China	Hongwen	Mean	0.8	0.5	1.2	0.5	1.3	-	1.3	1.9	0.2	-	0.7	0.8	1.0
		%	90	100	100	100	100	0	100	100	100	0	100	100	81
		Max-2w	1.2	0.5	1.5	0.8	2.1	-	1.7	2.5	0.2	-	1.1	1.3	2.5
		Min-2w	0.3	0.4	0.6	0.2	0.4	-	1.0	1.0	0.2	-	0.2	0.5	0.2
Indonesia	Serpong	Mean	N.D.	0.4	0.2	0.2	0.2	0.2	0.5	0.3	0.5	0.3	0.3	N.D.	0.3
		%	100	100	100	100	100	97	100	100	100	100	100	50	96
		Max-2w	N.D.	0.5	0.3	0.3	0.2	0.3	0.6	0.3	0.6	0.4	0.4	N.D.	0.6
		Min-2w	N.D.	0.2	0.2	0.1	0.2	0.1	0.4	0.2	0.3	0.3	0.2	N.D.	N.D.
Japan	Rishiri	Mean	N.D.	N.D.	N.D.	N.D.	N.D.	0.2	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0.1
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	N.D.	N.D.	N.D.	N.D.	N.D.	0.3	N.D.	0.1	N.D.	N.D.	N.D.	N.D.	0.3
		Min-2w	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
	Ochiishi	Mean	N.D.	N.D.	N.D.	N.D.	N.D.	0.1	N.D.	0.1	0.3	N.D.	N.D.	N.D.	0.1
		%	100	100	100	100	100	86	100	100	51	100	42	53	85
		Max-2w	N.D.	N.D.	N.D.	N.D.	N.D.	0.2	0.1	0.1	0.3	N.D.	N.D.	N.D.	0.3
		Min-2w	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0.1	0.3	N.D.	N.D.	N.D.	N.D.
	Tappi	Mean	N.D.	N.D.	N.D.	N.D.	N.D.	0.5	0.3	0.3	N.D.	N.D.	N.D.	N.D.	0.2
		%	100	100	100	100	50	100	100	100	100	100	100	100	96
		Max-2w	N.D.	N.D.	0.1	N.D.	N.D.	0.8	0.4	0.4	0.1	N.D.	N.D.	N.D.	0.8
		Min-2w	N.D.	N.D.	N.D.	N.D.	N.D.	0.3	0.3	0.2	N.D.	N.D.	N.D.	N.D.	N.D.
	Sado-seki	Mean	N.D.	N.D.	N.D.	0.1	0.3	0.8	0.5	0.6	0.2	0.1	N.D.	N.D.	0.2
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	N.D.	0.1	N.D.	0.1	0.5	0.9	0.6	0.7	0.3	0.1	0.1	N.D.	0.9
		Min-2w	N.D.	N.D.	N.D.	N.D.	0.2	0.6	0.4	0.6	N.D.	N.D.	N.D.	N.D.	N.D.
	Happo	Mean	N.D.	N.D.	N.D.	N.D.	0.2	0.2	0.2	0.2	0.2	N.D.	N.D.	N.D.	0.1
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	N.D.	N.D.	N.D.	0.1	0.2	0.2	0.2	0.3	0.2	0.2	N.D.	N.D.	0.3
		Min-2w	N.D.	N.D.	N.D.	N.D.	0.1	0.1	0.1	0.1	N.D.	N.D.	N.D.	N.D.	N.D.
	Ijira	Mean	N.D.	0.3	0.1	0.2	0.3	0.5	0.3	0.3	0.4	0.2	N.D.	N.D.	0.2
		%	100	50	100	100	100	100	100	100	100	100	100	100	96
		Max-2w	0.1	0.3	0.2	0.2	0.6	0.6	0.4	0.4	0.6	0.3	N.D.	N.D.	0.6
		Min-2w	N.D.	0.3	0.1	0.2	N.D.	0.3	0.1	0.2	0.3	0.2	N.D.	N.D.	N.D.
	Okii	Mean	N.D.	0.1	N.D.	N.D.	0.1	0.2	0.4	0.3	0.1	0.1	N.D.	N.D.	0.1
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	N.D.	0.2	N.D.	N.D.	0.1	0.4	0.4	0.4	0.2	0.1	N.D.	0.1	0.4
		Min-2w	N.D.	N.D.	N.D.	N.D.	0.1	N.D.	0.3	0.2	N.D.	N.D.	N.D.	N.D.	N.D.
	Banryu	Mean	0.2	0.2	N.D.	0.2	0.2	0.4	0.5	0.5	0.2	0.3	0.1	0.1	0.2
		%	100	100	100	100	100	100	100	50	100	100	100	100	96
		Max-2w	0.3	0.3	N.D.	0.2	0.3	0.5	0.5	0.5	0.2	0.5	0.2	0.1	0.5
		Min-2w	0.2	0.2	N.D.	0.1	0.1	0.4	0.5	0.5	0.1	0.2	N.D.	0.1	N.D.
	Yusuhara	Mean	0.5	0.3	0.1	0.2	0.4	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.3
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.7	0.3	0.2	0.3	0.6	0.2	0.3	0.3	0.3	0.4	0.2	0.3	0.7
		Min-2w	0.3	0.3	N.D.	0.1	0.3	0.2	0.2	0.2	N.D.	0.2	0.2	0.2	N.D.
	Hedo	Mean	0.1	N.D.	N.D.	N.D.	0.1	0.2	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0.1
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.1	N.D.	N.D.	N.D.	0.3	0.3	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0.3
		Min-2w	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
	Ogasawara	Mean	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	-	N.D.
		%	100	100	100	100	100	100	100	100	100	100	100	0	92
		Max-2w	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	-	0.1
		Min-2w	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	-	N.D.
	Tokyo	Mean	0.2	0.2	0.2	0.5	0.9	1.9	1.8	1.0	1.5	0.6	0.3	0.2	0.8
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.2	0.2	0.3	0.5	1.1	2.5	2.9	2.0	1.6	0.7	0.4	0.2	2.9
		Min-2w	0.2	0.2	0.1	0.4	0.7	1.3	0.6	0.1	1.4	0.5	0.2	0.2	0.1
Malaysia	Tanah Rata	Mean	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0.1
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	N.D.	0.1	0.1	0.1	N.D.	0.1	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	0.1
		Min-w	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
	Petaling Jaya	Mean	0.8	1.0	1.3	0.9	0.5	1.0	0.6	0.6	0.5	0.4	0.5	0.3	0.7
		%	100	100	100	80	100	100	100	100	100	100	100	100	98
		Max-w	1.4	1.6	1.6	1.1	0.6	1.3	1.1	0.9	0.7	0.8	0.6	0.6	1.6
		Min-w	0.2	0.7	0.8	0.5	0.4	0.7	0.3	0.4	0.2	0.1	0.1	N.D.	N.D.
	Danum Valley	Mean	N.D.	0.2	0.2	-	-	-	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0.1
		%	100	100	67	0	0	0	100	100	100	100	100	100	73
		Max-2w	0.1	0.2	0.2	-	-	-	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0.2
		Min-2w	N.D.	0.2	0.1	-	-	-	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Mongolia	Ulaanbaatar	Mean	0.3	0.3	0.2	0.7	0.2	0.5	0.5	0.2	0.2	0.4	0.2	0.3	0.3
		%	100	100	100	100	100	100	100	100	100	37	100	80	92
		Max-w	0.9	0.5	0.3	1.9	0.2	1.1	1.6	0.3	0.3	0.7	0.3	0.5	1.9
		Min-w	0.1	0.1	0.2	0.1	0.2	0.2	N.D.	N.D.	0.2	N.D.	0.1	0.2	N.D.
	Terelj	Mean	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0.1	N.D.	0.2	N.D.	0.1	0.1	0.1
		%	100	100	100	100	100	100	100	100	100	100	100	84	99
		Max-2w	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0.2	N.D.	0.2	N.D.	0.1	0.1	0.2
		Min-2w	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0.1	0.1	N.D.

Table 4.4 HNO₃

Unit : ppb			2010													Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
Philippines	Metro Manila	Mean	0.4	0.1	0.1	0.3	0.4	N.D.	-	-	-	0.2	0.2	-	0.2	
		%	78	100	79	47	76	32	0	0	0	48	100	0	46	
		Max-w	0.8	0.4	0.3	0.4	0.8	N.D.	-	-	-	0.2	0.3	-	0.8	
		Min-w	N.D.	N.D.	N.D.	0.2	0.2	N.D.	-	-	-	0.2	N.D.	-	N.D.	
	Mt. Sto. Tomas	Mean	N.D.	0.2	0.1	0.2	1.1	0.2	0.4	0.3	0.5	0.4	0.4	0.7	0.4	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	
		Max-w	N.D.	0.2	0.2	0.4	1.5	0.7	0.6	0.7	0.6	0.6	0.5	1.0	1.5	
		Min-w	N.D.	0.1	N.D.	N.D.	0.3	N.D.	N.D.	N.D.	0.4	N.D.	0.2	0.3	N.D.	
Republic of Korea	Kanghwa	Mean	0.2	-	0.3	0.3	0.5	0.7	0.6	0.2	0.5	0.6	0.4	0.1	0.4	
		%	42	0	16	17	32	17	13	16	17	23	17	13	19	
		Max-d	0.4	-	0.6	0.5	1.5	2.0	1.1	0.3	1.4	1.1	0.7	0.2	2.0	
		Min-d	N.D.	-	0.2	N.D.	0.1	0.3	0.2	N.D.	0.2	0.1	0.1	N.D.	N.D.	
	Cheju (Kosan)	Mean	0.6	1.2	1.2	1.0	0.3	0.4	0.3	0.3	0.2	N.D.	0.3	0.3	0.5	
		%	42	18	16	17	42	17	16	13	17	32	13	16	22	
		Max-d	1.7	2.5	1.4	1.4	0.9	0.8	0.6	0.5	0.4	0.1	0.4	0.6	2.5	
		Min-d	0.2	0.8	1.1	0.6	0.1	N.D.	0.2	0.1	0.1	N.D.	0.1	0.2	N.D.	
	Imsil	Mean	0.1	0.2	0.3	0.3	0.4	1.8	0.5	0.1	0.2	0.3	0.1	0.2	0.3	
		%	29	14	13	17	19	13	10	16	13	35	17	16	18	
		Max-d	0.1	0.3	0.5	0.6	0.7	1.9	1.2	0.3	0.4	1.0	0.1	0.3	1.9	
		Min-d	N.D.	0.2	0.1	0.1	N.D.	1.6	N.D.	N.D.	0.1	N.D.	0.1	0.1	N.D.	
Russia	Mondy	Mean	-	-	-	-	-	-	0.1	13.1	1.2	0.1	0.3	0.9	2.9	
		%	0	0	0	0	0	0	100	100	100	100	100	100	50	
		Max-2w	-	-	-	-	-	-	-	0.1	18.9	2.3	0.2	0.4	1.5	18.9
		Min-2w	-	-	-	-	-	-	-	0.1	7.3	N.D.	0.1	0.2	0.4	N.D.
	Listvianka	Mean	0.2	0.3	0.6	0.2	0.2	0.2	0.4	0.2	N.D.	0.2	0.7	1.5	0.4	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	
		Max-w	0.4	0.7	1.8	0.3	0.3	0.3	1.2	0.2	0.2	0.3	2.0	3.1	3.1	
		Min-w	N.D.	N.D.	0.2	0.1	0.1	0.2	0.1	N.D.	N.D.	N.D.	N.D.	0.5	N.D.	
	Irkutsk	Mean	0.2	1.3	1.4	0.8	4.6	0.2	3.5	4.5	0.3	0.5	2.1	3.0	1.9	
		%	100	100	100	100	100	100	100	100	100	80	100	100	98	
		Max-w	0.5	3.0	4.1	2.2	20.9	0.3	11.9	6.8	0.4	1.0	5.2	5.7	20.9	
		Min-w	N.D.	0.6	0.2	0.2	N.D.	N.D.	N.D.	0.5	0.2	N.D.	0.4	0.1	N.D.	
	Primorskaya	Mean	0.4	0.6	0.5	0.4	0.6	0.7	0.4	0.4	0.2	0.8	1.7	2.1	0.7	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	
		Max-2w	0.5	0.9	0.6	0.5	0.7	0.9	0.5	0.4	0.3	1.2	2.2	2.5	2.5	
		Min-2w	0.3	0.4	0.5	0.4	0.4	0.5	0.3	0.4	0.2	0.4	1.3	1.6	0.2	
Thailand	Bangkok	Mean	1.2	0.5	-	0.5	0.4	0.2	0.4	0.2	0.7	0.5	0.9	1.5	0.6	
		%	100	100	0	66	100	90	100	100	100	100	100	100	88	
		Max-10d	3.3	1.0	-	0.7	0.6	0.4	0.7	0.3	1.4	0.6	1.1	2.4	3.3	
		Min-10d	N.D.	0.3	-	0.3	0.3	N.D.	0.2	0.2	0.2	0.4	0.7	1.0	N.D.	
	Pathumthani	Mean	-	-	-	1.8	0.4	0.7	0.8	0.3	0.6	0.5	1.0	1.6	0.9	
		%	0	0	0	96	100	100	84	100	100	100	94	100	72	
		Max-10d	-	-	-	2.6	0.9	1.1	1.2	0.6	1.1	0.6	1.2	2.3	2.6	
		Min-10d	-	-	-	0.6	0.1	0.5	0.5	N.D.	0.4	0.4	0.7	1.1	N.D.	
	Khanchanaburi (Vachiralongkorn Dam)	Mean	-	-	-	-	-	-	N.D.	-	-	-	N.D.	-	N.D.	
		%	0	0	0	0	0	0	35	0	0	0	52	0	8	
		Max-2w	-	-	-	-	-	-	N.D.	-	-	-	N.D.	-	N.D.	
		Min-2w	-	-	-	-	-	-	N.D.	-	-	-	N.D.	-	N.D.	
	Chiangmai (Mae Hia)	Mean	0.6	1.4	2.4	3.3	8.0	0.7	0.6	N.D.	0.1	-	-	-	1.9	
		%	94	96	100	97	97	97	97	97	100	0	0	0	73	
		Max-10d	0.8	1.7	3.0	6.7	12.9	1.1	1.4	0.1	0.4	-	-	-	12.9	
		Min-10d	0.3	1.1	1.8	1.0	0.9	N.D.	N.D.	N.D.	N.D.	-	-	-	N.D.	
	Nakhon Ratchasima	Mean	0.3	0.6	0.7	0.6	0.2	N.D.	N.D.	N.D.	N.D.	-	N.D.	N.D.	0.2	
		%	100	100	68	100	100	100	100	100	100	0	100	100	89	
		Max-10d	0.3	0.6	0.9	0.7	0.4	N.D.	N.D.	N.D.	N.D.	-	N.D.	N.D.	0.9	
		Min-10d	0.2	0.5	0.6	0.3	N.D.	N.D.	N.D.	N.D.	N.D.	-	N.D.	N.D.	N.D.	
Vietnam	Hanoi	Mean	0.8	2.1	0.9	0.9	0.8	0.9	0.5	0.5	0.7	0.8	0.9	0.7	0.8	
		%	100	75	100	100	100	100	100	100	100	100	100	100	98	
		Max-w	0.8	3.3	1.5	2.2	0.9	1.1	0.6	0.6	0.9	0.9	1.5	0.8	3.3	
		Min-w	0.7	1.1	0.5	0.4	0.7	0.7	0.3	0.4	0.6	0.5	0.5	0.4	0.3	
	Hoa Binh	Mean	0.4	0.4	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	
		%	100	100	100	100	100	100	80	100	100	100	100	100	98	
		Max-w	0.6	0.7	0.2	0.4	0.4	0.3	0.4	0.3	0.3	0.4	0.3	0.5	0.7	
		Min-w	0.2	0.2	0.2	0.2	0.3	0.2	N.D.	0.1	0.2	0.2	0.2	0.2	N.D.	

† Filterpack monitoring at Phnom Penh was started in February, 2010.

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 4.5 HCl

Unit : ppb			2010												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Cambodia	Phnom Penh	Mean	†	0.8	1.2	1.2	0.6	0.3	0.4	0.2	0.3	0.3	N.D.	0.4	0.5
		%	†	59	100	100	46	96	100	100	100	100	100	100	81
		Max-2w	†	0.8	1.3	1.2	0.7	0.4	0.4	0.2	0.5	0.4	0.2	0.9	1.3
		Min-2w	†	0.8	1.1	1.2	0.6	0.2	0.3	0.2	0.2	0.3	N.D.	N.D.	N.D.
China	Hongwen	Mean	1.2	0.7	1.3	9.6	27.0	-	22.6	23.5	18.4	-	32.2	7.7	14.5
		%	90	100	100	100	100	0	100	100	100	0	100	100	81
		Max-2w	1.7	0.8	2.2	26.2	47.8	-	24.9	26.6	18.4	-	42.6	19.7	47.8
		Min-2w	0.8	0.7	0.8	1.2	15.4	-	20.4	21.7	18.4	-	11.5	1.1	0.7
Indonesia	Serpong	Mean	0.6	0.5	0.3	0.2	0.5	0.5	0.9	0.7	0.5	0.7	0.8	5.5	0.8
		%	100	100	100	100	100	97	100	100	100	100	100	50	96
		Max-2w	0.7	0.6	0.4	0.2	0.5	0.7	1.0	0.8	0.6	0.7	1.0	5.5	5.5
		Min-2w	0.5	0.4	0.3	0.2	0.5	0.2	0.8	0.6	0.3	0.7	0.6	5.5	0.2
Japan	Rishiri	Mean	0.3	0.5	0.4	0.3	0.6	0.6	0.5	0.7	0.4	0.4	0.5	0.5	0.5
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.5	0.6	0.4	0.4	0.8	0.7	0.7	0.8	0.5	0.4	0.5	0.5	0.8
		Min-2w	0.2	0.3	0.4	0.2	0.5	0.4	0.3	0.6	0.3	0.4	0.5	0.5	0.2
	Ochiishi	Mean	0.4	0.3	0.2	0.3	0.6	0.5	0.5	0.6	0.7	0.3	0.5	0.7	0.4
		%	100	100	100	100	100	86	100	100	51	100	42	53	85
		Max-2w	0.7	0.3	0.2	0.5	0.6	0.5	0.6	0.6	0.7	0.3	0.5	0.7	0.7
		Min-2w	0.2	0.2	0.1	0.1	0.5	0.5	0.4	0.6	0.7	0.3	0.5	0.7	0.1
	Tappi	Mean	3.9	0.7	0.7	0.3	0.7	0.4	0.6	0.8	0.5	0.6	5.8	0.5	1.5
		%	100	100	100	100	50	100	100	100	100	100	100	100	96
		Max-2w	7.3	0.8	1.0	0.4	0.7	0.6	0.9	0.9	0.5	0.6	16.3	0.6	16.3
		Min-2w	0.5	0.6	0.4	0.2	0.7	0.3	0.4	0.8	0.4	0.5	0.6	0.4	0.2
	Sado-seki	Mean	0.6	0.6	0.3	0.5	1.1	0.7	1.0	1.0	0.7	0.8	0.7	0.5	0.7
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.6	0.7	0.6	0.7	1.5	1.1	1.1	1.2	1.0	0.9	0.8	0.5	1.5
		Min-2w	0.5	0.6	N.D.	0.4	0.8	0.4	0.9	0.8	0.4	0.7	0.5	0.5	N.D.
	Happo	Mean	N.D.	N.D.	N.D.	0.1	0.2	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0.1
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	N.D.	N.D.	N.D.	0.2	0.3	N.D.	N.D.	N.D.	N.D.	0.1	N.D.	N.D.	0.3
		Min-2w	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
	Ijira	Mean	0.1	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.1	N.D.	N.D.	0.2
		%	100	50	100	100	100	100	100	100	100	100	100	100	96
		Max-2w	0.1	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.3	0.2	0.1	N.D.	0.3
		Min-2w	N.D.	0.2	0.1	0.2	0.1	0.1	0.1	0.2	0.2	0.1	N.D.	N.D.	N.D.
	Oki	Mean	1.0	0.9	0.5	0.8	1.1	0.7	1.3	0.9	0.7	0.8	0.7	0.7	0.8
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	1.1	1.4	0.6	0.9	1.3	0.9	1.5	0.9	0.7	0.9	1.0	0.9	1.5
		Min-2w	0.9	0.5	0.4	0.6	0.9	0.4	1.1	0.9	0.6	0.6	0.4	0.6	0.4
	Banryu	Mean	1.0	0.7	0.4	0.8	0.7	0.6	0.5	0.5	0.6	0.9	0.8	0.6	0.7
		%	100	100	100	100	100	100	100	50	100	100	100	100	96
		Max-2w	1.1	0.8	0.5	0.8	0.9	0.9	0.5	0.5	0.7	0.9	1.0	0.8	1.1
		Min-2w	1.0	0.7	0.3	0.8	0.4	0.4	0.5	0.5	0.6	0.8	0.6	0.5	0.3
	Yusuhara	Mean	0.6	0.4	0.2	0.2	0.2	N.D.	0.2	0.2	0.2	0.3	0.4	0.5	0.3
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.6	0.5	0.2	0.3	0.4	N.D.	0.2	0.2	0.3	0.3	0.5	0.5	0.6
		Min-2w	0.5	0.3	0.2	0.2	0.2	N.D.	0.1	0.1	0.2	0.3	0.2	0.4	N.D.
	Hedo	Mean	1.2	0.9	0.5	0.7	0.8	0.9	0.2	0.5	0.1	N.D.	0.2	0.1	0.5
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	1.3	1.0	0.7	0.8	1.0	1.6	0.3	0.7	0.2	N.D.	0.4	0.1	1.6
		Min-2w	1.1	0.8	0.3	0.7	0.5	0.3	0.2	0.3	0.1	N.D.	N.D.	N.D.	N.D.
	Ogasawara	Mean	1.0	0.8	0.4	0.4	0.6	0.2	0.2	0.2	0.1	0.1	0.5	-	0.4
		%	100	100	100	100	100	100	100	100	100	100	100	0	92
		Max-2w	1.1	0.9	0.6	0.4	0.8	0.3	0.2	0.2	0.2	0.1	0.6	-	1.1
		Min-2w	0.8	0.7	0.2	0.4	0.3	0.1	0.2	0.2	0.1	0.1	0.3	-	0.1
	Tokyo	Mean	0.3	0.5	0.5	0.9	0.9	0.7	1.0	1.0	0.9	0.8	0.6	0.4	0.7
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.5	0.5	0.6	1.0	1.3	0.9	1.2	1.1	1.0	0.9	0.7	0.4	1.3
		Min-2w	0.2	0.5	0.4	0.9	0.5	0.6	0.9	0.8	0.8	0.8	0.4	0.4	0.2
Malaysia	Tanah Rata	Mean	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0.1	N.D.	N.D.	N.D.	0.1
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.1	N.D.	0.1	0.2	0.1	N.D.	N.D.	N.D.	0.2	0.2	N.D.	N.D.	0.2
		Min-w	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
	Petaling Jaya	Mean	0.4	0.4	0.7	0.5	1.0	0.4	0.3	0.5	0.3	0.5	0.5	0.3	0.5
		%	100	100	100	80	100	100	100	100	100	100	100	100	98
		Max-w	0.8	0.5	0.8	0.7	1.6	0.7	0.5	0.6	0.5	1.0	0.6	0.5	1.6
		Min-w	0.2	0.3	0.5	0.3	0.5	0.3	0.2	0.4	0.2	N.D.	0.2	0.1	N.D.
	Danum Valley	Mean	0.4	1.0	1.1	-	-	-	0.1	N.D.	0.2	N.D.	0.1	N.D.	0.3
		%	100	100	67	0	0	0	100	100	100	100	100	100	73
		Max-2w	0.6	1.1	1.2	-	-	-	0.1	0.1	0.2	N.D.	0.1	N.D.	1.2
		Min-2w	0.3	0.9	1.0	-	-	-	0.1	N.D.	0.1	N.D.	N.D.	N.D.	N.D.
Mongolia	Ulaanbaatar	Mean	0.9	1.1	0.6	1.3	0.5	2.1	2.9	1.6	1.1	7.0	2.4	1.7	1.7
		%	100	100	100	100	100	100	100	100	100	37	100	80	92
		Max-w	1.4	1.4	0.9	3.0	0.6	5.1	5.3	3.0	1.5	9.8	5.6	2.6	9.8
		Min-w	0.2	0.8	N.D.	0.2	0.4	0.8	0.8	0.8	0.7	4.2	0.8	1.3	N.D.
	Terelj	Mean	0.3	0.4	0.4	0.4	0.5	0.4	0.4	0.5	1.7	0.1	0.6	0.8	0.5
		%	100	100	100	100	100	100	100	100	100	100	100	84	99
		Max-2w	0.4	0.4	0.4	0.4	0.5	0.5	0.4	0.6	2.5	0.1	0.6	0.9	2.5
		Min-2w	0.3	0.4	0.3	0.3	0.4	0.1	0.3	0.5	0.9	0.1	0.5	0.6	0.1

Table 4.5 HCl

Unit : ppb			2010												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Philippines	Metro Manila	Mean	0.7	0.5	0.9	0.9	0.7	0.9	-	-	-	1.4	0.7	-	0.8
		%	78	100	79	47	76	32	0	0	0	48	100	0	46
		Max-w	1.0	0.8	1.3	0.9	1.1	0.9	-	-	-	1.4	1.3	-	1.4
		Min-w	N.D.	N.D.	0.5	0.8	0.2	0.9	-	-	-	1.4	0.4	-	N.D.
	Mt. Sto. Tomas	Mean	0.8	0.8	0.4	0.2	0.9	0.5	1.9	1.3	1.0	1.7	1.6	2.6	1.2
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.9	1.2	0.5	0.4	1.3	1.2	2.8	1.6	1.3	2.0	2.3	2.8	2.8
		Min-w	0.5	0.3	0.3	N.D.	0.6	0.2	0.7	1.0	0.6	1.2	0.7	1.9	N.D.
Republic of Korea	Kanghwa	Mean	0.1	-	0.2	0.1	0.2	0.3	0.3	0.1	0.4	0.1	0.2	N.D.	0.2
		%	42	0	16	17	32	17	13	16	17	23	17	13	19
		Max-d	0.3	-	0.3	0.3	0.4	0.4	0.4	0.2	0.5	0.2	0.5	0.1	0.5
		Min-d	N.D.	-	0.1	N.D.	N.D.	0.3	0.1	N.D.	0.3	N.D.	N.D.	N.D.	N.D.
	Cheju (Kosan)	Mean	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.5	0.6	0.1	0.3	0.2	0.2
		%	42	18	16	17	42	17	16	13	17	32	13	16	22
		Max-d	0.5	0.4	0.3	0.1	0.4	0.3	0.3	0.6	0.8	0.2	0.4	0.3	0.8
		Min-d	N.D.	0.2	0.1	N.D.	0.1	N.D.	N.D.	0.4	0.6	N.D.	0.2	0.2	N.D.
	Imsil	Mean	N.D.	0.2	0.1	N.D.	0.1	0.4	0.1	N.D.	0.1	0.1	0.2	0.2	0.1
		%	29	14	13	17	19	13	10	16	13	35	17	16	18
		Max-d	N.D.	0.3	0.2	0.2	0.3	0.7	0.2	0.1	0.1	0.3	0.2	0.2	0.7
		Min-d	N.D.	0.2	N.D.	N.D.	N.D.	0.2	N.D.	N.D.	N.D.	N.D.	0.2	0.1	N.D.
Russia	Mondy	Mean	-	-	-	-	-	-	0.3	0.4	0.7	1.0	0.2	0.3	0.5
		%	0	0	0	0	0	0	100	100	100	100	100	100	50
		Max-2w	-	-	-	-	-	-	0.3	0.4	1.2	1.8	0.2	0.3	1.8
		Min-2w	-	-	-	-	-	-	0.3	0.4	0.2	0.2	0.2	0.2	0.2
	Listvianka	Mean	0.3	0.6	1.0	0.2	0.2	0.2	0.3	0.6	1.6	0.7	0.5	0.4	0.6
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.5	0.8	2.4	0.2	0.2	0.3	0.3	1.1	2.0	1.7	0.6	0.6	2.4
		Min-w	0.1	0.4	N.D.	N.D.	0.2	0.2	0.2	0.2	0.9	0.3	0.3	0.3	N.D.
	Irkutsk	Mean	0.6	0.8	0.4	0.2	0.1	0.2	0.3	0.6	0.9	0.9	0.8	0.9	0.5
		%	100	100	100	100	100	100	100	100	100	80	100	100	98
		Max-w	0.9	1.2	0.5	0.3	0.3	0.2	0.5	1.0	1.5	1.2	1.2	1.6	1.6
		Min-w	0.3	N.D.	0.2	N.D.	N.D.	0.1	0.2	0.2	0.5	0.6	0.5	0.3	N.D.
	Primorskaya	Mean	0.5	0.4	0.4	0.4	0.5	0.7	0.5	0.5	0.5	0.5	3.1	0.9	0.7
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.6	0.4	0.5	0.5	0.5	0.8	0.6	0.5	0.5	0.5	5.4	0.9	5.4
		Min-2w	0.4	0.3	0.3	0.3	0.4	0.6	0.4	0.5	0.4	0.4	0.8	0.8	0.3
Thailand	Bangkok	Mean	0.3	1.1	-	1.0	0.7	1.4	0.6	0.5	0.4	0.3	0.5	0.6	0.7
		%	100	100	0	100	100	90	100	100	100	100	100	100	91
		Max-10d	0.7	1.2	-	1.5	1.0	1.6	0.7	0.6	0.5	0.5	0.5	0.7	1.6
		Min-10d	N.D.	1.0	-	0.8	0.4	1.3	0.4	0.4	0.3	0.1	0.4	0.6	N.D.
	Pathumthani	Mean	-	-	-	0.9	0.3	2.2	0.4	0.4	0.4	0.5	0.5	0.6	0.7
		%	0	0	0	96	100	100	84	100	100	100	94	100	72
		Max-10d	-	-	-	1.1	0.4	3.2	0.5	0.7	0.5	0.9	0.6	0.7	3.2
		Min-10d	-	-	-	0.6	0.1	1.7	0.3	N.D.	0.3	0.3	0.5	0.6	N.D.
	Khanchanaburi (Vachiralongkorn Dam)	Mean	-	-	-	-	-	-	0.1	-	-	-	N.D.	-	0.1
		%	0	0	0	0	0	0	35	0	0	0	52	0	8
		Max-2w	-	-	-	-	-	-	0.1	-	-	-	N.D.	-	0.1
		Min-2w	-	-	-	-	-	-	0.1	-	-	-	N.D.	-	N.D.
	Chiangmai (Mae Hia)	Mean	0.3	0.4	0.5	0.7	0.6	0.1	0.2	0.2	0.6	-	-	-	0.4
		%	94	96	100	97	97	97	97	97	100	0	0	0	73
		Max-10d	0.3	0.5	0.5	1.0	0.9	0.3	0.3	0.2	1.5	-	-	-	1.5
		Min-10d	0.2	0.3	0.5	0.5	0.3	N.D.	0.2	0.1	N.D.	-	-	-	N.D.
	Nakhon Ratchasima	Mean	0.4	0.5	0.5	0.3	0.4	0.2	0.1	0.2	N.D.	-	0.1	N.D.	0.2
		%	100	100	68	100	100	100	100	100	100	0	100	100	89
		Max-10d	0.4	0.8	0.5	0.4	0.4	0.3	0.2	N.D.	-	-	0.2	N.D.	0.8
		Min-10d	0.3	0.3	0.4	0.3	0.3	0.2	N.D.	0.1	N.D.	-	N.D.	N.D.	N.D.
Vietnam	Hanoi	Mean	2.1	3.4	2.2	1.7	2.6	2.6	1.4	1.4	2.1	1.7	1.6	1.5	2.0
		%	100	75	100	100	100	100	100	100	100	100	100	100	98
		Max-w	3.5	4.5	3.1	2.7	4.0	3.2	1.7	1.5	3.1	2.4	2.2	2.4	4.5
		Min-w	1.3	2.8	1.4	1.2	1.8	1.6	1.1	1.3	1.5	1.1	1.1	0.9	0.9
	Hoa Binh	Mean	1.9	1.2	1.8	1.5	1.8	1.8	2.4	1.6	1.6	0.8	1.0	1.0	1.5
		%	100	100	100	100	100	100	80	100	100	100	100	100	98
		Max-w	2.7	1.7	2.5	1.9	2.6	2.9	3.9	1.9	2.3	1.1	1.2	1.8	3.9
		Min-w	1.1	0.7	1.2	1.1	0.8	1.3	1.3	1.5	1.1	0.3	0.8	0.7	0.3

† Filterpack monitoring at Phnom Penh was started in February, 2010.

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 4.6 NH₃

Unit : ppb			2010												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Cambodia	Phnom Penh	Mean	†	17.6	15.7	17.7	18.2	15.9	13.8	11.0	11.4	8.3	7.3	4.5	12.9
		%	†	59	100	46	96	100	100	100	100	100	100	100	81
		Max-2w	†	17.6	16.4	17.7	18.4	22.0	15.0	11.0	12.2	9.3	7.8	8.9	22.0
		Min-2w	†	17.6	15.1	17.7	18.0	10.4	12.6	11.0	10.7	7.4	6.6	N.D.	N.D.
China	Hongwen	Mean	10.8	9.0	18.0	12.0	14.8	-	5.5	17.4	11.9	-	8.3	12.4	12.2
		%	90	100	100	100	100	0	100	100	100	0	100	100	81
		Max-2w	15.6	11.0	29.4	16.8	20.7	-	10.7	21.2	11.9	-	10.1	15.1	29.4
		Min-2w	5.9	6.9	11.5	7.9	11.3	-	0.4	14.5	11.9	-	5.8	11.0	0.4
Indonesia	Serpong	Mean	4.3	5.4	4.8	4.1	5.7	3.7	7.7	6.8	7.3	6.7	5.1	0.2	5.4
		%	100	100	100	100	100	97	100	100	100	100	100	50	96
		Max-2w	4.6	5.4	5.0	4.5	6.1	6.3	8.2	7.4	8.9	10.7	7.8	0.2	10.7
		Min-2w	4.0	5.3	4.6	3.7	5.3	1.0	7.1	6.1	4.9	2.7	2.3	0.2	0.2
Japan	Rishiri	Mean	N.D.	0.1	0.1	0.3	0.4	0.7	0.6	0.8	0.5	0.5	0.3	N.D.	0.4
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.1	0.1	0.1	0.4	0.5	1.1	0.7	0.9	0.6	0.6	0.5	N.D.	1.1
		Min-2w	N.D.	N.D.	N.D.	0.3	0.3	0.5	0.6	0.7	0.4	0.4	0.1	N.D.	N.D.
	Ochiishi	Mean	0.2	0.2	0.2	0.2	0.3	0.5	0.6	0.8	0.9	0.8	0.3	0.3	0.4
		%	100	100	100	100	100	86	100	100	51	100	42	53	85
		Max-2w	0.2	0.3	0.2	0.3	0.4	0.9	0.6	0.8	0.9	0.8	0.3	0.3	0.9
		Min-2w	0.2	0.1	0.2	0.2	0.2	N.D.	0.5	0.8	0.9	0.7	0.3	0.3	N.D.
	Tappi	Mean	0.2	0.1	0.4	0.5	0.4	0.5	0.7	1.0	0.7	0.5	0.4	0.2	0.5
		%	100	100	100	100	50	100	100	100	100	100	100	100	96
		Max-2w	0.2	0.2	0.6	0.6	0.4	0.7	0.9	1.2	0.7	0.6	0.5	0.3	1.2
		Min-2w	0.1	N.D.	0.2	0.3	0.4	0.3	0.6	0.9	0.6	0.5	0.4	0.1	N.D.
	Sado-seki	Mean	N.D.	0.2	0.2	0.5	1.0	1.2	1.0	1.0	0.7	0.6	0.4	0.2	0.6
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	N.D.	0.2	0.2	0.5	1.5	1.7	1.1	1.3	0.9	0.6	0.4	0.2	1.7
		Min-2w	N.D.	0.1	0.2	0.4	0.5	0.7	0.9	0.6	0.5	0.5	0.3	0.2	N.D.
	Happo	Mean	0.1	0.1	0.2	0.2	0.4	0.5	0.4	0.4	0.4	0.3	N.D.	N.D.	0.3
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.2	0.2	0.2	0.2	0.5	0.5	0.4	0.5	0.6	0.4	0.1	0.1	0.6
		Min-2w	0.1	0.1	0.2	0.2	0.3	0.5	0.4	0.4	0.3	0.3	N.D.	N.D.	N.D.
	Ijira	Mean	0.2	0.4	0.8	0.6	1.7	1.4	2.7	2.0	1.3	0.8	0.5	0.3	1.1
		%	100	50	100	100	100	100	100	100	100	100	100	100	96
		Max-2w	0.2	0.4	1.1	0.7	2.3	1.6	3.9	2.1	1.7	0.8	0.7	0.4	3.9
		Min-2w	N.D.	0.4	0.4	0.5	0.9	1.3	1.4	1.9	1.0	0.8	0.4	0.2	N.D.
	Oki	Mean	0.3	0.3	0.6	0.9	1.0	0.8	1.7	1.4	1.0	0.5	0.7	0.5	0.8
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.3	0.5	0.9	1.0	1.5	1.3	1.8	1.5	1.1	0.8	1.0	0.8	1.8
		Min-2w	0.2	0.2	0.3	0.7	0.5	0.3	1.7	1.3	0.9	0.4	0.5	0.3	0.2
	Banryu	Mean	0.4	0.5	0.7	1.2	1.1	1.4	1.5	1.4	1.0	1.0	1.0	0.4	1.0
		%	100	100	100	100	100	100	100	50	100	100	100	100	96
		Max-2w	0.6	0.7	1.0	1.5	1.6	1.6	1.7	1.4	1.0	1.1	1.5	0.6	1.7
		Min-2w	0.3	0.4	0.4	0.9	0.8	1.2	1.3	1.4	0.9	0.9	0.8	0.3	0.3
	Yusuhara	Mean	0.2	0.2	0.6	0.4	0.9	0.5	0.7	0.7	0.7	0.5	0.6	0.3	0.5
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.2	0.3	1.1	0.5	1.7	0.6	0.8	0.7	0.7	0.6	1.0	0.3	1.7
		Min-2w	0.2	0.1	0.2	0.4	0.5	0.5	0.6	0.7	0.6	0.4	0.3	0.2	0.1
	Hedo	Mean	0.6	0.7	1.3	1.1	2.0	1.7	2.0	1.9	1.5	0.5	0.4	0.3	1.2
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.8	0.8	1.8	1.2	2.3	2.0	2.1	2.0	1.5	0.5	0.4	0.3	2.3
		Min-2w	0.4	0.7	0.8	0.9	1.7	1.5	2.0	1.7	1.4	0.5	0.3	0.3	0.3
	Ogasawara	Mean	0.4	0.3	0.7	0.4	0.7	0.4	0.5	0.5	0.5	0.5	0.6	-	0.5
		%	100	100	100	100	100	100	100	100	100	100	100	0	92
		Max-2w	0.5	0.3	0.9	0.5	0.7	0.5	0.6	0.5	0.5	0.5	0.6	-	0.9
		Min-2w	0.3	0.3	0.5	0.4	0.7	0.4	0.5	0.5	0.5	0.5	0.5	-	0.3
	Tokyo	Mean	3.9	3.1	2.8	3.5	4.4	6.4	7.0	6.3	7.5	5.0	5.3	3.7	4.9
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	4.5	3.2	3.0	3.9	5.0	7.0	8.2	7.2	8.9	5.2	6.0	4.1	8.9
		Min-2w	3.2	3.0	2.6	3.0	3.9	5.7	5.9	5.5	6.2	4.8	4.9	3.3	2.6
Malaysia	Tanah Rata	Mean	1.0	0.8	1.4	1.0	1.2	0.8	0.7	0.9	1.3	0.9	0.7	0.8	0.9
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	1.4	1.0	2.1	1.9	1.4	1.0	0.9	1.0	2.6	1.2	0.8	0.9	2.6
		Min-w	0.8	0.2	1.0	N.D.	0.9	0.6	0.5	0.6	0.7	0.5	0.5	0.6	N.D.
	Petaling Jaya	Mean	6.3	6.9	6.1	6.6	6.7	7.8	6.8	6.9	6.0	7.0	5.9	6.9	6.7
		%	100	100	100	80	100	100	100	100	100	100	100	100	98
		Max-w	8.8	7.9	7.1	6.9	7.5	10.6	7.4	7.0	7.0	8.4	7.7	8.3	10.6
		Min-w	4.7	5.8	5.7	6.2	5.8	5.3	5.8	6.4	5.5	5.8	4.6	5.7	4.6
	Danum Valley	Mean	1.5	3.0	3.7	-	-	-	1.1	1.1	0.8	0.9	0.9	0.7	1.5
		%	100	100	67	0	0	0	100	100	100	100	100	100	73
		Max-2w	1.5	3.3	4.2	-	-	-	1.2	1.3	0.9	1.0	1.0	0.8	4.2
		Min-2w	1.4	2.7	3.3	-	-	-	1.1	0.9	0.7	0.8	0.8	0.7	0.7
Mongolia	Ulaanbaatar	Mean	2.1	4.1	6.2	11.8	19.0	32.8	41.3	9.0	15.5	11.4	11.2	5.4	14.8
		%	100	100	100	100	100	100	100	100	100	37	100	80	92
		Max-w	4.5	7.1	9.3	21.5	21.8	52.0	67.5	14.7	26.1	15.3	13.3	10.8	67.5
		Min-w	N.D.	0.8	4.0	5.8	14.6	23.4	24.1	1.9	3.3	7.5	8.9	0.4	N.D.
	Terelj	Mean	1.1	0.8	0.7	0.9	0.6	0.7	3.8	3.1	1.0	1.5	1.5	1.0	1.4
		%	100	100	100	100	100	100	100	100	100	100	100	84	99
		Max-2w	1.5	0.8	0.7	1.4	1.2	1.0	3.9	4.2	1.6	1.7	1.9	1.3	4.2
		Min-2w	0.7	0.7	0.7	0.4	N.D.	0.2	3.8	2.0	0.5	1.4	1.1	0.7	N.D.

Table 4.6 NH₃

Unit : ppb			2010												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Philippines	Metro Manila	Mean	4.9	6.2	9.0	8.3	10.4	10.0	-	-	-	5.6	6.4	-	7.5
		%	78	100	79	47	76	32	0	0	0	48	100	0	46
		Max-w	6.2	7.1	14.3	8.9	11.3	10.0	-	-	-	5.6	8.1	-	14.3
		Min-w	3.6	5.3	3.6	7.8	9.7	10.0	-	-	-	5.6	3.3	-	3.3
	Mt. Sto. Tomas	Mean	0.6	1.0	1.4	1.9	5.8	3.3	2.8	2.4	3.8	2.5	2.4	3.2	2.5
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	1.3	2.0	2.5	2.5	11.2	8.5	4.3	3.3	4.2	5.6	2.7	4.1	11.2
		Min-w	0.1	0.4	0.3	1.5	0.7	0.4	0.3	0.7	3.4	N.D.	1.9	2.0	N.D.
Republic of Korea	Kanghwa	Mean	1.0	-	2.3	3.4	4.4	9.5	9.7	12.0	7.0	3.0	1.5	4.5	4.6
		%	42	0	16	17	32	17	13	16	17	23	17	13	19
		Max-d	2.8	-	3.2	4.3	6.0	12.1	12.7	18.2	9.4	5.2	2.5	5.1	18.2
		Min-d	0.2	-	1.5	3.1	2.0	7.7	6.2	7.3	3.9	0.8	0.7	3.7	0.2
	Cheju (Kosan)	Mean	5.3	0.7	8.4	8.2	6.4	6.6	12.4	9.0	9.1	7.3	5.9	8.2	7.0
		%	42	18	16	17	42	17	16	13	17	32	13	16	22
		Max-d	9.5	1.1	10.1	9.7	9.6	7.9	36.1	11.6	10.6	10.6	6.5	10.5	36.1
		Min-d	2.7	0.2	6.8	6.8	3.9	5.1	0.5	6.8	7.0	4.8	5.0	6.1	0.2
	Imsil	Mean	6.8	0.1	5.2	7.7	12.3	13.6	6.1	3.2	6.3	4.4	5.2	7.9	6.5
		%	29	14	13	17	19	13	10	16	13	35	17	16	18
		Max-d	22.5	0.4	6.6	9.5	16.3	16.9	8.5	8.4	8.4	5.5	7.1	9.4	22.5
		Min-d	2.8	N.D.	3.3	6.6	6.0	10.0	4.2	1.1	5.0	3.0	2.5	5.7	N.D.
Russia	Mondy	Mean	-	-	-	-	-	-	0.8	0.2	0.8	0.3	0.2	0.2	0.4
		%	0	0	0	0	0	0	100	100	100	100	100	100	50
		Max-2w	-	-	-	-	-	-	0.8	0.2	1.6	0.4	0.3	0.2	1.6
		Min-2w	-	-	-	-	-	-	0.8	0.1	N.D.	0.3	N.D.	0.2	N.D.
	Listvianka	Mean	5.4	3.7	4.2	1.5	3.4	4.0	3.9	1.1	1.5	1.6	1.3	0.9	2.8
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	8.6	8.0	9.7	1.9	5.0	5.2	6.1	1.6	6.5	2.2	1.9	2.4	9.7
		Min-w	3.2	1.0	0.7	1.0	2.0	2.9	1.3	0.5	0.1	1.1	0.6	0.2	0.1
	Irkutsk	Mean	1.7	1.2	1.6	2.1	3.3	3.1	3.3	3.9	2.0	1.8	1.6	0.4	2.2
		%	100	100	100	100	100	100	100	100	100	80	100	100	98
		Max-w	2.4	1.6	2.1	2.7	5.6	4.1	5.3	6.7	3.6	2.4	3.1	0.8	6.7
		Min-w	1.0	0.8	1.2	1.9	2.0	2.2	1.2	2.5	0.2	1.4	0.2	0.2	0.2
	Primorskaya	Mean	3.9	1.3	2.4	3.1	2.8	3.3	1.5	1.8	2.0	2.1	2.0	N.D.	2.2
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	6.4	1.5	2.4	3.4	3.7	4.5	1.9	2.2	3.0	2.9	3.0	N.D.	6.4
		Min-2w	1.3	1.0	2.4	2.8	1.8	2.0	1.1	1.4	0.9	1.3	1.0	N.D.	N.D.
Thailand	Bangkok	Mean	6.1	12.0	-	12.2	10.1	7.1	6.7	6.3	5.2	4.9	6.5	9.7	7.9
		%	100	100	0	100	100	90	100	100	100	100	100	100	91
		Max-10d	10.9	13.7	-	17.2	10.9	7.8	8.3	6.4	6.1	5.1	12.1	11.2	17.2
		Min-10d	2.7	9.0	-	6.6	9.6	6.2	5.5	6.1	4.6	4.8	N.D.	8.4	N.D.
	Pathumthani	Mean	-	-	-	13.8	4.3	8.5	6.7	4.9	5.5	3.6	8.5	11.3	7.8
		%	0	0	0	96	100	100	84	100	100	100	94	100	72
		Max-10d	-	-	-	16.2	9.8	10.2	8.0	7.6	6.7	4.0	10.6	13.6	16.2
		Min-10d	-	-	-	11.4	N.D.	7.5	5.3	N.D.	4.5	3.0	6.8	8.5	N.D.
	Khanchanaburi (Vachiralongkorn Dam)	Mean	-	-	-	-	-	-	3.1	-	-	-	N.D.	-	1.6
		%	0	0	0	0	0	0	35	0	0	0	52	0	8
		Max-2w	-	-	-	-	-	-	3.1	-	-	-	N.D.	-	3.1
		Min-2w	-	-	-	-	-	-	3.1	-	-	-	N.D.	-	N.D.
	Chiangmai (Mae Hia)	Mean	5.5	8.1	14.3	14.3	20.1	7.4	5.0	2.3	4.2	-	-	-	9.0
		%	94	96	100	97	97	97	97	97	100	0	0	0	73
		Max-10d	6.3	10.1	14.8	22.9	29.3	8.6	6.1	2.5	7.7	-	-	-	29.3
		Min-10d	4.4	5.8	13.9	9.4	8.8	6.2	3.5	2.0	2.2	-	-	-	2.0
	Nakhon Ratchasima	Mean	3.1	3.2	4.1	3.3	1.5	2.0	0.9	1.3	1.5	-	0.8	1.5	2.0
		%	100	100	68	100	100	100	100	100	100	0	100	100	89
		Max-10d	3.3	3.5	4.9	3.8	3.8	2.5	1.4	1.5	1.9	-	0.8	1.8	4.9
		Min-10d	2.9	2.9	3.2	2.8	N.D.	1.6	N.D.	1.1	1.0	-	0.7	0.9	N.D.
Vietnam	Hanoi	Mean	5.4	7.2	5.4	4.0	4.9	5.3	4.5	5.2	5.3	5.7	6.2	9.4	5.7
		%	100	75	100	100	100	100	100	100	100	100	100	100	98
		Max-w	6.7	8.2	9.1	4.4	5.4	5.6	4.9	6.1	6.0	5.8	6.6	23.9	23.9
		Min-w	4.1	5.4	3.9	3.5	4.5	5.0	4.0	4.8	4.5	5.6	5.9	3.3	3.3
	Hoa Binh	Mean	2.9	1.9	1.2	1.1	1.6	1.7	1.9	2.3	2.8	3.0	1.7	2.6	2.1
		%	100	100	100	100	100	100	80	100	100	100	100	100	98
		Max-w	3.6	2.5	1.7	1.4	2.3	2.2	2.2	2.5	4.0	3.7	1.8	3.0	4.0
		Min-w	1.8	1.1	0.9	0.9	1.2	1.0	1.5	2.2	1.9	2.4	1.6	1.4	0.9

† Filterpack monitoring at Phnom Penh was started in February, 2010.

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 4.7 NO

Unit : ppb			2010												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
China	Jinyunshan	Mean	0.6	1.3	1.2	1.5	1.7	1.8	0.2	N.D.	2.5	3.2	4.2	5.3	2.0
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-d	4.8	3.2	1.6	1.6	3.2	3.2	2.4	2.4	4.0	5.6	10.4	16.0	16.0
		Min-d	N.D.	0.8	0.8	0.8	1.6	N.D.	N.D.	N.D.	1.6	N.D.	N.D.	N.D.	N.D.
Japan	Rishiri	Mean	N.D.	0.1	N.D.	N.D.	N.D.	0.1	0.2	0.1	0.2	0.1	0.2	N.D.	N.D.
		%	98	98	98	98	98	94	98	98	86	97	98	98	96
		Max-d	0.1	0.2	0.1	0.1	0.2	0.4	0.3	0.5	0.9	0.4	0.5	0.1	0.9
		Min-d	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
	Ochiishi	Mean	N.D.	N.D.	N.D.	N.D.	N.D.	0.2	0.2	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
		%	90	97	99	95	90	98	97	97	96	97	92	98	95
		Max-d	0.2	N.D.	0.1	0.1	0.2	0.7	0.5	0.2	0.2	0.2	0.1	N.D.	0.7
		Min-d	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
	Tappi	Mean	-	-	-	-	-	-	-	-	-	-	-	-	-
		%	0	0	0	0	0	0	0	0	0	0	0	0	0
		Max-d	-	-	-	-	-	-	-	-	-	-	-	-	-
		Min-d	-	-	-	-	-	-	-	-	-	-	-	-	-
	Sado-seki	Mean	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0.1	N.D.	N.D.	N.D.	N.D.	N.D.
		%	97	97	97	98	98	93	92	97	98	97	98	97	96
		Max-d	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.3	0.1	N.D.	0.1	0.1	0.3
		Min-d	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
	Happo	Mean	0.1	-	-	-	-	-	-	-	-	-	-	-	0.1
		%	90	0	0	0	0	0	0	0	0	0	0	35	11
		Max-d	0.4	-	-	-	-	-	-	-	-	-	-	0.3	0.4
		Min-d	N.D.	-	-	-	-	-	-	-	-	-	-	N.D.	N.D.
	Ijira	Mean	N.D.	0.2	0.1	0.1	0.1	0.3	0.4	0.8	0.5	0.2	0.2	0.1	0.3
		%	99	82	89	99	99	64	95	99	99	99	94	94	93
		Max-d	0.2	0.4	0.3	0.3	0.3	1.4	1.2	2.6	2.7	0.7	0.5	0.3	2.7
		Min-d	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0.2	N.D.	N.D.	N.D.	N.D.	N.D.
	Oki	Mean	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0.5	0.4	N.D.	0.1	0.2	0.3
		%	98	97	97	98	98	97	98	97	97	6	14	95	83
		Max-d	0.3	N.D.	N.D.	0.1	0.1	0.2	1.0	2.3	1.5	0.2	0.2	0.6	2.3
		Min-d	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0.1	N.D.	N.D.	N.D.
	Banryu	Mean	0.2	0.2	0.2	0.1	0.1	0.2	0.3	0.3	0.4	0.3	0.2	N.D.	0.2
		%	97	97	98	98	98	98	97	97	98	98	91	72	95
		Max-d	0.4	0.3	0.3	0.3	0.2	0.6	0.9	0.6	0.6	0.4	0.4	N.D.	0.9
		Min-d	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0.1	0.1	N.D.	N.D.	N.D.	N.D.
	Yusuhara	Mean	N.D.	0.1	-	-	-	-	-	-	-	0.1	N.D.	N.D.	N.D.
		%	98	74	0	0	0	0	0	0	0	44	97	97	34
		Max-d	0.2	0.2	-	-	-	-	-	-	-	0.2	0.2	0.3	0.3
		Min-d	N.D.	N.D.	-	-	-	-	-	-	-	N.D.	N.D.	N.D.	N.D.
	Hedo	Mean	N.D.	N.D.	N.D.	N.D.	N.D.	0.1	0.2	0.2	N.D.	N.D.	N.D.	N.D.	N.D.
		%	97	97	72	98	97	76	75	91	58	98	97	97	88
		Max-d	0.2	0.2	0.2	0.3	0.2	0.3	0.5	0.5	0.3	0.2	0.3	0.3	0.5
		Min-d	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
	Ogasawara	Mean	0.1	0.1	N.D.	N.D.	N.D.	0.3	N.D.	N.D.	0.2	N.D.	N.D.	N.D.	N.D.
		%	76	72	84	95	96	98	98	97	97	97	97	97	92
		Max-d	0.3	0.3	0.2	0.2	0.5	2.7	1.0	1.7	1.2	0.5	0.1	0.1	2.7
		Min-d	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Thailand	Bangkok	Mean	7.3	2.5	3.1	2.1	4.1	5.7	11.4	19.2	15.9	12.0	11.1	9.7	8.8
		%	26	97	77	100	94	93	90	87	100	97	100	84	87
		Max-d	13.1	7.3	13.8	15.0	10.8	15.3	24.6	61.5	57.9	63.3	56.6	33.5	63.3
		Min-d	0.9	0.3	0.2	N.D.	0.5	1.6	2.1	4.2	4.0	0.5	0.7	1.6	N.D.
	Samutprakarn	Mean	13.6	4.8	9.4	5.3	11.7	15.3	16.8	17.9	13.5	17.2	13.5	19.1	13.3
		%	94	86	100	100	74	97	94	100	93	90	100	94	94
		Max-d	34.6	9.7	39.1	9.4	30.1	25.1	58.2	41.5	34.5	34.4	45.2	42.0	58.2
		Min-d	2.3	1.9	2.2	3.5	3.8	4.6	3.6	3.5	6.1	2.6	3.9	9.7	1.9
	Khanchanaburi (Vachiralongkorn Dam)	Mean	-	-	0.1	-	-	-	0.7	0.8	-	-	0.2	0.2	0.3
		%	0	0	52	0	0	0	39	6	0	0	47	6	13
		Max-d	-	-	0.3	-	-	-	1.0	0.8	-	-	0.5	0.2	1.0
		Min-d	-	-	N.D.	-	-	-	N.D.	0.8	-	-	N.D.	0.2	N.D.
	Chiangmai (Mae Hia)	Mean	4.7	7.2	3.1	2.2	2.2	2.7	2.3	2.5	2.1	1.8	2.0	3.6	3.0
		%	100	97	100	100	100	100	87	94	80	100	93	100	96
		Max-d	12.3	11.8	7.7	2.8	3.0	4.5	4.0	5.6	5.8	5.5	3.8	13.5	13.5
		Min-d	1.2	4.3	1.8	1.5	1.7	1.5	1.2	1.1	0.8	0.4	0.5	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

% : monthly or annual percentages of period of available data

Table 4.8 NO₂

Unit : ppb			2010												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
China	Hongwen	Mean	30.3	22.1	25.5	25.2	20.0	14.3	14.5	17.4	17.3	14.4	20.9	32.0	21.1
		%	100	93	94	100	100	100	100	100	100	97	100	100	99
		Max-d	47.8	44.2	62.4	46.8	35.9	33.8	22.4	47.8	36.9	28.6	32.8	64.5	16.0
		Min-d	19.2	9.4	10.4	12.5	8.3	7.3	6.8	9.9	5.7	8.3	10.9	15.6	N.D.
	Xiang Zhou	Mean	27.2	16.4	18.1	15.7	10.7	10.7	6.2	10.4	12.3	16.3	26.2	34.0	17.0
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-d	47.3	39.5	44.7	39.5	32.8	33.8	12.5	16.6	22.9	33.3	45.2	59.8	16.0
		Min-d	11.4	4.7	6.2	6.8	3.6	3.6	3.1	4.2	6.2	6.8	14.0	18.2	N.D.
Indonesia	Jakarta	Mean	19.3	25.8	24.8	22.8	41.3	29.3	23.9	31.7	45.3	45.4	49.0	19.7	31.2
		%	100	100	100	100	100	100	100	100	60	100	80	80	93
		Max-w	29.1	31.2	33.9	26.2	87.1	46.6	36.5	62.8	80.8	51.7	86.7	20.8	87.1
		Min-w	8.9	23.1	15.2	18.3	23.7	11.9	5.0	20.6	24.2	31.3	34.1	18.0	5.0
	Kototabang	Mean	0.3	N.D.	0.2	0.2	N.D.	-	0.3	-	0.2	0.2	2.6	1.3	0.5
		%	100	100	100	96	80	0	100	0	50	100	100	100	77
		Max-w	0.5	0.1	0.5	0.6	N.D.	-	1.2	-	0.7	0.6	4.9	2.1	4.9
		Min-w	0.1	N.D.	N.D.	N.D.	N.D.	-	N.D.	-	N.D.	N.D.	0.5	0.5	N.D.
	Bandung	Mean	5.4	32.9	-	31.7	44.0	46.2	46.6	20.8	20.4	37.5	-	29.2	31.5
		%	100	100	0	100	100	100	100	100	100	100	0	100	83
		Max-m	5.4	32.9	-	31.7	44.0	46.2	46.6	20.8	20.4	37.5	-	29.2	46.6
		Min-m	5.4	32.9	-	31.7	44.0	46.2	46.6	20.8	20.4	37.5	-	29.2	5.4
Japan	Banryu	Mean	3.3	2.8	2.7	2.5	2.1	2.4	2.1	2.2	1.8	2.3	3.2	4.5	2.6
		%	97	97	98	98	98	98	97	97	98	98	91	72	95
		Max-d	6.6	4.6	4.7	5.1	3.4	4.6	3.6	3.1	2.7	3.8	6.2	8.0	8.0
		Min-d	1.5	1.5	1.3	1.4	0.5	1.6	1.0	1.3	1.1	0.9	1.2	2.6	0.5
Republic of Korea	Kanghwa	Mean	11.8	4.3	5.0	5.2	4.9	3.6	4.1	3.6	4.8	5.7	12.5	11.1	6.4
		%	98	100	98	93	99	100	100	100	93	100	100	98	98
		Max-d	38.6	7.1	11.8	8.5	11.0	4.8	6.9	5.5	7.5	17.2	43.4	31.3	43.4
		Min-d	1.9	2.1	2.4	2.4	2.3	2.2	2.3	1.9	2.4	1.7	2.6	2.8	1.7
	Cheju (Kosan)	Mean	4.4	5.7	4.0	3.7	3.4	3.4	4.4	3.8	2.9	4.5	4.6	3.9	4.1
		%	95	93	96	93	82	93	77	97	97	99	95	98	93
		Max-d	8.5	14.5	5.1	4.5	4.5	3.8	8.9	5.9	4.4	6.8	6.2	6.5	14.5
		Min-d	2.2	2.0	2.4	2.7	1.2	2.8	2.8	2.7	0.6	1.9	2.2	0.8	0.6
	Imsil	Mean	6.4	8.4	8.0	4.2	2.5	3.9	2.5	2.1	3.2	6.8	5.2	7.8	5.1
		%	96	97	93	100	95	97	99	97	98	99	97	97	97
		Max-d	11.7	17.7	10.9	5.1	6.8	5.0	3.4	2.8	4.3	11.2	9.8	15.6	17.7
		Min-d	4.4	5.4	3.4	2.9	0.5	3.1	1.6	1.3	2.4	3.0	1.8	3.1	0.5
Thailand	Bangkok	Mean	27.6	15.9	20.0	13.4	14.6	15.9	17.7	19.7	22.7	22.6	34.5	34.1	21.2
		%	26	97	77	100	94	93	90	87	100	97	100	84	87
		Max-d	36.8	27.3	41.4	29.5	22.6	27.1	26.0	28.8	33.8	40.3	57.4	57.8	57.8
		Min-d	19.7	10.7	10.4	6.7	7.7	11.8	11.9	15.1	12.5	12.5	20.3	17.7	6.7
	Samutprakarn	Mean	24.5	7.2	13.0	8.5	12.7	15.1	12.2	12.8	14.4	16.1	24.2	23.8	15.5
		%	94	86	100	100	74	97	94	100	93	90	100	94	94
		Max-d	47.4	10.9	39.3	26.6	37.9	21.9	17.3	23.6	25.3	25.0	47.5	45.9	47.5
		Min-d	8.5	3.2	2.9	3.0	2.3	7.7	6.2	7.3	7.2	6.6	10.5	11.5	2.3

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

% : monthly or annual percentages of period of available data

Table 4.9 NOx

Unit : ppb			2010												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
China	Jinyunshan (NOx*)	Mean	16.6	9.9	8.7	7.6	9.2	11.1	8.9	8.3	10.9	12.5	15.6	17.3	11.4
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-d	26.6	17.2	16.2	12.0	14.6	19.6	15.6	13.0	16.5	25.3	28.1	26.9	28.1
		Min-d	8.3	3.9	5.0	4.4	6.3	6.2	4.2	4.2	6.3	4.2	6.8	8.4	3.9
Japan	Rishiri (NOx*)	Mean	0.6	0.9	0.8	0.8	0.6	0.8	0.6	0.4	0.6	0.8	1.2	1.0	0.8
		%	98	98	98	98	98	94	98	98	86	97	98	98	97
		Max-d	1.6	2.3	1.4	1.5	1.2	3.4	1.5	1.0	1.5	1.5	1.8	2.5	3.4
	Ochiishi (NOx*)	Mean	0.8	1.0	1.0	1.2	0.9	1.3	1.3	1.1	0.9	1.0	1.1	1.1	1.0
		%	97	97	99	95	90	98	97	97	96	97	92	98	96
		Max-d	1.3	1.5	1.9	2.2	1.8	3.1	3.4	1.9	1.6	2.2	2.4	2.0	3.4
	Tappi (NOx*)	Mean	0.3	0.4	0.5	0.6	0.2	0.5	0.5	0.3	0.3	0.4	0.2	0.4	0.2
		%	-	-	-	-	-	-	-	-	-	-	-	-	-
		Max-d	-	-	-	-	-	-	-	-	-	-	-	-	-
	Sado-seki (NOx*)	Mean	-	-	-	-	-	-	-	-	-	-	-	-	-
		%	0	0	0	0	0	0	0	0	0	0	0	0	0
		Max-d	-	-	-	-	-	-	-	-	-	-	-	-	-
	Happo (NOx*)	Mean	-	-	-	-	-	-	-	-	-	-	-	-	-
		%	90	0	0	0	0	0	0	0	0	0	0	35	11
		Max-d	1.9	-	-	-	-	-	-	-	-	-	-	2.2	2.2
	Ijira (NOx*)	Mean	0.4	-	-	-	-	-	-	-	-	-	-	1.0	0.4
		%	99	82	89	99	99	64	95	99	99	99	94	94	93
		Max-d	3.6	4.2	5.7	5.0	4.9	6.8	5.5	7.0	6.7	4.3	5.0	7.6	7.6
	Oki (NOx*)	Mean	0.6	0.6	0.6	0.9	0.6	1.5	0.9	0.9	0.8	0.6	0.2	0.4	0.2
		%	98	97	97	98	98	97	98	97	97	97	6	14	95
		Max-d	4.1	2.8	2.4	3.7	2.5	2.3	1.9	3.7	3.6	0.6	2.4	3.7	4.1
	Banryu	Mean	0.2	0.1	0.5	0.2	0.2	0.2	0.7	0.2	N.D.	0.4	0.5	0.7	N.D.
		%	97	97	98	98	98	98	97	97	98	98	91	72	95
		Max-d	7.0	5.1	5.1	5.4	3.5	4.8	4.3	3.4	3.2	4.3	6.6	7.7	7.7
	Yusu-hara (NOx*)	Mean	1.6	1.8	1.6	1.5	0.6	1.7	1.2	1.5	1.4	1.0	1.3	2.4	0.6
		%	98	97	98	98	98	98	97	97	98	98	91	72	95
		Max-d	4.5	2.4	-	-	-	-	-	-	-	1.5	4.0	4.3	4.5
	Hedo (NOx*)	Mean	0.9	N.D.	-	-	-	-	-	-	-	0.7	0.3	N.D.	N.D.
		%	98	74	0	0	0	0	0	0	0	44	97	97	34
		Max-d	4.5	2.4	-	-	-	-	-	-	-	1.5	4.0	4.3	4.5
	Ogasawara (NOx*)	Mean	2.2	1.5	-	-	-	-	-	-	-	1.0	1.6	2.0	1.8
		%	98	74	0	0	0	0	0	0	0	44	97	97	34
		Max-d	4.5	2.4	-	-	-	-	-	-	-	1.5	4.0	4.3	4.5
	Hedo (NOx*)	Mean	0.9	N.D.	-	-	-	-	-	-	-	0.7	0.3	N.D.	N.D.
		%	98	74	0	0	0	0	0	0	0	44	97	97	34
		Max-d	4.5	2.4	-	-	-	-	-	-	-	1.5	4.0	4.3	4.5
	Hedo (NOx*)	Mean	1.0	0.9	0.8	0.7	0.4	0.4	0.6	0.4	0.4	0.6	0.9	1.1	0.7
		%	97	97	72	98	97	76	75	91	58	98	97	97	88
		Max-d	2.6	1.5	2.1	1.9	1.0	1.0	1.6	0.9	0.6	1.2	1.4	2.4	2.6
	Ogasawara (NOx*)	Mean	0.3	0.5	0.2	0.2	N.D.	0.1	0.2	N.D.	0.2	N.D.	0.4	0.3	N.D.
		%	97	97	72	98	97	76	75	91	58	98	97	97	88
		Max-d	2.6	1.5	2.1	1.9	1.0	1.0	1.6	0.9	0.6	1.2	1.4	2.4	2.6
	Ogasawara (NOx*)	Mean	0.3	0.5	0.2	0.2	N.D.	0.1	0.2	N.D.	0.2	N.D.	0.4	0.3	N.D.
		%	97	97	72	98	97	76	75	91	58	98	97	97	88
		Max-d	2.6	1.5	2.1	1.9	1.0	1.0	1.6	0.9	0.6	1.2	1.4	2.4	2.6
	Ogasawara (NOx*)	Mean	1.7	1.3	0.6	0.4	0.3	0.6	0.2	0.2	0.3	0.2	0.4	0.6	0.5
		%	76	72	84	95	96	98	98	97	97	97	97	97	92
		Max-d	4.9	4.4	2.5	2.1	2.6	4.9	2.2	3.3	2.3	1.2	2.0	2.1	4.9
	Chiangmai (Mae Hia) (NOx*)	Mean	0.2	0.3	0.2	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0.1	N.D.
		%	76	72	84	95	96	98	98	97	97	97	97	97	92
		Max-d	4.9	4.4	2.5	2.1	2.6	4.9	2.2	3.3	2.3	1.2	2.0	2.1	4.9
	Bangkok	Mean	16.5	24.6	15.2	14.6	8.7	9.6	8.8	8.4	8.4	8.3	11.6	14.5	12.5
		%	100	97	100	100	100	100	87	94	80	100	93	100	96
		Max-d	25.2	34.3	26.5	23.0	13.4	12.3	13.5	14.0	13.5	13.6	15.7	30.1	34.3
	Samutprakarn	Mean	10.0	14.6	6.8	8.1	4.2	6.7	5.5	5.0	4.8	3.9	6.8	5.9	3.9
		%	94	86	100	100	74	97	94	100	93	90	100	94	94
		Max-d	81.8	19.3	70.5	35.9	68.0	45.0	73.4	49.9	57.2	55.0	92.7	74.3	92.7
	Khanchanaburi (Vachiralongkorn Dam) (NOx*)	Mean	11.1	5.5	6.3	6.8	6.0	12.4	11.3	10.8	14.2	10.0	17.5	27.7	5.5
		%	-	-	6.9	-	-	-	1.5	1.7	-	-	0.8	0.8	3.1
		Max-d	0	0	52	0	0	0	39	6	0	0	47	6	13
	Chiangmai (Mae Hia) (NOx*)	Mean	-	-	12.1	-	-	-	2.0	1.7	-	-	1.2	0.8	12.1
		%	-	-	3.5	-	-	-	1.0	1.7	-	-	0.5	0.7	0.5
		Max-d	-	-	3.5	-	-	-	1.0	1.7	-	-	0.5	0.7	0.5
	Chiangmai (Mae Hia) (NOx*)	Mean	16.5	24.6	15.2	14.6	8.7	9.6	8.8	8.4	8.4	8.3	11.6	14.5	12.5
		%	100	97	100	100	100	100	87	94	80	100	93	100	96
		Max-d	25.2	34.3	26.5	23.0	13.4	12.3	13.5	14.0	13.5	13.6	15.7	30.1	34.3
	Bangkok	Mean	10.0	14.6	6.8	8.1	4.2	6.7	5.5	5.0	4.8	3.9	6.8	5.9	3.9
		%	94	86	100	100	74	97	94	100	93	90	100	94	94
		Max-d	81.8	19.3	70.5	35.9	68.0	45.0	73.4	49.9	57.2	55.0	92.7	74.3	92.7
	Khanchanaburi (Vachiralongkorn Dam) (NOx*)	Mean	11.1	5.5	6.3	6.8	6.0	12.4	11.3	10.8	14.2	10.0	17.5	27.7	5.5
		%	-	-	6.9	-	-	-	1.5	1.7	-	-	0.8	0.8	3.1
		Max-d	0	0	52	0	0	0	39	6	0	0	47	6	13
	Chiangmai (Mae Hia) (NOx*)	Mean	-	-	12.1	-	-	-	2.0	1.7	-	-	1.2	0.8	12.1
		%	-	-	3.5	-	-	-	1.0	1.7	-	-	0.5	0.7	0.5
		Max-d	-	-	3.5	-	-	-	1.0	1.7	-	-	0.5	0.7	0.5

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			2010												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Japan	Rishiri	Mean	43	47	52	53	49	41	26	32	33	35	36	36	40
		%	99	99	99	100	99	99	99	99	92	100	99	99	99
		Max-d	52	61	60	63	82	64	38	46	46	49	52	43	82
		Min-d	38	39	44	45	36	22	14	25	21	24	28	30	14
	Ochiishi	Mean	39	43	47	51	46	38	27	37	36	40	33	25	38
		%	100	99	100	100	96	100	99	99	99	100	93	100	99
		Max-d	43	52	53	62	78	54	42	49	46	49	55	29	78
		Min-d	33	37	41	43	36	26	15	19	25	29	25	22	15
	Tappi	Mean	-	-	-	-	-	-	-	-	-	-	-	-	-
		%	0	0	0	0	0	0	0	0	0	0	0	0	0
		Max-d	-	-	-	-	-	-	-	-	-	-	-	-	-
		Min-d	-	-	-	-	-	-	-	-	-	-	-	-	-
	Sado-seki	Mean	49	54	58	65	65	55	45	47	47	52	51	48	53
		%	98	98	98	99	99	94	94	99	99	99	99	98	98
		Max-d	54	70	69	74	88	69	67	58	67	62	66	61	88
		Min-d	43	45	49	57	43	24	28	30	35	40	42	41	24
	Happo	Mean	48	-	-	-	-	-	-	-	-	-	-	48	48
		%	92	0	0	0	0	0	0	0	0	0	0	36	11
		Max-d	54	-	-	-	-	-	-	-	-	-	-	55	55
		Min-d	41	-	-	-	-	-	-	-	-	-	-	43	41
	Ijira	Mean	23	26	27	31	29	17	10	6	10	17	14	18	19
		%	99	100	99	99	99	100	99	99	99	99	94	95	99
		Max-d	31	35	38	52	52	36	21	14	18	27	31	28	52
		Min-d	14	14	16	10	12	2	2	2	1	5	2	10	1
	Oki	Mean	40	44	49	57	59	48	38	34	36	47	45	41	45
		%	99	100	99	99	99	99	99	99	99	99	88	98	98
		Max-d	50	54	60	72	83	67	56	49	53	58	60	57	83
		Min-d	35	35	43	48	40	20	26	21	24	35	29	35	20
	Banryu	Mean	38	40	46	48	48	34	24	21	25	32	32	32	35
		%	99	99	99	99	99	99	99	99	99	99	100	98	99
		Max-d	47	47	61	62	66	52	43	38	47	43	47	39	66
		Min-d	19	29	33	34	30	8	10	10	10	24	19	17	8
	Yusuhara	Mean	40	39	-	-	-	-	-	-	-	28	36	33	36
		%	99	75	0	0	0	0	0	0	0	44	99	99	35
		Max-d	49	46	-	-	-	-	-	-	-	40	48	39	49
		Min-d	34	29	-	-	-	-	-	-	-	21	28	30	21
	Hedo	Mean	44	43	51	53	50	28	13	15	22	41	52	46	38
		%	99	99	74	99	99	99	98	98	91	99	99	99	96
		Max-d	56	60	65	74	81	104	21	31	51	65	69	60	104
		Min-d	32	19	25	14	13	8	7	9	6	10	43	32	6
	Ogasawara	Mean	45	46	43	41	37	20	12	14	12	17	39	38	38
		%	99	98	98	99	98	99	99	99	98	98	98	99	99
		Max-d	50	52	63	64	59	45	27	32	45	41	53	46	64
		Min-d	38	30	19	12	10	4	5	5	3	7	20	26	3
Republic of Korea	Kanghwa	Mean	32	40	47	46	56	61	39	42	44	41	41	29	43
		%	98	100	98	93	99	100	100	100	93	100	100	98	98
		Max-d	43	47	51	54	72	85	58	60	62	50	62	31	85
		Min-d	11	34	43	34	33	43	20	24	29	33	18	25	11
	Cheju (Kosan)	Mean	39	40	42	48	51	46	29	31	35	47	54	40	42
		%	95	88	96	93	82	95	97	97	97	99	95	98	94
		Max-d	45	53	47	57	74	55	51	54	65	62	73	46	74
		Min-d	30	17	32	37	35	16	17	16	16	32	38	33	16
	Imsil	Mean	27	26	36	43	43	34	24	23	23	30	34	17	30
		%	96	97	93	100	97	97	99	97	98	99	97	97	97
		Max-d	34	34	45	53	51	45	44	32	33	43	47	25	53
		Min-d	21	12	23	39	28	25	15	15	17	23	22	9	9
Russia	Mondy	Mean	42	43	50	56	54	43	47	38	34	36	36	-	44
		%	65	97	100	100	100	100	100	100	100	100	57	0	85
		Max-d	45	50	57	67	67	63	57	52	42	42	44	-	67
		Min-d	34	37	43	46	39	22	29	28	21	25	28	-	21

Table 4.10 O₃

Unit : ppb			2010												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Thailand	Bangkok	Mean	21	26	14	17	16	13	8	9	8	15	34	19	17
		%	45	97	94	100	100	80	52	77	93	100	100	84	85
		Max-d	33	35	21	38	33	23	14	17	19	60	88	31	88
		Min-d	8	17	8	4	5	4	3	3	3	3	11	5	3
	Samutprakarn	Mean	13	12	20	15	14	18	16	11	12	13	18	17	15
		%	87	86	84	100	74	97	87	87	80	74	100	94	88
		Max-d	20	16	60	24	20	25	25	20	19	23	31	23	60
		Min-d	7	9	10	12	8	8	6	5	7	7	10	10	5
	Khanchanaburi (Vachiralongkorn Dam)	Mean	-	-	41	-	-	-	9	10	-	-	15	19	23
		%	0	0	52	0	0	0	39	6	0	0	47	6	13
		Max-d	-	-	50	-	-	-	13	11	-	-	19	21	50
	Chiangmai (Mae Hia)	Min-d	-	-	32	-	-	-	6	10	-	-	10	17	6
		Mean	25	8	33	47	36	25	16	14	17	18	26	23	24
		%	100	93	100	100	100	100	87	94	80	100	90	100	96
		Max-d	45	13	59	59	50	40	27	22	25	27	39	38	59
		Min-d	11	4	3	37	19	14	8	8	9	10	19	13	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 4.11 PM₁₀

Unit : µg/m ³			2010												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
China	Jinyunshan	Mean	71	81	41	44	52	58	42	32	24	32	63	76	51
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-d	139	145	136	118	113	101	75	64	73	95	126	142	145
		Min-d	11	13	5	7	10	9	17	12	3	4	6	22	3
	Hongwen	Mean	91	43	111	65	62	29	32	50	43	58	80	83	63
		%	97	93	100	100	100	100	100	100	100	97	100	100	99
		Max-d	142	104	830	167	118	77	65	180	91	158	140	175	830
		Min-d	23	7	19	12	12	9	9	13	11	11	33	8	7
	Xiang Zhou	Mean	57	34	55	33	37	31	24	32	44	60	88	79	48
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-d	123	106	148	91	75	90	33	89	105	104	128	146	148
		Min-d	24	15	12	11	17	15	15	17	19	16	47	24	11
Japan	Rishiri	Mean	14	15	17	23	17	16	12	29	16	19	18	19	18
		%	88	88	88	88	87	87	87	83	75	49	91	90	83
		Max-d	46	49	41	144	64	43	42	84	52	38	46	57	144
		Min-d	4	5	6	6	2	6	N.D.	N.D.	4	7	3	6	N.D.
	Ochiishi	Mean	18	21	22	33	25	18	12	17	16	13	27	35	22
		%	100	99	80	95	99	99	69	91	96	100	73	100	92
		Max-d	47	39	58	122	90	56	44	28	30	24	51	97	122
		Min-d	9	9	7	9	4	4	N.D.	4	8	7	8	10	N.D.
	Tappi	Mean	29	35	45	52	29	26	13	20	19	16	38	23	28
		%	100	88	99	86	87	100	100	100	100	100	99	98	96
		Max-d	119	139	134	246	296	191	27	37	72	30	248	73	296
		Min-d	6	5	8	N.D.	N.D.	3	4	7	6	5	3	8	N.D.
	Sado-seki	Mean	24	19	28	25	25	17	18	19	15	16	26	24	21
		%	67	98	99	100	100	99	100	99	99	100	100	96	96
		Max-d	59	36	214	70	88	30	38	35	25	37	114	49	214
		Min-d	10	9	5	9	3	3	5	9	6	5	5	9	3
	Happo	Mean	7	7	16	14	19	14	12	14	7	9	11	5	12
		%	82	77	95	100	100	100	88	50	72	100	100	92	88
		Max-d	42	21	64	43	78	34	22	24	13	22	61	13	78
		Min-d	2	2	3	2	1	2	3	4	2	2	N.D.	N.D.	N.D.
	Ijira	Mean	11	13	22	19	25	22	21	24	15	16	19	11	18
		%	100	100	100	100	100	100	100	100	100	100	98	100	100
		Max-d	34	40	163	42	85	37	38	40	28	35	127	27	163
		Min-d	4	4	3	5	7	10	8	10	7	6	5	4	3
	Oki	Mean	30	24	42	32	38	19	21	11	18	23	47	30	29
		%	96	99	99	100	100	100	53	17	100	100	99	97	88
		Max-d	58	48	343	81	106	47	44	15	27	51	302	71	343
		Min-d	14	9	8	8	9	9	8	7	9	9	12	5	5
	Banryu	Mean	29	24	50	28	34	21	20	18	17	22	46	25	28
		%	99	98	99	100	99	99	100	99	100	100	99	100	99
		Max-d	75	49	509	70	94	48	47	36	27	45	345	68	509
		Min-d	8	9	6	7	8	5	5	6	6	6	7	7	5
	Yusuhara	Mean	20	14	31	18	23	13	15	13	10	13	25	16	18
		%	100	100	100	100	100	100	100	98	99	94	94	100	99
		Max-d	44	31	356	73	70	44	29	27	29	28	111	43	356
		Min-d	7	2	N.D.	1	2	1	3	2	3	2	5	3	N.D.
	Hedo	Mean	35	26	78	38	34	21	15	17	16	24	31	38	31
		%	100	96	100	100	99	100	99	99	93	99	99	100	99
		Max-d	61	54	737	194	105	114	32	42	30	53	65	85	737
		Min-d	16	7	13	12	7	7	N.D.	7	4	7	9	12	N.D.
	Ogasawara	Mean	14	15	30	12	11	5	7	7	7	6	11	13	12
		%	100	100	100	100	100	100	100	100	100	100	100	99	100
		Max-d	26	29	262	24	34	13	13	16	20	12	21	29	262
		Min-d	7	7	4	4	3	N.D.	3	3	2	2	5	5	N.D.
Republic of Korea	Kanghwa	Mean	67	44	74	41	43	48	29	51	44	42	66	58	51
		%	100	100	98	93	99	100	100	100	92	100	100	100	99
		Max-d	118	71	141	62	108	62	49	91	88	68	82	135	141
		Min-d	35	25	40	27	7	33	17	32	22	26	47	22	7
	Cheju (Kosan)	Mean	48	33	40	50	45	49	40	46	44	44	80	42	47
		%	94	93	93	93	78	94	93	97	96	96	93	98	93
		Max-d	121	49	62	75	71	82	63	89	82	70	141	63	141
		Min-d	29	21	21	27	16	17	27	25	28	21	53	27	16
	Imsil	Mean	33	32	57	39	46	41	21	30	31	43	62	43	40
		%	97	96	88	100	97	97	79	97	98	98	96	95	95
		Max-d	63	59	139	58	103	76	27	46	57	83	93	80	139
		Min-d	14	9	23	25	7	23	12	19	20	21	45	22	7

Table 4.11 PM₁₀

Unit : µg/m ³			2010												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Thailand	Bangkok	Mean	54	34	57	34	27	28	24	25	27	28	66	59	38
		%	87	97	100	100	100	93	90	87	100	100	100	84	95
		Max-d	85	48	135	55	45	55	38	35	44	69	99	91	135
		Min-d	31	22	19	21	14	17	16	15	17	13	24	23	13
	Samutprakarn	Mean	51	32	50	30	28	26	26	28	29	34	60	54	38
		%	94	79	100	100	77	93	94	100	97	90	100	94	93
		Max-d	81	42	107	40	54	53	43	51	46	65	100	94	107
		Min-d	29	21	21	22	18	13	16	14	18	12	18	32	12
	Khanchanaburi (Vachiralongkorn Dam)	Mean	-	-	93	-	-	-	6	-	-	-	15	14.3	46
		%	0	0	52	0	0	0	23	0	0	0	47	6	11
		Max-d	-	-	170	-	-	-	11	-	-	-	17	15.0	170
		Min-d	-	-	45	-	-	-	5	-	-	-	13	13.5	5
	Chiangmai (Mae Hia)	Mean	41	67	112	102	35	24	19	18	19	20	41	33	45
		%	100	97	100	100	100	100	90	94	80	100	93	100	96
		Max-d	65	112	275	177	60	64	27	24	28	33	61	57	275
		Min-d	23	38	58	53	11	11	14	10	13	11	31	12	10

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 : µg/m ³			2010												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Japan	Rishiri	Mean	7	9	9	10	10	9	6	8	6	12	10	11	9
		%	100	100	100	100	100	100	100	99	87	53	54	99	91
		Max-d	23	21	17	17	25	16	9	15	14	23	21	35	35
		Min-d	3	4	5	3	4	4	3	2	3	6.4	N.D.	3	N.D.
	Ochiishi	Mean	8	10	12	21	18	14	9	9	7	8	12	15	12
		%	100	99	80	95	99	98	68	91	96	100	73	99	92
		Max-d	25	22	25	62	86	38	38	17	16	17	31	42	86
		Min-d	3	5	5	6	2	3	N.D.	2	2	4	5	4	N.D.
	Oki	Mean	14	11	12	13	15	12	12	12	8	11	11	12	12
		%	66	74	20	100	100	100	100	97	99	100	53	59	81
		Max-d	31	32	19	27	49	26	28	29	15	31	21	35	49
		Min-d	7	3	6	3	5	3	4	3	3	4	3	4	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			2010												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Cambodia	Phnom Penh	Mean	†	3.89	4.74	5.85	2.93	1.22	1.29	1.51	1.32	2.42	2.79	1.91	2.57
		%	†	59	100	46	96	100	100	100	100	100	100	100	81
		Max-2w	†	3.89	4.93	5.85	3.82	1.64	1.30	1.77	1.58	4.22	3.18	3.82	5.85
		Min-2w	†	3.89	4.55	5.85	2.04	0.66	1.27	1.24	1.05	0.63	2.02	N.D.	N.D.
China	Hongwen	Mean	17.94	15.68	17.98	16.45	12.88	-	5.70	10.84	11.73	-	11.36	16.27	14.10
		%	90	100	100	100	100	0	100	100	100	0	100	100	81
		Max-2w	25.35	18.58	20.32	17.72	18.57	-	8.33	13.78	11.73	-	18.12	20.19	25.35
		Min-2w	9.73	12.78	16.64	15.01	6.26	-	3.06	7.20	11.73	-	1.92	11.47	1.92
Indonesia	Serpong	Mean	0.17	0.14	0.13	0.19	0.16	0.14	0.16	1.31	1.19	0.48	0.88	1.01	0.50
		%	100	100	100	100	100	97	100	100	100	100	100	50	96
		Max-2w	0.20	0.17	0.15	0.21	0.23	0.28	0.19	2.41	2.47	0.64	1.46	1.01	2.47
		Min-2w	0.14	0.10	0.10	0.17	0.10	N.D.	0.13	0.21	0.41	0.33	0.30	1.01	N.D.
Japan	Rishiri	Mean	2.02	2.80	2.82	3.34	3.42	3.03	2.16	2.97	1.92	2.49	2.93	2.77	2.74
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	3.20	3.74	2.96	3.70	3.82	4.00	2.69	3.00	2.09	2.75	3.64	3.02	4.00
		Min-2w	0.83	1.86	2.67	2.98	3.01	2.46	1.62	2.94	1.74	2.22	2.17	2.51	0.83
	Ochiishi	Mean	2.14	2.25	2.13	2.34	3.19	2.33	2.16	2.69	3.26	2.04	2.17	0.85	2.31
		%	100	100	100	100	100	86	100	100	51	100	42	53	85
		Max-2w	2.45	2.50	4.26	2.97	3.73	2.52	2.87	2.69	3.26	2.19	2.17	0.85	4.26
		Min-2w	1.83	1.99	N.D.	1.72	2.65	2.13	1.45	2.69	3.26	1.89	2.17	0.85	N.D.
	Tappi	Mean	3.27	3.91	6.26	4.33	6.91	4.59	4.82	4.63	2.37	2.99	3.69	3.04	4.12
		%	100	100	100	100	50	100	100	100	100	100	100	100	96
		Max-2w	5.16	4.32	9.18	5.17	6.91	5.84	6.12	5.28	2.46	3.18	4.82	3.58	9.18
		Min-2w	1.38	3.50	3.34	3.50	6.91	3.54	3.52	3.99	2.27	2.79	2.15	2.50	1.38
	Sado-seki	Mean	2.75	3.22	1.97	3.05	2.42	5.71	4.19	4.85	2.03	3.30	3.96	0.91	3.20
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	3.95	3.45	3.01	3.70	3.96	6.51	6.62	5.81	2.68	4.31	4.29	1.41	6.62
		Min-2w	1.54	2.99	0.93	2.40	0.15	4.91	1.76	3.88	1.38	2.29	3.64	0.41	0.15
	Happo	Mean	0.43	0.71	0.57	0.62	1.03	1.61	1.18	1.38	0.97	1.10	0.29	0.17	0.86
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.50	1.18	0.63	0.73	1.76	2.21	1.87	1.40	1.20	2.03	0.46	0.19	2.21
		Min-2w	0.36	0.24	0.50	0.51	0.27	1.02	0.49	1.37	0.74	0.15	0.12	0.15	0.12
	Ijira	Mean	2.68	4.56	2.29	3.01	3.58	4.58	2.19	5.45	3.28	3.97	2.58	1.59	3.25
		%	100	50	100	100	100	100	100	100	100	100	100	100	96
		Max-2w	3.41	4.56	2.39	3.58	5.53	4.85	4.10	7.89	3.29	4.26	3.41	2.01	7.89
		Min-2w	1.96	4.56	2.20	2.44	0.06	4.30	0.28	3.00	3.28	3.68	2.12	1.18	0.06
	Oki	Mean	5.29	4.48	5.39	3.10	4.74	2.65	5.55	4.71	2.38	4.60	5.60	5.14	4.43
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	5.81	6.95	6.46	3.12	5.71	3.79	6.40	6.29	2.72	5.77	6.82	5.61	6.95
		Min-2w	4.77	2.00	4.32	3.08	3.78	1.94	4.70	3.13	2.04	2.59	4.37	4.48	1.94
	Banryu	Mean	5.65	4.40	4.78	3.50	4.09	5.30	5.11	4.41	2.41	4.62	4.89	3.16	4.37
		%	100	100	100	100	100	100	100	50	100	100	100	100	96
		Max-2w	5.68	5.61	5.67	3.62	4.51	6.04	5.76	4.41	3.51	6.66	5.81	3.64	6.66
		Min-2w	5.61	3.19	3.89	3.38	3.87	4.57	4.46	4.41	1.31	2.59	4.21	2.68	1.31
	Yusuhara	Mean	5.74	3.85	4.47	3.30	5.84	4.64	4.46	4.19	3.08	4.58	4.60	3.95	4.46
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	6.15	4.49	4.97	3.73	6.99	6.49	4.86	5.12	4.15	5.17	6.69	4.24	6.99
		Min-2w	5.32	3.22	3.97	2.87	4.55	2.79	4.07	3.26	2.01	3.99	3.28	3.66	2.01
	Hedo	Mean	8.08	5.32	6.54	4.25	5.36	4.22	1.49	2.40	1.49	0.50	1.56	1.25	3.53
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	8.31	5.76	8.15	4.26	5.94	6.84	1.85	3.25	1.51	0.57	2.98	1.53	8.31
		Min-2w	7.85	4.87	4.94	4.24	4.58	1.59	1.13	1.55	1.47	0.44	0.80	0.98	0.44
	Ogasawara	Mean	4.29	3.77	4.12	2.36	2.64	1.00	1.06	1.04	0.98	0.80	2.35	-	2.17
		%	100	100	100	100	100	100	100	100	100	100	100	0	92
		Max-2w	4.49	4.36	5.48	2.46	3.44	1.33	1.15	1.14	1.03	0.81	2.75	-	5.48
		Min-2w	4.08	3.17	2.77	2.25	1.85	0.76	0.96	0.93	0.94	0.79	1.83	-	0.76
	Tokyo	Mean	2.50	3.86	4.41	3.55	5.72	5.95	6.80	6.13	3.06	4.32	3.03	1.91	4.28
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	3.17	5.00	4.98	3.95	6.54	6.89	8.33	8.21	3.94	5.10	3.72	2.14	8.33
		Min-2w	1.83	2.71	3.85	3.15	4.39	5.01	5.27	4.05	2.17	3.54	2.49	1.67	1.67
Malaysia	Tanah Rata	Mean	0.97	1.09	1.46	1.51	0.28	0.84	1.10	0.54	1.58	0.80	0.85	0.36	0.95
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	1.34	1.76	2.06	2.33	0.56	1.81	2.10	0.95	2.18	1.33	1.20	0.67	2.33
		Min-w	0.55	0.54	1.06	0.80	0.06	0.36	0.32	0.10	0.72	0.07	0.36	0.17	0.06
	Petaling Jaya	Mean	2.52	3.19	3.58	4.94	1.89	2.78	2.65	2.77	2.84	3.89	2.65	1.75	2.94
		%	100	100	100	80	100	100	100	100	100	100	100	100	98
		Max-w	4.58	4.49	6.60	6.05	4.85	4.76	4.25	3.32	3.22	7.79	3.48	2.89	7.79
		Min-w	0.03	1.17	0.32	3.54	0.85	1.25	0.84	2.22	2.01	0.11	1.52	0.48	0.03
	Danum Valley	Mean	2.13	3.91	5.55	-	-	-	0.66	0.85	0.98	0.88	0.63	0.47	1.73
		%	100	100	67	0	0	0	100	100	100	100	100	100	73
		Max-2w	2.34	4.36	6.30	-	-	-	0.81	1.18	1.00	1.04	0.64	0.54	6.30
		Min-2w	1.91	3.45	4.80	-	-	-	0.50	0.58	0.97	0.71	0.62	0.40	0.40
Mongolia	Ulaanbaatar	Mean	10.26	7.53	5.99	2.28	2.16	6.00	0.64	0.91	1.52	0.95	10.92	6.93	4.70
		%	100	100	100	100	100	100	100	100	100	37	100	80	92
		Max-w	15.0	11.9	8.6	5.0	4.64	14.10	1.52	2.12	2.91	1.74	37.8	13.6	37.77
		Min-w	1.11	0.29	4.09	0.42	N.D.	2.71	0.12	N.D.	0.33	0.16	1.27	2.87	N.D.
	Terelj	Mean	0.15	0.17	0.30	0.15	0.13	0.16	0.78	0.60	1.62	0.17	1.62	1.69	0.61
		%	100	100	100	100	100	100	100	100	100	100	100	84	99
		Max-2w	0.22	0.17	0.43	0.17	0.15	0.25	1.28	0.76	2.61	0.23	1.79	1.94	2.61
		Min-2w	0.08	0.16	0.16	0.12	0.11	0.11	0.27	0.44	0.63	0.11	1.44	1.43	0.08

Table 4.13 Particulate matter component: SO₄²⁻

Unit : µg/m ³			2010												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Philippines	Metro Manila	Mean	1.30	1.79	2.11	2.12	1.61	0.03	-	-	-	1.35	0.67	-	1.43
		%	78	100	79	47	76	32	0	0	0	48	100	0	46
		Max-w	1.74	2.40	3.24	2.47	3.01	0.03	-	-	-	1.35	1.54	-	3.24
		Min-w	0.44	1.40	0.24	1.78	0.47	0.03	-	-	-	1.35	N.D.	-	N.D.
	Mt. Sto. Tomas	Mean	0.88	0.99	0.65	1.07	4.73	0.95	0.71	0.94	1.67	1.33	1.24	1.88	1.40
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	1.47	2.05	1.02	2.38	7.38	1.79	1.28	2.08	1.70	2.51	1.76	2.37	7.38
		Min-w	0.18	0.25	0.06	0.04	2.49	0.09	0.32	0.34	1.64	0.06	0.23	1.13	0.04
Republic of Korea	Kanghwa	Mean	5.09	4.56	5.54	5.76	7.88	12.30	5.00	8.58	4.96	3.89	7.40	3.65	6.19
		%	42	18	16	17	35	17	13	16	17	26	17	13	21
		Max-d	10.58	12.26	6.54	9.90	22.26	24.62	12.99	16.60	13.86	9.11	21.40	8.48	24.62
		Min-d	1.15	1.29	3.97	2.76	2.22	5.48	2.18	3.70	1.06	1.05	1.04	1.84	1.04
	Cheju (Kosan)	Mean	4.07	3.11	3.38	4.25	5.55	6.19	2.35	2.93	4.18	2.69	1.36	3.79	3.82
		%	42	18	16	17	42	17	16	13	17	42	13	16	22
		Max-d	10.71	6.19	4.80	5.78	14.02	10.84	4.38	8.24	15.23	12.56	2.04	6.33	15.23
		Min-d	1.24	1.22	1.96	2.19	2.01	2.22	0.08	0.39	0.62	N.D.	0.39	1.14	N.D.
	Imsil	Mean	4.07	5.69	4.51	3.99	7.31	6.15	0.67	4.45	2.27	6.23	6.03	5.49	5.03
		%	29	7	13	17	19	13	10	6	13	39	17	16	17
		Max-d	7.24	7.02	5.39	6.17	16.84	11.27	1.25	6.77	3.37	18.74	16.41	13.46	18.74
		Min-d	1.56	4.36	3.30	1.98	0.59	3.50	0.10	2.14	0.99	0.94	1.54	1.95	0.10
Russia	Mondy	Mean	-	-	-	-	-	-	0.09	0.32	0.20	0.07	0.06	0.05	0.14
		%	0	0	0	0	0	0	100	100	100	100	100	100	50
		Max-2w	-	-	-	-	-	-	0.09	0.51	0.21	0.08	0.08	0.05	0.51
		Min-2w	-	-	-	-	-	-	0.09	0.13	0.19	0.06	0.05	0.05	0.05
	Listvianka	Mean	1.26	1.35	1.66	1.30	0.68	0.54	0.69	0.54	0.40	0.85	0.42	0.91	0.89
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	1.89	2.35	2.43	2.45	0.87	0.83	1.40	0.76	0.87	1.03	0.69	1.24	2.45
		Min-w	0.48	0.71	0.70	0.48	0.47	0.34	0.24	0.16	0.06	0.59	0.22	0.38	0.06
	Irkutsk	Mean	3.90	5.70	3.64	2.51	1.70	0.94	0.86	1.76	1.01	1.37	1.76	2.41	2.29
		%	100	100	100	100	100	100	100	100	100	80	100	100	98
		Max-w	9.62	6.94	4.99	3.53	2.38	2.00	1.20	2.36	1.34	2.69	2.58	3.72	9.62
		Min-w	1.00	3.91	0.32	0.58	0.40	0.38	0.38	1.46	0.77	0.43	1.17	1.53	0.32
	Primorskaya	Mean	4.98	4.22	5.34	3.88	3.70	4.23	3.13	2.96	2.43	1.62	4.42	7.57	4.04
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	5.66	5.51	5.70	4.58	5.27	4.51	3.43	3.12	3.10	2.83	4.54	9.74	9.74
		Min-2w	4.30	2.93	4.99	3.17	2.12	3.96	2.83	2.80	1.75	0.41	4.30	5.40	0.41
Thailand	Bangkok	Mean	3.39	3.36	-	3.98	2.43	0.54	1.21	1.34	1.59	4.50	9.87	7.60	3.63
		%	64	100	0	100	100	90	100	100	100	100	100	100	88
		Max-10d	4.44	3.76	-	4.07	3.40	1.53	1.96	2.27	2.90	7.25	16.84	8.83	16.84
		Min-10d	2.33	2.63	-	3.81	1.53	0.01	0.09	0.01	0.13	2.70	5.28	5.98	0.01
	Pathumthani	Mean	-	-	-	2.51	2.51	1.23	1.00	1.45	2.37	5.00	10.68	5.10	3.78
		%	0	0	0	96	100	100	84	100	100	100	94	100	72
		Max-10d	-	-	-	4.42	6.57	2.07	1.86	2.46	2.79	8.45	18.65	10.29	18.65
		Min-10d	-	-	-	0.27	0.03	N.D.	0.13	N.D.	2.06	2.45	5.96	0.36	N.D.
	Khanchanaburi (Vachiralongkorn Dam)	Mean	-	-	-	-	-	-	0.41	-	-	-	0.17	-	0.29
		%	0	0	0	0	0	0	35	0	0	0	52	0	8
		Max-2w	-	-	-	-	-	-	0.41	-	-	-	0.17	-	0.41
		Min-2w	-	-	-	-	-	-	0.41	-	-	-	0.17	-	0.17
	Chiangmai (Mae Hia)	Mean	1.22	1.55	2.38	3.13	1.90	0.18	0.51	0.24	0.46	-	-	-	1.29
		%	94	96	100	97	97	97	97	97	100	0	0	0	73
		Max-10d	3.43	3.00	6.05	7.85	3.07	0.29	0.66	0.51	0.97	-	-	-	7.85
		Min-10d	0.09	0.21	0.24	0.22	0.72	N.D.	0.35	N.D.	0.02	-	-	-	N.D.
	Nakhon Ratchasima	Mean	1.99	4.62	5.70	5.02	2.58	0.81	0.38	0.44	0.30	-	1.80	0.88	2.12
		%	100	100	68	100	100	100	100	100	100	0	100	100	89
		Max-10d	3.26	5.47	6.79	6.26	4.32	1.12	0.45	0.47	0.48	-	3.51	1.26	6.79
		Min-10d	1.08	3.14	4.61	3.55	0.25	0.65	0.24	0.41	0.11	-	0.80	0.27	0.11
Vietnam	Hanoi	Mean	28.04	41.67	24.15	9.94	5.20	7.01	3.87	5.39	10.46	17.88	29.45	16.49	15.63
		%	100	75	100	100	100	100	100	100	100	100	100	100	98
		Max-w	35.00	87.35	44.58	14.68	11.82	13.58	4.55	7.45	23.73	21.67	35.73	25.83	87.35
		Min-w	24.33	15.13	12.62	0.85	0.36	4.21	3.32	3.88	5.15	10.49	24.77	1.23	0.36
	Hoa Binh	Mean	1.69	3.05	5.25	1.85	1.97	0.93	2.32	1.32	0.44	0.74	2.99	4.56	2.26
		%	100	100	100	100	100	100	80	100	100	100	100	100	98
		Max-w	4.50	6.42	8.96	5.36	3.08	1.25	5.82	3.45	0.82	1.00	4.65	8.81	8.96
		Min-w	0.17	0.06	1.26	0.10	0.60	0.63	0.52	0.39	0.09	0.53	1.25	0.21	0.06

† Filterpack monitoring at Phnom Penh was started in February, 2010.

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 4.14 Particulate matter component: NO₃⁻

Unit : µg/m ³			2010												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Cambodia	Phnom Penh	Mean	†	2.29	2.71	2.71	1.42	0.98	0.90	0.92	0.77	0.57	0.55	0.39	1.19
		%	†	59	100	46	96	100	100	100	100	100	100	100	81
		Max-2w	†	2.29	3.09	2.71	1.45	1.39	0.96	0.98	0.85	1.00	0.75	0.78	3.09
		Min-2w	†	2.29	2.32	2.71	1.40	0.59	0.84	0.86	0.70	0.15	0.22	N.D.	N.D.
China	Hongwen	Mean	16.63	13.98	16.44	16.29	8.02	-	3.78	6.86	5.27	-	9.32	13.01	11.66
		%	90	100	100	100	100	0	100	100	100	0	100	100	81
		Max-2w	22.97	14.78	18.28	18.62	15.96	-	5.03	9.16	5.27	-	15.80	20.55	22.97
		Min-2w	6.68	13.18	14.76	12.50	2.66	-	2.53	5.21	5.27	-	N.D.	0.58	N.D.
Indonesia	Serpong	Mean	0.11	0.30	N.D.	0.03	0.07	0.55	0.33	0.35	0.24	0.07	0.10	0.43	0.21
		%	100	100	100	100	100	97	100	100	100	100	100	50	96
		Max-2w	0.17	0.59	N.D.	0.05	0.07	0.96	0.59	0.61	0.57	0.09	0.12	0.43	0.96
		Min-2w	0.05	0.01	N.D.	0.01	0.07	0.13	0.07	0.10	0.06	0.04	0.09	0.43	N.D.
Japan	Rishiri	Mean	0.74	0.63	0.49	1.04	1.06	0.39	0.44	0.90	0.65	0.75	1.35	0.68	0.77
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	1.34	0.83	0.49	1.29	1.39	0.77	0.57	0.98	0.79	0.75	1.50	0.91	1.50
		Min-2w	0.13	0.42	0.48	0.79	0.72	0.17	0.31	0.83	0.51	0.74	1.11	0.44	0.13
	Ochiishi	Mean	0.77	0.58	0.33	0.60	0.55	0.59	0.53	0.76	0.57	0.80	0.02	0.11	0.55
		%	100	100	100	100	100	86	100	100	51	100	42	53	85
		Max-2w	0.78	0.69	0.66	1.04	0.74	0.90	0.62	0.76	0.57	0.88	0.02	0.11	1.04
		Min-2w	0.76	0.47	N.D.	0.16	0.35	0.29	0.43	0.76	0.57	0.72	0.02	0.11	N.D.
	Tappi	Mean	0.92	1.28	1.32	1.87	3.36	0.57	1.32	1.08	0.97	1.32	1.42	0.80	1.24
		%	100	100	100	100	50	100	100	100	100	100	100	100	96
		Max-2w	1.26	1.49	1.97	2.60	3.36	0.74	1.90	1.15	1.20	1.40	2.57	1.35	3.36
		Min-2w	0.58	1.06	0.67	1.15	3.36	0.29	0.74	1.01	0.74	1.24	0.37	0.25	0.25
	Sado-seki	Mean	0.55	0.84	0.45	1.22	0.90	0.31	0.96	0.87	0.86	1.29	1.24	0.17	0.82
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.72	0.96	0.67	1.61	1.45	0.44	1.16	0.89	1.23	1.70	1.45	0.24	1.70
		Min-2w	0.38	0.71	0.23	0.83	0.02	0.18	0.76	0.84	0.49	0.88	0.86	0.10	0.02
	Happo	Mean	0.06	0.11	0.21	0.25	0.27	0.05	0.09	0.07	0.03	0.05	0.11	0.02	0.11
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.12	0.18	0.27	0.33	0.66	0.08	0.11	0.08	0.06	0.08	0.19	0.04	0.66
		Min-2w	N.D.	0.05	0.15	0.17	0.08	0.03	0.06	0.06	N.D.	N.D.	0.03	N.D.	N.D.
	Ijira	Mean	0.37	0.58	0.63	0.84	0.46	0.12	0.05	0.25	0.26	0.24	0.62	0.31	0.40
		%	100	50	100	100	100	100	100	100	100	100	100	100	96
		Max-2w	0.65	0.58	0.65	1.24	0.70	0.20	0.08	0.41	0.26	0.36	0.86	0.39	1.24
		Min-2w	0.10	0.58	0.62	0.43	N.D.	0.04	0.02	0.09	0.25	0.12	0.42	0.24	N.D.
	Oki	Mean	3.07	1.42	2.12	1.02	1.07	0.22	1.03	0.94	0.81	1.54	2.45	2.45	1.50
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	3.45	2.21	2.83	1.04	1.34	0.30	1.56	1.23	0.93	2.22	2.93	3.38	3.45
		Min-2w	2.69	0.63	1.42	0.99	0.80	0.11	0.49	0.65	0.70	1.14	1.97	1.81	0.11
	Banryu	Mean	3.23	1.85	2.34	1.53	1.21	0.20	0.53	0.87	0.69	1.06	2.42	1.83	1.53
		%	100	100	100	100	100	100	100	50	100	100	100	100	96
		Max-2w	3.59	1.86	2.95	1.58	1.97	0.21	0.88	0.87	0.74	1.31	2.91	2.18	3.59
		Min-2w	2.86	1.84	1.73	1.48	0.41	0.18	0.17	0.87	0.64	0.81	1.93	1.48	0.17
	Yusuhara	Mean	1.38	0.53	1.37	0.71	0.51	0.10	0.08	0.04	0.23	0.18	1.32	1.28	0.66
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	2.37	0.75	2.07	1.17	1.15	0.14	0.13	0.08	0.28	0.30	2.34	1.48	2.37
		Min-2w	0.38	0.30	0.67	0.24	0.17	0.07	0.03	N.D.	0.18	0.07	0.31	1.09	N.D.
	Hedo	Mean	2.63	1.21	2.43	1.69	1.84	1.08	0.48	0.54	0.28	0.15	0.30	0.48	1.09
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	2.65	1.29	3.67	1.90	2.72	1.53	0.63	0.72	0.35	0.15	0.33	0.62	3.67
		Min-2w	2.60	1.13	1.19	1.48	1.21	0.64	0.33	0.36	0.21	0.14	0.27	0.35	0.14
	Ogasawara	Mean	0.93	0.81	1.26	0.64	0.67	0.20	0.22	0.22	0.08	0.14	0.75	-	0.53
		%	100	100	100	100	100	100	100	100	100	100	100	0	92
		Max-2w	1.16	0.88	1.94	0.72	0.71	0.24	0.25	0.25	0.10	0.16	0.89	-	1.94
		Min-2w	0.69	0.74	0.58	0.56	0.64	0.14	0.19	0.18	0.05	0.12	0.59	-	0.05
	Tokyo	Mean	4.34	6.57	4.97	4.69	3.26	2.69	2.72	2.70	2.36	3.44	4.93	2.56	3.80
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	6.01	7.68	5.53	5.42	3.98	2.88	3.28	2.76	2.72	4.38	5.75	2.70	7.68
		Min-2w	2.67	5.47	4.41	3.97	2.86	2.50	2.17	2.64	1.99	2.51	3.85	2.42	1.99
Malaysia	Tanah Rata	Mean	0.20	0.13	0.23	0.10	0.19	0.14	0.17	0.06	0.04	0.11	0.02	0.07	0.12
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.39	0.23	0.41	0.15	0.29	0.42	0.39	0.15	0.12	0.34	0.03	0.17	0.42
		Min-w	0.06	0.05	0.13	0.05	0.11	0.02	0.02	N.D.	N.D.	0.01	N.D.	0.03	N.D.
	Petaling Jaya	Mean	1.05	1.12	1.25	1.26	2.02	1.37	1.22	1.16	0.91	0.82	1.69	1.29	1.25
		%	100	100	100	80	100	100	100	100	100	100	100	100	98
		Max-w	2.65	1.61	1.93	1.52	3.34	2.80	1.61	1.35	1.25	1.18	2.43	1.85	3.34
		Min-w	0.05	0.61	0.17	1.13	0.67	0.79	0.50	0.77	0.51	0.07	0.86	0.43	0.05
	Danum Valley	Mean	0.45	1.45	1.33	-	-	-	0.01	N.D.	0.03	0.03	0.01	0.05	0.36
		%	100	100	67	0	0	0	100	100	100	100	100	100	73
		Max-2w	0.52	1.66	2.35	-	-	-	0.02	0.01	0.04	0.07	0.01	0.09	2.35
		Min-2w	0.38	1.24	0.32	-	-	-	N.D.	N.D.	0.02	N.D.	N.D.	0.02	N.D.
Mongolia	Ulaanbaatar	Mean	2.93	2.49	1.83	0.70	0.66	1.51	0.17	0.47	0.79	0.42	0.80	2.18	1.25
		%	100	100	100	100	100	100	100	100	100	37	100	80	92
		Max-w	4.12	4.52	2.63	1.56	1.49	2.28	0.38	0.94	1.16	0.75	1.15	4.45	4.52
		Min-w	0.17	0.19	1.01	0.14	0.18	0.96	N.D.	N.D.	0.10	0.08	0.45	0.82	N.D.
	Terelj	Mean	0.06	0.03	0.06	0.05	0.04	0.07	0.03	0.10	0.14	0.02	0.34	0.46	0.11
		%	100	100	100	100	100	100	100	100	100	100	100	84	99
		Max-2w	0.06	0.05	0.06	0.06	0.07	0.09	0.05	0.12	0.18	0.02	0.39	0.62	0.62
		Min-2w	0.05	N.D.	0.06	0.04	N.D.	0.04	N.D.	0.07	0.09	0.02	0.29	0.30	N.D.

Table 4.14 Particulate matter component: NO₃⁻

Unit : µg/m ³			2010												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Philippines	Metro Manila	Mean	0.93	0.82	1.59	1.12	0.75	N.D.	-	-	-	0.53	0.42	-	0.85
		%	78	100	79	47	76	32	0	0	0	48	100	0	46
		Max-w	1.24	1.59	2.39	1.36	1.12	N.D.	-	-	-	0.53	1.17	-	2.39
		Min-w	0.32	N.D.	0.04	0.88	0.39	N.D.	-	-	-	0.53	N.D.	-	N.D.
	Mt. Sto. Tomas	Mean	0.40	0.47	0.71	0.51	3.14	0.30	0.55	0.75	N.D.	1.04	0.11	0.92	0.78
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.68	0.75	1.13	1.03	4.56	0.55	1.45	2.33	N.D.	4.62	0.34	4.58	4.62
		Min-w	0.07	0.14	0.38	0.13	2.41	0.02	N.D.	0.06	N.D.	N.D.	N.D.	N.D.	N.D.
Republic of Korea	Kanghwa	Mean	9.36	4.30	3.23	3.42	1.35	1.07	0.46	0.44	0.33	1.28	7.14	3.54	3.50
		%	42	18	16	17	35	17	13	16	17	26	17	13	21
		Max-d	28.44	8.44	7.52	5.08	5.08	1.93	1.42	1.37	1.16	3.76	27.34	8.92	28.44
		Min-d	0.90	1.12	1.34	0.66	0.08	0.09	0.11	0.20	0.08	0.21	0.58	1.63	0.08
	Cheju (Kosan)	Mean	1.00	0.48	2.41	0.91	0.19	0.39	0.45	0.67	0.27	0.39	1.17	0.45	0.67
		%	42	18	16	17	42	17	16	13	17	42	13	16	22
		Max-d	2.47	0.67	3.85	1.33	0.56	0.57	0.70	0.95	0.70	0.72	2.25	0.68	3.85
		Min-d	0.34	0.40	1.49	0.56	N.D.	0.28	0.17	0.40	0.09	N.D.	0.68	0.20	N.D.
	Imsil	Mean	4.21	8.91	4.47	2.47	1.53	2.65	0.32	0.37	1.06	4.02	9.95	4.70	3.82
		%	29	7	13	17	19	13	10	6	13	39	17	16	17
		Max-d	6.89	10.29	5.78	5.79	3.79	9.10	0.35	0.44	3.11	10.90	20.46	7.34	20.46
		Min-d	1.98	7.53	2.83	0.93	0.21	0.32	0.26	0.30	N.D.	0.44	2.59	2.45	N.D.
Russia	Mondy	Mean	-	-	-	-	-	-	N.D.	0.07	0.92	N.D.	0.03	0.02	0.19
		%	0	0	0	0	0	0	100	100	100	100	100	100	50
		Max-2w	-	-	-	-	-	-	N.D.	0.14	1.84	N.D.	0.03	0.03	1.84
		Min-2w	-	-	-	-	-	-	N.D.	N.D.	N.D.	N.D.	0.02	N.D.	N.D.
	Listvianka	Mean	0.31	0.20	0.11	0.07	0.08	0.05	0.07	0.09	0.05	0.03	0.15	0.69	0.17
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.45	0.55	0.27	0.10	0.12	0.08	0.18	0.17	0.14	0.05	0.34	1.22	1.22
		Min-w	0.22	0.05	0.04	0.04	0.05	0.02	N.D.	0.04	N.D.	N.D.	0.01	0.15	N.D.
	Irkutsk	Mean	1.24	1.70	0.98	0.40	2.14	0.55	0.11	0.50	0.22	0.49	0.65	1.80	0.91
		%	100	100	100	100	100	100	100	100	100	80	100	100	98
		Max-w	2.38	2.86	2.28	0.52	8.32	1.44	0.23	1.19	0.30	1.15	1.23	2.41	8.32
		Min-w	0.62	0.67	0.07	0.26	0.15	0.11	N.D.	0.23	0.17	0.07	0.24	1.30	N.D.
	Primorskaya	Mean	1.58	1.74	0.85	1.01	0.47	0.34	0.21	0.19	1.18	0.26	0.49	1.16	0.79
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	1.64	2.05	1.00	1.02	0.55	0.38	0.26	0.22	1.29	0.41	0.57	2.06	2.06
		Min-2w	1.52	1.42	0.69	1.00	0.39	0.30	0.16	0.17	1.08	0.12	0.40	0.27	0.12
Thailand	Bangkok	Mean	0.92	N.D.	-	2.93	2.06	0.92	1.48	1.22	1.41	2.40	2.63	3.60	1.86
		%	36	66	0	66	100	90	100	100	100	100	100	100	81
		Max-10d	0.92	N.D.	-	3.19	2.32	2.61	2.44	1.85	2.42	2.66	4.00	5.19	5.19
		Min-10d	0.92	N.D.	-	2.66	1.57	0.01	0.12	0.01	0.28	2.22	0.26	2.52	N.D.
	Pathumthani	Mean	-	-	-	2.23	2.57	2.25	1.34	1.56	1.73	1.89	1.61	1.37	1.93
		%	0	0	0	96	100	100	84	100	100	100	94	100	72
		Max-10d	-	-	-	4.07	7.23	3.40	2.39	2.47	2.24	2.35	2.26	2.29	7.23
		Min-10d	-	-	-	0.72	0.16	N.D.	0.28	N.D.	1.21	1.45	1.06	0.28	N.D.
	Khanchanaburi (Vachiralongkorn Dam)	Mean	-	-	-	-	-	-	0.12	-	-	-	N.D.	-	0.06
		%	0	0	0	0	0	0	35	0	0	0	52	0	8
		Max-2w	-	-	-	-	-	-	0.12	-	-	-	N.D.	-	0.12
		Min-2w	-	-	-	-	-	-	0.12	-	-	-	N.D.	-	N.D.
	Chiangmai (Mae Hia)	Mean	0.84	0.70	2.67	18.03	68.21	0.83	0.45	0.29	0.24	-	-	-	10.25
		%	94	96	100	97	97	97	97	97	100	0	0	0	73
		Max-10d	1.28	0.93	4.70	28.08	153.91	1.52	0.65	0.58	0.71	-	-	-	153.91
		Min-10d	0.31	0.29	0.46	12.73	6.99	N.D.	0.33	N.D.	N.D.	-	-	-	N.D.
	Nakhon Ratchasima	Mean	0.21	0.25	0.28	0.40	0.25	0.26	0.10	0.08	0.05	-	0.03	0.14	0.18
		%	100	100	68	100	100	100	100	100	100	0	100	100	89
		Max-10d	0.27	0.46	0.38	0.62	0.42	0.45	0.13	0.09	0.09	-	0.07	0.19	0.62
		Min-10d	0.16	0.04	0.18	0.03	0.17	0.14	0.06	0.07	0.02	-	N.D.	0.10	N.D.
Vietnam	Hanoi	Mean	15.39	22.37	15.71	4.82	2.68	3.67	2.94	3.05	3.12	4.62	11.49	10.06	7.81
		%	100	75	100	100	100	100	100	100	100	100	100	100	98
		Max-w	20.45	42.18	29.95	8.20	4.87	3.94	3.32	3.82	3.90	4.95	14.09	19.27	42.18
		Min-w	11.02	11.52	9.42	0.84	0.22	3.44	2.51	2.39	1.78	4.08	9.40	1.52	0.22
	Hoa Binh	Mean	0.41	0.72	1.67	0.38	0.43	0.28	0.47	0.39	0.17	0.17	0.80	1.43	0.61
		%	100	100	100	100	100	100	80	100	100	100	100	100	98
		Max-w	1.28	2.16	3.25	0.85	1.08	0.50	0.88	1.05	0.32	0.28	2.08	3.62	3.62
		Min-w	0.03	N.D.	0.47	0.14	0.10	0.16	0.28	0.02	N.D.	0.04	0.35	0.12	N.D.

† Filterpack monitoring at Phnom Penh was started in February, 2010.

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 4.15 Particulate matter component: CF

Unit : $\mu\text{g}/\text{m}^3$			2010												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Cambodia	Phnom Penh	Mean	†	0.47	0.51	0.29	0.17	0.13	0.35	0.16	0.07	0.06	0.02	N.D.	0.18
		%	†	59	100	46	96	100	100	100	100	100	100	100	81
		Max-2w	†	0.47	0.56	0.29	0.21	0.20	0.40	0.23	0.07	0.07	0.03	N.D.	0.56
		Min-2w	†	0.47	0.47	0.29	0.14	0.06	0.30	0.08	0.07	0.04	N.D.	N.D.	N.D.
China	Hongwen	Mean	3.52	2.28	4.09	2.47	0.68	-	0.31	0.81	2.50	-	2.47	2.72	2.28
		%	90	100	100	100	100	0	100	100	100	0	100	100	81
		Max-2w	4.51	2.67	4.71	3.52	1.71	-	0.40	0.97	2.50	-	4.42	3.59	4.71
		Min-2w	1.79	1.89	2.93	1.33	0.03	-	0.22	0.54	2.50	-	N.D.	1.62	N.D.
Indonesia	Serpong	Mean	0.32	0.35	0.15	0.26	0.13	0.09	0.39	0.45	0.14	0.12	0.17	0.78	0.25
		%	100	100	100	100	100	97	100	100	100	100	100	50	96
		Max-2w	0.41	0.69	0.29	0.28	0.25	0.16	0.47	0.50	0.25	0.12	0.21	0.78	0.78
		Min-2w	0.24	N.D.	N.D.	0.24	N.D.	0.03	0.30	0.39	0.06	0.12	0.13	0.78	N.D.
Japan	Rishiri	Mean	2.65	1.39	4.21	5.60	1.96	0.17	1.22	1.99	3.04	5.30	3.68	3.10	2.79
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	4.44	1.83	5.26	7.56	3.53	0.36	2.24	1.99	3.54	6.85	5.49	4.25	7.56
		Min-2w	0.86	0.95	3.17	3.64	0.39	0.02	0.20	1.98	2.53	3.76	1.92	1.94	0.02
	Ochiishi	Mean	4.43	3.16	7.79	8.93	2.89	0.49	0.61	0.74	0.95	5.48	15.55	2.09	4.34
		%	100	100	100	100	100	86	100	100	51	100	42	53	85
		Max-2w	5.17	3.66	15.49	10.03	3.98	0.51	0.76	0.74	0.95	6.18	15.55	2.09	15.55
		Min-2w	3.69	2.66	0.09	7.82	1.80	0.46	0.46	0.74	0.95	4.78	15.55	2.09	0.09
	Tappi	Mean	11.83	4.59	15.22	4.03	7.89	0.10	1.34	1.04	2.35	3.73	10.47	11.16	6.01
		%	100	100	100	100	50	100	100	100	100	100	100	100	96
		Max-2w	19.89	5.20	19.11	6.74	7.89	0.14	2.15	1.54	2.45	4.20	12.77	11.72	19.89
		Min-2w	3.77	3.97	11.33	1.32	7.89	0.07	0.53	0.54	2.26	3.26	6.74	10.60	0.07
	Sado-seki	Mean	11.13	4.23	3.19	4.42	0.98	0.07	0.71	0.88	2.09	1.96	11.19	2.16	3.78
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	18.48	5.53	4.53	5.91	2.50	0.10	1.07	1.73	2.55	2.03	16.61	3.62	18.48
		Min-2w	3.79	2.92	1.84	2.94	0.01	0.04	0.36	0.03	1.62	1.90	6.79	0.71	0.01
	Happo	Mean	N.D.	0.02	0.04	0.04	0.06	N.D.	N.D.	0.04	N.D.	0.03	0.02	N.D.	0.03
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	N.D.	0.03	0.06	0.04	0.09	N.D.	0.01	0.04	0.01	0.09	0.03	0.01	0.09
		Min-2w	N.D.	0.01	0.02	0.04	0.04	N.D.	N.D.	0.04	N.D.	N.D.	N.D.	N.D.	N.D.
	Ijira	Mean	0.03	N.D.	0.13	0.12	0.01	N.D.	N.D.	0.01	0.02	0.02	0.12	0.10	0.05
		%	100	50	100	100	100	100	100	100	100	100	100	100	96
		Max-2w	0.06	N.D.	0.15	0.23	0.02	0.01	N.D.	0.02	0.04	0.03	0.14	0.14	0.23
		Min-2w	N.D.	N.D.	0.11	0.02	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0.08	0.06	N.D.
	Oki	Mean	7.19	4.15	7.72	2.92	2.12	0.17	0.42	1.35	2.31	3.92	6.56	13.61	4.54
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	8.07	5.10	7.90	3.85	2.31	0.36	0.61	2.50	2.81	6.79	8.35	21.45	21.45
		Min-2w	6.31	3.19	7.53	1.98	1.92	0.08	0.24	0.19	1.81	2.42	4.76	9.24	0.08
	Banryu	Mean	1.80	2.50	3.58	1.31	0.58	N.D.	0.12	0.11	1.14	0.60	2.04	2.23	1.38
		%	100	100	100	100	100	100	100	50	100	100	100	100	96
		Max-2w	1.87	2.92	3.80	1.43	1.49	N.D.	0.15	0.11	1.65	0.65	2.22	2.29	3.80
		Min-2w	1.73	2.08	3.37	1.18	0.02	N.D.	0.10	0.11	0.63	0.55	1.81	2.17	N.D.
	Yusuhara	Mean	0.08	0.03	0.44	0.09	N.D.	0.16	N.D.	N.D.	0.05	N.D.	0.14	0.21	0.10
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.17	0.07	0.76	0.18	0.03	0.25	N.D.	N.D.	0.10	N.D.	0.26	0.25	0.76
		Min-2w	N.D.	N.D.	0.13	N.D.	N.D.	0.06	N.D.	N.D.	N.D.	N.D.	0.02	0.18	N.D.
	Hedo	Mean	7.14	5.69	7.94	6.76	3.08	2.81	3.37	3.40	4.59	0.49	7.36	2.27	4.62
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	8.71	6.62	9.57	6.98	3.74	3.85	3.78	3.70	7.12	0.77	20.52	3.09	20.52
		Min-2w	5.57	4.76	6.31	6.53	2.74	1.77	2.96	3.11	2.06	0.20	0.72	1.45	0.20
	Ogasawara	Mean	3.68	4.78	4.91	4.68	2.24	1.91	2.58	3.52	2.89	3.13	4.01	-	3.44
		%	100	100	100	100	100	100	100	100	100	100	100	0	92
		Max-2w	3.71	5.50	6.71	4.94	2.72	2.60	3.89	3.72	5.30	3.72	4.39	-	6.71
		Min-2w	3.65	4.06	3.11	4.42	1.76	1.31	1.27	3.32	0.49	2.54	3.60	-	0.49
	Tokyo	Mean	0.97	1.50	1.11	0.66	0.14	0.16	0.32	0.49	0.21	0.78	0.92	0.79	0.66
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	1.14	1.67	1.28	1.10	0.28	0.25	0.42	0.89	0.25	1.35	1.64	0.97	1.67
		Min-2w	0.80	1.33	0.93	0.23	0.07	0.08	0.23	0.09	0.16	0.20	0.26	0.60	0.07
Malaysia	Tanah Rata	Mean	0.05	0.02	0.09	0.01	0.37	0.01	0.02	N.D.	0.01	0.02	N.D.	0.03	0.05
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.11	0.03	0.21	0.04	0.43	0.03	0.07	0.02	0.03	0.06	N.D.	0.07	0.43
		Min-w	0.01	N.D.	0.02	N.D.	0.29	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
	Petaling Jaya	Mean	0.05	0.05	0.11	0.08	0.99	0.09	0.08	0.08	0.08	0.38	0.14	0.14	0.19
		%	100	100	100	80	100	100	100	100	100	100	100	100	98
		Max-w	0.13	0.11	0.29	0.15	1.22	0.15	0.12	0.09	0.18	0.88	0.20	0.25	1.22
		Min-w	N.D.	0.01	0.01	0.03	0.68	0.06	N.D.	0.06	0.03	0.06	0.08	0.08	N.D.
	Danum Valley	Mean	0.45	1.40	1.24	-	-	-	N.D.	N.D.	0.02	N.D.	N.D.	0.02	0.33
		%	100	100	67	0	0	0	100	100	100	100	100	100	73
		Max-2w	0.80	1.96	2.43	-	-	-	0.01	N.D.	0.03	N.D.	N.D.	0.04	2.43
		Min-2w	0.11	0.83	0.04	-	-	-	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Mongolia	Ulaanbaatar	Mean	1.53	1.13	1.50	0.28	0.32	0.47	1.04	0.53	0.79	1.49	1.00	3.04	1.06
		%	100	100	100	100	100	100	100	100	100	37	100	80	92
		Max-w	2.74	1.72	2.68	0.57	0.66	0.66	2.65	1.33	1.10	2.97	1.38	6.47	6.47
		Min-w	0.36	0.27	1.02	0.17	0.06	0.34	0.30	0.20	0.30	N.D.	0.55	1.54	N.D.
	Terelj	Mean	0.25	0.12	0.02	N.D.	N.D.	0.03	0.12	0.25	0.16	0.05	0.31	0.89	0.18
		%	100	100	100	100	100	100	100	100	100	100	100	84	99
		Max-2w	0.49	0.24	0.04	N.D.	N.D.	0.09	0.18	0.33	0.17	0.06	0.38	1.77	1.77
		Min-2w	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0.06	0.16	0.14	0.03	0.23	0.01	N.D.

Table 4.15 Particulate matter component: CF

Unit : µg/m ³			2010												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Philippines	Metro Manila	Mean	0.58	0.58	0.90	1.19	0.25	N.D.	-	-	-	0.69	0.74	-	0.66
		%	78	100	79	47	76	32	0	0	0	48	100	0	46
		Max-w	1.16	1.41	1.19	1.57	0.30	N.D.	-	-	-	0.69	1.48	-	1.57
		Min-w	0.23	0.10	0.12	0.81	0.22	N.D.	-	-	-	0.69	N.D.	-	N.D.
	Mt. Sto. Tomas	Mean	0.19	0.12	0.35	0.09	0.35	0.35	0.24	0.61	0.10	0.24	0.71	0.49	0.32
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.36	0.20	1.00	0.21	0.50	0.73	0.40	1.49	0.17	0.82	1.14	1.10	1.49
		Min-w	0.05	0.05	0.07	N.D.	0.16	0.13	0.11	0.07	0.04	0.02	0.26	0.11	N.D.
	Republic of Korea	Mean	0.68	0.45	0.18	0.11	0.14	0.33	0.50	0.27	0.56	0.48	0.91	0.69	0.44
		%	42	18	16	17	35	17	13	16	17	26	17	13	21
		Max-d	2.15	0.63	0.48	0.16	0.22	0.37	1.05	0.68	0.65	0.62	1.87	1.39	2.15
		Min-d	0.20	0.32	0.03	0.04	0.10	0.27	0.29	0.08	0.45	0.32	0.55	0.23	0.03
		Mean	0.56	0.44	0.19	0.19	0.40	0.49	0.36	0.73	0.52	0.58	0.65	0.25	0.46
		%	42	18	16	17	42	17	16	13	17	42	13	16	22
		Max-d	1.57	0.60	0.32	0.45	0.82	0.92	0.57	1.43	0.89	1.18	0.98	0.44	1.57
		Min-d	0.22	0.36	0.06	0.07	0.08	0.27	0.13	0.32	0.25	0.32	0.42	0.08	0.06
	Imsil	Mean	0.68	1.94	0.37	0.22	0.27	0.86	0.48	1.08	0.32	0.50	1.28	0.42	0.61
		%	29	7	13	17	19	13	10	6	13	39	17	16	17
		Max-d	1.05	2.78	0.90	0.34	0.85	1.75	0.91	1.18	0.39	0.64	2.71	0.60	2.78
		Min-d	0.34	1.10	0.17	0.15	0.06	0.34	0.26	0.97	0.25	0.39	0.44	0.26	0.06
Russia	Mondy	Mean	-	-	-	-	-	-	0.05	1.74	0.03	0.01	0.02	0.01	0.33
		%	0	0	0	0	0	0	100	100	100	100	100	100	50
		Max-2w	-	-	-	-	-	-	0.05	3.41	0.05	0.01	0.03	0.01	3.41
		Min-2w	-	-	-	-	-	-	0.05	0.07	N.D.	N.D.	0.01	0.01	N.D.
	Listvianka	Mean	0.10	0.18	0.20	0.23	0.03	0.03	0.06	0.05	0.09	0.02	0.04	0.21	0.11
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.21	0.39	0.47	0.35	0.06	0.07	0.09	0.07	0.30	0.06	0.05	0.92	0.92
		Min-w	0.02	0.07	0.05	0.14	0.02	0.01	0.03	0.05	0.02	N.D.	0.02	N.D.	N.D.
	Irkutsk	Mean	0.20	0.34	0.75	0.39	0.13	0.10	0.09	0.07	0.05	0.41	0.60	0.76	0.31
		%	100	100	100	100	100	100	100	100	100	80	100	100	98
		Max-w	0.48	0.58	1.79	0.68	0.21	0.18	0.30	0.17	0.08	1.14	1.16	1.53	1.79
		Min-w	N.D.	0.14	0.07	0.09	0.07	0.05	N.D.	N.D.	N.D.	0.13	0.24	0.23	N.D.
	Primorskaya	Mean	0.13	0.26	0.36	0.75	0.07	0.20	N.D.	N.D.	0.33	0.03	0.12	0.14	0.20
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.16	0.31	0.47	1.34	0.10	0.24	N.D.	N.D.	0.39	0.04	0.12	0.24	1.34
		Min-2w	0.10	0.22	0.25	0.15	0.05	0.15	N.D.	N.D.	0.27	0.01	0.12	0.05	N.D.
Thailand	Bangkok	Mean	0.15	0.61	-	0.45	0.38	N.D.	0.23	0.67	0.11	0.10	0.25	0.12	0.28
		%	100	100	0	100	100	90	100	100	100	100	100	100	91
		Max-10d	0.19	1.09	-	0.74	0.49	N.D.	0.38	1.41	0.23	0.15	0.49	0.14	1.41
		Min-10d	0.12	0.34	-	0.27	0.27	N.D.	0.03	N.D.	N.D.	0.07	0.08	0.08	N.D.
	Pathumthani	Mean	-	-	-	0.11	0.32	0.28	0.10	0.14	0.06	0.08	0.04	0.04	0.14
		%	0	0	0	96	100	100	84	100	100	100	94	100	72
		Max-10d	-	-	-	0.17	0.91	0.54	0.19	0.26	0.12	0.12	0.07	0.07	0.91
		Min-10d	-	-	-	0.04	0.01	N.D.	0.02	N.D.	0.02	0.02	0.01	0.01	N.D.
	Khanchanaburi (Vachiralongkom Dam)	Mean	-	-	-	-	-	-	0.20	-	-	-	N.D.	-	0.10
		%	0	0	0	0	0	0	35	0	0	0	52	0	8
		Max-2w	-	-	-	-	-	-	0.20	-	-	-	N.D.	-	0.20
		Min-2w	-	-	-	-	-	-	0.20	-	-	-	N.D.	-	N.D.
	Chiangmai (Mae Hia)	Mean	0.07	0.11	0.10	0.22	0.13	0.06	0.06	0.15	0.52	-	-	-	0.16
		%	94	96	100	97	97	97	97	97	100	0	0	0	73
		Max-10d	0.07	0.12	0.12	0.46	0.22	0.10	0.08	0.30	0.80	-	-	-	0.80
		Min-10d	0.06	0.09	0.08	0.08	0.08	N.D.	0.03	0.08	0.18	-	-	-	N.D.
	Nakhon Ratchasima	Mean	0.01	0.03	N.D.	0.06	0.02	0.04	N.D.	0.07	N.D.	-	N.D.	N.D.	0.02
		%	100	100	68	100	100	100	100	100	100	0	100	100	89
		Max-10d	0.02	0.06	N.D.	0.09	0.04	0.06	N.D.	0.09	0.02	-	N.D.	0.01	0.09
		Min-10d	N.D.	N.D.	N.D.	0.03	N.D.	0.02	N.D.	0.02	N.D.	-	N.D.	N.D.	N.D.
Vietnam	Hanoi	Mean	1.74	3.84	3.51	1.32	1.06	1.68	1.03	0.78	0.75	1.00	1.90	2.23	1.66
		%	100	75	100	100	100	100	100	100	100	100	100	100	98
		Max-w	2.82	7.83	6.81	2.35	2.12	2.46	1.45	1.11	1.04	1.18	2.13	4.24	7.83
		Min-w	0.92	0.84	1.71	N.D.	0.26	0.94	0.67	0.49	0.44	0.83	1.43	0.27	N.D.
	Hoa Binh	Mean	N.D.	0.04	0.09	0.17	0.45	2.71	0.43	0.25	0.07	0.05	0.05	0.05	0.35
		%	100	100	100	100	100	100	80	100	100	100	100	100	98
		Max-w	N.D.	0.15	0.23	0.57	1.75	8.89	1.71	0.66	0.21	0.18	0.16	0.17	8.89
		Min-w	N.D.	N.D.	N.D.	N.D.	N.D.	0.33	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

† Filterpack monitoring at Phnom Penh was started in February, 2010.

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 4.16 Particulate matter component: NH₄⁺

Unit : µg/m ³			2010												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Cambodia	Phnom Penh	Mean	†	0.71	0.89	1.34	0.66	0.25	0.09	0.24	0.27	0.58	0.75	0.53	0.55
		%	†	59	100	46	96	100	100	100	100	100	100	100	81
		Max-2w	†	0.71	1.05	1.34	0.91	0.33	0.12	0.28	0.35	1.14	0.84	1.05	1.34
		Min-2w	†	0.71	0.74	1.34	0.42	0.15	0.07	0.20	0.18	0.03	0.63	N.D.	N.D.
China	Hongwen	Mean	10.80	9.87	5.74	10.00	6.07	-	0.83	2.86	0.44	-	6.89	7.22	6.72
		%	90	100	100	100	100	0	100	100	100	0	100	100	81
		Max-2w	16.11	12.59	10.30	12.62	11.16	-	1.66	5.35	0.44	-	10.77	7.94	16.11
		Min-2w	6.09	7.16	0.58	6.41	1.68	-	N.D.	1.06	0.44	-	3.74	5.84	N.D.
Indonesia	Serpong	Mean	0.10	0.03	0.02	0.03	0.06	0.32	0.07	0.26	0.34	0.07	0.18	0.02	0.14
		%	100	100	100	100	100	97	100	100	100	100	100	50	96
		Max-2w	0.20	0.06	0.04	0.05	0.06	0.52	0.08	0.53	0.71	0.12	0.36	0.02	0.71
		Min-2w	N.D.	N.D.	N.D.	0.02	0.05	0.11	0.05	N.D.	0.12	0.02	N.D.	0.02	N.D.
Japan	Rishiri	Mean	0.34	0.55	0.46	0.57	0.58	0.63	0.32	0.40	0.27	0.38	0.64	0.40	0.47
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.59	0.75	0.46	0.58	0.72	1.10	0.34	0.44	0.30	0.40	0.76	0.45	1.10
		Min-2w	0.10	0.35	0.45	0.56	0.44	0.37	0.30	0.35	0.24	0.35	0.58	0.35	0.10
	Ochiishi	Mean	0.32	0.36	0.34	0.19	0.18	0.40	0.36	0.28	0.32	0.35	0.10	0.13	0.29
		%	100	100	100	100	100	86	100	100	51	100	42	53	85
		Max-2w	0.40	0.45	0.66	0.25	0.19	0.55	0.50	0.28	0.32	0.39	0.10	0.13	0.66
		Min-2w	0.23	0.28	0.03	0.13	0.18	0.25	0.23	0.28	0.32	0.30	0.10	0.13	0.03
	Tappi	Mean	0.38	0.63	0.86	0.79	1.38	0.87	0.90	0.78	0.49	0.51	0.60	0.26	0.68
		%	100	100	100	100	50	100	100	100	100	100	100	100	96
		Max-2w	0.60	0.84	1.33	0.86	1.38	1.29	1.12	0.92	0.55	0.54	1.20	0.40	1.38
		Min-2w	0.15	0.41	0.39	0.72	1.38	0.65	0.69	0.64	0.42	0.49	0.09	0.13	0.09
	Sado-seki	Mean	0.19	0.42	0.22	0.52	0.43	1.37	0.85	0.90	0.18	0.55	0.37	0.06	0.50
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.20	0.54	0.38	0.63	0.79	1.90	1.43	1.31	0.20	0.80	0.56	0.08	1.90
		Min-2w	0.19	0.31	0.06	0.40	0.05	0.83	0.27	0.48	0.17	0.31	0.21	0.04	0.04
	Happo	Mean	0.06	0.16	0.13	0.14	0.24	0.50	0.36	0.43	0.24	0.29	0.05	0.03	0.22
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.09	0.28	0.14	0.15	0.36	0.71	0.58	0.44	0.31	0.57	0.08	0.03	0.71
		Min-2w	0.04	0.04	0.11	0.12	0.06	0.28	0.14	0.42	0.17	N.D.	0.02	0.03	N.D.
	Ijira	Mean	0.79	1.48	0.61	0.80	0.89	1.26	0.55	1.45	0.74	1.10	0.62	0.50	0.87
		%	100	50	100	100	100	100	100	100	100	100	100	100	96
		Max-2w	1.03	1.48	0.71	0.95	1.45	1.39	1.04	2.15	0.85	1.26	0.65	0.67	2.15
		Min-2w	0.56	1.48	0.51	0.64	N.D.	1.13	0.07	0.75	0.64	0.95	0.60	0.34	N.D.
	Oki	Mean	1.16	0.85	0.75	1.11	1.40	0.93	1.08	0.96	0.39	0.96	0.83	0.68	0.92
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	1.25	1.43	0.89	1.38	1.82	0.99	1.21	1.49	0.51	1.41	1.05	0.82	1.82
		Min-2w	1.08	0.26	0.61	0.83	0.98	0.83	0.95	0.43	0.26	0.51	0.60	0.57	0.26
	Banryu	Mean	1.68	1.00	0.76	0.81	0.95	1.52	1.38	1.12	0.41	1.12	0.89	0.73	1.02
		%	100	100	100	100	100	100	100	50	100	100	100	100	96
		Max-2w	1.70	1.26	0.79	0.94	1.04	1.74	1.52	1.12	0.58	1.72	1.29	0.73	1.74
		Min-2w	1.66	0.75	0.73	0.68	0.80	1.29	1.24	1.12	0.24	0.52	0.47	0.73	0.24
	Yusuhara	Mean	1.39	0.87	0.67	0.80	1.17	1.10	1.07	0.90	0.72	1.19	0.96	1.03	1.00
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	1.41	1.07	0.82	0.89	1.44	1.61	1.20	1.11	1.05	1.42	1.19	1.04	1.61
		Min-2w	1.38	0.66	0.53	0.71	0.98	0.59	0.94	0.69	0.40	0.97	0.85	1.02	0.40
	Hedo	Mean	1.32	0.75	0.70	0.46	0.54	0.41	0.12	0.21	0.11	0.10	0.18	0.20	0.42
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	1.45	0.84	0.83	0.56	0.65	0.67	0.15	0.28	0.16	0.13	0.19	0.24	1.45
		Min-2w	1.20	0.66	0.56	0.36	0.40	0.16	0.08	0.15	0.07	0.06	0.16	0.16	0.06
	Ogasawara	Mean	0.36	0.37	0.20	0.24	0.22	0.09	0.08	0.07	0.10	0.05	0.16	-	0.17
		%	100	100	100	100	100	100	100	100	100	100	100	0	92
		Max-2w	0.41	0.46	0.22	0.26	0.29	0.13	0.10	0.08	0.15	0.06	0.18	-	0.46
		Min-2w	0.32	0.28	0.18	0.23	0.15	0.06	0.07	0.06	0.04	0.04	0.13	-	0.04
	Tokyo	Mean	1.81	2.80	1.94	1.72	1.65	1.67	1.68	1.60	0.97	1.67	1.76	1.22	1.71
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	2.03	3.50	2.03	1.84	1.89	2.15	2.23	2.09	1.20	2.29	1.93	1.27	3.50
		Min-2w	1.59	2.09	1.85	1.60	1.47	1.20	1.14	1.11	0.75	1.04	1.49	1.17	0.75
Malaysia	Tanah Rata	Mean	0.20	0.29	0.33	0.32	0.36	0.24	0.24	0.18	0.43	0.17	0.19	0.11	0.25
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.29	0.49	0.51	0.49	0.63	0.30	0.47	0.29	0.61	0.25	0.27	0.20	0.63
		Min-w	0.11	0.13	0.22	0.20	0.24	0.18	0.08	0.06	0.23	0.03	0.09	0.06	0.03
	Petaling Jaya	Mean	0.55	1.03	1.02	1.13	0.99	0.95	0.72	0.87	0.89	0.59	0.56	0.46	0.80
		%	100	100	100	80	100	100	100	100	100	100	100	100	98
		Max-w	0.98	1.24	1.95	1.39	1.43	1.29	1.05	1.07	1.05	0.94	0.87	0.90	1.95
		Min-w	N.D.	0.49	0.28	0.80	0.17	0.47	0.32	0.76	0.69	0.03	0.24	0.18	N.D.
	Danum Valley	Mean	0.05	0.14	0.32	-	-	-	0.12	0.11	0.11	0.10	0.06	0.04	0.12
		%	100	100	67	0	0	0	100	100	100	100	100	100	73
		Max-2w	0.05	0.14	0.44	-	-	-	0.17	0.18	0.14	0.15	0.06	0.07	0.44
		Min-2w	0.05	0.13	0.21	-	-	-	0.08	0.07	0.07	0.05	0.05	0.02	0.02
Mongolia	Ulaanbaatar	Mean	4.79	3.43	2.33	0.58	0.44	1.61	0.07	0.13	0.39	1.61	0.89	4.27	1.69
		%	100	100	100	100	100	100	100	100	100	37	100	80	90
		Max-w	6.52	5.98	3.36	1.34	1.09	4.22	0.31	0.26	1.05	3.21	2.74	8.18	8.18
		Min-w	0.30	N.D.	0.92	N.D.	0.15	0.57	N.D.	N.D.	0.04	N.D.	N.D.	0.41	N.D.
	Terelj	Mean	N.D.	N.D.	0.05	N.D.	N.D.	0.01	0.18	0.08	0.16	0.18	0.43	0.45	0.12
		%	100	100	100	100	100	100	100	100	100	100	100	84	99
		Max-2w	N.D.	N.D.	0.10	N.D.	N.D.	0.02	0.35	0.13	0.28	0.19	0.53	0.47	0.53
		Min-2w	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0.03	0.04	0.17	0.32	0.43	N.D.

Table 4.16 Particulate matter component: NH₄⁺

Unit : µg/m ³			2010												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Philippines	Metro Manila	Mean	0.18	0.32	0.17	0.03	0.09	N.D.	-	-	-	N.D.	0.12	-	0.14
		%	78	100	79	47	76	32	0	0	0	48	100	0	46
		Max-w	0.31	0.56	0.36	0.07	0.20	N.D.	-	-	-	N.D.	0.26	-	0.56
		Min-w	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	-	-	-	N.D.	N.D.	-	N.D.
	Mt. Sto. Tomas	Mean	N.D.	N.D.	0.02	0.16	0.95	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0.10
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.02	0.03	0.07	0.37	2.60	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	2.60
		Min-w	N.D.	N.D.	N.D.	N.D.	0.01	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
	Kanghwa	Mean	4.02	2.65	2.67	2.75	3.02	4.41	1.71	3.10	1.61	1.49	4.48	1.78	2.93
		%	42	18	16	17	35	17	13	16	17	26	17	13	21
		Max-d	11.13	6.49	4.43	4.49	8.38	9.38	4.61	6.02	4.55	3.42	10.32	4.86	11.13
		Min-d	0.38	0.65	1.69	1.55	0.87	1.71	0.66	1.32	0.20	0.17	0.67	0.42	0.17
	Cheju (Kosan)	Mean	1.14	1.09	1.39	1.28	1.93	1.90	1.15	1.09	1.06	1.19	0.58	1.29	1.32
		%	42	18	16	17	42	17	16	13	17	42	13	16	22
		Max-d	3.04	1.89	1.83	1.97	4.68	3.03	1.81	2.94	4.33	5.66	1.28	1.93	5.66
		Min-d	0.28	0.53	0.78	0.89	0.67	0.72	0.64	0.33	0.05	N.D.	0.17	0.47	N.D.
Russia	Mondy	Mean	-	-	-	-	-	-	-	0.05	N.D.	0.02	0.01	N.D.	0.01
		%	0	0	0	0	0	0	100	100	100	100	100	100	50
		Max-2w	-	-	-	-	-	-	-	0.05	N.D.	0.03	0.02	N.D.	0.05
		Min-2w	-	-	-	-	-	-	-	0.05	N.D.	N.D.	N.D.	N.D.	N.D.
	Listvianka	Mean	0.29	0.24	0.08	0.42	0.11	0.05	0.04	0.08	0.07	0.13	0.11	0.22	0.15
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.41	0.83	0.33	0.60	0.18	0.09	0.12	0.15	0.12	0.17	0.14	0.36	0.83
		Min-w	0.08	0.03	N.D.	0.19	0.04	N.D.	N.D.	0.02	0.03	0.09	0.03	0.10	N.D.
	Irkutsk	Mean	1.29	1.03	0.74	0.64	0.12	0.05	0.04	0.16	0.20	0.26	0.65	0.66	0.49
		%	100	100	100	100	100	100	100	100	100	80	100	100	98
		Max-w	3.11	1.51	1.14	0.92	0.28	0.09	0.11	0.27	0.24	0.56	0.89	0.93	3.11
		Min-w	0.41	0.75	0.07	0.19	0.04	N.D.	N.D.	0.02	0.17	0.05	0.33	0.40	N.D.
	Primorskaya	Mean	1.19	1.21	1.37	0.76	0.39	0.59	0.41	0.41	0.56	0.25	0.87	1.04	0.75
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	1.41	1.56	1.58	1.06	0.52	0.60	0.41	0.43	0.79	0.51	1.19	1.23	1.58
		Min-2w	0.97	0.87	1.16	0.45	0.27	0.58	0.40	0.38	0.32	N.D.	0.55	0.85	N.D.
Thailand	Bangkok	Mean	-	N.D.	-	0.68	0.53	0.14	0.43	N.D.	0.12	0.61	2.55	1.65	0.69
		%	0	66	0	100	100	90	100	100	100	100	100	100	81
		Max-10d	-	N.D.	-	1.09	0.88	0.21	0.52	N.D.	0.27	1.33	4.98	1.77	4.98
		Min-10d	-	N.D.	-	N.D.	0.30	0.04	0.35	N.D.	N.D.	N.D.	1.32	1.45	N.D.
	Pathumthani	Mean	-	-	-	0.75	1.18	0.27	0.40	N.D.	0.26	0.89	2.49	0.87	0.84
		%	0	0	0	96	100	100	84	100	100	100	94	100	72
		Max-10d	-	-	-	1.09	3.25	0.36	0.50	N.D.	0.40	1.60	5.36	1.79	5.36
		Min-10d	-	-	-	0.15	0.01	0.19	0.30	N.D.	0.19	0.36	0.80	0.12	N.D.
	Khanchanaburi (Vachiralongkorn Dam)	Mean	-	-	-	-	-	-	0.29	-	-	-	0.07	-	0.18
		%	0	0	0	0	0	0	35	0	0	0	52	0	8
		Max-2w	-	-	-	-	-	-	0.29	-	-	-	0.07	-	0.29
		Min-2w	-	-	-	-	-	-	0.29	-	-	-	0.07	-	0.07
	Chiangmai (Mae Hia)	Mean	0.58	0.61	1.52	7.19	22.72	0.30	0.24	0.10	0.03	-	-	-	3.70
		%	94	96	100	97	97	97	97	97	100	0	0	0	73
		Max-10d	1.19	1.17	2.59	10.62	47.75	0.63	0.29	0.18	0.10	-	-	-	47.75
		Min-10d	0.10	0.10	0.14	3.93	2.13	0.06	0.15	N.D.	N.D.	-	-	-	N.D.
	Nakhon Ratchasima	Mean	0.68	1.51	1.69	1.64	0.93	0.31	0.15	0.14	0.11	-	0.75	0.40	0.73
		%	100	100	68	100	100	100	100	100	100	0	100	100	89
		Max-10d	0.93	1.94	1.75	2.15	1.53	0.45	0.26	0.19	0.23	-	1.38	0.62	2.15
		Min-10d	0.43	1.13	1.63	1.29	0.17	0.21	0.02	0.08	N.D.	-	0.36	0.08	N.D.
Vietnam	Hanoi	Mean	4.94	5.75	7.67	2.00	0.72	1.20	0.54	1.12	2.06	4.20	7.10	3.86	3.28
		%	100	75	100	100	100	100	100	100	100	100	100	100	96
		Max-w	5.98	11.29	15.85	3.99	2.62	3.07	0.70	2.43	6.39	5.58	9.75	7.39	15.85
		Min-w	3.54	2.46	2.70	0.19	N.D.	N.D.	0.28	0.49	0.33	2.90	4.69	0.39	N.D.
	Hoa Binh	Mean	0.49	0.71	1.59	0.56	0.41	0.02	0.60	0.20	0.04	0.22	1.04	1.69	0.64
		%	100	100	100	100	100	100	80	100	100	100	100	100	98
		Max-w	1.25	1.87	2.14	1.97	0.96	0.07	1.55	0.69	0.10	0.39	1.80	3.17	3.17
		Min-w	0.05	N.D.	0.54	N.D.	0.04	N.D.	0.02	N.D.	N.D.	0.14	0.41	0.04	N.D.

† Filterpack monitoring at Phnom Penh was started in February, 2010.

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 4.17 Particulate matter component: Na⁺

Unit : µg/m ³			2010												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Cambodia	Phnom Penh	Mean	†	1.32	1.27	1.20	0.45	0.28	0.32	0.27	0.20	0.19	0.26	0.29	0.48
		%	†	59	100	46	96	100	100	100	100	100	100	100	81
		Max-2w	†	1.32	1.50	1.20	0.51	0.42	0.32	0.32	0.24	0.33	0.40	0.58	1.50
		Min-2w	†	1.32	1.03	1.20	0.39	0.19	0.32	0.23	0.15	0.05	0.09	N.D.	N.D.
China	Hongwen	Mean	1.56	0.80	3.02	0.80	0.76	-	1.16	1.69	4.26	-	2.54	2.00	1.76
		%	90	100	100	100	100	0	100	100	100	0	100	100	81
		Max-2w	2.10	0.94	4.01	1.54	1.67	-	1.58	1.88	4.26	-	4.59	2.73	4.59
		Min-2w	0.58	0.65	1.24	N.D.	N.D.	-	0.75	1.31	4.26	-	1.52	1.62	N.D.
Indonesia	Serpong	Mean	0.23	N.D.	N.D.	0.01	0.01	0.10	0.08	0.22	0.08	0.06	0.08	0.41	0.09
		%	100	100	100	100	100	97	100	100	100	100	100	50	96
		Max-2w	0.33	N.D.	N.D.	0.01	0.02	0.17	0.11	0.43	0.17	0.08	0.13	0.41	0.43
		Min-2w	0.14	N.D.	N.D.	N.D.	0.01	0.02	0.05	N.D.	0.02	0.04	0.02	0.41	N.D.
Japan	Rishiri	Mean	1.91	1.32	2.98	3.63	1.85	0.60	1.19	1.92	2.19	3.47	2.78	2.32	2.14
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	3.14	1.70	3.58	4.68	2.72	0.84	1.94	2.02	2.40	4.36	4.17	2.96	4.68
		Min-2w	0.68	0.94	2.37	2.59	0.99	0.29	0.43	1.83	1.99	2.59	1.54	1.69	0.29
	Ochiishi	Mean	2.76	2.08	4.63	5.47	2.54	0.90	0.93	1.31	1.47	3.48	7.86	1.24	2.87
		%	100	100	100	100	100	86	100	100	51	100	42	53	85
		Max-2w	3.11	2.33	9.22	5.87	3.03	1.00	0.99	1.31	1.47	3.88	7.86	1.24	9.22
		Min-2w	2.42	1.82	0.05	5.08	2.05	0.80	0.87	1.31	1.47	3.07	7.86	1.24	0.05
	Tappi	Mean	7.67	3.40	9.62	2.89	5.65	0.62	2.09	1.75	1.88	2.87	6.79	6.88	4.24
		%	100	100	100	100	50	100	100	100	100	100	100	100	96
		Max-2w	12.92	3.67	12.28	4.47	5.65	0.80	3.09	1.99	2.20	3.15	7.83	7.01	12.92
		Min-2w	2.42	3.12	6.97	1.31	5.65	0.28	1.09	1.50	1.57	2.59	4.80	6.75	0.28
	Sado-seki	Mean	6.63	3.05	2.08	3.08	1.06	0.65	1.24	1.33	1.85	1.88	6.70	1.33	2.67
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	10.89	3.75	3.09	3.75	2.01	1.02	1.40	1.98	2.44	2.09	9.46	2.22	10.89
		Min-2w	2.38	2.35	1.07	2.40	0.02	0.29	1.08	0.68	1.25	1.68	4.48	0.44	0.02
	Happo	Mean	0.02	0.02	0.03	0.05	0.03	0.01	0.03	0.03	0.05	0.06	0.03	N.D.	0.03
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.03	0.03	0.03	0.07	0.06	0.02	0.04	0.03	0.05	0.09	0.04	0.01	0.09
		Min-2w	0.01	0.01	0.03	0.02	N.D.	N.D.	0.01	0.02	0.04	0.04	N.D.	N.D.	N.D.
	Ijira	Mean	0.16	0.15	0.23	0.41	0.18	0.13	0.08	0.28	0.29	0.23	0.25	0.16	0.22
		%	100	50	100	100	100	100	100	100	100	100	100	100	96
		Max-2w	0.24	0.15	0.27	0.56	0.32	0.18	0.16	0.31	0.35	0.24	0.30	0.20	0.56
		Min-2w	0.08	0.15	0.20	0.27	N.D.	0.08	N.D.	0.25	0.24	0.22	0.20	0.12	N.D.
	Oki	Mean	5.00	3.11	4.86	2.45	2.36	0.57	1.44	1.63	1.91	3.05	4.40	8.41	3.35
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	5.37	3.15	4.94	2.93	2.64	0.94	1.93	2.45	2.26	4.88	5.33	12.57	12.57
		Min-2w	4.62	3.07	4.78	1.98	2.08	0.30	0.96	0.81	1.56	1.93	3.48	6.28	0.30
	Banryu	Mean	1.87	2.05	2.53	1.47	0.88	0.31	0.68	0.74	1.23	1.06	1.89	1.85	1.41
		%	100	100	100	100	100	100	100	50	100	100	100	100	96
		Max-2w	1.89	2.28	2.70	1.60	1.79	0.35	0.77	0.74	1.74	1.25	1.98	2.03	2.70
		Min-2w	1.84	1.83	2.36	1.34	0.30	0.27	0.59	0.74	0.72	0.86	1.78	1.68	0.27
	Yusuhara	Mean	0.46	0.36	0.59	0.40	0.39	0.16	0.27	0.29	0.40	0.35	0.61	0.61	0.41
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.60	0.41	0.89	0.54	0.48	0.18	0.38	0.32	0.45	0.37	0.85	0.62	0.89
		Min-2w	0.32	0.31	0.30	0.27	0.28	0.13	0.16	0.25	0.34	0.33	0.34	0.59	0.13
	Hedo	Mean	5.45	4.63	5.59	5.03	2.84	2.83	2.40	2.67	2.84	0.40	4.21	1.54	3.38
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	5.87	5.21	6.43	5.12	2.89	3.00	2.79	3.13	4.21	0.54	11.47	2.11	11.47
		Min-2w	5.02	4.05	4.75	4.94	2.80	2.66	2.01	2.21	1.46	0.26	0.54	0.96	0.26
	Ogasawara	Mean	3.03	3.55	3.40	3.19	1.93	1.35	1.69	2.14	1.64	1.82	2.74	-	2.38
		%	100	100	100	100	100	100	100	100	100	100	100	0	92
		Max-2w	3.17	4.02	4.39	3.31	1.97	1.83	2.30	2.23	2.81	2.13	3.04	-	4.39
		Min-2w	2.88	3.08	2.41	3.07	1.89	0.95	1.08	2.05	0.47	1.51	2.42	-	0.47
	Tokyo	Mean	0.39	0.88	1.21	0.95	0.96	0.83	1.31	1.30	0.82	1.07	0.75	0.46	0.91
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.61	1.14	1.32	1.31	1.33	1.09	1.32	1.48	0.99	1.29	1.08	0.50	1.48
		Min-2w	0.17	0.62	1.09	0.60	0.63	0.57	1.31	1.11	0.65	0.85	0.43	0.43	0.17
Malaysia	Tanah Rata	Mean	0.20	0.19	0.27	0.08	0.02	0.06	0.06	0.05	0.06	0.10	0.05	0.07	0.10
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.37	0.40	0.45	0.14	0.03	0.13	0.12	0.10	0.13	0.24	0.11	0.12	0.45
		Min-w	0.09	0.07	0.08	0.03	0.01	0.02	0.02	N.D.	N.D.	0.01	N.D.	0.02	N.D.
	Petaling Jaya	Mean	0.33	0.40	0.54	0.25	0.12	0.23	0.19	0.31	0.14	0.26	0.21	0.18	0.26
		%	100	100	100	80	100	100	100	100	100	100	100	100	98
		Max-w	1.08	0.80	0.81	0.31	0.18	0.40	0.24	0.39	0.20	0.57	0.43	0.26	1.08
		Min-w	N.D.	0.18	0.29	0.17	0.02	0.13	0.06	0.22	0.10	0.03	0.06	0.07	N.D.
	Danum Valley	Mean	0.97	2.81	2.54	-	-	-	0.05	0.08	0.14	0.09	0.07	0.09	0.72
		%	100	100	67	0	0	0	100	100	100	100	100	100	73
		Max-2w	1.12	3.31	3.48	-	-	-	0.05	0.11	0.20	0.11	0.08	0.12	3.48
		Min-2w	0.82	2.30	1.59	-	-	-	0.04	0.04	0.08	0.07	0.07	0.06	0.04
Mongolia	Ulaanbaatar	Mean	0.32	0.36	0.35	N.D.	N.D.	N.D.	N.D.	N.D.	0.32	N.D.	0.40	0.76	0.21
		%	100	100	100	100	100	100	100	100	100	37	100	80	92
		Max-w	0.95	0.62	0.58	0.02	N.D.	N.D.	N.D.	N.D.	0.67	N.D.	1.58	1.27	1.58
		Min-w	0.04	0.05	0.11	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
	Terelj	Mean	N.D.	N.D.	N.D.	0.01	0.02	0.01	N.D.	N.D.	N.D.	N.D.	N.D.	0.20	0.02
		%	100	100	100	100	100	100	100	100	100	100	100	84	99
		Max-2w	0.01	N.D.	0.01	0.01	0.02	0.02	N.D.	N.D.	N.D.	N.D.	N.D.	0.39	0.39
		Min-2w	N.D.	N.D.	N.D.	0.01	0.01	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

Table 4.17 Particulate matter component: Na⁺

Unit : µg/m ³			2010												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Philippines	Metro Manila	Mean	0.47	0.49	0.82	1.00	0.34	0.15	-	-	-	0.50	0.40	-	0.54
		%	78	100	79	47	76	32	0	0	0	48	100	0	46
		Max-w	0.82	0.94	1.20	1.10	0.42	0.15	-	-	-	0.50	0.68	-	1.20
		Min-w	0.20	0.10	0.07	0.89	0.22	0.15	-	-	-	0.50	N.D.	-	N.D.
	Mt. Sto. Tomas	Mean	0.29	0.28	0.14	0.25	1.34	0.99	0.64	0.65	0.23	0.35	0.49	0.54	0.52
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.62	0.41	0.25	0.45	1.41	1.65	0.94	1.04	0.23	0.91	0.92	0.89	1.65
		Min-w	0.02	0.14	0.05	N.D.	1.14	0.68	0.30	0.33	0.22	0.03	0.24	0.17	N.D.
	Kanghwa	Mean	0.39	0.45	0.47	0.47	0.38	0.39	0.34	0.41	0.35	0.34	0.43	0.53	0.40
		%	42	18	16	17	35	17	13	16	17	26	17	13	21
		Max-d	0.62	0.59	0.58	0.76	0.44	0.42	0.37	0.46	0.41	0.42	0.52	1.03	1.03
		Min-d	0.28	0.34	0.40	0.34	0.31	0.35	0.30	0.34	0.29	0.25	0.25	0.22	0.22
		Mean	0.55	0.44	0.54	0.40	0.46	0.44	0.40	0.50	0.53	0.35	0.34	0.35	0.45
		%	42	18	16	17	42	17	16	13	17	42	13	16	22
		Max-d	0.94	0.56	0.93	0.73	0.60	0.58	0.82	0.82	0.76	1.12	0.59	0.50	1.12
		Min-d	0.28	0.34	0.37	0.27	0.37	0.33	0.11	0.35	0.34	0.07	0.22	0.20	0.07
Republic of Korea	Cheju (Kosan)	Mean	0.51	0.53	0.70	0.53	0.41	0.46	0.30	0.35	0.34	0.27	0.29	0.31	0.40
		%	29	7	13	17	19	13	10	6	13	39	17	16	17
		Max-d	0.81	0.55	1.16	0.83	0.60	0.66	0.36	0.40	0.38	0.42	0.39	0.59	1.16
		Min-d	0.33	0.51	0.50	0.42	0.24	0.36	0.25	0.30	0.28	0.18	0.22	0.14	0.14
	Imsil	Mean	-	-	-	-	-	-	0.08	0.88	1.02	0.02	0.02	0.01	0.36
		%	0	0	0	0	0	0	100	100	100	100	100	100	50
		Max-2w	-	-	-	-	-	-	0.08	1.72	1.95	0.02	0.04	0.02	1.95
		Min-2w	-	-	-	-	-	-	0.08	0.05	0.08	N.D.	N.D.	N.D.	N.D.
	Listvianka	Mean	0.16	0.17	0.11	0.05	0.04	0.04	0.06	0.06	0.05	0.04	0.03	0.14	0.08
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.29	0.29	0.32	0.06	0.05	0.05	0.11	0.08	0.14	0.05	0.04	0.50	0.50
		Min-w	0.09	0.08	0.03	0.03	0.02	0.02	0.03	0.05	0.01	0.02	0.03	0.01	0.01
	Irkutsk	Mean	0.29	0.47	0.71	0.35	0.22	0.16	0.08	0.09	0.09	0.30	0.24	0.14	0.26
		%	100	100	100	100	100	100	100	100	100	80	100	100	98
		Max-w	0.56	0.78	1.32	0.64	0.32	0.44	0.12	0.13	0.10	0.90	0.47	0.39	1.32
		Min-w	0.12	0.33	0.06	0.06	0.05	0.04	0.04	0.07	0.06	0.05	0.06	0.01	0.01
	Primorskaya	Mean	0.23	0.29	0.45	0.57	0.32	0.22	0.15	0.22	0.16	0.09	0.17	0.28	0.26
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.27	0.32	0.47	0.87	0.37	0.24	0.18	0.22	0.22	0.15	0.17	0.38	0.87
		Min-2w	0.18	0.26	0.42	0.28	0.26	0.21	0.12	0.21	0.10	0.03	0.17	0.18	0.03
Russia	Mondy	Mean	1.12	0.65	-	1.20	0.74	0.22	0.28	0.47	0.18	0.21	0.41	0.45	0.54
		%	100	100	0	100	100	90	100	100	100	100	100	100	91
		Max-10d	2.89	0.89	-	1.49	0.78	0.62	0.44	0.89	0.34	0.27	0.50	0.51	2.89
		Min-10d	0.04	0.33	-	0.99	0.66	0.01	0.02	0.01	N.D.	0.15	0.35	0.33	N.D.
	Pathumthani	Mean	-	-	-	0.50	0.26	0.38	0.20	0.20	0.17	0.20	0.38	0.25	0.30
		%	0	0	0	96	100	100	84	100	100	100	94	100	72
		Max-10d	-	-	-	0.74	0.72	0.63	0.38	0.39	0.27	0.30	0.45	0.47	0.74
		Min-10d	-	-	-	0.12	0.01	N.D.	0.02	N.D.	0.08	0.14	0.32	0.02	N.D.
	Khanchanaburi (Vachiralongkom Dam)	Mean	-	-	-	-	-	-	0.12	-	-	-	N.D.	-	0.06
		%	0	0	0	0	0	0	35	0	0	0	52	0	8
		Max-2w	-	-	-	-	-	-	0.12	-	-	-	N.D.	-	0.12
		Min-2w	-	-	-	-	-	-	0.12	-	-	-	N.D.	-	N.D.
	Chiangmai (Mae Hia)	Mean	0.05	0.10	0.15	0.31	0.28	0.09	0.10	0.05	0.37	-	-	-	0.17
		%	94	96	100	97	97	97	97	97	100	0	0	0	73
		Max-10d	0.10	0.13	0.25	0.45	0.43	0.12	0.15	0.08	0.73	-	-	-	0.73
		Min-10d	0.02	0.05	0.05	0.09	0.18	0.08	0.05	0.03	0.18	-	-	-	0.02
	Nakhon Ratchasima	Mean	0.14	0.46	0.44	0.48	0.16	0.08	N.D.	0.02	0.01	-	N.D.	N.D.	0.16
		%	100	100	68	100	100	100	100	100	100	0	100	100	89
		Max-10d	0.20	0.67	0.63	0.59	0.29	0.18	N.D.	0.04	0.02	-	0.03	N.D.	0.67
		Min-10d	0.09	0.19	0.26	0.36	N.D.	0.02	N.D.	0.02	N.D.	-	N.D.	N.D.	N.D.
Thailand	Bangkok	Mean	0.55	3.07	1.92	0.97	1.40	1.24	1.28	0.40	0.31	0.31	0.70	0.89	1.03
		%	100	75	100	100	100	100	100	100	100	100	100	100	98
		Max-w	0.83	5.81	2.89	1.42	2.67	1.83	3.80	0.59	0.48	0.52	0.79	1.53	5.81
		Min-w	0.44	0.75	0.75	N.D.	0.32	0.44	0.50	0.27	0.15	0.15	0.58	0.03	N.D.
	Hoa Binh	Mean	0.04	0.11	0.17	0.20	0.38	1.75	0.26	0.26	0.06	0.05	0.04	0.12	0.28
		%	100	100	100	100	100	100	80	100	100	100	100	100	98
		Max-w	0.07	0.27	0.35	0.54	0.98	6.43	1.02	0.42	0.16	0.17	0.07	0.20	6.43
		Min-w	N.D.	N.D.	0.03	N.D.	0.07	0.11	N.D.	0.15	N.D.	N.D.	0.01	0.03	N.D.
Vietnam	Hanoi	Mean	0.55	3.07	1.92	0.97	1.40	1.24	1.28	0.40	0.31	0.31	0.70	0.89	1.03
		%	100	75	100	100	100	100	100	100	100	100	100	100	98
		Max-w	0.83	5.81	2.89	1.42	2.67	1.83	3.80	0.59	0.48	0.52	0.79	1.53	5.81
		Min-w	0.44	0.75	0.75	N.D.	0.32	0.44	0.50	0.27	0.15	0.15	0.58	0.03	N.D.
	Hoa Binh	Mean	0.04	0.11	0.17	0.20	0.38	1.75	0.26	0.26	0.06	0.05	0.04	0.12	0.28
		%	100	100	100	100	100	100	80	100	100	100	100	100	98
		Max-w	0.07	0.27	0.35	0.54	0.98	6.43	1.02	0.42	0.16	0.17	0.07	0.20	6.43
		Min-w	N.D.	N.D.	0.03	N.D.	0.07	0.11	N.D.	0.15	N.D.	N.D.	0.01	0.03	N.D.

† Filterpack monitoring at Phnom Penh was started in February, 2010.

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 4.18 Particulate matter component: K⁺

Unit : µg/m ³			2010												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Cambodia	Phnom Penh	Mean	†	0.82	1.47	1.36	0.61	0.39	0.52	0.37	0.38	0.29	0.19	0.33	0.57
		%	†	59	100	46	96	100	100	100	100	100	100	100	81
		Max-2w	†	0.82	1.52	1.36	0.71	0.53	0.54	0.43	0.49	0.47	0.30	0.67	1.52
		Min-2w	†	0.82	1.43	1.36	0.51	0.23	0.51	0.30	0.27	0.11	0.07	N.D.	N.D.
China	Hongwen	Mean	0.74	0.96	0.85	0.47	0.24	-	0.07	0.31	0.46	-	20.58	1.18	3.46
		%	90	100	100	100	100	0	100	100	100	0	100	100	81
		Max-2w	1.07	1.08	1.13	0.55	0.57	-	0.14	0.41	0.46	-	79.55	1.38	79.55
		Min-2w	0.33	0.84	0.70	0.38	N.D.	-	N.D.	0.21	0.46	-	0.53	0.96	N.D.
Indonesia	Serpong	Mean	0.79	N.D.	N.D.	0.01	0.02	0.12	0.04	0.29	0.14	0.06	0.05	0.13	0.14
		%	100	100	100	100	100	97	100	100	100	100	100	50	96
		Max-2w	1.18	N.D.	N.D.	0.02	0.03	0.19	0.05	0.56	0.25	0.07	0.08	0.13	1.18
		Min-2w	0.40	N.D.	N.D.	0.01	0.02	0.04	0.03	0.01	0.08	0.05	0.01	0.13	N.D.
Japan	Rishiri	Mean	0.14	0.14	0.17	0.20	0.12	0.07	0.07	0.12	0.12	0.23	0.24	0.16	0.15
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.24	0.19	0.19	0.24	0.18	0.10	0.11	0.12	0.12	0.24	0.28	0.19	0.28
		Min-2w	0.04	0.09	0.15	0.16	0.07	0.04	0.04	0.12	0.11	0.22	0.17	0.13	0.04
	Ochiishi	Mean	0.15	0.11	0.19	0.22	0.09	0.06	0.05	0.07	0.08	0.17	0.29	0.05	0.13
		%	100	100	100	100	100	86	100	100	51	100	42	53	85
		Max-2w	0.17	0.11	0.37	0.22	0.12	0.10	0.06	0.07	0.08	0.22	0.29	0.05	0.37
		Min-2w	0.13	0.10	N.D.	0.21	0.07	0.03	0.04	0.07	0.08	0.13	0.29	0.05	N.D.
	Tappi	Mean	0.42	0.24	0.40	0.20	0.35	0.06	0.24	0.15	0.14	0.18	0.65	0.27	0.28
		%	100	100	100	100	50	100	100	100	100	100	100	100	96
		Max-2w	0.60	0.31	0.54	0.28	0.35	0.07	0.48	0.19	0.16	0.19	1.26	0.29	1.26
		Min-2w	0.24	0.18	0.26	0.12	0.35	0.06	N.D.	0.12	0.13	0.16	0.33	0.24	N.D.
	Sado-seki	Mean	0.27	0.16	0.08	0.33	0.08	0.18	0.15	0.13	0.09	0.17	0.31	0.06	0.17
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.46	0.16	0.14	0.34	0.13	0.22	0.18	0.18	0.12	0.23	0.35	0.09	0.46
		Min-2w	0.09	0.16	0.03	0.33	N.D.	0.14	0.11	0.07	0.07	0.10	0.28	0.02	N.D.
	Happo	Mean	N.D.	0.01	N.D.	0.01	0.02	0.03	0.01	0.02	0.01	0.01	N.D.	N.D.	0.01
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.01	0.02	0.01	0.01	0.04	0.04	0.02	0.02	0.01	0.03	N.D.	N.D.	0.04
		Min-2w	N.D.	N.D.	N.D.	N.D.	N.D.	0.02	N.D.	0.01	N.D.	N.D.	N.D.	N.D.	N.D.
	Ijira	Mean	0.07	0.11	0.06	0.08	0.09	0.15	0.07	0.16	0.09	0.11	0.09	0.06	0.09
		%	100	50	100	100	100	100	100	100	100	100	100	100	96
		Max-2w	0.10	0.11	0.06	0.09	0.16	0.18	0.13	0.17	0.09	0.11	0.12	0.09	0.18
		Min-2w	0.04	0.11	0.06	0.06	N.D.	0.13	0.02	0.14	0.08	0.11	0.08	0.03	N.D.
	Oki	Mean	0.31	0.22	0.28	0.18	0.24	0.09	0.14	0.13	0.12	0.20	0.30	0.39	0.22
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.32	0.31	0.31	0.18	0.29	0.13	0.14	0.15	0.12	0.26	0.33	0.49	0.49
		Min-2w	0.31	0.14	0.24	0.18	0.19	0.07	0.13	0.10	0.11	0.11	0.26	0.31	0.07
	Banryu	Mean	0.24	0.20	0.20	0.16	0.12	0.17	0.12	0.11	0.09	0.17	0.22	0.15	0.16
		%	100	100	100	100	100	100	100	50	100	100	100	100	96
		Max-2w	0.26	0.23	0.23	0.17	0.16	0.20	0.13	0.11	0.14	0.23	0.24	0.18	0.26
		Min-2w	0.22	0.16	0.17	0.15	0.07	0.15	0.12	0.11	0.05	0.10	0.20	0.13	0.05
	Yusuhabara	Mean	0.23	0.14	0.10	0.11	0.15	0.10	N.D.	0.03	0.08	0.10	0.18	0.14	0.12
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.31	0.20	0.14	0.11	0.24	0.15	N.D.	0.06	0.09	0.12	0.30	0.16	0.31
		Min-2w	0.14	0.09	0.05	0.11	0.09	0.05	N.D.	N.D.	0.08	0.08	0.11	0.12	N.D.
	Hedo	Mean	0.34	0.29	0.39	0.26	0.25	0.24	0.17	0.18	0.17	0.04	0.16	0.08	0.21
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.35	0.31	0.48	0.26	0.27	0.29	0.18	0.21	0.24	0.05	0.41	0.11	0.48
		Min-2w	0.33	0.26	0.31	0.26	0.23	0.20	0.16	0.15	0.10	0.03	0.04	0.05	0.03
	Ogasawara	Mean	0.17	0.18	0.20	0.15	0.12	0.07	0.07	0.10	0.09	0.11	0.15	-	0.13
		%	100	100	100	100	100	100	100	100	100	100	100	0	92
		Max-2w	0.17	0.21	0.27	0.15	0.12	0.08	0.09	0.10	0.13	0.11	0.16	-	0.27
		Min-2w	0.17	0.15	0.14	0.15	0.12	0.05	0.06	0.10	0.05	0.10	0.13	-	0.05
	Tokyo	Mean	0.24	0.24	0.12	0.17	0.19	0.14	0.17	0.21	0.14	0.18	0.23	0.12	0.18
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.34	0.30	0.15	0.18	0.29	0.15	0.20	0.26	0.18	0.22	0.33	0.12	0.34
		Min-2w	0.14	0.17	0.10	0.17	0.13	0.13	0.14	0.16	0.11	0.15	0.16	0.11	0.10
Malaysia	Tanah Rata	Mean	0.06	0.12	0.15	0.12	0.09	0.08	0.08	0.07	0.08	0.04	0.05	0.03	0.08
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.11	0.20	0.25	0.18	0.14	0.12	0.13	0.12	0.10	0.07	0.08	0.05	0.25
		Min-w	0.03	0.06	0.09	0.07	0.07	0.06	0.03	N.D.	0.05	N.D.	0.02	0.02	N.D.
	Petaling Jaya	Mean	0.16	0.42	0.34	0.32	0.22	0.35	0.24	0.34	0.24	0.22	0.28	0.22	0.27
		%	100	100	100	80	100	100	100	100	100	100	100	100	98
		Max-w	0.34	0.74	0.52	0.34	0.28	0.59	0.30	0.39	0.28	0.39	0.48	0.32	0.74
		Min-w	N.D.	0.15	0.24	0.30	0.05	0.16	0.09	0.30	0.21	N.D.	0.18	0.10	N.D.
	Danum Valley	Mean	0.32	0.70	0.81	-	-	-	0.09	0.16	0.14	0.18	0.14	0.12	0.29
		%	100	100	67	0	0	0	100	100	100	100	100	100	73
		Max-2w	0.32	0.84	0.82	-	-	-	0.13	0.19	0.14	0.20	0.15	0.12	0.84
		Min-2w	0.31	0.56	0.81	-	-	-	0.06	0.14	0.13	0.17	0.14	0.12	0.06
Mongolia	Ulaanbaatar	Mean	0.13	0.12	0.14	0.05	0.10	0.13	0.15	N.D.	0.63	0.23	0.56	0.50	0.22
		%	100	100	100	100	100	100	100	100	100	37	100	80	92
		Max-w	0.18	0.24	0.23	0.16	0.32	0.34	0.61	N.D.	1.87	0.41	1.38	1.18	1.87
		Min-w	N.D.	0.03	0.07	N.D.	N.D.	0.04	N.D.	N.D.	N.D.	0.04	N.D.	N.D.	N.D.
	Terelj	Mean	0.10	0.10	0.05	N.D.	N.D.	N.D.	0.02	0.07	0.01	N.D.	0.06	0.05	0.04
		%	100	100	100	100	100	100	100	100	100	100	100	84	99
		Max-2w	0.10	0.10	0.09	N.D.	N.D.	0.01	0.03	0.11	0.02	0.01	0.12	0.09	0.12
		Min-2w	0.09	0.10	N.D.	N.D.	N.D.	N.D.	0.01	0.02	N.D.	N.D.	N.D.	N.D.	N.D.

Table 4.18 Particulate matter component: K⁺

Unit : µg/m ³			2010												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Philippines	Metro Manila	Mean	0.22	0.22	0.35	0.35	0.18	N.D.	-	-	-	0.19	0.12	-	0.22
		%	78	100	79	47	76	32	0	0	0	48	100	0	46
		Max-w	0.36	0.33	0.49	0.39	0.29	N.D.	-	-	-	0.19	0.31	-	0.49
		Min-w	0.08	0.02	0.09	0.31	0.07	N.D.	-	-	-	0.19	N.D.	-	N.D.
	Mt. Sto. Tomas	Mean	0.01	0.08	0.19	0.15	0.39	0.06	0.15	0.17	0.10	0.10	0.21	0.13	0.15
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.02	0.20	0.33	0.43	0.52	0.12	0.32	0.31	0.12	0.26	0.27	0.32	0.52
		Min-w	N.D.	N.D.	0.08	0.01	0.20	N.D.	0.05	0.07	0.09	N.D.	0.13	0.04	N.D.
	Kanghwa	Mean	0.26	0.16	0.12	0.16	0.08	0.13	0.03	0.05	0.24	0.28	0.53	0.28	0.20
		%	42	18	16	17	35	17	13	16	17	26	17	13	21
		Max-d	0.56	0.34	0.19	0.39	0.20	0.29	0.07	0.10	0.41	0.57	1.15	0.59	1.15
		Min-d	0.05	0.06	0.04	0.04	0.01	0.02	N.D.	0.02	0.08	0.15	0.09	0.15	N.D.
		Mean	0.15	0.05	0.19	0.23	0.09	0.08	0.02	0.02	0.13	0.19	0.09	0.10	0.12
		%	42	18	16	17	42	17	16	13	17	42	13	16	22
		Max-d	0.51	0.15	0.23	0.28	0.28	0.18	0.04	0.02	0.37	0.47	0.17	0.22	0.51
		Min-d	0.02	N.D.	0.14	0.15	0.02	0.02	N.D.	N.D.	0.04	N.D.	N.D.	0.03	N.D.
Republic of Korea	Cheju (Kosan)	Mean	0.21	0.34	0.16	0.11	0.08	0.32	0.02	0.05	0.11	0.37	0.54	0.40	0.25
		%	29	7	13	17	19	13	10	6	13	39	17	16	17
		Max-d	0.33	0.37	0.22	0.25	0.20	1.07	0.02	0.08	0.18	0.70	1.14	1.30	1.30
		Min-d	0.03	0.31	0.09	0.05	N.D.	0.03	0.01	0.01	0.05	0.21	0.15	0.07	N.D.
	Imsil	Mean	-	-	-	-	-	-	0.04	0.14	0.03	0.01	0.02	0.02	0.04
		%	0	0	0	0	0	0	100	100	100	100	100	100	50
		Max-2w	-	-	-	-	-	-	0.04	0.22	0.05	0.02	0.02	0.01	0.22
		Min-2w	-	-	-	-	-	-	0.04	0.06	N.D.	0.01	0.02	N.D.	N.D.
	Listvianka	Mean	0.16	0.16	0.07	0.04	0.05	0.05	0.09	0.07	0.04	0.05	0.03	0.04	0.07
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.36	0.36	0.21	0.06	0.07	0.06	0.24	0.09	0.11	0.13	0.03	0.07	0.36
		Min-w	0.05	0.06	0.02	0.02	0.02	0.02	0.03	0.05	0.01	0.02	0.02	0.01	0.01
	Irkutsk	Mean	0.23	0.22	0.12	0.08	0.15	0.06	0.06	0.13	0.08	0.12	0.14	0.17	0.13
		%	100	100	100	100	100	100	100	100	100	80	100	100	98
		Max-w	0.60	0.29	0.20	0.13	0.33	0.07	0.10	0.23	0.10	0.21	0.20	0.28	0.60
		Min-w	0.08	0.15	0.03	0.02	0.03	0.03	0.03	0.07	0.07	0.04	0.09	0.01	0.01
	Primorskaya	Mean	0.69	0.56	0.41	0.31	0.20	0.32	0.14	0.17	0.36	0.38	0.71	0.98	0.44
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.83	0.58	0.50	0.36	0.21	0.41	0.17	0.19	0.50	0.69	0.98	1.07	1.07
		Min-2w	0.54	0.54	0.32	0.26	0.18	0.23	0.11	0.16	0.23	0.07	0.44	0.90	0.07
Russia	Mondy	Mean	0.41	0.21	-	0.44	0.32	0.10	0.24	0.28	0.12	0.33	0.86	0.94	0.39
		%	75	100	0	100	100	90	100	100	100	100	100	100	89
		Max-10d	0.81	0.26	-	0.58	0.36	0.29	0.40	0.49	0.32	0.36	1.10	1.22	1.22
		Min-10d	N.D.	0.16	-	0.29	0.29	N.D.	0.02	0.01	0.01	0.30	0.49	0.72	N.D.
	Pathumthani	Mean	-	-	-	0.40	0.13	0.79	0.21	0.30	0.28	0.36	0.95	0.59	0.47
		%	0	0	0	96	100	100	84	100	100	100	94	100	72
		Max-10d	-	-	-	0.74	0.37	1.40	0.38	0.55	0.32	0.46	1.18	0.87	1.40
		Min-10d	-	-	-	0.03	0.01	0.33	0.04	N.D.	0.20	0.30	0.72	0.08	N.D.
	Khanchanaburi (Vachiralongkom Dam)	Mean	-	-	-	-	-	-	0.10	-	-	-	0.02	-	0.06
		%	0	0	0	0	0	0	35	0	0	0	52	0	8
		Max-2w	-	-	-	-	-	-	0.10	-	-	-	0.02	-	0.10
		Min-2w	-	-	-	-	-	-	0.10	-	-	-	0.02	-	0.02
	Chiangmai (Mae Hia)	Mean	0.36	0.53	0.87	1.29	0.37	0.01	0.08	N.D.	0.27	-	-	-	0.42
		%	94	96	100	97	97	97	97	97	100	0	0	0	73
		Max-10d	0.83	0.90	2.25	2.38	0.58	0.04	0.12	N.D.	0.82	-	-	-	2.38
		Min-10d	0.11	0.07	0.04	0.39	N.D.	N.D.	N.D.	N.D.	N.D.	-	-	-	N.D.
	Nakhon Ratchasima	Mean	0.42	0.44	0.68	0.39	0.13	0.03	N.D.	0.01	0.02	-	N.D.	N.D.	0.18
		%	100	100	68	100	100	100	100	100	100	0	100	100	89
		Max-10d	0.86	0.60	0.86	0.50	0.18	0.04	N.D.	0.02	0.05	-	N.D.	N.D.	0.86
		Min-10d	0.18	0.23	0.51	0.30	0.02	0.02	N.D.	N.D.	N.D.	-	N.D.	N.D.	N.D.
Thailand	Bangkok	Mean	1.66	3.55	1.38	0.49	0.70	1.02	0.64	0.76	0.86	0.90	1.83	1.01	1.15
		%	100	75	100	100	100	100	100	100	100	100	100	100	98
		Max-w	2.69	7.19	1.92	0.94	1.55	1.70	0.94	1.05	1.77	1.09	2.19	1.75	7.19
		Min-w	1.10	1.47	1.00	0.17	0.11	0.55	0.50	0.46	0.60	0.49	1.26	0.10	0.10
	Hoa Binh	Mean	0.61	0.71	1.45	0.59	0.43	0.62	0.97	0.80	0.41	0.33	0.62	0.38	0.65
		%	100	100	100	100	100	100	80	100	100	100	100	100	98
		Max-w	0.91	1.91	2.75	1.16	0.72	1.90	2.06	1.32	0.81	0.56	1.22	0.73	2.75
		Min-w	0.42	0.09	0.34	0.09	0.23	0.13	0.42	0.32	0.06	0.17	0.17	N.D.	N.D.
	Vietnam	Mean	1.66	3.55	1.38	0.49	0.70	1.02	0.64	0.76	0.86	0.90	1.83	1.01	1.15
		%	100	75	100	100	100	100	100	100	100	100	100	100	98

† Filterpack monitoring at Phnom Penh was started in February, 2010.

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

Unit : µg/m ³			2010												Annual	
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
Cambodia	Phnom Penh	Mean	†	0.24	0.23	0.19	0.11	0.11	0.10	0.08	0.08	0.05	0.04	0.04	0.11	
		%	†	59	100	46	96	100	100	100	100	100	100	100	100	81
		Max-2w	†	0.24	0.24	0.19	0.11	0.13	0.11	0.09	0.09	0.09	0.09	0.07	0.09	0.24
		Min-2w	†	0.24	0.22	0.19	0.10	0.10	0.09	0.08	0.06	0.02	N.D.	N.D.	N.D.	N.D.
China	Hongwen	Mean	0.34	0.23	0.72	0.30	0.32	-	0.28	0.46	0.75	-	0.86	0.46	0.48	
		%	90	100	100	100	100	0	100	100	100	0	100	100	81	
		Max-2w	0.42	0.24	1.06	0.40	0.52	-	0.34	0.49	0.75	-	1.41	0.62	1.41	
		Min-2w	0.16	0.21	0.28	0.19	0.17	-	0.22	0.42	0.75	-	0.60	0.38	0.16	
Indonesia	Serpong	Mean	0.04	N.D.	N.D.	N.D.	N.D.	0.02	N.D.	0.03	0.01	N.D.	0.01	0.05	0.02	
		%	100	100	100	100	100	97	100	100	100	100	100	50	96	
		Max-2w	0.07	N.D.	N.D.	N.D.	N.D.	0.04	N.D.	0.06	0.03	N.D.	0.02	0.05	0.07	
		Min-2w	0.02	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0.05	N.D.	
Japan	Rishiri	Mean	0.25	0.18	0.37	0.44	0.23	0.07	0.14	0.23	0.25	0.41	0.33	0.28	0.26	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	
		Max-2w	0.41	0.22	0.45	0.58	0.33	0.10	0.23	0.24	0.27	0.51	0.50	0.36	0.58	
		Min-2w	0.10	0.14	0.29	0.31	0.12	0.04	0.05	0.22	0.23	0.31	0.19	0.20	0.04	
	Ochiishi	Mean	0.34	0.26	0.57	0.62	0.28	0.10	0.11	0.15	0.17	0.42	0.96	0.14	0.34	
		%	100	100	100	100	100	86	100	100	51	100	42	53	85	
		Max-2w	0.40	0.30	1.13	0.65	0.34	0.11	0.12	0.15	0.17	0.47	0.96	0.14	1.13	
		Min-2w	0.28	0.23	N.D.	0.58	0.23	0.10	0.10	0.15	0.17	0.37	0.96	0.14	N.D.	
	Tappi	Mean	0.84	0.38	1.10	0.34	0.71	0.08	0.22	0.20	0.21	0.31	0.74	0.78	0.48	
		%	100	100	100	100	50	100	100	100	100	100	100	100	96	
		Max-2w	1.45	0.40	1.42	0.55	0.71	0.11	0.33	0.21	0.23	0.33	0.86	0.85	1.45	
		Min-2w	0.22	0.36	0.77	0.13	0.71	0.04	0.10	0.18	0.18	0.30	0.57	0.72	0.04	
	Sado-seki	Mean	0.74	0.37	0.25	0.37	0.14	0.10	0.14	0.15	0.21	0.22	0.80	0.16	0.32	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	
		Max-2w	1.21	0.44	0.36	0.43	0.27	0.13	0.16	0.23	0.29	0.25	1.13	0.27	1.21	
		Min-2w	0.26	0.31	0.13	0.31	N.D.	0.07	0.12	0.08	0.14	0.19	0.54	0.05	N.D.	
	Happo	Mean	N.D.	N.D.	0.01	0.01	0.02	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0.01	
		%	100	100	100	100	100	100	100	100	100	100	100	100	100	
		Max-2w	N.D.	N.D.	0.01	0.02	0.04	0.01	N.D.	N.D.	N.D.	0.01	N.D.	N.D.	0.04	
		Min-2w	N.D.	N.D.	0.01	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	
	Ijira	Mean	0.03	0.03												

Table 4.19 Particulate matter component: Mg²⁺

Unit : µg/m ³			2010												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Philippines	Metro Manila	Mean	0.10	0.08	0.16	0.18	0.08	N.D.	-	-	-	0.09	0.08	-	0.10
		%	78	100	79	47	76	32	0	0	0	48	100	0	43
		Max-w	0.13	0.15	0.23	0.18	0.11	N.D.	-	-	-	0.09	0.18	-	0.23
		Min-w	0.03	0.02	0.03	0.17	0.04	N.D.	-	-	-	0.09	N.D.	-	N.D.
	Mt. Sto. Tomas	Mean	0.01	0.12	0.02	0.02	0.15	0.15	0.12	0.07	N.D.	0.02	N.D.	N.D.	0.06
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.04	0.18	0.04	0.05	0.21	0.34	0.32	0.13	N.D.	0.11	N.D.	0.03	0.34
		Min-w	N.D.	0.06	N.D.	N.D.	0.08	0.06	0.03	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
	Kanghwa	Mean	0.07	0.01	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0.07	0.11	0.09	0.10	0.04
		%	42	18	16	17	35	17	13	16	17	26	17	13	21
		Max-d	0.09	0.02	0.02	0.01	0.02	N.D.	N.D.	0.02	0.08	0.13	0.10	0.16	0.16
		Min-d	0.07	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0.06	N.D.	0.07	0.07	N.D.
		Mean	0.08	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0.05	0.07	0.20	0.02	0.04
		%	42	18	16	17	42	17	16	13	17	42	13	16	22
		Max-d	0.09	0.02	N.D.	0.01	0.01	N.D.	N.D.	N.D.	0.06	0.09	0.23	0.02	0.23
		Min-d	0.07	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0.05	0.07	0.19	0.02	N.D.
Russia	Mondy	Mean	-	-	-	-	-	-	-	N.D.	0.03	N.D.	N.D.	N.D.	0.01
		%	0	0	0	0	0	0	100	100	100	100	100	100	50
		Max-2w	-	-	-	-	-	-	N.D.	0.06	N.D.	N.D.	N.D.	N.D.	0.06
		Min-2w	-	-	-	-	-	-	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
	Listvianka	Mean	0.03	0.03	0.01	0.02	0.01	0.01	0.03	0.02	N.D.	N.D.	N.D.	0.04	0.02
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.05	0.05	0.03	0.03	0.01	0.02	0.06	0.03	0.03	N.D.	N.D.	0.12	0.12
		Min-w	0.02	N.D.	N.D.	0.01	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0.02	N.D.
	Irkutsk	Mean	0.19	0.12	0.11	0.09	0.12	0.04	0.06	0.06	0.05	0.05	0.02	0.03	0.08
		%	100	100	100	100	100	100	100	100	100	80	100	100	98
		Max-w	0.66	0.15	0.17	0.13	0.22	0.06	0.11	0.09	0.06	0.09	0.03	0.10	0.66
		Min-w	0.03	0.09	N.D.	0.02	0.04	N.D.	0.02	0.03	0.04	N.D.	0.01	N.D.	N.D.
	Primorskaya	Mean	0.07	0.09	0.09	0.12	0.08	0.05	0.13	0.06	0.06	0.05	0.09	0.11	0.08
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.10	0.10	0.09	0.17	0.11	0.05	0.22	0.06	0.07	0.09	0.10	0.13	0.22
		Min-2w	0.04	0.08	0.09	0.07	0.06	0.05	0.04	0.06	0.05	N.D.	0.09	0.08	N.D.
Thailand	Bangkok	Mean	0.13	0.08	-	0.16	0.11	0.03	0.05	0.06	0.04	0.05	0.10	0.69	0.14
		%	100	100	0	100	100	90	100	100	100	100	100	100	91
		Max-10d	0.35	0.11	-	0.20	0.12	0.09	0.09	0.09	0.06	0.05	0.14	1.82	1.82
		Min-10d	N.D.	0.04	-	0.12	0.09	N.D.	N.D.	N.D.	N.D.	0.05	0.05	0.12	N.D.
	Pathumthani	Mean	-	-	-	0.08	0.03	0.06	0.04	0.04	0.04	0.04	0.07	0.06	0.05
		%	0	0	0	96	100	100	84	100	100	100	94	100	72
		Max-10d	-	-	-	0.15	0.09	0.09	0.08	0.06	0.05	0.05	0.08	0.10	0.15
		Min-10d	-	-	-	0.01	N.D.	N.D.	N.D.	N.D.	0.02	0.03	0.05	0.01	N.D.
	Khanchanaburi (Vachiralongkom Dam)	Mean	-	-	-	-	-	-	0.02	-	-	-	N.D.	-	N.D.
		%	0	0	0	0	0	0	35	0	0	0	52	0	8
		Max-2w	-	-	-	-	-	-	0.02	-	-	-	N.D.	-	0.02
		Min-2w	-	-	-	-	-	-	0.02	-	-	-	N.D.	-	N.D.
	Chiangmai (Mae Hia)	Mean	0.03	0.02	0.06	0.11	0.05	N.D.	0.02	N.D.	0.07	-	-	-	0.04
		%	94	96	100	97	97	97	97	97	100	0	0	0	73
		Max-10d	0.08	0.06	0.13	0.21	0.08	N.D.	0.05	0.02	0.20	-	-	-	0.21
		Min-10d	N.D.	N.D.	N.D.	0.05	0.02	N.D.	N.D.	N.D.	N.D.	-	-	-	N.D.
	Nakhon Ratchasima	Mean	0.01	0.06	0.07	0.04	0.02	0.04	N.D.	N.D.	N.D.	-	0.02	N.D.	0.02
		%	100	100	68	100	100	100	100	100	100	0	100	100	89
		Max-10d	0.02	0.10	0.10	0.06	0.04	0.05	N.D.	N.D.	N.D.	-	0.04	N.D.	0.10
		Min-10d	N.D.	0.02	0.05	0.03	N.D.	0.03	N.D.	N.D.	N.D.	-	N.D.	N.D.	N.D.
Vietnam	Hanoi	Mean	0.66	1.90	0.88	0.54	0.44	0.18	0.20	0.11	0.14	0.23	0.58	0.43	0.48
		%	100	75	100	100	100	100	100	100	100	100	100	100	98
		Max-w	0.79	3.32	1.65	0.66	0.61	0.29	0.31	0.19	0.19	0.30	0.66	0.70	3.32
		Min-w	0.52	0.89	0.54	0.26	0.27	0.10	0.12	0.03	0.09	0.18	0.53	N.D.	N.D.
	Hoa Binh	Mean	0.07	0.21	0.09	0.04	0.06	0.03	0.26	0.14	0.07	0.17	0.19	0.07	0.11
		%	100	100	100	100	100	100	80	100	100	100	100	100	98
		Max-w	0.19	0.59	0.17	0.10	0.12	0.10	0.54	0.24	0.13	0.66	0.36	0.18	0.66
		Min-w	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0.13	0.02	0.03	N.D.	0.05	N.D.	N.D.

† Filterpack monitoring at Phnom Penh was started in February, 2010.

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 4.20 Particulate matter component: Ca²⁺

Unit : µg/m ³			2010												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Cambodia	Phnom Penh	Mean	†	1.10	1.23	1.10	0.94	0.87	0.94	0.70	0.67	0.54	0.29	0.33	0.78
		%	†	59	100	46	96	100	100	100	100	100	100	100	81
		Max-2w	†	1.10	1.24	1.10	0.98	1.21	1.02	0.83	0.73	0.86	0.54	0.65	1.24
		Min-2w	†	1.10	1.23	1.10	0.90	0.46	0.87	0.57	0.62	0.22	0.05	N.D.	N.D.
		Mean	17.83	15.61	17.89	12.61	3.25	-	1.85	3.78	2.55	-	7.07	4.93	9.44
China	Hongwen	%	90	100	100	100	100	0	100	100	100	0	100	100	81
		Max-2w	25.26	18.47	20.22	17.61	4.00	-	2.24	5.38	2.55	-	8.71	6.02	25.26
		Min-2w	9.61	12.76	16.53	3.70	2.64	-	1.46	2.66	2.55	-	4.58	4.24	1.46
		Mean	0.16	0.07	0.08	0.05	0.05	0.16	0.06	0.21	0.09	0.04	0.05	0.12	0.09
		%	100	100	100	100	100	97	100	100	100	100	100	50	96
Indonesia	Serpong	Max-2w	0.27	0.09	0.09	0.05	0.07	0.25	0.06	0.39	0.19	0.04	0.06	0.12	0.39
		Min-2w	0.06	0.06	0.06	0.05	0.03	0.07	0.05	0.04	0.03	0.04	0.05	0.12	0.03
		Mean	0.22	0.14	0.20	0.44	0.20	0.06	0.06	0.13	0.13	0.20	0.26	0.19	0.18
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.39	0.18	0.22	0.72	0.28	0.06	0.10	0.13	0.13	0.24	0.37	0.28	0.72
Japan	Rishiri	Min-2w	0.04	0.10	0.17	0.17	0.11	0.05	0.03	0.13	0.13	0.16	0.15	0.11	0.03
	Ochiishi	Mean	0.18	0.13	0.18	0.28	0.12	0.06	0.05	0.09	0.01	0.16	0.34	0.08	0.14
		%	100	100	100	100	100	86	100	100	51	100	42	53	85
		Max-2w	0.25	0.15	0.35	0.30	0.13	0.06	0.07	0.09	0.01	0.18	0.34	0.08	0.35
		Min-2w	0.12	0.11	0.01	0.26	0.10	0.05	0.03	0.09	0.01	0.14	0.34	0.08	0.01
	Tappi	Mean	0.49	0.28	0.91	0.75	0.38	0.10	0.11	0.14	0.14	0.21	0.41	0.52	0.36
		%	100	100	100	100	50	100	100	100	100	100	100	100	96
		Max-2w	0.83	0.29	1.39	1.49	0.38	0.15	0.21	0.16	0.15	0.23	0.60	0.77	1.49
		Min-2w	0.15	0.27	0.44	N.D.	0.38	0.03	N.D.	0.13	0.14	0.18	0.25	0.28	N.D.
		Mean	0.30	0.22	0.28	0.35	0.26	0.13	0.10	0.10	0.11	0.14	0.60	0.08	0.24
	Sado-seki	%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.42	0.23	0.29	0.46	0.61	0.16	0.13	0.12	0.13	0.19	0.96	0.12	0.96
		Min-2w	0.17	0.21	0.27	0.24	0.01	0.11	0.07	0.07	0.08	0.08	0.27	0.04	0.01
		Mean	0.02	0.04	0.13	0.10	0.15	0.03	0.02	0.02	0.02	0.02	0.04	N.D.	0.05
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
	Happo	Max-2w	0.02	0.06	0.13	0.14	0.41	0.05	0.03	0.02	0.02	0.03	0.07	0.01	0.41
		Min-2w	0.01	0.01	0.12	0.06	N.D.	0.02	N.D.	0.01	0.02	0.01	N.D.	N.D.	N.D.
	Ijira	Mean	0.06	0.11	0.25	0.19	0.31	0.11	0.04	0.09	0.10	0.08	0.28	0.06	0.15
		%	100	50	100	100	100	100	100	100	100	100	100	100	96
		Max-2w	0.11	0.11	0.36	0.28	0.61	0.13	0.08	0.11	0.10	0.10	0.62	0.06	0.62
		Min-2w	0.02	0.11	0.14	0.10	N.D.	0.09	N.D.	0.06	0.09	0.07	0.08	0.06	N.D.
	Oki	Mean	0.51	0.29	1.27	0.39	0.58	0.07	0.12	0.12	0.13	0.23	1.30	0.75	0.47
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.58	0.41	1.86	0.54	0.87	0.09	0.13	0.13	0.16	0.28	2.33	0.89	2.33
		Min-2w	0.44	0.18	0.67	0.24	0.29	0.05	0.11	0.11	0.11	0.13	0.27	0.67	0.05
		Mean	0.45	0.33	1.46	0.26	0.33	0.09	0.11	0.12	0.11	0.18	1.11	0.36	0.44
	Banryu	%	100	100	100	100	100	100	100	50	100	100	100	100	96
		Max-2w	0.58	0.41	2.27	0.32	0.69	0.09	0.11	0.12	0.15	0.27	2.47	0.51	2.47
		Min-2w	0.31	0.24	0.64	0.19	0.12	0.09	0.10	0.12	0.06	0.08	0.22	0.21	0.06
	Yusuhabara	Mean	0.34	0.17	1.15	0.24	0.61	0.15	0.03	N.D.	0.11	0.08	0.56	0.30	0.33
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.50	0.21	1.80	0.37	1.31	0.15	0.04	0.02	0.14	0.14	1.21	0.42	1.80
		Min-2w	0.17	0.14	0.50	0.10	0.22	0.14	0.01	N.D.	0.07	0.03	0.11	0.18	N.D.
		Mean	0.65	0.40	2.44	0.44	0.89	0.18	0.13	0.16	0.16	0.02	0.15	0.15	0.48
	Hedo	%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.70	0.48	4.58	0.44	1.85	0.23	0.15	0.19	0.23	0.03	0.33	0.21	4.58
		Min-2w	0.60	0.31	0.31	0.43	0.33	0.13	0.10	0.13	0.09	0.02	0.05	0.10	0.02
	Ogasawara	Mean	0.25	0.30	1.16	0.19	0.26	0.06	0.07	0.08	0.07	0.08	0.17	-	0.23
		%	100	100	100	100	100	100	100	100	100	100	100	0	92
		Max-2w	0.30	0.32	2.13	0.19	0.33	0.08	0.10	0.10	0.13	0.10	0.20	-	2.13
		Min-2w	0.19	0.28	0.18	0.18	0.19	0.04	0.04	0.07	0.02	0.06	0.12	-	0.02
		Mean	0.46	0.43	0.66	0.46	0.66	0.50	1.68	0.41	0.36	0.30	0.73	0.32	0.59
	Tokyo	%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.66	0.51	0.89	0.65	0.85	0.60	2.68	0.54	0.48	0.38	1.37	0.38	2.68
		Min-2w	0.26	0.36	0.43	0.26	0.54	0.40	0.68	0.27	0.25	0.23	0.36	0.27	0.23
	Malaysia	Mean	0.06	0.09	0.11	0.07	0.04	0.17	0.11	0.05	0.04	0.06	0.02	0.02	0.07
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.08	0.13	0.19	0.12	0.05	0.54	0.18	0.13	0.06	0.15	0.04	0.03	0.54
		Min-w	0.04	0.04	0.05	0.04	0.03	0.02	0.02	N.D.	N.D.	N.D.	0.01	N.D.	N.D.
		Mean	0.31	0.38	0.42	0.43	0.29	0.50	0.38	0.46	0.30	0.53	1.06	0.46	0.46
	Petaling Jaya	%	100	100	100	80	100	100	100	100	100	100	100	100	98
		Max-w	0.52	0.58	0.52	0.48	0.41	0.92	0.54	0.51	0.51	0.87	1.84	0.73	1.84
		Min-w	0.09	0.09	0.28	0.39	0.06	0.27	0.08	0.41	0.08	0.04	0.38	0.12	0.04
	Danum Valley	Mean	0.06	0.23	0.27	-	-	-	N.D.	0.02	0.02	0.02	0.01	N.D.	0.07
		%	100	100	67	0	0	0	100	100	100	100	100	100	73
		Max-2w	0.06	0.30	0.33	-	-	-	0.01	0.03	0.02	0.02	0.01	N.D.	0.33
		Min-2w	0.06	0.16	0.22	-	-	-	N.D.	0.02	0.02	0.02	0.01	N.D.	N.D.
		Mean	1.20	1.23	1.13	1.28	2.31	3.98	0.72	0.77	2.21	N.D.	1.02	1.09	1.45
	Ulaanbaatar	%	100	100	100	100	100	100	100	100	100	37	100	80	92
		Max-w	1.82	2.58	1.51	3.69	4.15	5.15	2.35	2.72	4.67	N.D.	2.27	2.05	5.15
		Min-w	0.21	0.05	0.69	0.09	0.57	2.79	0.09	N.D.	0.38	N.D.	0.03	0.17	N.D.
	Terelj	Mean	0.12	0.06	0.06	0.02	N.D.	0.06	0.18	0.26	0.16	0.30	0.41	0.33	0.16
		%	100	100	100	100	100	100	100	100	100	100	100	84	99
		Max-2w	0.15	0.07	0.09	0.03	N.D.	0.09	0.23	0.32	0.27	0.34	0.54	0.33	0.54
		Min-2w	0.09	0.05	0.03	N.D.	N.D.	0.05	0.13	0.20	0.04	0.25	0.27	0.33	N.D.

Table 4.20 Particulate matter component: Ca²⁺

Unit : µg/m ³			2010												Annual
Country	Site		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Philippines	Metro Manila	Mean	0.44	0.59	1.20	1.49	0.76	0.13	-	-	-	0.29	0.20	-	0.66
		%	78	100	79	47	76	32	0	0	0	48	100	0	46
		Max-w	0.86	0.83	1.59	1.59	1.30	0.13	-	-	-	0.29	0.48	-	1.59
		Min-w	0.22	0.32	0.26	1.39	0.29	0.13	-	-	-	0.29	N.D.	-	N.D.
	Mt. Sto. Tomas	Mean	0.65	0.89	0.11	0.10	1.01	1.01	1.17	0.71	0.21	0.04	N.D.	0.02	0.50
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.94	1.24	0.19	0.21	1.58	1.80	2.37	1.27	0.27	0.20	N.D.	0.12	2.37
		Min-w	N.D.	0.54	N.D.	0.01	0.10	0.44	0.58	0.32	0.16	N.D.	N.D.	N.D.	N.D.
	Kanghwa	Mean	0.04	0.07	0.05	0.06	0.10	0.07	0.04	0.06	0.11	0.04	0.10	0.09	0.07
		%	42	18	16	17	35	17	13	16	17	26	17	13	21
		Max-d	0.12	0.09	0.08	0.09	0.14	0.08	0.05	0.08	0.14	0.09	0.14	0.12	0.14
		Min-d	N.D.	0.05	0.02	0.01	0.08	0.05	0.04	0.04	0.07	N.D.	0.05	0.05	N.D.
	Cheju (Kosan)	Mean	0.04	0.09	0.03	N.D.	0.08	0.08	0.05	0.12	0.08	0.06	0.16	0.05	0.07
		%	42	18	16	17	42	17	16	13	17	42	13	16	22
		Max-d	0.13	0.12	0.14	N.D.	0.10	0.09	0.07	0.15	0.13	0.10	0.43	0.08	0.43
		Min-d	0.01	0.04	N.D.	N.D.	0.05	0.06	0.03	0.10	0.06	0.02	0.03	0.02	N.D.
	Imsil	Mean	0.06	0.09	0.11	0.11	0.14	0.07	0.05	0.10	0.09	0.07	0.13	0.06	0.09
		%	29	7	13	17	19	13	10	6	13	39	17	16	17
		Max-d	0.13	0.09	0.18	0.30	0.50	0.12	0.06	0.12	0.11	0.14	0.26	0.13	0.50
		Min-d	0.03	0.08	0.06	0.06	0.03	0.05	0.04	0.09	0.06	0.04	0.07	0.03	0.03
Russia	Mondy	Mean	-	-	-	-	-	-	0.06	0.13	0.02	N.D.	0.02	N.D.	0.04
		%	0	0	0	0	0	0	100	100	100	100	100	100	50
		Max-2w	-	-	-	-	-	-	0.06	0.19	0.03	0.01	0.03	N.D.	0.19
		Min-2w	-	-	-	-	-	-	0.06	0.07	0.01	N.D.	N.D.	N.D.	N.D.
	Listvianka	Mean	0.25	0.15	0.15	0.12	0.09	0.08	0.08	0.08	0.07	0.06	0.05	0.18	0.12
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-w	0.27	0.25	0.37	0.17	0.10	0.09	0.13	0.17	0.18	0.08	0.07	0.33	0.37
		Min-w	0.18	0.07	0.04	0.09	0.08	0.07	0.04	0.04	0.02	0.05	0.02	0.04	0.02
	Irkutsk	Mean	0.30	0.78	0.62	0.65	1.44	0.49	0.44	0.60	0.50	0.41	0.26	0.49	0.59
		%	100	100	100	100	100	100	100	100	100	80	100	100	98
		Max-w	0.64	0.92	0.84	0.92	3.75	0.84	0.91	0.73	0.59	0.78	0.37	0.63	3.75
		Min-w	0.15	0.58	0.08	0.11	0.28	0.17	0.21	0.48	0.42	0.10	0.14	0.25	0.08
	Primorskaya	Mean	0.48	0.60	0.43	0.67	0.40	0.36	0.21	0.23	0.36	0.23	0.67	0.27	0.41
		%	100	100	100	100	100	100	100	100	100	100	100	100	100
		Max-2w	0.61	0.64	0.43	1.00	0.45	0.44	0.21	0.24	0.44	0.42	0.67	0.29	1.00
		Min-2w	0.35	0.57	0.42	0.34	0.34	0.29	0.21	0.21	0.27	0.05	0.66	0.24	0.05
Thailand	Bangkok	Mean	0.98	0.53	-	1.14	1.14	0.31	0.65	0.52	0.59	1.00	2.22	1.31	0.94
		%	100	100	0	100	100	90	100	100	100	100	100	100	91
		Max-10d	2.32	0.56	-	1.57	1.29	0.91	1.01	0.83	0.97	1.04	2.88	2.06	2.88
		Min-10d	0.04	0.51	-	0.79	1.04	N.D.	0.12	0.04	0.13	0.96	1.34	0.09	N.D.
	Pathumthani	Mean	-	-	-	0.92	0.42	0.80	0.53	0.59	0.76	0.87	2.07	1.39	0.98
		%	0	0	0	96	100	100	84	100	100	100	94	100	72
		Max-10d	-	-	-	1.78	1.14	1.22	0.88	0.90	1.08	1.14	2.39	2.07	2.39
		Min-10d	-	-	-	0.28	0.04	0.02	0.19	N.D.	0.42	0.59	1.74	0.28	N.D.
	Khanchanaburi (Vachiralongkom Dam)	Mean	-	-	-	-	-	-	0.07	-	-	-	N.D.	-	0.04
		%	0	0	0	0	0	0	35	0	0	0	52	0	8
		Max-2w	-	-	-	-	-	-	0.07	-	-	-	N.D.	-	0.07
		Min-2w	-	-	-	-	-	-	0.07	-	-	-	N.D.	-	N.D.
	Chiangmai (Mae Hia)	Mean	0.26	0.63	0.73	1.25	1.32	0.21	0.10	0.07	0.17	-	-	-	0.53
		%	94	96	100	97	97	97	97	97	100	0	0	0	73
		Max-10d	0.64	0.90	1.25	1.81	1.90	0.52	0.15	0.13	0.29	-	-	-	1.90
		Min-10d	0.03	0.23	0.32	0.29	0.62	N.D.	0.06	N.D.	N.D.	-	-	-	N.D.
	Nakhon Ratchasima	Mean	0.07	0.17	0.31	0.18	0.02	0.08	N.D.	N.D.	N.D.	-	0.20	N.D.	0.09
		%	100	100	68	100	100	100	100	100	100	0	100	100	89
		Max-10d	0.12	0.27	0.33	0.26	0.04	0.16	N.D.	N.D.	0.02	-	0.27	N.D.	0.33
		Min-10d	0.01	0.06	0.29	0.07	N.D.	N.D.	N.D.	N.D.	N.D.	-	0.12	N.D.	N.D.
Vietnam	Hanoi	Mean	8.59	18.97	10.66	5.75	4.56	5.81	7.34	5.13	6.08	5.81	9.80	8.21	7.75
		%	100	75	100	100	100	100	100	100	100	100	100	100	98
		Max-w	9.42	31.81	17.97	8.06	7.86	6.67	8.06	5.93	8.14	6.89	11.32	10.62	31.81
		Min-w	7.80	10.93	6.87	2.53	1.67	5.01	5.88	4.42	3.81	4.98	8.58	4.42	1.67
	Hoa Binh	Mean	0.77	1.11	1.49	0.58	1.19	1.00	2.69	1.45	0.86	0.50	2.15	1.38	1.24
		%	100	100	100	100	100	100	80	100	100	100	100	100	98
		Max-w	1.75	2.57	2.95	0.94	2.35	2.40	4.30	2.88	1.39	0.92	3.85	2.72	4.30
		Min-w	0.25	N.D.	0.14	0.34	0.24	0.41	2.00	0.72	0.24	0.27	1.33	0.15	N.D.

† Filterpack monitoring at Phnom Penh was started in February, 2010.

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 4.21 Annual SO₂ concentration

		unit: ppb										
Country	Name of sites	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Cambodia	Phnom Penh											1.6
China	Jinyunshan		10.0	11.0	16.3	15.8	17.8	17.2	12.2	13.3	12.5	12.9
	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
	Xiang Zhou	7.9	10.0	9.4	10.1	8.2	6.3	8.2	6.3	6.6	5.9	5.9
Indonesia	Jakarta								11.0	7.4	8.3	6.3
	Serpong	2.2	0.9	1.0	1.7	1.0	1.4	0.5	1.5	1.6	1.1	0.8
	Kototabang								3.3	6.3	7.9	11.7
	Bandung									2.7	4.7	4.2
Japan	Rishiri	N.D.	0.2	0.1	0.2	0.2	0.1	0.2	0.3	0.2	0.3	0.3
	Ochiishi									0.2	0.2	0.2
	Tappi	0.3	0.5	0.3	0.5	0.5	0.5	0.5	0.5	0.4	0.2	***
	Sado-seki	0.2	0.6	0.5	0.4	0.7	0.6	0.5	0.6	0.4	0.4	0.3
	Happo	0.2	0.9	0.5	0.4	0.7	0.7	0.6	0.8	0.6	0.4	0.8
	Ijira	0.1	0.9	0.5	0.4	0.6	0.4	0.2	0.4	0.2	0.2	0.1
	Oki	0.3	0.6	0.4	0.4	0.7	0.7	0.7	0.9	0.8	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
	Yusuhara	0.6	1.1	0.8	0.9	1.0	1.1	0.9	1.2	1.0	0.9	1.6
	Hedo	0.2	0.3	0.3	0.3	0.2	0.4	0.3	0.4	0.3	0.2	0.3
	Ogasawara	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
	Tokyo								2.2	2.2	2.0	1.8
Malaysia	Tanah Rata	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0.1	3.3	N.D.	N.D.	0.1
	Petaling Jaya		5.3	5.0	4.0	1.3	3.8	6.3	2.0	1.9	1.8	1.4
	Danum Valley							0.1	0.1	N.D.	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
	Terelj	0.4	0.5	0.3	0.4	0.5	0.5	0.5	1.4	0.5	0.7	0.6
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							N.D.	N.D.	0.4	N.D.	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	N.D.	0.2	N.D.	0.2	0.2	1.2	0.7	0.4	0.3	0.1	0.6
	Listvyanka	1.0	2.1	1.1	1.0	0.7	6.0	3.5	1.1	1.2	4.0	4.5
	Irkutsk	3.4	3.0	0.7	1.0	1.4	5.1	4.0	2.4	2.2	4.6	7.3
	Primorskaya			0.5	0.4	0.5	1.6	1.2	0.7	0.9	1.0	1.7
Thailand	Bangkok	4.2	2.8	2.5	2.4	3.3	7.3	4.1	0.8	2.1	1.9	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
	Pathumthani				2.4	1.3	1.6	2.7	1.8	0.5	1.1	1.2
	Khanchanaburi	1.0	0.5	1.4	***	1.7	1.2	1.3	1.3	1.6	1.2	1.6
	Chiang Mai (Mae Hia)		0.5	0.5	1.4	1.5	1.0	0.8	0.9	0.8	0.6	0.8
	Nakhon Ratchasima							0.3	0.4	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
	Hoa Binh	0.9	2.6	2.4	1.3	2.1	2.7	2.0	1.2	1.0	0.9	0.7

[***]: No data or not measured

Black column: Monitoring was not carried out

Table 4.22 Annual HNO₃ concentration

		unit: ppb										
Country	Name of sites	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Cambodia	Phnom Penh											0.3
China	Jinyunshan											
	Weishuiyuan											
	Hongwen								0.9	1.7	1.1	1.0
	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
	Kototabang											
	Bandung											
Japan	Rishiri			N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0.1
	Ochiishi									N.D.	N.D.	0.1
	Tappi				0.2	0.2	0.1	0.1	0.2	0.2	0.1	0.2
	Sado-seki				0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2
	Happo				0.4	0.3	0.2	0.3	0.4	0.4	N.D.	0.1
	Ijira				0.3	0.4	0.4	0.4	0.3	0.3	0.3	0.2
	Oki			0.1	N.D.	N.D.	0.2	0.2	0.2	0.2	0.1	0.1
	Banryu				0.2	0.3	0.4	0.3	0.4	0.3	0.3	0.2
	Yusuhara				0.3	0.4	0.5	0.5	0.5	0.3	0.3	0.3
	Hedo				N.D.	0.1	N.D.	N.D.	0.1	0.1	0.1	0.1
	Ogasawara				N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
	Tokyo								1.1	1.0	0.8	0.8
Malaysia	Tanah Rata	N.D.	N.D.	N.D.	N.D.	N.D.	0.1	N.D.	0.2	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
	Danum Valley							N.D.	N.D.	N.D.	0.2	0.1
Mongolia	Ulaanbaatar	0.2	0.1	N.D.	0.2	N.D.	N.D.	0.1	0.2	0.2	0.2	0.3
	Terelj	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0.1	0.1	N.D.	0.1
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	N.D.	N.D.	0.2	0.1	***	***
	Mt. Sto. Tomas							N.D.	N.D.	0.3	N.D.	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	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	2.9
	Listvyanka	0.2	0.2	0.4	0.1	0.1	N.D.	0.2	N.D.	N.D.	N.D.	0.4
	Irkutsk	N.D.	0.4	0.1	0.2	N.D.	0.4	N.D.	0.2	0.2	0.2	1.9
	Primorskaya		0.2	0.1	N.D.	N.D.	N.D.	0.5	N.D.	0.1	0.1	0.7
Thailand	Bangkok				0.7	0.9	0.5	1.0	0.5	0.5	0.5	0.6
	Samutprakarn											
	Pathumthani				0.6	1.3	0.3	0.6	0.8	0.3	0.7	0.9
	Khanchanaburi			0.2	***	0.6	N.D.	0.2	N.D.	0.2	0.5	N.D.
	Chiang Mai (Mae Hia)		0.2	0.2	0.1	0.4	0.4	0.2	0.5	0.4	0.7	1.9
	Nakhon Ratchasima							0.3	0.3	0.2	0.2	0.2
Vietnam	Hanoi	0.6	0.5	1.9	0.7	1.5	1.0	0.9	1.0	0.5	0.9	0.8
	Hoa Binh	0.5	0.2	1.8	0.4	0.5	0.8	0.3	0.4	0.4	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
Cambodia	Phnom Penh											0.5
China	Jinyunshan											
	Weishuiyuan											
	Hongwen								1.5	1.2	1.5	14.5
	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
	Kototabang											
	Bandung											
Japan	Rishiri			0.3	0.4	0.5	0.4	0.4	0.4	0.5	0.5	0.5
	Ochiishi									0.4	0.4	0.4
	Tappi				0.7	0.6	0.5	0.5	0.6	0.6	0.5	1.5
	Sado-seki				0.9	1.0	1.1	0.9	0.9	0.8	0.9	0.7
	Happo				0.2	0.2	0.2	0.2	0.2	0.2	N.D.	0.1
	Ijira				0.2	0.3	0.2	0.2	0.3	0.2	0.2	0.2
	Oki			0.2	0.3	0.5	0.9	0.9	1.1	0.9	0.8	0.8
	Banryu				0.2	0.6	0.9	0.8	0.9	0.7	0.8	0.7
	Yusuhara				0.3	0.3	0.4	0.4	0.4	0.3	0.3	0.3
	Hedo				0.9	1.0	0.9	0.9	1.0	0.9	0.9	0.5
	Ogasawara				0.3	0.5	0.5	0.4	0.7	0.6	0.5	0.4
	Tokyo								1.0	0.8	0.8	0.7
Malaysia	Tanah Rata	0.1	N.D.	***	***	0.3	0.1	N.D.	0.1	0.4	0.1	0.1
	Petaling Jaya		1.4	***	***	0.7	0.9	1.6	0.7	1.1	0.7	0.5
	Danum Valley							0.2	0.2	0.3	0.5	0.3
Mongolia	Ulaanbaatar	0.3	0.1	0.4	1.0	0.9	0.7	1.0	0.9	0.7	0.7	1.7
	Terelj	0.1	N.D.	0.3	0.7	0.6	0.4	0.4	0.5	0.4	0.3	0.5
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	N.D.	0.6	0.2	1.2
Republic of Korea	Kanghwa				0.3	0.1	***	0.2	0.2	N.D.	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	N.D.	N.D.	N.D.	0.1	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	0.5
	Listvyanka	0.3	0.2	0.4	0.3	0.2	N.D.	0.2	N.D.	0.1	0.2	0.6
	Irkutsk	0.3	0.4	0.3	0.4	0.1	0.2	0.1	0.2	0.2	0.2	0.5
	Primorskaya		0.2	0.5	0.5	0.3	0.1	0.2	0.2	0.2	0.2	0.7
Thailand	Bangkok				0.7	0.9	1.5	1.5	0.7	0.8	0.9	0.7
	Samutprakarn											
	Pathumthani				0.5	0.8	0.6	1.1	1.2	0.4	0.9	0.7
	Khanchanaburi			0.7	***	0.5	0.1	0.3	0.2	0.3	0.2	0.1
	Chiang Mai (Mae Hia)		0.2	0.3	0.2	0.4	0.4	0.5	0.2	0.2	0.3	0.4
	Nakhon Ratchasima							0.4	0.3	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
	Hoa Binh	0.1	0.2	4.4	3.3	1.5	2.3	1.5	2.1	1.8	1.2	1.5

[***]: 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
Cambodia	Phnom Penh											12.9
China	Jinyunshan											
	Weishuiyuan											
	Hongwen								7.9	8.1	11.2	12.2
	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
	Kototabang											
	Bandung											
Japan	Rishiri			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
	Tappi				0.6	0.5	0.3	0.3	0.4	0.5	0.5	0.5
	Sado-seki				0.6	0.7	0.6	0.6	0.6	0.7	0.6	0.6
	Happo				0.5	0.3	0.6	0.4	0.3	0.4	0.2	0.3
	Ijira				1.2	1.2	1.1	1.3	1.2	1.1	1.0	1.1
	Oki			1.1	0.6	0.8	0.8	0.7	0.8	1.0	1.0	0.8
	Banryu				1.1	1.3	1.2	1.1	1.0	1.0	1.0	1.0
	Yusuhara				0.7	0.5	0.4	0.4	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
	Ogasawara				0.2	0.5	0.9	0.5	0.5	0.5	0.5	0.5
	Tokyo								6.1	5.2	5.0	4.9
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
	Petaling Jaya		10.1	***	***	3.5	10.4	16.9	7.5	6.1	7.3	6.7
	Danum Valley							1.2	0.9	0.9	1.9	1.5
Mongolia	Ulaanbaatar	8.4	7.3	9.8	11.3	9.2	9.2	10.3	10.4	10.7	7.4	14.8
	Terelj	1.0	0.7	1.5	1.7	1.3	1.4	1.6	1.3	1.2	1.9	1.4
Philippines	Metro Manila	N.D.	7.1	10.0	9.3	9.1	12.5	3.8	6.6	9.2	***	7.5
	Los Banos	N.D.	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
	Listvyanka	1.1	0.2	0.8	1.7	1.6	0.8	4.4	2.5	2.7	2.4	2.8
	Irkutsk	1.8	0.5	1.3	2.2	4.4	1.8	3.7	3.8	3.3	2.9	2.2
	Primorskaya			12.0	10.8	7.8	1.2	2.7	3.6	2.9	1.8	2.2
Thailand	Bangkok				5.8	11.1	7.8	10.1	10.2	8.2	8.7	7.9
	Samutprakarn											
	Pathumthani				6.5	8.5	6.3	7.0	9.2	3.1	8.1	7.8
	Khanchanaburi			6.5	***	6.2	1.9	2.1	3.2	2.3	2.6	1.6
	Chiang Mai (Mae Hia)		6.5	3.9	6.9	5.5	3.0	3.2	4.7	3.8	5.8	9.0
	Nakhon Ratchasima							2.8	2.4	2.6	2.3	2.0
Vietnam	Hanoi	9.6	5.8	4.1	5.4	13.9	4.0	2.8	4.1	5.0	4.8	5.7
	Hoa Binh	6.8	2.7	2.8	7.5	8.9	3.8	2.7	2.3	4.0	3.9	2.1

[***]: 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
China	Jiayunshan						1.0	2.6	1.5	6.7	3.3	2.0
	Weishuiyuan						5.1	9.8				
	Hongwen											
	Xiang Zhou											
Indonesia	Jakarta											
	Serpong											
	Kototabang											
	Bandung											
Japan	Rishiri	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0.1	N.D.
	Ochiishi									N.D.	N.D.	N.D.
	Tappi	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0.1	0.2	***
	Sado-seki	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
	Happo	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	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
	Oki	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	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
	Yusuhara	0.2	0.1	N.D.	0.1	0.2	0.3	0.1	N.D.	0.2	N.D.	N.D.
	Hedo	N.D.	0.1	0.2	N.D.	N.D.	0.2	N.D.	N.D.	0.1	N.D.	N.D.
	Ogasawara	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
	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
	Samutprakarn	23.0	18.9	18.0	14.5	15.5	14.4	16.4	16.7	15.3	15.2	13.3
	Pathumthani											
	Khanchanaburi	N.D.	1.2	0.3	***	1.0	1.0	0.6	1.8	0.7	0.2	0.3
	Chiang Mai (Mae Hia)				7.1	3.0	2.9	2.5	3.1	2.0	2.1	3.0
	Nakhon Ratchasima									5.9	***	***
Vietnam	Hanoi											
	Hoa Binh											

[***]: No data or not measured

Black column: Monitoring was not carried out

Table 4.26 Annual NO₂ concentration

		unit: ppb										
Country	Name of sites	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
China	Jinyunshan											
	Weishuiyuan											
	Hongwen		11.3	12.6	13.6	13.8	16.4	23.8	22.9	19.9	18.8	21.1
	Xiang Zhou		18.6	24.2	22.1	21.0	18.8	20.7	19.5	21.1	15.4	17.0
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
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	2.7	2.6
	Yusuhara											
	Hedo											
Malaysia	Ogasawara											
	Tokyo											
	Tanah Rata											
	Petaling Jaya		26.6	29.4	30.9							
	Danum Valley											
Mongolia	Ulaanbaatar											
	Terelj											
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
	Samutprakarn	18.4	21.0	15.2	17.6	13.8	16.9	19.3	19.5	16.4	19.0	15.5
	Pathumthani											
	Khanchanaburi											
	Chiang Mai (Mae Hia)											
	Nakhon Ratchasima											
Vietnam	Hanoi											
	Hoa Binh											

[***]: 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
China	Jinyunshan (NOx*)						7.2	8.7	8.1	11.8	8.2	11.4
	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
	Ochiishi (NOx*)									1.0	1.1	1.0
	Tappi (NOx*)	0.9	1.2	1.3	1.4	1.5	1.4	1.2	1.3	1.6	1.7	***
	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
	Happo (NOx*)	1.9	1.7	2.3	2.2	2.1	2.2	1.9	2.3	2.1	1.3	1.2
	Ijira (NOx*)	2.1	3.4	3.2	2.9	3.6	3.5	3.1	3.2	2.2	2.5	2.3
	Oki (NOx*)	1.2	1.3	1.6	1.3	1.5	1.6	1.5	1.5	1.5	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
	Yusuhara (NOx*)	1.9	1.8	1.7	1.7	1.4	1.8	1.5	1.3	1.5	1.1	1.8
	Hedo (NOx*)	0.6	0.9	0.9	0.8	0.9	0.7	0.8	0.5	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
	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
	Samutprakarn	40.4	38.9	32.7	***	29.0	30.7	35.6	36.2	31.5	34.1	28.7
	Pathumthani											
	Khanchanaburi	2.5	2.2	4.2	***	3.4	5.5	2.8	3.0	1.2	1.4	3.1
	Chiang Mai (Mae Hia) (NOx*)					14.0	8.8	10.4	12.6	10.4	10.8	12.5
	Nakhon Ratchasima (NOx*)									16.9	***	***
Vietnam	Hanoi											
	Hoa Binh											

[***]: No data or not measured

Black column: Monitoring was not carried out

Table 4.28 Annual O₃ concentration

unit: ppb

Country	Name of sites	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
China	Jinyunshan Weishuiyuan Hongwen Xiang Zhou											
Indonesia	Jakarta Serpong Kototabang Bandung											
Japan	Rishiri	39	39	41	43	43	42	43	46	42	42	40
	Ochiishi									38	37	38
	Tappi	47	46	46	45	47	51	51	54	39	31	***
	Sado-seki	44	41	43	49	49	48	48	48	47	49	53
	Happo	53	54	55	56	56	58	59	63	50	52	48
	Ijira	30	30	24	30	27	23	17	35	20	21	19
	Oki	45	44	40	39	45	45	44	45	45	46	45
	Banryu	36	36	37	36	37	37	34	34	35	36	35
	Yusuhara	39	29	29	33	39	43	42	40	40	41	36
	Hedo	41	41	42	39	32	35	40	38	39	39	38
	Ogasawara	22	27	29	30	30	33	31	32	28	30	38
	Tokyo											
Malaysia	Tanah Rata								15	***	***	***
	Petaling Jaya											
	Danum Valley											
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			44	42	45	42	45	39	35	45	44
	Listvyanka											
	Irkutsk											
	Primorskaya											
Thailand	Bangkok									10	17	17
	Samutprakarn		4	12	17	13	14	14	14	18	18	15
	Pathumthani											
	Khanchanaburi	20	10	14	***	15	17	10	7	16	14	23
	Chiang Mai (Mae Hia)				13	22	20	19	23	22	26	24
	Nakhon Ratchasima									22	***	***
Vietnam	Hanoi											
	Hoa Binh											

[***]: No data or not measured

Black column: Monitoring was not carried out

Table 4.29 Annual PM₁₀ concentration

 unit: µg/m³

Country	Name of sites	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
China	Jiynunshan		96	73	70	64	60	78	65	50	40	51
	Weishuiyuan		123	138	112	128	118	121				
	Hongwen		61	62	68	64	66	97	71	59	60	63
	Xiang Zhou		51	48	56	48	40	47	50	51	48	48
Indonesia	Jakarta											
	Serpong											
	Kototabang											
	Bandung											
Japan	Rishiri	16	18	18	16	17	14	15	14	16	16	18
	Ochiishi									30	24	22
	Tappi	64	19	26	16	20	19	18	17	22	16	28
	Sado-seki	24	25	27	22	28	24	24	22	23	22	21
	Happo	13	14	12	10	15	15	13	12	14	12	12
	Ijira	24	22	24	20	21	21	22	22	20	18	18
	Oki	26	29	31	23	27	28	30	29	26	26	29
	Banryu	29	31	35	25	29	29	31	31	27	26	28
	Yusuhara	15	22	22	18	20	20	20	19	18	18	18
	Hedo		46	48	26	34	35	37	29	27	28	31
	Ogasawara	11	12	13	11	13	12	13	13	10	12	12
	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
	Samutprakarn									45	43	38
	Pathumthani											
	Khanchanaburi	38	21	79	***	41	60	37	31	37	28	46
	Chiang Mai (Mae Hia)				48	59	52	41	52	38	42	45
	Nakhon Ratchasima									47	***	***
Vietnam	Hanoi											
	Hoa Binh											

[***]: No data or not measured

Black column: Monitoring was not carried out

Table 4.30 Annual PM_{2.5} concentration

 unit: µg/m³

Country	Name of sites	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
China	Jinyunshan											
	Weishuiyuan											
	Hongwen											
	Xiang Zhou											
Indonesia	Jakarta											
	Serpong											
	Kototabang											
	Bandung											
Japan	Rishiri		9	8	10	8	8	8	8	9	8	9
	Ochiishi									16	12	12
	Tappi											
	Sado-seki											
	Happo											
	Ijira											
	Oki		12	14	12	13	15	15	15	14	12	12
	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)											
Vietnam	Nakhon Ratchasima											
	Hanoi											
	Hoa Binh											

[***]: No data or not measured

Black column: Monitoring was not carried out

Table 4.31 Annual SO₄²⁻ in PM concentration

unit: µg/m³

Country	Name of sites	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Cambodia	Phnom Penh											2.57
China	Jinyunshan											
	Weishuiyuan											
	Hongwen								10.58	13.38	12.72	14.10
	Xiang Zhou											
Indonesia	Jakarta											
	Serpong		1.81	1.49	0.53	0.82	1.50	0.56	0.50	0.71	0.79	0.50
	Kototabang											
	Bandung											
Japan	Rishiri			1.76	2.55	2.40	2.61	2.39	2.44	2.94	2.50	2.74
	Ochiishi									2.73	2.61	2.31
	Tappi				3.32	3.89	3.92	4.10	4.02	4.67	4.29	4.12
	Sado-seki				3.11	3.55	4.08	3.07	3.64	4.17	3.58	3.20
	Happo				2.11	2.30	2.59	2.79	2.58	2.52	0.59	0.86
	Ijira				3.72	4.10	5.07	4.89	4.76	4.78	3.88	3.25
	Oki			4.38	3.91	3.94	6.29	5.73	5.21	4.54	4.29	4.43
	Banryu				3.82	4.43	6.33	6.55	6.41	5.11	5.44	4.37
	Yusuhara				4.09	5.16	6.15	5.81	6.44	4.54	5.16	4.46
	Hedo				4.01	3.40	5.32	6.51	5.95	5.69	5.62	3.53
	Ogasawara				1.26	1.36	0.87	1.65	3.91	2.72	2.64	2.17
	Tokyo								5.36	5.15	4.62	4.28
Malaysia	Tanah Rata	1.23	0.67	0.46	0.50	0.81	1.07	1.38	1.37	1.59	1.39	0.95
	Petaling Jaya		3.61	3.89	3.36	1.42	2.26	2.60	3.00	3.32	3.01	2.94
	Danum Valley							0.69	0.76	1.12	3.64	1.73
Mongolia	Ulaanbaatar	2.14	2.54	1.76	3.59	3.63	5.10	5.68	4.20	1.33	2.24	4.70
	Terelj	1.12	1.54	0.74	0.78	1.24	0.85	1.40	1.41	1.42	1.07	0.61
Philippines	Metro Manila	2.00	1.87	2.26	3.74	3.19	3.31	2.63	3.15	2.37	***	1.43
	Los Banos	0.50	0.85	1.54	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		4.86	6.95	5.65	4.26	6.56	3.43	2.35	8.44	6.04	6.19
	Cheju (Kosan)		2.68	6.74	6.99	8.90	7.11	8.05	6.75	14.92	4.68	3.82
	Imsil		2.06	5.12	8.23	10.12	9.29	10.31	5.90	11.32	4.66	5.03
Russia	Mondy	0.52	0.75	0.49	0.99	0.66	0.34	0.49	0.22	0.38	0.39	0.14
	Listvyanka	1.42	2.47	1.70	2.75	1.79	0.79	1.16	1.57	1.02	1.58	0.89
	Irkutsk	2.35	3.83	3.89	2.51	1.70	2.67	2.13	2.91	2.55	2.36	2.29
	Primorskaya		3.87	2.12	2.59	3.32	3.77	4.11	4.89	3.59	3.71	4.04
Thailand	Bangkok				3.63	4.02	2.13	4.71	2.97	2.65	2.71	3.63
	Samutprakarn											
	Pathumthani				2.34	3.46	1.39	3.14	4.69	1.41	3.12	3.78
	Khanchanaburi			N.D.	***	5.59	0.15	2.74	3.24	2.54	1.32	0.29
	Chiang Mai (Mae Hia)		0.88	2.04	2.11	3.93	1.11	2.22	2.60	1.75	1.97	1.29
	Nakhon Ratchasima							3.64	4.80	3.78	3.44	2.12
Vietnam	Hanoi	1.05	1.41	8.65	16.19	19.30	20.33	16.46	20.35	9.53	8.77	15.63
	Hoa Binh	2.25	2.57	4.16	2.34	2.13	12.41	7.80	8.38	4.51	2.49	2.26

[***]: No data or not measured

Black column: Monitoring was not carried out

Table 4.32 Annual NO₃⁻ in PM concentration

 unit: µg/m³

Country	Name of sites	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Cambodia	Phnom Penh											1.19
China	Jinyunshan											
	Weishuiyuan											
	Hongwen								5.81	8.10	7.98	11.66
	Xiang Zhou											
Indonesia	Jakarta											
	Serpong		0.69	1.37	0.61	0.81	1.55	0.37	0.17	0.18	0.13	0.21
	Kototabang											
	Bandung											
Japan	Rishiri			0.34	0.59	0.66	0.53	0.58	0.60	0.76	0.64	0.77
	Ochiishi									0.71	0.67	0.55
	Tappi				1.24	1.13	0.92	1.17	1.18	1.23	1.29	1.24
	Sado-seki				0.77	0.89	0.68	0.80	0.96	1.07	1.05	0.82
	Happo				0.27	0.36	0.27	0.25	0.20	0.22	0.10	0.11
	Ijira				0.41	0.49	0.48	0.54	0.49	0.39	0.40	0.40
	Oki			0.87	0.71	1.03	1.26	1.28	1.34	1.22	1.31	1.50
	Banryu				0.69	1.09	1.43	1.54	1.57	1.35	1.43	1.53
	Yusuhara				0.30	0.59	0.59	0.59	0.55	0.29	0.52	0.66
	Hedo				1.50	1.16	1.11	1.65	1.48	1.52	1.63	1.09
	Ogasawara				0.32	0.29	0.12	0.36	0.74	0.57	0.60	0.53
	Tokyo								3.86	4.03	3.85	3.80
Malaysia	Tanah Rata	0.19	0.03	0.12	0.11	0.18	0.18	0.18	0.13	0.16	0.15	0.12
	Petaling Jaya		0.59	0.24	0.10	0.56	0.97	0.81	1.18	1.17	1.22	1.25
	Danum Valley							0.05	0.04	0.06	0.21	0.36
Mongolia	Ulaanbaatar	0.85	1.37	1.02	1.71	1.53	1.61	1.74	1.66	0.90	0.93	1.25
	Terelj	0.23	0.17	0.20	0.16	0.15	0.18	0.19	0.71	0.65	0.24	0.11
Philippines	Metro Manila	0.66	1.07	0.92	2.26	1.77	1.11	1.03	1.27	0.99	***	0.85
	Los Banos	0.18	0.76	0.46	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		0.50	2.31	4.19	1.12	1.85	2.03	1.03	1.92	2.38	3.50
	Cheju (Kosan)		0.09	0.32	0.53	1.44	0.27	0.39	0.57	0.34	0.49	0.67
	Imsil		0.35	0.59	0.51	1.23	1.56	3.99	3.05	2.86	2.67	3.82
Russia	Mondy	0.03	0.12	0.14	0.11	0.02	0.02	0.06	0.01	0.13	0.02	0.19
	Listvyanka	0.55	0.44	0.18	0.68	0.19	0.17	0.19	0.19	0.20	0.25	0.17
	Irkutsk	0.78	1.24	1.52	0.96	0.53	0.68	0.69	0.61	0.89	0.83	0.91
	Primorskaya		1.83	0.31	0.39	0.57	1.24	1.18	1.04	1.03	1.10	0.79
Thailand	Bangkok				1.51	2.07	2.83	1.60	1.51	1.44	1.62	1.86
	Samutprakarn											
	Pathumthani				0.63	1.11	1.13	0.81	2.02	0.77	1.73	1.93
	Khanchanaburi			N.D.	***	0.58	0.06	0.09	0.10	0.15	3.55	0.06
	Chiang Mai (Mae Hia)		0.65	0.19	0.28	0.64	0.33	0.67	0.62	0.36	0.66	10.25
	Nakhon Ratchasima							0.52	0.48	0.41	0.34	0.18
Vietnam	Hanoi	0.26	0.30	1.88	5.33	8.74	10.52	5.34	6.21	2.89	3.52	7.81
	Hoa Binh	0.52	0.38	0.86	0.54	0.69	1.71	1.09	1.46	1.24	0.49	0.61

[***]: No data or not measured

Black column: Monitoring was not carried out

Table 4.33 Annual CI⁻ in PM concentration

 unit: µg/m³

Country	Name of sites	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Cambodia	Phnom Penh											0.18
China	Jinyunshan											
	Weishuiyuan											
	Hongwen								2.07	1.85	1.73	2.28
	Xiang Zhou											
Indonesia	Jakarta											
	Serpong		0.13	1.55	1.24	0.79	1.07	0.21	0.46	0.10	0.09	0.25
	Kototabang											
	Bandung											
Japan	Rishiri			2.37	2.04	2.73	2.35	2.03	2.25	2.20	2.42	2.79
	Ochiishi									4.44	6.88	4.34
	Tappi				3.38	7.64	6.02	8.08	6.51	8.26	8.97	6.01
	Sado-seki				3.08	3.88	3.08	3.56	3.30	4.61	3.38	3.78
	Happo				0.02	0.03	0.02	0.03	0.02	0.01	0.02	0.03
	Ijira				0.05	0.05	0.04	0.05	0.05	0.04	0.06	0.05
	Oki			1.40	1.30	2.12	2.55	2.42	2.36	2.71	3.69	4.54
	Banryu				0.41	1.31	1.43	1.47	0.97	1.13	1.59	1.38
	Yusuhara				0.03	0.07	0.07	0.08	0.04	0.03	0.21	0.10
	Hedo				6.12	4.60	7.29	6.35	5.79	4.40	6.02	4.62
	Ogasawara				2.86	1.66	0.94	2.69	3.82	3.04	3.93	3.44
	Tokyo								0.62	0.63	0.68	0.66
Malaysia	Tanah Rata	0.06	N.D.	0.05	0.08	0.03	0.03	0.04	0.03	0.02	0.03	0.05
	Petaling Jaya		0.05	0.02	0.02	0.10	0.18	0.10	0.13	0.09	0.11	0.19
	Danum Valley							0.04	0.02	0.04	0.15	0.33
Mongolia	Ulaanbaatar	0.55	0.73	0.37	0.82	1.02	1.06	1.25	0.87	0.47	1.84	1.06
	Terelj	0.06	0.20	0.09	0.20	0.18	0.30	0.19	0.36	0.24	0.22	0.18
Philippines	Metro Manila	2.61	0.49	0.45	0.86	0.77	0.39	0.62	0.62	0.59	***	0.66
	Los Banos	1.06	0.93	0.89	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		0.33	0.34	0.24	0.16	0.18	0.15	0.19	0.07	0.64	0.44
	Cheju (Kosan)		0.28	0.34	0.41	0.53	0.14	0.13	0.30	0.12	0.29	0.46
	Imsil		0.33	0.32	0.31	0.14	0.12	0.29	0.38	0.18	0.45	0.61
Russia	Mondy	0.03	0.08	N.D.	0.12	0.02	N.D.	0.03	0.01	N.D.	N.D.	0.33
	Listvyanka	0.37	0.80	0.31	0.13	0.26	0.03	0.08	0.12	0.11	0.11	0.11
	Irkutsk	0.12	0.44	0.42	0.24	0.15	0.12	0.19	0.30	0.32	0.40	0.31
	Primorskaya		0.53	0.20	0.25	0.18	0.21	0.12	0.19	0.17	0.14	0.20
Thailand	Bangkok				0.22	1.06	0.59	0.19	0.29	0.18	0.26	0.28
	Samutprakarn											
	Pathumthani				0.07	0.11	0.31	0.09	0.39	0.07	0.20	0.14
	Khanchanaburi			N.D.	***	0.06	0.02	0.08	0.02	0.06	0.04	0.10
	Chiang Mai (Mae Hia)		0.09	0.12	0.03	0.30	0.08	0.29	0.11	0.05	0.09	0.16
	Nakhon Ratchasima							0.09	0.06	0.06	0.07	0.02
Vietnam	Hanoi	0.39	1.49	1.78	1.22	1.67	3.10	2.90	2.81	0.79	0.58	1.66
	Hoa Binh	0.31	0.14	1.75	1.17	0.94	1.41	0.65	0.58	0.64	0.11	0.35

[***]: No data or not measured

Black column: Monitoring was not carried out

Table 4.34 Annual NH_4^+ 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
Cambodia	Phnom Penh											0.55
China	Jinyunshan											
	Weishuiyuan											
	Hongwen								3.66	5.55	5.48	6.72
	Xiang Zhou											
Indonesia	Jakarta											
	Serpong		0.40	0.61	0.09	0.18	0.25	0.08	0.24	0.08	0.11	0.14
	Kototabang											
	Bandung											
Japan	Rishiri			0.34	0.48	0.35	0.44	0.41	0.39	0.53	0.45	0.47
	Ochiishi									0.40	0.40	0.29
	Tappi				0.60	0.67	0.57	0.63	0.64	0.77	0.66	0.68
	Sado-seki				0.45	0.49	0.83	0.48	0.54	0.68	0.53	0.50
	Happo				0.58	0.57	0.69	0.64	0.65	0.66	0.15	0.22
	Ijira				1.24	1.17	1.45	1.39	1.32	1.36	1.06	0.87
	Okii			0.83	0.60	0.68	1.27	1.19	1.07	0.97	0.86	0.92
	Banryu				0.62	0.97	1.43	1.51	1.60	1.32	1.30	1.02
	Yusuhara				0.88	1.15	1.40	1.41	1.53	1.12	1.25	1.00
	Hedo				0.56	0.46	0.67	0.80	0.88	0.98	0.86	0.42
	Ogasawara				0.10	0.15	0.08	0.17	0.46	0.24	0.21	0.17
	Tokyo								1.82	1.96	1.83	1.71
Malaysia	Tanah Rata	0.34	0.32	0.26	0.13	0.23	0.23	0.40	0.32	0.35	0.29	0.25
	Petaling Jaya		0.88	1.30	1.01	0.30	0.59	0.76	0.76	0.82	0.73	0.80
	Danum Valley							0.10	0.08	0.12	0.39	0.12
Mongolia	Ulaanbaatar	0.39	0.41	0.46	0.67	0.92	1.60	1.95	1.96	0.23	0.95	1.69
	Terelj	0.28	0.42	0.27	0.29	0.33	0.28	0.43	0.40	0.37	0.28	0.12
Philippines	Metro Manila	N.D.	0.31	0.93	1.09	0.48	0.73	0.25	0.43	0.42	***	0.14
	Los Banos	N.D.	0.39	0.34	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		1.96	2.58	2.69	1.59	2.23	1.38	0.85	1.05	2.51	2.93
	Cheju (Kosan)		0.67	2.00	2.44	2.98	2.05	2.39	2.15	1.26	1.54	1.32
	Imsil		0.53	1.41	2.59	2.85	2.66	3.67	2.37	1.43	2.34	2.54
Russia	Mondy	0.13	0.24	0.21	0.36	0.17	0.12	0.09	0.02	0.09	0.07	0.01
	Listvyanka	0.75	1.16	0.77	0.92	0.63	0.37	0.27	0.33	0.21	0.24	0.15
	Irkutsk	1.02	1.62	1.49	0.76	0.59	0.69	0.46	0.93	0.80	0.66	0.49
	Primorskaya		1.20	1.13	0.78	0.74	1.10	1.32	1.43	0.94	0.99	0.75
Thailand	Bangkok				1.08	0.71	0.42	1.30	1.29	1.15	0.70	0.69
	Samutprakarn											
	Pathumthani				0.46	0.73	0.38	0.86	1.37	0.71	1.50	0.84
	Khanchanaburi			N.D.	***	1.41	0.04	0.65	0.91	1.10	0.83	0.18
	Chiang Mai (Mae Hia)		0.61	0.26	1.23	0.72	0.59	0.67	0.74	0.49	0.58	3.70
	Nakhon Ratchasima							1.13	1.37	1.13	0.87	0.73
Vietnam	Hanoi	1.02	1.52	2.14	3.86	4.97	7.30	3.18	3.99	2.20	1.68	3.28
	Hoa Binh	0.78	0.85	2.12	6.25	1.46	4.27	2.29	2.24	0.84	0.90	0.64

[***]: No data or not measured

Black column: Monitoring was not carried out

Table 4.35 Annual Na⁺ in PM concentration

 unit: µg/m³

Country	Name of sites	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Cambodia	Phnom Penh											0.48
China	Jinyunshan											
	Weishuiyuan											
	Hongwen								1.39	1.40	1.55	1.76
	Xiang Zhou											
Indonesia	Jakarta											
	Serpong		0.42	0.96	0.47	0.63	0.22	0.32	0.11	0.06	0.10	0.09
	Kototabang											
	Bandung											
Japan	Rishiri			1.68	1.65	2.02	1.76	1.62	1.78	1.82	1.91	2.14
	Ochiishi									3.09	4.37	2.87
	Tappi				2.99	4.99	4.18	5.23	4.30	5.31	6.01	4.24
	Sado-seki				2.39	2.92	2.22	2.52	2.53	3.32	2.56	2.67
	Happo				0.09	0.14	0.08	0.08	0.08	0.10	0.03	0.03
	Ijira				0.26	0.27	0.27	0.26	0.29	0.25	0.25	0.22
	Oki			2.32	2.00	1.59	2.38	2.26	2.21	2.26	2.75	3.35
	Banryu				1.18	1.42	1.61	1.68	1.33	1.32	1.64	1.41
	Yusuhara				0.34	0.44	0.43	0.45	0.43	0.26	0.54	0.41
	Hedo				4.85	3.18	5.22	4.85	4.54	3.77	4.63	3.38
	Ogasawara				1.86	1.24	0.68	1.78	2.95	2.38	2.80	2.38
	Tokyo								0.99	0.80	0.94	0.91
Malaysia	Tanah Rata	0.11	0.11	0.14	0.09	0.08	0.09	0.13	0.14	0.13	0.10	0.10
	Petaling Jaya		0.25	0.25	0.17	0.24	0.18	0.21	0.32	0.34	0.24	0.26
	Danum Valley							0.13	0.13	0.16	0.59	0.72
Mongolia	Ulaanbaatar	0.29	0.32	0.19	0.60	0.49	0.47	0.38	0.32	0.09	0.08	0.21
	Terelj	0.07	0.10	0.09	0.09	0.17	0.14	0.11	0.12	0.08	0.11	0.02
Philippines	Metro Manila	1.26	1.11	0.33	0.92	0.89	0.62	0.61	0.79	0.97	***	0.54
	Los Banos	0.60	1.39	0.84	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		0.29	0.61	0.33	0.19	0.33	0.25	0.26	0.43	0.52	0.40
	Cheju (Kosan)		0.09	0.37	0.52	0.72	0.35	0.40	0.39	0.53	0.51	0.45
	Imsil		0.32	0.35	0.52	0.52	0.44	0.39	0.42	0.58	0.54	0.40
Russia	Mondy	0.03	0.02	N.D.	0.04	0.04	0.02	0.04	N.D.	0.02	0.03	0.36
	Listvyanka	0.02	0.17	0.05	0.18	0.20	0.05	0.06	0.07	0.12	0.16	0.08
	Irkutsk	0.14	0.07	0.13	0.19	0.13	0.21	0.17	0.12	0.23	0.50	0.26
	Primorskaya		0.28	0.18	0.21	0.26	0.22	0.22	0.25	0.26	0.25	0.26
Thailand	Bangkok				0.46	1.53	0.48	0.68	0.38	0.33	0.57	0.54
	Samutprakarn											
	Pathumthani				0.23	0.54	0.27	0.34	0.40	0.27	0.38	0.30
	Khanchanaburi			N.D.	***	0.38	0.01	0.17	0.12	0.17	0.09	0.06
	Chiang Mai (Mae Hia)		0.13	0.10	0.12	0.33	0.08	0.21	0.23	0.15	0.48	0.17
	Nakhon Ratchasima							0.17	0.28	0.24	0.21	0.16
Vietnam	Hanoi	0.61	0.45	0.54	0.57	1.21	1.95	1.99	1.64	0.56	0.58	1.03
	Hoa Binh	0.27	0.16	0.55	0.12	0.61	0.92	0.52	0.25	0.24	0.13	0.28

[***]: No data or not measured

Black column: Monitoring was not carried out

Table 4.36 Annual K⁺ in PM concentration

 unit: µg/m³

Country	Name of sites	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Cambodia	Phnom Penh											0.57
China	Jinyunshan											
	Weishuiyuan											
	Hongwen								0.57	0.62	0.68	3.46
	Xiang Zhou											
Indonesia	Jakarta											
	Serpong		0.42	0.46	0.28	0.15	0.25	0.11	0.05	0.07	0.08	0.14
	Kototabang											
	Bandung											
Japan	Rishiri			0.06	0.13	0.14	0.13	0.15	0.13	0.16	0.14	0.15
	Ochiishi									0.16	0.18	0.13
	Tappi				0.19	0.27	0.21	0.28	0.25	0.26	0.31	0.28
	Sado-seki				0.11	0.17	0.14	0.15	0.16	0.19	0.18	0.17
	Happo				0.05	0.06	0.06	0.06	0.05	0.05	0.02	0.01
	Ijira				0.16	0.14	0.18	0.17	0.15	0.14	0.13	0.09
	Oki			0.19	0.19	0.22	0.26	0.23	0.21	0.18	0.20	0.22
	Banryu				0.18	0.19	0.21	0.25	0.21	0.19	0.21	0.16
	Yusuhara				0.11	0.18	0.21	0.21	0.18	0.11	0.16	0.12
	Hedo				0.23	0.19	0.29	0.32	0.31	0.27	0.29	0.21
	Ogasawara				0.10	0.07	0.03	0.08	0.16	0.16	0.16	0.13
	Tokyo								0.20	0.19	0.21	0.18
Malaysia	Tanah Rata	0.12	0.13	0.29	0.07	0.09	0.21	0.10	0.08	0.09	0.08	0.08
	Petaling Jaya		0.33	0.36	0.25	0.24	0.23	0.19	0.25	0.23	0.23	0.27
	Danum Valley							0.09	0.09	0.12	0.43	0.29
Mongolia	Ulaanbaatar	0.21	0.33	0.22	0.53	0.42	0.61	0.60	0.25	0.12	0.16	0.22
	Terelj	0.07	0.16	0.17	0.24	0.24	0.20	0.13	0.14	0.09	0.16	0.04
Philippines	Metro Manila	14.26	1.00	0.28	0.74	0.33	0.26	0.46	0.41	0.43	***	0.22
	Los Banos	0.44	1.00	0.25	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		0.46	0.50	0.61	0.27	0.48	0.33	0.30	0.25	0.49	0.20
	Cheju (Kosan)		0.21	0.37	1.29	0.72	0.45	0.46	0.40	0.33	0.21	0.12
	Imsil		0.30	0.53	1.17	0.84	0.55	0.50	0.32	0.37	0.35	0.25
Russia	Mondy	0.10	N.D.	0.01	0.08	0.05	0.02	0.04	0.01	0.02	0.02	0.04
	Listvyanka	0.25	0.23	N.D.	0.23	0.15	0.09	0.05	0.06	0.09	0.11	0.07
	Irkutsk	0.47	0.21	0.11	0.21	0.09	0.18	0.10	0.11	0.21	0.16	0.13
	Primorskaya		0.52	0.25	0.38	0.35	0.28	0.37	0.44	0.37	0.37	0.44
Thailand	Bangkok				0.59	0.98	0.28	0.65	0.43	0.36	0.43	0.39
	Samutprakarn											
	Pathumthani				0.49	0.61	0.47	0.48	1.82	0.26	0.54	0.47
	Khanchanaburi			N.D.	***	0.88	0.99	0.34	0.16	0.19	0.27	0.06
	Chiang Mai (Mae Hia)		0.48	0.53	0.37	0.54	0.29	0.86	0.58	0.37	0.47	0.42
	Nakhon Ratchasima							0.25	0.37	0.34	0.31	0.18
Vietnam	Hanoi	0.13	0.24	0.78	0.82	1.90	2.61	1.70	2.04	1.00	0.79	1.15
	Hoa Binh	0.35	0.38	1.19	0.39	0.61	2.37	1.19	1.41	0.94	0.70	0.65

[***]: No data or not measured

Black column: Monitoring was not carried out

Table 4.37 Annual Mg^{2+} in PM concentration

unit: $\mu g/m^3$

Country	Name of sites	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Cambodia	Phnom Penh											0.11
China	Jinyunshan											
	Weishuiyuan											
	Hongwen								0.28	0.31	0.33	0.48
	Xiang Zhou											
Indonesia	Jakarta											
	Serpong		0.16	0.09	0.04	0.12	0.08	0.04	0.05	0.03	0.02	0.02
	Kototabang											
	Bandung											
Japan	Rishiri			0.20	0.20	0.24	0.21	0.20	0.22	0.24	0.24	0.26
	Ochiishi									0.44	0.56	0.34
	Tappi				0.39	0.61	0.49	0.63	0.52	0.56	0.68	0.48
	Sado-seki				0.30	0.36	0.31	0.28	0.31	0.39	0.31	0.32
	Happo				0.02	0.03	0.02	0.02	0.03	0.03	0.01	0.01
	Ijira				0.05	0.04	0.04	0.04	0.05	0.04	0.04	0.04
	Oki			0.21	0.23	0.27	0.31	0.30	0.29	0.28	0.34	0.44
	Banryu				0.15	0.19	0.23	0.26	0.22	0.17	0.20	0.20
	Yusuhara				0.07	0.08	0.08	0.09	0.09	0.05	0.08	0.08
	Hedo				0.61	0.38	0.67	0.60	0.58	0.47	0.58	0.44
	Ogasawara				0.25	0.14	0.08	0.22	0.37	0.33	0.36	0.30
	Tokyo								0.15	0.12	0.13	0.12
Malaysia	Tanah Rata	N.D.	0.03	N.D.	0.01	0.01	0.01	0.02	0.04	0.02	0.01	0.02
	Petaling Jaya		0.03	N.D.	0.02	0.03	0.03	0.03	0.09	0.05	0.03	0.05
	Danum Valley							0.01	0.04	0.05	0.07	0.10
Mongolia	Ulaanbaatar	0.15	0.30	0.14	0.40	0.33	0.35	0.26	0.19	0.11	0.04	0.18
	Terelj	N.D.	0.04	N.D.	0.04	0.06	0.06	0.06	0.02	0.02	0.04	0.04
Philippines	Metro Manila	2.69	0.07	0.04	0.15	0.10	0.11	0.24	0.14	0.17	***	0.10
	Los Banos	0.13	0.09	0.13	0.10	0.07	0.06	0.09	0.14	0.11	***	***
	Mt. Sto. Tomas							0.01	N.D.	0.07	N.D.	0.06
Republic of Korea	Kanghwa		N.D.	N.D.	0.07	0.01	0.01	0.01	N.D.	0.01	0.03	0.04
	Cheju (Kosan)		N.D.	N.D.	0.05	0.04	0.01	0.02	0.09	0.02	0.01	0.04
	Imsil		N.D.	0.01	0.06	0.05	0.03	0.04	0.03	0.01	0.02	0.05
Russia	Mondy	N.D.	N.D.	N.D.	N.D.	0.01	N.D.	N.D.	N.D.	N.D.	0.01	0.01
	Listvyanka	0.07	0.04	N.D.	0.04	0.04	0.02	0.02	0.03	0.02	0.03	0.02
	Irkutsk	0.14	0.06	0.07	0.08	0.06	0.07	0.08	0.09	0.13	0.08	0.08
	Primorskaya		0.07	N.D.	0.03	0.19	0.08	0.07	0.07	0.08	0.07	0.08
Thailand	Bangkok				0.12	0.43	0.10	0.13	0.09	0.08	0.09	0.14
	Samutprakarn											
	Pathumthani				0.05	0.80	0.05	0.05	0.08	0.06	0.07	0.05
	Khanchanaburi			N.D.	***	0.14	N.D.	0.04	0.04	0.10	0.03	N.D.
	Chiang Mai (Mae Hia)		0.06	0.02	0.32	0.03	0.02	0.22	0.07	0.04	0.04	0.04
	Nakhon Ratchasima							0.05	0.06	0.05	0.04	0.02
Vietnam	Hanoi	0.14	0.18	0.42	0.16	0.51	0.67	0.52	0.44	0.18	0.32	0.48
	Hoa Binh	0.13	0.06	0.21	0.04	0.66	0.49	0.13	0.15	0.09	0.11	0.11

[***]: No data or not measured

Black column: Monitoring was not carried out

Table 4.38 Annual Ca²⁺ in PM concentration

unit: µg/m³

Country	Name of sites	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Cambodia	Phnom Penh											0.78
China	Jinyunshan											
	Weishuiyuan											
	Hongwen								2.84	2.79	2.73	9.44
	Xiang Zhou											
Indonesia	Jakarta											
	Serpong		0.36	0.32	0.22	0.61	0.28	0.36	0.26	0.13	0.07	0.09
	Kototabang											
	Bandung											
Japan	Rishiri			0.07	0.13	0.16	0.14	0.13	0.14	0.17	0.16	0.18
	Ochiishi									0.15	0.24	0.14
	Tappi				0.22	0.38	0.27	0.35	0.30	0.30	0.39	0.36
	Sado-seki				0.16	0.31	0.22	0.23	0.25	0.29	0.25	0.24
	Happo				0.06	0.16	0.15	0.17	0.14	0.12	0.07	0.05
	Ijira				0.12	0.16	0.16	0.18	0.17	0.13	0.14	0.15
	Oki			0.24	0.19	0.28	0.33	0.29	0.28	0.22	0.30	0.47
	Banryu				0.17	0.22	0.27	0.31	0.30	0.22	0.29	0.44
	Yusuhara				0.16	0.27	0.25	0.27	0.28	0.14	0.36	0.33
	Hedo				0.32	0.36	0.37	0.48	0.43	0.34	0.43	0.48
	Ogasawara				0.11	0.10	0.04	0.13	0.22	0.16	0.20	0.23
	Tokyo								0.56	0.52	0.51	0.59
Malaysia	Tanah Rata	0.05	0.16	0.04	0.02	0.18	0.06	0.07	0.10	0.08	0.07	0.07
	Petaling Jaya		0.49	0.19	0.07	0.76	0.20	0.39	0.68	0.47	0.34	0.46
	Danum Valley							0.02	0.03	0.02	0.04	0.07
Mongolia	Ulaanbaatar	3.64	4.38	3.59	6.76	4.76	4.86	4.64	3.69	3.38	1.43	1.45
	Terelj	0.31	0.40	0.30	0.26	0.30	0.27	0.30	0.43	0.42	0.32	0.16
Philippines	Metro Manila	0.37	0.79	0.60	1.37	1.00	0.75	1.09	1.18	0.87	***	0.66
	Los Banos	1.03	0.57	1.80	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		0.25	0.21	0.34	0.09	0.10	0.04	0.05	0.07	0.17	0.07
	Cheju (Kosan)		0.01	0.16	0.25	0.20	0.08	0.05	0.09	0.11	0.08	0.07
	Imsil		0.09	0.33	0.42	0.13	0.11	0.12	0.28	0.11	0.08	0.09
Russia	Mondy	0.10	0.06	N.D.	0.08	0.08	0.03	0.07	0.03	0.05	0.05	0.04
	Listvyanka	0.46	0.30	0.15	0.26	0.19	0.07	0.13	0.22	0.15	0.19	0.12
	Irkutsk	0.64	0.48	0.48	0.45	0.29	0.46	0.47	0.62	0.82	0.49	0.59
	Primorskaya		0.65	0.20	0.23	0.25	0.36	0.38	0.40	0.45	0.37	0.41
Thailand	Bangkok				1.17	1.03	1.20	1.39	1.07	0.80	0.88	0.94
	Samutprakarn											
	Pathumthani				0.77	0.80	0.47	0.65	0.93	0.36	0.90	0.98
	Khanchanaburi			0.14	***	0.65	0.06	0.18	0.12	0.22	0.12	0.04
	Chiang Mai (Mae Hia)		0.47	0.41	1.17	0.42	0.29	0.61	0.57	0.44	0.72	0.53
	Nakhon Ratchasima							0.17	0.23	0.28	0.22	0.09
Vietnam	Hanoi	2.01	2.26	3.22	4.43	7.58	8.47	8.97	7.59	2.83	2.87	7.75
	Hoa Binh	1.24	0.80	1.47	0.95	3.25	4.51	2.39	2.19	1.27	1.27	1.24

[***]: No data or not measured

Black column: Monitoring was not carried out

Table 4.39 Approximate 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 Expedient detection limits for summarizing air concentration data

Species	Detection 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](#).

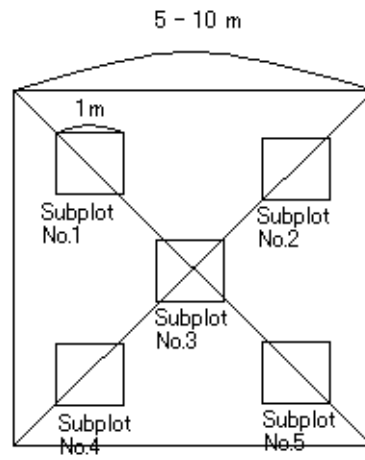


Figure 5.1 Plot for soil sampling

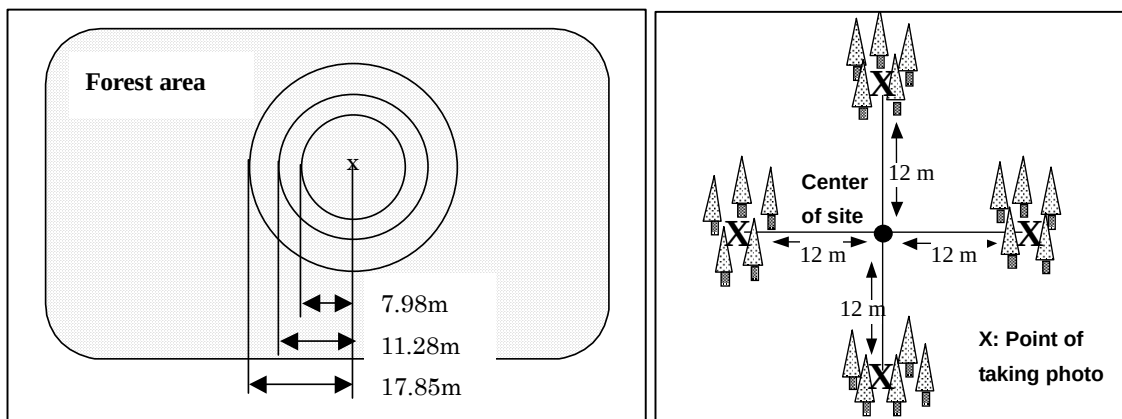


Figure 5.2 Plots for description of trees (Left) and selection of observation trees (Right)

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	Metal sampling cylinder, Drying oven, Balance Pocket penetrometer
b) Penetration Resistance (in the fieldwork)	

5.1.3 Monitoring Sites

Forest data of 9 areas of 6 countries were submitted this year. The correction data in 2009 at Xiaoping was also shown here. The list of monitoring site and reported items in 2010 was shown in [Table 5.4](#). Observation of the tree decline was done annually in the most plots according to suggestion of the Sub-Manual on Forest Vegetation Monitoring (2006).

Table 5.4 Outline of the Monitoring Sites in 2010

Country	Nearest deposition monitoring site	Site: Name of forests	Soil type	Items ^{*1}
China	Jinyunshan (Chongqing)	Jinyunshan	(Acidi-Udic Argosols)	F^{*2}
	Jiwozi (Xi'an)	Jiwozi	(Brown soil)	F^{*2}
	Xiaoping (Xiamen)	Xiaoping	(Red soil)	S^{*3}, F^{*2}
Indonesia	Serpong	Research Forest Station of Center and Development of Forestry Research	(Typic Dystrudepts)	F^{*2}
Japan	Banryu	Banryu-2	Cambisols	F^{*2}
		Iwami “rinku” Factory Park	Acrisols	F^{*2}
	Ijira	Lake Ijira	Dystric Cambisol	F^{*2}
		Yamato	Andosols	F^{*2}
Malaysia	(Kuchin ^{*4})	UPMKB (University of Putra Malaysia Bintulu Campus) rehabilitated forest planted in 1991	(Typic tualemkuts)	S^{*5}
		UPMKB rehabilitated forest planted in 2008	(Typic tualemkuts)	S^{*5}
Philippines	Metro Manila	La Mesa Watershed	Not reported	S, F
Thailand	Vachiralongkorn	Dam	Ferric Acrisols	F^{*6}
		Puye	Luvisols	F^{*6}

*1. S, Soil monitoring; F, Forest monitoring; *2. Observation of tree decline was only conducted;

*3. Correction table for the Data Report 2009 was shown; *4. c.a. 400km far from monitoring

site; *5. Soil monitoring data in 2009; *6. Only photographic record of tree decline was shown.

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

Figure 5.3: Photographic record of tree decline

Correction: Data Report 2008, Table 5.5 a-3)

Table 5.5 a) Soil chemical analysis: Bintulu (Malaysia)

Sampling date: 2009

Name of analysis laboratory: Soil Laboratory, Department of Crop Science, Faculty of Agriculture and Food Sciences, Universiti Putra Malaysia Bintulu Sarawak Campus

Sample No.	Location	Soil type	Plot No.	Subplot No.	Layer analyzed (cm)	pH		Exchangeable base cations (B)				Ex-acidity (A)	Ex-acid cations		ECEC (A) + (B)	Base saturation
						H ₂ O	KCl	Ca	Mg	K	Na	Al	H	(A) + (B)	%	
								(cmol _c kg ⁻¹)								
1	UPMKB Rehabilitated Forest Planted in 1991	Typic ualemkus	1	1	0-10	4.76	3.55	0.58	1.03	0.08	1.27	4.06	2.08	1.98	7.02	42.2
				2		4.99	3.61	0.91	0.77	0.03	1.30	3.24	1.62	1.62	6.25	48.2
				3		4.95	3.6	0.67	1.10	0.08	1.12	3.00	1.38	1.62	5.97	49.8
				4		4.93	3.59	1.40	1.03	0.03	1.06	3.74	1.88	1.86	7.26	48.5
				5		5.05	3.59	2.43	1.10	0.05	1.21	4.18	1.90	2.28	8.97	53.4
				1	10-20	4.88	3.63	1.62	0.93	0.05	1.51	3.00	1.52	1.48	7.11	57.8
				2		5.05	3.64	1.83	0.85	0.05	1.09	2.64	1.26	1.38	6.46	59.1
				3		4.97	3.67	0.93	1.05	0.07	1.09	3.68	1.72	1.96	6.82	46.0
				4		4.89	3.63	0.92	0.77	0.03	1.17	3.82	1.84	1.98	6.71	43.1
				5		4.99	3.58	2.71	0.72	0.05	0.98	3.90	1.80	2.10	8.36	53.4
2			0-10	1	4.81	3.83	1.51	1.22	0.04	1.29	4.14	2.00	2.14	8.20	49.5	
				2	5.92	4.22	3.78	1.35	0.07	1.46	3.92	1.62	2.30	10.58	63.0	
				3	6.21	5.59	0.92	1.12	0.04	1.43	4.56	2.12	2.44	8.07	43.5	
				4	6.17	5.45	1.17	1.52	0.05	1.20	4.86	2.40	2.46	8.80	44.8	
				5	6.07	4.20	1.85	1.35	0.04	1.32	3.90	1.68	2.22	8.46	53.9	
			10-20	1	4.75	3.81	1.44	1.35	0.05	1.41	4.48	2.18	2.30	8.73	48.7	
				2	6.35	6.15	0.99	1.72	0.07	1.11	3.56	1.90	1.66	7.45	52.2	
				3	4.59	2.85	0.88	1.10	0.04	1.47	5.14	2.54	2.60	8.63	40.4	
				4	6.10	5.78	0.98	1.18	0.04	1.20	4.70	2.36	2.34	8.10	42.0	
				5	6.25	5.99	2.73	0.82	0.06	1.30	3.96	1.84	2.12	8.87	55.4	

Sample No.	Location	Soil type	Plot No.	Subplot No.	Layer analyzed (cm)	pH		Exchangeable base cations (B)				Ex-acidity	Ex-acid cations		ECEC	Base saturation
						H ₂ O	KCl	Ca	Mg	K	Na	(A)	Al	H	(A) + (B)	
								(cmol _c kg ⁻¹)								
3	UPMKB Rehabilitated Forest Planted in 2008	Typic ualengkuts	1	1	0-10	5.47	3.56	0.51	0.50	0.02	1.41	2.74	1.30	1.44	5.18	47.1
				2		5.13	3.70	0.56	0.85	0.04	1.45	2.76	1.34	1.42	5.66	51.2
				3		4.68	3.56	0.75	0.78	0.03	1.37	2.92	1.36	1.56	5.85	50.1
				4		4.74	3.66	1.15	0.57	0.02	1.54	3.10	1.40	1.70	6.38	51.4
				5		4.75	3.65	0.48	1.38	0.03	1.48	2.88	1.34	1.54	6.25	53.9
				1	10-20	5.07	3.76	1.30	0.65	0.03	1.37	2.18	0.96	1.22	5.53	60.6
				2		4.76	3.73	0.78	0.75	0.02	1.26	2.40	1.10	1.30	5.21	53.9
				3		4.64	3.58	0.67	0.40	0.02	1.25	2.52	1.24	1.28	4.86	48.2
				4		4.75	3.65	0.67	0.57	0.02	1.52	3.06	1.50	1.56	5.84	47.6
				5		4.58	3.68	0.54	0.30	0.02	1.14	2.26	1.00	1.26	4.26	47.0
4			2	1	0-10	4.99	3.43	0.65	1.03	0.02	1.45	3.42	1.70	1.72	6.57	48.0
				2		4.83	3.52	0.55	0.75	0.02	1.43	2.74	1.38	1.36	5.49	50.1
				3		4.74	3.54	0.34	1.13	0.04	1.58	3.66	1.70	1.96	6.75	45.8
				4		4.89	3.39	0.49	0.75	0.03	1.44	3.52	1.72	1.80	6.23	43.5
				5		4.72	3.48	0.44	1.07	0.02	1.35	3.18	1.52	1.66	6.06	47.5
				1	10-20	4.64	3.61	0.42	0.68	0.02	1.36	2.88	1.34	1.54	5.36	46.3
				2		4.53	3.55	0.56	0.47	0.02	1.40	2.30	0.98	1.32	4.75	51.6
				3		4.76	3.64	0.40	0.75	0.03	1.57	3.30	1.98	1.32	6.05	45.5
				4		4.82	3.54	0.34	0.52	0.02	1.43	3.08	1.54	1.54	5.39	42.9
				5		4.71	3.52	0.42	0.97	0.02	1.30	2.86	1.36	1.50	5.57	48.7

Note: Repeat analysis was not reported

Table 5.5 b) Soil Chemical analysis: La Mesa Dam Watershed, Payatas, Quezon City, (Philippines)

Sampling period: November 8, 2010

Name of analysis laboratory: Department of Soil Science, UPLB

Sample No.	Location	Plot No.	Subplot No.	Layer analyzed (cm)	Repeat analysis	Moisture Contents (wt%)	pH		Exchangeable base cations (B)				Ex-acidity (A)	Ex-acid cations		ECEC (A) + (B)	Base saturation
							H ₂ O	KCl	Ca	Mg	K	Na	Al	H	(A) + (B)	(%)	
									(cmol _c kg ⁻¹)								
1	La Mesa Dam Payatas Quezon City	1		0 - 10	1st	3.0	5.4	4.4	23.46	3.67	1.04	0.92	0.21	0.15	0.06	29.30	99.27
			2			2.0	5.4	4.3	26.37	3.89	1.09	1.01	0.19	0.14	0.05	32.54	99.41
			3			4.0	5.3	4.2	24.07	3.53	1.11	1.19	0.22	0.18	0.04	30.11	99.26
			4			2.0	5.0	4.0	23.78	3.92	1.14	2.14	0.45	0.33	0.12	31.44	98.57
			5			2.0	5.1	4.2	25.18	3.79	1.47	1.41	0.23	0.17	0.06	32.09	99.27
2		1	1	1.0	5.1	4.1	22.24	3.46	0.71	0.25	0.32	0.28	0.04	26.97	98.81		
			2	5.0	5.3	4.3	27.32	4.50	1.23	1.39	0.23	0.19	0.04	34.67	99.32		
			3	5.0	5.3	4.3	28.37	5.49	1.25	2.13	0.26	0.19	0.06	37.50	99.32		
			4	2.0	4.9	4.1	23.19	3.72	1.55	1.88	0.66	0.60	0.06	31.00	97.87		
			5	3.0	5.1	4.2	23.33	3.66	0.84	1.41	0.33	0.30	0.03	29.58	98.88		
3		2	1	3.0	4.8	4.1	34.90	6.97	1.02	1.15	0.69	0.60	0.09	44.73	98.46		
			2	1.0	5.3	4.5	24.07	4.05	1.12	1.04	0.18	0.16	0.33	30.47	99.41		
			3	2.0	5.2	3.8	27.73	6.05	1.31	1.75	0.45	0.38	0.07	37.30	98.78		
			4	2.0	5.1	4.1	22.90	4.53	0.96	0.71	0.32	0.18	0.14	29.42	98.92		
			5	4.0	5.1	4.1	13.22	3.16	0.58	2.31	0.30	0.22	0.08	19.57	98.49		
4		2	1	2.0	5.0	4.1	31.26	5.51	1.27	2.08	0.31	0.28	0.03	40.44	99.22		
			2	1.0	5.1	4.2	23.05	3.80	1.09	1.93	0.27	0.21	0.06	30.14	99.11		
			3	3.0	4.9	3.9	28.11	5.16	1.02	1.50	0.45	0.32	0.13	36.24	98.76		
			4	5.0	5.2	4.2	23.11	5.30	1.42	1.61	0.19	0.14	0.05	31.64	99.39		
			5	2.0	5.0	3.9	16.44	4.08	1.43	1.97	0.56	0.40	0.15	24.47	97.73		

Sample No.	Location	Plot No.	Subplot No.	Layer analyzed (cm)	Repeat analysis	Moisture Contents (wt%)	pH		Exchangeable base cations (B) CaMgKNa				Ex-acidity (A)	Ex-acid cations AlH		ECEC (A) + (B)	Base saturation				
							H ₂ O	KCl	(cmol _c kg ⁻¹)												(%)
1	La Mesa Dam Payatas Quezon City	1	1	0 - 10	2nd	3.0	5.3	4.3	23.46	3.65	1.04	0.92	0.23	0.19	0.04	29.30	99.20				
			2			2.0	5.3	4.2	26.37	3.86	1.08	1.01	0.18	0.14	0.03	32.50	99.45				
			3			4.0	5.4	4.1	24.05	3.52	1.09	1.19	0.22	0.19	0.03	30.08	99.25				
			4			2.0	5.1	4.2	23.77	3.90	1.13	2.14	0.45	0.34	0.11	31.39	98.57				
			5			2.0	5.0	4.1	25.18	3.77	1.46	1.43	0.22	0.19	0.03	32.07	99.30				
2		1	1	10 - 20	2nd	1.0	5.1	4.1	22.23	3.43	0.70	0.26	0.31	0.28	0.03	26.93	98.83				
			2			5.0	5.2	4.3	27.32	4.49	1.22	1.40	0.22	0.19	0.03	34.66	99.35				
			3			5.0	5.2	4.3	28.29	5.00	1.25	2.13	0.22	0.19	0.03	36.90	99.39				
			4			2.0	5.2	4.0	23.31	3.69	1.54	1.90	0.67	0.63	0.04	31.11	97.84				
			5			3.0	5.1	4.2	23.31	3.65	0.83	1.41	0.31	0.29	0.02	29.51	98.94				
3		2	1	0 - 10	2nd	3.0	5.0	4.1	33.47	5.67	1.02	1.15	0.67	0.60	0.07	41.97	98.41				
						2	1.0	5.3	4.3	24.07	4.03	1.11	1.05	0.18	0.16	0.02	30.44	99.42			
						3	2.0	5.2	3.9	29.29	5.37	1.30	1.77	0.44	0.38	0.06	38.19	98.84			
						4	2.0	5.1	4.1	22.90	4.49	0.95	0.71	0.31	0.19	0.12	29.37	98.94			
						5	4.0	5.2	4.1	13.21	3.15	0.57	1.17	0.31	0.24	0.07	18.41	98.31			
4			2	10 - 20	2nd	2.0	5.1	4.2	30.68	4.96	1.26	2.08	0.31	0.28	0.03	39.31	99.20				
						1	1.0	5.2	4.2	23.05	3.77	1.08	1.94	0.27	0.21	0.06	30.11	99.11			
						3	3.0	4.9	3.8	28.11	5.13	1.01	1.51	0.45	0.34	0.11	36.22	98.76			
						4	5.0	5.1	4.2	23.10	5.30	1.41	1.63	0.18	0.14	0.03	31.62	99.43			
						5	2.0	5.0	3.9	16.42	4.07	1.42	1.98	0.49	0.40	0.50	24.38	97.98			

Table 5.6 a-1-1) Observation of tree decline: jinyushan 1 (China)

Date: 7 September 2010

Individual No.	1 (3)	2 (2)	3 (58)	4 (101)	5 (105)	6 (70)	7 (71)	8 (72)	9 (103)	10 (104)
Direction (E, W, S, or N)	E	E	E	S	S	W	W	W	N	N
Plant Name	<i>Cunninghamia lanceolata</i>	<i>Symplocos setchuensis</i>	<i>Symplocos setchuensis</i>	<i>Symplocos setchuensis</i>	<i>Symplocos setchuensis</i>	<i>Symplocos setchuensis</i>	<i>Symplocos setchuensis</i>	<i>Symplocos setchuensis</i>	<i>Symplocos setchuensis</i>	<i>Symplocos setchuensis</i>
Relative height										
Tree height (m)	17.0	8.6	5.8	12.5	11.2	7.0	7.2	9.0	10.8	10.9
DBH (cm)	18.6	12.3	9.7	12.1	12.8	7.5	8.8	11.2	10.9	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 a-1-2) Observation of tree decline: Jinyunshan 2 (China)

Date: 7 September 2010

Individual No.	1 (67)	2 (68)	3 (74)	4 (76)	6 (41)	8 (71)	9 (70)	10 (69)
Direction (E, W, S, or N)	E	E	S	S	W	N	N	N
Plant Name	<i>Symplocos setchuensis</i>	<i>Symplocos setchuensis</i>	<i>Adiantum hookeri</i>	<i>Symplocos setchuensis</i>	<i>Adiantum hookeri</i>	<i>Symplocos lanceolata</i>	<i>Elaeagnus japonicus</i>	<i>Michilus pingii</i>
Relative height								
Tree height (m)	9.2	8.1	14.1	15.2	18.2	12.9	16.2	14.1
DBH (cm)	9.3	12.5	14.8	24.3	18.9	15.0	37.8	19.7
Vitality of tree								
Form of tree				1				
Branch growth								
Dieback of stem								
Defoliation of crown								
Deformation of leaves	1		1					
Size of leaves								
Discoloration of leaves								
Injury of leaves						1		
Damage class								

Estimated cause of decline: unknown

Table 5.6 a-2) Observation of tree decline: Xiaoping (China)

Data: 13 September 2010

Individual No.	120	210	211	116	203	225	227	301	220	221	337	334	333	313	314	310	309	308
Direction (E, W, S, or N)	E	E	E	E	S	S	S	S	W	W	W	W	W	N	N	N	N	N
Plant Name	<i>Michelia. Macclurei Dandy</i>	<i>Michelia. Macclurei Dandy</i>	<i>Michelia. Macclurei Dandy</i>	<i>Michelia. Macclurei Dandy</i>	<i>Michelia. Macclurei Dandy</i>	<i>Michelia. Macclurei Dandy</i>	<i>Michelia. Macclurei Dandy</i>	<i>Michelia. Macclurei Dandy</i>	<i>Michelia. Macclurei Dandy</i>	<i>Michelia. Macclurei Dandy</i>	<i>Michelia. Macclurei Dandy</i>	<i>Michelia. Macclurei Dandy</i>	<i>Michelia. Macclurei Dandy</i>	<i>Michelia. Macclurei Dandy</i>	<i>Michelia. Macclurei Dandy</i>	<i>Michelia. Macclurei Dandy</i>	<i>Michelia. Macclurei Dandy</i>	<i>Michelia. Macclurei Dandy</i>
Relative height																		
Tree height (m)	15.7	16.6	18.3	17.2	16.4	17.8	18.4	17.5	17.9	18.2	18.0	17.7	18.9	16.6	16.9	17.0	16.9	19.3
DBH (cm)	17.3	20.8	19.5	19.8	21.5	24.8	21.3	20.1	18.3	22.8	20.4	20.5	18.8	21.4	20.4	20.3	21.5	30.1
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: unknown

Table 5.6 a-3) Observation of tree decline: Jiwoji (China)

Data: 29 October 2010

Individual No.	1	2	3	4	5	6	7	8	9	1	11	12	13	14	15	16	17	18	19	2
Direction (E, W, S, or N)	E	E	E	E	E	S	S	S	S	S	W	W	W	W	W	N	N	N	N	N
Plant Name	<i>Pinus armandi Fench</i>	<i>Pinus armandi Fench</i>	<i>Pinus armandi Fench</i>	<i>Pinus armandi Fench</i>	<i>Pinus armandi Fench</i>	<i>Pinus armandi Fench</i>	<i>Pinus armandi Fench</i>	<i>Pinus armandi Fench</i>	<i>Pinus armandi Fench</i>	<i>Pinus armandi Fench</i>	<i>Pinus armandi Fench</i>	<i>Pinus armandi Fench</i>	<i>Pinus armandi Fench</i>	<i>Pinus armandi Fench</i>	<i>Pinus armandi Fench</i>	<i>Pinus armandi Fench</i>	<i>Pinus armandi Fench</i>	<i>Pinus armandi Fench</i>	<i>Pinus armandi Fench</i>	<i>Pinus armandi Fench</i>
Relative height																				
Tree height (m)	15.8	13.4	11.4	14.0	1.7	11.2	8.9	7.5	9.5	13.9	13.1	1.7	1.0	14.6	1.0	12.6	11.1	12.9	1.4	8.3
DBH (cm)	22.4	24.7	15.9	21.3	23.9	16.4	12.3	18.1	14.6	19.1	24.8	21.3	14.6	22.3	15.6	23.5	16.2	23.9	15.0	8.6
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}																				1

Estimated cause of decline: Trees are too much

Note: *1. Damage class was decided based on combination of defoliation and discoloration classes (EANET 2006, Sub manual on Forest Vegetation Monitoring in EANET)

Table 5.6 b) Observation of tree decline: Bogor (Indonesia)

Date: 20-21 March 2010

Individual No.	1 (71)	4 (27)	5 (279)	6 (280)	8 (282)	12 (269)	16 (113)	21 (83)	23 (146)	27 (175)
Plant Name	<i>Hopea mengarawan</i>	<i>Hopea mengarawan</i>	<i>Hopea mengarawan</i>	<i>Hopea mengarawan</i>	<i>Hopea mengarawan</i>	<i>Hopea mengarawan</i>	<i>Hopea mengarawan</i>	<i>Hopea mengarawan</i>	<i>Hopea mengarawan</i>	<i>Hopea mengarawan</i>
Relative height	28	33	4	43	45	3	24	47	31	7.5
Vitality of tree						1				
Form of tree	1	1		1		1		1	1	1
Branch growth		1		1	1		1	2	1	
Dieback of stem										
Defoliation of crown								1		
Density of foliage	1	1		1	1	1	1	1	1	1
Deformation of leaves										
Size of leaves										
Discoloration of leaves										
Color of leaves										
Injury of leaves	1									1
Damage class										

Individual No.	28 (232)	31 (264)	33 (266)	34 (267)	39 (275)	42 (278)	44 (287)	46 (289)	49 (292)	51 (294)
Plant Name	<i>Hopea mengarawan</i>	<i>Hopea mengarawan</i>	<i>Melia excelsa</i>	<i>Maesopsis emeni</i>	<i>Hopea mengarawan</i>	<i>Hopea odorata</i>	<i>Khaya grandifolia</i>	<i>Hopea mengarawan</i>	<i>Hopea mengarawan</i>	<i>Hopea mengarawan</i>
Relative height	42	1	6.5	5.81	43	3	45	42	35	4
Vitality of tree			2							
Form of tree	1	1	3	3	1	1		1	1	1
Branch growth	1		2	3	1	2		1		1
Dieback of stem				3						
Defoliation of crown						1				
Density of foliage	1	1	2	2	1	2	1	1	1	1
Deformation of leaves										
Size of leaves										
Discoloration of leaves										
Color of leaves										
Injury of leaves	1	1	1		1	1			1	1
Damage class										

Estimated cause of decline: pest and very dense

Table 5.6 c-1) Results of observation of tree decline: Banryu-2

Date: 27-28 October 2010

Individual No.	72	82	76	63	64	65	54	83	34	35	37
Direction (E, W, S, or N)	N	N	N	E	E	E	S	S	W	W	W
Plant Name	<i>Castanopsis cuspidata</i> var. <i>sieboldii</i>	<i>Machilus thunbergii</i>	<i>Symplocos lucida</i>	<i>Machilus thunbergii</i>	<i>Syrax japonica</i>	<i>Machilus thunbergii</i>	<i>Clethra barbinervis</i>	<i>Quercus serrata</i>	<i>Machilus thunbergii</i>	<i>Machilus thunbergii</i>	<i>Acanthopanax sciadophylloides</i>
Relative height	+	+	+	+	+	+	+	/	+	+	/
Tree height (m)	15.7	15.8	14.0	12.6	12.9	13.8	11.8	/	13.7	15.0	/
DBH (cm)	25.1	26.8	12.3	26.0	16.0	21.8	11.4	/	24.9	21.0	/
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

Table 5.6 c-2) Results of observation of tree decline: Iwami "rinku" Factory Park

Date: 27-28 October 2010

Individual No.	92	93	122	100	104	108	127	128	63	137	138	140	112	113	114	142	141
Direction	N	N	N	E	E	E	E	E	S	S	S	S	W	W	W	W	W
Plant Name	<i>Machilus thunbergii</i>	<i>Machilus thunbergii</i>	<i>Ilex micrococca</i>	<i>Quercus serrata</i>	<i>Castanopsis cuspidata</i> var. <i>sieboldii</i>	<i>Castanopsis cuspidata</i> var. <i>sieboldii</i>	<i>Castanopsis cuspidata</i> var. <i>sieboldii</i>	<i>Castanopsis cuspidata</i> var. <i>sieboldii</i>	<i>Castanopsis cuspidata</i> var. <i>sieboldii</i>	<i>Quercus serrata</i>	<i>Castanopsis cuspidata</i> var. <i>sieboldii</i>	<i>Quercus serrata</i>	<i>Machilus thunbergii</i>	<i>Machilus thunbergii</i>	<i>Machilus thunbergii</i>	<i>Quercus serrata</i>	<i>Machilus thunbergii</i>
Relative height			+		+					/		/				/	
Tree height (m)	15.2	18.1	23.1	19.2	19.6	18.6	18.9	18.0	16.4	/	15.1	/	19.2	19.4	18.2	/	16.1
DBH (cm)	24.2	28.3	29.2	29.7	28.7	26.3	29.9	35.6	32.3	/	24.3	/	21.7	21.5	28.6	/	24.9
Vitality of tree									1	/		/				/	
Form of tree									1	/		/				/	
Branch growth										/		/				/	
Dieback of stem									1	/		/				/	
Defoliation of crown										/		/				/	
Deformation of leaves										/		/				/	
Size of leaves										/		/				/	
Discoloration of leaves										/		/				/	
Injury of leaves										/		/				/	
Damage class										/		/				/	

Estimated cause of decline: No. 142, dead recorded in 2010 by specific disease for Fagaceae tree species (infection of *Raffaelea quercivora* through the beetle, *Platypus quercivorus*), No. 63, broken by collision of a fallen tree; No. 63, 104, 108, 127, and 128, perforations by the beetle, *Platypus quercivorus*, but no symptom of disease; No. 137 and 140, dead recorded in 2007 and 2009, respectively.

Table 5.6 c-2-1) Results of observation of tree decline: Lake Ijira

Date: 7 December 2010

Dec 10, 2016

Individual No.	1	2	3	3-2	3-3	4	5	5-2	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Direction	N	N	N	N	N	N	N	N	E	E	E	E	E	S	S	S	S	S	W	W	W	W	W
Plant Name	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Cryptomeria japonica</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	
Relative height	+					-			+	+					-	-					-	-	
Tree height (m)					12.2			12.5	14	13.7	13.5		14.4					15.9	12.8	12.8			
DBH (cm)					16			14.3	20.4	23.5	19.6		18.1					13.5	20.4	16			
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, damage of the tip of trunk; No. 18 and 19, suppression by other surrounding trees; No. 3-2, cutting for the management (thinning); No.5, dead recorded in 2007, No.3-3 and No.5-2, new observation tree from 2010

Table 5.6 c-2-2) Results of observation of tree decline: Yamato

Date: 19 November 2010

Date: 19 November 2010

Individual No.	22	21	9	10	23	46	47	45	42	7	36	33	14	14-2	15	37	30	29	11	12	31
Direction	N	N	N	N	N	E	E	E	E	E	S	S	S	S	S	S	W	W	W	W	W
Plant Name	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>	<i>Chamaecyparis obtusa</i>
Relative height				—							—	—		—							—
Tree height (m)	29.2	27.2	28.7	27.5	30.4	29.2	28.1	27.9	28.6	27.6	23.7	26.3		24.9		27.3	28.8	25.6	28.3	29.5	25.2
DBH (cm)	36	37.5	29.8	41.2	38.8	42.4	37.4	35.3	40.5	37.6	31.5	30.8		31.2		39.3	29.3	33.3	41.9	36.7	33.9
Vitality of tree											1	1		1							1
Form of tree											1	2		2							1
Branch growth																					
Dieback of stem				1			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 and 36, damage of the tip of trunk; No. 31 and 33, curved shape by possibly heavy snow; No. 14 and 15, dead recorded by heavy snow in 2010; No.14-2, new observation tree from 2010

Table 5.6 d) Observation of tree decline: La Mesa Watershed (Philippines)

Date: 08 November 2011

Individual No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Direction	E	E	E	E	W	W	W	W	N	N	N	S	S	S
Plant Name	<i>Acacia mangium</i>	<i>Acacia mangium</i>	<i>Pterocarpus indicus</i>	<i>Acacia mangium</i>	<i>Pterocarpus indicus</i>	<i>Gmelina arborea</i>	<i>Gmelina arborea</i>	<i>Chrysophyllum calmito</i>	<i>Senna siamea</i>	<i>Senna siamea</i>	<i>Senna siamea</i>	<i>Neolamarckia cadamba</i>	<i>Neolamarckia cadamba</i>	<i>Senna siamea</i>
Relative height														
Tree height (m)	17.61	20.84		23.7	27.46	23.35	23.15	16.77		10.15	15.32	16	18.22	12.47
DBH (cm)	37.9	31.4	29.6	31.6	79.4	65	37.6	21.5		21.7	14	21.2	40	17.1
Vitality of tree		1									1			
Form of tree														
Branch growth														
Dieback of stem														
Defoliation of crown			1											
Density of foliage			1											
Deformation of leaves														
Size of leaves														
Discoloration of leaves			1											
Injury of leaves			1											
Damage class			1											

Estimated decline: Termite infestation. Tree No. 9 previously observed to be leaning finally fell down.

Table 5.7 a-1-1) Description of trees: La Mesa Watershed (Philippines)

Date: 08 November 2010

Survey area 1: radius 7.98 m

(Height > 1.3 m)

TREE NO.	Species	DBH	HT	TREE NO.	Species	DBH	HT
1	<i>Acacia mangium</i>	31.6	23.74	61	<i>Pterocarpus indicus</i>	33.6	26.71
2	<i>Harpullia arborea</i>	1.85		62	<i>Leucaena leucocephala</i>	dead	
3	<i>Antidesma bunius</i>	5	4.77	63	<i>Harpullia arborea</i>	2.1	2.7
4	<i>Antidesma bunius</i>	3.3	4.51	64	<i>Harpullia arborea</i>	1.5	2.15
5	<i>Antidesma bunius</i>	1.8	4.25	65	<i>Harpullia arborea</i>	1.9	2.8
6	<i>Antidesma bunius</i>	detopped		66	<i>Swietenia macrophylla</i>	2.2	2.9
7	<i>Sandoricum koetjape</i>	12.2	12.47	67	<i>Swietenia macrophylla</i>	1.8	1.7
8	<i>Ardisia squamulosa</i>	2.4	2.9	68	<i>Swietenia macrophylla</i>	3.1	4.1
9	<i>Swietenia macrophylla</i>	2.7	2.8	69	<i>Swietenia macrophylla</i>	4	4.5
10	<i>Antidesma bunius</i>	1.94	3.65	70	<i>Swietenia macrophylla</i>	2.1	1.8
11	<i>Pterocarpus indicus</i>	24.6	12.81	71	<i>Swietenia macrophylla</i>	2.9	3.7
12	<i>Swietenia macrophylla</i>	2.7	3	72	<i>Swietenia macrophylla</i>	1.9	2.47
13	<i>Cratogeomys formosum</i>	1.9	1.85	73	<i>Swietenia macrophylla</i>	3.9	5.7
14	<i>Swietenia macrophylla</i>	10.4	11.32	74	<i>Swietenia macrophylla</i>	2.4	3.2
15	<i>Swietenia macrophylla</i>	2.7	2.72	75	<i>Ardisia squamulosa</i>	5.5	3.6
16	<i>Swietenia macrophylla</i>	3.1	3.86	76	<i>Swietenia macrophylla</i>	2.1	2.75
17	<i>Swietenia macrophylla</i>	2.4	3.66	77	<i>Swietenia macrophylla</i>	2.6	3.8
18	<i>Swietenia macrophylla</i>	1.9	3.14	78	<i>Swietenia macrophylla</i>	2	2.6
19	<i>Syzygium cumini</i>	3.5	4.6	79	<i>Swietenia macrophylla</i>	3	3.3
20	<i>Swietenia macrophylla</i>	2.8	3.23	80	<i>Harpullia arborea</i>	2.3	3
21	<i>Harpullia arborea</i>	dead		81	<i>Swietenia macrophylla</i>	dead	
22	<i>Swietenia macrophylla</i>	2.1	2.42	82	Unknown	1.8	2.92
23	<i>Swietenia macrophylla</i>	4.2	12.81	83	<i>Harpullia arborea</i>	2.4	3.2
24	<i>Antidesma pleuricum</i>	2	3.6	84	<i>Swietenia macrophylla</i>	3.9	4.68
25	<i>Swietenia macrophylla</i>	2.4	3.09	85	<i>Gmelina arborea</i>	dead	
26	<i>Sandoricum koetjape</i>	3.5	4.4	86	<i>Ficus pseudopalma</i>	1.1	1.7
27	<i>Gmelina arborea</i>	37.6	23.15	87	<i>Acacia mangium</i>	38.1	16.87
28	<i>Swietenia macrophylla</i>	3.1	3.01	88	<i>Antidesma pleuricum</i>	1.4	2.3
29	<i>Swietenia macrophylla</i>	2.5	3.6	89	<i>Buchanania arborescens</i>	1.5	2.2
30	<i>Swietenia macrophylla</i>	3.5	3.1	90	<i>Swietenia macrophylla</i>	2.5	3.35
31	<i>Swietenia macrophylla</i>	4.6	6.07	91	<i>Sandoricum koetjape</i>	4.3	5.85
32	<i>Swietenia macrophylla</i>	4.8	5.79	92	<i>Sandoricum koetjape</i>	5.6	5.33
33	<i>Swietenia macrophylla</i>	3.5	4	93	<i>Leucaena leucocephala</i>	dead	
34	<i>Harpullia arborea</i>	2.6	3.56	94	<i>Sandoricum koetjape</i>	3.9	3.1
35	<i>Pterocarpus indicus</i>	11.2	14.06	95	<i>Sandoricum koetjape</i>	2.9	2.8
36	<i>Swietenia macrophylla</i>	6.55	8.68	96	<i>Sandoricum koetjape</i>	1.65	2.2
37	<i>Sandoricum koetjape</i>	1.7	2.68	97	<i>Senna siamea</i>	19.2	11.9
38	<i>Ardisia squamulosa</i>	2.4	3.18	98	<i>Sandoricum koetjape</i>	5.5	6.29
39	<i>Ficus nota</i>	dead		99	<i>Sandoricum koetjape</i>	dead	
40	<i>Sandoricum koetjape</i>	1.6	2.5	100	<i>Sandoricum koetjape</i>	5.2	3.39
41	<i>Flacourtia jangomas</i>	2.2	3.7	101	<i>Sandoricum koetjape</i>	2.65	6.26
42	<i>Swietenia macrophylla</i>	2.9	3.55	102	<i>Sandoricum koetjape</i>	1.2	2.1
43	<i>Bixa orellana</i>	dead		103	<i>Sandoricum koetjape</i>	1.7	2.9
44	<i>Bixa orellana</i>	dead		104	<i>Harpullia arborea</i>	1.3	2.6
45	<i>Swietenia macrophylla</i>	dead		105	<i>Harpullia arborea</i>	3.3	3.4
46	<i>Harpullia arborea</i>	1.6	2.59	106	<i>Ficus nota</i>	dead	
47	<i>Antidesma pleuricum</i>	1.9	2.72	107	<i>Ardisia squamulosa</i>	1.8	2.3
48	<i>Acacia auriculiformis</i>	32.3	15.54	108	<i>Sandoricum koetjape</i>	9.8	9.76
49	<i>Swietenia macrophylla</i>	3.7	3.93	109	<i>Buchanania arborescens</i>	1.5	1.8
50	<i>Swietenia macrophylla</i>	2.1	2.5	110	Unknown	1.3	2.27
51	<i>Ardisia squamulosa</i>	1.6	2.5	111	<i>Ardisia squamulosa</i>	2.2	2.8
52	<i>Swietenia macrophylla</i>	2.7	3.9	112	<i>Harpullia arborea</i>	1.2	2.1
53	<i>Swietenia macrophylla</i>	2.5	3.1	113	<i>Harpullia arborea</i>	1.3	2
54	<i>Sandoricum koetjape</i>	1.3	1.85	114	<i>Sandoricum koetjape</i>	9.2	13.38
55	<i>Harpullia arborea</i>	2.5	3.35				
56	<i>Sandoricum koetjape</i>	23	17.12				
57	<i>Swietenia macrophylla</i>	2.5	2.68				
58	<i>Swietenia macrophylla</i>	1.7	2				
59	<i>Swietenia macrophylla</i>	2.8	3.5				
60	<i>Swietenia macrophylla</i>	2.3	2.8				

Table 5.7 a-1-2) Description of trees: LA MESA WATERSHED (Philippines)

Date: 08 November 2010

Survey area 1: radius 7.98 m

Survey area 2: radius 11.28 m

(Height > 1.3 m)

(DBH > 4 cm)

Tree No.	Species	DBH	HT	Tree No.	Species	DBH	HT
115	<i>Sandoricum koetjape</i>	13.8	10.95	152	<i>Neolamarckia cadamba</i>	21.2	16.04
116	<i>Antidesma bunius</i>	10.5		153	<i>Neolamarckia cadamba</i>	40	18.22
117	<i>Swietenia macrophylla</i>	4.6	5.84	154	<i>Pterocarpus indicus</i>	24.7	16.53
118	<i>Pterocarpus indicus</i>	79.4	27.46	155	<i>Chrysophyllum caimito</i>	21.5	16.77
119	<i>Ficus nota</i>	dead		156	<i>Gmelina arborea</i>	65	23.35
120	<i>Swietenia macrophylla</i>	9.1	11.69	157	<i>Senna siamea</i>	toppled	
121	<i>Chrysophyllum caimito</i>	4.4	4.57	158	<i>Senna siamea</i>	21.7	10.15
122	<i>Leucaena leucocephala</i>	dead		159	<i>Senna siamea</i>	14	15.32
123	<i>Swietenia macrophylla</i>	4.2	6.12	160	<i>Senna siamea</i>		
124	<i>Senna siamea</i>	21.9	15.26	161	<i>Pterocarpus indicus</i>	59.1	17.84
125	<i>Senna siamea</i>	18.4	13.61	162	<i>Acacia mangium</i>	37.9	17.61
126	<i>Pterocarpus indicus</i>	dead		163	<i>Acacia mangium</i>	31.4	20.84
127	<i>Artocarpus heterophyllus</i>	6.5	6.75	164	<i>Acacia mangium</i>	33.3	22.87
128	<i>Harpullia arborea</i>	4.7	3.65	165	<i>Pterocarpus indicus</i>	dead	
129	<i>Harpullia arborea</i>	7	4.37	166	<i>Pterocarpus indicus</i>	29.6	19.61
130	<i>Chrysophyllum caimito</i>	18.3	12.46				
131	<i>Gmelina arborea</i>	7.5	5.39				
132	<i>Harpullia arborea</i>	3.8	4.32				
133	<i>Syzygium samarangense</i>	dead					
134	<i>Antidesma bunius</i>	4.8	4.36				
135	<i>Harpullia arborea</i>	5.9	4.37				
136	<i>Flacourtia jangomas</i>	7.8	8.07				
137	<i>Flacourtia jangomas</i>	6.2	8.02				
138	<i>Flacourtia jangomas</i>	3.8	4.7				
139	<i>Sandoricum koetjape</i>	11.5	9.44				
140	<i>Sandoricum koetjape</i>	7	7.04				
141	<i>Pterocarpus indicus</i>	39.4	17.61				
142	<i>Sandoricum koetjape</i>	6.7	6.99				
143	<i>Sandoricum koetjape</i>	5.6	8.41				
144	<i>Sandoricum koetjape</i>	4.5	7.08				
145	<i>Sandoricum koetjape</i>	4.6	5.97				
146	<i>Sandoricum koetjape</i>	4.8	5.08				
147	<i>Sandoricum koetjape</i>	8.2	6.47				
148	<i>Sandoricum koetjape</i>	4	4.03				
149	<i>Senna siamea</i>	17.1	12.47				
150	<i>Senna siamea</i>	6.9	5.87				
151	<i>Sandoricum koetjape</i>	9.1	8.03				

Table 5.8 a-1-2) Understory vegetation survey: La Mesa Watershed (Philippines)

Date: 08 November 2010

Number of Species: 9

Species	Abundance
<i>Swietenia macrophylla</i>	4
<i>Sandoricum koetjape</i>	2
<i>Harpullia arborea</i>	+
<i>Ardisia squamulosa</i>	1
<i>Ficus pseudopalma</i>	+
<i>Rattan</i>	1
<i>Alstonia scholaris</i>	1
<i>Antidesma bunius</i>	1
<i>Pterocarpus indicus</i>	1

Species lost: 1 (*Flemingia strobilifera*)

New species: 2 (*Antidesma bunius* and *Pterocarpus indicus*)

Figure 5.3 a-1) Photographic record of tree decline: Banryu2 (Japan)



North



South



West

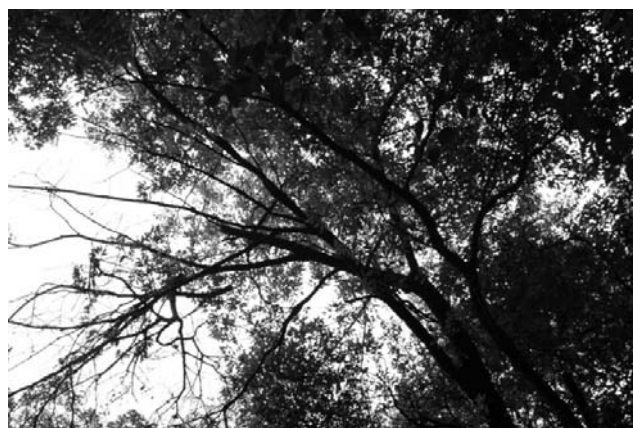


East

Figure 5.3 a-2) Photographic record of tree decline: Iwami “Rinku” FP (Japan)



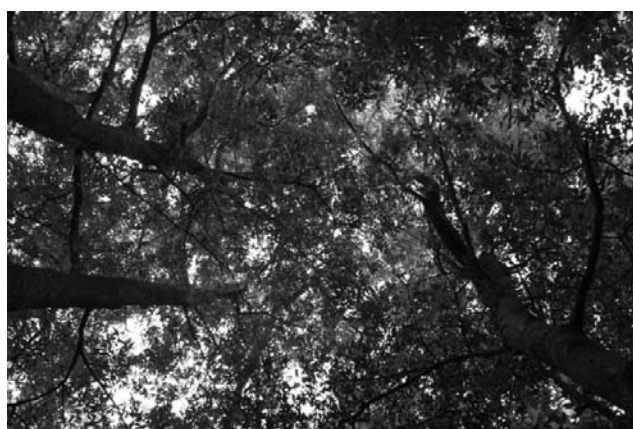
North



South



West

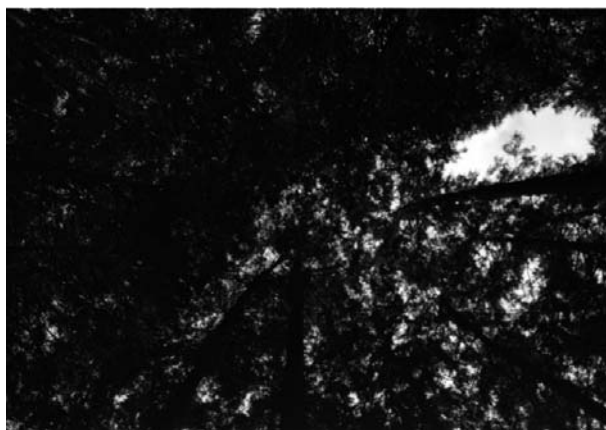


East

Figure 5.3 a-3) Photographic record of tree decline: Ijira (Japan)



North



South



West



East

Figure 5.3 a-4) Photographic record of tree decline: Yamato (Japan)



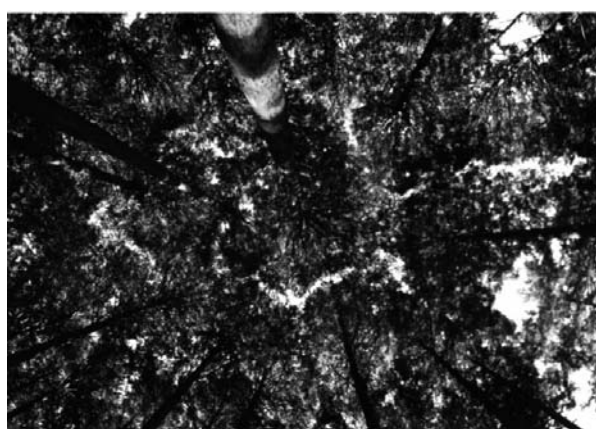
North



South

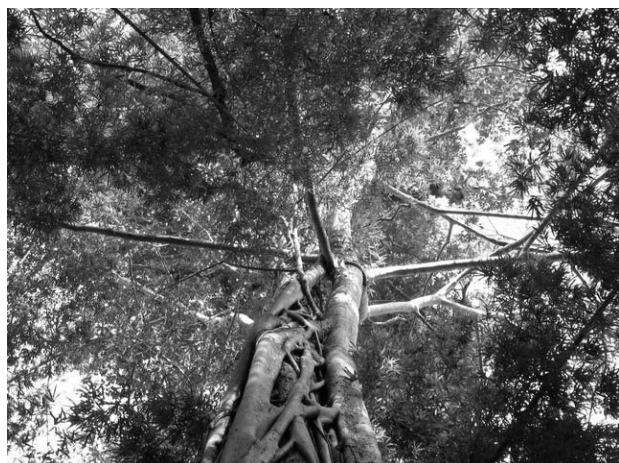


West



East

Figure 5.3 b-1) Photographic record of tree decline: Vachiralongkorn-Dam (Thailand)



Center



North



South



East



West

Figure 5.3 b-2) Photographic record of tree decline: Vachiralongkorn-Puye (Thailand)



Center



North



South



East



West

Corrections: Table 5.5 a-3) of Data Report 2009
Sampling date: 21 September 2009

Sample No.	Location	Soil type	Plot No.	Subplot No.	Layer analyzed (cm)	Moisture content	pH		Exchangeable basecations (B)				Ex-acidity (A)	Ex-acid cations		ECEC (A)+(B)	Base saturation	T-C	T-N			
									Ca	Mg	K	Na		Al	H							
						(wt%)	H ₂ O	KCl	(cmol(+)kg ⁻¹)								%	(g kg ⁻¹)	(g kg ⁻¹)			
1	Xiaping	Red soil	XPT-01	1	0-10	2.69%	4.45	3.88	0.03	0.05	0.15	0.02	8.99	6.88	2.12	9.24	2.70	19.9	1.7			
				2		2.95%	4.39	3.74	0.01	0.07	0.25	0.03	7.10	5.19	1.90	7.46	4.84	29.4	1.8			
				3		2.88%	4.31	3.66	0.02	0.06	0.18	0.02	7.34	5.62	1.72	7.62	3.67	27.8	2.1			
				4		2.57%	4.42	3.87	0.03	0.04	0.16	0.02	5.12	3.88	1.23	5.37	4.72	16.9	2.1			
				5		2.83%	4.43	3.87	0.03	0.06	0.17	0.04	6.68	4.92	1.75	6.98	4.41	21.7	2.0			
2				1	10-20	2.60%	4.5	3.94	0.03	0.04	0.12	0.02	5.29	4.16	1.14	5.51	3.92	15.7	0.6			
				2		2.44%	4.54	3.93	0.03	0.04	0.19	0.03	4.62	3.13	1.49	4.92	6.16	15.7	1.2			
				3		2.51%	4.46	3.83	0.01	0.05	0.15	0.03	5.30	3.91	1.39	5.54	4.26	17.5	1.4			
				4		2.33%	4.47	3.92	0.01	0.04	0.15	0.03	4.45	3.42	1.03	4.68	4.87	14.0	1.0			
				5		2.56%	4.39	3.79	0.03	0.05	0.16	0.03	4.61	3.61	1.00	4.88	5.47	18.9	1.4			

Note: Repeat analysis was not reported.

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.

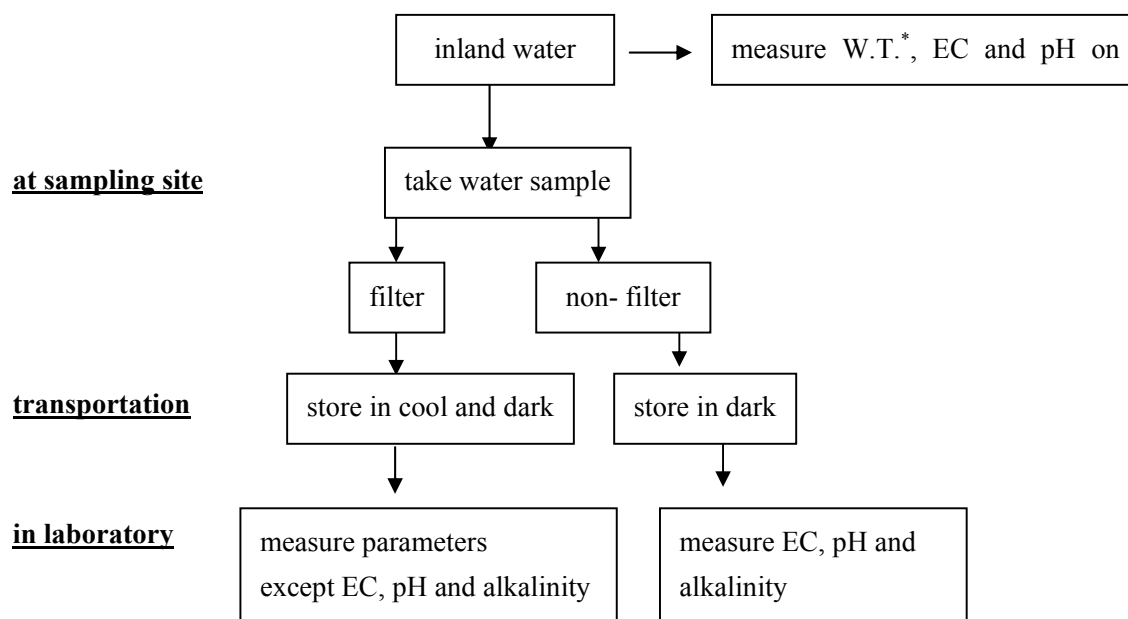
The participating countries of EANET are expected to carry out the monitoring of water temperature, pH, electric conductivity (EC), alkalinity and concentration of SO_4^{2-} , NO_3^- , Cl^- , NH_4^+ , Na^+ , K^+ , Ca^{2+} , and Mg^{2+} of targeted lakes/ rivers at least four times a year (seasonally), 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 Manual for Monitoring Inland Aquatic Environment, 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 a minimum of human activities such as deforestation, and cultivation should be conducted or planned in the upstream area.

6.1.2 Field Operation

Surface water are sampled at one location at the center of the lake or river. In principle, measurement of pH and electric conductivity are conducted at the site before a more precise measurement is taken in the laboratory. Water samples for later analysis 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 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. These monitoring sites were established for 12 lakes/reservoirs and 6 streams, although the data of Num Hum Lake has not submitted yet. Properties of these monitoring sites are shown on [Table 6.3](#). However, many of these tables are not complete.

Table 6.2 Outline of Inland Aquatic Environment Monitoring of 2010

Country	Name of site	Distance from the site	Nearest deposition monitoring site	Start year	Interval
China	Jinyunshan Lake (Chongqing)	-	Rural	2001	4times/yr.
	Xiaoping Dam (Xiamen)	-	Remote	2001	4times/yr.
	Jiwozi River (Xi'an)	-	Remote	2001	4times/yr.
	Zhuxiandong Stream (Zhuhai)	-	Urban	2004	4times/yr.
Indonesia	Patengang Lake (Bandung)	47km	Urban	2001	6times/yr.
	Gunung Lake (Sukabumi)	-	-	2008	4times/yr.
Japan	Ijira Lake (Gifu Pref.)	1.1km	Rural/Ecolog. (Ijira)	2001	4times/yr.
	Banryu Lake (Shimane Pref.)	0.5km	Urban/Ecolog. (Banryu)	2001	4times/yr.
Lao PDR	Nam Hum Lake (Vientiane province)	-	Vientiane	2009	
Malaysia	Semenyih Dam	26km	Urban (Petaling Jaya)	2005	4times/yr.
	Tembaling River (Sabah)	-	Remote (Danum Valley)	2007	4times/yr.
Mongolia	Terelj River	-	Remote (Terelj)	2002	7times/yr.
Philippines	Pandin Lake (San Pablo)	30km	Rural (Los Banos)	2004	3times/yr.
	Ambulalakao Lake	-	Remote (Mt. Sto. Tomas)	2005	-

Russia	Pereemnaya River (Listvyanka)	48km	Rural (Listvyanka)	2004	4times/yr.
	Komarovka River (Primorskaya)	0.5km	Rural (Primorskaya)	2005	5times/yr.
Thailand	Vachiralongkorn Dam (Kanchanaburi Province)	-	Remote	2002	4times/yr.
Vietnam	Hoa Binh Reservoir	-	Rural	2001	4times/yr.

6.2 Results of Monitoring

The results of monitoring of each parameter are respectively shown in [Table 6.4\(1\) to \(10\)](#). Data within or exceeded the criteria of R1,R2 are judged “O” or “×” in these tables respectively according to the Manual for Monitoring Inland Aquatic Environment. The annual mean values of each monitoring sites are summarized in [Table 6.4 \(11\)](#).

As described in [Table 6.4\(11\)](#), the lowest value of pH was obtained at Jinyunshan Lake in China. Furthermore, the alkalinity obtained at this site was comparatively low. On the other hand, comparatively high values of alkalinity and Ca^{2+} were obtained at Tembaling river in Malaysia, Vachiralongkorn Dam in Thailand, Hoa Binh Reservoir in Vietnam and Pandin Lake in Philippines. The concentrations of Na^+ and Cl^- at Banryu Lake in Japan were higher than other sites. It may be caused by sea salt.

R1 and R2 of the data at some sites (Patengang Lake in Indonesia, Gunung Lake in Indonesia, Semenyih Dam in Malaysia, Tembaling River in Malaysia, and Terelj River in Mongolia) seemed to be out the allowable range. However, the main reasons could not be identified.

The annual mean values of each parameter from 2000 to 2010 are shown in [Table 6.5\(1\) to \(18\)](#).

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	0.999ha
Shore line length	About 2km
Lake hydrologic type	Reservoir
Lake trophic type	Oligotrophic to Mesotrophic
Water depth	6-13m
Water volume	60,000m ³
Annual water level fluctuation	2-4m
Annual air temperature	19.0°C (mean) (2009)
Precipitation	1198.9mm/year (2009)
Solar radiation	-
Wind speed	Mean 1.4 m/s (2009)
Wind direction	NW, NNW (dominant) (2009)
Residence time of water	-
Lake utilization	For drink, Irrigation water
Watershed area	-
River (inflow)	-

- : no information

Table 6.3(2) Properties of lakes or streams

Lake Name: Xiaoping Dam

Country	China
Location	Xiaoping, Xiamen
Altitude	595m
Origin	Artificial lake
Area and shape	26.4ha
Shore line length	100m
Lake hydrologic type	Natural
Lake trophic type	Normal
Water depth	57.5m
Water volume	4,080,000m ³
Annual water level fluctuation	-
Precipitation	About 2,500mm/year
Solar radiation	-
Wind speed	-
Wind direction	-
Residence time of water	15days
Lake utilization	Water power
Watershed area	18.1km ²
River (flows into)	Dingxi lake

- : no information

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	-
Precipitation	-
Solar radiation	-
Wind speed	-
Wind direction	-
Lake (flows into)	-

- : no information

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	23.1°C (mean) (2009)
Precipitation	1996.5 mm (2009)
Solar radiation	-
Wind speed	Mean 2.7 m/s
Wind direction	ESE (dominant) (2009)
Lake (flows into)	-

- : no information

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)	1600-1700m
Origin	Natural lake
Area and shape	65 km ²
Shore line length	-
Lake hydrologic type	-
Lake trophic type	-
Water depth	7m (max)
Water volume	4.98 x 10 ⁶ m ³
Annual water level fluctuation	1.42 m - 4.20 m
Precipitation	2357mm/yr (EMC, 2007), 2686mm/yr (BMG, 2007)
Solar radiation	-
Wind speed	0.8-1.0(mean;0.9)m/s (EMC, 2007), 3-7(mean;5.2)m/s (BMG, 2007)
Wind direction	SW (EMC, 2007), W, E (BMG, 2007)
Residence time of water	-
Lake utilization	sightseeing
River (inflow)	-

Watershed area	650 km ²
Vegetation (dominant plants)	Strawberry, tea

- : no information

Table 6.3(6) Properties of lakes or streams

Lake Name: Gunung Lake

Country	Indonesia
Location	Sukabumi, West Java
Altitude (including watershed)	950 -1036m
Origin	Natural lake
Area and shape	9.5ha
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	120ha
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	110m
Origin	Artificial (dam-made lake)
Area and shape	0.1km ²
Shore line length	1.8km
Lake hydrologic type	Reservoir
Lake trophic type	Oligotrophic or mesotrophic
Water depth	Ave. 5.4m (Max 10.9m)
Water volume	0.00054km ³
Annual water level fluctuation	0-0.74m (Ave. 0.22m)
Precipitation	2,189.5mm/year *1
Solar radiation	Daylight time Ave.173.9hr/month *1
Wind speed	2.1-3.1 (Ave. 2.6) m/s*1
Wind direction	EEW(summer), W(winter) *1
Residence time of water	23 days
Lake utilization	Irrigation and fishing
River (inflow)	Ijira River, Takabora 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 (2010)

Table 6.3(8) Properties of lakes or streams

Lake Name: Banryu Lake

Country	Japan
Location	Shimane prefecture
Altitude	25m
Origin	Natural damming lake
Area and shape	0.13km ²
Shore line length	5.7km
Lake hydrologic type	Reservoir
Lake trophic type	Mesotrophic
Water depth	Ave. 8-8.5m
Water volume	Unknown (Max 500,000m ³)
Annual water level fluctuation	0-1.1 m
Precipitation	1,391.5mm/year *1
Solar radiation	Daylight time Ave.138hr/month*2
Wind speed	1.9-3.5(Ave. 2.9) m/s*1
Wind direction	S (dominant) *1
Residence time of water	222days(2004)
Lake utilization	Irrigation and sightseeing
River (inflow)	none

- : no information

*1 Lake Banryu national acid rain monitoring station (2010)

*2 Masuda AMeDAS of Japan Meteorological Agency (2010)

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	185m
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	30m
Origin	Dam
Area and shape	3.6 km ²
Shore line length	800m
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	-
Solar radiation	-
Wind speed	-
Wind direction	-
River (meet in 10m from sampling point)	Segama river

- : no information

Table 6.3(12) Properties of lakes or streams

Lake Name: Terelj River

Country	Mongolia
Location	Terelj
Origin	Natural stream
River length	65km
Drainage area	1220km ²
The mean height of the river basin	-
Annual air temperature	-3.85 °C (2009)
Precipitation	240.6 mm (2009)
Solar radiation	-
Wind speed	Mean 2.1 m/s
Wind direction	WSW (dominant)
Lake (flows into)	-

- : no information

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	0.24km ²
Shore line length	-
Lake hydrologic type	-
Lake trophic type	oligatrophic
Water depth	61.75m(mean), 63m(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	2400m
Origin	Natural lake
Area and shape	0.006087km ²
Shore line length	-
Lake hydrologic type	-
Lake trophic type	-
Water depth	1.5m (mean), 4.0m(max), 0.2m(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	Russian Federation
Location	Southern Baikal
Origin	Natural stream
Altitude(including watershed)	460m-1500m
Water depth	0.9m (mean), 2m (max)
River length	42km
Drainage area	About 360km ²
The mean height of the river basin	1,260m
Annual air temperature	-3.4°C
Precipitation	About 800mm/year
Solar radiation	-
Wind speed	-
Wind direction	-
Lake (flows into)	Kholodnoe lake

Watershed area	About 360km 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	Russian Federation
Location	Primorskli Kray, Ussuriyskii district, near Kamenushka settlement
Latitude	43°42'N
Altitude	386m
Origin	Natural stream
Water depth	Mean 0.8m Maximum 1.5m
Water discharge	0.14m ³ /sec
River length	66 km
Drainage area	-
Annual air temperature	-
Precipitation	737mm/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 1490km 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	170m
Origin	Artificial (Dam made lake)
Area and shape	3,720 km ²
Shore line length	-
Lake hydrologic type	Reservoir
Lake trophic type	-
Water depth	136.4-150.4 m (mean: 142.2 m) (2010)
Water volume	3.290-7.174 km ³ (mean: 4.7521 km ³) (2010)
Annual water level fluctuation	depth: 4.2 m (2010)
Precipitation	1534.8 mm/year*1
Solar radiation	-
Wind speed	0.0-0.2(Ave. 0.1) m/s*1
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, 2010

Table 6.3(18) Properties of lakes or streams

Lake Name: Hoa Binh Reservoir

Country	Vietnam
Location	Hoa Binh Province
Altitude	23m
Origin	Artificial (dam-made lake)
Area and shape	208 km ² -25km ² (*)
Shore line length	208km-16.7km(*)
Lake hydrologic type	Reservoir
Lake trophic type	Mesotrophic
Water depth	60m (max: 120m)
Water volume	9.45 km ³ -2.5 km ³ (*)
Annual water level fluctuation	80m- 120m (Ave.100m)
Precipitation	-
Solar radiation	-
Wind speed	-
Wind direction	-
Residence time of water	365 days
Lake utilization	electric power and flood control
Watershed area	51,700 km ² -13,700km ² (*)
River (inflow)	Da River

- : no information

(*)The second value is in affected area of reservoir.

Table 6.4(1) Result of Inland Aquatic Environment Monitoring

Duration: 2010.3.-2010.12.

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	31-Mar-10	20.0	6.72	15.02	0.420	34.52	11.12	3.06	0.01	3.27	2.00	13.65	4.82	0.5	-	-	-	-		
	21-Jun-10	24.0	5.26	12.66	0.017	36.84	13.85	3.12	0.18	2.85	2.10	11.65	3.90	7.2	-	-	-	-		
	6-Sep-10	23.0	6.11	11.77	0.071	32.69	8.69	2.59	0.14	2.53	2.05	10.57	3.61	3.2	-	-	-	-		
	17-Nov-10 mean*2	18.0	6.31	11.70	0.120	34.14	8.82	3.23	0.25	2.95	2.11	11.00	3.60	2.9	-	*1	*1	<10*1		
Xiamen -Xiaoping Dam	04-Mar-10	21.0	6.61	5.41	0.181	2.09	2.89	3.76	0.10	5.09	2.07	2.06	0.64	1.0	-	-	0.010	2.02		
	06-May-10	22.6	6.96	5.69	0.159	3.39	3.46	4.55	0.09	5.25	2.57	2.12	0.19	0.2	-	-	0.015	2.55		
	01-Jul-10	25.0	6.54	7.63	0.230	3.22	4.59	9.62	0.14	8.61	3.19	3.29	1.06	1.7	-	-	0.025	1.74		
	12-Nov-10 mean*2	19.1	6.53	6.01	0.188	2.11	3.86	4.24	0.09	4.23	2.28	2.56	0.88	1.5	-	0.02	0.009	1.12		
Xi'an -Jiwozi River	20-Mar-10	3.5	7.77	9.00	0.250	15.11	4.47	1.72	*1	1.62	1.15	10.38	2.06	-	-	-	-	-		
	05-Jul-10	12.3	7.35	8.03	0.320	12.83	2.56	1.36	*1	1.28	0.68	11.51	1.63	-	-	-	-	-		
	04-Sep-10	10.0	6.97	8.55	0.250	15.67	2.81	0.63	*1	1.12	0.80	10.20	1.18	-	-	-	-	-		
	05-Dec-10 mean*2	2.5	7.77	6.87	0.300	12.07	1.49	1.37	*1	0.88	0.59	9.86	0.52	-	-	<0.01*1	<0.003*1	3.00		
Zhuhai -Zhuxiandong stream	01-Mar-10	14.0	7.18	6.81	0.439	2.47	1.33	4.89	0.08	7.48	1.23	4.82	1.87	1.2	-	*1	*1	1.20		
	01-Apr-10	22.0	6.99	6.76	0.443	2.20	1.25	5.01	0.09	7.66	1.29	4.76	1.75	1.1	-	*1	*1	1.30		
	27-Jul-10	26.5	7.52	7.51	0.369	2.63	2.93	5.41	0.08	6.62	1.19	4.01	1.69	1.0	-	*1	*1	1.50		
	11-Oct-10 mean*2	23.5	7.37	6.36	0.321	2.66	4.47	5.29	0.07	6.15	1.20	3.60	1.57	1.1	-	*1	*1	1.50		
note		-	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	1.38		

- : Items were not analyzed

*1: less than detection limit

*2: 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	31-Mar-10	20.0	6.72	15.02	0.420	34.52	11.12	3.06	0.01	3.27	2.00	13.65	4.82	0.5	-	-	-	-
	21-Jun-10	24.0	5.26	12.66	0.017	36.84	13.85	3.12	0.18	2.85	2.10	11.65	3.90	7.2	-	-	-	-
	6-Sep-10	23.0	6.11	11.77	0.071	32.69	8.69	2.59	0.14	2.53	2.05	10.57	3.61	3.2	-	-	-	-
	17-Nov-10 mean*2	18.0	6.31	11.70	0.120	34.14	8.82	3.23	0.25	2.95	2.11	11.00	3.60	2.9	-	*1	*1	<10*1
Xiamen -Xiaoping	04-Mar-10	21.0	6.61	5.41	0.181	2.09	2.89	3.76	0.10	5.09	2.07	2.06	0.64	1.0	-	-	0.010	2.02
	06-May-10	22.6	6.96	5.69	0.159	3.39	3.46	4.55	0.09	5.25	2.57	2.12	0.19	0.2	-	-	0.015	2.55
	01-Jul-10	25.0	6.54	7.63	0.230	3.22	4.59	9.62	0.14	8.61	3.19	3.29	1.06	1.7	-	-	0.025	1.74
	12-Nov-10 mean*2	19.1	6.53	6.01	0.188	2.11	3.86	4.24	0.09	4.23	2.28	2.56	0.88	1.5	-	0.02	0.009	1.12
Xi'an -Jiwozi	20-Mar-10	3.5	7.77	9.00	0.250	15.11	4.47	1.72	*1	1.62	1.15	10.38	2.06	-	-	-	-	-
	05-Jul-10	12.3	7.35	8.03	0.320	12.83	2.56	1.36	*1	1.28	0.68	11.51	1.63	-	-	-	-	-
	04-Sep-10	10.0	6.97	8.55	0.250	15.67	2.81	0.63	*1	1.12	0.80	10.20	1.18	-	-	-	-	-
	05-Dec-10 mean*2	2.5	7.77	6.87	0.300	12.07	1.49	1.37	*1	0.88	0.59	9.86	0.52	-	-	<0.01*1	<0.003*1	3.00
Zhuhai -Zhuxiandong stream	01-Mar-10	14.0	7.18	6.81	0.439	2.47	1.33	4.89	0.08	7.48	1.23	4.82	1.87	1.2	-	*1	*1	1.20
	01-Apr-10	22.0	6.99	6.76	0.443	2.20	1.25	5.01	0.09	7.66	1.29	4.76	1.75	1.1	-	*1	*1	1.30
	27-Jul-10	26.5	7.52	7.51	0.369	2.63	2.93	5.41	0.08	6.62	1.19	4.01	1.69	1.0	-	*1	*1	1.50
	11-Oct-10 mean*2	23.5	7.37	6.36	0.321	2.66	4.47	5.29	0.07	6.15	1.20	3.60	1.57	1.1	-	*1	*1	1.50

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	31-Mar-10	20.0	6.72	15.02	0.420	34.52	11.12	3.06	0.01	3.27	2.00	13.65	4.82	0.5	-	-	-	-
	21-Jun-10	24.0	5.26	12.66	0.017	36.84	13.85	3.12	0.18	2.85	2.10	11.65	3.90	7.2	-	-	-	-
	6-Sep-10	23.0	6.11	11.77	0.071	32.69	8.69	2.59	0.14	2.53	2.05	10.57	3.61	3.2	-	-	-	-
	17-Nov-10 mean*2	18.0	6.31	11.70	0.120	34.14	8.82	3.23	0.25	2.95	2.11	11.00	3.60	2.9	-	*1	*1	<10*1
Xiamen -Xiaoping	04-Mar-10	21.0	6.61	5.41	0.181	2.09	2.89	3.76	0.10	5.09	2.07	2.06	0.64	1.0	-	-	0.010	2.02
	06-May-10	22.6	6.96	5.69	0.159	3.39	3.46	4.55	0.09	5.25	2.57	2.12	0.19	0.2	-	-	0.015	2.55
	01-Jul-10	25.0	6.54	7.63	0.230	3.22	4.59	9.62	0.14	8.61	3.19	3.29	1.06	1.7	-	-	0.025	1.74
	12-Nov-10 mean*2	19.1	6.53	6.01	0.188	2.11	3.86	4.24	0.09	4.23	2.28	2.56	0.88	1.5	-	0.02	0.009	1.12
Xi'an -Jiwozi	20-Mar-10	3.5	7.77	9.00	0.250	15.11	4.47	1.72	*1	1.62	1.15	10.38	2.06	-	-	-	-	-
	05-Jul-10	12.3	7.35	8.03	0.320	12.83	2.56	1.36	*1	1.28	0.68	11.51	1.63	-	-	-	-	-
	04-Sep-10	10.0	6.97	8.55	0.250	15.67	2.81	0.63	*1	1.12	0.80	10.20	1.18	-	-	-	-	-
	05-Dec-10 mean*2	2.5	7.77	6.87	0.300	12.07	1.49	1.37	*1	0.88	0.59	9.86	0.52	-	-	<0.01*1	<0.003*1	3.00
Zhuhai -Zhuxiandong stream	01-Mar-10	14.0	7.18	6.81	0.439	2.47	1.33	4.89	0.08	7.48	1.23	4.82	1.87	1.2	-	*1	*1	1.20
	01-Apr-10	22.0	6.99	6.76	0.443	2.20	1.25	5.01	0.09	7.66	1.29	4.76	1.75	1.1	-	*1	*1	1.30
	27-Jul-10	26.5	7.52	7.51	0.369	2.63	2.93	5.41	0.08	6.62	1.19	4.01	1.69	1.0	-	*1	*1	1.50
	11-Oct-10 mean*2	23.5	7.37	6.36	0.321	2.66	4.47	5.29	0.07	6.15	1.20	3.60	1.57	1.1	-	*1	*1	1.50

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	31-Mar-10	20.0	6.72	15.02	0.420	34.52	11.12	3.06	0.01	3.27	2.00	13.65	4.82	0.5	-	-	-	-
	21-Jun-10	24.0	5.26	12.66	0.017	36.84	13.85	3.12	0.18	2.85	2.10	11.65	3.90	7.2	-	-	-	-
	6-Sep-10	23.0	6.11	11.77	0.071	32.69	8.69	2.59	0.14	2.53	2.05	10.57	3.61	3.2	-	-	-	-
	17-Nov-10 mean*2	18.0	6.31	11.70	0.120	34.14	8.82	3.23	0.25	2.95	2.11	11.00	3.60	2.9	-	*1	*1	<10*1
Xiamen -Xiaoping	04-Mar-10	21.0	6.61	5.41	0.181	2.09	2.89	3.76	0.10	5.09	2.07	2.06	0.64	1.0	-	-	0.010	2.02
	06-May-10	22.6	6.96	5.69	0.159	3.39	3.46	4.55	0.09	5.25	2.57	2.12	0.19	0.2	-	-	0.015	2.55
	01-Jul-10	25.0	6.54	7.63	0.230	3.22	4.59	9.62	0.14	8.61	3.19	3.29	1.06	1.7	-	-	0.025	1.74
	12-Nov-10 mean*2	19.1	6.53	6.01	0.188	2.11	3.86	4.24	0.09	4.23	2.28	2.56	0.88	1.5	-	0.02	0.009	1.12
Xi'an -Jiwozi	20-Mar-10	3.5	7.77	9.00	0.250	15.11	4.47	1.72	*1	1.62	1.15	10.38	2.06	-	-	-	-	-
	05-Jul-10	12.3	7.35	8.03	0.320	12.83	2.56	1.36	*1	1.28	0.68	11.51	1.63	-	-	-	-	-
	04-Sep-10	10.0	6.97	8.55	0.250	15.67	2.81	0.63	*1	1.12	0.80	10.20	1.18	-	-	-	-	-
	05-Dec-10 mean*2	2.5	7.77	6.87	0.300	12.07	1.49	1.37	*1	0.88	0.59	9.86	0.52	-	-	<0.01*1	<0.003*1	3.00
Zhuhai -Zhuxiandong stream	01-Mar-10	14.0	7.18	6.81	0.439	2.47	1.33	4.89	0.08	7.48	1.23	4.82	1.87	1.2	-	*1	*1	1.20
	01-Apr-10	22.0	6.99	6.76	0.443	2.20	1.25	5.01	0.09	7.66	1.29	4.76	1.75	1.1	-	*1	*1	1.30
	27-Jul-10	26.5	7.52	7.51	0.369	2.63	2.93	5.41	0.08	6.62	1.19	4.01	1.69	1.0	-	*1	*1	1.50
	11-Oct-10 mean*2	23.5	7.37	6.36	0.321	2.66	4.47	5.29	0.07	6.15	1.20	3.60	1.57	1.1	-	*1	*1	1.50

Table 6.4(2) Result of Inland Aquatic Environment Monitoring

Duration: 2010.2.-2010.12.
Country: Indonesia
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 (PtCo unit)	PO ₄ ³⁻ (mg/L)	NO ₂ ⁻ (mg/L)	DOC (mg/L)	
Patengang Lake	24-Feb-10	22.4	6.40	5.40	0.360	5.80	0.031	3.00	0.06	3.40	1.97	6.70	0.06	1.2	6.4	0.029	*1	10.0	
	27-Apr-10	25.0	6.50	7.40	0.568	6.20	0.003	2.00	0.35	3.50	1.60	7.70	3.10	1.3	8.2	0.009	*1	7.3	
	25-Jun-10	20.3	6.60	7.70	0.542	6.50	0.001	3.00	0.31	3.70	1.54	7.40	3.00	1.2	6.9	0.056	0.009	11.0	
	27-Aug-10	22.5	7.63	6.89	0.564	1.80	0.021	2.00	0.08	3.90	1.88	6.40	1.68	-	2.7	*1	0.004	4.7	
	28-Oct-10	21.6	7.20	6.70	0.540	5.60	0.003	2.00	0.11	3.50	1.07	5.50	3.39	0.6	2.7	*1	0.004	4.7	
	9-Dec-10	21.6	7.50	6.40	0.500	3.70	0.003	2.00	0.12	2.60	1.08	7.50	1.51	-	-	-	-	-	
	mean*2	-	6.66	6.75	0.512	4.93	0.010	2.33	0.17	3.43	1.52	6.87	2.12	1.1	5.4	0.031	0.006	7.5	
	23-Mar-10	25.2	6.40	3.80	0.380	2.30	0.007	2.00	0.04	1.32	0.59	5.80	1.19	1.5	12.5	0.020	0.002	3.0	
	24-May-10	25.4	5.80	5.30	0.362	2.10	0.001	2.10	0.05	2.10	0.83	6.00	1.50	-	8.2	0.343	0.002	4.0	
Gunung Lake	7-Jul-10	24.6	6.40	7.10	0.436	1.70	0.001	0.25	0.32	1.90	0.66	6.50	2.03	1.2	16.0	*1	*1	7.0	
	30-Sep-10	25.0	6.28	4.35	0.590	0.70	0.001	0.25	0.02	2.70	1.40	3.10	1.90	0.6	8.1	0.013	0.001	5.9	
	mean*2	-	6.24	5.14	0.442	1.70	0.003	1.15	0.11	2.01	0.87	5.35	1.66	1.1	11.2	0.125	0.002	5.0	
	note																		
	- : Items were not analyzed																		
	*1: less than detection limit																		
	*2: Mean of pH takes an average of hydrogen ion																		
	Patengang Lake	24-Feb-10	566.8	541.4	-2.3	O													
		27-Apr-10	753.8	851.9	6.1	O													
25-Jun-10		763.9	833.7	4.4	O														
27-Aug-10		658.3	679.9	1.6	O														
28-Oct-10		713.1	739.0	1.8	O														
9-Dec-10		633.5	645.6	0.9	O														
23-Mar-10		485.1	462.2	-2.4	O														
24-May-10		475.9	539.6	6.3	O														
7-Jul-10		478.5	609.2	12.0	×														
Gunung Lake	30-Sep-10	612.1	465.8	-13.6	×														
note																			
# Concerning "x" judging, it was not able to specify the main reason																			

Table 6.4(3) Result of Inland Aquatic Environment Monitoring

Duration: 2010.4.-2011.1
Country: Japan
Lake Name: Ijira Lake

Site	Sampling Date	Mandatory Parameters : 4times/year										Mandatory Parameters : Once/year					Optional Parameters					
		Temp. (degreesC)	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)	Site	Sampling Date	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-10	13.4	6.98	3.78	0.146	4.82	1.28	2.07	<0.01*	1.86	0.23	2.53	1.20	Center	21-Apr-10	2.9	13	clear, colorless	<0.1*	<0.01*	0.5	3.5
	28-Jul-10	28.1	7.25	3.34	0.143	3.94	0.60	1.97	<0.01*	1.81	0.25	2.16	1.07	Center (Surface)	28-Jul-10	2.9	15	clear, colorless	-	<0.01*	-	2.6
	20-Oct-10	18.6	7.12	3.85	0.175	4.34	1.21	1.80	<0.01*	1.89	0.31	2.73	1.21		20-Oct-10	1.4	16	clear, colorless	-	<0.01*	-	13.4
	07-Jan-11	6.3	6.82	3.98	0.166	5.21	1.29	1.99	<0.01*	1.96	0.22	3.01	1.23		07-Jan-11	1.9	18	clear, colorless	-	<0.01*	-	10.7
	mean*2	-	7.01	3.74	0.158	4.58	1.10	1.96	<0.01*	1.88	0.25	2.61	1.18		mean	2.3	-	-	<0.1*	<0.01*	0.5	7.6
Center (near bottom)	21-Apr-10	10.4	7.03	3.88	0.148	5.07	1.32	2.11	0.01	1.91	0.23	2.84	1.28	Center (near bottom)	21-Apr-10	-	-	clear, colorless	<0.1*	<0.01*	0.7	8.1
	28-Jul-10	19.6	6.85	3.38	0.148	3.72	0.84	1.79	0.05	1.66	0.26	2.30	1.06		28-Jul-10	-	-	clear, colorless	-	<0.01*	-	9.5
	20-Oct-10	18.0	6.75	4.31	0.206	4.49	1.29	1.85	0.08	1.92	0.30	2.94	1.51		20-Oct-10	-	-	clear, colorless	-	<0.01*	-	2.1
	07-Jan-11	6.3	6.91	3.97	0.166	5.19	1.27	1.99	<0.01*	1.96	0.22	3.00	1.22		07-Jan-11	-	-	clear, colorless	-	<0.01*	-	11.3
	mean*2	-	6.87	3.88	0.167	4.62	1.18	1.93	0.04	1.86	0.25	2.77	1.27		mean	-	-	-	<0.1*	<0.01*	0.7	7.8
Ijira River (Input)	21-Apr-10	14.0	7.07	4.10	0.142	5.76	1.59	2.07	<0.01*	1.96	0.24	2.69	1.37	Ijira River (Input)	21-Apr-10	-	-	clear, colorless	<0.1*	<0.01*	0.1	-
	28-Jul-10	20.8	6.95	3.85	0.144	4.92	1.37	2.06	<0.01*	1.95	0.27	2.51	1.24		28-Jul-10	-	-	clear, colorless	-	<0.01*	-	-
	20-Oct-10	16.5	7.02	3.94	0.140	5.56	1.55	1.98	<0.01*	2.00	0.26	2.55	1.24		20-Oct-10	-	-	clear, colorless	-	<0.01*	-	-
	07-Jan-11	7.8	6.94	3.97	0.124	6.57	1.70	1.97	<0.01*	1.96	0.21	2.67	1.31		07-Jan-11	-	-	clear, colorless	-	<0.01*	-	-
	mean*2	-	6.99	3.96	0.137	5.70	1.55	2.02	<0.01*	1.97	0.24	2.60	1.29		mean	-	-	-	<0.1*	<0.01*	0.1	-
Kobora River (Input)	21-Apr-10	11.9	6.99	3.59	0.139	4.52	0.83	2.19	<0.01*	2.20	0.20	1.80	1.28	Kobora River (Input)	21-Apr-10	-	-	clear, colorless	<0.1*	<0.01*	0.1	-
	28-Jul-10	20.0	6.90	3.36	0.125	3.97	1.03	2.19	<0.01*	2.18	0.24	1.65	1.14		28-Jul-10	-	-	clear, colorless	-	<0.01*	-	-
	20-Oct-10	16.2	6.91	3.32	0.116	4.46	1.15	2.11	<0.01*	2.23	0.22	1.61	1.05		20-Oct-10	-	-	clear, colorless	-	<0.01*	-	-
	07-Jan-11	5.9	6.71	3.25	0.100	4.96	1.15	2.09	<0.01*	2.15	0.16	1.65	1.10		07-Jan-11	-	-	clear, colorless	-	<0.01*	-	-
	mean*2	-	6.86	3.38	0.120	4.48	1.04	2.14	<0.01*	2.19	0.21	1.68	1.14		mean*2	-	-	-	<0.1*	<0.01*	0.1	-
Ijira River (Output)	21-Apr-10	14.4	7.02	3.79	0.149	4.81	1.26	2.08	<0.01*	1.87	0.23	2.56	1.19	Ijira River (Output)	21-Apr-10	-	-	clear, colorless	<0.1*	<0.01*	0.2	-
	28-Jul-10	26.9	7.20	3.44	0.152	3.95	0.57	1.98	0.02	1.81	0.26	2.33	1.05		28-Jul-10	-	-	clear, colorless	-	<0.01*	-	-
	20-Oct-10	18.1	7.10	3.92	0.184	4.32	1.21	1.81	<0.01*	1.89	0.30	2.84	1.20		20-Oct-10	-	-	clear, colorless	-	<0.01*	-	-
	07-Jan-11	6.9	7.04	3.98	0.165	5.18	1.28	2.00	<0.01*	1.95	0.23	3.04	1.22		07-Jan-11	-	-	clear, colorless	-	<0.01*	-	-
	mean*2	-	7.18	3.78	0.162	4.56	1.08	1.97	<0.01*	1.88	0.25	2.69	1.16		mean*1	-	-	-	<0.1*	<0.01*	0.2	-
Discharge	21-Apr-10	10.5	6.99	3.95	0.147	5.23	1.33	2.13	<0.01*	1.93	0.23	2.63	1.26	Discharge	21-Apr-10	-	-	clear, colorless	<0.1*	<0.01*	0.2	-
	28-Jul-10	17.8	7.09	3.29	0.143	3.72	0.82	1.77	0.05	1.65	0.26	2.17	1.03		28-Jul-10	-	-	clear, colorless	-	<0.01*	-	-
	20-Oct-10	17.9	6.74	4.31	0.234	4.46	1.33	1.84	0.07	1.91	0.31	2.97	1.51		20-Oct-10	-	-	clear, colorless	-	<0.01*	-	-
	07-Jan-11	6.5	7.05	3.99	0.166	5.22	1.32	1.99	<0.01*	1.96	0.23	3.02	1.22		07-Jan-11	-	-	clear, colorless	-	<0.01*	-	-
	mean*2	-	6.94	3.89	0.173	4.66	1.20	1.93	0.03	1.86	0.26	2.70	1.25		mean	-	-	-	<0.1*	<0.01*	0.2	-

note

-: Items were not analyzed

*1: less than detection 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

Annual precipitation is 2189.5mm/year in 2010 (Gifu pref. Meteorological observator

note
- : Items were not analyzed
*1: less than detection 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 RI R2 were calculated by using
Annual precipitation is 2189.5mm/year in 2010 (Gifu pref. Meteorological observator

		Amion	Cation	R 1	Judge
Center (Surface)	21-Apr-10	325.7	311.9	-2.2	O
	28-Jul-10	290.6	280.5	-1.8	O
	20-Oct-10	336.1	325.9	-1.5	O
	07-Jan-11	350.9	342.1	-1.3	O
Center (near bottom)	21-Apr-10	334.7	336.5	0.3	O
	28-Jul-10	289.5	284.1	-0.9	O
	20-Oct-10	373.0	366.8	-0.8	O
	07-Jan-11	350.5	341.0	-1.4	O
Ijira River (Input)	21-Apr-10	345.8	338.5	-1.1	O
	28-Jul-10	326.6	319.3	-1.1	O
	20-Oct-10	336.6	322.9	-2.1	O
	07-Jan-11	344.0	331.5	-1.8	O
Kobora River (Input)	21-Apr-10	308.2	295.8	-2.0	O
	28-Jul-10	286.0	276.7	-1.7	O
	20-Oct-10	286.7	269.4	-3.1	O
	07-Jan-11	280.6	270.1	-1.9	O
Ijira River (Output)	21-Apr-10	328.0	312.5	-2.4	O
	28-Jul-10	298.9	289.2	-1.6	O
	20-Oct-10	344.6	330.7	-2.1	O
	07-Jan-11	349.7	342.8	-1.0	O
Discharge	21-Apr-10	337.4	324.4	-2.0	O
	28-Jul-10	284.1	273.9	-1.8	O
	20-Oct-10	399.9	367.9	-4.2	O
	07-Jan-11	352.0	342.1	-1.4	O

Δcalc	R2	Judge
3.8	0.0	O
3.3	0.0	O
3.8	0.0	O
4.1	1.4	O
4.0	1.4	O
3.3	-0.4	O
4.3	-0.5	O
4.1	1.4	O
4.1	0.0	O
3.8	-0.1	O
3.9	0.1	O
4.1	1.7	O
3.6	-0.4	O
3.3	-0.6	O
3.3	-0.1	O
3.3	1.2	O
3.8	0.0	O
3.4	-0.1	O
3.9	0.0	O
4.1	1.3	O
3.9	-0.2	O
3.3	-0.4	O
4.4	1.0	O
4.1	1.3	O

Table 6.4(3) Result of Inland Aquatic Environment Monitoring

Duration: 2010.5-2011.1
 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	26-May-10	19.3	7.01	10.20	0.149	4.38	0.010	22.4	<0.02*	13.6	1.80	1.63	1.79	
	22-Jul-10	30.3	7.13	8.80	0.134	4.14	<0.005*1	19.6	<0.02*	12.0	1.60	1.39	1.59	
	19-Oct-10	20.7	7.02	10.30	0.198	3.29	0.018	22.6	<0.02*1	14.1	1.78	1.76	2.08	
	12-Jan-11	4.6	6.96	11.00	0.096	4.20	0.626	23.2	0.16	14.3	1.90	1.91	2.06	
NO 2 (center) near bottom	mean*2	-	7.03	10.08	0.144	4.00	0.163	21.9	0.04	13.5	1.77	1.67	1.88	
	26-May-10	10.7	6.77	12.60	0.386	3.16	0.008	22.9	0.32	14.2	2.05	2.60	2.67	
	22-Jul-10	12.0	6.85	12.40	0.441	2.64	<0.005*1	23.3	<0.02*1	14.4	2.06	3.13	3.04	
	19-Oct-10	-	6.97	15.20	0.804	0.57	0.046	23.1	0.94	15.0	2.51	5.15	4.16	
NO.3 surface	12-Jan-11	4.3	7.04	11.00	0.096	4.19	0.628	23.0	0.16	14.2	1.90	1.90	2.05	
	mean*2	-	6.90	12.80	0.431	2.64	0.170	23.1	0.36	14.4	2.13	3.19	2.98	
	26-May-10	19.3	6.99	9.90	0.153	4.50	0.013	21.7	<0.02*1	13.5	1.77	1.70	1.77	
	22-Jul-10	20.7	7.15	8.40	0.141	4.30	<0.005*1	18.9	<0.02*1	11.7	1.58	1.50	1.56	
	19-Oct-10	20.7	6.88	9.80	0.215	3.27	<0.005*1	22.4	0.03	14.0	1.81	1.94	2.09	
	12-Jan-11	4.0	7.03	11.00	0.095	4.35	0.719	22.8	0.13	14.2	1.91	1.99	1.98	
	mean*2	-	7.00	9.78	0.151	4.11	0.183	21.5	0.04	13.4	1.77	1.78	1.85	
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 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 1391.5mm/year in 2010 (Lake Banyu national acid rain monitoring station)														

Site	Sampling Date	Mandatory Parameters : Once/year					Optional Parameters							
		Transparency (m)	Water Color (Forel-Ule 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	26-May-10	3.1	14	<0.003*1	<0.003*1	2.4	5.3	<0.01*1	5.2	0.06	<0.005*1	2.6	0.30	0.01
	22-Jul-10	2.6	15	<0.003*1	<0.003*1	3.3	6.2	0.03	2.4	0.14	0.042	3.5	0.25	0.01
	19-Oct-10	2.3	17	<0.003*1	<0.003*1	3.3	5.9	0.02	4.1	0.23	0.014	2.6	0.53	0.02
	12-Jan-11	3.7	13	<0.003*1	0.009	2.5	4.7	<0.01*1	3.8	0.12	0.016	3.0	0.36	0.01
	mean	2.9	-	<0.003*1	<0.003*1	2.9	5.5	0.01	3.9	0.12	0.016	3.0	0.36	0.01
NO 2 (center) near bottom	26-May-10	-	-	0.004	0.007	3.0	7.4	<0.01*1	10.1	2.32	0.765	3.2	0.84	0.03
	22-Jul-10	-	-	0.007	0.005	2.8	8.2	<0.01*1	53.5	2.28	1.200	3.8	0.65	0.04
	19-Oct-10	-	-	0.004	0.123	4.9	13.0	<0.01*1	28.9	9.47	2.065	6.7	1.97	0.05
	12-Jan-11	-	-	<0.003*1	0.009	2.5	4.7	<0.01*1	3.9	0.23	0.015	2.5	0.57	0.02
	mean	-	-	0.004	0.036	3.3	8.3	<0.01*1	24.1	3.57	1.011	4.0	1.01	0.04
NO 3 surface	26-May-10	2.8	14	<0.003*1	<0.003*1	2.3	5.0	<0.01*1	4.9	0.05	0.010	2.4	0.28	0.02
	22-Jul-10	2.2	15	<0.003*1	<0.003*1	3.0	6.2	0.03	2.1	0.06	<0.005*1	3.2	0.25	0.01
	19-Oct-10	2.3	16	<0.003*1	0.004	3.1	5.4	0.02	2.9	0.18	0.044	3.5	0.37	0.02
	12-Jan-11	3.6	13	<0.003*1	0.010	2.2	4.6	<0.01*1	2.9	0.24	0.017	2.3	0.50	0.02
	mean	2.7	-	<0.003*1	0.004	2.7	5.3	0.01	3.2	0.13	0.018	2.8	0.35	0.02

		Anion	Cation	R1	Judge
NO.2 (center) surface	26-May-10	870.3	865.9	-0.3	O
	22-Jul-10	773.4	762.3	-0.7	O
	19-Oct-10	904.3	917.0	0.7	O
	12-Jan-11	846.8	941.5	5.3	O
NO.2 (center) near bottom	26-May-10	1097.7	1037.2	-2.8	O
	22-Jul-10	1151.6	1082.9	-3.1	O
	19-Oct-10	1469.6	1367.5	-3.6	O
	12-Jan-11	841.7	938.2	5.4	O
NO.3 surface	26-May-10	859.0	863.0	0.2	O
	22-Jul-10	763.7	752.5	-0.7	O
	19-Oct-10	915.0	925.7	0.6	O
	12-Jan-11	840.5	935.9	5.4	O

	Acate	R2	Judge
	10.8	2.7	O
	9.5	4.0	O
	11.1	3.9	O
	11.2	0.8	O
	12.7	0.5	O
	13.2	3.1	O
	16.1	3.0	O
	11.1	0.6	O
	10.7	3.7	O
	9.4	5.6	O
	11.2	6.8	O
	11.1	0.5	O

Table 6.4(4) Result of Inland Aquatic Environment Monitoring

Duration: 2010.*-2010.*

Country: Lao PDR

Lake Name: Nam Hum Lake

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)
Nam Hum Lake														
	mean*1	-	0.00											
* : 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
	#DIV/0!	
	#DIV/0!	
	#DIV/0!	

	Anion	Cation	R1	Judge
			#DIV/0!	
			#DIV/0!	
			#DIV/0!	

Table 6.4(5) Result of Inland Aquatic Environment Monitoring

Duration: 2010.3.-2010.12

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	30-Mar-10	24.6	6.63	2.90	0.262	3.70	<0.05*1	0.74	<0.003*1	2.40	2.20	3.50	0.72	-	-
	25-Jun-10	29.9	8.20	2.85	0.295	1.80	<0.05*1	0.80	0.008	2.10	1.90	2.20	0.63	-	-
	27-Sep-10	26.1	7.35	2.59	0.180	1.70	<0.05*1	0.81	0.012	2.10	1.90	1.80	0.59	<0.10*1	-
	14-Dec-10	26.2	7.14	2.72	0.164	2.40	0.050	0.87	0.050	2.10	2.00	2.20	0.65	<0.10*1	-
	mean*2	-	6.92	2.77	0.225	2.40	0.050	0.81	0.023	2.18	2.00	2.43	0.65	<0.10*1	-
Tembaling river	23-Mar-10	-	8.20	29.75	2.850	15.00	0.210	2.00	0.030	9.00	0.77	15.00	30.00	-	2.05
	23-Jun-10	25.9	7.85	20.35	1.900	9.75	0.700	1.65	<0.003*1	6.75	0.88	20.00	14.50	-	5.85
	20-Sep-10	25.5	8.30	19.85	1.900	7.73	0.492	1.25	<0.003*1	6.30	0.83	20.00	10.00	<0.10*1	3.65
	21-Dec-10	23.9	8.25	17.31	1.631	7.28	0.950	1.30	0.027	5.90	0.78	18.50	9.40	<0.10*1	4.50
	mean*2	-	8.11	21.81	2.070	9.94	0.588	1.55	0.028	6.99	0.81	18.38	15.98	<0.10*1	4.01

note

- : Items were not analyzed
*1: less than determination limit
*2: Mean of pH takes an average of hydrogen ion

Semenyih Dair	Anion	Cation	R1	Judge	
	30-Mar-10	360.1	394.8	4.6	O
	25-Jun-10	355.0	302.0	-8.1	×
	27-Sep-10	238.5	279.0	7.8	O
	14-Dec-10	239.2	308.6	12.7	×
Tembaling river	23-Mar-10	3222.1	3628.4	5.9	O
	23-Jun-10	2160.8	2506.6	7.4	O
	20-Sep-10	2104.2	2115.5	0.3	O
	21-Dec-10	1834.1	1974.3	3.7	O

note

Concerning "x" judging, it was not able to specify the main reason

Table 6.4(6) Result of Inland Aquatic Environment Monitoring

Duration: 2010.4-2010.10
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	28-Apr-10	2.8	6.53	9.78	0.612	8.66	1.52	1.28	0.13	2.73	2.40	10.52	1.92	0.018	<0.005*1
	26-May-10	12.1	7.05	4.12	0.296	3.30	0.68	0.38	<0.01*1	1.47	0.70	5.25	0.79	-	<0.005*1
	30-Jun-10	19.8	6.52	4.67	0.346	3.92	0.24	0.56	0.13	2.08	0.90	6.45	0.95	0.003	<0.005*1
	28-Jul-10	21.5	6.81	5.34	0.367	3.88	0.58	1.23	0.20	2.64	0.88	6.35	0.94	-	<0.005*1
	25-Aug-10	11.8	7.04	3.97	0.306	3.53	0.92	0.30	<0.01*1	1.55	0.43	5.61	0.83	-	<0.005*1
	29-Sep-10	9.8	6.62	5.16	0.367	3.80	0.89	0.33	0.11	2.34	0.53	8.60	1.22	-	<0.005*1
	27-Oct-10	1.6	6.99	5.95	0.367	4.20	1.21	1.39	0.10	2.36	2.48	9.86	1.39	-	<0.005*1
	mean*2	-	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

note
- : Items were not analyzed
*1: less than determination limit
*2: Mean of pH takes an average of hydrogen ion.

Terelj river	Anion	Cation	R1	Judge	
	28-Apr-10	853.5	870.5	1.0	O
	26-May-10	386.4	408.9	2.8	O
	30-Jun-10	447.4	521.0	7.6	O
	28-Jul-10	491.8	542.7	4.9	O
	25-Aug-10	402.8	426.7	2.9	O
	29-Sep-10	469.8	651.1	16.2	×
	27-Oct-10	513.2	778.1	20.5	×

note
Concerning "x" judging, it was not able to specify the main reason

Table 6.4(7) Result of Inland Aquatic Environment Monitoring

Duration: 2010.3-2010.10
Country: Philippines
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)	PO ₄ ³⁻ (mg/L)	NO ₂ ⁻ (mg/L)
Pandin Lake	03-Mar-10	26.5	8.12	19.12	1.94	0.41	0.62	3.35	*1	9.04	5.67	13.40	8.67	-	*1	-
	05-May-10	31.3	8.58	19.54	1.93	0.17	8.72	3.45	*1	9.12	5.77	13.40	8.72	-	0.076	-
	*3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	28-Oct-10	28.6	8.18	16.39	1.64	0.44	0.73	3.05	*1	8.20	5.32	12.40	8.08	-	0.043	-
Ambulalakao Lake	mean*2	-	8.25	18.35	1.84	0.34	3.36	3.28	*1	8.79	5.59	13.07	8.49	-	0.060	-
	*4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	*4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	*4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
note	mean*2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

note

*1: The item was not detected.

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

*3: No monitoring data since the laboratory was out of operation due to being renovated within the period.

*4: No monitoring data since the lake had not been accessible due to landslides and inaccessible roads brought about by heavy rains and typhoon

Pandin Lake	Sampling Date	Anion	Cation	R1	Judge	Acatic	R2	Judge
Ambulalakao Lake	03-Mar-10	2053.2	1919.9	-3.4	O	20.3	3.1	O
	05-May-10	2174.0	1930.0	-5.9	O	21.3	4.3	O
	*3	-	-	-	-	-	-	-
	28-Oct-10	1748.3	1776.0	0.8	O	18.2	5.1	O
Ambulalakao Lake	*4	-	-	-	-	-	-	-
	*4	-	-	-	-	-	-	-
	*4	-	-	-	-	-	-	-
	*4	-	-	-	-	-	-	-

note

- : Items were not analyzed

*1: The item was not detected.

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

*3: No monitoring data since the laboratory was out of operation due to being renovated within the period.

*4: No monitoring data since the lake had not been accessible due to landslides and inaccessible roads brought about by heavy rains and typhoon

Acalc	R2	Judge
20.3	3.1	O
21.3	4.3	O
-	-	-
18.2	5.1	O
-	-	-
-	-	-
-	-	-
-	-	-

Anion	Cation	R1	Judge
2053.2	1919.9	-3.4	O
2174.0	1930.0	-5.9	O
-	-	-	-
1748.3	1776.0	0.8	O
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

Table 6.4(8) Result of Inland Aquatic Environment Monitoring

Duration: 2010.2.-2010.11
 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)
Perecmnaya River	17-Mar-10	0.2	6.84	5.93	0.142	15.49	1.10	0.15	0.03	1.29	0.79	6.34	1.10	-	colorless	0.014	0.002	0.52	-	0.021	10.79	3.22
	May-10	6.7	6.76	3.91	0.110	9.05	0.80	0.23	0.05	0.78	0.50	4.06	0.70	-	yellow	0.003	0.003	1.57	-	0.014	10.68	2.30
	20-Jul-10	15.6	7.21	5.57	0.124	13.64	0.58	0.26	0.01	0.89	0.65	5.20	1.30	-	colorless	0.006	0.001	1.75	-	0.011	9.48	2.31
	2-Oct-10	7.7	6.82	5.13	0.133	13.31	0.69	0.16	0.02	1.02	0.69	5.13	1.10	-	colorless	0.007	0.002	0.55	-	0.013	11.35	2.86
Komarovka River	mean*1	-	6.88	5.14	0.127	12.87	0.79	0.20	0.03	0.99	0.66	5.18	1.05	-	-	0.007	0.002	1.10	-	0.014	10.58	2.67
	16-Feb-10	0.1	7.01	8.53	0.288	15.77	1.63	3.48	0.47	3.17	0.30	8.15	2.07	-	colorless	0.021	0.014	2.03	0.09	-	10.77	3.52
	19-Apr-10	0.8	7.36	7.31	0.355	5.83	1.42	3.23	0.36	2.83	0.50	6.47	1.83	-	colorless	0.016	0.115	4.88	0.48	-	14.45	4.12
	22-Jun-10	14.1	6.85	8.41	0.537	3.57	0.75	3.23	0.13	3.23	0.70	8.43	2.15	-	colorless	0.009	0.031	4.82	0.16	-	10.57	5.75
	21-Sep-10	13.3	6.89	8.68	0.573	7.18	0.44	3.18	0.01	3.78	0.50	8.62	2.73	-	colorless	0.012	0.007	5.18	1.97	-	10.45	3.55
note	18-Nov-10	1.1	7.01	8.67	0.470	10.75	0.71	3.53	0.01	3.03	0.30	9.77	1.80	-	colorless	0.006	0.013	3.07	1.16	-	13.57	3.03
	mean*1	-	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	4.00	0.77	-	11.96	3.99
- : Items were not analyzed																						
*1: Mean of pH takes an average of hydrogen ion																						
#1: 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 Perecmnaya River was taken from the ice-hol																						

		Anion	Cation	RI	Judge
Perecmnaya River	17-Mar-10	486.3	485.0	-0.1	O
	May-10	318.1	309.5	-1.4	O
	20-Jul-10	425.0	422.0	-0.4	O
	2-Oct-10	425.4	409.8	-1.9	O
Komarovka River	16-Feb-10	742.1	747.9	0.4	O
	19-Apr-10	593.6	629.6	2.9	O
	22-Jun-10	715.2	763.2	3.3	O
	21-Sep-10	820.4	832.8	0.8	O
	18-Nov-10	805.4	775.7	-1.9	O

		Aeale	R2	Judge
Perecmnaya River	17-Mar-10	6.22	2.1	O
	May-10	3.9	0.5	O
	20-Jul-10	5.4	-1.6	O
	2-Oct-10	5.3	1.6	O
	mean*1	5.2	0.7	O
Komarovka River	16-Feb-10	9.1	3.4	O
	19-Apr-10	7.0	-2.0	O
	22-Jun-10	8.1	-1.8	O
	21-Sep-10	9.2	2.8	O
	18-Nov-10	9.22	2.7	O

Acalc	R2	Judge
6.2	2.1	O
3.9	0.5	O
5.4	-1.6	O
5.3	1.6	O
9.1	3.4	O
7.0	-2.0	O
8.1	-1.8	O
9.2	2.8	O
9.2	2.7	O

	Amon	Caton	R1	Judge
17-Mar-10	486.3	485.0	-0.1	O
May-10	318.1	309.5	-1.4	O
20-Jul-10	425.0	422.0	-0.4	O
2-Oct-10	425.4	409.8	-1.9	O
16-Feb-10	742.1	747.9	0.4	O
19-Apr-10	593.6	629.6	2.9	O
22-Jun-10	715.2	763.2	3.3	O
21-Sep-10	820.4	832.8	0.8	O
18-Nov-10	805.4	775.7	-1.9	O

Table 6.4(9) Result of Inland Aquatic Environment Monitoring

Duration: 2010.1-2010.11
 Country: Thailand
 Lake Name: Vachiralongkorn Dam

Site	Sampling Date	Temp. (°C)	pH	EC (mS/m)	Mandatory Parameters : 4 times/year					Mandatory Parameters : Once/year									
					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)	Water color	PO ₄ ³⁻ (mg/L)	NO ₂ ⁻ (mg/L)	COD (mg/L)	
Station1 (Ban Pong Chang)	5-Jan-10	28.8	7.80	11.10	1.260	1.13	0.06	0.83	-	1.22	0.93	15.50	3.46	4.5	light blue	0.01	0.01	-	
	19-Mar-10	29.2	8.10	11.00	1.070	1.46	0.06	1.00	0.01	1.44	1.07	16.25	3.58	4.0	blue	0.01	0.01	4.70	
	23-Jun-10	31.3	7.80	12.20	1.140	1.59	0.07	0.79	0.02	1.16	1.00	17.10	3.53	3.0	blue	0.01	0.01	-	
	9-Nov-10	28.2	7.40	12.90	1.235	2.03	0.06	0.69	0.01	1.14	1.05	17.50	3.93	3.0	light blue	0.01	0.01	-	
	mean*1	-	-	7.70	11.80	1.176	1.55	0.06	0.83	0.01	1.24	1.01	16.59	3.62	3.6	-	0.01	0.01	4.70
Station2 (Ban Pang Pueng)	5-Jan-10	27.9	7.80	10.75	1.210	1.47	0.06	0.85	-	1.17	0.95	15.80	2.77	6.0	light blue	0.01	0.01	-	
	19-Mar-10	28.7	8.00	10.80	1.030	1.36	0.06	0.78	0.01	1.23	1.04	16.15	2.91	4.5	blue	0.01	0.01	7.05	
	23-Jun-10	30.6	8.10	11.50	1.100	1.36	0.09	0.73	0.01	1.11	0.96	17.00	2.86	3.0	blue	0.01	0.01	-	
	9-Nov-10	27.7	7.50	11.60	1.110	2.26	0.02	0.68	0.02	1.14	1.00	16.55	2.89	3.0	light blue	0.01	0.01	-	
	mean*1	-	-	7.79	11.16	1.113	1.61	0.06	0.76	0.01	1.16	0.99	16.38	2.86	4.1	-	0.01	0.01	7.05
note																			
- : Items were not analyzed																			
*1: 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	Amion	Cation	R1	Judge														
	5-Jan-10	1308.3	1134.6	-7.1	O														
	19-Mar-10	1130.1	1195.5	2.8	O														
	23-Jun-10	1196.9	1219.9	1.0	O														
	9-Nov-10	1298.1	1273.1	-1.0	O														
Station2 (Ban Pang Pueng)	5-Jan-10	1266.0	1090.9	-7.4	O														
	19-Mar-10	1081.7	1125.1	2.0	O														
	23-Jun-10	1150.9	1156.9	0.3	O														
	9-Nov-10	1177.0	1139.5	-1.6	O														
						Acalc	R2	Judge											
					12.57	6.2	O												
					12.17	5.0	O												
					12.61	1.7	O												
					13.39	1.8	O												
					12.18	6.2	O												
					11.55	3.3	O												
					12.05	2.3	O												
					12.12	2.2	O												

Table 6.4(10) Result of Inland Aquatic Environment Monitoring

Duration: 2010.3.-2010.12.
 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-10	23.5	7.87	18.18	1.58	7.57	0.69	1.06	0.21	3.70	1.07	25.05	3.00	1.2	-	-	0.009	0.80
	15-Jun-10	30.5	7.99	20.60	1.52	9.42	2.90	2.77	0.02	4.67	1.79	26.09	3.49	0.75	-	-	0.015	0.70
	15-Sep-10	28.7	7.54	15.19	1.26	5.26	1.10	2.66	0.06	5.28	2.02	20.17	2.54	1.0	-	-	0.022	1.60
	15-Dec-10	24.5	7.95	16.68	1.32	6.80	1.94	1.80	0.14	3.14	1.35	21.90	2.74	1.2	4	0.013	0.011	0.60
mean*		-	7.80	17.66	1.42	7.26	1.66	2.07	0.11	4.20	1.56	23.30	2.94	1.0	4	0.013	0.014	0.93
note																		
- : Items were not analyzed																		
*1 : Mean of pH takes an average of hydrogen ion																		
Hoa Binh Reservoir		Anion	Cation	R1	Judge													
	15-Mar-10	1778.8	1696.7	-2.4	O	Asale	R2	Judge										
	15-Jun-10	1841.4	1838.9	-0.1	O	18.5	0.8	O										
	15-Sep-10	1462.8	1500.1	1.3	O	15.9	-1.6	O										
15-Dec-10	1544.3	1497.0	-1.6	O	16.4	-1.0	O											

Alcal	R2	Judge
18.5	0.8	O
19.9	-1.6	O
15.9	2.2	O
16.4	-1.0	O

R1	Judge
-2.4	O
-0.1	O
1.3	O
-1.6	O

Table 6.4 (11) 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	5.76	12.79	0.157	34.55	10.62	3.00	0.14	2.90	2.07	11.72	3.98	3.4	*1	*1	-	<10*1
	Xiamen	Xiaoping Dam	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	-	1.86
	Xi'an	Jiwozi River	7.33	8.11	0.280	13.92	2.83	1.27	*1	1.22	0.81	10.49	1.35	-	<0.01*1	<0.003*1	-	3.00
	Zhuhai	Zhuxiandong Stream	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	-	1.38
Indonesia	Bandung	Patenggang Lake	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	7.54	-
		Gunung Lake	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	4.98	-
Japan	Gifu pref.	Ijira Lake (Center, surface)	7.01	3.74	0.158	4.58	1.10	1.96	<0.01*1	1.88	0.25	2.61	1.18	2.3	<0.1*1	<0.01*1	0.49	-
	Shimane pref.	Barayu Lake (Center, surface)	7.03	10.08	0.144	4.00	0.16	21.93	0.04	13.49	1.77	1.67	1.88	2.9	<0.003*1	<0.003*1	2.85	5.49
Lao PDR	Vientiane province	Nam Hum Lake																
Malaysia		Semenyih Dam	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	-	-	-
	Sabah	Tembaling river	8.11	21.81	2.070	9.94	0.59	1.55	0.03	6.99	0.81	18.38	15.98	-	<0.10*1	-	-	4.01
Mongolia	Terelj	Terelj river	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	-	-
Philippines	Los Banos	Pandin Lake ^{*3}	8.25	18.35	1.837	0.34	3.36	3.28	*1	8.79	5.59	13.07	8.49	-	0.060	-	-	-
		Ambulalakao Lake	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Russia	Southern Baikal	Peememaya River	6.88	5.14	0.127	12.87	0.79	0.20	0.03	0.99	0.66	5.18	1.05	-	0.007	0.002	-	1.10
	Primorskaya	Komarovka River	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	-	4.00
Thailand		Vachiralongkorn Dam (Ban Pong Chang)	7.70	11.80	1.176	1.55	0.06	0.83	0.01	1.24	1.01	16.59	3.62	3.6	0.010	0.010	-	4.70
	Kanchanaburi Province	Vachiralongkorn Dam (Ban Pang Pueng)	7.79	11.16	1.113	1.61	0.06	0.76	0.01	1.16	0.99	16.38	2.86	4.1	0.010	0.010	-	7.05
Vietnam	Hoa Binh Province	Hoa Binh Reservoir	7.80	17.66	1.420	7.26	1.66	2.07	0.11	4.20	1.56	23.30	2.94	1.0	0.013	0.014	-	0.93

note

- : Items were not analyzed

*1: Less than determination/detection limit

*2: Some monitoring sites were investigated more than 4 times (5-7times) a year.

*3: Pandin Lake were investigated 3 times a year.

Table 6.5(1) Annual mean values of each parameters from 2001 to 2010 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	-	26.05	7.68	2.58	0.65	1.78	1.58	6.63	2.63	-	-	-	-	-
2002	6.12	9.52	-	26.36	7.99	2.53	0.09	2.50	1.79	9.08	3.28	-	-	-	-	-
2003	6.55	9.79	0.210	23.21	5.16	2.68	0.21	2.60	1.72	9.03	3.30	0.9	-	-	-	-
2004	6.34	9.61	0.075	25.72	7.94	1.74	0.30	1.98	1.65	9.66	2.71	2.6	-	-	-	7.6
2005	6.04	10.21	0.073	28.12	8.16	2.63	0.04	2.70	1.82	9.36	3.22	3.7	*1	*1	-	2.9
2006	6.36	11.92	0.113	32.65	9.53	3.05	0.11	2.96	2.27	11.05	3.82	5.0	*1	*1	-	3.2
2007	6.24	12.35	0.086	37.19	10.21	3.12	0.12	2.81	2.18	11.24	3.81	3.0	*1	*1	-	4.4
2008	5.42	12.20	0.066	33.26	12.78	2.77	0.16	2.65	1.98	11.34	3.77	3.7	*1	*1	-	2.9
2009	5.84	11.18	0.048	29.27	8.29	2.95	0.23	2.59	1.96	10.15	3.63	2.3	*1	*1	-	<10*1
2010	5.76	12.79	0.157	34.55	10.62	3.00	0.14	2.90	2.07	11.72	3.98	3.4	*1	*1	-	<10*1

Table 6.5(2) Annual mean values of each parameters from 2001 to 2010 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	-	0.020	0.008	-	2.1
2005	6.73	4.62	0.232	2.07	8.83	3.94	0.05	4.77	2.37	2.95	0.61	0.9	0.020	0.008	-	1.3
2006	6.81	5.27	0.190	2.46	2.52	5.13	0.19	6.02	2.33	3.19	0.66	0.9	0.020	0.008	-	0.7
2007	7.07	7.32	0.110	2.67	2.67	5.13	0.15	3.64	1.63	2.82	0.54	-	-	0.006	-	1.8
2008	6.73	5.66	0.124	4.49	2.67	12.95	0.14	4.97	2.46	3.90	0.56	-	0.010	0.007	-	1.9
2009	6.72	7.53	0.193	3.14	2.67	7.44	0.10	6.91	3.52	2.43	0.82	-	0.010	0.008	-	3.5
2010	6.63	6.19	0.190	2.70	3.70	5.54	0.11	5.80	2.53	2.51	0.69	1.1	0.020	0.015	-	1.9

Table 6.5(3) Annual mean values of each parameters from 2001 to 2010 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	10.03	1.47	1.06	0.04	1.90	0.70	8.83	1.38	-	-	-	-	-
2002	7.60	8.47	0.110	12.16	1.70	1.80	*1	2.80	1.20	12.73	1.72	-	-	-	-	-
2003	7.54	7.83	0.140	11.44	2.01	1.63	*1	2.08	0.95	12.03	1.59	-	-	-	-	-
2004	7.20	6.63	0.243	11.68	2.30	1.06	*1	1.79	0.68	9.04	1.35	-	*1	*1	-	3.2
2005	6.99	7.99	0.208	15.31	0.81	1.74	0.06	1.77	0.72	7.44	1.35	-	*1	0.090	-	1.6
2006	6.80	7.59	0.238	11.80	1.87	1.21	0.07	1.93	0.65	7.64	1.11	-	0.030	0.003	-	2.8
2007	7.32	8.86	0.250	16.68	3.46	1.31	0.13	2.09	0.96	11.00	0.96	-	*1	*1	-	2.2
2008	7.05	8.42	0.248	13.92	1.89	1.51	0.30	1.43	1.05	9.38	1.20	-	<0.01*1	<0.003*1	-	2.5
2009	6.98	8.28	0.278	15.51	2.07	1.34	0.14	1.88	1.04	9.85	1.38	-	<0.01*1	<0.003*1	-	2.5
2010	7.33	8.11	0.280	13.92	2.83	1.27	*1	1.22	0.81	10.49	1.35	-	<0.01*1	<0.003*1	-	3.0

Table 6.5(4) Annual mean values of each parameters from 2004 to 2010 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	-	-	17.70	0.63	43.13	0.20	-	-	-	-	-	-	-	-	-
2002	7.93	6.70	0.963	19.89	0.83	23.80	0.23	7.27	1.57	17.00	2.50	-	-	-	-	-
2003	7.92	7.54	1.603	17.20	0.29	19.58	0.17	7.34	1.96	16.80	2.56	-	-	-	-	1.7
2004	7.12	8.49	0.645	5.47	1.90	6.03	*1	8.95	1.88	5.41	2.84	-	-	0.029	*1	1.1
2005	6.97	9.53	0.133	5.83	1.70	6.73	*1	8.90	1.60	4.63	2.65	1.3	*1	*1	-	0.9
2006	7.18	7.35	0.225	2.60	1.15	4.50	1.10	5.40	1.13	4.38	1.58	1.3	*1	*1	-	1.0
2007	7.28	7.80	0.240	3.61	1.77	5.09	0.10	6.01	1.22	3.65	1.38	1.3	*1	*1	-	1.1
2008	7.18	7.58	0.165	2.95	2.36	4.90	0.05	6.83	1.31	4.40	1.76	1.3	*1	*1	-	1.1
2009	7.16	7.74	0.367	2.97	4.20	6.30	0.06	7.86	1.57	2.77	1.96	1.1	*1	*1	-	1.3
2010	7.22	6.86	0.393	2.49	2.50	5.15	0.08	6.98	1.23	4.30	1.72	1.1	*1	*1	-	1.4

- : Items were not analyzed.

*1: Less than determination/detection limit

Table 6.5(5) Annual mean values of each parameters from 2001 to 2010 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	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

Table 6.5(6) Annual mean values of each parameters from 2008 to 2010 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	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

Table 6.5(7) Annual mean values of each parameters from 2001 to 2010 at Ijira 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	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	3.29	1.37	2.2	<0.06*	<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

Table 6.5(8) Annual mean values of each parameters from 2001 to 2010 at Banryu Lake (Japan)

Year	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	COD mg/L
2001	6.98	9.43	0.174	4.07	0.11	19.73	0.15	12.23	1.75	1.23	1.60	-	<0.003*1	-	5.3
2002	7.07	10.10	0.176	3.93	0.30	21.90	0.12	12.96	1.80	1.21	1.76	1.6	<0.003*1	<0.003*1	2.5
2003	6.98	10.85	0.170	3.96	0.14	22.31	0.19	13.44	1.78	1.09	1.69	1.5	<0.003*1	<0.003*1	2.6
2004	7.10	10.68	0.165	3.96	0.21	22.96	0.09	13.95	1.84	1.05	1.69	2.5	<0.003*1	<0.003*1	3.3
2005	7.09	10.68	0.156	4.31	0.14	23.05	0.04	14.18	1.91	1.47	1.82	2.2	0.003	<0.003*1	2.6
2006	7.01	10.28	0.162	4.44	0.13	21.61	0.11	13.76	1.83	1.49	1.77	2.5	<0.003*1	0.003	2.7
2007	7.02	10.76	0.176	4.49	0.10	22.49	0.02	14.28	1.94	1.52	1.62	2.5	<0.003*1	<0.003*1	2.6
2008	7.05	10.74	0.175	4.24	0.14	22.84	0.03	14.28	1.87	1.37	1.65	3.0	<0.003*1	<0.003*1	2.5
2009	7.02	10.09	0.171	4.14	0.10	21.98	0.03	13.75	1.79	1.52	1.81	2.7	<0.003*1	<0.003*1	2.9
2010	7.03	10.08	0.144	4.00	0.16	21.93	0.04	13.49	1.77	1.67	1.88	2.9	<0.003*1	<0.003*1	2.9

- : Items were not analyzed.

*1: Less than determination/detection limit

Table 6.5(9) Annual mean values of each parameters from 2009 to 2010 at Nam Hum Lake (Lao PDR)

	Mandatory Parameters : 4 times/year											Mandatory Parameters : Once/year				
	pH	EC	Alkalinity	SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	Mg ²⁺	Transparency	PO ₄ ³⁻	NO ₂ ⁻	DOC	
		mS/m	meq/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	m	mg/L	mg/L	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	
2010																

Table 6.5(9) Annual mean values of each parameters from 2005 to 2010 at Semenyih Dam (Malaysia)

	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
2005	7.08	2.27	0.226	0.75	1.07	1.41	0.11	2.34	2.01	4.93	1.40	-	-	-	-
2006	7.24	3.03	0.688	5.04	0.87	7.03	0.29	14.55	16.83	14.39	2.70	-	-	-	-
2007	7.02	2.67	0.266	1.22	0.10	0.75	0.04	2.35	2.05	2.30	0.69	-	-	-	-
2008	6.94	1.53	0.265	1.73	0.18	0.83	0.06	2.46	2.08	2.54	0.66	-	-	-	-
2009	6.91	3.30	0.229	1.80	0.22	0.83	0.02	2.13	1.90	1.83	0.55	-	-	-	-
2010	6.92	2.77	0.225	2.40	0.05	0.81	0.02	2.18	2.00	2.43	0.65	-	<0.10*	-	-

Table 6.5(10) Annual mean values of each parameters from 2007 to 2010 at Tembaling River (Malaysia)

	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
2007	6.80	13.90	1.640	7.03	0.63	2.20	0.05	3.01	3.37	16.50	8.68	-	-	-	-
2008	7.07	18.62	1.850	8.10	0.75	1.20	0.01	5.83	0.40	22.00	10.40	-	-	-	-
2009	7.97	20.28	1.975	9.38	0.72	1.33	0.01	6.25	0.53	20.50	10.23	-	-	-	-
2010	8.11	21.81	2.070	9.94	0.59	1.55	0.03	6.99	0.81	18.38	15.98	-	<0.10*	-	4.01

Table 6.5(11) Annual mean values of each parameters from 2002 to 2010 at Terelj river (Mongolia)

	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	
2002	7.23	4.84	0.098	3.47	1.11	0.43	0.04	1.87	0.52	7.17	0.87	-	-	-	-	
2003	6.75	4.60	0.266	3.16	0.74	0.36	0.04	1.65	0.48	5.88	0.83	-	-	-	-	
2004	6.80	4.44	0.296	2.76	0.70	0.54	0.06	1.60	0.72	5.93	0.89	-	-	-	-	
2005	6.90	4.84	0.367	3.18	0.82	0.56	0.05	1.95	0.68	8.90	1.04	-	-	0.003	-	
2006	6.99	5.07	0.327	3.60	0.79	0.46	0.11	2.07	0.62	9.04	1.07	-	-	0.003	-	
2007	6.89	5.06	0.339	3.18	0.79	0.57	0.07	2.22	0.55	8.63	1.03	-	<0.005*1	0.003	-	
2008	6.36	6.59	0.282	3.82	1.33	0.73	<0.01*1	1.93	0.60	13.70	1.00	-	0.007	<0.005*1	-	
2009	7.13	4.70	0.331	3.47	0.49	0.41	<0.01*1	1.66	0.58	5.41	0.76	-	-	<0.005*1	-	
2010	6.67	5.57	0.380	4.47	0.86	0.78	0.13	2.17	1.19	7.52	1.15	-	0.011	<0.005*1	-	

- : Items were not analyzed.

*1: Less than determination/detection limit

Table 6.5(12) Annual mean values of each parameters from 2004 to 2010 at Pandin Lake (Philippines)

	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
2004	8.08	18.23	1.808	0.33	0.08	3.16	0.02	8.91	5.81	12.05	6.91	-	0.014	0.072	-	-
2005	7.96	18.14	1.723	1.11	0.58	3.76	0.69	8.18	4.89	14.33	7.84	-	0.005	0.295	-	-
2006	7.72	17.34	1.758	0.43	0.19	2.40	0.22	8.08	5.08	15.13	7.30	2.2	0.004	0.012	-	-
2007	7.76	17.57	1.708	0.52	0.10	3.37	0.26	7.28	6.29	12.10	9.03	-	0.002	0.013	-	-
2008	7.48	17.95	1.627	0.76	5.23	3.70	0.02	7.33	4.92	12.65	7.97	-	0.013	-	-	-
2009	7.68	18.70	1.813	0.66	5.72	3.78	1.02	8.61	4.35	14.10	7.32	1.8	0.087	-	-	-
2010	8.25	18.35	1.837	0.34	3.36	3.28	*1	8.79	5.59	13.07	8.49	-	0.060	-	-	-

Table 6.5(13) Annual mean values of each parameters from 2005 to 2010 at Ambulakao Lake (Philippines)

	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
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	30.33	0.275	23.14	14.75	9.27	0.13	6.54	0.33	32.58	2.84	-	-	-	-	-
2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 6.5(14) Annual mean values of each parameters from 2004 to 2010 at Perecmnaya River (Russia)

	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
2004	6.55	3.93	0.135	7.18	0.76	0.23	0.03	1.10	0.77	3.23	0.94	2.0	0.008	0.002	-	-
2005	6.80	4.03	0.135	7.84	0.66	0.20	0.03	0.96	0.71	3.29	1.04	-	0.002	0.005	-	0.8
2006	6.74	3.95	0.140	7.49	0.81	0.20	0.04	1.07	0.75	3.36	1.02	-	0.004	0.002	1.5	1.1
2007	6.59	4.21	0.135	8.98	0.91	0.18	0.11	1.06	0.76	3.92	0.85	-	0.004	0.003	1.6	1.0
2008	6.68	4.87	0.155	9.77	1.03	0.13	0.03	0.93	0.60	4.78	1.05	-	0.007	0.002	1.0	0.8
2009	6.66	4.87	0.128	11.69	0.85	0.14	0.02	1.00	0.60	4.94	0.97	-	0.005	0.002	-	0.6
2010	6.88	5.14	0.127	12.87	0.79	0.20	0.03	0.99	0.66	5.18	1.05	-	0.007	0.002	-	1.1

Table 6.5(15) Annual mean values of each parameters from 2005 to 2010 at Komarovka River (Russia)

	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
2005	7.24	8.75	0.495	11.18	0.33	3.09	0.15	3.34	0.60	9.07	2.25	-	*1	*1	-	-
2006	7.08	8.37	0.428	9.02	0.26	3.12	0.08	3.10	0.57	8.51	2.27	-	0.014	0.003	-	-
2007	7.15	8.68	0.395	10.51	0.26	4.03	0.09	3.39	0.65	8.04	2.34	-	0.010	0.025	-	4.3
2008	7.22	8.68	0.391	12.08	0.52	3.06	0.09	3.80	0.62	8.14	2.08	-	0.030	0.053	-	3.6
2009	7.02	8.64	0.351	12.59	1.11	3.69	0.22	3.57	0.60	8.21	2.07	-	0.041	0.067	-	4.4
2010	6.99	8.32	0.445	8.62	0.99	3.33	0.19	3.21	0.46	8.29	2.12	-	0.013	0.036	-	4.0

- : Items were not analyzed.

*1: Less than determination/detection limit

Table 6.5(16) Annual mean values of each parameters from 2002 to 2010 at Vachiralongkorn Dam (Ban Pong Chang) (Thailand)

	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
2002	7.52	12.13	0.625	1.15	0.04	0.89	*1	1.14	1.01	13.27	2.98	5.3	0.024	*1	-	4.0
2003	7.45	10.75	0.625	1.29	0.01	0.84	*1	1.14	0.97	16.24	3.52	5.0	*1	-	-	5.8
2004	7.77	11.53	1.050	1.27	0.20	0.98	0.05	1.18	0.97	15.68	3.26	5.6	0.023	0.010	-	7.5
2005	7.33	11.18	1.276	1.47	0.11	1.05	0.01	1.26	1.02	15.83	3.12	3.6	0.010	0.010	-	<4.0*1
2006	7.21	10.41	1.125	1.31	0.20	0.85	0.06	1.14	1.03	16.24	3.17	4.6	<0.01*1	<0.01*1	-	10.0
2007	7.80	10.41	1.090	1.17	0.20	0.75	0.01	1.21	0.96	16.50	3.26	5.1	0.010	0.010	-	5.2
2008	7.71	10.55	1.178	1.11	0.05	0.75	<0.01*1	1.16	0.97	16.25	3.23	4.4	<0.01*1	0.010	-	6.8
2009	7.79	10.83	1.111	1.33	0.06	0.74	-	1.16	0.95	16.09	3.39	4.4	0.010	<0.01*1	-	-
2010	7.70	11.80	1.176	1.55	0.06	0.83	0.01	1.24	1.01	16.59	3.62	3.6	0.010	0.010	-	4.7

Table 6.5(17) Annual mean values of each parameters from 2002 to 2010 at Vachiralongkorn Dam (Ban Pang Pueng) (Thailand)

	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	
2002	7.31	11.98	0.633	1.24	0.06	0.90	*1	1.19	0.99	13.28	2.90	5.5	0.034	*1	-	3.0	
2003	7.87	10.50	0.590	1.41	0.01	0.84	*1	1.17	0.98	16.24	2.94	5.8	*1	*1	-	7.3	
2004	7.24	11.12	1.005	1.54	0.20	0.95	0.05	1.21	1.03	16.01	2.83	8.1	0.020	0.010	-	5.0	
2005	6.98	11.20	1.015	1.29	0.11	1.15	0.03	1.52	1.02	16.16	2.98	4.4	0.135	0.010	-	*1	
2006	7.12	10.03	1.046	1.44	0.20	0.83	0.03	1.14	1.04	16.19	2.64	5.0	<0.01*1	<0.01*1	-	11.0	
2007	7.84	10.21	1.050	1.25	0.20	0.70	0.01	1.13	0.98	16.75	2.98	5.3	0.010	0.010	-	4.0	
2008	7.78	9.88	1.104	1.49	<0.06*1	0.75	<0.01*1	1.17	1.00	15.65	2.49	4.4	<0.01*1	0.010	-	4.7	
2009	7.93	10.30	1.065	1.42	0.06	0.73	-	1.14	2.04	15.88	2.79	4.6	0.010	<0.01*1	-	-	
2010	7.79	11.16	1.113	1.61	0.06	0.76	0.01	1.16	0.99	16.38	2.86	4.1	0.010	0.010	-	7.1	

Table 6.5(18) Annual mean values of each parameters from 2001 to 2010 at Hoa Binh Reservoir (Vietnam)

	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	7.59	17.40	1.575	5.44	0.59	1.16	0.15	1.97	1.22	21.85	6.12	-	-	-	-	-
2002	7.88	17.14	1.613	3.90	0.46	1.35	0.21	1.70	1.16	22.53	5.49	-	-	-	-	-
2003	7.29	18.41	1.595	6.13	0.63	1.33	0.08	2.14	1.36	24.50	4.78	-	-	-	-	-
2004	6.55	19.27	1.675	4.51	1.16	1.38	0.17	2.45	1.11	27.22	4.11	-	-	-	-	-
2005	7.58	19.01	1.605	5.62	1.04	1.62	0.16	4.40	1.31	23.12	4.77	-	-	-	-	-
2006	7.22	19.08	1.605	7.71	0.87	1.41	0.12	3.62	1.46	25.22	4.87	0.7	0.005	0.006	-	2.2
2007	7.62	19.09	1.613	8.14	1.44	1.54	0.11	3.53	1.48	24.90	4.64	0.9	0.015	0.016	-	1.9
2008	7.73	18.26	1.533	7.36	1.04	1.65	0.04	2.33	0.91	22.90	5.01	1.5	0.021	0.025	-	2.2
2009	7.98	16.65	1.390	6.55	0.67	2.05	0.02	3.10	0.84	20.82	4.49	1.1	0.019	0.010	-	1.4
2010	7.80	17.66	1.420	7.26	1.66	2.07	0.11	4.20	1.56	23.30	2.94	1.0	0.013	0.014	-	0.9

- : 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 H-Q curve method (when a weir is not available)	Continuously or biweekly
	Stream water chemistry	Periodical collection of stream water Intensive sampling	Weekly or biweekly During heavy-rain or snow-melting events
	Chemical discharge	Calculation based on the water flux and the chemical concentration	Biweekly, monthly or annual
	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 has started the regular catchment-scale monitoring in the Lake Ijira Catchment in 2008 just after the intensive surveys from 2005 to 2007. They submitted the data of the water years 2007-2008 and 2008-2009 as the EANET data. 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 2010

Site	Items	Detailed items	Water years
Lake Ijira Catchment	Input (total deposition) ^{*1}	1. Precipitation amount (at 3 points) ^{*2}	2007-2008 ^{*3} 2008-2009 ^{*3}
		Calculation of total deposition is still under discussion for precise estimation.	
		1. Water discharge	2007-2008 ^{*3}
	Output (chemical discharge from the stream)	2. Stream water chemistry: biweekly	2008-2009 ^{*3}
		3. Chemical discharge	

Note. ^{*1}, The data of wet deposition and dry deposition (air concentration) in the Ijira deposition monitoring site for the period can be found in Data Reports 2007, 2008 and 2009; ^{*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 from November to the next October. 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	
		2007-2008	2008-2009
Input by precipitation, mm y ⁻¹	Akatani (260 m)	2956	3547
	Ijira monitoring site (140 m)	2253	2678
	Youth house (110 m)	2793	2712
	Mean	2667	2979
Output by the stream, mm y ⁻¹	Outlet of Kamagatani River	1397	1677
Runoff rate, %		52.4	56.3

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												
				μmol L ⁻¹								mg-C L ⁻¹	mg-SiO ₂ L ⁻¹	
2007/11/5	6.89	4.68	146	181	36.4	67.1	104	159	137	6.91	1.66	0.42	8.43	0.17
2007/11/19	6.91	4.97	117	183	32.4	65.2	107	159	141	6.91	0	0.26	8.09	0.18
2007/12/3	7.02	4.95	118	189	30.3	64.3	107	158	142	6.65	0	0.23	7.94	0.18
2007/12/17	7.01	5.15	132	188	56.9	71.7	103	178	154	8.18	0	0.25	7.85	0.18
2008/1/7	6.98	5.01	121	163	63.9	64	94	155	134	5.88	0	0.24	7.44	0.21
2008/1/21	7.01	5.00	120	175	45.6	65.2	99.6	156	137	6.14	1.66	0.17	7.57	0.18
2008/2/4	7.02	5.06	147	184	37.7	62.1	102	163	143	5.63	0	0.15	7.25	0.17
2008/2/18	7.00	5.03	150	193	37.3	62.9	102	164	145	5.88	1.11	0.15	7.32	0.17
2008/3/3	7.03	5.20	114	188	48.2	66.6	101	170	148	5.63	1.11	0.18	7.19	0.17
2008/3/17	6.96	4.99	129	162	57.7	64.3	96.6	169	141	6.14	0	0.32	7.32	0.19
2008/3/31	7.00	4.78	142	161	39.5	64	94.8	150	132	6.14	1.11	0.52	7.66	0.19
2008/4/14	7.06	5.04	146	159	45.3	61.8	95.7	167	143	6.91	0	0.33	7.20	0.19
2008/4/28	7.01	4.25	118	115	41.3	63.8	85.3	129	115	6.14	0	0.31	8.03	0.26
2008/5/7	7.00	4.75	140	135	35.3	62.6	91.8	147	126	6.65	0	0.30	8.37	0.20
2008/5/19	6.96	4.81	136	158	32.3	60.9	95.3	152	133	6.65	0	0.23	8.14	0.19
2008/6/2	7.03	4.25	139	127	35.3	61.5	85.7	138	118	5.88	0	0.42	7.78	0.24
2008/6/16	7.03	4.38	151	143	28.7	60.9	90	148	123	6.39	0	0.24	8.33	0.19
2008/6/30	6.83	3.64	97	101	49	58.4	71.3	99	95	6.39	0.55	0.57	7.69	0.37
2008/7/14	6.52	4.38	137	127	30.8	61.5	82.6	123	112	6.65	1.11	0.28	8.76	0.23
2008/7/28	6.10	4.75	152	148	36.4	60.6	89.6	147	129	7.93	1.66	0.50	8.59	0.21
2008/8/11	6.83	4.89	155	146	44.8	56.4	93.1	156	133	7.67	0	0.62	8.56	0.20
2008/8/25	6.52	4.83	160	150	54.2	57.5	94.8	163	140	7.16	0.55	0.37	8.39	0.20
2008/9/8	6.73	4.48	154	149	44.2	58.4	96.1	164	141	7.93	0	0.27	8.58	0.20
2008/9/22	6.97	4.46	136	124	88.4	52.8	88.7	157	137	7.93	1.11	0.53	7.79	0.26
2008/10/6	6.92	4.68	135	145	47.7	55.3	93.1	158	138	7.42	0.55	0.51	8.19	0.21
2008/10/20	6.83	4.68	150	164	37.7	58.7	101	163	142	7.16	1.11	0.21	8.24	0.18
2008/11/4	6.95	4.65	130	144	35.6	61.5	89.6	143	126	6.14	0.55	0.74	8.36	0.21
2008/11/17	6.94	4.92	147	165	31.9	62.9	94	153	135	6.14	0	0.19	8.30	0.19
2008/12/1	6.99	4.89	139	162	39.3	60.9	90.9	151	136	5.88	1.66	0.25	7.89	0.20
2008/12/15	6.91	5.15	140	178	34	61.2	95.7	156	139	6.39	2.22	0.17	7.85	0.20
2008/12/26	7.01	5.29	135	181	33.2	65.7	97.9	162	145	6.14	1.33	0.27	7.61	0.18
2009/1/5	6.99	5.27	134	187	32.9	61.5	99.2	158	143	5.88	1.11	0.17	7.53	0.18
2009/1/19	6.88	5.42	122	180	59.3	65.4	92.2	166	147	6.39	1.66	0.45	6.99	0.21
2009/2/2	7.02	4.90	121	159	50.2	61.2	89.6	141	127	5.63	1.11	0.20	7.58	0.24
2009/2/16	7.02	4.94	138	168	46.3	62.3	90.5	143	129	5.63	0	0.21	7.66	0.21
2009/3/2	6.98	4.43	115	140	37.3	58.7	86.6	127	121	5.63	1.11	0.26	7.75	0.25
2009/3/16	6.84	3.86	94	114	40	59	79.2	106	100	5.88	0.28	0.32	7.58	0.29
2009/3/31	7.00	4.30	119	139	27.7	64.3	87.9	124	116	6.14	1.66	0.21	7.98	0.20
2009/4/13	6.96	4.88	134	159	27.7	63.2	95.3	139	128	6.65	0.55	0.24	8.07	0.18
2009/4/27	7.02	4.32	90	124	34.8	60.9	81.3	114	109	6.65	1.66	0.32	7.32	0.25
2009/5/7	7.04	4.60	148	137	30.5	60.1	89.2	129	116	7.67	0.94	0.46	6.26	0.20
2009/5/18	7.10	4.38	118	127	39.7	59.2	81.8	117	110	6.91	1.11	0.42	7.32	0.26
2009/6/1	7.15	4.78	151	151	22.9	60.6	90	131	123	6.91	2.77	0.24	8.10	0.18
2009/6/15	7.14	4.82	138	150	33.5	59.5	99.6	134	126	6.91	1.66	0.29	5.90	0.20
2009/6/29	7.10	4.38	143	126	29.8	61.5	90.9	122	114	6.65	1.11	0.34	5.94	0.22
2009/7/13	7.12	4.04	128	111	32.4	62.6	86.1	108	104	6.14	0.55	0.37	8.58	0.26
2009/7/27	6.99	3.58	84	98.1	52.2	51.1	74.4	89	87	7.42	0	1.26	6.86	0.42
2009/8/10	7.04	3.63	91	96.0	50.2	49.9	73.9	86	88	7.16	1.66	0.59	7.10	0.39
2009/8/24	7.07	4.26	140	121	26.1	63.2	90	113	108	7.16	0	0.28	5.74	0.19
2009/9/7	7.07	4.77	155	140	22.3	61.2	97.9	123	118	7.67	0	0.24	7.84	0.16
2009/9/24	7.07	5.05	159	162	30.8	61.2	105	134	136	7.42	4.43	0.21	7.81	0.15
2009/10/5	7.11	4.97	154	149	58.1	59.2	98.3	146	135	7.16	0.28	0.31	8.34	0.16
2009/10/19	7.07	4.80	153	161	35.6	60.1	100	140	132	7.16	0	0.36	8.30	0.15
2009/11/2	6.96	5.25	157	174	28.2	62.9	104	139	136	6.91	1.11	0.26	8.24	0.15

Note. Lines show the boarder 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

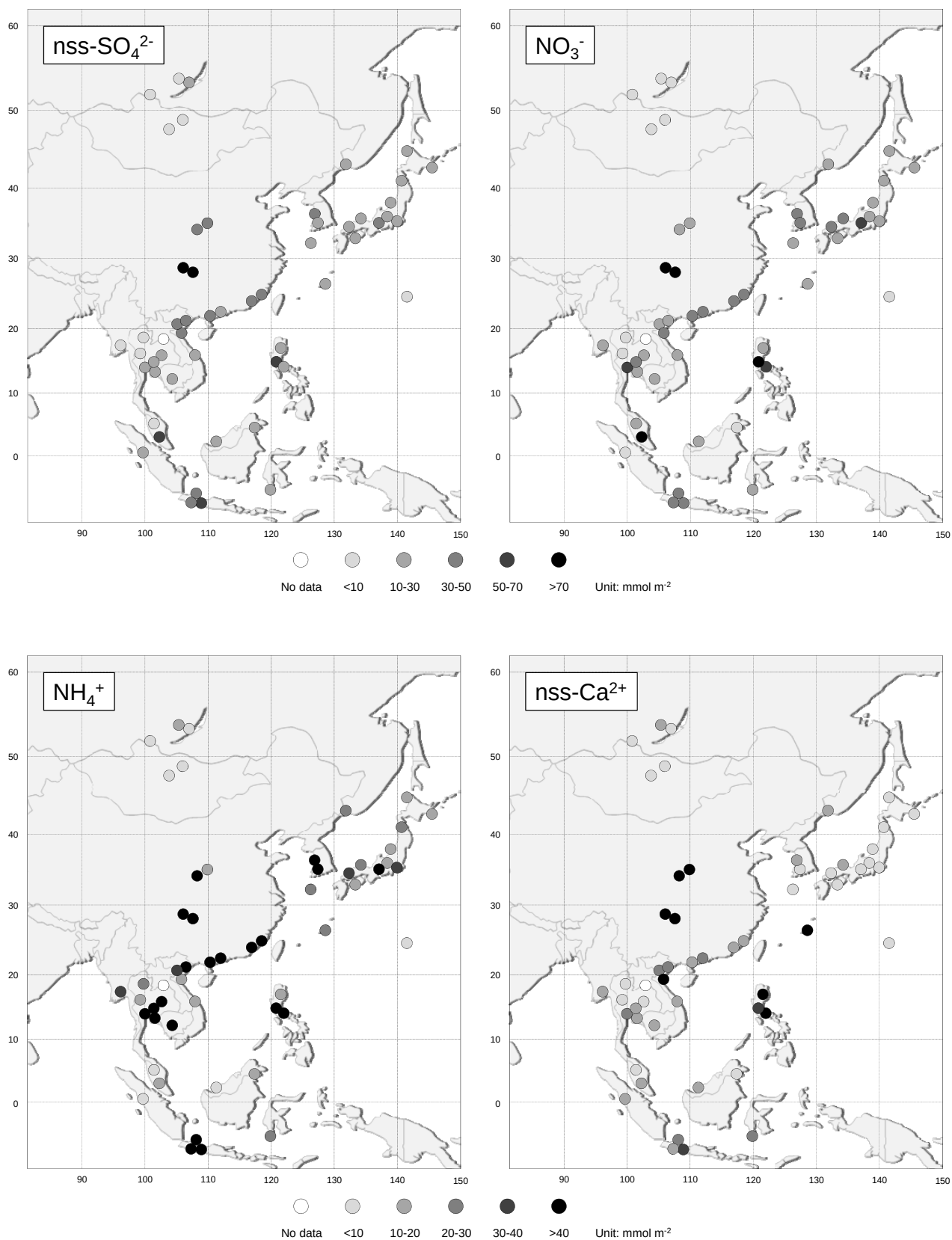
Start date	End date	Gran's ANC	SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	Na ⁺	Ca ²⁺	Mg ²⁺	K ⁺	NH ₄ ⁺	H ⁺	TOC	SiO ₂	Periodic discharge,
						kmol _e ha ⁻¹						kg-C ha ⁻¹	kg-SiO ₂ ha ⁻¹	mm
11/5/07	11/19/07	0.04	0.05	0.01	0.02	0.03	0.04	0.04	0.00	0.00	0.00	0.09	2.20	26.7
11/19/07	12/3/07	0.04	0.06	0.01	0.02	0.03	0.05	0.04	0.00	0.00	0.00	0.07	2.42	30.2
12/3/07	12/17/07	0.05	0.07	0.02	0.03	0.04	0.06	0.06	0.00	0.00	0.00	0.09	2.96	37.5
12/17/07	1/7/08	0.08	0.11	0.04	0.04	0.06	0.11	0.09	0.00	0.00	0.00	0.16	4.94	64.6
1/7/08	1/21/08	0.05	0.07	0.02	0.03	0.04	0.06	0.05	0.00	0.00	0.00	0.08	2.98	39.7
1/21/08	2/4/08	0.04	0.05	0.01	0.02	0.03	0.04	0.04	0.00	0.00	0.00	0.04	2.04	27.5
2/4/08	2/18/08	0.04	0.05	0.01	0.02	0.03	0.04	0.04	0.00	0.00	0.00	0.04	1.90	26.1
2/18/08	3/3/08	0.03	0.05	0.01	0.02	0.03	0.04	0.04	0.00	0.00	0.00	0.04	1.80	24.9
3/3/08	3/17/08	0.04	0.06	0.02	0.02	0.03	0.05	0.05	0.00	0.00	0.00	0.08	2.29	31.6
3/17/08	3/31/08	0.05	0.06	0.02	0.02	0.04	0.06	0.05	0.00	0.00	0.00	0.15	2.76	36.9
3/31/08	4/14/08	0.05	0.05	0.01	0.02	0.03	0.05	0.05	0.00	0.00	0.00	0.14	2.51	33.8
4/14/08	4/28/08	0.12	0.12	0.04	0.06	0.08	0.13	0.12	0.01	0.00	0.00	0.29	6.92	90.8
4/28/08	5/7/08	0.05	0.05	0.02	0.02	0.03	0.05	0.05	0.00	0.00	0.00	0.12	3.23	39.4
5/7/08	5/19/08	0.05	0.05	0.01	0.02	0.03	0.05	0.05	0.00	0.00	0.00	0.10	2.97	35.9
5/19/08	6/2/08	0.15	0.15	0.04	0.06	0.10	0.15	0.13	0.01	0.00	0.00	0.35	8.45	106.2
6/2/08	6/16/08	0.09	0.09	0.02	0.04	0.06	0.09	0.08	0.00	0.00	0.00	0.21	5.25	65.1
6/16/08	6/30/08	0.15	0.14	0.05	0.07	0.10	0.15	0.13	0.01	0.00	0.00	0.48	9.45	118.0
6/30/08	7/14/08	0.17	0.17	0.06	0.09	0.11	0.17	0.15	0.01	0.00	0.00	0.63	12.25	148.9
7/14/08	7/28/08	0.08	0.07	0.02	0.03	0.05	0.07	0.06	0.00	0.00	0.00	0.21	4.59	52.9
7/28/08	8/11/08	0.07	0.06	0.02	0.03	0.04	0.07	0.06	0.00	0.00	0.00	0.24	3.71	43.3
8/11/08	8/25/08	0.06	0.06	0.02	0.02	0.04	0.06	0.05	0.00	0.00	0.00	0.18	3.16	37.3
8/25/08	9/8/08	0.07	0.07	0.02	0.03	0.05	0.08	0.07	0.00	0.00	0.00	0.15	4.00	47.2
9/8/08	9/22/08	0.07	0.06	0.03	0.03	0.04	0.08	0.07	0.00	0.00	0.00	0.19	3.89	47.5
9/22/08	10/6/08	0.06	0.06	0.03	0.02	0.04	0.07	0.06	0.00	0.00	0.00	0.24	3.62	45.3
10/6/08	10/20/08	0.05	0.05	0.01	0.02	0.03	0.06	0.05	0.00	0.00	0.00	0.13	2.87	34.9
10/20/08	11/4/08	0.15	0.16	0.04	0.06	0.10	0.16	0.14	0.01	0.00	0.00	0.50	8.70	104.8
11/4/08	11/17/08	0.05	0.05	0.01	0.02	0.03	0.05	0.05	0.00	0.00	0.00	0.17	2.97	35.7
11/17/08	12/1/08	0.06	0.07	0.01	0.03	0.04	0.06	0.06	0.00	0.00	0.00	0.09	3.33	41.1
12/1/08	12/15/08	0.05	0.06	0.01	0.02	0.03	0.06	0.05	0.00	0.00	0.00	0.08	2.86	36.3
12/15/08	12/26/08	0.04	0.05	0.01	0.02	0.03	0.04	0.04	0.00	0.00	0.00	0.06	2.11	27.3
12/26/08	1/5/09	0.03	0.03	0.01	0.01	0.02	0.03	0.03	0.00	0.00	0.00	0.04	1.43	18.9
1/5/09	1/19/09	0.03	0.05	0.01	0.02	0.03	0.04	0.04	0.00	0.00	0.00	0.08	1.91	26.3
1/19/09	2/2/09	0.07	0.09	0.03	0.03	0.05	0.08	0.08	0.00	0.00	0.00	0.18	4.02	55.2
2/2/09	2/16/09	0.07	0.09	0.03	0.03	0.05	0.08	0.07	0.00	0.00	0.00	0.11	4.16	54.6
2/16/09	3/2/09	0.10	0.12	0.03	0.05	0.07	0.11	0.10	0.00	0.00	0.00	0.19	6.19	80.4
3/2/09	3/16/09	0.14	0.17	0.05	0.08	0.11	0.15	0.15	0.01	0.00	0.00	0.38	10.13	132.1
3/16/09	3/31/09	0.08	0.09	0.02	0.04	0.06	0.08	0.08	0.00	0.00	0.00	0.19	5.51	70.9
3/31/09	4/13/09	0.04	0.05	0.01	0.02	0.03	0.04	0.04	0.00	0.00	0.00	0.07	2.55	31.8
4/13/09	4/27/09	0.07	0.09	0.02	0.04	0.05	0.08	0.07	0.00	0.00	0.00	0.17	4.68	60.8
4/27/09	5/7/09	0.04	0.04	0.01	0.02	0.03	0.04	0.04	0.00	0.00	0.00	0.13	2.29	33.7
5/7/09	5/18/09	0.05	0.05	0.01	0.02	0.03	0.05	0.04	0.00	0.00	0.00	0.17	2.56	37.7
5/18/09	6/1/09	0.05	0.05	0.01	0.02	0.03	0.05	0.05	0.00	0.00	0.00	0.13	3.01	39.1
6/1/09	6/15/09	0.04	0.05	0.01	0.02	0.03	0.04	0.04	0.00	0.00	0.00	0.08	2.16	30.8
6/15/09	6/29/09	0.13	0.13	0.03	0.06	0.09	0.12	0.12	0.01	0.00	0.00	0.30	5.68	96.0
6/29/09	7/13/09	0.20	0.17	0.04	0.09	0.13	0.17	0.16	0.01	0.00	0.00	0.51	10.50	144.7
7/13/09	7/27/09	0.14	0.14	0.06	0.08	0.11	0.13	0.13	0.01	0.00	0.00	1.11	10.53	136.3
7/27/09	8/10/09	0.26	0.29	0.15	0.15	0.22	0.26	0.26	0.02	0.00	0.00	2.72	20.54	294.3
8/10/09	8/24/09	0.08	0.08	0.03	0.04	0.06	0.07	0.07	0.01	0.00	0.00	0.31	4.56	71.1
8/24/09	9/7/09	0.04	0.04	0.01	0.02	0.03	0.03	0.03	0.00	0.00	0.00	0.07	1.90	28.0
9/7/09	9/24/09	0.04	0.04	0.01	0.02	0.03	0.03	0.03	0.00	0.00	0.00	0.06	2.11	26.9
9/24/09	10/5/09	0.03	0.03	0.01	0.01	0.02	0.03	0.03	0.00	0.00	0.00	0.06	1.80	22.3
10/5/09	10/19/09	0.04	0.04	0.01	0.02	0.03	0.04	0.04	0.00	0.00	0.00	0.09	2.32	27.9
10/19/09	11/2/09	0.03	0.03	0.01	0.01	0.02	0.02	0.02	0.00	0.00	0.00	0.05	1.45	17.5

Note. Periodic chemical discharges were calculated based on the mean concentrations and the water discharge for the respective sampling intervals.

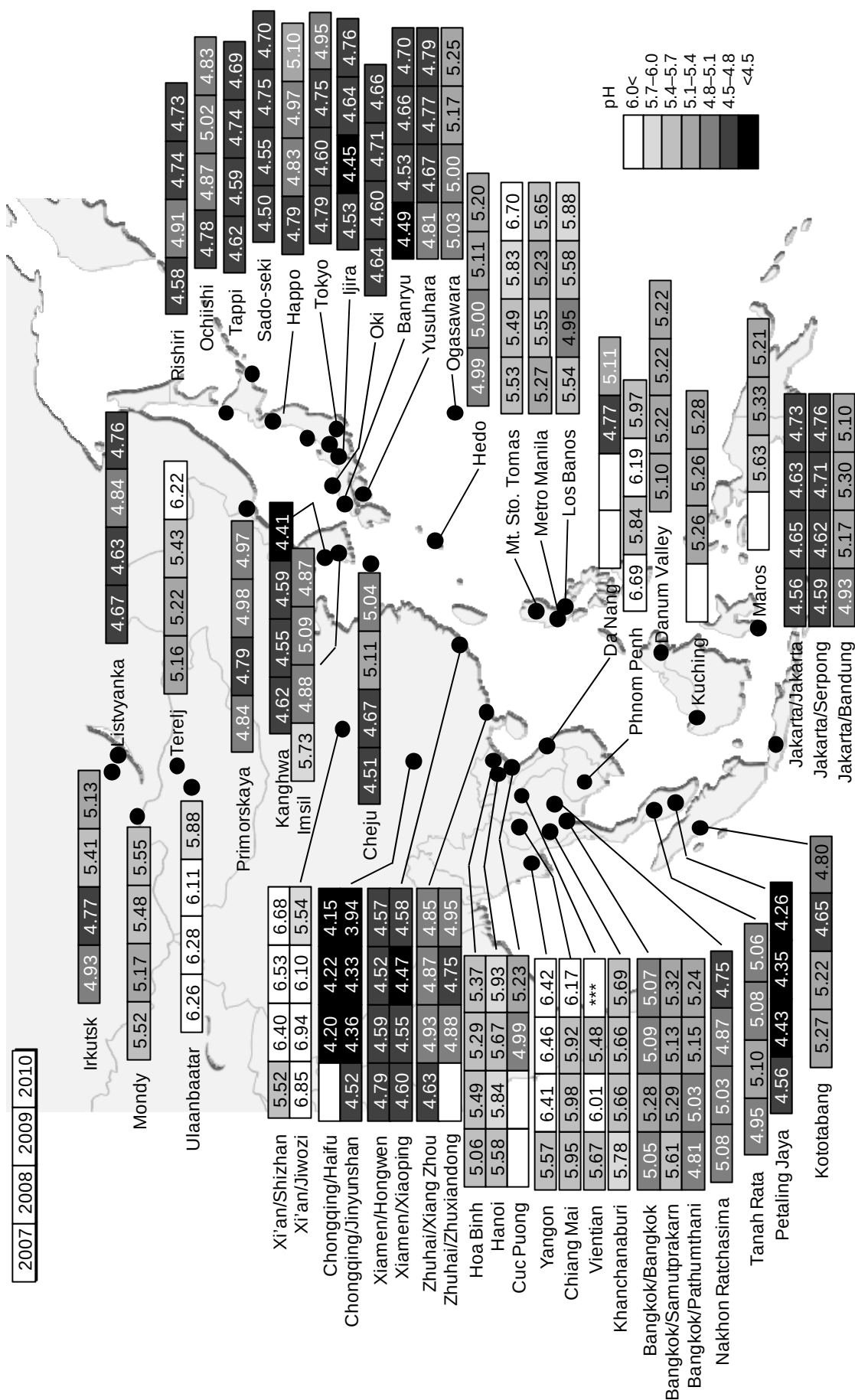
Table 7.9 Annual chemical discharges from the stream: Lake Ijira Catchment

Water year	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
2007 -2008	1.88	2.05	0.6	0.86	1.28	2.05	1.8	0.09	0.01	0	5.01	112
2008 -2009	2.01	2.2	0.66	0.99	1.45	2	1.89	0.11	0.02	0	7.61	123

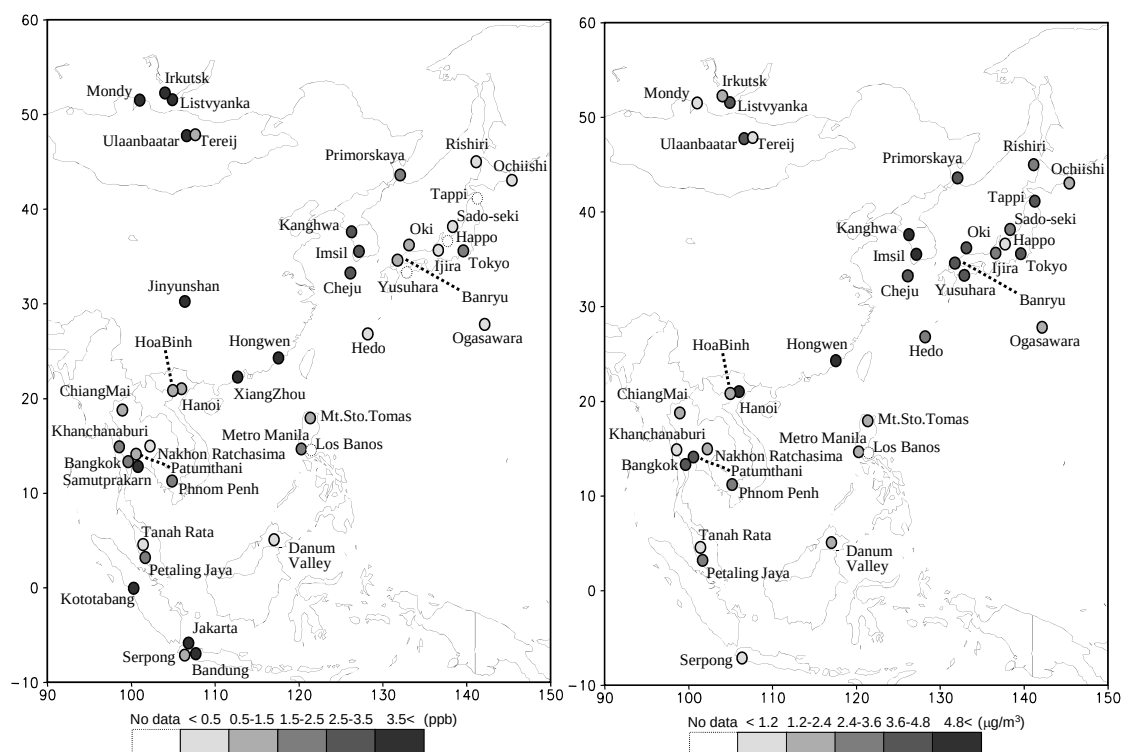
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Appendix Fig. 1-1 Annual deposition levels of nss-SO_4^{2-} , NO_3^- , NH_4^+ and nss-Ca^{2+}

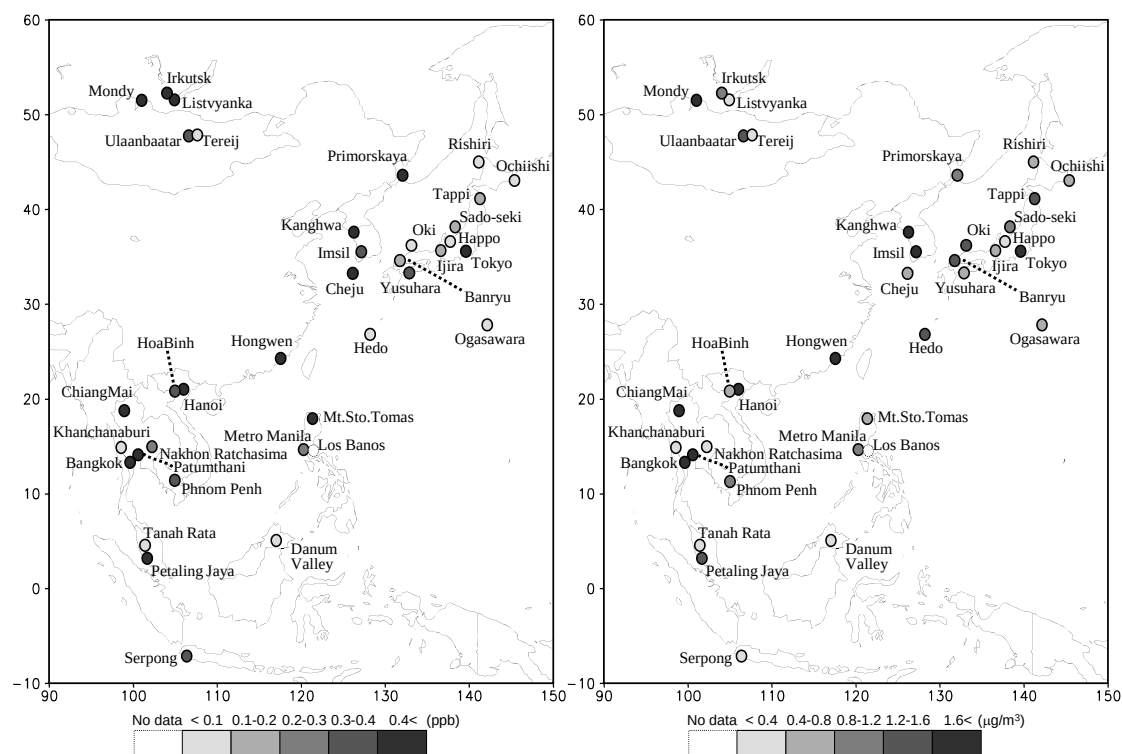


Appendix Fig. 1-2 Trends of pH in each EANET site from 2007 to 2010



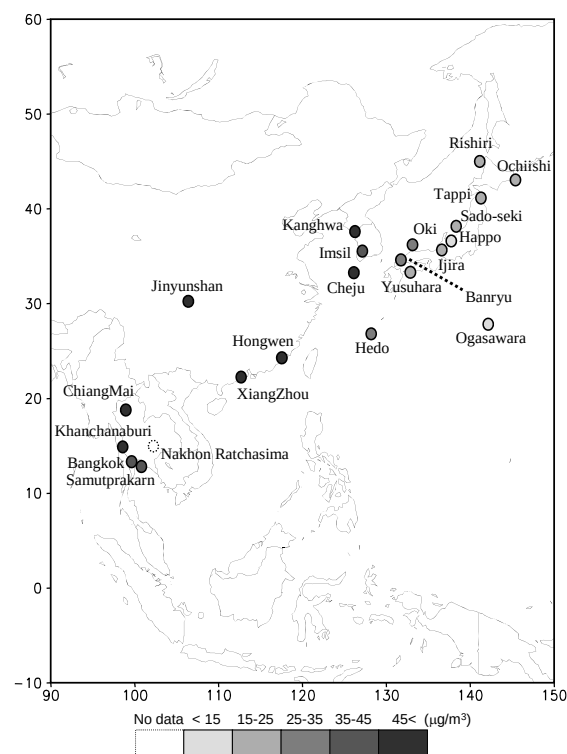
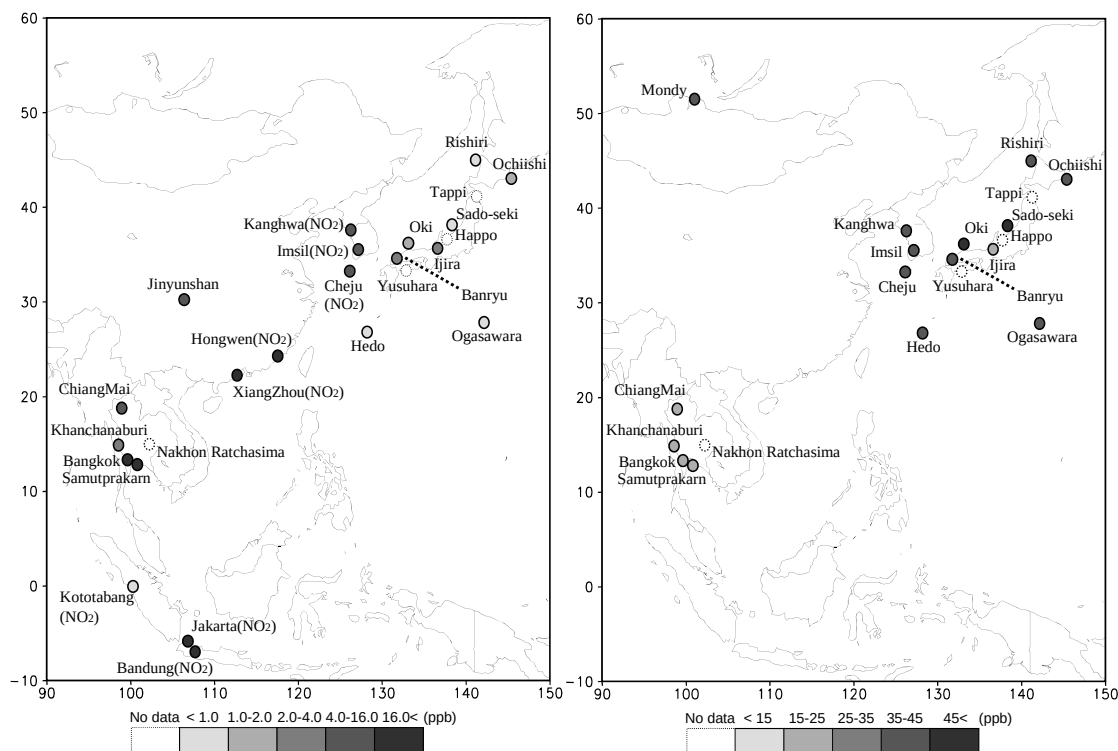
Appendix Fig. 2-1 Levels of annual SO_2 concentration in at EANET monitoring sites in 2010.

Appendix Fig. 2-2 Levels of annual particulate SO_4^{2-} concentration in at EANET monitoring sites in 2010.



Appendix Fig. 2-3 Levels of annual HNO_3 concentration in at EANET monitoring sites in 2010.

Appendix Fig. 2-4 Levels of annual particulate NO_3^- concentration in at EANET monitoring sites in 2010.



Appendix II

Meteorological Statistics at the Monitoring Sites

Appendix Table II-1 Meteorological statistics at the monitoring sites

Meteorological Statistics : Chongqing

2010

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	9.1	10.5	14.6	16.4	21.9	23.8	29.4	29.2	25.1	18.4	14.7	9.1
	max.daily mean	12.7	15.8	24.7	24.7	27.5	28.6	33.8	35.2	32.8	22.4	17.6	13.7
	min.daily mean	6.0	6.2	8.6	11.5	17.1	18.4	23.1	21.3	18.6	9.1	12.4	3.0
Relative humidity (%)	monthly mean	80	72	73	77	78	82	73	65	76	81	83	81
	max.daily mean	94	94	94	95	95	97	93	91	95	95	92	93
	min.daily mean	81	57	47	58	54	66	53	42	50	48	67	64
Mean wind speed (m/s)		0.6	0.8	0.9	0.8	0.8	0.7	0.9	1.1	0.9	0.7	0.6	0.7
Most frequent wind direction (bearings)		WNW	SWS	S	SES	S	SES	S	S	S	S	S	S
Precipitation amount (mm/month)		22	15	49	141	118	214	185	105	52	70	55	37
Sunshine duration (hours/month)		—	—	—	—	—	—	—	—	—	—	—	—
Solar radiation (MJ/m ² /month)		—	—	—	—	—	—	—	—	—	—	—	—

Meteorological Statistics : Xi'an

2010

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	1.7	4.6	10.0	14.7	21.6	26.7	28.1	26.0	22.3	14.7	8.8	3.8
	max.daily mean	6.7	10.0	15.4	20.3	27.5	32.2	32.9	30.5	26.9	20.4	15.8	10.1
	min.daily mean	-2.0	1.2	6.0	10.1	16.9	21.4	24.3	22.5	18.8	10.8	4.4	-0.5
Relative humidity (%)	monthly mean	53	72	62	63	65	60	75	80	83	80	66	46
	max.daily mean	—	—	—	—	—	—	—	—	—	—	—	—
	min.daily mean	21	21	13	14	15	19	24	42	41	22	17	13
Mean wind speed (m/s)		1.4	1.3	1.6	1.5	1.5	1.7	1.6	1.5	1.5	1.2	1.0	1.2
Most frequent wind direction (bearings)		WSW	W	W	W	ENE	E	NNE	W	NNE	WSW	W	W
Precipitation amount (mm/month)		0	15	25	53	44	19	94	100	98	47	8	3
Sunshine duration (hours/month)		168	139	142	166	158	169	121	123	147	145	168	202
Solar radiation (MJ/m ² /month)		—	—	—	—	—	—	—	—	—	—	—	—

Appendix Table II-1 Meteorological statistics at the monitoring sites

Meteorological Statistics : Xiamen

2010

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	13.6	14.0	16.4	17.7	22.6	25.0	29.0	29.1	27.1	22.6	18.9	14.8
	max.daily mean	18.0	17.6	21.1	21.9	26.4	28.3	33.4	33.7	30.9	25.8	23.0	19.5
	min.daily mean	10.9	11.9	13.2	15.0	20.1	22.9	26.3	26.4	24.6	20.5	16.3	11.5
Relative humidity (%)	monthly mean	78	90	78	85	86	86	77	73	78	67	65	65
	max.daily mean	—	—	—	—	—	—	—	—	—	—	—	—
	min.daily mean	27	42	29	19	29	41	47	38	33	28	27	17
Mean wind speed (m/s)		2.2	1.9	2.2	2.0	2.0	2.4	2.4	2.5	2.9	3.5	2.9	2.5
Most frequent wind direction (bearings)		ENE	E	E	E	ESE	S	W	SW	SSE	NE	ENE	E
Precipitation amount (mm/month)		34	115	58	148	231	252	8	30	309	238	16	35
Sunshine duration (hours/month)		117	60	130	88	128	110	273	276	174	133	195	191
Solar radiation (MJ/m ² /month)		—	—	—	—	—	—	—	—	—	—	—	—

Meteorological Statistics : Zhuhai

2010

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	16.0	17.1	19.4	20.8	25.7	26.9	29.5	29.0	27.9	24.7	21.0	17.4
	max.daily mean	18.9	19.6	22.6	23.5	28.8	29.7	33.2	32.3	31.4	27.4	24.4	21.1
	min.daily mean	14.0	15.6	17.5	18.9	23.7	25.3	26.8	26.3	25.5	22.5	18.2	14.4
Relative humidity (%)	monthly mean	79	88	80	87	86	86	80	79	83	69	71	66
	max.daily mean	—	—	—	—	—	—	—	—	—	—	—	—
	min.daily mean	31	59	29	46	33	55	48	43	43	32	26	18
Mean wind speed (m/s)		2.0	2.4	2.6	2.7	2.9	2.6	3.0	2.3	2.2	2.9	2.2	2.1
Most frequent wind direction (bearings)		ENE	ESE	ESE	ESE	ESE	WSW	WSW	ESE	E	NE	NE	NE
Precipitation amount (mm/month)		26	103	19	142	259	397	265	101	426	19	29	19
Sunshine duration (hours/month)		97	36	86	37	122	103	273	247	172	179	218	169
Solar radiation (MJ/m ² /month)		—	—	—	—	—	—	—	—	—	—	—	—

Appendix Table II-1 Meteorological statistics at the monitoring sites

Meteorological Statistics : Jakarta

2010

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	27.4	28.1	28.6	29.7	29.3	28.5	28.3	28.7	27.9	27.9	28.4	27.7
	max.daily mean	30.8	31.9	32.5	33.9	33.7	31.8	32.0	32.9	32.1	32.2	32.7	31.6
	min.daily mean	24.6	25.3	25.7	26.5	26.4	25.6	25.4	25.5	25.2	24.9	25.6	25.0
Relative humidity (%)	monthly mean	80	81	78	74	77	79	78	76	79	79	76	76
	max.daily mean	86	91	89	85	86	89	87	86	89	87	88	87
	min.daily mean	67	64	65	58	60	65	64	59	64	63	61	66
Mean wind speed (m/s)		5	5	5	5	5	5	5	5	5	5	5	6
Most frequent wind direction (bearings)		W	NW	W	W	E	E	E	E	E	SE	W	W
Precipitation amount (mm/month)		377	223	246	27	88	134	250	151	256	381	143	124
Sunshine duration (hours/month)		27	27	60	76	57	44	50	70	51	47	44	26
Solar radiation (MJ/m ² /month)		—	—	—	—	—	—	—	—	—	—	—	—

Meteorological Statistics : Serpong

2010

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	27.0	27.6	27.9	29.0	28.2	27.3	27.5	27.5	27.1	27.3	28.2	27.4
	max.daily mean	36.3	37.9	37.5	37.8	37.7	36.2	35.9	36.2	37.2	43.2	45.7	35.6
	min.daily mean	21.6	23.1	23.1	23.0	22.6	22.4	22.5	22.1	22.8	20.0	23.0	21.9
Relative humidity (%)	monthly mean	—	64	77	73	74	76	73	77	87	85	84	82
	max.daily mean	—	94	100	100	100	100	100	100	99	99	99	99
	min.daily mean	—	51	47	39	39	41	42	43	40	26	26	42
Mean wind speed (m/s)		0.38	0.28	0.29	0.35	0.27	0.21	0.2	0.24	0.24	0.26	0.28	0.4
Most frequent wind direction (bearings)		WSW	WSW	WSW	SSW	SSW	SSW	SSW	SSW	SSW	WSW	SSW	WSW
Precipitation amount (mm/month)		64	84	626	39	150	105	135	176	155	172	127	87
Sunshine duration (hours/month)		—	—	—	—	—	—	—	—	—	—	—	—
Solar radiation (MJ/m ² /month)		—	—	—	—	—	—	—	—	—	—	—	—

Appendix Table II-1 Meteorological statistics at the monitoring sites

Meteorological Statistics : Kototabang

2010

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	21.8	22.6	22.4	22.7	23.5	22.8	21.9	22.3	22.1	21.8	21.3	21.5
	max.daily mean	27.0	27.8	27.7	27.9	28.6	28.1	26.9	27.9	27.6	26.8	25.8	26.3
	min.daily mean	19.1	19.9	19.6	19.9	20.3	19.4	18.4	18.9	18.6	18.5	18.9	18.4
Relative humidity (%)	monthly mean	87	87	87	88	86	85	86	85	85	85	90	86
	max.daily mean	92	94	93	96	95	92	93	95	92	89	94	91
	min.daily mean	72	69	70	71	67	66	68	65	65	67	77	68
Mean wind speed (m/s)		0.9	1.0	0.9	0.8	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.8
Most frequent wind direction (bearings)		SE	SE	SE	N	SE	SE	SE	N	N	N	NE	SE
Precipitation amount (mm/month)		322	277	346	374	109	276	123	206	282	145	310	110
Sunshine duration (hours/month)		3.0	3.8	3.7	3.9	4.8	4.3	3.5	4.5	3.8	4.0	2.4	2.6
Solar radiation (MJ/m ² /month)		164	174	178	183	181	186	162	183	185	185	144	165

Meteorological Statistics : Bandung

2010

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	23.0	23.4	23.6	25.1	24.5	23.9	23.5	23.8	23.3	23.6	23.5	23.1
	max.daily mean	24.0	24.9	25.1	26.2	26.2	24.9	24.7	25.3	25.1	25.4	25.4	24.2
	min.daily mean	21.9	22.3	22.1	23.6	23.0	22.0	21.9	22.5	21.6	22.3	22.4	22.0
Relative humidity (%)	monthly mean	86	89	87	80	85	84	84	83	88	84	87	85
	max.daily mean	91	92	92	87	93	92	92	91	95	92	93	92
	min.daily mean	79	83	82	73	78	71	72	75	78	64	71	76
Mean wind speed (m/s)		2.2	1.24	1.21	1.54	1.2	1.2	1.1	1.16	1.06	1.14	0.97	2.3
Most frequent wind direction (bearings)		—	—	—	—	—	—	—	—	—	—	—	WN
Precipitation amount (mm/month)		282	556	461	54	254	200	144	110	510	357	301	170
Sunshine duration (hours/month)		—	—	—	—	—	—	—	—	—	—	—	—
Solar radiation (MJ/m ² /month)		411	326	370	423	322	303	309	400	405	436	380	421

Appendix Table II-1 Meteorological statistics at the monitoring sites

Meteorological Statistics : Rishiri

2010

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	-3.9	-5.2	-1.5	3.3	8.3	14.8	18.7	21.3	17.7	8.1	4.2	-1.6
	max.daily mean	1.7	5.2	3.7	7.7	15.4	21.4	21.1	24.7	23.2	13.9	10.7	7.9
	min.daily mean	-10.5	-13.5	-7.2	0.4	4.6	8.6	15.1	19.1	9.0	2.1	-4.4	-9.3
Relative humidity (%)	monthly mean	74	75	66	75	80	90	92	91	76	68	75	75
	max.daily mean	90	89	89	97	98	100	100	98	94	88	93	91
	min.daily mean	56	59	47	55	63	80	76	84	43	48	56	60
Mean wind speed (m/s)		4.9	4.0	4.6	3.9	3.3	1.5	1.6	2.1	2.9	3.7	4.1	4.6
Most frequent wind direction (bearings)		NW	NW	WN	W	ENE	W	W	W	WN	W	W	W
Precipitation amount (mm/month)		87	69	37	66	62	29	240	114	36	73	123	48
Sunshine duration (hours/month)		—	—	—	—	—	—	—	—	—	—	—	—
Solar radiation (MJ/m ² /month)		126	163	363	426	543	499	362	446	401	146	145	85

Meteorological Statistics : Ochiishi

2010

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	-3.8	-5.2	-2.7	0.5	3.7	9.1	12.8	16.3	16.6	10.1	5.2	0.8
	max.daily mean	0.1	-0.1	1.5	3.3	7.2	14.7	15.0	18.8	20.4	13.8	9.5	6.4
	min.daily mean	-9.3	-11.4	-6.2	-2.2	0.4	3.9	10.4	13.1	13.6	4.0	0.0	-3.9
Relative humidity (%)	monthly mean	70	68	76	81	87	93	95	93	85	76	71	71
	max.daily mean	97	94	97	97	98	98	99	98	96	95	93	97
	min.daily mean	51	45	56	59	64	82	81	80	62	52	44	51
Mean wind speed (m/s)		8.2	6.8	8.1	8.8	8.2	5.7	6.3	6.3	6.3	7.1	9.2	10.3
Most frequent wind direction (bearings)		NW	NNW	WSW	WSW	WSW	SW	SSW	SW	SSW	SW	NW	W
Precipitation amount (mm/month)		10	3	42	43	101	68	157	91	74	64	56	116
Sunshine duration (hours/month)		—	—	—	—	—	—	—	—	—	—	—	—
Solar radiation (MJ/m ² /month)		225	269	407	497	506	504	430	456	386	309	196	142

Appendix Table II-1 Meteorological statistics at the monitoring sites

Meteorological Statistics : Tappi

2010

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	-0.2	-1.1	1.1	6.0	10.3	15.9	20.9	24.2	20.3	14.5	8.1	2.9
	max.daily mean	6.0	10.1	6.7	10.5	13.4	21.4	25.1	27.1	25.8	18.6	14.2	10.7
	min.daily mean	-5.1	-7.6	-3.0	2.4	7.4	11.9	16.7	20.8	14.7	5.9	0.0	-4.5
Relative humidity (%)	monthly mean	71	68	67	69	84	87	90	84	73	70	67	71
	max.daily mean	83	80	94	91	97	97	98	94	88	91	88	86
	min.daily mean	58	58	48	45	68	57	82	66	55	51	52	51
Mean wind speed (m/s)		10.8	7.7	8.7	7.3	5.6	4.2	4.7	4.1	5.0	5.0	8.2	9.7
Most frequent wind direction (bearings)		WSW	WSW	WSW	WSW	ENE	ENE	SW	WSW	WSW	WSW	WSW	WSW
Precipitation amount (mm/month)		49	45	98	81	141	93	148	216	316	71	96	90
Sunshine duration (hours/month)		—	—	—	—	—	—	—	—	—	—	—	—
Solar radiation (MJ/m ² /month)		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	50.2

Meteorological Statistics : Sado-seki

2010

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	2.7	2.6	4.6	9.1	14.1	19.5	24.4	27.3	22.4	16.9	10.9	6.1
	max.daily mean	10.4	16.1	17.0	14.7	21.7	23.9	27.3	29.5	28.8	22.3	15.8	13.9
	min.daily mean	-2.0	-3.6	0.6	4.2	7.2	14.4	20.6	24.9	16.2	7.8	6.0	0.3
Relative humidity (%)	monthly mean	73	70	69	64	73	79	80	76	75	71	65	73
	max.daily mean	87	94	93	84	94	96	94	92	90	86	85	90
	min.daily mean	60	27	38	33	41	55	64	62	58	59	45	49
Mean wind speed (m/s)		9.8	5.9	6.3	5.7	4.3	2.8	3.3	3.2	4.5	4.3	6.9	9.1
Most frequent wind direction (bearings)		W	W	W	WSW	SW	WSW	WSW	WSW	ENE	ENE	W	W
Precipitation amount (mm/month)		74	55	83	94	84	113	116	45	277	99	96	209
Sunshine duration (hours/month)		—	—	—	—	—	—	—	—	—	—	—	—
Solar radiation (MJ/m ² /month)		98	190	274	409	508	546	575	622	409	309	172	114

Appendix Table II-1 Meteorological statistics at the monitoring sites

Meteorological Statistics : Happo

2010

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	-8.2	-5.4	-3.1	-0.5	6.2	12.1	16.0	17.3	12.9	6.6	-0.5	-4.5
	max.daily mean	0.9	5.2	7.9	4.8	13.2	16.4	18.8	18.8	18.3	10.5	5.3	5.0
	min.daily mean	-13.6	-14.5	-11.3	-7.3	-2.1	6.2	13.3	15.6	5.3	-3.6	-5.9	-11.9
Relative humidity (%)	monthly mean	77	72	68	70	67	78	89	96	—	92	73	79
	max.daily mean	93	95	90	99	98	98	100	100	—	98	97	96
	min.daily mean	26	23	31	40	31	35	75	89	—	84	40	32
Mean wind speed (m/s)		6.0	4.1	4.8	4.0	3.0	1.9	1.9	1.8	2.2	2.0	3.0	5.3
Most frequent wind direction (bearings)		NW	S	NW	S	S	SSE	SSE	SSE	SSE	SSE	S	SSE
Precipitation amount (mm/month)		194	229	230	175	156	255	206	147	402	166	157	271
Sunshine duration (hours/month)		—	—	—	—	—	—	—	—	—	—	—	—
Solar radiation (MJ/m ² /month)		271	318	474	591	657	509	358	341	328	236	295	234

Meteorological Statistics : Ijira

2010

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	0.9	3.8	6.4	10.5	15.6	20.5	24.2	25.6	21.9	15.9	8.4	4.2
	max.daily mean	4.1	12.5	11.2	15.7	20.7	24.3	27.6	27.1	26.9	19.5	12.6	10.1
	min.daily mean	-2.0	-1.4	2.6	4.8	10.5	17.4	20.7	23.9	16.1	9.6	4.4	-0.9
Relative humidity (%)	monthly mean	92	86	82	74	75	84	87	87	85	87	87	92
	max.daily mean	98	98	97	97	97	96	97	96	97	97	97	99
	min.daily mean	81	67	56	52	58	56	69	79	74	72	72	74
Mean wind speed (m/s)		0.3	0.4	0.6	0.6	0.6	0.4	0.3	0.3	0.3	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)		184	232	255	360	378	469	666	279	519	219	64	271
Sunshine duration (hours/month)		—	—	—	—	—	—	—	—	—	—	—	—
Solar radiation (MJ/m ² /month)		195	201	320	370	495	402	402	431	381	284	243	183

Appendix Table II-1 Meteorological statistics at the monitoring sites

Meteorological Statistics : Oki

2010

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	5.0	5.4	6.8	10.6	15.7	20.1	24.5	27.7	23.3	17.6	12.2	7.8
	max.daily mean	12.6	17.3	16.6	15.9	20.3	23.7	27.3	31.0	29.5	21.7	16.2	14.8
	min.daily mean	0.0	1.5	1.6	5.2	10.6	15.4	21.0	25.0	17.4	9.9	8.0	0.9
Relative humidity (%)	monthly mean	66	65	67	61	67	73	80	72	70	66	—	—
	max.daily mean	84	87	83	89	86	87	90	87	84	82	—	—
	min.daily mean	52	47	51	37	35	55	65	53	47	46	—	—
Mean wind speed (m/s)		6.0	5.8	6.5	5.7	5.6	3.4	4.2	4.1	5.0	5.2	5.9	7.5
Most frequent wind direction (bearings)		W	NNE	NNE	S	S	S	S	S	NNE	NNE	WSW	W
Precipitation amount (mm/month)		96	92	112	123	104	65	272	50	189	112	68	134
Sunshine duration (hours/month)		—	—	—	—	—	—	—	—	—	—	—	—
Solar radiation (MJ/m ² /month)		160	206	271	455	526	549	541	608	416	301	210	150

Meteorological Statistics : Banryu

2010

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	5.1	6.8	8.3	11.3	16.5	21.0	25.4	28.0	24.1	17.1	10.9	6.9
	max.daily mean	12.1	18.1	18.8	16.0	22.1	24.1	28.1	30.1	29.4	22.0	15.1	11.8
	min.daily mean	0.4	1.7	2.1	6.8	12.2	16.4	22.2	27.0	17.6	9.7	7.0	1.0
Relative humidity (%)	monthly mean	66	72	72	73	73	80	75	76	76	80	72	72
	max.daily mean	94	95	95	97	96	94	85	92	91	94	88	94
	min.daily mean	47	47	44	48	53	67	63	62	62	66	51	54
Mean wind speed (m/s)		3.3	3.1	3.4	3.0	3.0	1.9	1.9	2.1	2.6	2.7	2.9	3.5
Most frequent wind direction (bearings)		S	S	S	N	S	S	S	S	S	S	S	S
Precipitation amount (mm/month)		31	91	192	195	95	230	258	19	95	95	37	143
Sunshine duration (hours/month)		—	—	—	—	—	—	—	—	—	—	—	—
Solar radiation (MJ/m ² /month)		198	220	339	456	554	515	539	606	469	334	278	175

Appendix Table II-1 Meteorological statistics at the monitoring sites

Meteorological Statistics : Yusuvara

2010

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	0.9	4.3	5.8	8.9	14.2	18.0	21.7	22.9	20.3	14.5	8.0	3.4
	max.daily mean	10.1	13.6	13.2	14.0	18.2	22.2	24.2	25.1	24.0	19.0	12.0	10.9
	min.daily mean	-6.3	-2.8	-2.3	2.7	9.7	11.7	18.6	20.5	15.5	7.0	4.1	-6.0
Relative humidity (%)	monthly mean	73	76	78	78	71	85	88	86	81	82	74	75
	max.daily mean	90	98	98	98	98	97	98	97	96	96	94	95
	min.daily mean	46	41	45	48	23	61	74	73	65	65	50	27
Mean wind speed (m/s)		3.1	2.3	2.2	2.0	1.7	1.3	1.2	1.1	1.5	1.7	2.2	2.8
Most frequent wind direction (bearings)		N	N	NNW	N	NNW	NNW	SSE	SSE	NNW	NNW	NNW	NNW
Precipitation amount (mm/month)		75	148	264	355	292	308	312	136	116	127	41	127
Sunshine duration (hours/month)		—	—	—	—	—	—	—	—	—	—	—	—
Solar radiation (MJ/m ² /month)		283	314	363	430	549	413	470	545	388	243	319	242

Meteorological Statistics : Hedo

2010

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	16.0	17.0	18.6	19.9	22.4	25.4	27.5	27.7	26.7	24.4	21.0	17.0
	max.daily mean	20.2	21.8	23.5	24.3	27.0	28.3	29.0	28.7	28.0	26.6	22.3	22.5
	min.daily mean	11.6	12.9	10.9	17.0	18.0	22.2	25.3	25.8	25.3	21.1	19.3	11.2
Relative humidity (%)	monthly mean	67	79	73	78	81	84	83	83	79	77	68	67
	max.daily mean	85	91	91	92	94	93	90	91	90	93	88	84
	min.daily mean	53	58	51	59	62	75	76	79	58	54	50	53
Mean wind speed (m/s)		4.8	5.1	4.6	4.9	3.9	3.9	3.6	3.8	3.2	5.0	5.2	5.0
Most frequent wind direction (bearings)		N	NE	SSW	ESE	ESE	SSW	SSW	E	ESE	N	NE	NW
Precipitation amount (mm/month)		89	255	80	203	505	252	325	192	39	365	78	59
Sunshine duration (hours/month)		—	—	—	—	—	—	—	—	—	—	—	—
Solar radiation (MJ/m ² /month)		261	222	429	396	421	518	579	626	423	345	248	263

Appendix Table II-1 Meteorological statistics at the monitoring sites

Meteorological Statistics : Ogasawara

2010

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	15.5	16.9	18.4	19.9	20.3	23.1	25.6	25.5	25.3	24.9	21.2	18.3
	max.daily mean	18.8	20.0	22.0	23.1	24.4	25.5	26.8	26.6	26.4	26.0	24.4	21.7
	min.daily mean	13.0	12.9	13.7	16.9	15.5	19.1	23.9	23.8	24.1	23.6	18.3	15.0
Relative humidity (%)	monthly mean	73	77	83	86	90	93	87	88	90	91	85	78
	max.daily mean	92	95	96	96	98	98	92	98	96	97	100	98
	min.daily mean	58	60	60	64	73	86	81	79	85	83	70	64
Mean wind speed (m/s)		1.4	1.7	1.7	1.9	1.3	1.4	1.2	1.2	1.1	1.2	1.3	1.3
Most frequent wind direction (bearings)		SW	SSW	SSW	SSW	SSW	SSW	SSW	NNE	SSW	SSW	WN	SW
Precipitation amount (mm/month)		40	86	120	236	126	171	24	204	181	116	173	150
Sunshine duration (hours/month)		—	—	—	—	—	—	—	—	—	—	—	—
Solar radiation (MJ/m ² /month)		348	351	478	451	421	481	726	693	544	442	279	331

Meteorological Statistics : Ulaanbaatar

2010

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	-23.6	-20.8	-11.5	-2.2	12.1	19.4	21.7	15.6	12.2	1.6	-8.9	-19.2
	max.daily mean	-6.6	-4.6	7.8	22.3	29.5	38.3	37.4	29.9	31.5	21.6	8.1	-3.0
	min.daily mean	-35.7	-33.1	-29.1	-17.0	-1.5	3.3	7.3	3.2	-5.3	-9.8	-23.9	-33.2
Relative humidity (%)	monthly mean	65	65	61	45	35	45	50	57	49	56	69	67
	max.daily mean	79	84	85	90	95	95	97	100	93	89	92	86
	min.daily mean	29	29	29	11	8	6	13	16	14	14	32	39
Mean wind speed (m/s)		1.9	2.1	2.8	2.9	3.6	3.2	3.1	2.8	2.7	2.1	1.9	1.7
Most frequent wind direction (bearings)		E	E	E	E	NWN	E	E	E	NWN	E	EES	W
Precipitation amount (mm/month)		2	4	7	1	26	23	80	66	9	13	8	1
Sunshine duration (hours/month)		171	201	229	281	316	254	265	267	282	215	168	152
Solar radiation (MJ/m ² /month)		—	—	—	—	—	—	—	—	—	—	—	—

Appendix Table II-1 Meteorological statistics at the monitoring sites

Meteorological Statistics : Terelj

2010

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	-27.0	-25.6	-16.2	-6.3	8.2	14.8	17.0	11.2	7.8	-1.6	-13.3	-22.0
	max.daily mean	-4.9	-1.0	4.5	19.3	26.4	35.3	34.3	28.2	28.6	19.3	8.0	0.8
	min.daily mean	-43.6	-41.1	-41.8	-28.8	-8.9	-3.4	1.2	-3.5	-11.3	-16.1	-34.2	-42.1
Relative humidity (%)	monthly mean	65	66	66	58	46	60	63	67	62	67	75	66
	max.daily mean	85	85	95	96	98	100	100	95	98	100	100	91
	min.daily mean	25	30	33	13	12	10	14	15	14	15	33	36
Mean wind speed (m/s)		1.9	1.5	2.3	2.8	3.0	2.2	1.9	2.0	1.9	2.0	1.5	1.8
Most frequent wind direction (bearings)		WS	WWS	WWS	WWS	WWS	WS	NWN	NWN	WWS	WWS	WWS	NWN
Precipitation amount (mm/month)		3	9	10	4	29	37	53	50	19	15	10	4
Sunshine duration (hours/month)		—	—	—	—	—	—	—	—	—	—	—	—
Solar radiation (MJ/m ² /month)		—	—	—	—	—	—	—	—	—	—	—	—

Meteorological Statistics : Mondy

2010

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	-22.8	-22.4	-12.7	-3.7	6.0	12.8	15.6	11.9	6.7	-0.3	-7.4	-18.1
	max.daily mean	-28.9	-29.9	-20.8	-12.0	-1.6	5.0	8.7	4.8	-0.6	-6.1	-13.3	-23.6
	min.daily mean	-14.5	-12.1	-4.0	4.3	14.1	22.3	23.6	20.4	16.4	6.7	0.5	-11.2
Relative humidity (%)	monthly mean	77	73	63	59	59	68	75	74	71	67	—	—
	max.daily mean	89	91	87	85	90	93	96	96	94	88	—	—
	min.daily mean	61	50	40	37	33	42	50	47	39	43	—	—
Mean wind speed (m/s)		1.8	1.2	2.1	2.3	2.2	1.7	1.4	1.7	2.2	2.1	2.1	2.4
Most frequent wind direction (bearings)		W	W	W	W	E	E	E	W	E	W	W	W
Precipitation amount (mm/month)		2	1	5	0	21	84	101	81	41	7	0	3
Sunshine duration (hours/month)		175	196	219	273	267	258	273	255	239	173	122	115
Solar radiation (MJ/m ² /month)		123	213	374	491	528	563	570	484	339	210	102	74

Appendix Table II-1 Meteorological statistics at the monitoring sites

Meteorological Statistics : Listvyanka

2010

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	-20.4	-19.6	-10.8	-2.9	5.4	9.9	13.6	11.4	8.3	2.8	-4.1	-16.5
	max.daily mean	-24.6	-24.3	-15.2	-6.9	1.5	6.1	10.1	7.9	4.8	-0.3	-7.6	-19.7
	min.daily mean	-16.0	-14.1	-5.8	2.4	11.4	15.8	19.1	16.4	13.8	7.6	0.2	-11.8
Relative humidity (%)	monthly mean	77	79	77	70	70	79	83	85	79	73	78	82
	max.daily mean	—	—	—	—	—	—	—	—	—	—	—	—
	min.daily mean	67	65	58	51	50	64	69	70	58	54	63	75
Mean wind speed (m/s)		4.5	4.0	3.8	3.6	3.1	2.8	2.5	3.2	3.0	3.1	4.1	5.9
Most frequent wind direction (bearings)		N	N	N	N	N	N	N	N	N	N	N	N
Precipitation amount (mm/month)		16	5	16	11	39	55	67	98	36	11	12	15
Sunshine duration (hours/month)		—	—	—	—	—	—	—	—	—	—	—	—
Solar radiation (MJ/m ² /month)		—	—	—	—	—	—	—	—	—	—	—	—

Note : Sunshine duration and solar radiation values are the same as the values for the Irkutsk site.

(There is only station in the area of Listvyanka and Irkutsk.)

Meteorological Statistics : Irkutsk

2010

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	-21.8	-20.8	-9.6	-0.3	9.6	15.7	19.4	14.6	9.8	3.3	-5.3	-19.3
	max.daily mean	-25.6	-25.8	-15.2	-5.5	3.1	9.4	13.9	9.2	4.8	-1.0	-9.2	-23.2
	min.daily mean	-16.9	-13.9	-3.4	6.0	17.2	23.1	26.2	21.2	16.9	9.2	-0.5	-14.9
Relative humidity (%)	monthly mean	77	75	66	59	55	66	71	77	73	68	76	83
	max.daily mean	—	—	—	—	—	—	—	—	—	—	—	—
	min.daily mean	68	59	45	36	33	47	50	55	50	46	62	76
Mean wind speed (m/s)		2.1	1.7	2.3	2.6	2.2	2.3	2.0	2.1	2.3	1.9	2.2	1.9
Most frequent wind direction (bearings)		NW	NNW E	NW	SE NW	W WN	SE	SE	WN	SE	ESE	E SE	WN NW
Precipitation amount (mm/month)		25	7	5	10	39	55	43	125	29	6	13	26
Sunshine duration (hours/month)		108	155	215	258	267	239	257	246	222	145	73	73
Solar radiation (MJ/m ² /month)		106	195	342	441	516	501	530	440	338	211	100	74

Appendix Table II-1 Meteorological statistics at the monitoring sites

Meteorological Statistics : Bangkok

2010

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	27.6	29.7	30.4	31.8	31.4	30.7	29.6	28.4	28.6	27.7	28.2	27.7
	max.daily mean	29.3	30.9	31.9	33.1	34.1	32.2	31.8	30.6	30.6	30.2	29.6	29.7
	min.daily mean	24.8	28.7	27.6	28.7	28.5	28.2	27.4	26.6	26.2	24.7	25.3	23.7
Relative humidity (%)	monthly mean	78	65	63	67	75	80	81	84	86	81	64	67
	max.daily mean	96	77	78	80	86	87	92	94	98	99	75	79
	min.daily mean	62	46	44	56	63	71	69	69	68	61	53	58
Mean wind speed (m/s)		0.7	1.5	1.3	1.5	1.2	1.0	0.9	0.9	0.7	0.5	0.5	0.6
Most frequent wind direction (bearings)		SSW	SSW	S SSW	SSW	SSW	SSW	SSW	SSW	SSW	SW	ENE	SSW ENE
Precipitation amount (mm/month)		105	52	32	14	168	267	407	329	315	273	37	24
Sunshine duration (hours/month)		—	—	—	—	—	—	—	—	—	—	—	—
Monthly average solar radiation (W/m ²)		102	128	148	151	120	133	102	90	98	90	116	116

Meteorological Statistics : Samutprakarn

2010

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	27.2	29.4	30.0	31.5	31.7	32.8	31.2	30.5	30.8	28.7	29.1	27.4
	max.daily mean	29.0	30.5	31.2	32.7	34.6	35.3	34.5	33.0	33.4	30.9	30.6	30.3
	min.daily mean	24.1	28.7	26.5	27.8	29.1	30.3	26.2	29.0	28.5	24.8	25.5	22.1
Relative humidity (%)	monthly mean	72	73	67	69	74	70	74	80	74	70	57	62
	max.daily mean	86	77	82	82	82	82	87	89	88	84	68	79
	min.daily mean	51	57	48	60	65	58	61	65	63	51	44	52
Mean wind speed (m/s)		2.1	2.6	2.6	2.7	2.4	2.2	2.2	2.2	1.9	2	2.1	2.1
Most frequent wind direction (bearings)		ENE	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	ENE	ENE	ENE
Precipitation amount (mm/month)		18	0	8	35	236	220	254	402	468	134	18	87
Sunshine duration (hours/month)		—	—	—	—	—	—	—	—	—	—	—	—
Solar radiation (MJ/m ² /month)		—	—	—	—	—	—	—	—	—	—	—	—

Appendix Table II-1 Meteorological statistics at the monitoring sites

Meteorological Statistics : Pathumthani

2010

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	27.4	29.5	30.3	31.5	31.1	30.5	29.4	28.5	28.6	27.9	27.9	27.3
	max.daily mean	29.4	30.5	32.0	32.9	34.1	32.2	31.2	30.2	30.1	30.1	30.0	29.3
	min.daily mean	24.8	28.7	27.3	27.9	28.4	28.4	27.5	27.2	26.6	24.5	25.4	23.4
Relative humidity (%)	monthly mean	73	73	66	67	74	76	79	81	82	81	67	70
	max.daily mean	85	79	75	82	85	87	93	90	91	94	77	90
	min.daily mean	58	63	55	59	63	65	67	70	71	62	57	58
Mean wind speed (m/s)		1.3	1.7	2.0	2.4	2.1	2.2	1.8	1.6	1.2	1.2	1.5	1.4
Most frequent wind direction (bearings)		—	—	—	—	—	—	—	—	—	—	—	—
Precipitation amount (mm/month)		23	5	4	52	101	234	228	226	536	224	0	40
Sunshine duration (hours/month)		—	—	—	—	—	—	—	—	—	—	—	—
Solar radiation (MJ/m ² /month)		—	—	—	—	—	—	—	—	—	—	—	—

Meteorological Statistics : Khanchanaburi

2010

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	26.6	28.5	29.7	31.2	30.5	28.8	27.7	26.7	27.3	26.5	25.7	25.0
	max.daily mean	28.9	29.5	31.5	33.5	33.1	30.6	29.4	28.2	29.0	28.5	27.4	26.8
	min.daily mean	22.8	27.2	26.9	26.8	26.9	26.8	26.2	24.8	25.8	22.7	23.9	21.6
Relative humidity (%)	monthly mean	74	65	62	67	74	80	85	88	86	86	79	79
	max.daily mean	83	69	73	88	87	91	90	94	93	92	83	87
	min.daily mean	67	60	51	59	62	70	75	81	81	72	69	74
Mean wind speed (m/s)		0.1	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Most frequent wind direction (bearings)		—	—	NNW	—	—	NW	—	—	—	—	SE	—
Precipitation amount (mm/month)		13	0	0	48	162	144	215	354	344	213	0	42
Sunshine duration (hours/month)		—	—	—	—	—	—	—	—	—	—	—	—
Solar radiation (MJ/m ² /month)		—	—	—	—	—	—	—	—	—	—	—	—

Appendix Table II-1 Meteorological statistics at the monitoring sites

Meteorological Statistics : Chiang Mai

2010

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	24.2	24.5	27.8	31.6	31.4	29.7	28.6	27.1	27.5	26.9	24.8	23.5
	max.daily mean	26.5	27.4	29.4	33.0	34.5	32.2	30.9	29.4	30.4	29.2	26.6	25.8
	min.daily mean	22.0	22.1	25.3	29.2	29.2	26.8	26.2	25.7	24.5	23.1	22.0	20.8
Relative humidity (%)	monthly mean	69	55	54	48	59	69	76	83	80	78	71	75
	max.daily mean	89	65	71	62	70	83	86	90	93	91	76	85
	min.daily mean	61	47	44	40	46	57	66	70	70	62	59	67
Mean wind speed (m/s)		0.4	0.4	0.7	0.9	1.0	0.9	0.9	0.7	0.7	0.9	0.5	0.4
Most frequent wind direction (bearings)		NNW	NNW	NNW SSE	SE	SSE	SSE S	SE	SE	NNW	NW	NNW	NNW
Precipitation amount (mm/month)		22	0	4	4	46	122	115	466	201	170	0	6
Sunshine duration (hours/month)		—	—	—	—	—	—	—	—	—	—	—	—
Monthly average solar radiation (W/m2)		148	177	160	172	166	146	135	115	155	127	152	130

Meteorological Statistics : Nakhon Ratchasima

2010

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	25.7	28.9	29.4	31.3	31.0	30.2	28.6	27.9	27.5	26.6	25.8	25.0
	max.daily mean	29.1	30.5	32.5	33.4	34.2	32.5	30.2	29.9	30.0	29.7	27.6	28.4
	min.daily mean	22.1	24.8	20.5	27.5	28.5	28.2	27.0	25.8	25.0	22.6	22.8	19.6
Relative humidity (%)	monthly mean	73	66	58	64	69	75	82	84	87	82	67	68
	max.daily mean	93	77	84	83	80	86	91	94	97	99	74	73
	min.daily mean	63	54	45	53	58	61	71	72	79	60	57	59
Mean wind speed (m/s)		1.3	1.1	1.2	1.2	1.3	1.0	0.8	0.9	0.6	1.3	2.1	1.6
Most frequent wind direction (bearings)		—	—	—	—	—	—	—	—	—	—	—	—
Precipitation amount (mm/month)		62	4	47	31	124	121	194	151	364	285	3	0
Sunshine duration (hours/month)		—	—	—	—	—	—	—	—	—	—	—	—
Solar radiation (MJ/m ² /month)		—	—	—	—	—	—	—	—	—	—	—	—

Appendix Table II-1 Meteorological statistics at the monitoring sites

Meteorological Statistics : Hanoi

2010

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	18.1	20.9	21.9	23.5	28.7	30.9	30.7	28.6	28.7	25.7	22.1	19.4
	max.daily mean	20.9	25.0	25.5	27.1	32.9	35.5	35.3	32.4	33.1	29.3	26.0	23.0
	min.daily mean	16.1	18.6	19.9	21.3	26.1	27.8	27.6	26.2	26.0	23.3	19.4	16.9
Relative humidity (%)	monthly mean	81	80	78	85	81	74	74	82	79	70	71	77
	max.daily mean	92	94	90	94	89	90	89	93	93	85	86	90
	min.daily mean	68	61	64	70	68	53	52	63	58	54	55	60
Mean wind speed (m/s)		1	2	2	1	1	1	1	1	1	1	1	1
Most frequent wind direction (bearings)		NE	NE	SE	NE	SE	SE	SE	SE	NW	NE	NE	N
Precipitation amount (mm/month)		81	8	6	56	150	175	280	274	172	25	1	12
Sunshine duration (hours/month)		34	94	51	51	125	159	181	121	146	109	104	79
Solar radiation (MJ/m ² /month)		—	—	—	—	—	—	—	—	—	—	—	—

Meteorological Statistics : Hoa Binh

2010

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	18.4	21.1	23.2	22.4	29.5	30.4	30.8	28.4	28.3	24.5	22.1	19.9
	max.daily mean	21.4	24.3	26.1	28.6	34.3	36.1	35.6	32.3	32.8	28.8	26.2	23.8
	min.daily mean	15.7	18.2	19.0	21.1	25.6	26.7	26.6	25.2	25.0	22.0	18.1	16.6
Relative humidity (%)	monthly mean	80	82	73	81	78	69	74	84	87	78	75	77
	max.daily mean	92	86	88	93	92	88	89	96	95	91	90	89
	min.daily mean	68	49	56	67	61	50	57	71	71	60	55	60
Mean wind speed (m/s)		1	1	1	1	1	1	1	1	1	1	1	1
Most frequent wind direction (bearings)		N	N	N	NE	N	SE	N	N	SE	N	N	N
Precipitation amount (mm/month)		48	4	6	60	119	103	255	495	164	96	1	21
Sunshine duration (hours/month)		58	139	117	86	142	175	217	153	195	140	115	109
Solar radiation (MJ/m ² /month)		—	—	—	—	—	—	—	—	—	—	—	—

Appendix Table II-1 Meteorological statistics at the monitoring sites

Meteorological Statistics : Cuc Phuong

2010

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	16.9	19.8	20.8	22.4	27.4	29.3	28.9	26.3	26.3	22.9	19.8	18.1
	max.daily mean	27.4	34.7	35.1	33.6	38.2	38.9	39.3	33.7	35.0	31.5	28.3	26.9
	min.daily mean	10.4	9.4	11.3	14.0	21.0	23.2	23.8	22.2	21.5	13.5	11.8	6.7
Relative humidity (%)	monthly mean	89	85	83	92	87	80	82	90	90	83	82	83
	max.daily mean	98	98	98	100	98	96	96	99	99	99	98	97
	min.daily mean	76	65	64	78	68	58	60	75	71	65	60	64
Mean wind speed (m/s)		1	2	1	1	1	1	1	1	1	2	1	1
Most frequent wind direction (bearings)		N	N	SE	E	SW	SW	SW	NW	NW	N	N	NW
Precipitation amount (mm/month)		122	15	20	56	41	142	205	586	279	169	9	12
Sunshine duration (hours/month)		52	111	89	65	146	175	205	124	138	119	108	96
Solar radiation (MJ/m ² /month)		—	—	—	—	—	—	—	—	—	—	—	—

Meteorological Statistics : Da Nang

2010

Month		1	2	3	4	5	6	7	8	9	10	11	12
Items													
Temperature (°C)	monthly mean	23.1	24.4	24.6	26.9	29.4	29.7	29.1	28.1	27.7	25.9	23.7	23.1
	max.daily mean	25.3	26.6	27.0	28.5	32.1	31.8	31.4	29.4	29.5	27.7	25.5	25.3
	min.daily mean	20.2	20.3	20.1	24.3	27.3	27.2	25.9	25.8	25.5	23.0	21.0	20.2
Relative humidity (%)	monthly mean	84	85	83	83	77	77	77	82	83	85	88	84
	max.daily mean	93	92	90	89	83	90	95	94	96	96	99	93
	min.daily mean	76	70	72	72	63	67	68	72	77	73	77	76
Mean wind speed (m/s)		2	2	2	2	2	1	2	1	1	2	2	2
Most frequent wind direction (bearings)		NNW	ESE	ESE	ESE	ESE	E	SSW	E	SSW	NW	NNW	NNW
Precipitation amount (mm/month)		76	—	5	3	39	59	209	282	141	526	307	43
Sunshine duration (hours/month)		149	201	197	210	268	284	276	209	202	102	49	111
Solar radiation (MJ/m ² /month)		—	—	—	—	—	—	—	—	—	—	—	—

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