# Data Report on the Acid Deposition in the East Asian Region

# 2001

**November 2002**
**Network Center for EANET**

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## 1. Introduction

The East Asian region, as a result of current forced industrialization for last decades, faces increasing risks of problems related to excessive deposition of acidic substances. At this background the First Session of the Intergovernmental Meeting on the Acid Deposition Monitoring Network in East Asia (EANET) was held in March 1998 with remarkable decision to start the preparatory-phase activities of the Network on an interim basis from 1998. During this preparatory-phase participating countries had launched the monitoring of acid deposition as well as the ecological impact monitoring. The main technical documents were prepared for continuous monitoring as well as some proposals was carried out to enhance the results at the common level. The Second Session of the Intergovernmental Meeting held in October 2000 concluded that the preparatory-phase activities have been successful, and the participating countries had developed the basis to start the monitoring on a regular basis using their experiences obtained through its preparatory-phase activities from 1998 to 2000. And it was decided that the participating countries would cooperatively start the activities of EANET on the regular basis from January 2001.

Acid deposition monitoring on EANET covers four environmental items – wet deposition, dry deposition (started as air concentration monitoring), soil and vegetation, and inland aquatic environment. Monitoring of wet and dry deposition has been implemented in order to observe concentrations and to evaluate fluxes of acidic substances deposited to the land surface, while monitoring for soil/vegetation and inland aquatic environment was put into action to assess adverse impacts on terrestrial and aquatic ecosystems. These monitoring data will be utilized to assess the state of acid deposition as well as impacts on ecosystems.

The participating countries were requested to submit their data and related information obtained through the monitoring activities of EANET for the calendar year 2001 to the Network Center (NC) by 30 June 2002 based on the "Work program and Budget for EANET in 2002" adopted at the Third Session of the Intergovernmental Meeting. NC had prepared a draft Data Report on the Acid deposition in the East Asian Region 2001 that contained data from all of the participating countries by the Second Session of Scientific Advisory Committee(SAC2), held in November 2002 in Bangkok, Thailand. At SAC2, the draft report was considered by the experts from the participating countries and NC was provided with some comments and guidance. Following the comments and guidance at SAC2, NC has elaborated and finalized the report.

This report presents the EANET monitoring data for 2001 as the first one based on the regular-phase activities of EANET.

## 2. Network Description

Ten countries were participating in the regular-phase activities of EANET for 2001, namely, China, Japan, Mongolia, Republic of Korea, and Russian Federation from the North-East Asian

region, and Indonesia, Malaysia, Philippines, Thailand, and Vietnam from the South-East Asian region. EANET monitoring sites were classified into two categories namely Acid Deposition Monitoring Site and Ecological Survey Site as shown Table 2.1. The status of Acid deposition monitoring sites in 2001 is presented in Table 2.2 and Fig.2.1. Forty-three monitoring sites were located in a vast area of East Asia between 51°N to 6°S across ten participating countries, including 16 "remote", 12 "rural", and 15 "urban" sites. As described in Table 2.3, wet deposition monitoring was conducted at 41 sites, and 14 of the 43 sites were equipped with filter packs for measurement of pollutant concentrations for dry deposition monitoring. Automatic or manual gas monitor for $NO_x$ and $SO_2$ were operated at seventeen sites, and 11 sites were equipped with monitor for ozone concentration measurement. Concentrations of particulate matter as $PM_{10}$ or TSP were measured by automatic or manual instruments at the sixteen sites. Meteorological conditions such as wind speed, wind direction, air temperature, relative humidity, and solar radiation were measured by equipments installed in the sites or nearby at the meteorological observatories. Ecological survey sites were for soil and vegetation monitoring and inland aquatic monitoring, basically located in the vicinity of the Acid Deposition Monitoring Site. Information on the ecological survey sites is shown in the chapter 5 and 6.

**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<br>- Urbanized and industrial areas, and the areas immediately outside the area<br>- Data can be used for evaluation of acid deposition on buildings and historical monuments |
| | Rural Site | - Assessment of the state of acid deposition in rural areas and/or hinterlands<br>- Data can be used for the evaluation of acid deposition on agricultural crops, forests and etc.<br>- 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<br>- Data can be used for evaluation of long-range transport and deposition models<br>- More than 50km apart from large pollution sources like cities, power plants and highways<br>- More than 500m apart from main roads (more 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<br>- 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<br>- Area which sensitive to changes in atmospheric acidity and ecologically conserved area |

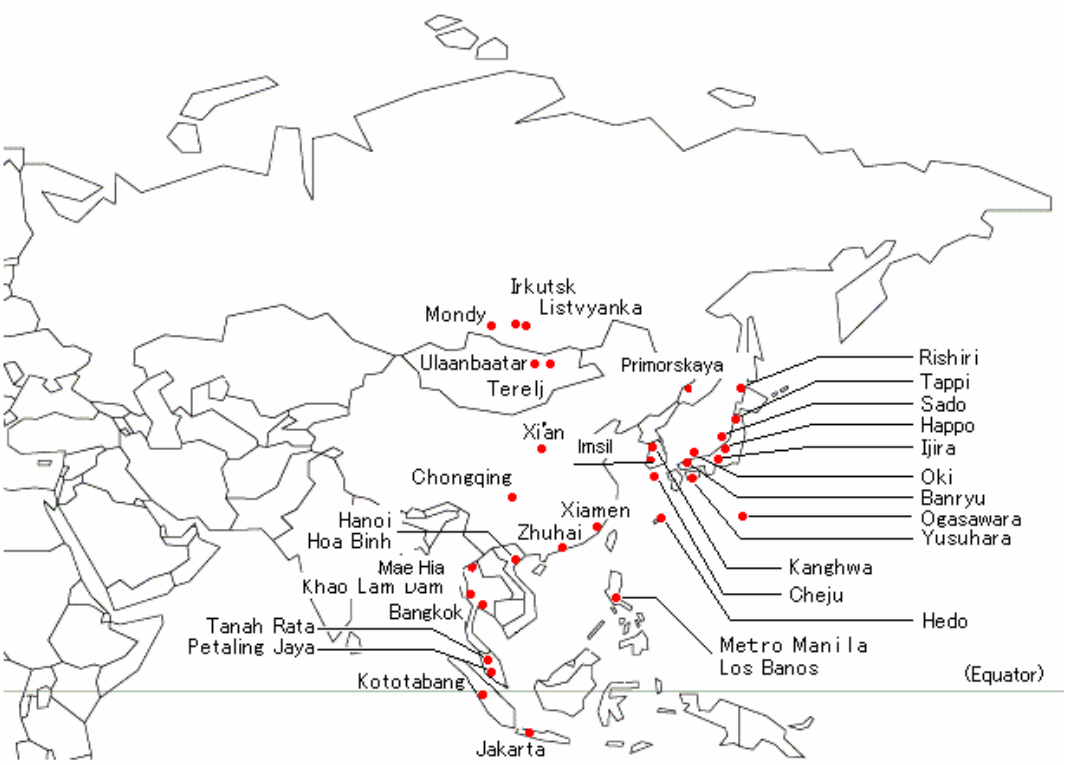



**Fig. 2.1 Locations of EANET Sites in 2001**

(Note: "Xi'an" includes 3 sites, and "Chongqing", "Xiamen", "Zhuhai" includes 2 sites, respectively. "Jakarta" includes also nearby "Serpong" and "Bandung" sites, and "Bangkok" includes also nearby "Samutprakarn" and "Patumthani" sites. "Metro Manila"/"Los Banos" and "Hanoi"/"Hoa Binh" are described as one point, respectively.) Although Khao Lam Dam was renamed into Vachiralongkorn Dam in 2002, the old name was used in this report.

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

| Country | Name of sites | Characteristics of sites | Latitude | Longitude | Height above sea |
|---|---|---|---|---|---|
| China | Chongqing | | | | |
| | -Guanyinqiao | Urban | 29° 35'N | 106° 32' E | 262m |
| | - Jinyunshan | Rural | 29° 49'N | 106° 22' E | 800m |
| | Xi'an | | | | |
| | - shizhan | Urban | 34° 14'N | 108° 57' E | 400m |
| | -Weishuiyuan | Rural | 34° 22'N | 108° 52' E | 360m |
| | - Jiwozi | Remote | 33° 50'N | 108° 48' E | 2,100m |
| | 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 |
| | -Zhuxian Cavern | 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 |
| Japan | Rishiri | Remote | 45° 07' N | 141° 14' E | 40m |
| | Tappi | Remote | 41° 15' N | 141° 21' E | 105m |
| | Ogasawara | Remote | 27° 05' N | 142° 13' E | 230m |
| | Sado-seki | Remote | 38° 15' N | 138° 24' E | 110m |
| | Happo | Remote | 36° 41' N | 137° 48' E | 1,850m |
| | Oki | Remote | 36° 17' N | 133° 11' E | 90m |
| | Yusuhara | Remote | 32° 44' N | 132° 59' E | 225m |
| | Hedo | Remote | 26° 47' N | 128° 14' E | 50m |
| | Ijira | Rural | 35° 34' N | 136° 42' E | 140m |
| | Banryu | Urban | 34° 40' N | 131° 42' E | 60m |
| Malaysia | Petaling Jaya | Urban | 03° 06' N | 101° 39' E | 87m |
| | Tanah Rata | Remote | 04° 28' N | 101° 23' E | 1,470m |
| Mongolia | Ulaanbaatar | Urban | 47° 54' N | 106° 49' E | 1,282m |
| | Terelj | Remote | 47° 59' N | 107° 29' E | 1,540m |
| Philippines | Metro Manila | Urban | 14° 38' N | 121° 04' E | 54m |
| | Los Banos | Rural | 14° 11' N | 121° 15' E | 35m |
| 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 | -m |
| Russia | Mondy | Remote | 51° 40' N | 101° 0' 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 |
| | Patumthani | Rural | 14° 02' N | 100° 46' E | 2m |
| | Khao Lam Dam | Remote | 14° 46' N | 98° 35' E | 170m |
| | Mae Hia | Rural | 18° 50' N | 98° 75' E | 300m |
| Vietnam | Hanoi | Urban | 21° 01' N | 105° 51' E | 5m |
| | Hoa Binh | Rural | 20° 49' N | 105° 20' E | 23m |

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

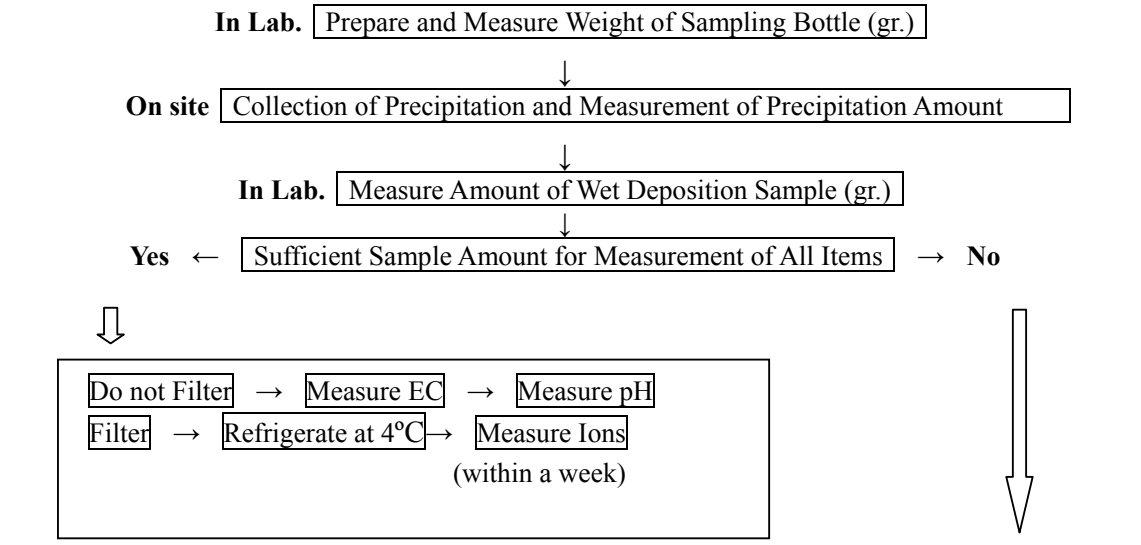
| Country | Name of sites | Characteristics of sites | Wet Dep. | Dry Dep. | | | |
|---|---|---|---|---|---|---|---|
| | | | | Automatic | | | Filter Pack |
| | | | | $SO_2$,$NO_x$ | $O_3$ | PM | |
| China | Chongqing | | | | | | |
| | -Guanyinqiao | Urban | O | None | None | None | None |
| | - Jinyunshan | Rural | O | O | None | O | None |
| | Xi'an | | | | | | |
| | - shizhan | Urban | O | None | None | None | None |
| | -Weishuiyuan | Rural | O | O | None | O | None |
| | - Jiwozi | Remote | O | None | None | None | None |
| | Xiamen | | | | | | |
| | -Hongwen | Urban | O | O | None | O | None |
| | -Xiaoping | Remote | O | None | None | None | None |
| | Zhuhai | | | | | | |
| | - Xiang Zhou | Urban | O | O | None | O | None |
| | -Zhuxian dong | Urban | O | None | None | None | None |
| Indonesia | Jakarta | Urban | O | None | None | None | None |
| | Serpong | Rural | O | None | None | None | O |
| | Kototabang | Remote | O | None | None | None | None |
| | Bandung | Urban | O | None | None | None | None |
| Japan | Rishiri | Remote | O | O | O | O | None |
| | Tappi | Remote | O | O | O | O | None |
| | Ogasawara | Remote | O | O | O | O | None |
| | Sado-seki | Remote | O | O | O | O | None |
| | Happo | Remote | O | O | O | O | None |
| | Oki | Remote | O | O | O | O | None |
| | Yusuhara | Remote | O | O | O | O | None |
| | Hedo | Remote | O | O | O | O | None |
| | Ijira | Rural | O | O | O | O | None |
| | Banryu | Urban | O | O | O | O | None |
| Malaysia | Petaling Jaya | Urban | O | None | None | Oa) | O |
| | Tanah Rata | Remote | O | None | None | None | O |
| Mongolia | Ulaanbaatar | Urban | O | None | None | None | O |
| | Terelj | Remote | O | None | None | None | O |
| Philippines | Metro Manila | Urban | O | None | None | None | O |
| | Los Banos | Rural | O | None | None | None | O |
| Republic of Korea | Kanghwa | Rural | O | None | None | None | None |
| | Cheju(Kosan) | Remote | O | None | None | None | None |
| | Imsil | Rural | O | None | None | None | None |
| Russia | Mondy | Remote | O | None | None | None | O |
| | Listvyanka | Rural | O | None | None | None | O |
| | Irkutsk | Urban | O | None | None | None | O |
| | **Primorskaya** | Rural | **None** | None | None | None | O |
| Thailand | Bangkok | Urban | O | O | None | Oa) | None |
| | Samutprakarn | Urban | None | O | O | O | None |
| | Patumthani | Rural | O | None | None | None | None |
| | Khao Lam Dam | Remote | O | O | None | Oa) | None |
| | Chaing Mai | Rural | O | None | None | None | O |
| Vietnam | Hanoi | Urban | O | None | None | None | O |
| | Hoa Binh | Rural | O | None | None | None | O |

Note) a): Manual Sampling

## 3. Wet Deposition Monitoring

### 3.1 Method

To obtain the equivalent quality of monitoring data, each participating country carries out acid deposition monitoring fundamentally by common methodologies specified in the "Technical Documents for Wet deposition Monitoring in East Asia" adopted at The Second Interim Scientific Advisory group Meeting in March 2000. An example of the flow chart that was carried out by participating countries is described in Fig.3.1.




(a) After EC and pH measurement, Sample Volume is not Sufficient for Ion Measurement

Do not Filter → Measure EC → Measure pH
Filter → Refrigerate at 4°C → Dilute 2-10 Times → Measure Ions

(b) Not Sufficient Volume for EC, pH and Ion Measurement

Filter → Refrigerate at 4°C → Dilute 2-10 Times → Measure Ions

The Order of Measurement Priority

(1) $SO_4^{2-}$, $NO_3^-$ and $Cl^-$ by IC

(2) $NH_4^+$, $Na^+$, $K^+$, $Ca^{2+}$ and $Mg^{2+}$ by IC, when a cation column is available

(2) If not, $NH_4^+$ by spectrophotometry

(3) $Na^+$, $K^+$, $Ca^{2+}$ and $Mg^{2+}$ by AA

(4) EC and pH

**Fig. 3.1 Flow chart of sampling and chemical analysis of wet deposition**

**1) Field Operation**

Most of the participating countries use the wet-only sampler designed to collect precipitation samples during the period of rainfall only by installing the precipitation sensor and motor-driven tightfitting lid to cover a collecting bucket or funnel. The wet-only sampler is a recommended method for sampling of precipitation. However, a manual sampler is installed at some sites with collection of rainwater by manual operation. Precipitation samples are collected on a daily basis at 28 sites of 41, while weekly collecting is performed at 11 sites and samples of every precipitation events are taken at other 2 sites, as presented in Table 3.1. For wet deposition samples collected in a tropical region, a preservation of samples from microbial decomposition should be considered. Biocides such as Thymol are added for that purpose when a refrigerator is not available during sampling, shipping and storage periods. On the other hand, sampling of wet deposition in the higher latitude region such as Mongolia and Russia during winter seasons faces difficulties because of low air temperature has falling sometimes below minus 10 to 20 ˚C. Collected samples without biocides were shipped to laboratories in charge of chemical analysis by cooling box to keep the sample temperature low enough to preserve the sample chemistry.

**2) Laboratory Operation**

Procedures suggested for rainwater major constituent analysis by the manual are shown in Table 3.2. Ion Chromatography is a major analytical method adopted by the participating countries for chemical analysis of both anions and cations contained in precipitation samples (Table 3.3). Atomic Absorption Spectrometry for $Na^+$, $K^+$, $Ca^{2+}$, and $Mg^{2+}$, and Spectrophotometry for $NH_4^+$ are also useful tools for the determination of these cations. However, some countries have to solve a problem of poor detection limit because of they use traditional methods with not enough analytical sensitivity, such as titration ones.

**3) Data Management**

Analytical data of precipitation samples were submitted from the participating laboratories to the National Centers. Then each National Center submitted the data to the Network Center. All the data were checked using ion balance and conductivity agreement by calculating 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 were attached to the data. Details of data management are described in the “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.

**Table 3.1 Sampling Method for Wet Deposition Monitoring**

| Country | Name of sites | Characteristics of sites | Sampling Interval | Starting Month | Note |
|---|---|---|---|---|---|
| China | Chongqing | | | | |
| | -Guanyinqiao | Urban | Daily | April '99 | |
| | -Jinyunshan | Rural | Daily | April '99 | |
| | Xi'an | | | | |
| | -Shizhan | Urban | Daily | April '99 | |
| | -Weishuiyuan | Rural | Daily | April '99 | |
| | -Jiwozi | Remote | Daily | April '99 | |
| | Xiamen | | | | |
| | -Hongwen | Urban | Daily | April '99 | |
| | -Xiaoping | Remote | Daily | April '99 | |
| | Zhuhai | | | | |
| | -Xiang Zhou | Urban | Daily | April '99 | |
| | -Zhuxian Cavern | Urban | Daily | December '99 | |
| Indonesia | Jakarta | Urban | Weekly | April '98 | * |
| | Serpong | Rural | Event | April '98 | |
| | Kototabang | Remote | Weekly | April '98 | * |
| | Bandung | Urban | Event | January '99 | * |
| Japan | Rishiri | Remote | Daily | April '98 | |
| | Tappi | Remote | Daily | April '98 | |
| | Ogasawara | Remote | Daily | May '99 | |
| | Sado-seki | Remote | Daily | April '99 | |
| | Happo | Remote | Daily | April '98 | |
| | Oki | Remote | Daily | April '98 | |
| | Yusuhara | Remote | Daily | December '99 | |
| | Hedo | Remote | Daily | December '99 | |
| | Ijira | Rural. | Weekly | June '99 | |
| | Banryu | Urban | Weekly | May '99 | |
| Malaysia | Petaling Jaya | Urban | Weekly | April '98 | * |
| | Tanah Rata | Remote | Weekly | January '99 | * |
| Mongolia | Ulaanbaatar | Urban | Daily | August '98 | |
| | Terelj | Remote | Daily | September '98 | |
| Philippines | Metro Manila | Urban | Weekly | April '99 | |
| | Los Banos | Rural | Weekly | April '99 | |
| Republic of Korea | Kanghwa | Rural | Daily | March '99 | |
| | Cheju (Kosan) | Remote | Daily | April '99 | |
| | Imsil | Rural | Weekly | January 2001 | |
| Russia | Mondy | Remote | Daily | May '99 | |
| | Listvyanka | Rural | Daily | January 2000 | |
| | Irkutsk | Urban | Daily | January 2000 | |
| Thailand | Bangkok | Urban | Daily | April '99 | |
| | Patumthani | Rural | Daily | March '99 | |
| | Khao Lam Dam | Remote | Daily | April '99 | |
| | Mae Hia | Rural | Daily | January 2001 | |
| Vietnam | Hanoi | Urban | Weekly | August '99 | |
| | Hoa Binh | Rural | Weekly | August '99 | |

Note) *: Precipitation samples are preserved by addition of biocide.

**Table 3.2 Procedures suggested for rainwater major constituent analysis**

| Analysis | Instrumental Method |
|---|---|
| Electric Conductivity (EC) | Conductivity Cell |
| pH | Glass electrode (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 |
| $NH4^+$ | Ion Chromatography Spectrophotometry (Indophenol blue)* |
| $Na^+$, $K^+$, $Ca^{2+}$, $Mg^{2+}$ | Ion Chromatography Atomic Absorption/ Emission Spectrometry |
| Heavy Metals, Al<br><br>Hg | Atomic Absorption Spectrometry with Graphite Furnace, ICP Emission Spectrometry, ICP/MS, Mercury Analyzer With a Gold Trap |
| Organic Acids | Ion Chromatography |

* Not recommended if the biocide, thymol, is used in sample collection.

**Table 3.3 Analytical Method for Wet Deposition Monitoring**

| Country | Name of sites | Characteristics of sites | Anion Analysis | Cation Analysis | |
|---|---|---|---|---|---|
| | | | | $NH_4^+$ | Other Cations |
| China | Chongqing | | | | |
| | -Guanyinqiao | Urban | IC | IC | IC |
| | -Jinyunshan | Rural | IC | IC | IC |
| | Xi'an | | | | |
| | -Shizhan | Urban | IC | IC | AAS |
| | -Weishuiyuan | Rural | IC | IC | AAS |
| | -Jiwozi | Remote | IC | IC | AAS |
| | Xiamen | | | | |
| | -Hongwen | Urban | IC | SP | AAS |
| | -Xiaoping | Remote | IC | SP | AAS |
| | Zhuhai | | | | |
| | -Xiang Zhou | Urban | IC | IC | IC |
| | -Zhuxian Cavern | Urban | IC | IC | IC |
| Indonesia | Jakarta | Urban | IC | IC | IC |
| | Serpong | Rural | IC | SP | AAS |
| | Kototabang | Remote | IC | IC | IC |
| | Bandung | Urban | IC | SP | AAS |
| Japan | Rishiri | Remote | IC | IC | IC |
| | Tappi | Remote | IC | IC | IC |
| | Ogasawara | Remote | IC | IC | IC |
| | Sado-seki | Remote | IC | IC | IC |
| | Happo | Remote | IC | IC | IC |
| | Oki | Remote | IC | IC | IC |
| | Yusuhara | Remote | IC | IC | IC |
| | Hedo | Remote | IC | IC | IC |
| | Ijira | Rural | IC | IC | IC |
| | Banryu | Urban | IC | IC | IC |
| Malaysia | Petaling Jaya | Urban | IC | SP | ICP/MS |
| | Tanah Rata | Remote | IC | SP | ICP/MS |
| Mongolia | Ulaanbaatar | Urban | IC | IC | IC |
| | Terelj | Remote | IC | IC | IC |
| Philippines | Metro Manila | Urban | IC | SP | AAS |
| | Los Banos | Rural | IC | SP | AAS |
| Republic of Korea | Kanghwa | Rural | IC | IC(SP) | IC(AAS) |
| | Cheju (Kosan) | Remote | IC | IC(SP) | IC(AAS) |
| | Imsil | Rural | IC | IC(SP) | IC(AAS) |
| Russia | Mondy | Remote | HPLC | SP | AAS |
| | Listvyanka | Rural | HPLC | SP | AAS |
| | Irkutsk | Urban | HPLC | SP | AAS |
| Thailand | Bangkok | Urban | IC | IC | IC |
| | Patumthani | Rural | IC | IC | IC |
| | Khao Lam Dam | Remote | IC | IC | IC |
| | Mae Hia | Rural | IC | IC | IC |
| Vietnam | Hanoi | Urban | SP, TI | SP | FP, CA-TI |
| | Hoa Binh | Rural | SP, TI | SP | FP, CA- TI |

(Note) AAS: Atomic Absorption Spectrometry, FP: Frame Photometry, HPLC: High Performance Liquid Chromatography, IC: Ion Chromatography, ICP/MS: Inductively Coupled Plasma/ Mass Spectrometry, SP: Spectrophotometry, CA-TI: Mg concentrations are determined by calculation according titration (Ca and Mg by EDTA) .

### 3.2 Results of Monitoring

The summaries of wet deposition monitoring in 2001 are presented in from Table 3.6 through Table 3.48, and Fig.3.2 through Fig 3.83. The summaries contain the precipitation weighted arithmetic averaged value, the maximum and minimum data reported over the year, data completeness (%PCL, %TP), the wet deposition amount, and the results of ion balance and conductivity agreement check.

#### 1) Overview of the statistics and definition

An Overview of the statistics and definition is given below.

**Weighted average:** the precipitation weighted arithmetic mean concentration (μmol/L) over the summary periods. Calculated as:

$$\overline{C} = \sum_i C_i P_i \Big/ \sum_i P_i$$

Where $\overline{C}$ : precipitation weighted arithmetic mean concentration

$C_i$ : valid concentration for sample i

$P_i$ : precipitation amount for the same sample i with valid concentration

**Maximum:** The maximum value reported over the summary period.

**Minimum:** The minimum value reported over the summary period.

**Deposition amount:** the wet deposition amount ($mmol/m^2$) for the summary period. Calculated as:

Deposition amount = $\overline{C}$ X (total precipitation amount for the summary period)

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 sulphate and non-sea-salt calcium (μmol/L):** Equal to the measured sulphate (calcium) in the sample minus the sulphate (calcium) contributed by sea salt. Sea salt sulphate (calcium) is estimated from the concentration of sodium.

$[nss\text{-}SO_4^{2-}] = [SO_4^{2-}] - 0.06028 \times [Na^+]$

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

($Na^+$ : 468.3 mmol/L, $SO_4^{2-}$ : 28.23 mmol/L, $Ca^{2+}$ : 10.12 mmol/L; "Guide to maritime observation" Oceanographic Society of Japan)

**Data completeness:**

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

%PCL = [(Number of days in the summary period) − (Number of days with missing or unknown precipitation)] / (Number of days in the summary period) X 100

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

%TP = (Sum of precipitation amounts for samples with valid sample component measurements) / (Sum of precipitation amounts for all samples) X 100

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

%PCL ≥ 80%, and %TP ≥ 80%

**Ion balance ($R_1$):** Calculated as:

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

Where C: total cation equivalent concentration (μeq/L)

A: total anion equivalent concentration (μeq/L)

$C = 10^{(6-pH)}/1.008 + \sum C_{Ci} \cdot V_i$

Where $C_{Ci}$ : the concentration of i-th cation (μmol/L)

$V_i$ : the valence of the given ion

$A = \sum C_{Ai} \cdot V_i$

Where $C_{Ai}$ : the concentration of i-th anion (μmol/L)

If pH is greater than 6, bicarbonate ($HCO_3^-$) concentration is included for the computation of $R_1$ and $R_2$. The bicarbonate concentration is calculated from the dissociation constant, Ka and pH. (If the bicarbonate concentration is measured, the measured data is considered in the evaluation of $R_1$ and $R_2$). Calculated as:

$$[HCO_3^-] = P_{CO_2} H_{CO_2} K_{a1} / [H^+] = (360 \times 10^{-6})(3.4 \times 10^{-2})\ 10^{pH-6.35+6} = 1.24 \times 10^{pH-5.35}$$

Air concentration of $CO_2$ in equilibrium with precipitation samples is assumed to be 360ppm. Dissociation constant in terms of pKa for carbonic acid is 6.35.

**Required criteria for $R_1$ :** The required ion balances of precipitation analyses are given Table 3.4.

**Table3.4 Required criteria for $R_1$**

| (C+A) (μeq/L) | $R_1$ (%) |
|---|---|
| <50 | ± 30 |
| 50 – 100 | ± 15 |
| >100 | ± 8 |

**Conductivity agreement:** Calculated as:

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

Where $\Lambda_{calc}$ : the calculated conductivity (mS/m)

$\Lambda_{meas}$ : the measured conductivity (mS/m)

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

Where $C_i$ : the ionic concentration of i-th ion (μmol/L)

$\Lambda_i^{\ 0}$ : the molar conductivity at infinite dilution and 25 °C ($Scm^2/mol$)

$$\Lambda_{calc} = \{349.7 \times 10^{(6-pH)} + 80.0 \times 2c(SO_4^{2-}) + 71.5c(NO_3^-) + 76.3c(Cl^-) + 73.5c(NH_4^+) + 50.1c(Na^+) + 73.5c(K^+) + 59.8 \times 2c(Ca^{2+}) + 53.3 \times 2c(Mg^{2+})\}/10000$$

Where c( ) : the ionic concentrations (μmol/L)

The constants are the molar conductivity of the individual ion at infinite dilution and 25 °C ($Scm^2/mol$).

**Required criteria for $R_2$ :** The required conductivity comparison criteria are given Table 3.5.

**Table3.5 Required criteria for $R_2$**

| $\Lambda_{meas}$ (mS/m) | $R_2$ (%) |
|---|---|
| <0.5 | ± 20 |
| 0.5 – 3 | ± 13 |
| >3 | ± 9 |

**2) Terms and abbreviations**

Terms and abbreviations indicate the followings:

In Table 3.6-Table 3.47,

- Data in hatched column ( ) : Rejected monthly (annual) value by the criteria [Percent precipitation coverage length (%PCL) < 80%, and/or percent total precipitation (%TP) < 80%]
- [ -- ] : no data or not measured
- Blank column: no information on the precipitation amount
  In that case, data completeness of precipitation amount (%PCL) is treated as 0%.
- [*] : no precipitation in Table data completeness(%TP)

In Table 3.11-Table 3.35 Monthly weighted averages of each constituent,

- Max: Maximum data in a year, and "M" for the month that has the maximum data
- Min : Minimum data in a year, and "M" for the month that has the minimum data
- Daily or Event : daily sampling or event sampling
- Weekly : weekly sampling or weekly-composite analysis of daily samples

In Table 3.31 Monthly weighted averages of $H^+$ concentrations,

[<0.1] : <0.1μmol/L

In Table 3.6-Table 3.29 Monthly (Annual) weighted averages of each constituent,

[<0.2], [<0.4], [<1.0] : the values is lower than each detection limit given by the technical manual for wet deposition

$SO_4^{2-}$, nss-$SO_4^{2-}$, $NO_3^-$, $Cl^-$, $NH_4^+$, $Na^+$, $K^+$ : <1.0μmol/L

$Ca^{2+}$, nss-$Ca^{2+}$ : <0.2μmol/L

$Mg^{2+}$ : <0.4μmol/L

In Table 3.37-Table 3.47 Monthly deposition amount of each constituent,

[0.00] : Deposition amount is zero (no precipitation)

[<0.01] : <0.01mmol/$m^2$

In Table 3.48 Results of ion balance and conductivity agreement check,

- 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 $R_2$

In Fig.3.2 - 3.83, descriptions are as follows.

(1) Ion Balance ($R_1$)

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

(2) Conductivity Agreement ($R_2$)

- (Λmeans) is logarithm scale
- Horizontal bar : The allowable range of $R_2$ in each conductivity range

- Guanyinqiao, Jinyunshan, Ulaanbaatar and Terelj : $R_1$and $R_2$calculated including measured $F^-$ concentrations
- Listvjanka and Irkutsk: $R_1$ and $R_2$ calculated including measured $HCO_3^-$ concentrations

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CHANGING POINTS IN THIS REPORT

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- In tables of data completeness(% TP), no precipitation was shown as 100% in previous reports. But it is changed to " * " from this report.

Table 3.6 Annual precipitation amounts and weighted averages in 2001

| Country | Name of sites | Precip. mm | $SO_4^{2-}$ µmol/L | nss-$SO_4^{2-}$ µmol/L | $NO_3^-$ µmol/L | $Cl^-$ µmol/L | $NH_4^+$ µmol/L | $Na^+$ µmol/L | $K^+$ µmol/L | $Ca^{2+}$ µmol/L | nss-$Ca^{2+}$ µmol/L | $Mg^{2+}$ µmol/L | $H^+$ µmol/L | pH | EC mS/m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| China | Chongqing | | | | | | | | | | | | | | |
| | -Guanyinqiao | 751.6 | 205 | 205 | 52.8 | 29.8 | 211 | 10.8 | 18.7 | 137 | 137 | 11.6 | 16.1 | 4.79 | 7.00 |
| | -Jinyunshan | 710.1 | 124 | 123 | 40.3 | 56.8 | 111 | 10.2 | 44.4 | 44.9 | 44.7 | 5.8 | 65.4 | 4.18 | 6.23 |
| | Xi'an | | | | | | | | | | | | | | |
| | -Shizhan | 363.9 | 470 | 460 | 153 | 81.3 | 255 | 164 | 42.2 | 675 | 672 | 48.5 | 0.4 | 6.38 | 19.5 |
| | -Weishuiyuan | 69.3 | 1510 | 1500 | 210 | 278 | 354 | 219 | 74.9 | 1160 | 1150 | 88.4 | 0.5 | 6.32 | 27.7 |
| | -Jiwozi | 208.8 | 326 | 316 | 140 | 98.9 | 171 | 158 | 43.6 | 429 | 425 | 41.1 | 0.6 | 6.24 | 9.65 |
| | Xiamen | | | | | | | | | | | | | | |
| | -Hongwen | 295.5 | 56.5 | 55.9 | 37.9 | 35.8 | 64.9 | 10.8 | 10.4 | 36.3 | 36.1 | 6.3 | 29.6 | 4.53 | 3.87 |
| | -Xiaoping | 4481.9 | 17.4 | 16.8 | 18.3 | 29.2 | 31.4 | 9.6 | 2.9 | 5.3 | 5.0 | 2.8 | 12.4 | 4.91 | 1.42 |
| | Zhuhai | | | | | | | | | | | | | | |
| | -Xiang Zhou | 1989.5 | 15.7 | 14.6 | 14.1 | 37.8 | 25.0 | 24.6 | 4.0 | 8.0 | 7.4 | 2.9 | 11.4 | 4.94 | 1.95 |
| | -Zhuxian Cavern | 2570.8 | 19.3 | 18.0 | 22.2 | 27.7 | 30.3 | 27.5 | 5.9 | 14.3 | 13.7 | 3.3 | 16.7 | 4.78 | 2.08 |
| Indonesia | Jakarta | 1236.7 | 62.7 | 60.3 | 53.7 | 38.9 | 66.2 | 39.4 | 24.3 | 64.4 | 63.5 | 69.0 | 3.8 | 5.42 | 26.4 |
| | Serpong | 1606.7 | 38.2 | 36.8 | 50.7 | 32.3 | 67.6 | 23.8 | 7.0 | 13.6 | 13.1 | 3.5 | 23.7 | 4.63 | 2.94 |
| | Kototabang | 1208.7 | 4.7 | 4.4 | 2.7 | 6.6 | 2.4 | 4.5 | 1.3 | 1.4 | 1.4 | 1.0 | 8.5 | 5.07 | 0.43 |
| | Bandung | 2604.7 | 33.7 | 32.5 | 26.9 | 25.0 | 37.9 | 20.2 | 12.6 | 24.2 | 23.7 | 4.1 | 10.1 | 4.99 | 2.08 |
| Japan | Rishiri | 614.9 | 31.0 | 18.2 | 18.0 | 235 | 26.0 | 212 | 6.0 | 10.1 | 5.5 | 24.8 | 16.8 | 4.77 | 4.51 |
| | Tappi | 1081.6 | 22.9 | 14.8 | 15.3 | 156 | 12.7 | 134 | 3.3 | 5.8 | 3.0 | 15.5 | 23.0 | 4.64 | 3.52 |
| | Sado-seki | 970.5 | 41.0 | 19.5 | 22.2 | 378 | 19.7 | 355 | 8.2 | 15.8 | 8.3 | 40.5 | 23.2 | 4.63 | 5.64 |
| | Happo | 2345.1 | 11.7 | 11.3 | 8.9 | 8.8 | 10.8 | 6.2 | <1.0 | 4.3 | 4.2 | 1.6 | 14.6 | 4.84 | 0.96 |
| | Oki | 1245.8 | 33.8 | 14.8 | 15.7 | 359 | 14.7 | 316 | 8.8 | 12.9 | 6.1 | 36.6 | 17.0 | 4.77 | 5.90 |
| | Yusuhara | 2080.1 | 9.2 | 8.4 | 6.8 | 12.3 | 5.2 | 11.8 | <1.0 | 3.4 | 3.2 | 1.8 | 14.9 | 4.83 | 0.98 |
| | Ogasawara | 1805.7 | 11.4 | 5.1 | 3.7 | 123 | 4.8 | 104 | 4.1 | 5.4 | 3.2 | 13.3 | 8.1 | 5.09 | 2.20 |
| | Hedo | 2125.6 | 15.9 | 6.5 | 6.6 | 175 | 4.5 | 160 | 3.6 | 4.9 | 1.7 | 16.9 | 10.9 | 4.96 | 2.95 |
| | Ijira | 2236.5 | 22.0 | 20.2 | 21.7 | 32.7 | 17.6 | 29.7 | 4.1 | 5.6 | 5.0 | 4.0 | 37.1 | 4.43 | 2.44 |
| | Banryu | 1788.0 | 19.0 | 14.3 | 17.4 | 86.5 | 13.8 | 78.2 | 2.7 | 6.0 | 4.3 | 9.1 | 21.9 | 4.66 | 2.52 |
| Malaysia | Petaling Jaya | 3085.3 | 22.2 | 22.0 | 23.7 | 7.5 | 58.1 | 3.7 | 1.4 | 6.3 | 6.2 | 1.3 | 56.0 | 4.25 | 2.13 |
| | Tanah Rata | 2626.3 | 3.7 | 3.6 | 3.4 | 3.0 | 35.4 | 1.9 | <1.0 | 3.1 | 3.1 | 0.4 | 12.7 | 4.90 | 0.54 |
| Mongolia | Ulaanbaatar | 165.8 | 25.2 | 24.6 | 20.7 | 9.7 | 49.9 | 9.1 | 4.6 | 47.4 | 47.2 | 5.4 | 0.6 | 6.19 | 1.91 |
| | Terelj | 88.6 | 9.7 | 8.8 | 9.2 | 8.7 | 30.5 | 15.9 | 3.8 | 15.0 | 14.6 | 2.5 | 0.9 | 6.04 | 0.93 |
| Philippines | Metro Manila | 2291.2 | 37.3 | 22.7 | 18.5 | 115 | 77.1 | 205 | 23.2 | 71.6 | 67.2 | 15.0 | 3.9 | 5.41 | 6.49 |
| | Los Banos | 1816.5 | 15.6 | 13.2 | 13.9 | 34.5 | 22.4 | 37.2 | 9.5 | 65.3 | 64.5 | 11.1 | 3.0 | 5.53 | 2.08 |
| Republic | Kanghwa | 1139.4 | 25.0 | 22.5 | 28.6 | 42.6 | 37.5 | 41.7 | 4.7 | 14.0 | 13.1 | 5.3 | 10.2 | 4.99 | 1.98 |
| of Korea | Cheju | 1113.7 | 20.7 | 16.2 | 18.4 | 112 | 32.3 | 74.7 | 9.4 | 5.9 | 4.3 | 10.0 | 12.9 | 4.89 | 2.56 |
| | Imsil | 1299.1 | 16.4 | 15.5 | 15.6 | 28.7 | 42.3 | 15.4 | 14.8 | 5.8 | 5.5 | 1.9 | 8.0 | 5.09 | 1.31 |
| Russia | Mondy | 319.3 | 11.0 | 10.8 | 10.6 | 1.4 | 22.2 | 2.3 | 2.1 | 7.0 | 6.9 | 1.5 | 3.1 | 5.50 | 0.68 |
| | Listvyanka | 493.6 | 13.4 | 13.2 | 14.7 | 2.2 | 10.8 | 3.4 | 1.7 | 7.3 | 7.2 | 1.8 | 11.0 | 4.96 | 0.95 |
| | Irkutsk | 468.4 | 29.6 | 29.1 | 18.4 | 12.2 | 25.1 | 8.3 | 7.4 | 34.8 | 34.6 | 5.5 | 5.3 | 5.28 | 1.79 |
| Thailand | Bangkok | 1173.9 | 18.2 | 17.7 | 17.9 | 9.4 | 36.2 | 8.3 | 4.1 | 12.0 | 11.8 | 3.2 | 10.7 | 4.97 | 1.50 |
| | Patumthani | 1348.5 | 17.2 | 16.7 | 19.6 | 7.8 | 35.5 | 8.1 | 1.7 | 13.0 | 12.8 | 2.2 | 7.4 | 5.13 | 1.80 |
| | Khao Lam Dam | 1516.0 | 5.2 | 4.5 | 6.8 | 10.0 | 11.0 | 11.3 | 5.0 | 9.0 | 8.8 | 2.5 | 5.5 | 5.26 | 0.56 |
| | Mae Hia | 1083.9 | 2.8 | 2.6 | 4.1 | 4.5 | 15.8 | 3.9 | 2.9 | 6.9 | 6.9 | 1.1 | 1.9 | 5.71 | 0.88 |
| Vietnam | Hanoi | 2254.7 | 14.0 | 13.3 | 5.1 | 27.1 | 20.3 | 11.5 | 3.8 | 10.7 | 10.4 | 4.0 | 1.5 | 5.83 | 0.92 |
| | Hoa Binh | 2223.2 | 14.7 | 14.1 | 8.8 | 22.1 | 12.5 | 9.8 | 2.3 | 10.4 | 10.2 | 3.7 | 9.1 | 5.04 | 1.04 |

Table 3.7 Data completeness for annual summaries in 2001 (%PCL, %TP)

| Country | Name of sites | Precip. % | $SO_4^{2-}$ % | nss-$SO_4^{2-}$ % | $NO_3^-$ % | $Cl^-$ % | $NH_4^+$ % | $Na^+$ % | $K^+$ % | $Ca^{2+}$ % | nss-$Ca^{2+}$ % | $Mg^{2+}$ % | $H^+$ % | pH % | EC % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| China | Chongqing | | | | | | | | | | | | | | |
| | -Guanyinqiao | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 97 | 97 | 97 |
| | -Jinyunshan | 92 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Xi'an | | | | | | | | | | | | | | |
| | -Shizhan | 84 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | -Weishuiyuan | 50 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | -Jiwozi | 67 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Xiamen | | | | | | | | | | | | | | |
| | -Hongwen | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | -Xiaoping | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Zhuhai | | | | | | | | | | | | | | |
| | -Xiang Zhou | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | -Zhuxian Cavern | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Indonesia | Jakarta | 100 | 97 | 97 | 100 | 100 | 100 | 100 | 28 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Serpong | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Kototabang | 100 | 100 | 100 | 100 | 100 | 99 | 100 | 78 | 100 | 100 | 79 | 100 | 100 | 100 |
| | Bandung | 99 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Japan | Rishiri | 100 | 97 | 97 | 97 | 97 | 97 | 97 | 97 | 97 | 97 | 97 | 97 | 97 | 97 |
| | Tappi | 98 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 87 |
| | Sado-seki | 100 | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 86 | 86 | 86 |
| | Happo | 100 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 |
| | Oki | 100 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 |
| | Yusuhara | 100 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 95 | 95 | 95 |
| | Ogasawara | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 99 | 99 | 99 |
| | Hedo | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Ijira | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Banryu | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Malaysia | Petaling Jaya | 98 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Tanah Rata | 100 | 100 | 100 | 100 | 100 | 99 | 100 | 100 | 100 | 100 | 100 | 99 | 99 | 99 |
| Mongolia | Ulaanbaatar | 46 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Terelj | 14 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Philippines | Metro Manila | 100 | 50 | 50 | 53 | 63 | 64 | 64 | 64 | 64 | 64 | 64 | 55 | 55 | 55 |
| | Los Banos | 100 | 86 | 86 | 98 | 98 | 97 | 98 | 98 | 98 | 98 | 98 | 97 | 97 | 97 |
| Republic | Kanghwa | 100 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 |
| of Korea | Cheju | 100 | 76 | 76 | 76 | 76 | 76 | 76 | 76 | 76 | 76 | 76 | 76 | 76 | 76 |
| | Imsil | 100 | 81 | 81 | 81 | 81 | 81 | 81 | 81 | 81 | 81 | 81 | 81 | 81 | 82 |
| Russia | Mondy | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Listvyanka | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 98 | 98 | 98 |
| | Irkutsk | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Thailand | Bangkok | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Patumthani | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 99 | 99 | 99 |
| | Khao Lam Dam | 100 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 |
| | Mae Hia | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Vietnam | Hanoi | 100 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 |
| | Hoa Binh | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

Table 3.8 Annual deposition amounts in 2001

| Country | Name of sites | $SO_4^{2-}$ mmol/m$^2$ | nss-$SO_4^{2-}$ mmol/m$^2$ | $NO_3^-$ mmol/m$^2$ | $Cl^-$ mmol/m$^2$ | $NH_4^+$ mmol/m$^2$ | $Na^+$ mmol/m$^2$ | $K^+$ mmol/m$^2$ | $Ca^{2+}$ mmol/m$^2$ | nss-$Ca^{2+}$ mmol/m$^2$ | $Mg^{2+}$ mmol/m$^2$ | $H^+$ mmol/m$^2$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| China | Chongqing | | | | | | | | | | | |
| | -Guanyinqiao | 154 | 154 | 39.7 | 22.4 | 158 | 8.11 | 14.0 | 103 | 103 | 8.73 | 12.1 |
| | -Jinyunshan | 87.7 | 87.3 | 28.6 | 40.3 | 79.1 | 7.25 | 31.6 | 31.9 | 31.7 | 4.09 | 46.5 |
| | Xi'an | | | | | | | | | | | |
| | -Shizhan | 171 | 167 | 55.8 | 29.6 | 92.8 | 59.8 | 15.3 | 246 | 244 | 17.6 | 0.15 |
| | -Weishuiyuan | 105 | 104 | 14.5 | 19.3 | 24.5 | 15.1 | 5.19 | 80.0 | 79.7 | 6.13 | 0.03 |
| | -Jiwozi | 68.0 | 66.0 | 29.3 | 20.7 | 35.7 | 33.1 | 9.11 | 89.5 | 88.8 | 8.58 | 0.12 |
| | Xiamen | | | | | | | | | | | |
| | -Hongwen | 16.7 | 16.5 | 11.2 | 10.6 | 19.2 | 3.20 | 3.06 | 10.7 | 10.7 | 1.86 | 8.75 |
| | -Xiaoping | 77.8 | 75.2 | 82.2 | 131 | 141 | 42.9 | 13.1 | 23.5 | 22.6 | 12.4 | 55.5 |
| | Zhuhai | | | | | | | | | | | |
| | -Xiang Zhou | 31.2 | 29.1 | 28.0 | 75.2 | 49.8 | 49.0 | 8.00 | 15.8 | 14.8 | 5.83 | 22.7 |
| | -Zhuxian Cavern | 49.5 | 46.2 | 57.1 | 71.2 | 77.8 | 70.7 | 15.1 | 36.8 | 35.3 | 8.56 | 43.0 |
| Indonesia | Jakarta | 77.5 | 74.6 | 66.4 | 48.2 | 81.9 | 48.8 | 30.1 | 79.6 | 78.5 | 85.3 | 4.68 |
| | Serpong | 61.4 | 59.1 | 81.4 | 51.8 | 109 | 38.2 | 11.3 | 21.8 | 21.0 | 5.67 | 38.0 |
| | Kototabang | 5.66 | 5.33 | 3.32 | 7.97 | 2.88 | 5.46 | 1.59 | 1.73 | 1.65 | 1.25 | 10.3 |
| | Bandung | 87.8 | 84.6 | 70.0 | 65.1 | 98.8 | 52.7 | 32.7 | 63.0 | 61.8 | 10.6 | 26.4 |
| Japan | Rishiri | 19.1 | 11.2 | 11.1 | 145 | 16.0 | 130 | 3.71 | 6.21 | 3.40 | 15.2 | 10.3 |
| | Tappi | 24.7 | 16.0 | 16.5 | 169 | 13.8 | 145 | 3.55 | 6.25 | 3.25 | 16.7 | 24.9 |
| | Sado-seki | 39.8 | 18.9 | 21.6 | 367 | 19.2 | 345 | 7.95 | 15.4 | 8.08 | 39.3 | 22.5 |
| | Happo | 27.4 | 26.6 | 20.8 | 20.7 | 25.3 | 14.6 | 1.50 | 10.1 | 9.80 | 3.73 | 34.1 |
| | Oki | 42.1 | 18.4 | 19.5 | 448 | 18.4 | 394 | 10.9 | 16.1 | 7.60 | 45.6 | 21.1 |
| | Yusuhara | 19.0 | 17.6 | 14.2 | 25.6 | 10.7 | 24.5 | 1.05 | 7.09 | 6.68 | 3.8 | 31.1 |
| | Ogasawara | 20.7 | 9.23 | 6.67 | 222 | 8.70 | 189 | 7.37 | 9.81 | 5.77 | 23.9 | 14.6 |
| | Hedo | 33.9 | 13.8 | 14.0 | 373 | 9.52 | 341 | 7.57 | 10.4 | 3.64 | 35.8 | 23.1 |
| | Ijira | 49.1 | 45.1 | 48.5 | 73.0 | 39.4 | 66.4 | 9.09 | 12.6 | 11.1 | 8.93 | 82.9 |
| | Banryu | 33.9 | 25.5 | 31.1 | 155 | 24.6 | 140 | 4.89 | 10.7 | 7.68 | 16.3 | 39.1 |
| Malaysia | Petaling Jaya | 68.4 | 67.7 | 73.2 | 23.2 | 179 | 11.4 | 4.39 | 19.4 | 19.2 | 4.02 | 173 |
| | Tanah Rata | 9.79 | 9.49 | 8.90 | 7.87 | 93.0 | 5.05 | 2.40 | 8.13 | 8.02 | 1.07 | 33.4 |
| Mongolia | Ulaanbaatar | 4.17 | 4.08 | 3.43 | 1.60 | 8.28 | 1.51 | 0.77 | 7.86 | 7.83 | 0.90 | 0.11 |
| | Terelj | 0.86 | 0.78 | 0.81 | 0.77 | 2.70 | 1.41 | 0.34 | 1.33 | 1.30 | 0.22 | 0.08 |
| Philippines | Metro Manila | 85.5 | 52.0 | 42.5 | 264 | 177 | 470 | 53.1 | 164 | 154 | 34.4 | 8.86 |
| | Los Banos | 28.4 | 23.9 | 25.3 | 62.7 | 40.7 | 67.6 | 17.3 | 119 | 117 | 20.1 | 5.41 |
| Republic | Kanghwa | 28.5 | 25.6 | 32.6 | 48.6 | 42.7 | 47.5 | 5.40 | 15.9 | 14.9 | 6.00 | 11.6 |
| of Korea | Cheju | 23.0 | 18.0 | 20.5 | 125 | 36.0 | 83.2 | 10.4 | 6.56 | 4.79 | 11.1 | 14.4 |
| | Imsil | 21.3 | 20.1 | 20.2 | 37.3 | 54.9 | 20.0 | 19.3 | 7.60 | 7.16 | 2.49 | 10.5 |
| Russia | Mondy | 3.51 | 3.46 | 3.38 | 0.46 | 7.08 | 0.73 | 0.66 | 2.24 | 2.22 | 0.47 | 1.00 |
| | Listvyanka | 6.60 | 6.50 | 7.26 | 1.07 | 5.34 | 1.67 | 0.86 | 3.58 | 3.54 | 0.88 | 5.42 |
| | Irkutsk | 13.9 | 13.6 | 8.61 | 5.72 | 11.7 | 3.88 | 3.45 | 16.3 | 16.2 | 2.60 | 2.49 |
| Thailand | Bangkok | 21.3 | 20.7 | 21.0 | 11.1 | 42.5 | 9.78 | 4.83 | 14.1 | 13.9 | 3.71 | 12.6 |
| | Patumthani | 23.2 | 22.5 | 26.5 | 10.5 | 47.9 | 10.9 | 2.27 | 17.5 | 17.3 | 2.93 | 10.0 |
| | Khao Lam Dam | 7.91 | 6.89 | 10.2 | 15.1 | 16.7 | 17.1 | 7.54 | 13.7 | 13.4 | 3.82 | 8.29 |
| | Mae Hia | 3.02 | 2.78 | 4.47 | 4.91 | 17.1 | 4.27 | 3.19 | 7.53 | 7.44 | 1.19 | 2.10 |
| Vietnam | Hanoi | 31.5 | 30.0 | 11.4 | 61.2 | 45.7 | 25.9 | 8.59 | 24.1 | 23.5 | 8.94 | 3.31 |
| | Hoa Binh | 32.6 | 31.3 | 19.5 | 49.2 | 27.8 | 21.8 | 5.19 | 23.1 | 22.6 | 8.25 | 20.2 |

Table 3.9 Monthly precipitation amounts unit: mm

| Country | Name of sites | 2001 Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| China | Chongqing | | | | | | | | | | | | | |
| | -Guanyinqiao | 36.5 | 6.9 | 25.3 | 82.1 | 102.0 | 172.7 | 42.1 | 91.3 | 30.8 | 100.3 | 39.0 | 22.6 | 751.6 |
| | -Jinyunshan | 22.6 | 9.8 | 10.2 | 35.0 | 80.2 | 255.6 | 0.0 | 6.6 | 68.9 | 147.9 | 42.1 | 31.2 | 710.1 |
| | Xi'an | | | | | | | | | | | | | |
| | -Shizhan | - | - | 0.0 | 23.9 | 10.5 | 55.1 | 130.3 | 31.0 | 54.9 | 44.9 | 0.6 | 12.7 | 363.9 |
| | -Weishuiyuan | - | - | - | 29.5 | 7.0 | 19.0 | - | - | - | 0.0 | 0.0 | 13.8 | 69.3 |
| | -Jiwozi | - | - | 0.0 | 23.9 | 10.5 | 55.1 | 24.5 | 6.5 | 34.3 | 54.0 | - | - | 208.8 |
| | Xiamen | | | | | | | | | | | | | |
| | -Hongwen | 4.6 | 0.5 | 92.9 | 0.0 | 0.0 | 0.0 | 0.0 | 87.6 | 92.5 | 8.2 | 0.0 | 9.2 | 295.5 |
| | -Xiaoping | 73.2 | 0.8 | 167.0 | 250.6 | 372.5 | 567.6 | 1028.5 | 685.2 | 1336.5 | 0.0 | 0.0 | 0.0 | 4481.9 |
| | Zhuhai | | | | | | | | | | | | | |
| | -Xiang Zhou | 12.1 | 14.5 | 82.5 | 93.2 | 194.0 | 430.9 | 589.7 | 175.0 | 325.2 | 0.0 | 17.7 | 54.7 | 1989.5 |
| | -Zhuxian Cavern | 25.8 | 13.6 | 93.9 | 87.5 | 106.8 | 763.3 | 787.4 | 261.4 | 386.4 | 0.0 | 0.0 | 44.7 | 2570.8 |
| Indonesia | Jakarta | 219.0 | 254.5 | 182.5 | 62.5 | 33.0 | 142.2 | 50.2 | 72.2 | 0.0 | 64.5 | 57.9 | 98.2 | 1236.7 |
| | Serpong | 0.0 | 30.6 | 67.8 | 45.7 | 118.8 | 66.4 | 352.8 | 58.7 | 358.8 | 161.2 | 345.9 | 0.0 | 1606.7 |
| | Kototabang | 0.0 | 0.0 | 0.0 | 144.3 | 92.1 | 50.4 | 37.8 | 12.4 | 389.2 | 139.8 | 149.7 | 193.0 | 1208.7 |
| | Bandung | 119.7 | 96.9 | 168.6 | 386.8 | 243.0 | 256.3 | 229.5 | 69.5 | 126.5 | 363.5 | 544.5 | - | 2604.7 |
| Japan | Rishiri | 32.5 | 20.9 | 21.5 | 32.5 | 49.5 | 66.5 | 72.5 | 135.0 | 20.5 | 27.6 | 83.5 | 52.5 | 614.9 |
| | Tappi | 25.5 | 26.5 | 56.5 | 44.0 | 73.5 | 86.3 | 187.3 | 75.5 | 220.0 | 212.8 | 51.0 | 22.7 | 1081.6 |
| | Sado-seki | 58.4 | 50.1 | 52.5 | 24.7 | 33.8 | 215.5 | 34.9 | 121.2 | 95.6 | 77.0 | 96.0 | 110.8 | 970.5 |
| | Happo | 251.7 | 127.0 | 172.6 | 25.5 | 139.5 | 629.0 | 122.8 | 157.0 | 170.0 | 219.0 | 152.5 | 178.5 | 2345.1 |
| | Oki | 127.6 | 64.4 | 77.1 | 14.0 | 119.1 | 208.5 | 44.4 | 7.7 | 175.2 | 110.0 | 139.2 | 158.5 | 1245.8 |
| | Yusuhara | 149.5 | 98.6 | 101.5 | 128.0 | 217.5 | 237.5 | 105.0 | 156.5 | 460.0 | 293.5 | 91.0 | 41.5 | 2080.1 |
| | Ogasawara | 129.4 | 98.0 | 221.5 | 341.5 | 296.3 | 58.5 | 113.5 | 38.5 | 299.5 | 63.5 | 111.5 | 34.0 | 1805.7 |
| | Hedo | 152.0 | 56.5 | 146.0 | 119.5 | 441.3 | 267.0 | 99.0 | 65.5 | 570.8 | 55.0 | 25.0 | 128.0 | 2125.6 |
| | Ijira | 313.0 | 42.0 | 167.0 | 39.0 | 207.0 | 351.5 | 172.0 | 266.5 | 242.0 | 220.0 | 72.5 | 144.0 | 2236.5 |
| | Banryu | 135.0 | 77.5 | 84.0 | 27.0 | 178.0 | 329.0 | 284.0 | 89.0 | 159.5 | 126.0 | 168.5 | 130.5 | 1788.0 |
| Malaysia | Petaling Jaya | 526.9 | 284.1 | 170.7 | 283.7 | 115.1 | 315.7 | 189.7 | 137.0 | 237.0 | 273.5 | 361.5 | 190.4 | 3085.3 |
| | Tanah Rata | 138.5 | 137.2 | 254.5 | 301.6 | 135.0 | 151.6 | 43.1 | 127.6 | 252.2 | 408.0 | 481.4 | 195.6 | 2626.3 |
| Mongolia | Ulaanbaatar | - | - | - | 1.5 | 44.5 | 41.7 | 7.0 | 53.0 | 16.7 | 1.5 | - | - | 165.8 |
| | Terelj | - | - | - | 0.4 | 44.3 | 43.9 | - | - | - | - | - | - | 88.6 |
| Philippines | Metro Manila | 20.5 | 105.3 | 12.3 | 33.0 | 259.4 | 229.8 | 500.2 | 586.6 | 134.0 | 239.0 | 74.2 | 96.9 | 2291.2 |
| | Los Banos | 7.1 | 50.3 | 30.4 | 56.8 | 182.7 | 213.4 | 278.1 | 291.9 | 152.3 | 143.7 | 261.1 | 148.7 | 1816.5 |
| Republic | Kanghwa | 45.2 | 37.7 | 14.0 | 6.5 | 17.0 | 146.5 | 578.5 | 140.0 | 10.0 | 102.5 | 15.5 | 26.0 | 1139.4 |
| of Korea | Cheju | 82.2 | 59.7 | 9.8 | 47.3 | 44.7 | 237.1 | 163.3 | 196.7 | 18.7 | 97.8 | 57.4 | 99.0 | 1113.7 |
| | Imsil | 55.2 | 87.4 | 26.5 | 31.0 | 46.0 | 283.0 | 450.0 | 45.5 | 109.0 | 97.5 | 13.5 | 54.5 | 1299.1 |
| Russia | Mondy | 4.5 | 0.0 | 2.5 | 17.6 | 0.0 | 91.8 | 48.4 | 67.7 | 70.0 | 8.6 | 6.4 | 1.9 | 319.3 |
| | Listvyanka | 4.4 | 5.9 | 29.2 | 28.8 | 25.7 | 31.1 | 171.9 | 122.5 | 34.4 | 12.5 | 11.6 | 15.6 | 493.6 |
| | Irkutsk | 9.1 | 10.2 | 19.5 | 16.8 | 26.9 | 42.6 | 201.0 | 60.8 | 43.4 | 18.0 | 3.5 | 16.7 | 468.4 |
| Thailand | Bangkok | 0.0 | 0.0 | 109.7 | 6.0 | 97.0 | 130.2 | 74.0 | 122.0 | 331.3 | 268.0 | 34.7 | 1.0 | 1173.9 |
| | Patumthani | 0.0 | 0.0 | 96.9 | 26.2 | 172.0 | 76.7 | 60.3 | 251.6 | 539.6 | 101.3 | 17.8 | 6.2 | 1348.5 |
| | Khao Lam Dam | 0.0 | 0.0 | 98.4 | 65.5 | 315.2 | 184.5 | 237.1 | 234.3 | 161.8 | 204.3 | 14.9 | 0.0 | 1516.0 |
| | Mae Hia | 0.0 | 0.0 | 0.0 | 26.4 | 126.1 | 109.6 | 148.1 | 318.9 | 137.2 | 182.8 | 13.3 | 21.5 | 1083.9 |
| Vietnam | Hanoi | 13.3 | 38.8 | 142.1 | 75.7 | 269.5 | 333.9 | 494.9 | 573.8 | 64.4 | 185.2 | 21.5 | 41.6 | 2254.7 |
| | Hoa Binh | 4.0 | 9.3 | 142.2 | 16.8 | 364.0 | 238.6 | 500.1 | 435.6 | 225.9 | 249.3 | 22.3 | 15.1 | 2223.2 |

Table 3.10 Data completeness of precipitation amounts (%PCL) unit: %

| Country | Name of sites | 2001 Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| China | Chongqing | | | | | | | | | | | | | |
| | -Guanyinqiao | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | -Jinyunshan | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 92 |
| | Xi'an | | | | | | | | | | | | | |
| | -Shizhan | 0 | 0 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 84 |
| | -Weishuiyuan | 0 | 0 | 0 | 100 | 100 | 100 | 0 | 0 | 0 | 100 | 100 | 100 | 50 |
| | -Jiwozi | 0 | 0 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 0 | 0 | 67 |
| | Xiamen | | | | | | | | | | | | | |
| | -Hongwen | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | -Xiaoping | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Zhuhai | | | | | | | | | | | | | |
| | -Xiang Zhou | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | -Zhuxian Cavern | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Indonesia | Jakarta | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Serpong | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Kototabang | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Bandung | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 94 | 100 | 94 | 99 |
| Japan | Rishiri | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Tappi | 100 | 100 | 87 | 100 | 100 | 100 | 90 | 100 | 100 | 100 | 100 | 100 | 98 |
| | Sado-seki | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Happo | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Oki | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Yusuhara | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Ogasawara | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Hedo | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Ijira | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Banryu | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Malaysia | Petaling Jaya | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 80 | 100 | 100 | 100 | 100 | 98 |
| | Tanah Rata | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Mongolia | Ulaanbaatar | 0 | 0 | 0 | 3 | 100 | 100 | 100 | 100 | 100 | 32 | 0 | 0 | 46 |
| | Terelj | 0 | 0 | 0 | 3 | 100 | 68 | 0 | 0 | 0 | 0 | 0 | 0 | 14 |
| Philippines | Metro Manila | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Los Banos | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Republic of Korea | Kanghwa | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Cheju | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Imsil | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Russia | Mondy | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Listvyanka | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Irkutsk | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Thailand | Bangkok | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Patumthani | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Khao Lam Dam | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Mae Hia | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Vietnam | Hanoi | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Hoa Binh | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

Table 3.11 Monthly weighted averages of $SO_4^{2-}$ concentration unit: µmol/L

| Country | Name of sites | 2001 Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual | Daily or Event Max | M | Min | M | Weekly Max | M | Min | M | F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| China | Chongqing | | | | | | | | | | | | | | | | | | | | | | |
| | -Guanyinqiao | 276 | 263 | 320 | 184 | 145 | 173 | 143 | 136 | 347 | 233 | 182 | 676 | 205 | 1390 | 12 | 52.8 | 8 | | | | | d |
| | -Jinyunshan | 124 | 300 | 194 | 304 | 86.7 | 84.4 | - | 132 | 182 | 113 | 119 | 183 | 124 | 1160 | 9 | 25.8 | 6 | | | | | d |
| | Xi'an | | | | | | | | | | | | | | | | | | | | | | |
| | -Shizhan | - | - | - | 1460 | 106 | 486 | 300 | 435 | 269 | 450 | - | 1590 | 470 | 1740 | 12 | 24.8 | 9 | | | | | d |
| | -Weishuiyuan | - | - | - | 1410 | 1380 | 1030 | - | - | - | - | - | 2460 | 1510 | 2830 | 12 | 68.8 | 9 | | | | | d |
| | -Jiwozi | - | - | - | 1460 | 106 | 486 | 58.4 | 104 | 43.4 | 27.8 | - | - | 326 | 1650 | 4 | 16.6 | 9 | | | | | d |
| | Xiamen | | | | | | | | | | | | | | | | | | | | | | |
| | -Hongwen | 362 | 315 | 50.5 | - | - | - | - | 25.0 | 45.0 | 358 | - | 101 | 56.5 | 362 | 1 | 11.0 | 8 | | | | | d |
| | -Xiaoping | 4.5 | 26.2 | 27.8 | 29.3 | 38.7 | 13.2 | 16.9 | 16.2 | 11.3 | - | - | - | 17.4 | 124 | 5 | 3.9 | 6 | | | | | d |
| | Zhuhai | | | | | | | | | | | | | | | | | | | | | | |
| | -Xiang Zhou | 72.8 | 76.4 | 38.9 | 28.1 | 10.2 | 7.3 | 4.2 | 16.8 | 20.1 | - | 245 | 36.7 | 15.7 | 361 | 2 | <1.0 | 5 | | | | | d |
| | -Zhuxian Cavern | 33.6 | 75.8 | 34.1 | 40.3 | 42.1 | 9.1 | 8.8 | 47.7 | 21.0 | - | - | 44.0 | 19.3 | 242 | 3 | <1.0 | 6 | | | | | d |
| Indonesia | Jakarta | 22.5 | 24.0 | 46.5 | 22.8 | 10.7 | 39.6 | 306 | 170 | - | 245 | 61.5 | 19.6 | 62.7 | | | | | 358 | 8 | 6.6 | 5 | w |
| | Serpong | - | 29.3 | 23.8 | 38.8 | 31.7 | 30.2 | 53.6 | 93.2 | 36.7 | 21.6 | 29.9 | - | 38.2 | 159 | 8 | 4.1 | 11 | | | | | e |
| | Kototabang | - | - | - | 3.0 | 2.1 | 4.8 | 18.6 | 9.7 | 4.9 | 4.2 | 4.4 | 4.4 | 4.7 | | | | | 43.0 | 6 | <1.0 | 4 | w |
| | Bandung | 34.4 | 12.5 | 32.7 | 41.8 | 27.2 | 44.6 | 32.0 | 34.0 | 32.1 | 32.1 | 31.7 | - | 33.7 | 142 | 4 | 3.6 | 10 | | | | | e |
| Japan | Rishiri | 48.7 | 99.9 | 91.6 | 42.3 | 30.2 | 31.8 | 14.6 | 5.9 | 13.8 | 19.9 | 27.2 | 71.6 | 31.0 | 348 | 2 | 1.2 | 8 | | | | | d |
| | Tappi | - | 31.9 | 123 | 63.5 | 29.1 | 21.9 | 28.3 | 15.0 | 10.9 | 14.9 | 29.2 | 67.9 | 22.9 | 257 | 12 | <1.0 | 6 | | | | | d |
| | Sado-seki | 95.3 | 119 | 171 | 53.5 | 36.5 | 10.6 | 25.4 | 11.3 | 13.9 | 23.6 | 49.8 | 67.1 | 41.0 | 559 | 3 | 1.7 | 9 | | | | | d |
| | Happo | 12.3 | 18.5 | 27.5 | 28.6 | 27.2 | 6.6 | 15.1 | 12.8 | 7.3 | 5.7 | 10.5 | 16.1 | 11.7 | 190 | 5 | <1.0 | 10 | | | | | d |
| | Oki | 72.2 | 60.2 | 57.2 | 83.8 | 19.4 | 7.8 | 14.0 | 31.2 | 24.9 | 18.4 | 26.0 | 45.6 | 33.8 | 1130 | 1 | 1.8 | 10 | | | | | d |
| | Yusuhara | 14.2 | 20.8 | 33.7 | 9.4 | 9.2 | 5.8 | 11.3 | 9.6 | 2.0 | 6.5 | 13.3 | 10.5 | 9.2 | 179 | 3 | <1.0 | 9 | | | | | d |
| | Ogasawara | 8.4 | 10.4 | 13.7 | 9.1 | 12.3 | 6.6 | 21.3 | 25.7 | 8.7 | 13.1 | 9.4 | 14.5 | 11.4 | 222 | 10 | 1.4 | 2 | | | | | d |
| | Hedo | 16.1 | 36.0 | 27.1 | 18.2 | 10.2 | 6.4 | 5.5 | 13.1 | 7.8 | 120 | 30.7 | 30.4 | 15.9 | 2920 | 10 | <1.0 | 9 | | | | | d |
| | Ijira | 15.6 | 21.6 | 28.9 | 33.9 | 28.9 | 21.8 | 15.2 | 24.3 | 26.3 | 20.6 | 16.0 | 16.5 | 22.0 | | | | | 144 | 7 | 3.1 | 8 | w |
| | Banryu | 26.4 | 47.2 | 58.6 | 24.9 | 22.9 | 9.3 | 5.6 | 10.8 | 9.6 | 14.9 | 19.6 | 36.0 | 19.0 | | | | | 124 | 3 | 2.3 | 7 | w |
| Malaysia | Petaling Jaya | 21.2 | 29.3 | 31.0 | 25.3 | 20.5 | 18.6 | 23.7 | 14.0 | 29.3 | 17.9 | 17.9 | 18.5 | 22.2 | | | | | 50.5 | 9 | 7.2 | 12 | w |
| | Tanah Rata | 3.9 | 6.7 | 4.5 | 2.3 | 6.7 | 3.5 | 12.6 | 5.1 | 4.9 | 2.4 | 2.6 | 2.2 | 3.7 | | | | | 16.2 | 7 | <1.0 | 10 | w |
| Mongolia | Ulaanbaatar | - | - | - | 108 | 17.0 | 24.4 | 60 | 19.9 | 37.9 | 83 | - | - | 25.2 | 220 | 5 | 4.4 | 5 | | | | | d |
| | Terelj | - | - | - | 9.1 | 5.1 | 14.4 | - | - | - | - | - | - | 9.7 | 24.6 | 6 | 3.1 | 5 | | | | | d |
| Philippines | Metro Manila | 38.7 | 11.9 | 105 | - | 15.0 | - | 37.0 | 48.6 | - | - | 41.9 | 72.7 | 37.3 | | | | | 121 | 3 | 11.9 | 2 | w |
| | Los Banos | 7.1 | 22.4 | 82.4 | 39.9 | 33.6 | - | 14.4 | 11.3 | 16.5 | 6.0 | 9.1 | 5.7 | 15.6 | | | | | 136 | 3 | 2.8 | 10 | w |
| Republic | Kanghwa | 167 | - | 185 | 222 | 120 | 31.1 | 18.0 | 12.8 | - | 15.0 | 41.6 | 74.1 | 25.0 | 222 | 4 | 3.6 | 7 | | | | | d |
| of Korea | Cheju | - | - | - | - | - | 8.5 | 13.7 | 29.0 | 11.8 | 14.5 | 28.5 | 51.6 | 20.7 | 138 | 12 | 1.7 | 6 | | | | | d |
| | Imsil | 23.4 | 37.3 | 112 | 13.2 | 9.2 | 8.6 | 11.7 | 25.9 | - | 16.8 | - | 13.9 | 16.4 | | | | | 112 | 3 | 8.6 | 6 | w |
| Russia | Mondy | 7.7 | - | 23.1 | 8.8 | - | 22.3 | 3.8 | 5.3 | 7.2 | 7.7 | 13.0 | 6.5 | 11.0 | 36.6 | 6 | <1.0 | 7 | | | | | d |
| | Listvyanka | 21.8 | 15.0 | 14.7 | 12.7 | 23.6 | 16.6 | 10.6 | 13.4 | 14.3 | 19.6 | 11.1 | 10.9 | 13.4 | 82.3 | 8 | 4.8 | 7 | | | | | d |
| | Irkutsk | 58.2 | 51.6 | 45.3 | 43.3 | 186 | 30.5 | 9.9 | 12.8 | 17.2 | 29.1 | 88.2 | 33.9 | 29.6 | 494 | 5 | 2.6 | 7 | | | | | d |
| Thailand | Bangkok | - | - | 16.5 | 86.6 | 12.4 | 15.0 | 16.7 | 8.4 | 20.8 | 22.2 | 17.2 | 180 | 18.2 | 180 | 12 | <1.0 | 6 | | | | | d |
| | Patumthani | - | - | 16.0 | 21.0 | 13.4 | 16.6 | 24.8 | 12.1 | 19.9 | 16.8 | 20.5 | 19.9 | 17.2 | 78.8 | 8 | 2.8 | 8 | | | | | d |
| | Khao Lam Dam | - | - | 7.6 | 9.2 | 4.1 | - | 6.9 | 2.7 | 3.3 | 8.8 | - | - | 5.2 | 59.8 | 3 | <1.0 | 5 | | | | | d |
| | Mae Hia | - | - | - | 12.4 | 2.4 | 2.1 | <1.0 | 1.3 | 4.0 | 4.1 | 9.3 | 9.6 | 2.8 | 14.2 | 10 | <1.0 | 7 | | | | | d |
| Vietnam | Hanoi | 110 | 40.4 | 22.9 | 21.3 | 15.0 | 10.9 | 7.4 | 8.1 | 20.6 | 21.9 | 27.8 | 41.9 | 14.0 | | | | | 131 | 1 | 2.3 | 8 | w |
| | Hoa Binh | 61.4 | 31.3 | 24.4 | 34.3 | 20.5 | 7.8 | 4.2 | 5.3 | 22.8 | 26.6 | 70.2 | 72.4 | 14.7 | | | | | 108 | 12 | 2.7 | 8 | w |

Table 3.12 Data completeness of $SO_4^{2-}$ (Percent total precipitation) unit: %

| Country | Name of sites | 2001 Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| China | Chongqing | | | | | | | | | | | | | |
| | -Guanyinqiao | 92 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | -Jinyunshan | 100 | 100 | 100 | 100 | 100 | 100 | * | 100 | 100 | 100 | 100 | 100 | 100 |
| | Xi'an | | | | | | | | | | | | | |
| | -Shizhan | 0 | 0 | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 0 | 100 | 100 |
| | -Weishuiyuan | 0 | 0 | 0 | 100 | 100 | 100 | 100 | 100 | 100 | * | * | 100 | 100 |
| | -Jiwozi | 0 | 0 | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 0 | 0 | 100 |
| | Xiamen | | | | | | | | | | | | | |
| | -Hongwen | 100 | 100 | 100 | * | * | * | * | 100 | 100 | 100 | * | 100 | 100 |
| | -Xiaoping | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | * | * | 100 |
| | Zhuhai | | | | | | | | | | | | | |
| | -Xiang Zhou | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | 100 | 100 |
| | -Zhuxian Cavern | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | * | 100 |
| Indonesia | Jakarta | 81 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | 100 | 100 | 100 | 97 |
| | Serpong | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | 100 |
| | Kototabang | * | * | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Bandung | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 0 | 100 |
| Japan | Rishiri | 91 | 95 | 100 | 58 | 99 | 99 | 99 | 100 | 98 | 100 | 99 | 99 | 97 |
| | Tappi | 0 | 45 | 11 | 88 | 99 | 98 | 100 | 99 | 99 | 100 | 71 | 100 | 89 |
| | Sado-seki | 87 | 98 | 44 | 100 | 100 | 100 | 81 | 100 | 73 | 74 | 100 | 100 | 91 |
| | Happo | 99 | 85 | 47 | 98 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 18 | 89 |
| | Oki | 99 | 100 | 100 | 46 | 78 | 85 | 73 | 100 | 73 | 100 | 100 | 100 | 90 |
| | Yusuhara | 100 | 100 | 99 | 94 | 100 | 100 | 99 | 88 | 100 | 100 | 36 | 100 | 96 |
| | Ogasawara | 100 | 99 | 100 | 100 | 100 | 100 | 100 | 99 | 100 | 100 | 98 | 99 | 100 |
| | Hedo | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 99 | 100 | 100 | 100 |
| | Ijira | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Banryu | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Malaysia | Petaling Jaya | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Tanah Rata | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Mongolia | Ulaanbaatar | 0 | 0 | 0 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 0 | 0 | 100 |
| | Terelj | 0 | 0 | 0 | 100 | 100 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 100 |
| Philippines | Metro Manila | 97 | 70 | 67 | 0 | 74 | 0 | 100 | 30 | 0 | 0 | 99 | 99 | 50 |
| | Los Banos | 27 | 72 | 63 | 86 | 100 | 0 | 100 | 98 | 100 | 100 | 100 | 100 | 86 |
| Republic | Kanghwa | 7 | 0 | 57 | 85 | 97 | 99 | 100 | 99 | 0 | 91 | 90 | 88 | 90 |
| of Korea | Cheju | 0 | 0 | 0 | 0 | 0 | 99 | 100 | 100 | 94 | 100 | 90 | 88 | 76 |
| | Imsil | 100 | 100 | 67 | 89 | 62 | 77 | 100 | 76 | 0 | 92 | 0 | 86 | 81 |
| Russia | Mondy | 100 | * | 100 | 100 | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Listvyanka | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Irkutsk | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Thailand | Bangkok | * | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Patumthani | * | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Khao Lam Dam | * | * | 98 | 80 | 37 | 0 | 2 | 49 | 8 | 1 | 0 | * | 26 |
| | Mae Hia | * | * | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Vietnam | Hanoi | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 93 | 100 | 100 | 99 |
| | Hoa Binh | 70 | 67 | 99 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

Table 3.13 Monthly weighted averages of nss-$SO_4^{2-}$ concentration unit: μmol/L

| Country | Name of sites | 2001 Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual | Daily or Event Max | M | Min | M | Weekly Max | M | Min | M | F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| China | Chongqing | | | | | | | | | | | | | | | | | | | | | | |
| | -Guanyinqiao | 275 | 261 | 318 | 183 | 145 | 172 | 142 | 136 | 346 | 232 | 181 | 674 | 205 | 1390 | 12 | 52.7 | 8 | | | | | d |
| | -Jinyunshan | 123 | 299 | 192 | 302 | 85.6 | 84.0 | - | 131 | 182 | 113 | 119 | 182 | 123 | 1160 | 9 | 25.3 | 8 | | | | | d |
| | Xi'an | | | | | | | | | | | | | | | | | | | | | | |
| | -Shizhan | - | - | - | 1450 | 76.7 | 473 | 293 | 424 | 257 | 444 | - | 1580 | 460 | 1740 | 12 | 12.5 | 9 | | | | | d |
| | -Weishuiyuan | - | - | - | 1390 | 1360 | 1020 | - | - | - | - | - | 2460 | 1500 | 2830 | 12 | 60.5 | 9 | | | | | d |
| | -Jiwozi | - | - | - | 1450 | 76.7 | 473 | 53.5 | 95.4 | 37.6 | 22.6 | - | - | 316 | 1630 | 4 | 10.0 | 10 | | | | | d |
| | Xiamen | | | | | | | | | | | | | | | | | | | | | | |
| | -Hongwen | 361 | 312 | 50.1 | - | - | - | - | 24.6 | 44.7 | 349 | - | 99.0 | 55.9 | 361 | 1 | 10.3 | 8 | | | | | d |
| | -Xiaoping | 4.5 | 25.5 | 27.5 | 29.1 | 38.4 | 13.0 | 16.4 | 13.7 | 11.2 | - | - | - | 16.8 | 124 | 5 | 3.4 | 6 | | | | | d |
| | Zhuhai | | | | | | | | | | | | | | | | | | | | | | |
| | -Xiang Zhou | 71.2 | 73.8 | 37.3 | 27.1 | 9.6 | 6.7 | 3.3 | 14.1 | 19.4 | - | 235 | 35.2 | 14.6 | 347 | 2 | <1.0 | 7 | | | | | d |
| | -Zhuxian Cavern | 33.0 | 74.6 | 32.4 | 38.8 | 41.3 | 8.1 | 6.9 | 46.1 | 20.6 | - | - | 42.8 | 18.0 | 228 | 3 | <1.0 | 6 | | | | | d |
| Indonesia | Jakarta | 21.8 | 21.4 | 44.8 | 22.1 | 8.2 | 38.3 | 299 | 166 | - | 239 | 58.8 | 17.4 | 60.3 | | | | | 352 | 8 | 4.3 | 5 | w |
| | Serpong | - | 27.0 | 22.0 | 37.7 | 30.1 | 29.3 | 52.3 | 89.1 | 35.2 | 21.2 | 28.4 | - | 36.8 | 150 | 8 | 3.4 | 11 | | | | | e |
| | Kototabang | - | - | - | 2.9 | 2.0 | 4.8 | 18.6 | 9.7 | 4.5 | 3.6 | 3.9 | 4.2 | 4.4 | | | | | 43.0 | 6 | <1.0 | 4 | w |
| | Bandung | 33.4 | 11.7 | 31.4 | 39.6 | 26.0 | 43.1 | 30.7 | 32.3 | 30.8 | 31.1 | 31.2 | - | 32.5 | 134 | 4 | 3.0 | 10 | | | | | e |
| Japan | Rishiri | 32.5 | 50.3 | 56.9 | 34.4 | 28.5 | 26.4 | 13.8 | 5.4 | 4.9 | 10.6 | 12.1 | 14.4 | 18.2 | 190 | 7 | <1.0 | 12 | | | | | d |
| | Tappi | - | 13.4 | 61.8 | 41.5 | 27.1 | 15.7 | 25.8 | 13.5 | 2.5 | 7.5 | 17.2 | 13.4 | 14.8 | 156 | 7 | <1.0 | 9 | | | | | d |
| | Sado-seki | 19.3 | 54.7 | 71.9 | 39.7 | 33.2 | 9.6 | 22.0 | 9.2 | 8.6 | 19.1 | 20.3 | 20.6 | 19.5 | 205 | 5 | <1.0 | 1 | | | | | d |
| | Happo | 10.7 | 17.7 | 26.8 | 28.2 | 27.0 | 6.5 | 15.0 | 12.7 | 7.2 | 5.5 | 10.0 | 15.7 | 11.3 | 189 | 5 | <1.0 | 10 | | | | | d |
| | Oki | 18.5 | 29.9 | 27.3 | 56.3 | 18.0 | 6.3 | 10.4 | 18.0 | 8.3 | 12.2 | 13.5 | 14.4 | 14.8 | 145 | 3 | 1.2 | 9 | | | | | d |
| | Yusuhara | 12.6 | 19.1 | 29.3 | 9.0 | 8.4 | 5.6 | 10.9 | 9.2 | 1.8 | 6.3 | 12.9 | 9.5 | 8.4 | 154 | 3 | <1.0 | 9 | | | | | d |
| | Ogasawara | 3.5 | 6.0 | 8.7 | 5.7 | 8.4 | 4.1 | 1.8 | 8.6 | <1.0 | 2.4 | 4.2 | 5.5 | 5.1 | 66.8 | 4 | <1.0 | 2 | | | | | d |
| | Hedo | 6.7 | 14.8 | 17.2 | 14.1 | 5.4 | 3.6 | 3.1 | 8.9 | 2.6 | 3.3 | 19.7 | 10.7 | 6.5 | 130 | 3 | <1.0 | 9 | | | | | d |
| | Ijira | 12.5 | 19.9 | 26.0 | 32.6 | 26.9 | 21.5 | 14.3 | 23.8 | 25.1 | 19.8 | 13.9 | 9.5 | 20.2 | | | | | 132 | 7 | 2.9 | 8 | w |
| | Banryu | 19.4 | 36.0 | 41.1 | 20.4 | 19.2 | 8.5 | 5.1 | 9.5 | 6.4 | 12.0 | 12.7 | 22.2 | 14.3 | | | | | 90.1 | 3 | 1.6 | 7 | w |
| Malaysia | Petaling Jaya | 21.0 | 28.9 | 30.5 | 25.2 | 20.3 | 18.4 | 23.5 | 13.7 | 29.0 | 17.8 | 17.7 | 18.2 | 22.0 | | | | | 49.6 | 9 | 7.0 | 12 | w |
| | Tanah Rata | 3.7 | 6.3 | 4.4 | 2.2 | 6.6 | 3.4 | 12.5 | 4.9 | 4.7 | 2.4 | 2.5 | 2.0 | 3.6 | | | | | 15.8 | 7 | <1.0 | 10 | w |
| Mongolia | Ulaanbaatar | - | - | - | 102 | 16.5 | 23.9 | 59 | 19.6 | 37.5 | 80 | - | - | 24.6 | 210 | 5 | 4.3 | 5 | | | | | d |
| | Terelj | - | - | - | 8.8 | 5.0 | 12.6 | - | - | - | - | - | - | 8.8 | 23.9 | 6 | 3.0 | 5 | | | | | d |
| Philippines | Metro Manila | 37.5 | 9.7 | 72.8 | - | 14.1 | - | 7.1 | 45.8 | - | - | 39.4 | 68.8 | 22.7 | | | | | 74.8 | 3 | <1.0 | 7 | w |
| | Los Banos | 6.7 | 16.3 | 69.2 | 38.7 | 31.1 | - | 12.1 | 10.7 | 14.7 | 4.3 | 4.9 | 3.2 | 13.2 | | | | | 111 | 3 | 1.1 | 10 | w |
| Republic | Kanghwa | 150 | - | 177 | 212 | 115 | 29.6 | 15.6 | 10.0 | - | 13.9 | 39.0 | 68.3 | 22.5 | 212 | 4 | 2.9 | 7 | | | | | d |
| of Korea | Cheju | - | - | - | - | - | 7.1 | 10.0 | 22.6 | 9.9 | 10.1 | 23.6 | 41.4 | 16.2 | 129 | 12 | <1.0 | 7 | | | | | d |
| | Imsil | 21.5 | 35.4 | 111 | 12.4 | 8.5 | 8.0 | 10.9 | 25.0 | - | 15.7 | - | 12.1 | 15.5 | | | | | 111 | 3 | 7.7 | 7 | w |
| Russia | Mondy | 7.4 | - | 22.7 | 8.7 | - | 22.2 | 3.7 | 5.2 | 7.1 | 7.4 | 12.9 | 6.3 | 10.8 | 36.5 | 6 | <1.0 | 7 | | | | | d |
| | Listvyanka | 21.1 | 13.8 | 14.4 | 12.6 | 23.4 | 16.4 | 10.4 | 13.3 | 14.2 | 18.8 | 10.8 | 10.6 | 13.2 | 81.4 | 8 | 4.6 | 7 | | | | | d |
| | Irkutsk | 54.3 | 49.6 | 43.6 | 42.0 | 186 | 30.1 | 9.8 | 12.7 | 16.1 | 28.9 | 86.0 | 33.3 | 29.1 | 493 | 5 | 2.6 | 7 | | | | | d |
| Thailand | Bangkok | - | - | 15.9 | 85.6 | 11.6 | 14.2 | 15.9 | 8.1 | 20.5 | 21.6 | 16.5 | 178 | 17.7 | 178 | 12 | <1.0 | 6 | | | | | d |
| | Patumthani | - | - | 15.6 | 20.2 | 12.6 | 15.9 | 23.8 | 11.7 | 19.5 | 16.5 | 19.8 | 19.2 | 16.7 | 75.9 | 8 | 2.3 | 11 | | | | | d |
| | Khao Lam Dam | - | - | 7.4 | 8.6 | 3.2 | - | 4.0 | 1.8 | 2.9 | 6.7 | - | - | 4.5 | 56.8 | 3 | <1.0 | 5 | | | | | d |
| | Mae Hia | - | - | - | 11.9 | 1.8 | 1.8 | <1.0 | 1.2 | 3.8 | 3.8 | 9.1 | 9.2 | 2.6 | 14.0 | 10 | <1.0 | 7 | | | | | d |
| Vietnam | Hanoi | 106 | 38.2 | 20.9 | 20.6 | 14.4 | 10.5 | 6.7 | 7.7 | 19.9 | 21.2 | 27.6 | 41.6 | 13.3 | | | | | 126 | 1 | 2.0 | 8 | w |
| | Hoa Binh | 58.4 | 29.2 | 23.0 | 33.3 | 19.6 | 7.4 | 3.8 | 4.8 | 22.3 | 26.2 | 69.8 | 71.9 | 14.1 | | | | | 108 | 12 | 2.4 | 8 | w |

Table 3.14 Data completeness of nss-$SO_4^{2-}$ (Percent total precipitation) unit: %

| Country | Name of sites | 2001 Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| China | Chongqing | | | | | | | | | | | | | |
| | -Guanyinqiao | 92 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | -Jinyunshan | 100 | 100 | 100 | 100 | 100 | 100 | * | 100 | 100 | 100 | 100 | 100 | 100 |
| | Xi'an | | | | | | | | | | | | | |
| | -Shizhan | 0 | 0 | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 0 | 100 | 100 |
| | -Weishuiyuan | 0 | 0 | 0 | 100 | 100 | 100 | 100 | 100 | 100 | * | * | 100 | 100 |
| | -Jiwozi | 0 | 0 | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 0 | 0 | 100 |
| | Xiamen | | | | | | | | | | | | | |
| | -Hongwen | 100 | 100 | 100 | * | * | * | * | 100 | 100 | 100 | * | 100 | 100 |
| | -Xiaoping | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | * | * | 100 |
| | Zhuhai | | | | | | | | | | | | | |
| | -Xiang Zhou | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | 100 | 100 |
| | -Zhuxian Cavern | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | * | 100 |
| Indonesia | Jakarta | 81 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | 100 | 100 | 100 | 97 |
| | Serpong | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | 100 |
| | Kototabang | * | * | * | 100 | 100 | 99 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Bandung | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 0 | 100 |
| Japan | Rishiri | 91 | 95 | 100 | 58 | 99 | 99 | 99 | 100 | 98 | 100 | 99 | 99 | 97 |
| | Tappi | 0 | 45 | 11 | 88 | 99 | 96 | 100 | 99 | 99 | 100 | 71 | 100 | 89 |
| | Sado-seki | 87 | 98 | 44 | 100 | 100 | 100 | 81 | 100 | 73 | 74 | 100 | 100 | 91 |
| | Happo | 99 | 85 | 47 | 98 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 18 | 89 |
| | Oki | 99 | 100 | 100 | 46 | 78 | 85 | 73 | 100 | 73 | 100 | 100 | 100 | 90 |
| | Yusuhara | 100 | 100 | 99 | 94 | 100 | 100 | 99 | 88 | 100 | 100 | 36 | 100 | 96 |
| | Ogasawara | 100 | 99 | 100 | 100 | 100 | 100 | 100 | 99 | 100 | 98 | 98 | 99 | 100 |
| | Hedo | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 99 | 100 | 100 | 100 |
| | Ijira | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Banryu | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Malaysia | Petaling Jaya | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Tanah Rata | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Mongolia | Ulaanbaatar | 0 | 0 | 0 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 0 | 0 | 100 |
| | Terelj | 0 | 0 | 0 | 100 | 100 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 100 |
| Philippines | Metro Manila | 97 | 70 | 67 | 0 | 74 | 0 | 100 | 30 | 0 | 0 | 99 | 99 | 50 |
| | Los Banos | 27 | 72 | 63 | 86 | 100 | 0 | 100 | 98 | 100 | 100 | 100 | 100 | 86 |
| Republic | Kanghwa | 7 | 0 | 57 | 85 | 97 | 99 | 100 | 99 | 0 | 91 | 90 | 88 | 90 |
| of Korea | Cheju | 0 | 0 | 0 | 0 | 0 | 99 | 100 | 100 | 94 | 100 | 90 | 88 | 76 |
| | Imsil | 100 | 100 | 67 | 89 | 62 | 77 | 100 | 76 | 0 | 92 | 0 | 86 | 81 |
| Russia | Mondy | 100 | * | 100 | 100 | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Listvyanka | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Irkutsk | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Thailand | Bangkok | * | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Patumthani | * | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Khao Lam Dam | * | * | 98 | 80 | 37 | 0 | 2 | 49 | 8 | 1 | 0 | * | 26 |
| | Mae Hia | * | * | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Vietnam | Hanoi | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 93 | 100 | 100 | 99 |
| | Hoa Binh | 70 | 67 | 99 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

Table 3.15 Monthly weighted averages of $NO_3^-$ concentration unit: μmol/L

| Country | Name of sites | 2001 Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual | Daily or Event Max | M | Min | M | Weekly Max | M | Min | M | F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| China | Chongqing | | | | | | | | | | | | | | | | | | | | | | |
| | -Guanyinqiao | 82.6 | 97.1 | 80.2 | 40.5 | 33.5 | 49.1 | 38.3 | 40.8 | 75.3 | 54.5 | 49.4 | 166 | 52.8 | 392 | 12 | 13.7 | 8 | | | | | d |
| | -Jinyunshan | 46.1 | 107 | 69.7 | 77.0 | 24.2 | 27.0 | - | 57.1 | 52.7 | 38.2 | 49.2 | 81.5 | 40.3 | 457 | 11 | 8.5 | 6 | | | | | d |
| | Xi'an | | | | | | | | | | | | | | | | | | | | | | |
| | -Shizhan | - | - | - | 142 | 165 | 318 | 120 | 142 | 108 | 92.2 | - | 232 | 153 | 778 | 6 | 6.8 | 9 | | | | | d |
| | -Weishuiyuan | - | - | - | 205 | 178 | 222 | - | - | - | - | - | 220 | 210 | 301 | 4 | 5.2 | 9 | | | | | d |
| | -Jiwozi | - | - | - | 142 | 165 | 318 | 51.2 | 57.2 | 95.0 | 32.6 | - | - | 140 | 778 | 6 | 5.0 | 9 | | | | | d |
| | Xiamen | | | | | | | | | | | | | | | | | | | | | | |
| | -Hongwen | 102 | 140 | 32.7 | - | - | - | - | 16.3 | 28.8 | 380 | - | 46.5 | 37.9 | 380 | 10 | 7.9 | 8 | | | | | d |
| | -Xiaoping | 5.5 | 29.3 | 35.5 | 31.8 | 5.5 | 14.2 | 12.9 | 44.7 | 10.3 | - | - | - | 18.3 | 103 | 8 | 3.2 | 5 | | | | | d |
| | Zhuhai | | | | | | | | | | | | | | | | | | | | | | |
| | -Xiang Zhou | 56.8 | 60.9 | 43.3 | 27.6 | 9.2 | 5.8 | 2.8 | 22.5 | 18.8 | - | 213 | 10.3 | 14.1 | 308 | 2 | <1.0 | 5 | | | | | d |
| | -Zhuxian Cavern | 24.3 | 51.7 | 42.8 | 90.9 | 43.4 | 5.3 | 5.0 | 82.3 | 22.9 | - | - | 18.9 | 22.2 | 391 | 9 | <1.0 | 6 | | | | | d |
| Indonesia | Jakarta | 16.0 | 6.3 | 51.4 | 18.0 | 36.1 | 55.9 | 265 | 136 | - | 209 | 69.6 | 10.9 | 53.7 | | | | | 364 | 8 | 5.0 | 2 | w |
| | Serpong | - | 32.3 | 37.1 | 49.4 | 36.2 | 39.6 | 71.7 | 101 | 42.0 | 38.5 | 46.9 | - | 50.7 | 220 | 8 | 7.7 | 11 | | | | | e |
| | Kototabang | - | - | - | 1.6 | 2.7 | 2.0 | 5.1 | 2.2 | 3.0 | 4.1 | 2.6 | 2.0 | 2.7 | | | | | 19.0 | 6 | <1.0 | 6 | w |
| | Bandung | 28.9 | 12.2 | 30.0 | 38.7 | 23.5 | 40.5 | 28.0 | 41.9 | 24.9 | 22.9 | 15.4 | - | 26.9 | 140 | 4 | <1.0 | 10 | | | | | e |
| Japan | Rishiri | 21.5 | 52.2 | 36.4 | 29.5 | 26.7 | 29.1 | 16.3 | 5.9 | 5.7 | 8.3 | 16.1 | 15.5 | 18.0 | 221 | 7 | <1.0 | 6 | | | | | d |
| | Tappi | - | 8.2 | 52.2 | 51.0 | 23.5 | 19.0 | 21.0 | 14.0 | 3.7 | 9.8 | 21.7 | 17.5 | 15.3 | 132 | 7 | <1.0 | 6 | | | | | d |
| | Sado-seki | 12.7 | 57.9 | 70.0 | 60.2 | 24.7 | 12.5 | 28.7 | 14.2 | 14.5 | 14.5 | 25.4 | 24.0 | 22.2 | 221 | 8 | 1.5 | 9 | | | | | d |
| | Happo | 6.0 | 11.4 | 26.5 | 19.4 | 20.4 | 5.7 | 19.5 | 8.8 | 5.3 | 3.6 | 6.6 | 8.0 | 8.9 | 162 | 5 | <1.0 | 4 | | | | | d |
| | Oki | 19.5 | 25.3 | 30.0 | 68.3 | 9.1 | 6.6 | 15.3 | 49.6 | 12.1 | 14.1 | 13.7 | 17.7 | 15.7 | 258 | 1 | 2.1 | 10 | | | | | d |
| | Yusuhara | 13.0 | 16.4 | 23.6 | 9.6 | 7.5 | 4.4 | 4.4 | 10.2 | 1.6 | 2.1 | 4.8 | 11.6 | 6.8 | 266 | 3 | <1.0 | 10 | | | | | d |
| | Ogasawara | 2.3 | 4.7 | 4.9 | 6.2 | 4.9 | 3.1 | 1.5 | 3.4 | <1.0 | 1.7 | 3.4 | 4.2 | 3.7 | 53.0 | 1 | <1.0 | 1 | | | | | d |
| | Hedo | 5.7 | 21.5 | 14.7 | 14.6 | 5.7 | 3.4 | 5.0 | 5.3 | 2.1 | 5.7 | 21.1 | 12.9 | 6.6 | 97.2 | 3 | <1.0 | 5 | | | | | d |
| | Ijira | 11.3 | 41.2 | 29.2 | 45.6 | 17.0 | 26.4 | 24.6 | 28.0 | 21.0 | 16.4 | 19.4 | 14.1 | 21.7 | | | | | 256 | 7 | 1.8 | 8 | w |
| | Banryu | 19.1 | 44.1 | 54.3 | 27.1 | 11.2 | 8.9 | 7.2 | 12.1 | 7.9 | 10.4 | 16.6 | 48.9 | 17.4 | | | | | 125 | 12 | 2.4 | 7 | w |
| Malaysia | Petaling Jaya | 20.5 | 33.0 | 37.9 | 33.3 | 23.8 | 22.1 | 24.2 | 8.5 | 43.1 | 11.8 | 18.3 | 8.4 | 23.7 | | | | | 53.7 | 9 | <1.0 | 12 | w |
| | Tanah Rata | 1.8 | 6.9 | 4.0 | <1.0 | 7.2 | 7.2 | 15.3 | 6.0 | 3.7 | 1.9 | 2.5 | <1.0 | 3.4 | | | | | 16.7 | 7 | <1.0 | 12 | w |
| Mongolia | Ulaanbaatar | - | - | - | 52.3 | 11.0 | 18.3 | 74.0 | 16.1 | 29.7 | 152 | - | - | 20.7 | 257 | 8 | 2.9 | 5 | | | | | d |
| | Terelj | - | - | - | 20.5 | 5.5 | 12.8 | - | - | - | - | - | - | 9.2 | 20.5 | 4 | 3.7 | 5 | | | | | d |
| Philippines | Metro Manila | 194 | 14.8 | 36.6 | - | 6.5 | <1.0 | 16.0 | 17.3 | - | - | 35.5 | 23.6 | 18.5 | | | | | 194 | 1 | <1.0 | 6 | w |
| | Los Banos | 5.4 | 255 | 228 | 30.6 | 13.3 | <1.0 | 6.9 | 6.5 | 11.3 | 3.0 | 3.2 | 1.7 | 13.9 | | | | | 643 | 2 | <1.0 | 6 | w |
| Republic | Kanghwa | 131 | - | 162 | 165 | 142 | 49.4 | 17.9 | 9.1 | - | 21.7 | 38.3 | 133 | 28.6 | 223 | 5 | 5.6 | 7 | | | | | d |
| of Korea | Cheju | - | - | - | - | - | 9.5 | 14.4 | 24.8 | 11.9 | 8.7 | 25.4 | 43.7 | 18.4 | 197 | 12 | 2.6 | 10 | | | | | d |
| | Imsil | 21.9 | 41.4 | 73.1 | 18.5 | 10.4 | 7.8 | 11.3 | 29.9 | - | 12.4 | - | 11.2 | 15.6 | | | | | 73.1 | 3 | 7.4 | 7 | w |
| Russia | Mondy | 5.2 | - | 19.0 | 9.3 | - | 14.1 | 12.8 | 6.0 | 10.6 | 10.2 | <1.0 | <1.0 | 10.6 | 31.4 | 10 | <1.0 | 7 | | | | | d |
| | Listvyanka | 39.7 | 57.0 | 16.5 | 11.7 | 22.7 | 22.8 | 11.9 | 10.0 | 10.9 | 19.0 | 21.0 | 33.1 | 14.7 | 69.3 | 2 | <1.0 | 8 | | | | | d |
| | Irkutsk | 62.8 | 43.8 | 24.8 | 17.4 | 35.1 | 29.2 | 13.0 | 9.3 | 11.5 | 20.1 | 36.6 | 28.1 | 18.4 | 114 | 6 | 4.4 | 8 | | | | | d |
| Thailand | Bangkok | - | - | 11.8 | 77.1 | 12.7 | 13.0 | 11.4 | 4.8 | 20.8 | 25.2 | 26.1 | 345 | 17.9 | 345 | 12 | <1.0 | 6 | | | | | d |
| | Patumthani | - | - | 19.7 | 22.6 | 11.8 | 18.4 | 23.9 | 9.7 | 25.8 | 21.6 | 27.1 | 16.9 | 19.6 | 99.8 | 3 | 1.6 | 8 | | | | | d |
| | Khao Lam Dam | - | - | 10.6 | 14.8 | 5.4 | - | 4.2 | 2.0 | 2.5 | <1.0 | - | - | 6.8 | 58.3 | 3 | <1.0 | 8 | | | | | d |
| | Mae Hia | - | - | - | 27.7 | 4.9 | 5.0 | 1.6 | 1.8 | 3.8 | 4.7 | 1.1 | 18.4 | 4.1 | 27.7 | 4 | <1.0 | 7 | | | | | d |
| Vietnam | Hanoi | 25.5 | 9.2 | 5.6 | 7.1 | 5.8 | 2.6 | 2.8 | 5.7 | 10.8 | 6.9 | 4.0 | 4.8 | 5.1 | | | | | 29.2 | 1 | 1.5 | 8 | w |
| | Hoa Binh | 3.3 | 6.9 | 6.6 | 8.5 | 5.6 | 8.3 | 7.6 | 9.7 | 17.7 | 8.2 | 4.2 | 8.6 | 8.8 | | | | | 24.0 | 9 | 1.5 | 6 | w |

Table 3.16 Data completeness of $NO_3^-$ (Percent total precipitation) unit: %

| Country | Name of sites | 2001 Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| China | Chongqing | | | | | | | | | | | | | |
| | -Guanyinqiao | 92 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | -Jinyunshan | 100 | 100 | 100 | 100 | 100 | 100 | * | 100 | 100 | 100 | 100 | 100 | 100 |
| | Xi'an | | | | | | | | | | | | | |
| | -Shizhan | 0 | 0 | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 0 | 100 | 100 |
| | -Weishuiyuan | 0 | 0 | 0 | 100 | 100 | 100 | 100 | 100 | 100 | * | * | 100 | 100 |
| | -Jiwozi | 0 | 0 | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 0 | 0 | 100 |
| | Xiamen | | | | | | | | | | | | | |
| | -Hongwen | 100 | 100 | 100 | * | * | * | * | 100 | 100 | 100 | * | 100 | 100 |
| | -Xiaoping | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | * | * | 100 |
| | Zhuhai | | | | | | | | | | | | | |
| | -Xiang Zhou | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | 100 | 100 |
| | -Zhuxian Cavern | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | * | 100 |
| Indonesia | Jakarta | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | 100 | 100 | 100 | 100 |
| | Serpong | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | 100 |
| | Kototabang | * | * | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Bandung | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 0 | 100 |
| Japan | Rishiri | 91 | 95 | 100 | 58 | 99 | 99 | 99 | 100 | 98 | 100 | 99 | 99 | 97 |
| | Tappi | 0 | 45 | 11 | 88 | 99 | 98 | 100 | 99 | 99 | 100 | 71 | 100 | 89 |
| | Sado-seki | 87 | 98 | 44 | 100 | 100 | 100 | 81 | 100 | 73 | 74 | 100 | 100 | 91 |
| | Happo | 99 | 85 | 47 | 98 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 18 | 89 |
| | Oki | 99 | 100 | 100 | 46 | 78 | 85 | 73 | 100 | 73 | 100 | 100 | 100 | 90 |
| | Yusuhara | 100 | 100 | 99 | 94 | 100 | 100 | 99 | 88 | 100 | 100 | 36 | 100 | 96 |
| | Ogasawara | 100 | 99 | 100 | 100 | 100 | 100 | 100 | 99 | 100 | 100 | 98 | 99 | 100 |
| | Hedo | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 99 | 100 | 100 | 100 |
| | Ijira | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Banryu | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Malaysia | Petaling Jaya | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Tanah Rata | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Mongolia | Ulaanbaatar | 0 | 0 | 0 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 0 | 0 | 100 |
| | Terelj | 0 | 0 | 0 | 100 | 100 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 100 |
| Philippines | Metro Manila | 97 | 70 | 67 | 0 | 74 | 32 | 100 | 30 | 0 | 0 | 99 | 99 | 53 |
| | Los Banos | 27 | 72 | 63 | 86 | 100 | 100 | 100 | 98 | 100 | 100 | 100 | 100 | 98 |
| Republic | Kanghwa | 7 | 0 | 57 | 85 | 97 | 99 | 100 | 99 | 0 | 91 | 90 | 88 | 90 |
| of Korea | Cheju | 0 | 0 | 0 | 0 | 0 | 99 | 100 | 100 | 94 | 100 | 90 | 88 | 76 |
| | Imsil | 100 | 100 | 67 | 89 | 62 | 77 | 100 | 76 | 0 | 92 | 0 | 86 | 81 |
| Russia | Mondy | 100 | * | 100 | 100 | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Listvyanka | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Irkutsk | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Thailand | Bangkok | * | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Patumthani | * | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Khao Lam Dam | * | * | 98 | 80 | 37 | 0 | 2 | 49 | 8 | 1 | 0 | * | 26 |
| | Mae Hia | * | * | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Vietnam | Hanoi | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 93 | 100 | 100 | 99 |
| | Hoa Binh | 70 | 67 | 99 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

Table 3.17 Monthly weighted averages of $Cl^-$ concentration

unit: μmol/L

| Country | Name of sites | 2001 Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual | Daily or Event Max | M | Min | M | Weekly Max | M | Min | M | F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| China | Chongqing | | | | | | | | | | | | | | | | | | | | | | |
| | -Guanyinqiao | 52.4 | 43.4 | 39.2 | 28.1 | 21.3 | 23.2 | 19.8 | 23.1 | 28.3 | 36.4 | 28.1 | 99.5 | 29.8 | 212 | 12 | 6.2 | 7 | | | | | d |
| | -Jinyunshan | 78.8 | 43.3 | 24.3 | 35.7 | 19.1 | 103 | - | 512 | 17.7 | 14.0 | 28.7 | 30.7 | 56.8 | 3900 | 8 | 5.4 | 6 | | | | | d |
| | Xi'an | | | | | | | | | | | | | | | | | | | | | | |
| | -Shizhan | - | - | - | 277 | 10.7 | 137 | 43.1 | 64.4 | 60.2 | 35.5 | - | 215 | 81.3 | 311 | 4 | 10.7 | 5 | | | | | d |
| | -Weishuiyuan | - | - | - | 316 | 184 | 262 | - | - | - | - | - | 265 | 278 | 483 | 4 | 35.9 | 9 | | | | | d |
| | -Jiwozi | - | - | - | 277 | 10.7 | 137 | 39.2 | 27.1 | 95.1 | 36.4 | - | - | 98.9 | 442 | 9 | 3.2 | 10 | | | | | d |
| | Xiamen | | | | | | | | | | | | | | | | | | | | | | |
| | -Hongwen | 178 | 229 | 27.1 | - | - | - | - | 14.4 | 31.5 | 294 | - | 61.1 | 35.8 | 294 | 10 | 10.4 | 3 | | | | | d |
| | -Xiaoping | 12.5 | 24.1 | 16.2 | 16.0 | 23.8 | 13.5 | 69.6 | 39.0 | 6.3 | - | - | - | 29.2 | 117 | 7 | 2.3 | 9 | | | | | d |
| | Zhuhai | | | | | | | | | | | | | | | | | | | | | | |
| | -Xiang Zhou | 35.3 | 59.3 | 34.8 | 30.6 | 15.4 | 19.7 | 61.0 | 25.3 | 36.0 | - | 203 | 18.7 | 37.8 | 347 | 11 | 8.4 | 7 | | | | | d |
| | -Zhuxian Cavern | 17.2 | 31.8 | 35.5 | 38.8 | 18.7 | 19.1 | 33.1 | 35.6 | 26.8 | - | - | 28.8 | 27.7 | 304 | 3 | 1.2 | 9 | | | | | d |
| Indonesia | Jakarta | 30.8 | 27.8 | 15.5 | 7.7 | 71.8 | 14.3 | 132 | 44.6 | - | 110 | 128 | 23.3 | 38.9 | | | | | 159 | 11 | 7.7 | 4 | w |
| | Serpong | - | 12.8 | 33.4 | 19.6 | 29.8 | 21.4 | 35.0 | 56.3 | 38.9 | 30.6 | 25.3 | - | 32.3 | 131 | 8 | 5.0 | 11 | | | | | e |
| | Kototabang | - | - | - | 3.0 | 3.7 | 6.2 | 7.6 | 4.2 | 5.0 | 13.3 | 11.3 | 5.5 | 6.6 | | | | | 32.5 | 7 | 1.6 | 5 | w |
| | Bandung | 24.8 | 11.3 | 20.5 | 27.8 | 20.2 | 32.1 | 24.3 | 21.8 | 38.8 | 27.4 | 21.5 | - | 25.0 | 89.7 | 9 | 6.4 | 10 | | | | | e |
| Japan | Rishiri | 292 | 901 | 637 | 144 | 34.6 | 91.8 | 15.7 | 8.4 | 165 | 174 | 287 | 1060 | 235 | 5250 | 2 | 2.7 | 8 | | | | | d |
| | Tappi | - | 373 | 1180 | 432 | 38.9 | 127 | 48.4 | 31.1 | 162 | 141 | 235 | 1050 | 156 | 4430 | 12 | 3.8 | 6 | | | | | d |
| | Sado-seki | 1260 | 1080 | 1660 | 280 | 63.1 | 17.8 | 60.3 | 36.8 | 94.2 | 82.8 | 540 | 860 | 378 | 9230 | 1 | 2.3 | 6 | | | | | d |
| | Happo | 34.5 | 14.5 | 20.2 | 12.2 | 6.7 | 1.6 | 5.2 | 3.3 | 2.9 | 3.2 | 11.5 | 7.9 | 8.8 | 300 | 1 | <1.0 | 6 | | | | | d |
| | Oki | 1040 | 571 | 554 | 494 | 26.1 | 29.1 | 65.4 | 220 | 304 | 116 | 232 | 588 | 359 | 20400 | 1 | 7.1 | 10 | | | | | d |
| | Yusuhara | 27.1 | 28.8 | 87.6 | 5.8 | 11.0 | 2.8 | 7.3 | 7.2 | 1.8 | 4.6 | 9.2 | 20.7 | 12.3 | 668 | 3 | <1.0 | 9 | | | | | d |
| | Ogasawara | 97.9 | 94.4 | 96.9 | 63.2 | 73.4 | 47.6 | 385 | 333 | 152 | 203 | 101 | 173 | 123 | 3300 | 10 | 4.8 | 6 | | | | | d |
| | Hedo | 175 | 386 | 185 | 78.7 | 90.9 | 53.8 | 45.2 | 74.8 | 96.6 | 2180 | 185 | 354 | 175 | 56300 | 10 | 7.3 | 9 | | | | | d |
| | Ijira | 56.3 | 25.8 | 46.9 | 24.3 | 36.5 | 5.8 | 16.0 | 10.7 | 20.9 | 16.4 | 36.9 | 132 | 32.7 | | | | | 207 | 7 | 2.3 | 6 | w |
| | Banryu | 123 | 199 | 335 | 81.9 | 61.4 | 15.8 | 10.9 | 14.4 | 53.5 | 57.5 | 128 | 264 | 86.5 | | | | | 658 | 12 | 7.6 | 6 | w |
| Malaysia | Petaling Jaya | 5.5 | 9.4 | 9.5 | 4.3 | 7.2 | 4.7 | 11.3 | 4.6 | 5.6 | 19.5 | 4.3 | 7.7 | 7.5 | | | | | 44.3 | 7 | 1.6 | 5 | w |
| | Tanah Rata | 6.8 | 9.2 | 3.4 | 1.5 | 2.0 | 2.5 | 4.8 | 4.0 | 1.7 | 2.0 | 2.2 | 3.3 | 3.0 | | | | | 16.6 | 12 | <1.0 | 4 | w |
| Mongolia | Ulaanbaatar | - | - | - | 48.8 | 8.3 | 8.9 | 18.1 | 7.5 | 11.7 | 48.6 | - | - | 9.7 | 95.4 | 5 | 2.5 | 6 | | | | | d |
| | Terelj | - | - | - | 4.0 | 8.1 | 9.3 | - | - | - | - | - | - | 8.7 | 35.8 | 5 | 2.5 | 6 | | | | | d |
| Philippines | Metro Manila | 32.7 | 40.9 | 327 | - | 28.3 | 10.1 | 269 | 30.7 | - | - | 38.9 | 67.3 | 115 | | | | | 581 | 7 | 7.9 | 7 | w |
| | Los Banos | 23.9 | 122 | 281 | 47.4 | 42.3 | 20.0 | 35.6 | 6.8 | 7.5 | 24.6 | 57.6 | 36.4 | 34.5 | | | | | 497 | 3 | 3.6 | 8 | w |
| Republic | Kanghwa | 473 | - | 150 | 162 | 103 | 34.0 | 39.0 | 33.1 | - | 28.7 | 51.9 | 130 | 42.6 | 473 | 1 | 13.2 | 7 | | | | | d |
| of Korea | Cheju | - | - | - | - | - | 28.8 | 73.0 | 184 | 69.9 | 111 | 116 | 258 | 112 | 430 | 12 | 6.1 | 6 | | | | | d |
| | Imsil | 58.6 | 33.3 | 219 | 15.1 | 13.6 | 10.1 | 20.0 | 115 | - | 29.7 | - | 34.5 | 28.7 | | | | | 219 | 3 | 8.0 | 7 | w |
| Russia | Mondy | 2.4 | - | 8.1 | 1.9 | - | <1.0 | <1.0 | 1.7 | 1.4 | 5.3 | 14.7 | 11.3 | 1.4 | 24.3 | 10 | <1.0 | 4 | | | | | d |
| | Listvyanka | <1.0 | 14.5 | 4.3 | 3.9 | <1.0 | 3.1 | 1.8 | <1.0 | 1.0 | 13.8 | 1.2 | <1.0 | 2.2 | 37.2 | 2 | <1.0 | 1 | | | | | d |
| | Irkutsk | 57.0 | 37.6 | 21.1 | 10.8 | 6.4 | 3.4 | 1.1 | 1.2 | 76.2 | 2.8 | 34.2 | 8.6 | 12.2 | 1740 | 9 | <1.0 | 5 | | | | | d |
| Thailand | Bangkok | - | - | 9.6 | 18.3 | 13.9 | 12.8 | 30.5 | 6.1 | 5.6 | 6.3 | 6.9 | 60.3 | 9.4 | 60.3 | 12 | <1.0 | 6 | | | | | d |
| | Patumthani | - | - | 5.8 | 13.1 | 9.5 | 12.5 | 24.5 | 7.8 | 5.2 | 4.9 | 9.7 | 9.5 | 7.8 | 86.3 | 6 | 2.1 | 9 | | | | | d |
| | Khao Lam Dam | - | - | 8.5 | 6.6 | 11.8 | - | 43.3 | 9.7 | 7.2 | 18.6 | - | - | 10.0 | 80.5 | 3 | 1.8 | 5 | | | | | d |
| | Mae Hia | - | - | - | 10.0 | 6.4 | 6.5 | 6.7 | 1.8 | 2.9 | 3.8 | 8.2 | 15.1 | 4.5 | 29.6 | 10 | <1.0 | 8 | | | | | d |
| Vietnam | Hanoi | 340 | 104 | 49.1 | 43.4 | 28.2 | 15.9 | 25.1 | 17.1 | 25.2 | 20.2 | 22.4 | 30.2 | 27.1 | | | | | 504 | 1 | 10.0 | 6 | w |
| | Hoa Binh | 48.0 | 64.0 | 53.6 | 69.0 | 34.1 | 16.3 | 12.6 | 13.7 | 22.6 | 20.8 | 26.0 | 29.8 | 22.1 | | | | | 120 | 5 | 10.0 | 7 | w |

Table 3.18 Data completeness of $Cl^-$ (Percent total precipitation) unit: %

| Country | Name of sites | 2001 Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| China | Chongqing | | | | | | | | | | | | | |
| | -Guanyinqiao | 92 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | -Jinyunshan | 100 | 100 | 100 | 100 | 100 | 100 | * | 100 | 100 | 100 | 100 | 100 | 100 |
| | Xi'an | | | | | | | | | | | | | |
| | -Shizhan | 0 | 0 | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 0 | 100 | 100 |
| | -Weishuiyuan | 0 | 0 | 0 | 100 | 100 | 100 | 100 | 100 | 100 | * | * | 100 | 100 |
| | -Jiwozi | 0 | 0 | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 0 | 0 | 100 |
| | Xiamen | | | | | | | | | | | | | |
| | -Hongwen | 100 | 100 | 100 | * | * | * | * | 100 | 100 | 100 | * | 100 | 100 |
| | -Xiaoping | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | * | * | 100 |
| | Zhuhai | | | | | | | | | | | | | |
| | -Xiang Zhou | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | 100 | 100 |
| | -Zhuxian Cavern | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | * | 100 |
| Indonesia | Jakarta | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | 100 | 100 | 100 | 100 |
| | Serpong | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | 100 |
| | Kototabang | * | * | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Bandung | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 0 | 100 |
| Japan | Rishiri | 91 | 95 | 100 | 58 | 99 | 99 | 99 | 100 | 98 | 100 | 99 | 99 | 97 |
| | Tappi | 0 | 45 | 11 | 88 | 99 | 98 | 100 | 99 | 99 | 100 | 71 | 100 | 89 |
| | Sado-seki | 87 | 98 | 44 | 100 | 100 | 100 | 81 | 100 | 73 | 74 | 100 | 100 | 91 |
| | Happo | 99 | 85 | 47 | 98 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 18 | 89 |
| | Oki | 99 | 100 | 100 | 46 | 78 | 85 | 73 | 100 | 73 | 100 | 100 | 100 | 90 |
| | Yusuhara | 100 | 100 | 99 | 94 | 100 | 100 | 99 | 88 | 100 | 100 | 36 | 100 | 96 |
| | Ogasawara | 100 | 99 | 100 | 100 | 100 | 100 | 100 | 99 | 100 | 100 | 98 | 99 | 100 |
| | Hedo | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 99 | 100 | 100 | 100 |
| | Ijira | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Banryu | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Malaysia | Petaling Jaya | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Tanah Rata | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Mongolia | Ulaanbaatar | 0 | 0 | 0 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 0 | 0 | 100 |
| | Terelj | 0 | 0 | 0 | 100 | 100 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 100 |
| Philippines | Metro Manila | 97 | 70 | 67 | 0 | 100 | 100 | 100 | 30 | 0 | 0 | 99 | 99 | 63 |
| | Los Banos | 27 | 72 | 63 | 86 | 100 | 100 | 100 | 98 | 100 | 100 | 100 | 100 | 98 |
| Republic | Kanghwa | 7 | 0 | 57 | 85 | 97 | 99 | 100 | 99 | 0 | 91 | 90 | 88 | 90 |
| of Korea | Cheju | 0 | 0 | 0 | 0 | 0 | 99 | 100 | 100 | 94 | 100 | 90 | 88 | 76 |
| | Imsil | 100 | 100 | 67 | 89 | 62 | 77 | 100 | 76 | 0 | 92 | 0 | 86 | 81 |
| Russia | Mondy | 100 | * | 100 | 100 | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Listvyanka | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Irkutsk | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Thailand | Bangkok | * | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Patumthani | * | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Khao Lam Dam | * | * | 98 | 80 | 37 | 0 | 2 | 49 | 8 | 1 | 0 | * | 26 |
| | Mae Hia | * | * | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Vietnam | Hanoi | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 93 | 100 | 100 | 99 |
| | Hoa Binh | 70 | 67 | 99 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

Table 3.19 Monthly weighted averages of $NH_4^+$ concentration unit: μmol/L

| Country | Name of sites | 2001 Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual | Daily or Event Max | M | Min | M | Weekly Max | M | Min | M | F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| China | Chongqing | | | | | | | | | | | | | | | | | | | | | | |
| | -Guanyinqiao | 502 | 613 | 295 | 118 | 167 | 223 | 89.8 | 116 | 310 | 229 | 176 | 446 | 211 | 1230 | 1 | 1.1 | 8 | | | | | d |
| | -Jinyunshan | 207 | 283 | 217 | 181 | 67.7 | 75.7 | - | 172 | 161 | 100 | 107 | 214 | 111 | 751 | 11 | 1.1 | 6 | | | | | d |
| | Xi'an | | | | | | | | | | | | | | | | | | | | | | |
| | -Shizhan | - | - | - | 594 | 8.5 | 176 | 207 | 221 | 166 | 480 | - | 329 | 255 | 745 | 1 | 7.8 | 4 | | | | | d |
| | -Weishuiyuan | - | - | - | 395 | 195 | 458 | - | - | - | - | - | 204 | 354 | 630 | 4 | 69.1 | 12 | | | | | d |
| | -Jiwozi | - | - | - | 594 | 8.5 | 176 | 151 | 135 | 39.6 | 106 | - | - | 171 | 691 | 4 | 7.8 | 4 | | | | | d |
| | Xiamen | | | | | | | | | | | | | | | | | | | | | | |
| | -Hongwen | 74.1 | 146 | 65.8 | - | - | - | - | 33.7 | 64.1 | 363 | - | 88.1 | 64.9 | 363 | 10 | 11.7 | 8 | | | | | d |
| | -Xiaoping | 22.5 | 56.5 | 64.7 | 55.1 | 72.3 | 25.0 | 30.2 | 31.5 | 15.3 | - | - | - | 31.4 | 246 | 5 | 2.2 | 6 | | | | | d |
| | Zhuhai | | | | | | | | | | | | | | | | | | | | | | |
| | -Xiang Zhou | 64.7 | 99.8 | 52.1 | 35.6 | 17.5 | 10.4 | 25.1 | 30.6 | 19.5 | - | 218 | 30.7 | 25.0 | 491 | 2 | 4.4 | 9 | | | | | d |
| | -Zhuxian Cavern | 33.2 | 54.4 | 42.3 | 44.3 | 32.1 | 17.6 | 32.7 | 60.5 | 21.0 | - | - | 42.2 | 30.3 | 279 | 3 | 2.2 | 7 | | | | | d |
| Indonesia | Jakarta | 47.5 | 52.0 | 69.0 | 33.8 | 58.1 | 75.4 | 180 | 38.3 | - | 118 | 98.7 | 59.0 | 66.2 | | | | | 180 | 7 | 28.0 | 1 | w |
| | Serpong | - | 40.4 | 53.8 | 58.1 | 66.7 | 48.2 | 107 | 123 | 67.2 | 55.0 | 34.4 | - | 67.6 | 267 | 8 | 2.3 | 11 | | | | | e |
| | Kototabang | - | - | - | <1.0 | <1.0 | 4.0 | 6.6 | 7.5 | 3.1 | 2.3 | 3.4 | 1.2 | 2.4 | | | | | 12.4 | 6 | <1.0 | 4 | w |
| | Bandung | 48.6 | 39.6 | 39.4 | 72.1 | 49.7 | 37.8 | 38.2 | 47.4 | 34.4 | 21.9 | 15.5 | - | 37.9 | 200 | 4 | 4.6 | 10 | | | | | e |
| Japan | Rishiri | 28.8 | 42.5 | 63.9 | 43.1 | 33.7 | 56.9 | 26.8 | 6.0 | 15.7 | 17.8 | 21.9 | 15.9 | 26.0 | 308 | 7 | <1.0 | 1 | | | | | d |
| | Tappi | - | 6.9 | 59.6 | 60.0 | 19.7 | 28.5 | 16.4 | 8.4 | 1.4 | 4.6 | 16.3 | 6.9 | 12.7 | 159 | 7 | <1.0 | 9 | | | | | d |
| | Sado-seki | 1.4 | 47.9 | 38.5 | 73.2 | 22.8 | 13.0 | 25.3 | 15.1 | 9.6 | 11.3 | 24.7 | 22.7 | 19.7 | 179 | 8 | <1.0 | 1 | | | | | d |
| | Happo | 7.7 | 12.6 | 24.0 | 21.2 | 28.3 | 9.4 | 22.2 | 10.0 | 4.8 | 1.9 | 6.8 | 9.4 | 10.8 | 174 | 5 | <1.0 | 9 | | | | | d |
| | Oki | 15.5 | 28.5 | 32.0 | 71.3 | 10.1 | 8.8 | 17.5 | 30.3 | 7.5 | 12.8 | 15.8 | 12.1 | 14.7 | 206 | 2 | <1.0 | 9 | | | | | d |
| | Yusuhara | 6.9 | 15.1 | 26.7 | 9.4 | 5.7 | 3.6 | 3.0 | 6.0 | <1.0 | <1.0 | 7.7 | 6.3 | 5.2 | 258 | 3 | <1.0 | 5 | | | | | d |
| | Ogasawara | 3.9 | 3.7 | 5.1 | 8.4 | 5.5 | 4.5 | 1.9 | 13.0 | 1.5 | 2.7 | 5.0 | 1.9 | 4.8 | 125 | 8 | <1.0 | 1 | | | | | d |
| | Hedo | 3.3 | 2.9 | 15.5 | 16.1 | 3.3 | 2.3 | 1.9 | 2.5 | 1.8 | <1.0 | 18.5 | 5.9 | 4.5 | 272 | 4 | <1.0 | 1 | | | | | d |
| | Ijira | 10.8 | 21.4 | 27.4 | 27.9 | 15.4 | 22.1 | 22.6 | 21.6 | 18.2 | 7.3 | 19.9 | 9.7 | 17.6 | | | | | 312 | 7 | 1.7 | 8 | w |
| | Banryu | 17.1 | 41.4 | 56.2 | 22.6 | 10.6 | 8.7 | 5.0 | 8.3 | 2.5 | 4.9 | 13.0 | 27.8 | 13.8 | | | | | 132 | 3 | <1.0 | 9 | w |
| Malaysia | Petaling Jaya | 54.4 | 61.1 | 68.7 | 91.0 | 60.6 | 75.7 | 43.2 | 62.8 | 68.9 | 13.9 | 67.9 | 17.0 | 58.1 | | | | | 168 | 7 | 3.6 | 1 | w |
| | Tanah Rata | 86.7 | 77.9 | 42.2 | 50.2 | 48.4 | 25.9 | 80.0 | 42.2 | 42.5 | 6.0 | 25.5 | <1.0 | 35.4 | | | | | 259 | 5 | <1.0 | 10 | w |
| Mongolia | Ulaanbaatar | - | - | - | 66.5 | 35.3 | 50.3 | 108.4 | 44.1 | 73.9 | 118 | - | - | 49.9 | 245 | 5 | 18.3 | 6 | | | | | d |
| | Terelj | - | - | - | 20.5 | 16.1 | 45.1 | - | - | - | - | - | - | 30.5 | 58.8 | 6 | 10.0 | 5 | | | | | d |
| Philippines | Metro Manila | 36.9 | 21.1 | 340 | - | 1.9 | 13.7 | 30.2 | 80.2 | - | - | 352 | 513 | 77.1 | | | | | 577 | 11 | <1.0 | 5 | w |
| | Los Banos | 18.6 | 31.4 | 161 | 69.3 | 8.1 | 24.9 | 19.0 | 19.1 | 28.1 | 6.8 | 27.8 | 11.3 | 22.4 | | | | | 205 | 3 | 3.2 | 1 | w |
| Republic | Kanghwa | 186 | - | 102 | 132 | 58.3 | 47.4 | 36.4 | 15.2 | - | 17.7 | 44.4 | 132 | 37.5 | 186 | 1 | 6.5 | 10 | | | | | d |
| of Korea | Cheju | - | - | - | - | - | 30.6 | 31.5 | 43.5 | 25.0 | 16.5 | 24.7 | 37.2 | 32.3 | 176 | 12 | 4.6 | 8 | | | | | d |
| | Imsil | 29.3 | 61.8 | 106 | 38.7 | 32.6 | 43.7 | 44.2 | 45.6 | - | 18.4 | - | 23.1 | 42.3 | | | | | 106 | 3 | 14.0 | 7 | w |
| Russia | Mondy | <1.0 | - | 29.0 | 13.0 | - | 46.2 | 10.8 | 10.8 | 14.4 | 9.1 | 30.5 | <1.0 | 22.2 | 68.9 | 6 | <1.0 | 1 | | | | | d |
| | Listvyanka | 1.8 | 8.9 | 9.4 | 14.1 | 22.6 | 26.7 | 9.4 | 8.4 | 7.6 | 11.1 | 5.4 | 5.7 | 10.8 | 94.4 | 8 | <1.0 | 1 | | | | | d |
| | Irkutsk | 94.6 | 36.6 | 28.3 | 35.3 | 61.9 | 44.8 | 13.3 | 14.7 | 20.1 | 21.2 | 74.7 | 41.6 | 25.1 | 192 | 11 | 4.4 | 9 | | | | | d |
| Thailand | Bangkok | - | - | 41.9 | 104 | 33.8 | 42.7 | 30.1 | 16.3 | 36.9 | 39.2 | 30.3 | 409 | 36.2 | 409 | 12 | 7.2 | 8 | | | | | d |
| | Patumthani | - | - | 28.9 | 50.7 | 19.4 | 36.7 | 54.6 | 28.5 | 41.5 | 35.5 | 50.1 | 44.7 | 35.5 | 137 | 10 | <1.0 | 5 | | | | | d |
| | Khao Lam Dam | - | - | 19.4 | 22.7 | 9.6 | - | 4.3 | 1.4 | 3.2 | 4.3 | - | - | 11.0 | 49.1 | 4 | <1.0 | 8 | | | | | d |
| | Mae Hia | - | - | - | 52.2 | 18.7 | 17.3 | 17.5 | 12.4 | 12.7 | 13.8 | 19.1 | 19.2 | 15.8 | 52.2 | 4 | 3.8 | 5 | | | | | d |
| Vietnam | Hanoi | 29.6 | 29.3 | 27.2 | 27.9 | 17.8 | 11.7 | 19.5 | 14.1 | 33.5 | 31.6 | 38.1 | 73.5 | 20.3 | | | | | 79.9 | 9 | 2.0 | 8 | w |
| | Hoa Binh | 4.5 | 38.7 | 32.1 | 41.7 | 22.9 | 7.1 | 3.0 | 3.9 | 15.1 | 9.2 | 65.0 | 123 | 12.5 | | | | | 201 | 12 | <1.0 | 7 | w |

Table 3.20 Data completeness of $NH_4^+$ (Percent total precipitation) unit: %

| Country | Name of sites | 2001 Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| China | Chongqing | | | | | | | | | | | | | |
| | -Guanyinqiao | 92 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | -Jinyunshan | 100 | 100 | 100 | 100 | 100 | 100 | * | 100 | 100 | 100 | 100 | 100 | 100 |
| | Xi'an | | | | | | | | | | | | | |
| | -Shizhan | 0 | 0 | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 0 | 100 | 100 |
| | -Weishuiyuan | 0 | 0 | 0 | 100 | 100 | 100 | 100 | 100 | 100 | * | * | 100 | 100 |
| | -Jiwozi | 0 | 0 | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 0 | 0 | 100 |
| | Xiamen | | | | | | | | | | | | | |
| | -Hongwen | 100 | 100 | 100 | * | * | * | * | 100 | 100 | 100 | * | 100 | 100 |
| | -Xiaoping | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | * | * | 100 |
| | Zhuhai | | | | | | | | | | | | | |
| | -Xiang Zhou | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | 100 | 100 |
| | -Zhuxian Cavern | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | * | 100 |
| Indonesia | Jakarta | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | 100 | 100 | 100 | 100 |
| | Serpong | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | 100 |
| | Kototabang | * | * | * | 100 | 100 | 94 | 67 | 100 | 100 | 100 | 100 | 100 | 99 |
| | Bandung | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 0 | 100 |
| Japan | Rishiri | 91 | 95 | 100 | 58 | 99 | 99 | 99 | 100 | 98 | 100 | 99 | 99 | 97 |
| | Tappi | 0 | 45 | 11 | 88 | 99 | 96 | 100 | 99 | 99 | 100 | 71 | 100 | 89 |
| | Sado-seki | 87 | 98 | 44 | 100 | 100 | 100 | 81 | 100 | 73 | 83 | 100 | 100 | 91 |
| | Happo | 99 | 85 | 47 | 98 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 18 | 89 |
| | Oki | 99 | 100 | 100 | 46 | 78 | 85 | 73 | 100 | 73 | 100 | 100 | 100 | 90 |
| | Yusuhara | 100 | 100 | 99 | 94 | 100 | 100 | 99 | 88 | 100 | 100 | 36 | 100 | 96 |
| | Ogasawara | 100 | 99 | 100 | 100 | 100 | 100 | 100 | 99 | 100 | 98 | 98 | 99 | 100 |
| | Hedo | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 99 | 100 | 100 | 100 |
| | Ijira | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Banryu | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Malaysia | Petaling Jaya | 100 | 100 | 100 | 100 | 97 | 100 | 100 | 100 | 100 | 99 | 100 | 100 | 100 |
| | Tanah Rata | 98 | 100 | 96 | 100 | 100 | 98 | 90 | 98 | 100 | 100 | 100 | 100 | 99 |
| Mongolia | Ulaanbaatar | 0 | 0 | 0 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 0 | 0 | 100 |
| | Terelj | 0 | 0 | 0 | 100 | 100 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 100 |
| Philippines | Metro Manila | 97 | 97 | 43 | 0 | 100 | 100 | 100 | 30 | 0 | 0 | 99 | 99 | 64 |
| | Los Banos | 100 | 100 | 63 | 86 | 100 | 100 | 100 | 98 | 100 | 100 | 100 | 86 | 97 |
| Republic | Kanghwa | 7 | 0 | 57 | 85 | 97 | 99 | 100 | 99 | 0 | 91 | 90 | 88 | 90 |
| of Korea | Cheju | 0 | 0 | 0 | 0 | 0 | 99 | 100 | 100 | 94 | 100 | 90 | 88 | 76 |
| | Imsil | 100 | 100 | 67 | 89 | 62 | 77 | 100 | 76 | 0 | 92 | 0 | 86 | 81 |
| Russia | Mondy | 100 | * | 100 | 100 | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Listvyanka | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Irkutsk | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 95 | 100 | 100 | 100 |
| Thailand | Bangkok | * | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Patumthani | * | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Khao Lam Dam | * | * | 98 | 80 | 37 | 0 | 2 | 49 | 8 | 1 | 0 | * | 26 |
| | Mae Hia | * | * | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Vietnam | Hanoi | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 93 | 100 | 100 | 99 |
| | Hoa Binh | 70 | 67 | 99 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

Table 3.21 Monthly weighted averages of $Na^+$ concentration

unit: μmol/L

| Country | Name of sites | 2001 Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual | Daily or Event Max | M | Min | M | Weekly Max | M | Min | M | F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| China | Chongqing | | | | | | | | | | | | | | | | | | | | | | |
| | -Guanyinqiao | 21.3 | 35.1 | 22.8 | 18.7 | 6.1 | 6.0 | 7.5 | 5.7 | 12.9 | 9.4 | 10.3 | 34.9 | 10.8 | 123 | 4 | 1.7 | 8 | | | | | d |
| | -Jinyunshan | 20.1 | 10.3 | 26.1 | 30.0 | 18.5 | 8.1 | - | 15.5 | 5.8 | 4.0 | 9.9 | 10.6 | 10.2 | 93.5 | 11 | 1.3 | 10 | | | | | d |
| | Xi'an | | | | | | | | | | | | | | | | | | | | | | |
| | -Shizhan | - | - | - | 198 | 484 | 226 | 114 | 184 | 189 | 96.0 | - | 166 | 164 | 484 | 5 | 20.4 | 10 | | | | | d |
| | -Weishuiyuan | - | - | - | 281 | 302 | 185 | - | - | - | - | - | 89.4 | 219 | 1060 | 7 | 32.9 | 12 | | | | | d |
| | -Jiwozi | - | - | - | 198 | 484 | 226 | 80.1 | 135 | 96.4 | 86.1 | - | - | 158 | 484 | 5 | 6.0 | 7 | | | | | d |
| | Xiamen | | | | | | | | | | | | | | | | | | | | | | |
| | -Hongwen | 27.6 | 53.4 | 5.9 | - | - | - | - | 5.8 | 5.1 | 147 | - | 34.8 | 10.8 | 147 | 10 | <1.0 | 8 | | | | | d |
| | -Xiaoping | <1.0 | 10.9 | 5.2 | 2.5 | 3.9 | 2.7 | 7.6 | 42.2 | 1.2 | - | - | - | 9.6 | 75.7 | 8 | <1.0 | 1 | | | | | d |
| | Zhuhai | | | | | | | | | | | | | | | | | | | | | | |
| | -Xiang Zhou | 26.5 | 44.2 | 25.8 | 16.3 | 9.0 | 10.5 | 38.0 | 44.8 | 10.2 | - | 178 | 24.6 | 24.6 | 267 | 11 | <1.0 | 6 | | | | | d |
| | -Zhuxian Cavern | 9.9 | 20.5 | 27.9 | 25.0 | 13.4 | 16.7 | 51.9 | 26.6 | 6.4 | - | - | 19.9 | 27.5 | 230 | 3 | <1.0 | 9 | | | | | d |
| Indonesia | Jakarta | 18.4 | 44.4 | 29.0 | 11.0 | 40.4 | 22.7 | 100 | 63.1 | - | 111 | 44.5 | 36.7 | 39.4 | | | | | 125 | 10 | 7.5 | 1 | w |
| | Serpong | - | 37.3 | 28.9 | 16.9 | 25.9 | 15.0 | 22.3 | 67.4 | 24.8 | 5.9 | 24.8 | - | 23.8 | 144 | 8 | <1.0 | 6 | | | | | e |
| | Kototabang | - | - | - | <1.0 | 2.3 | <1.0 | <1.0 | <1.0 | 5.3 | 10.0 | 8.4 | 2.2 | 4.5 | | | | | 17.9 | 11 | <1.0 | 5 | w |
| | Bandung | 16.6 | 14.0 | 22.0 | 36.9 | 19.8 | 24.7 | 21.7 | 29.4 | 22.3 | 16.4 | 8.0 | - | 20.2 | 134 | 4 | <1.0 | 5 | | | | | e |
| Japan | Rishiri | 269 | 822 | 576 | 130 | 28.8 | 88.9 | 13.1 | 7.5 | 147 | 154 | 252 | 950 | 212 | 4720 | 2 | 1.5 | 8 | | | | | d |
| | Tappi | - | 307 | 1020 | 365 | 33.2 | 112 | 41.8 | 25.8 | 140 | 122 | 199 | 903 | 134 | 3840 | 12 | 5.2 | 8 | | | | | d |
| | Sado-seki | 1290 | 1060 | 1640 | 228 | 53.8 | 16.6 | 56.8 | 34.8 | 88.0 | 66.6 | 490 | 771 | 355 | 10000 | 1 | 2.3 | 6 | | | | | d |
| | Happo | 27.2 | 12.6 | 13.0 | 6.8 | 3.4 | <1.0 | 1.7 | 1.1 | 1.1 | 2.1 | 8.9 | 6.7 | 6.2 | 234 | 1 | <1.0 | 8 | | | | | d |
| | Oki | 890 | 503 | 496 | 455 | 22.1 | 25.3 | 60.5 | 219 | 276 | 103 | 207 | 519 | 316 | 17600 | 1 | 5.7 | 10 | | | | | d |
| | Yusuhara | 27.2 | 29.3 | 73.2 | 6.2 | 11.9 | 3.7 | 5.8 | 6.6 | 2.8 | 4.2 | 7.7 | 17.3 | 11.8 | 533 | 3 | <1.0 | 10 | | | | | d |
| | Ogasawara | 81.4 | 81.1 | 83.3 | 55.2 | 64.5 | 42.4 | 325 | 285 | 132 | 148 | 86.4 | 149 | 104 | 1240 | 7 | 4.1 | 6 | | | | | d |
| | Hedo | 156 | 352 | 165 | 69.2 | 80.4 | 47.0 | 39.8 | 70.4 | 86.7 | 2060 | 183 | 328 | 160 | 53400 | 10 | 3.6 | 9 | | | | | d |
| | Ijira | 51.8 | 27.9 | 47.7 | 23.0 | 33.1 | 5.1 | 14.9 | 8.9 | 19.0 | 13.0 | 34.0 | 116 | 29.7 | | | | | 186 | 7 | 3.0 | 8 | w |
| | Banryu | 116 | 186 | 289 | 73.6 | 60.4 | 13.8 | 8.7 | 20.6 | 54.3 | 48.4 | 114 | 229 | 78.2 | | | | | 568 | 2 | 5.7 | 7 | w |
| Malaysia | Petaling Jaya | 2.4 | 7.0 | 7.7 | 2.1 | 4.5 | 2.9 | 3.9 | 4.4 | 4.4 | 1.6 | 3.2 | 4.6 | 3.7 | | | | | 35.6 | 7 | <1.0 | 4 | w |
| | Tanah Rata | 2.0 | 6.2 | 1.4 | <1.0 | 1.6 | 1.6 | 2.4 | 2.6 | 2.9 | <1.0 | 1.9 | 2.5 | 1.9 | | | | | 11.0 | 2 | <1.0 | 10 | w |
| Mongolia | Ulaanbaatar | - | - | - | 101 | 9.1 | 8.4 | 15.2 | 5.9 | 6.2 | 52.5 | - | - | 9.1 | 171 | 5 | <1.0 | 6 | | | | | d |
| | Terelj | - | - | - | 4.8 | 3.0 | 29.0 | - | - | - | - | - | - | 15.9 | 71.3 | 6 | <1.0 | 5 | | | | | d |
| Philippines | Metro Manila | 19.2 | 34.3 | 425 | - | 14.2 | 11.3 | 536 | 46.8 | - | - | 41.5 | 66.1 | 205 | 1170 | 7 | 5.9 | 2 | 1170 | 7 | 5.9 | 2 | w |
| | Los Banos | 5.9 | 78.6 | 220 | 19.4 | 41.0 | 15.4 | 38.4 | 10.3 | 30.1 | 26.8 | 69.6 | 42.5 | 37.2 | 415 | 3 | 5.9 | 1 | 415 | 3 | 5.9 | 1 | w |
| Republic | Kanghwa | 270 | - | 135 | 164 | 91.9 | 25.9 | 40.6 | 46.9 | - | 19.8 | 42.6 | 95.8 | 41.7 | 270 | 1 | 8.7 | 10 | | | | | d |
| of Korea | Cheju | - | - | - | - | - | 23.6 | 60.8 | 108 | 31.5 | 73.4 | 82.4 | 171 | 74.7 | 269 | 11 | 6.1 | 6 | | | | | d |
| | Imsil | 30.8 | 30.2 | 13.3 | 12.7 | 12.2 | 8.8 | 12.1 | 14.4 | - | 18.8 | - | 30.7 | 15.4 | | | | | 41.9 | 1 | 8.5 | 7 | w |
| Russia | Mondy | 4.1 | - | 6.4 | 2.8 | - | 2.4 | 2.2 | 1.9 | 1.7 | 4.8 | 2.6 | 2.2 | 2.3 | 17.4 | 10 | <1.0 | 6 | | | | | d |
| | Listvyanka | 11.2 | 20.2 | 4.9 | 2.5 | 3.1 | 3.4 | 3.3 | 1.5 | 1.8 | 13.7 | 4.6 | 4.2 | 3.4 | 103 | 7 | <1.0 | 6 | | | | | d |
| | Irkutsk | 64.3 | 33.1 | 28.5 | 20.5 | 8.1 | 7.2 | 1.4 | <1.0 | 19.4 | 3.1 | 37.4 | 9.7 | 8.3 | 409 | 9 | <1.0 | 6 | | | | | d |
| Thailand | Bangkok | - | - | 9.5 | 16.8 | 12.6 | 12.2 | 13.6 | 4.7 | 3.8 | 9.6 | 10.6 | 46.4 | 8.3 | 91.0 | 6 | <1.0 | 3 | | | | | d |
| | Patumthani | - | - | 6.4 | 11.6 | 13.9 | 11.2 | 17.0 | 5.4 | 6.5 | 5.2 | 11.5 | 11.5 | 8.1 | 50.2 | 5 | 1.7 | 10 | | | | | d |
| | Khao Lam Dam | - | - | 3.6 | 9.5 | 14.0 | - | 48.8 | 14.4 | 6.3 | 34.9 | - | - | 11.3 | 48.8 | 7 | <1.0 | 3 | | | | | d |
| | Mae Hia | - | - | - | 7.8 | 9.5 | 4.4 | 3.5 | 1.4 | 3.1 | 4.4 | 3.6 | 6.8 | 3.9 | 41.8 | 10 | <1.0 | 10 | | | | | d |
| Vietnam | Hanoi | 66.2 | 36.6 | 32.4 | 12.3 | 10.9 | 7.0 | 11.1 | 7.1 | 12.9 | 11.5 | 2.9 | 5.8 | 11.5 | | | | | 86.1 | 1 | 2.6 | 12 | w |
| | Hoa Binh | 49.8 | 34.3 | 22.6 | 18.1 | 13.6 | 7.1 | 7.3 | 8.3 | 8.7 | 7.0 | 6.7 | 9.3 | 9.8 | | | | | 83.1 | 5 | 3.9 | 10 | w |

Table 3.22 Data completeness of $Na^+$ (Percent total precipitation) unit: %

| Country | Name of sites | 2001 Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| China | Chongqing | | | | | | | | | | | | | |
| | -Guanyinqiao | 92 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | -Jinyunshan | 100 | 100 | 100 | 100 | 100 | 100 | * | 100 | 100 | 100 | 100 | 100 | 100 |
| | Xi'an | | | | | | | | | | | | | |
| | -Shizhan | 0 | 0 | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 0 | 100 | 100 |
| | -Weishuiyuan | 0 | 0 | 0 | 100 | 100 | 100 | 100 | 100 | 100 | * | * | 100 | 100 |
| | -Jiwozi | 0 | 0 | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 0 | 0 | 100 |
| | Xiamen | | | | | | | | | | | | | |
| | -Hongwen | 100 | 100 | 100 | * | * | * | * | 100 | 100 | 100 | * | 100 | 100 |
| | -Xiaoping | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | * | * | 100 |
| | Zhuhai | | | | | | | | | | | | | |
| | -Xiang Zhou | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | 100 | 100 |
| | -Zhuxian Cavern | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | * | 100 |
| Indonesia | Jakarta | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | 100 | 100 | 100 | 100 |
| | Serpong | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | 100 |
| | Kototabang | * | * | * | 100 | 100 | 99 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Bandung | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 0 | 100 |
| Japan | Rishiri | 91 | 95 | 100 | 58 | 99 | 99 | 99 | 100 | 98 | 100 | 99 | 99 | 97 |
| | Tappi | 0 | 45 | 11 | 88 | 99 | 96 | 100 | 99 | 99 | 100 | 71 | 100 | 89 |
| | Sado-seki | 87 | 98 | 44 | 100 | 100 | 100 | 81 | 100 | 73 | 83 | 100 | 100 | 91 |
| | Happo | 99 | 85 | 47 | 98 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 18 | 89 |
| | Oki | 99 | 100 | 100 | 46 | 78 | 85 | 73 | 100 | 73 | 100 | 100 | 100 | 90 |
| | Yusuhara | 100 | 100 | 99 | 94 | 100 | 100 | 99 | 88 | 100 | 100 | 36 | 100 | 96 |
| | Ogasawara | 100 | 99 | 100 | 100 | 100 | 100 | 100 | 99 | 100 | 98 | 98 | 99 | 100 |
| | Hedo | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 99 | 100 | 100 | 100 |
| | Ijira | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Banryu | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Malaysia | Petaling Jaya | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Tanah Rata | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Mongolia | Ulaanbaatar | 0 | 0 | 0 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 0 | 0 | 100 |
| | Terelj | 0 | 0 | 0 | 100 | 100 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 100 |
| Philippines | Metro Manila | 97 | 97 | 91 | 0 | 100 | 100 | 100 | 30 | 0 | 0 | 99 | 99 | 64 |
| | Los Banos | 27 | 100 | 63 | 86 | 100 | 100 | 100 | 98 | 100 | 100 | 100 | 100 | 98 |
| Republic | Kanghwa | 7 | 0 | 57 | 85 | 97 | 99 | 100 | 99 | 0 | 91 | 90 | 88 | 90 |
| of Korea | Cheju | 0 | 0 | 0 | 0 | 0 | 99 | 100 | 100 | 94 | 100 | 90 | 88 | 76 |
| | Imsil | 100 | 100 | 67 | 89 | 62 | 77 | 100 | 76 | 0 | 92 | 0 | 86 | 81 |
| Russia | Mondy | 100 | * | 100 | 100 | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Listvyanka | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Irkutsk | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Thailand | Bangkok | * | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Patumthani | * | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Khao Lam Dam | * | * | 98 | 80 | 37 | 0 | 2 | 49 | 8 | 1 | 0 | * | 26 |
| | Mae Hia | * | * | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Vietnam | Hanoi | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 93 | 100 | 100 | 99 |
| | Hoa Binh | 70 | 67 | 99 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

Table 3.23 Monthly weighted averages of $K^+$ concentration

unit: μmol/L

| Country | Name of sites | 2001 Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual | Daily or Event Max | M | Min | M | Weekly Max | M | Min | M | F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| China | Chongqing | | | | | | | | | | | | | | | | | | | | | | |
| | -Guanyinqiao | 39.0 | 27.4 | 18.8 | 16.8 | 13.1 | 14.8 | 11.6 | 13.8 | 28.3 | 18.2 | 18.5 | 68.7 | 18.7 | 152 | 12 | 3.1 | 8 | | | | | d |
| | -Jinyunshan | 38.5 | 22.5 | 19.4 | 26.6 | 12.6 | 81.8 | - | 353 | 18.4 | 11.8 | 22.9 | 36.2 | 44.4 | 2520 | 8 | 3.3 | 6 | | | | | d |
| | Xi'an | | | | | | | | | | | | | | | | | | | | | | |
| | -Shizhan | - | - | - | 42.2 | 57.7 | 96.4 | 21.2 | 25.1 | 31.9 | 51.3 | - | 63.3 | 42.2 | 119 | 6 | 16.1 | 10 | | | | | d |
| | -Weishuiyuan | - | - | - | 61.7 | 73.5 | 116 | - | - | - | - | - | 47.0 | 74.9 | 123 | 6 | 11.4 | 8 | | | | | d |
| | -Jiwozi | - | - | - | 42.2 | 57.7 | 96.4 | 9.6 | 14.7 | 12.5 | 26.3 | - | - | 43.6 | 119 | 6 | 8.5 | 7 | | | | | d |
| | Xiamen | | | | | | | | | | | | | | | | | | | | | | |
| | -Hongwen | 65.9 | 106 | 12.9 | - | - | - | - | 2.3 | 2.2 | 127 | - | 6.2 | 10.4 | 127 | 10 | <1.0 | 8 | | | | | d |
| | -Xiaoping | 4.6 | 6.4 | 4.1 | 2.2 | <1.0 | <1.0 | <1.0 | 12.6 | 1.3 | - | - | - | 2.9 | 29.5 | 3 | <1.0 | 4 | | | | | d |
| | Zhuhai | | | | | | | | | | | | | | | | | | | | | | |
| | -Xiang Zhou | 13.9 | 17.8 | 3.9 | 2.5 | 1.7 | 2.8 | 1.1 | 12.9 | 3.3 | - | 45.6 | 12.8 | 4.0 | 77.3 | 8 | <1.0 | 7 | | | | | d |
| | -Zhuxian Cavern | 4.0 | 8.9 | 5.6 | 2.5 | 2.4 | 7.0 | 4.3 | 10.5 | 5.5 | - | - | 6.2 | 5.9 | 41.7 | 6 | <1.0 | 3 | | | | | d |
| Indonesia | Jakarta | - | - | - | - | - | - | 22.6 | 7.3 | - | 21.4 | 45.5 | 27.2 | 24.3 | | | | | 48.4 | 11 | 6.4 | 8 | w |
| | Serpong | - | 8.6 | 5.1 | 3.3 | 5.2 | 8.7 | 5.9 | 19.2 | 8.0 | 3.8 | 7.7 | - | 7.0 | 47.4 | 9 | <1.0 | 6 | | | | | e |
| | Kototabang | - | - | - | - | - | <1.0 | <1.0 | <1.0 | 1.6 | 1.5 | 1.9 | <1.0 | 1.3 | | | | | 4.2 | 11 | <1.0 | 6 | w |
| | Bandung | 13.2 | 1.9 | 6.6 | 12.4 | 6.9 | 5.2 | 6.0 | 4.9 | 22.5 | 19.5 | 19.1 | - | 12.6 | 44.3 | 10 | <1.0 | 5 | | | | | e |
| Japan | Rishiri | 7.2 | 27.9 | 24.4 | 4.5 | 3.6 | 4.5 | 1.1 | <1.0 | 3.4 | 4.1 | 6.4 | 17.3 | 6.0 | 113 | 2 | <1.0 | 8 | | | | | d |
| | Tappi | - | 7.0 | 26.8 | 11.4 | 1.4 | 3.3 | 1.2 | <1.0 | 2.7 | 2.7 | 5.2 | 21.9 | 3.3 | 90.0 | 12 | <1.0 | 8 | | | | | d |
| | Sado-seki | 28.5 | 25.5 | 34.0 | 7.9 | 3.1 | 1.2 | 2.2 | 1.3 | 2.0 | 2.5 | 11.3 | 14.7 | 8.2 | 185 | 1 | <1.0 | 9 | | | | | d |
| | Happo | 1.0 | 1.2 | 1.7 | 1.3 | 2.3 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | 21.6 | 5 | <1.0 | 6 | | | | | d |
| | Oki | 20.4 | 14.2 | 15.3 | 17.8 | 2.3 | 1.7 | 3.7 | 11.2 | 7.7 | 4.0 | 6.1 | 12.9 | 8.8 | 388 | 1 | <1.0 | 6 | | | | | d |
| | Yusuhara | <1.0 | 1.5 | 4.7 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | 50.9 | 3 | <1.0 | 1 | | | | | d |
| | Ogasawara | 6.5 | 2.2 | 2.8 | 2.4 | 1.8 | 1.5 | 11.0 | 20.0 | 4.3 | 3.7 | 5.3 | 3.3 | 4.1 | 151 | 8 | <1.0 | 5 | | | | | d |
| | Hedo | 3.5 | 7.3 | 4.8 | 3.0 | 2.0 | <1.0 | <1.0 | 1.3 | 1.7 | 42.7 | 5.6 | 6.5 | 3.6 | 1010 | 10 | <1.0 | 5 | | | | | d |
| | Ijira | 4.6 | 4.7 | 7.2 | 6.2 | 3.5 | 2.7 | 3.3 | 1.8 | 7.4 | 2.4 | 2.7 | 5.2 | 4.1 | | | | | 29.9 | 7 | <1.0 | 11 | w |
| | Banryu | 3.5 | 7.4 | 10.5 | 3.7 | 1.9 | <1.0 | <1.0 | 1.3 | 1.7 | 1.8 | 3.5 | 6.7 | 2.7 | | | | | 23.0 | 3 | <1.0 | 6 | w |
| Malaysia | Petaling Jaya | 1.0 | 2.0 | 2.4 | 1.1 | 5.7 | 1.3 | <1.0 | <1.0 | 1.8 | <1.0 | 1.1 | 1.3 | 1.4 | | | | | 10.0 | 5 | <1.0 | 7 | w |
| | Tanah Rata | 1.2 | 1.3 | <1.0 | <1.0 | <1.0 | <1.0 | 1.2 | <1.0 | 1.6 | <1.0 | 1.1 | <1.0 | <1.0 | | | | | 4.1 | 8 | <1.0 | 7 | w |
| Mongolia | Ulaanbaatar | - | - | - | 14.1 | 3.5 | 5.8 | 7.9 | 3.7 | 3.7 | 27.0 | - | - | 4.6 | 36.3 | 5 | 0.8 | 5 | | | | | d |
| | Terelj | - | - | - | 4.9 | 2.6 | 5.0 | - | - | - | - | - | - | 3.8 | 22.0 | 5 | 0.0 | 5 | | | | | d |
| Philippines | Metro Manila | 23.4 | 29.7 | 280 | - | 3.8 | 4.3 | 13.8 | 2.6 | - | - | 114 | 101 | 23.2 | | | | | 798 | 3 | 1.8 | 8 | w |
| | Los Banos | 1.6 | 45.9 | 105 | 22.4 | 23.8 | 6.4 | 4.3 | 3.7 | 3.4 | 6.1 | 6.4 | 3.9 | 9.5 | | | | | 125 | 3 | <1.0 | 9 | w |
| Republic | Kanghwa | 24.9 | - | 16.7 | 32.8 | 15.0 | 5.1 | 3.3 | 4.1 | - | 5.5 | 8.2 | 15.2 | 4.7 | 32.8 | 4 | 1.6 | 7 | | | | | d |
| of Korea | Cheju | - | - | - | - | - | 6.2 | 6.4 | 7.6 | 35.6 | 22.4 | 6.1 | 9.6 | 9.4 | 70.9 | 10 | 1.8 | 8 | | | | | d |
| | Imsil | 35.6 | 18.0 | 28.1 | 9.6 | 9.3 | 3.7 | 12.6 | 89.2 | - | 11.6 | - | 10.1 | 14.8 | | | | | 89.2 | 8 | 3.7 | 6 | w |
| Russia | Mondy | 2.8 | - | 4.2 | 2.2 | - | 1.7 | 3.5 | 1.7 | 1.5 | 2.5 | 3.8 | <1.0 | 2.1 | 20.5 | 7 | <1.0 | 12 | | | | | d |
| | Listvyanka | 5.9 | 12.7 | 2.0 | 1.7 | <1.0 | 2.3 | 1.5 | 1.0 | <1.0 | 6.8 | 2.0 | 1.8 | 1.7 | 34.5 | 2 | <1.0 | 8 | | | | | d |
| | Irkutsk | 14.2 | 4.7 | 5.9 | 6.7 | 5.8 | 4.5 | <1.0 | <1.0 | 54.5 | 1.4 | 12.8 | 2.4 | 7.4 | 1220 | 9 | <1.0 | 6 | | | | | d |
| Thailand | Bangkok | - | - | 2.7 | 5.3 | 2.5 | 1.6 | 1.5 | 1.4 | 2.7 | 10.0 | 5.4 | 31.6 | 4.1 | 47.3 | 10 | <1.0 | 7 | | | | | d |
| | Patumthani | - | - | 3.1 | 4.0 | 1.3 | 1.4 | 2.7 | 1.8 | 1.3 | 1.3 | 2.6 | 3.6 | 1.7 | 29.0 | 3 | <1.0 | 8 | | | | | d |
| | Khao Lam Dam | - | - | 3.1 | 5.9 | 5.9 | - | 11.1 | 5.1 | 2.2 | 11.2 | - | - | 5.0 | 69.8 | 5 | <1.0 | 8 | | | | | d |
| | Mae Hia | - | - | - | 7.4 | 6.3 | 2.8 | <1.0 | <1.0 | 1.4 | 5.0 | 5.0 | 16.9 | 2.9 | 107 | 10 | <1.0 | 7 | | | | | d |
| Vietnam | Hanoi | 35.4 | 8.4 | 6.9 | 9.4 | 4.9 | 3.1 | 2.7 | 2.1 | 3.7 | 4.3 | 1.2 | 2.8 | 3.8 | | | | | 56.2 | 1 | <1.0 | 11 | w |
| | Hoa Binh | 10.4 | 13.5 | 4.9 | 10.4 | 3.6 | 1.2 | 1.0 | 1.0 | 3.6 | 2.1 | 3.4 | 15.0 | 2.3 | | | | | 32.8 | 12 | <1.0 | 7 | w |

Table 3.24 Data completeness of $K^+$ (Percent total precipitation) unit: %

| Country | Name of sites | 2001 Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| China | Chongqing | | | | | | | | | | | | | |
| | -Guanyinqiao | 92 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | -Jinyunshan | 100 | 100 | 100 | 100 | 100 | 100 | * | 100 | 100 | 100 | 100 | 100 | 100 |
| | Xi'an | | | | | | | | | | | | | |
| | -Shizhan | 0 | 0 | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 0 | 100 | 100 |
| | -Weishuiyuan | 0 | 0 | 0 | 100 | 100 | 100 | 100 | 100 | 100 | * | * | 100 | 100 |
| | -Jiwozi | 0 | 0 | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 0 | 0 | 100 |
| | Xiamen | | | | | | | | | | | | | |
| | -Hongwen | 100 | 100 | 100 | * | * | * | * | 100 | 100 | 100 | * | 100 | 100 |
| | -Xiaoping | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | * | * | 100 |
| | Zhuhai | | | | | | | | | | | | | |
| | -Xiang Zhou | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | 100 | 100 |
| | -Zhuxian Cavern | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | * | 100 |
| Indonesia | Jakarta | 0 | 0 | 0 | 0 | 0 | 0 | 100 | 100 | * | 100 | 100 | 100 | 28 |
| | Serpong | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | 100 |
| | Kototabang | * | * | * | 0 | 0 | 47 | 100 | 100 | 100 | 100 | 100 | 100 | 78 |
| | Bandung | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 0 | 100 |
| Japan | Rishiri | 91 | 95 | 100 | 58 | 99 | 99 | 99 | 100 | 98 | 100 | 99 | 99 | 97 |
| | Tappi | 0 | 45 | 11 | 88 | 99 | 96 | 100 | 99 | 99 | 100 | 71 | 100 | 89 |
| | Sado-seki | 87 | 98 | 44 | 100 | 100 | 100 | 81 | 100 | 73 | 83 | 100 | 100 | 91 |
| | Happo | 99 | 85 | 47 | 98 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 18 | 89 |
| | Oki | 99 | 100 | 100 | 46 | 78 | 85 | 73 | 100 | 73 | 100 | 100 | 100 | 90 |
| | Yusuhara | 100 | 100 | 99 | 94 | 100 | 100 | 99 | 88 | 100 | 100 | 36 | 100 | 96 |
| | Ogasawara | 100 | 99 | 100 | 100 | 100 | 100 | 100 | 99 | 100 | 98 | 98 | 99 | 100 |
| | Hedo | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 99 | 100 | 100 | 100 |
| | Ijira | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Banryu | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Malaysia | Petaling Jaya | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Tanah Rata | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Mongolia | Ulaanbaatar | 0 | 0 | 0 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 0 | 0 | 100 |
| | Terelj | 0 | 0 | 0 | 100 | 100 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 100 |
| Philippines | Metro Manila | 97 | 97 | 91 | 0 | 100 | 100 | 100 | 30 | 0 | 0 | 99 | 99 | 64 |
| | Los Banos | 27 | 100 | 63 | 86 | 100 | 100 | 100 | 98 | 100 | 100 | 100 | 100 | 98 |
| Republic | Kanghwa | 7 | 0 | 57 | 85 | 97 | 99 | 100 | 99 | 0 | 91 | 90 | 88 | 90 |
| of Korea | Cheju | 0 | 0 | 0 | 0 | 0 | 99 | 100 | 100 | 94 | 100 | 90 | 88 | 76 |
| | Imsil | 100 | 100 | 67 | 89 | 62 | 77 | 100 | 76 | 0 | 92 | 0 | 86 | 81 |
| Russia | Mondy | 100 | * | 100 | 100 | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Listvyanka | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Irkutsk | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Thailand | Bangkok | * | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Patumthani | * | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Khao Lam Dam | * | * | 98 | 80 | 37 | 0 | 2 | 49 | 8 | 1 | 0 | * | 26 |
| | Mae Hia | * | * | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Vietnam | Hanoi | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 93 | 100 | 100 | 99 |
| | Hoa Binh | 70 | 67 | 99 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

Table 3.25 Monthly weighted averages of $Ca^{2+}$ concentration

unit: μmol/L

| Country | Name of sites | 2001 Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual | Daily or Event Max | M | Min | M | Weekly Max | M | Min | M | F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| China | Chongqing | | | | | | | | | | | | | | | | | | | | | | |
| | -Guanyinqiao | 116 | 167 | 243 | 164 | 82.0 | 103 | 88.7 | 93.3 | 245 | 152 | 138 | 497 | 137 | 1130 | 12 | 25.0 | 6 | | | | | d |
| | -Jinyunshan | 76.6 | 176 | 104 | 169 | 38.1 | 25.1 | - | 115 | 47.8 | 24.9 | 47.0 | 73.7 | 44.9 | 681 | 9 | 4.5 | 10 | | | | | d |
| | Xi'an | | | | | | | | | | | | | | | | | | | | | | |
| | -Shizhan | - | - | - | 950 | 302 | 759 | 639 | 670 | 552 | 755 | - | 732 | 675 | 2290 | 8 | 227 | 10 | | | | | d |
| | -Weishuiyuan | - | - | - | 1670 | 1200 | 809 | - | - | - | - | - | 507 | 1160 | 2810 | 4 | 146 | 12 | | | | | d |
| | -Jiwozi | - | - | - | 950 | 302 | 759 | 320 | 186 | 161 | 134 | - | - | 429 | 1110 | 6 | 30.3 | 10 | | | | | d |
| | Xiamen | | | | | | | | | | | | | | | | | | | | | | |
| | -Hongwen | 382.5 | 443 | 28.1 | - | - | - | - | 6.1 | 12.9 | 477 | - | 58.3 | 36.3 | 477 | 10 | 2.3 | 8 | | | | | d |
| | -Xiaoping | 0.3 | 10.3 | 5.4 | 2.0 | 1.8 | 0.3 | 3.1 | 15.2 | 5.7 | - | - | - | 5.3 | 66.0 | 3 | 0.3 | 4 | | | | | d |
| | Zhuhai | | | | | | | | | | | | | | | | | | | | | | |
| | -Xiang Zhou | 27.5 | 29.7 | 13.0 | 2.6 | 4.2 | 5.1 | 4.9 | 8.4 | 5.0 | - | 190 | 24.6 | 8.0 | 247 | 11 | 0.5 | 4 | | | | | d |
| | -Zhuxian Cavern | 16.1 | 52.4 | 21.2 | 11.0 | 7.7 | 25.2 | 6.5 | 12.4 | 7.0 | - | - | 36.2 | 14.3 | 164 | 6 | 0.5 | 9 | | | | | d |
| Indonesia | Jakarta | 37.1 | 32.8 | 77.3 | 38.9 | 64.9 | 28.9 | 280 | 98.9 | - | 146 | 107 | 35.9 | 64.4 | | | | | 280 | 7 | 18.8 | 12 | w |
| | Serpong | - | 6.6 | 9.5 | 15.5 | 11.9 | 14.4 | 17.5 | 34.4 | 18.2 | 5.8 | 6.6 | - | 13.6 | 101 | 9 | 1.1 | 11 | | | | | e |
| | Kototabang | - | - | - | 0.5 | 0.3 | 0.8 | 0.4 | <0.2 | 1.6 | 3.0 | 2.1 | 1.1 | 1.4 | | | | | 14.3 | 6 | <0.2 | 5 | w |
| | Bandung | 18.2 | 21.4 | 27.9 | 41.0 | 19.1 | 31.4 | 23.1 | 19.0 | 16.1 | 17.8 | 19.0 | - | 24.2 | 137 | 5 | 3.5 | 9 | | | | | e |
| Japan | Rishiri | 9.3 | 30.3 | 37.1 | 19.1 | 20.6 | 6.7 | 2.9 | 0.6 | 4.7 | 5.4 | 9.2 | 23.6 | 10.1 | 122 | 5 | 0.2 | 8 | | | | | d |
| | Tappi | - | 7.9 | 97.6 | 31.3 | 8.4 | 5.0 | 2.8 | 0.7 | 2.6 | 3.1 | 6.9 | 27.0 | 5.8 | 124 | 4 | 0.2 | 8 | | | | | d |
| | Sado-seki | 37.6 | 53.4 | 131 | 18.4 | 16.2 | 3.0 | 5.7 | 2.4 | 4.0 | 6.1 | 14.2 | 21.5 | 15.8 | 460 | 3 | 0.6 | 6 | | | | | d |
| | Happo | 5.3 | 13.4 | 25.8 | 16.1 | 13.8 | 0.9 | 3.4 | 0.6 | 0.7 | 0.6 | 2.0 | 5.4 | 4.3 | 134 | 3 | <0.2 | 9 | | | | | d |
| | Oki | 28.2 | 29.0 | 31.9 | 83.1 | 3.6 | 2.0 | 4.2 | 10.5 | 7.0 | 5.3 | 7.3 | 16.7 | 12.9 | 720 | 1 | <0.2 | 9 | | | | | d |
| | Yusuhara | 13.5 | 7.2 | 26.6 | 2.5 | 2.3 | 0.5 | 2.5 | 0.5 | <0.2 | 0.3 | 1.1 | 0.2 | 3.4 | 191 | 3 | <0.2 | 1 | | | | | d |
| | Ogasawara | 6.0 | 3.4 | 4.1 | 5.0 | 2.7 | 2.0 | 15.0 | 13.4 | 7.0 | 4.5 | 3.2 | 5.5 | 5.4 | 61.6 | 4 | 0.3 | 2 | | | | | d |
| | Hedo | 5.6 | 13.1 | 12.3 | 8.4 | 1.8 | 2.0 | 0.6 | 1.6 | 1.5 | 46.0 | 7.9 | 7.4 | 4.9 | 1120 | 10 | <0.2 | 3 | | | | | d |
| | Ijira | 6.2 | 13.3 | 14.3 | 15.6 | 7.6 | 3.5 | 4.1 | 2.6 | 2.1 | 3.4 | 2.7 | 9.7 | 5.6 | | | | | 47.2 | 3 | 0.8 | 8 | w |
| | Banryu | 11.4 | 26.5 | 33.1 | 12.3 | 4.1 | 1.6 | 0.9 | 0.8 | 2.0 | 1.7 | 3.2 | 10.0 | 6.0 | | | | | 78.3 | 2 | <0.2 | 6 | w |
| Malaysia | Petaling Jaya | 7.7 | 7.1 | 14.2 | 5.0 | 9.0 | 8.7 | 4.3 | 3.9 | 7.4 | 1.4 | 2.3 | 7.2 | 6.3 | | | | | 80.4 | 3 | <0.2 | 8 | w |
| | Tanah Rata | 2.6 | 4.9 | 3.1 | 2.3 | 3.4 | 4.7 | 5.8 | 5.7 | 3.1 | 1.9 | 2.0 | 4.9 | 3.1 | | | | | 25.2 | 6 | <0.2 | 7 | w |
| Mongolia | Ulaanbaatar | - | - | - | 202 | 36.5 | 45.2 | 155 | 33.2 | 57 | 167 | - | - | 47.4 | 401 | 8 | 9.0 | 5 | | | | | d |
| | Terelj | - | - | - | 14.0 | 9.3 | 20.7 | - | - | - | - | - | - | 15.0 | 46.2 | 6 | 3.5 | 5 | | | | | d |
| Philippines | Metro Manila | 42.7 | 13.7 | 179 | - | 7.2 | 15.6 | 175 | 15.9 | - | - | 35.0 | 24.1 | 71.6 | | | | | 379 | 7 | 2.4 | 7 | w |
| | Los Banos | 18.8 | 34.6 | 63.9 | 11.4 | 28.9 | 14.4 | 279 | 80.6 | 3.3 | 5.2 | 7.0 | 6.6 | 65.3 | | | | | 375 | 7 | 0.3 | 9 | w |
| Republic | Kanghwa | 73.5 | - | 84.4 | 267 | 151 | 21.5 | 7.2 | 4.6 | - | 5.4 | 13.4 | 36.8 | 14.0 | 267 | 4 | 2.2 | 6 | | | | | d |
| of Korea | Cheju | - | - | - | - | - | 1.3 | 4.3 | 8.0 | 3.7 | 6.0 | 7.9 | 15.5 | 5.9 | 45.6 | 12 | <0.2 | 6 | | | | | d |
| | Imsil | 12.4 | 17.9 | 86.9 | 7.3 | 1.6 | 0.5 | 1.1 | 9.7 | - | 6.9 | - | 11.6 | 5.8 | | | | | 86.9 | 3 | 0.3 | 7 | w |
| Russia | Mondy | 10.6 | - | 41.1 | 21.4 | - | 8.4 | 3.6 | 2.2 | 4.0 | 11.5 | 29.9 | 21.2 | 7.0 | 81.3 | 3 | 1.5 | 8 | | | | | d |
| | Listvyanka | 19.9 | 20.7 | 12.6 | 12.3 | 13.6 | 11.4 | 4.2 | 4.6 | 3.7 | 10.6 | 14.8 | 14.3 | 7.3 | 49.9 | 4 | 1.5 | 7 | | | | | d |
| | Irkutsk | 119 | 89.2 | 61.8 | 91.4 | 183 | 41.4 | 10.3 | 4.7 | 9.6 | 26.9 | 189 | 57.1 | 34.8 | 462 | 5 | 2.2 | 8 | | | | | d |
| Thailand | Bangkok | - | - | 12.3 | 52.9 | 9.9 | 11.4 | 18.0 | 4.1 | 10.3 | 14.7 | 19.8 | 115 | 12.0 | 140 | 9 | 1.3 | 8 | | | | | d |
| | Patumthani | - | - | 9.2 | 22.2 | 10.8 | 14.3 | 38.7 | 14.7 | 9.7 | 11.6 | 24.0 | 41.7 | 13.0 | 74.8 | 8 | 1.0 | 3 | | | | | d |
| | Khao Lam Dam | - | - | 4.3 | 9.9 | 14.7 | - | 27.9 | 6.9 | <0.2 | 24.5 | - | - | 9.0 | 43.1 | 3 | <0.2 | 8 | | | | | d |
| | Mae Hia | - | - | - | 14.4 | 6.9 | 7.0 | 6.6 | 4.9 | 5.5 | 9.3 | 9.5 | 17.5 | 6.9 | 21.3 | 10 | 1.0 | 7 | | | | | d |
| Vietnam | Hanoi | 190 | 43.3 | 10.5 | 13.4 | 9.0 | 7.4 | 5.8 | 7.6 | 10.9 | 16.8 | 27.2 | 22.2 | 10.7 | | | | | 263 | 1 | 3.7 | 8 | w |
| | Hoa Binh | 37.6 | 22.5 | 16.9 | 31.2 | 11.5 | 7.2 | 5.4 | 6.2 | 15.9 | 15.2 | 31.6 | 33.6 | 10.4 | | | | | 37.6 | 1 | 4.7 | 6 | w |

Table 3.26 Data completeness of $Ca^{2+}$ (Percent total precipitation) unit: %

| Country | Name of sites | 2001 Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| China | Chongqing | | | | | | | | | | | | | |
| | -Guanyinqiao | 92 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | -Jinyunshan | 100 | 100 | 100 | 100 | 100 | 100 | * | 100 | 100 | 100 | 100 | 100 | 100 |
| | Xi'an | | | | | | | | | | | | | |
| | -Shizhan | 0 | 0 | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 0 | 100 | 100 |
| | -Weishuiyuan | 0 | 0 | 0 | 100 | 100 | 100 | 100 | 100 | 100 | * | * | 100 | 100 |
| | -Jiwozi | 0 | 0 | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 0 | 0 | 100 |
| | Xiamen | | | | | | | | | | | | | |
| | -Hongwen | 100 | 100 | 100 | * | * | * | * | 100 | 100 | 100 | * | 100 | 100 |
| | -Xiaoping | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | * | * | 100 |
| | Zhuhai | | | | | | | | | | | | | |
| | -Xiang Zhou | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | 100 | 100 |
| | -Zhuxian Cavern | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | * | 100 |
| Indonesia | Jakarta | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | 100 | 100 | 100 | 100 |
| | Serpong | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | 100 |
| | Kototabang | * | * | * | 100 | 100 | 99 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Bandung | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 0 | 100 |
| Japan | Rishiri | 91 | 95 | 100 | 58 | 99 | 99 | 99 | 100 | 98 | 100 | 99 | 99 | 97 |
| | Tappi | 0 | 45 | 11 | 88 | 99 | 96 | 100 | 99 | 99 | 100 | 71 | 100 | 89 |
| | Sado-seki | 87 | 98 | 44 | 100 | 100 | 100 | 81 | 100 | 73 | 83 | 100 | 100 | 91 |
| | Happo | 99 | 85 | 47 | 98 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 18 | 89 |
| | Oki | 99 | 100 | 100 | 46 | 78 | 85 | 73 | 100 | 73 | 100 | 100 | 100 | 90 |
| | Yusuhara | 100 | 100 | 99 | 94 | 100 | 100 | 99 | 88 | 100 | 100 | 36 | 100 | 96 |
| | Ogasawara | 100 | 99 | 100 | 100 | 100 | 100 | 100 | 99 | 100 | 98 | 98 | 99 | 100 |
| | Hedo | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 99 | 100 | 100 | 100 |
| | Ijira | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Banryu | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Malaysia | Petaling Jaya | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Tanah Rata | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Mongolia | Ulaanbaatar | 0 | 0 | 0 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 0 | 0 | 100 |
| | Terelj | 0 | 0 | 0 | 100 | 100 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 100 |
| Philippines | Metro Manila | 97 | 97 | 91 | 0 | 100 | 100 | 100 | 30 | 0 | 0 | 99 | 99 | 64 |
| | Los Banos | 27 | 100 | 63 | 86 | 100 | 100 | 100 | 98 | 100 | 100 | 100 | 100 | 98 |
| Republic | Kanghwa | 7 | 0 | 57 | 85 | 97 | 99 | 100 | 99 | 0 | 91 | 90 | 88 | 90 |
| of Korea | Cheju | 0 | 0 | 0 | 0 | 0 | 99 | 100 | 100 | 94 | 100 | 90 | 88 | 76 |
| | Imsil | 100 | 100 | 67 | 89 | 62 | 77 | 100 | 76 | 0 | 92 | 0 | 86 | 81 |
| Russia | Mondy | 100 | * | 100 | 100 | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Listvyanka | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Irkutsk | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Thailand | Bangkok | * | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Patumthani | * | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Khao Lam Dam | * | * | 98 | 80 | 37 | 0 | 2 | 49 | 8 | 1 | 0 | * | 26 |
| | Mae Hia | * | * | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Vietnam | Hanoi | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 93 | 100 | 100 | 99 |
| | Hoa Binh | 70 | 67 | 99 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

Table 3.27 Monthly weighted averages of nss-$Ca^{2+}$ concentration

unit: μmol/L

| Country | Name of sites | 2001 Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual | Daily or Event Max | M | Min | M | Weekly Max | M | Min | M | F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| China | Chongqing | | | | | | | | | | | | | | | | | | | | | | |
| | -Guanyinqiao | 116 | 166 | 242 | 164 | 81.8 | 102 | 88.5 | 93.2 | 244 | 151 | 138 | 496 | 137 | 1130 | 12 | 24.9 | 6 | | | | | d |
| | -Jinyunshan | 76.2 | 175 | 103 | 168 | 37.7 | 24.9 | - | 114 | 47.6 | 24.8 | 46.8 | 73.4 | 44.7 | 680 | 9 | 4.4 | 9 | | | | | d |
| | Xi'an | | | | | | | | | | | | | | | | | | | | | | |
| | -Shizhan | - | - | - | 946 | 292 | 754 | 637 | 666 | 548 | 753 | - | 728 | 672 | 2290 | 8 | 226 | 8 | | | | | d |
| | -Weishuiyuan | - | - | - | 1670 | 1200 | 805 | - | - | - | - | - | 505 | 1150 | 2800 | 4 | 145 | 12 | | | | | d |
| | -Jiwozi | - | - | - | 946 | 292 | 754 | 318 | 184 | 159 | 132 | - | - | 425 | 1110 | 6 | 29.1 | 10 | | | | | d |
| | Xiamen | | | | | | | | | | | | | | | | | | | | | | |
| | -Hongwen | 382 | 441 | 28.0 | - | - | - | - | 6.0 | 12.7 | 474 | - | 57.5 | 36.1 | 474 | 10 | 2.2 | 8 | | | | | d |
| | -Xiaoping | 0.3 | 10.0 | 5.3 | 1.9 | 1.7 | 0.3 | 3.0 | 14.3 | 5.7 | - | - | - | 5.0 | 65.4 | 3 | <0.2 | 6 | | | | | d |
| | Zhuhai | | | | | | | | | | | | | | | | | | | | | | |
| | -Xiang Zhou | 26.9 | 28.8 | 12.5 | 2.3 | 4.0 | 4.9 | 4.1 | 7.5 | 4.8 | - | 187 | 24.0 | 7.4 | 244 | 11 | 0.2 | 7 | | | | | d |
| | -Zhuxian Cavern | 15.9 | 52.0 | 20.6 | 10.4 | 7.4 | 24.8 | 5.4 | 11.9 | 6.9 | - | - | 35.8 | 13.7 | 163 | 6 | 0.5 | 9 | | | | | d |
| Indonesia | Jakarta | 36.7 | 31.8 | 76.6 | 38.6 | 64.0 | 28.4 | 278 | 97.5 | - | 144 | 107 | 35.2 | 63.5 | | | | | 278 | 7 | 18.2 | 12 | w |
| | Serpong | - | 5.8 | 8.9 | 15.1 | 11.4 | 14.0 | 17.0 | 32.9 | 17.6 | 5.7 | 6.1 | - | 13.1 | 99.8 | 9 | 1.0 | 11 | | | | | e |
| | Kototabang | - | - | - | 0.5 | 0.3 | 0.8 | 0.4 | <0.2 | 1.6 | 2.7 | 1.9 | 1.1 | 1.4 | | | | | 14.3 | 6 | <0.2 | 5 | w |
| | Bandung | 17.8 | 21.1 | 27.4 | 40.2 | 18.7 | 30.9 | 22.6 | 18.4 | 15.7 | 17.4 | 18.8 | - | 23.7 | 137 | 5 | 2.3 | 9 | | | | | e |
| Japan | Rishiri | 3.5 | 12.5 | 24.6 | 16.3 | 19.9 | 4.8 | 2.6 | 0.4 | 1.5 | 2.1 | 3.8 | 3.1 | 5.5 | 120 | 5 | <0.2 | 1 | | | | | d |
| | Tappi | - | 1.3 | 75.6 | 23.4 | 7.7 | 2.6 | 1.9 | 0.2 | <0.2 | 0.5 | 2.6 | 7.4 | 3.0 | 97.3 | 3 | <0.2 | 6 | | | | | d |
| | Sado-seki | 9.7 | 30.5 | 95.1 | 13.5 | 15.1 | 2.6 | 4.4 | 1.6 | 2.1 | 4.6 | 3.7 | 6.0 | 8.3 | 314 | 3 | <0.2 | 11 | | | | | d |
| | Happo | 4.7 | 13.1 | 25.6 | 16.0 | 13.8 | 0.9 | 3.3 | 0.6 | 0.6 | 0.6 | 1.8 | 5.2 | 4.2 | 133 | 3 | <0.2 | 9 | | | | | d |
| | Oki | 9.0 | 18.1 | 21.2 | 73.3 | 3.2 | 1.4 | 2.9 | 5.8 | 1.1 | 3.1 | 2.9 | 5.5 | 6.1 | 340 | 1 | <0.2 | 9 | | | | | d |
| | Yusuhara | 13.0 | 6.6 | 25.1 | 2.3 | 2.2 | 0.4 | 2.4 | 0.4 | <0.2 | 0.2 | 0.9 | 0.2 | 3.2 | 182 | 3 | <0.2 | 1 | | | | | d |
| | Ogasawara | 4.3 | 1.8 | 2.3 | 3.8 | 1.3 | 1.1 | 8.0 | 7.2 | 4.2 | 1.3 | 1.4 | 2.3 | 3.2 | 49.4 | 4 | <0.2 | 2 | | | | | d |
| | Hedo | 2.2 | 5.6 | 8.7 | 6.9 | 0.4 | 1.1 | <0.2 | 0.3 | <0.2 | 2.5 | 3.9 | 0.8 | 1.7 | 174 | 3 | <0.2 | 2 | | | | | d |
| | Ijira | 5.1 | 12.7 | 13.3 | 15.1 | 6.9 | 3.3 | 3.8 | 2.4 | 1.7 | 3.2 | 1.9 | 7.2 | 5.0 | | | | | 46.3 | 3 | 0.7 | 8 | w |
| | Banryu | 8.9 | 22.5 | 26.9 | 10.7 | 2.8 | 1.3 | 0.7 | 0.4 | 0.9 | 0.7 | 0.8 | 5.1 | 4.3 | | | | | 74.0 | 2 | <0.2 | 6 | w |
| Malaysia | Petaling Jaya | 7.7 | 6.9 | 14.0 | 5.0 | 8.9 | 8.7 | 4.2 | 3.8 | 7.3 | 1.4 | 2.2 | 7.1 | 6.2 | | | | | 80.2 | 3 | <0.2 | 8 | w |
| | Tanah Rata | 2.6 | 4.7 | 3.1 | 2.2 | 3.4 | 4.7 | 5.7 | 5.7 | 3.0 | 1.8 | 2.0 | 4.8 | 3.1 | | | | | 25.1 | 6 | <0.2 | 7 | w |
| Mongolia | Ulaanbaatar | - | - | - | 200 | 36.3 | 45.0 | 155 | 33.0 | 57 | 166 | - | - | 47.2 | 400 | 8 | 9.0 | 5 | | | | | d |
| | Terelj | - | - | - | 13.9 | 9.3 | 20.1 | - | - | - | - | - | - | 14.6 | 46.0 | 6 | 3.5 | 5 | | | | | d |
| Philippines | Metro Manila | 42.3 | 13.0 | 170 | - | 6.9 | 15.4 | 164 | 14.9 | - | - | 34.1 | 22.7 | 67.2 | | | | | 354 | 7 | 2.2 | 7 | w |
| | Los Banos | 18.7 | 32.9 | 59.2 | 11.0 | 28.0 | 14.1 | 278 | 80.4 | 2.8 | 4.6 | 5.5 | 5.7 | 64.5 | | | | | 374 | 7 | <0.2 | 9 | w |
| Republic | Kanghwa | 67.7 | - | 81.4 | 263 | 149 | 20.9 | 6.3 | 3.6 | - | 4.9 | 12.5 | 34.8 | 13.1 | 263 | 4 | 1.8 | 6 | | | | | d |
| of Korea | Cheju | - | - | - | - | - | 0.9 | 3.0 | 5.7 | 3.0 | 4.5 | 6.1 | 11.8 | 4.3 | 42.2 | 12 | <0.2 | 6 | | | | | d |
| | Imsil | 11.7 | 17.3 | 86.6 | 7.0 | 1.3 | 0.3 | 0.9 | 9.3 | - | 6.5 | - | 11.0 | 5.5 | | | | | 86.6 | 3 | <0.2 | 7 | w |
| Russia | Mondy | 10.5 | - | 41.0 | 21.3 | - | 8.4 | 3.6 | 2.1 | 4.0 | 11.3 | 29.9 | 21.2 | 6.9 | 81.1 | 3 | 1.5 | 8 | | | | | d |
| | Listvyanka | 19.7 | 20.3 | 12.5 | 12.3 | 13.5 | 11.3 | 4.1 | 4.6 | 3.6 | 10.3 | 14.7 | 14.2 | 7.2 | 49.8 | 4 | 1.5 | 7 | | | | | d |
| | Irkutsk | 117 | 88.4 | 61.2 | 91.0 | 183 | 41.3 | 10.3 | 4.7 | 9.2 | 26.8 | 188 | 56.9 | 34.6 | 462 | 5 | 2.2 | 8 | | | | | d |
| Thailand | Bangkok | - | - | 12.1 | 52.5 | 9.7 | 11.1 | 17.7 | 4.0 | 10.2 | 14.5 | 19.5 | 114 | 11.8 | 140 | 9 | 1.3 | 8 | | | | | d |
| | Patumthani | - | - | 9.0 | 22.0 | 10.5 | 14.0 | 38.4 | 14.6 | 9.5 | 11.4 | 23.8 | 41.5 | 12.8 | 73.8 | 8 | 1.0 | 3 | | | | | d |
| | Khao Lam Dam | - | - | 4.2 | 9.7 | 14.4 | - | 26.8 | 6.6 | <0.2 | 23.8 | - | - | 8.8 | 42.1 | 3 | <0.2 | 8 | | | | | d |
| | Mae Hia | - | - | - | 14.3 | 6.7 | 6.9 | 6.5 | 4.9 | 5.5 | 9.2 | 9.4 | 17.4 | 6.9 | 20.4 | 10 | 1.0 | 7 | | | | | d |
| Vietnam | Hanoi | 188 | 42.5 | 9.8 | 13.1 | 8.8 | 7.2 | 5.5 | 7.5 | 10.6 | 16.5 | 27.1 | 22.0 | 10.4 | | | | | 261 | 1 | 3.6 | 8 | w |
| | Hoa Binh | 36.5 | 21.8 | 16.4 | 30.8 | 11.2 | 7.0 | 5.2 | 6.0 | 15.7 | 15.1 | 31.5 | 33.4 | 10.2 | | | | | 36.5 | 1 | 4.6 | 6 | w |

Table 3.28 Data completeness of nss-$Ca^{2+}$ (Percent total precipitation) unit: %

| Country | Name of sites | 2001 Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| China | Chongqing | | | | | | | | | | | | | |
| | -Guanyinqiao | 92 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | -Jinyunshan | 100 | 100 | 100 | 100 | 100 | 100 | * | 100 | 100 | 100 | 100 | 100 | 100 |
| | Xi'an | | | | | | | | | | | | | |
| | -Shizhan | 0 | 0 | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 0 | 100 | 100 |
| | -Weishuiyuan | 0 | 0 | 0 | 100 | 100 | 100 | 100 | 100 | 100 | * | * | 100 | 100 |
| | -Jiwozi | 0 | 0 | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 0 | 0 | 100 |
| | Xiamen | | | | | | | | | | | | | |
| | -Hongwen | 100 | 100 | 100 | * | * | * | * | 100 | 100 | 100 | * | 100 | 100 |
| | -Xiaoping | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | * | * | 100 |
| | Zhuhai | | | | | | | | | | | | | |
| | -Xiang Zhou | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | 100 | 100 |
| | -Zhuxian Cavern | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | * | 100 |
| Indonesia | Jakarta | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | 100 | 100 | 100 | 100 |
| | Serpong | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | 100 |
| | Kototabang | * | * | * | 100 | 100 | 99 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Bandung | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 0 | 100 |
| Japan | Rishiri | 91 | 95 | 100 | 58 | 99 | 99 | 99 | 100 | 98 | 100 | 99 | 99 | 97 |
| | Tappi | 0 | 45 | 11 | 88 | 99 | 96 | 100 | 99 | 99 | 100 | 71 | 100 | 89 |
| | Sado-seki | 87 | 98 | 44 | 100 | 100 | 100 | 81 | 100 | 73 | 83 | 100 | 100 | 91 |
| | Happo | 99 | 85 | 47 | 98 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 18 | 89 |
| | Oki | 99 | 100 | 100 | 46 | 78 | 85 | 73 | 100 | 73 | 100 | 100 | 100 | 90 |
| | Yusuhara | 100 | 100 | 99 | 94 | 100 | 100 | 99 | 88 | 100 | 100 | 36 | 100 | 96 |
| | Ogasawara | 100 | 99 | 100 | 100 | 100 | 100 | 100 | 99 | 100 | 98 | 98 | 99 | 100 |
| | Hedo | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 99 | 100 | 100 | 100 |
| | Ijira | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Banryu | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Malaysia | Petaling Jaya | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Tanah Rata | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Mongolia | Ulaanbaatar | 0 | 0 | 0 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 0 | 0 | 100 |
| | Terelj | 0 | 0 | 0 | 100 | 100 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 100 |
| Philippines | Metro Manila | 97 | 97 | 91 | 0 | 100 | 100 | 100 | 30 | 0 | 0 | 99 | 99 | 64 |
| | Los Banos | 27 | 100 | 63 | 86 | 100 | 100 | 100 | 98 | 100 | 100 | 100 | 100 | 98 |
| Republic | Kanghwa | 7 | 0 | 57 | 85 | 97 | 99 | 100 | 99 | 0 | 91 | 90 | 88 | 90 |
| of Korea | Cheju | 0 | 0 | 0 | 0 | 0 | 99 | 100 | 100 | 94 | 100 | 90 | 88 | 76 |
| | Imsil | 100 | 100 | 67 | 89 | 62 | 77 | 100 | 76 | 0 | 92 | 0 | 86 | 81 |
| Russia | Mondy | 100 | * | 100 | 100 | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Listvyanka | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Irkutsk | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Thailand | Bangkok | * | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Patumthani | * | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Khao Lam Dam | * | * | 98 | 80 | 37 | 0 | 2 | 49 | 8 | 1 | 0 | * | 26 |
| | Mae Hia | * | * | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Vietnam | Hanoi | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 93 | 100 | 100 | 99 |
| | Hoa Binh | 70 | 67 | 99 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

Table 3.29 Monthly weighted averages of $Mg^{2+}$ concentration

unit: μmol/L

| Country | Name of sites | 2001 Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual | Daily or Event Max | M | Min | M | Weekly Max | M | Min | M | F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| China | Chongqing | | | | | | | | | | | | | | | | | | | | | | |
| | -Guanyinqiao | 14.2 | 44.0 | 24.4 | 14.8 | 8.5 | 7.8 | 8.3 | 8.0 | 17.7 | 11.4 | 8.9 | 33.1 | 11.6 | 67.8 | 12 | 2.5 | 8 | | | | | d |
| | -Jinyunshan | 34.3 | 20.4 | 18.5 | 21.3 | 2.8 | 2.5 | - | 12.6 | 4.4 | 2.7 | 6.7 | 7.5 | 5.8 | 74.0 | 1 | <0.4 | 10 | | | | | d |
| | Xi'an | | | | | | | | | | | | | | | | | | | | | | |
| | -Shizhan | - | - | - | 78.8 | 25.4 | 65.2 | 26.4 | 27.4 | 51.6 | 79.4 | - | 93.0 | 48.5 | 192 | 2 | 16.1 | 10 | | | | | d |
| | -Weishuiyuan | - | - | - | 123 | 70.4 | 70.5 | - | - | - | - | - | 48.1 | 88.4 | 220 | 4 | 12.5 | 12 | | | | | d |
| | -Jiwozi | - | - | - | 78.8 | 25.4 | 65.2 | 25.0 | 27.0 | 17.6 | 26.8 | - | - | 41.1 | 112 | 6 | 6.6 | 10 | | | | | d |
| | Xiamen | | | | | | | | | | | | | | | | | | | | | | |
| | -Hongwen | 31.8 | 46.0 | 5.4 | - | - | - | - | 1.8 | 3.9 | 61.2 | - | 18.8 | 6.3 | 61.2 | 10 | 0.8 | 8 | | | | | d |
| | -Xiaoping | <0.4 | 2.2 | 1.1 | 0.7 | 0.5 | <0.4 | 7.3 | 3.6 | 1.3 | - | - | - | 2.8 | 12.6 | 7 | <0.4 | 1 | | | | | d |
| | Zhuhai | | | | | | | | | | | | | | | | | | | | | | |
| | -Xiang Zhou | 4.1 | 7.0 | 3.2 | 2.6 | 1.2 | 1.7 | 4.4 | 2.5 | 1.2 | - | 29.2 | 5.0 | 2.9 | 41.3 | 2 | 0.8 | 9 | | | | | d |
| | -Zhuxian Cavern | 1.3 | 3.3 | 5.9 | 3.5 | 2.8 | 2.3 | 5.3 | 2.7 | 1.1 | - | - | 5.2 | 3.3 | 38.7 | 3 | 0.8 | 9 | | | | | d |
| Indonesia | Jakarta | 81.7 | 54.9 | 116 | 73.8 | 90.9 | 71.7 | 41.8 | 28.7 | - | 142 | 10.6 | 4.8 | 69.0 | | | | | 245 | 5 | 0.9 | 11 | w |
| | Serpong | - | 1.0 | 1.4 | 1.5 | 0.9 | 1.2 | 4.0 | 12.7 | 5.7 | 2.1 | 2.1 | - | 3.5 | 23.0 | 8 | <0.4 | 6 | | | | | e |
| | Kototabang | - | - | - | <0.4 | - | <0.4 | <0.4 | <0.4 | 1.4 | 1.3 | 0.8 | 0.8 | 1.0 | | | | | 2.0 | 10 | <0.4 | 6 | w |
| | Bandung | 3.7 | 1.6 | 3.4 | 5.0 | 3.6 | 6.4 | 4.3 | 4.9 | 2.1 | 4.8 | 3.1 | - | 4.1 | 22.5 | 4 | 0.6 | 1 | | | | | e |
| Japan | Rishiri | 32.6 | 93.4 | 70.5 | 16.4 | 5.5 | 11.0 | 2.3 | 1.1 | 16.2 | 17.9 | 29.0 | 106 | 24.8 | 520 | 2 | 0.4 | 8 | | | | | d |
| | Tappi | - | 36.6 | 119 | 46.8 | 6.0 | 12.9 | 4.6 | 2.5 | 14.8 | 13.9 | 23.2 | 105 | 15.5 | 441 | 12 | 0.4 | 8 | | | | | d |
| | Sado-seki | 146 | 124 | 191 | 30.0 | 8.9 | 2.3 | 7.7 | 4.4 | 10.2 | 8.8 | 54.5 | 82.8 | 40.5 | 1110 | 1 | 0.6 | 6 | | | | | d |
| | Happo | 4.3 | 3.2 | 4.7 | 4.7 | 2.7 | <0.4 | 1.8 | 0.8 | 0.6 | 0.5 | 1.4 | 1.7 | 1.6 | 32.3 | 1 | <0.4 | 6 | | | | | d |
| | Oki | 103 | 58.5 | 59.1 | 63.7 | 4.0 | 3.5 | 7.7 | 28.1 | 31.2 | 12.2 | 23.3 | 58.5 | 36.6 | 1910 | 1 | 1.6 | 6 | | | | | d |
| | Yusuhara | 4.0 | 4.2 | 13.4 | 0.9 | 1.9 | <0.4 | 0.6 | 1.2 | 0.4 | 0.7 | 0.8 | 2.5 | 1.8 | 85.6 | 3 | <0.4 | 1 | | | | | d |
| | Ogasawara | 10.9 | 10.4 | 11.4 | 7.8 | 8.2 | 5.8 | 38.4 | 33.9 | 16.2 | 18.0 | 11.0 | 19.3 | 13.3 | 145 | 3 | 1.4 | 6 | | | | | d |
| | Hedo | 17.4 | 38.1 | 18.8 | 9.0 | 8.3 | 4.1 | 3.7 | 7.4 | 8.6 | 216 | 21.3 | 34.1 | 16.9 | 5570 | 10 | <0.4 | 3 | | | | | d |
| | Ijira | 7.4 | 4.8 | 6.6 | 6.7 | 4.8 | 0.6 | 2.0 | 1.4 | 2.4 | 2.1 | 3.9 | 12.3 | 4.0 | | | | | 23.9 | 7 | <0.4 | 5 | w |
| | Banryu | 15.1 | 23.3 | 37.1 | 10.5 | 6.8 | 1.5 | 0.8 | 0.9 | 5.0 | 5.3 | 12.6 | 26.7 | 9.1 | | | | | 72.8 | 3 | 0.4 | 6 | w |
| Malaysia | Petaling Jaya | 1.1 | 2.4 | 2.3 | 0.9 | 2.1 | 1.4 | 1.0 | 1.1 | 1.8 | <0.4 | 0.9 | 1.4 | 1.3 | | | | | 6.7 | 7 | <0.4 | 7 | w |
| | Tanah Rata | 0.4 | 1.0 | 0.4 | <0.4 | <0.4 | 0.4 | 0.6 | 0.7 | 0.7 | <0.4 | <0.4 | 0.4 | 0.4 | | | | | 2.5 | 6 | <0.4 | 7 | w |
| Mongolia | Ulaanbaatar | - | - | - | 24.7 | 4.5 | 5.3 | 13.0 | 4.9 | 4.1 | 13.3 | - | - | 5.4 | 45.7 | 5 | 1.6 | 8 | | | | | d |
| | Terelj | - | - | - | 2.9 | 2.4 | 2.6 | - | - | - | - | - | - | 2.5 | 7.4 | 5 | 0.0 | 5 | | | | | d |
| Philippines | Metro Manila | 2.9 | 8.1 | 246 | - | 2.3 | 2.4 | 22.9 | 4.8 | - | - | 20.8 | 35.4 | 15.0 | | | | | 461 | 3 | 1.3 | 6 | w |
| | Los Banos | 1.5 | 18.4 | 60.9 | 7.8 | 12.7 | 3.5 | 24.4 | 8.2 | 4.6 | 5.2 | 10.1 | 6.6 | 11.1 | | | | | 104 | 3 | 1.5 | 1 | w |
| Republic | Kanghwa | 45.5 | - | 33.1 | 51.9 | 37.1 | 5.9 | 3.6 | 1.8 | - | 3.9 | 9.2 | 17.7 | 5.3 | 51.9 | 4 | 0.5 | 7 | | | | | d |
| of Korea | Cheju | - | - | - | - | - | 1.1 | 7.0 | 15.7 | 3.6 | 9.5 | 12.5 | 26.7 | 10.0 | 46.0 | 11 | <0.4 | 6 | | | | | d |
| | Imsil | 3.9 | 4.4 | 33.1 | 2.4 | 0.5 | <0.4 | 0.4 | 2.8 | - | 2.6 | - | 4.1 | 1.9 | | | | | 33.1 | 3 | <0.4 | 7 | w |
| Russia | Mondy | 2.5 | - | 6.6 | 5.1 | - | 1.2 | 1.1 | 0.8 | 1.2 | 2.1 | 3.3 | 3.7 | 1.5 | 10.7 | 3 | 0.4 | 6 | | | | | d |
| | Listvyanka | 6.1 | 5.3 | 2.2 | 3.5 | 2.9 | 2.3 | 1.1 | 1.1 | 1.4 | 3.8 | 3.2 | 3.3 | 1.8 | 16.8 | 4 | 0.4 | 3 | | | | | d |
| | Irkutsk | 22.3 | 13.2 | 8.5 | 11.8 | 26.7 | 6.7 | 2.0 | 1.0 | 2.2 | 4.8 | 21.2 | 10.0 | 5.5 | 51.3 | 5 | 0.4 | 8 | | | | | d |
| Thailand | Bangkok | - | - | 2.2 | 8.2 | 7.8 | 6.9 | 8.8 | 1.1 | 1.5 | 1.5 | 2.0 | 16.3 | 3.2 | 33.3 | 7 | <0.4 | 10 | | | | | d |
| | Patumthani | - | - | 1.3 | 4.8 | 4.0 | 2.4 | 4.7 | 2.6 | 1.3 | 1.0 | 2.3 | 2.3 | 2.2 | 11.3 | 8 | <0.4 | 3 | | | | | d |
| | Khao Lam Dam | - | - | 2.0 | 2.0 | 3.7 | - | 18.2 | 1.5 | 1.0 | 7.4 | - | - | 2.5 | 30.8 | 3 | <0.4 | 8 | | | | | d |
| | Mae Hia | - | - | - | 3.3 | 1.8 | 2.2 | 2.6 | <0.4 | <0.4 | 0.5 | 0.6 | 1.1 | 1.1 | 6.4 | 7 | <0.4 | 8 | | | | | d |
| Vietnam | Hanoi | 52.0 | 15.1 | 5.2 | 7.7 | 5.5 | 3.6 | 2.3 | 2.5 | 6.1 | 3.0 | 2.8 | 0.8 | 4.0 | | | | | 65.8 | 1 | 0.7 | 12 | w |
| | Hoa Binh | 14.1 | 6.3 | 8.1 | 10.3 | 6.6 | 2.5 | 2.2 | 2.2 | 4.4 | 2.3 | 5.8 | 5.6 | 3.7 | | | | | 14.1 | 1 | 0.8 | 10 | w |

Table 3.30 Data completeness of $Mg^{2+}$ (Percent total precipitation) unit: %

| Country | Name of sites | 2001 Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| China | Chongqing | | | | | | | | | | | | | |
| | -Guanyinqiao | 92 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | -Jinyunshan | 100 | 100 | 100 | 100 | 100 | 100 | * | 100 | 100 | 100 | 100 | 100 | 100 |
| | Xi'an | | | | | | | | | | | | | |
| | -Shizhan | 0 | 0 | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 0 | 100 | 100 |
| | -Weishuiyuan | 0 | 0 | 0 | 100 | 100 | 100 | 100 | 100 | 100 | * | * | 100 | 100 |
| | -Jiwozi | 0 | 0 | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 0 | 0 | 100 |
| | Xiamen | | | | | | | | | | | | | |
| | -Hongwen | 100 | 100 | 100 | * | * | * | * | 100 | 100 | 100 | * | 100 | 100 |
| | -Xiaoping | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | * | * | 100 |
| | Zhuhai | | | | | | | | | | | | | |
| | -Xiang Zhou | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | 100 | 100 |
| | -Zhuxian Cavern | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | * | 100 |
| Indonesia | Jakarta | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | 100 | 100 | 100 | 100 |
| | Serpong | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | 100 |
| | Kototabang | * | * | * | 8 | 0 | 47 | 100 | 100 | 100 | 100 | 100 | 100 | 79 |
| | Bandung | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 0 | 100 |
| Japan | Rishiri | 91 | 95 | 100 | 58 | 99 | 99 | 99 | 100 | 98 | 100 | 99 | 99 | 97 |
| | Tappi | 0 | 45 | 11 | 88 | 99 | 96 | 100 | 99 | 99 | 100 | 71 | 100 | 89 |
| | Sado-seki | 87 | 98 | 44 | 100 | 100 | 100 | 81 | 100 | 73 | 83 | 100 | 100 | 91 |
| | Happo | 99 | 85 | 47 | 98 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 18 | 89 |
| | Oki | 99 | 100 | 100 | 46 | 78 | 85 | 73 | 100 | 73 | 100 | 100 | 100 | 90 |
| | Yusuhara | 100 | 100 | 99 | 94 | 100 | 100 | 99 | 88 | 100 | 100 | 36 | 100 | 96 |
| | Ogasawara | 100 | 99 | 100 | 100 | 100 | 100 | 100 | 99 | 100 | 98 | 98 | 99 | 100 |
| | Hedo | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 99 | 100 | 100 | 100 |
| | Ijira | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Banryu | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Malaysia | Petaling Jaya | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Tanah Rata | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Mongolia | Ulaanbaatar | 0 | 0 | 0 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 0 | 0 | 100 |
| | Terelj | 0 | 0 | 0 | 100 | 100 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 100 |
| Philippines | Metro Manila | 97 | 97 | 91 | 0 | 100 | 100 | 100 | 30 | 0 | 0 | 99 | 99 | 64 |
| | Los Banos | 27 | 100 | 63 | 86 | 100 | 100 | 100 | 98 | 100 | 100 | 100 | 100 | 98 |
| Republic | Kanghwa | 7 | 0 | 57 | 85 | 97 | 99 | 100 | 99 | 0 | 91 | 90 | 88 | 90 |
| of Korea | Cheju | 0 | 0 | 0 | 0 | 0 | 99 | 100 | 100 | 94 | 100 | 90 | 88 | 76 |
| | Imsil | 100 | 100 | 67 | 89 | 62 | 77 | 100 | 76 | 0 | 92 | 0 | 86 | 81 |
| Russia | Mondy | 100 | * | 100 | 100 | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Listvyanka | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Irkutsk | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Thailand | Bangkok | * | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Patumthani | * | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Khao Lam Dam | * | * | 98 | 80 | 37 | 0 | 2 | 49 | 8 | 1 | 0 | * | 26 |
| | Mae Hia | * | * | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Vietnam | Hanoi | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 93 | 100 | 100 | 99 |
| | Hoa Binh | 70 | 67 | 99 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

Table 3.31 Monthly weighted averages of $H^+$ concentration

unit: μmol/L

| Country | Name of sites | 2001 Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual | Daily or Event Max | M | Min | M | Weekly Max | M | Min | M | F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| China | Chongqing | | | | | | | | | | | | | | | | | | | | | | |
| | -Guanyinqiao | 53.4 | 12.9 | 0.7 | 1.7 | 7.7 | 29.6 | 10.0 | 12.6 | 4.7 | 17.2 | 17.3 | 6.3 | 16.1 | 195 | 6 | <0.1 | 6 | | | | | d |
| | -Jinyunshan | 124 | 93.9 | 1.4 | 9.5 | 7.1 | 28.9 | - | 81.5 | 131 | 120 | 81.0 | 118 | 65.4 | 562 | 10 | 0.2 | 5 | | | | | d |
| | Xi'an | | | | | | | | | | | | | | | | | | | | | | |
| | -Shizhan | - | - | - | 0.1 | 0.1 | 1.5 | 0.1 | <0.1 | 0.2 | 0.5 | 1.1 | 0.7 | 0.4 | 6.8 | 6 | <0.1 | 6 | | | | | d |
| | -Weishuiyuan | - | - | - | 0.1 | 0.3 | 0.2 | - | - | - | - | - | 1.7 | 0.5 | 2.0 | 12 | <0.1 | 7 | | | | | d |
| | -Jiwozi | - | - | - | 0.1 | 0.1 | 1.5 | 0.1 | 0.2 | 0.4 | 0.3 | - | - | 0.6 | 6.8 | 6 | <0.1 | 6 | | | | | d |
| | Xiamen | | | | | | | | | | | | | | | | | | | | | | |
| | -Hongwen | 0.2 | 20.0 | 23.4 | - | - | - | - | 20.7 | 50.9 | 1.3 | - | 2.2 | 29.6 | 102 | 8 | 0.2 | 1 | | | | | d |
| | -Xiaoping | 10.6 | 25.4 | 22.8 | 28.2 | 14.2 | 13.1 | 12.0 | 6.0 | 10.9 | - | - | - | 12.4 | 97.7 | 6 | 0.2 | 8 | | | | | d |
| | Zhuhai | | | | | | | | | | | | | | | | | | | | | | |
| | -Xiang Zhou | 17.8 | 46.6 | 9.6 | 42.1 | 7.6 | 2.3 | 2.7 | 25.2 | 22.2 | - | 6.8 | 22.7 | 11.4 | 214 | 4 | 0.3 | 11 | | | | | d |
| | -Zhuxian Cavern | 22.8 | 31.6 | 15.3 | 37.5 | 64.5 | 4.0 | 4.9 | 56.4 | 21.2 | - | - | 12.4 | 16.7 | 191 | 9 | <0.1 | 6 | | | | | d |
| Indonesia | Jakarta | 0.9 | 0.1 | 0.9 | <0.1 | 5.4 | 6.8 | 1.4 | 6.2 | - | 18.8 | 12.2 | 7.1 | 3.8 | | | | | 47.9 | 10 | <0.1 | 4 | w |
| | Serpong | - | 2.7 | 6.7 | 21.8 | 15.5 | 37.4 | 49.6 | 23.7 | 16.7 | 16.9 | 13.3 | - | 23.7 | 87.1 | 7 | 0.2 | 11 | | | | | e |
| | Kototabang | - | - | - | 8.5 | 2.9 | 3.3 | 8.2 | 10.7 | 10.0 | 4.9 | 9.1 | 11.8 | 8.5 | | | | | 26.3 | 9 | 0.2 | 6 | w |
| | Bandung | 6.8 | 0.4 | 17.1 | 4.9 | 13.2 | 11.3 | 7.7 | 9.6 | 10.8 | 11.3 | 12.4 | - | 10.1 | 61.7 | 11 | 0.2 | 3 | | | | | e |
| Japan | Rishiri | 41.6 | 50.9 | 15.8 | 24.2 | 11.8 | 17.9 | 15.9 | 13.1 | 4.9 | 8.2 | 13.1 | 16.5 | 16.8 | 200 | 7 | 0.4 | 5 | | | | | d |
| | Tappi | - | 17.9 | 4.0 | 12.2 | 33.9 | 14.3 | 43.5 | 31.4 | 8.4 | 18.3 | 29.8 | 24.3 | 23.0 | 275 | 7 | 0.2 | 3 | | | | | d |
| | Sado-seki | 22.7 | 32.4 | 8.2 | 44.1 | 35.4 | 14.2 | 39.3 | 16.6 | 19.5 | 28.4 | 29.6 | 29.2 | 23.2 | 288 | 5 | <0.1 | 3 | | | | | d |
| | Happo | 11.3 | 13.0 | 8.9 | 23.4 | 20.7 | 10.6 | 23.0 | 25.9 | 15.5 | 12.1 | 16.5 | 18.8 | 14.6 | 100 | 8 | 0.2 | 2 | | | | | d |
| | Oki | 22.2 | 23.3 | 14.3 | 2.0 | 22.1 | 5.3 | 10.1 | 14.1 | 15.7 | 18.1 | 18.4 | 22.7 | 17.0 | 107 | 2 | <0.1 | 3 | | | | | d |
| | Yusuhara | 20.8 | 32.1 | 16.3 | 17.5 | 14.8 | 11.7 | 24.6 | 23.6 | 5.1 | 14.0 | 20.0 | 19.8 | 14.9 | 240 | 2 | 0.3 | 1 | | | | | d |
| | Ogasawara | 3.6 | 12.7 | 12.7 | 6.6 | 14.2 | 8.0 | 2.5 | 5.5 | 2.5 | 5.6 | 10.4 | 11.6 | 8.1 | 120 | 2 | 0.1 | 8 | | | | | d |
| | Hedo | 11.1 | 28.9 | 13.5 | 11.9 | 11.5 | 7.2 | 6.8 | 13.7 | 5.7 | 7.4 | 18.6 | 28.7 | 10.9 | 100 | 2 | 0.1 | 10 | | | | | d |
| | Ijira | 17.4 | 22.3 | 20.1 | 36.1 | 33.5 | 44.8 | 26.6 | 54.3 | 51.1 | 51.0 | 31.6 | 29.0 | 37.1 | | | | | 138 | 7 | 1.5 | 2 | w |
| | Banryu | 24.5 | 38.0 | 28.8 | 19.9 | 35.6 | 12.4 | 8.6 | 12.2 | 9.8 | 23.6 | 25.2 | 55.1 | 21.9 | | | | | 115 | 12 | 0.2 | 2 | w |
| Malaysia | Petaling Jaya | 38.9 | 60.7 | 49.7 | 71.7 | 50.0 | 50.0 | 46.5 | 40.1 | 105 | 55.3 | 59.5 | 46.3 | 56.0 | | | | | 110 | 9 | 2.5 | 3 | w |
| | Tanah Rata | 13.7 | 16.5 | 15.1 | 11.4 | 21.6 | 15.9 | 27.3 | 11.5 | 17.7 | 6.8 | 9.6 | 11.0 | 12.7 | | | | | 30.9 | 7 | 2.9 | 10 | w |
| Mongolia | Ulaanbaatar | - | - | - | 0.1 | 0.5 | 1.0 | 0.1 | 0.6 | 0.6 | 0.2 | - | - | 0.6 | 3.7 | 6 | 0.0 | 9 | | | | | d |
| | Terelj | - | - | - | 1.0 | 1.3 | 0.5 | - | - | - | - | - | - | 0.9 | 13.5 | 5 | 0.2 | 6 | | | | | d |
| Philippines | Metro Manila | 0.1 | <0.1 | <0.1 | - | 8.9 | 8.9 | 3.9 | 1.0 | - | - | 2.0 | <0.1 | 3.9 | | | | | 18.2 | 6 | <0.1 | 3 | w |
| | Los Banos | 0.2 | 0.3 | <0.1 | 0.1 | 0.2 | 14.6 | 0.4 | 0.3 | 10.1 | 0.8 | 0.9 | 0.1 | 3.0 | | | | | 26.3 | 6 | <0.1 | 3 | w |
| Republic | Kanghwa | 2.6 | - | 1.9 | <0.1 | 0.5 | 7.1 | 10.0 | 8.6 | - | 11.3 | 28.2 | 44.0 | 10.2 | 50.1 | 12 | <0.1 | 4 | | | | | d |
| of Korea | Cheju | - | - | - | - | - | 4.8 | 2.8 | 14.4 | 7.7 | 8.8 | 25.2 | 48.5 | 12.9 | 100 | 12 | 0.4 | 7 | | | | | d |
| | Imsil | 13.4 | 15.5 | 0.6 | 0.9 | 0.7 | 3.2 | 7.7 | 7.1 | - | 18.3 | - | 6.0 | 8.0 | | | | | 30.9 | 7 | 0.6 | 3 | w |
| Russia | Mondy | 1.1 | - | 0.3 | 0.5 | - | 4.6 | 3.7 | 3.1 | 2.4 | 1.5 | 0.3 | 0.3 | 3.1 | 8.1 | 6 | 0.1 | 3 | | | | | d |
| | Listvyanka | 7.3 | 8.7 | 5.0 | 3.6 | 12.0 | 9.7 | 10.8 | 12.5 | 23.6 | 4.9 | 2.7 | 8.8 | 11.0 | 50.1 | 9 | 0.1 | 4 | | | | | d |
| | Irkutsk | 0.4 | 0.3 | 1.0 | 0.2 | 11.6 | 4.5 | 3.9 | 10.8 | 7.6 | 9.7 | <0.1 | 0.4 | 5.3 | 102 | 10 | <0.1 | 3 | | | | | d |
| Thailand | Bangkok | - | - | 7.7 | 61.7 | 0.4 | 1.5 | 0.3 | 1.5 | 15.6 | 21.0 | 2.4 | 67.6 | 10.7 | 93.3 | 10 | <0.1 | 7 | | | | | d |
| | Patumthani | - | - | 14.0 | 0.9 | 4.6 | 6.2 | 1.6 | 3.4 | 10.7 | 6.4 | 2.4 | 0.3 | 7.4 | 30.9 | 3 | 0.3 | 12 | | | | | d |
| | Khao Lam Dam | - | - | 6.9 | 17.6 | 0.7 | - | 0.1 | 1.4 | 6.5 | 112 | - | - | 5.5 | 112 | 10 | <0.1 | 5 | | | | | d |
| | Mae Hia | - | - | - | 40.7 | 1.5 | 0.9 | 0.6 | 1.1 | 1.1 | 0.6 | 0.7 | 1.2 | 1.9 | 40.7 | 4 | <0.1 | 7 | | | | | d |
| Vietnam | Hanoi | 1.4 | 1.4 | 2.8 | 2.0 | 2.0 | 1.4 | 0.9 | 1.1 | 4.8 | 1.3 | 0.8 | 1.3 | 1.5 | | | | | 6.5 | 9 | 0.2 | 11 | w |
| | Hoa Binh | 3.7 | 0.7 | 1.4 | 0.8 | 1.6 | 6.9 | 3.1 | 5.6 | 25.2 | 30.1 | 22.6 | 0.1 | 9.1 | | | | | 45.7 | 10 | <0.1 | 12 | w |

Table 3.32 Data completeness of $H^+$ (Percent total precipitation) unit: %

| Country | Name of sites | 2001 Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| China | Chongqing | | | | | | | | | | | | | |
| | -Guanyinqiao | 79 | 100 | 100 | 97 | 100 | 99 | 95 | 100 | 100 | 98 | 96 | 86 | 97 |
| | -Jinyunshan | 100 | 100 | 100 | 100 | 100 | 100 | * | 100 | 100 | 100 | 100 | 100 | 100 |
| | Xi'an | | | | | | | | | | | | | |
| | -Shizhan | 0 | 0 | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | -Weishuiyuan | 0 | 0 | 0 | 100 | 100 | 100 | 100 | 100 | 100 | * | * | 100 | 100 |
| | -Jiwozi | 0 | 0 | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 0 | 0 | 100 |
| | Xiamen | | | | | | | | | | | | | |
| | -Hongwen | 100 | 100 | 100 | * | * | * | * | 100 | 100 | 100 | * | 100 | 100 |
| | -Xiaoping | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | * | * | 100 |
| | Zhuhai | | | | | | | | | | | | | |
| | -Xiang Zhou | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | 100 | 100 |
| | -Zhuxian Cavern | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | * | 100 |
| Indonesia | Jakarta | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | 100 | 100 | 100 | 100 |
| | Serpong | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | 100 |
| | Kototabang | * | * | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Bandung | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 0 | 100 |
| Japan | Rishiri | 91 | 95 | 100 | 58 | 99 | 99 | 99 | 100 | 98 | 100 | 99 | 99 | 97 |
| | Tappi | 0 | 45 | 11 | 88 | 99 | 98 | 100 | 99 | 99 | 100 | 67 | 93 | 89 |
| | Sado-seki | 60 | 59 | 24 | 99 | 99 | 100 | 81 | 99 | 73 | 81 | 99 | 97 | 86 |
| | Happo | 99 | 84 | 47 | 98 | 99 | 100 | 100 | 100 | 100 | 100 | 97 | 18 | 89 |
| | Oki | 99 | 99 | 100 | 46 | 78 | 85 | 73 | 98 | 73 | 100 | 100 | 100 | 90 |
| | Yusuhara | 100 | 99 | 96 | 94 | 91 | 100 | 99 | 88 | 100 | 100 | 36 | 100 | 95 |
| | Ogasawara | 99 | 98 | 100 | 99 | 100 | 99 | 100 | 97 | 100 | 96 | 97 | 99 | 99 |
| | Hedo | 99 | 99 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Ijira | 100 | 100 | 100 | 99 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Banryu | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Malaysia | Petaling Jaya | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 99 | 100 | 100 | 100 |
| | Tanah Rata | 98 | 100 | 99 | 100 | 100 | 98 | 90 | 98 | 100 | 100 | 100 | 90 | 99 |
| Mongolia | Ulaanbaatar | 0 | 0 | 0 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 0 | 0 | 100 |
| | Terelj | 0 | 0 | 0 | 100 | 100 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 100 |
| Philippines | Metro Manila | 97 | 97 | 67 | 0 | 26 | 100 | 100 | 30 | 0 | 0 | 99 | 99 | 55 |
| | Los Banos | 100 | 100 | 63 | 86 | 100 | 100 | 100 | 98 | 100 | 100 | 100 | 86 | 97 |
| Republic | Kanghwa | 7 | 0 | 57 | 85 | 97 | 99 | 100 | 99 | 0 | 91 | 90 | 88 | 90 |
| of Korea | Cheju | 0 | 0 | 0 | 0 | 0 | 99 | 100 | 100 | 94 | 100 | 90 | 88 | 76 |
| | Imsil | 100 | 100 | 67 | 89 | 62 | 77 | 100 | 76 | 0 | 92 | 0 | 86 | 81 |
| Russia | Mondy | 100 | * | 100 | 100 | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Listvyanka | 100 | 100 | 100 | 100 | 100 | 100 | 99 | 98 | 100 | 32 | 100 | 100 | 98 |
| | Irkutsk | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Thailand | Bangkok | * | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Patumthani | * | * | 88 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 99 |
| | Khao Lam Dam | * | * | 98 | 80 | 37 | 0 | 2 | 49 | 8 | 1 | 0 | * | 26 |
| | Mae Hia | * | * | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Vietnam | Hanoi | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 93 | 100 | 100 | 99 |
| | Hoa Binh | 70 | 67 | 99 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

Table 3.33 Monthly weighted averages of pH

pH units

| Country | Name of sites | 2001 Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual | Daily or Event Max | M | Min | M | Weekly Max | M | Min | M | F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| China | Chongqing | | | | | | | | | | | | | | | | | | | | | | |
| | -Guanyinqiao | 4.27 | 4.89 | 6.16 | 5.77 | 5.12 | 4.53 | 5.00 | 4.90 | 5.32 | 4.76 | 4.76 | 5.20 | 4.79 | 7.54 | 6 | 3.71 | 6 | | | | | d |
| | -Jinyunshan | 3.91 | 4.03 | 5.86 | 5.02 | 5.15 | 4.54 | - | 4.09 | 3.88 | 3.92 | 4.09 | 3.93 | 4.18 | 6.63 | 5 | 3.25 | 10 | | | | | d |
| | Xi'an | | | | | | | | | | | | | | | | | | | | | | |
| | -Shizhan | - | - | - | 6.94 | 7.00 | 5.81 | 6.91 | 7.10 | 6.65 | 6.28 | 5.95 | 6.14 | 6.38 | 7.80 | 6 | 5.17 | 6 | | | | | d |
| | -Weishuiyuan | - | - | - | 6.84 | 6.47 | 6.78 | - | - | - | - | - | 5.76 | 6.32 | 7.57 | 7 | 5.70 | 12 | | | | | d |
| | -Jiwozi | - | - | - | 6.94 | 7.00 | 5.81 | 6.95 | 6.63 | 6.41 | 6.60 | - | - | 6.24 | 7.80 | 6 | 5.17 | 6 | | | | | d |
| | Xiamen | | | | | | | | | | | | | | | | | | | | | | |
| | -Hongwen | 6.76 | 4.70 | 4.63 | - | - | - | - | 4.68 | 4.29 | 5.87 | - | 5.65 | 4.53 | 6.76 | 1 | 3.99 | 8 | | | | | d |
| | -Xiaoping | 4.97 | 4.59 | 4.64 | 4.55 | 4.85 | 4.88 | 4.92 | 5.22 | 4.96 | - | - | - | 4.91 | 6.75 | 8 | 4.01 | 6 | | | | | d |
| | Zhuhai | | | | | | | | | | | | | | | | | | | | | | |
| | -Xiang Zhou | 4.75 | 4.33 | 5.02 | 4.38 | 5.12 | 5.63 | 5.57 | 4.60 | 4.65 | - | 5.17 | 4.64 | 4.94 | 6.49 | 11 | 3.67 | 4 | | | | | d |
| | -Zhuxian Cavern | 4.64 | 4.50 | 4.81 | 4.43 | 4.19 | 5.40 | 5.31 | 4.25 | 4.67 | - | - | 4.91 | 4.78 | 7.66 | 6 | 3.72 | 9 | | | | | d |
| Indonesia | Jakarta | 6.02 | 6.87 | 6.06 | 7.06 | 5.27 | 5.17 | 5.85 | 5.21 | - | 4.73 | 4.91 | 5.15 | 5.42 | | | | | 7.06 | 4 | 4.32 | 10 | w |
| | Serpong | - | 5.57 | 5.18 | 4.66 | 4.81 | 4.43 | 4.30 | 4.63 | 4.78 | 4.77 | 4.88 | - | 4.63 | 6.72 | 11 | 4.06 | 7 | | | | | e |
| | Kototabang | - | - | - | 5.07 | 5.53 | 5.48 | 5.09 | 4.97 | 5.00 | 5.31 | 5.04 | 4.93 | 5.07 | | | | | 6.82 | 6 | 4.58 | 9 | w |
| | Bandung | 5.17 | 6.40 | 4.77 | 5.31 | 4.88 | 4.95 | 5.11 | 5.02 | 4.97 | 4.95 | 4.91 | - | 4.99 | 6.79 | 3 | 4.21 | 11 | | | | | e |
| Japan | Rishiri | 4.38 | 4.29 | 4.80 | 4.62 | 4.93 | 4.75 | 4.80 | 4.88 | 5.31 | 5.08 | 4.88 | 4.78 | 4.77 | 6.44 | 5 | 3.70 | 7 | | | | | d |
| | Tappi | - | 4.75 | 5.40 | 4.91 | 4.47 | 4.85 | 4.36 | 4.50 | 5.08 | 4.74 | 4.53 | 4.61 | 4.64 | 6.71 | 3 | 3.56 | 7 | | | | | d |
| | Sado-seki | 4.64 | 4.49 | 5.08 | 4.36 | 4.45 | 4.85 | 4.41 | 4.78 | 4.71 | 4.55 | 4.53 | 4.53 | 4.63 | 7.01 | 3 | 3.54 | 5 | | | | | d |
| | Happo | 4.95 | 4.89 | 5.05 | 4.63 | 4.68 | 4.98 | 4.64 | 4.59 | 4.81 | 4.92 | 4.78 | 4.73 | 4.84 | 6.82 | 2 | 4.00 | 8 | | | | | d |
| | Oki | 4.65 | 4.63 | 4.84 | 5.69 | 4.66 | 5.27 | 5.00 | 4.85 | 4.80 | 4.74 | 4.74 | 4.64 | 4.77 | 7.16 | 3 | 3.97 | 2 | | | | | d |
| | Yusuhara | 4.68 | 4.49 | 4.79 | 4.76 | 4.83 | 4.93 | 4.61 | 4.63 | 5.29 | 4.85 | 4.70 | 4.70 | 4.83 | 6.46 | 1 | 3.62 | 2 | | | | | d |
| | Ogasawara | 5.45 | 4.90 | 4.90 | 5.18 | 4.85 | 5.10 | 5.60 | 5.26 | 5.61 | 5.25 | 4.98 | 4.94 | 5.09 | 6.99 | 8 | 3.92 | 2 | | | | | d |
| | Hedo | 4.95 | 4.54 | 4.87 | 4.92 | 4.94 | 5.14 | 5.17 | 4.86 | 5.25 | 5.13 | 4.73 | 4.54 | 4.96 | 6.94 | 10 | 4.00 | 2 | | | | | d |
| | Ijira | 4.76 | 4.65 | 4.70 | 4.44 | 4.47 | 4.35 | 4.58 | 4.27 | 4.29 | 4.29 | 4.50 | 4.54 | 4.43 | | | | | 5.82 | 2 | 3.86 | 7 | w |
| | Banryu | 4.61 | 4.42 | 4.54 | 4.70 | 4.45 | 4.91 | 5.07 | 4.91 | 5.01 | 4.63 | 4.60 | 4.26 | 4.66 | | | | | 6.62 | 2 | 3.94 | 12 | w |
| Malaysia | Petaling Jaya | 4.41 | 4.22 | 4.30 | 4.14 | 4.30 | 4.30 | 4.33 | 4.40 | 3.98 | 4.26 | 4.23 | 4.33 | 4.25 | | | | | 5.60 | 3 | 3.96 | 9 | w |
| | Tanah Rata | 4.86 | 4.78 | 4.82 | 4.94 | 4.67 | 4.80 | 4.56 | 4.94 | 4.75 | 5.16 | 5.02 | 4.96 | 4.90 | | | | | 5.54 | 10 | 4.51 | 7 | w |
| Mongolia | Ulaanbaatar | - | - | - | 7.01 | 6.34 | 6.01 | 7.07 | 6.19 | 6.22 | 6.72 | - | - | 6.19 | 7.59 | 9 | 5.43 | 6 | | | | | d |
| | Terelj | - | - | - | 6.02 | 5.89 | 6.27 | - | - | - | - | - | - | 6.04 | 6.73 | 6 | 4.87 | 5 | | | | | d |
| Philippines | Metro Manila | 6.96 | 7.62 | 8.10 | - | 5.05 | 5.05 | 5.41 | 6.01 | - | - | 5.71 | 7.76 | 5.41 | | | | | 8.31 | 3 | 4.74 | 6 | w |
| | Los Banos | 6.66 | 6.57 | 7.54 | 6.85 | 6.78 | 4.84 | 6.41 | 6.52 | 4.99 | 6.09 | 6.04 | 7.00 | 5.53 | | | | | 7.96 | 3 | 4.58 | 6 | w |
| Republic | Kanghwa | 5.59 | - | 5.72 | 7.06 | 6.34 | 5.15 | 5.00 | 5.07 | - | 4.95 | 4.55 | 4.36 | 4.99 | 7.06 | 4 | 4.30 | 12 | | | | | d |
| of Korea | Cheju | - | - | - | - | - | 5.32 | 5.55 | 4.84 | 5.11 | 5.05 | 4.60 | 4.31 | 4.89 | 6.43 | 7 | 4.00 | 12 | | | | | d |
| | Imsil | 4.87 | 4.81 | 6.22 | 6.06 | 6.13 | 5.50 | 5.11 | 5.15 | - | 4.74 | - | 5.22 | 5.09 | | | | | 6.22 | 3 | 4.51 | 7 | w |
| Russia | Mondy | 5.95 | - | 6.48 | 6.33 | - | 5.34 | 5.44 | 5.51 | 5.62 | 5.81 | 6.57 | 6.46 | 5.50 | 7.00 | 3 | 5.09 | 6 | | | | | d |
| | Listvyanka | 5.14 | 5.06 | 5.30 | 5.44 | 4.92 | 5.01 | 4.96 | 4.90 | 4.63 | 5.31 | 5.56 | 5.06 | 4.96 | 6.93 | 4 | 4.30 | 9 | | | | | d |
| | Irkutsk | 6.41 | 6.59 | 6.00 | 6.70 | 4.94 | 5.34 | 5.41 | 4.97 | 5.12 | 5.01 | 7.30 | 6.37 | 5.28 | 7.53 | 3 | 3.99 | 10 | | | | | d |
| Thailand | Bangkok | - | - | 5.12 | 4.21 | 6.36 | 5.82 | 6.55 | 5.84 | 4.81 | 4.68 | 5.61 | 4.17 | 4.97 | 7.04 | 7 | 4.03 | 10 | | | | | d |
| | Patumthani | - | - | 4.86 | 6.03 | 5.33 | 5.21 | 5.81 | 5.47 | 4.97 | 5.19 | 5.62 | 6.53 | 5.13 | 6.53 | 12 | 4.51 | 3 | | | | | d |
| | Khao Lam Dam | - | - | 5.16 | 4.76 | 6.14 | - | 7.05 | 5.87 | 5.19 | 3.95 | - | - | 5.26 | 7.07 | 5 | 3.95 | 10 | | | | | d |
| | Mae Hia | - | - | - | 4.39 | 5.83 | 6.04 | 6.25 | 5.95 | 5.94 | 6.23 | 6.16 | 5.91 | 5.71 | 7.39 | 7 | 4.39 | 4 | | | | | d |
| Vietnam | Hanoi | 5.86 | 5.84 | 5.55 | 5.69 | 5.71 | 5.86 | 6.03 | 5.97 | 5.32 | 5.90 | 6.08 | 5.88 | 5.83 | | | | | 6.74 | 11 | 5.19 | 9 | w |
| | Hoa Binh | 5.43 | 6.15 | 5.85 | 6.12 | 5.79 | 5.16 | 5.51 | 5.25 | 4.60 | 4.52 | 4.65 | 6.95 | 5.04 | | | | | 7.12 | 12 | 4.34 | 10 | w |

Table 3.34 Data completeness of pH (Percent total precipitation) unit: %

| Country | Name of sites | 2001 Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| China | Chongqing | | | | | | | | | | | | | |
| | -Guanyinqiao | 79 | 100 | 100 | 97 | 100 | 99 | 95 | 100 | 100 | 98 | 96 | 86 | 97 |
| | -Jinyunshan | 100 | 100 | 100 | 100 | 100 | 100 | * | 100 | 100 | 100 | 100 | 100 | 100 |
| | Xi'an | | | | | | | | | | | | | |
| | -Shizhan | 0 | 0 | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | -Weishuiyuan | 0 | 0 | 0 | 100 | 100 | 100 | 100 | 100 | 100 | * | * | 100 | 100 |
| | -Jiwozi | 0 | 0 | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 0 | 0 | 100 |
| | Xiamen | | | | | | | | | | | | | |
| | -Hongwen | 100 | 100 | 100 | * | * | * | * | 100 | 100 | 100 | * | 100 | 100 |
| | -Xiaoping | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | * | * | 100 |
| | Zhuhai | | | | | | | | | | | | | |
| | -Xiang Zhou | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | 100 | 100 |
| | -Zhuxian Cavern | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | * | 100 |
| Indonesia | Jakarta | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | 100 | 100 | 100 | 100 |
| | Serpong | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | 100 |
| | Kototabang | * | * | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Bandung | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 0 | 100 |
| Japan | Rishiri | 91 | 95 | 100 | 58 | 99 | 99 | 99 | 100 | 98 | 100 | 99 | 99 | 97 |
| | Tappi | 0 | 45 | 11 | 88 | 99 | 98 | 100 | 99 | 99 | 100 | 67 | 93 | 89 |
| | Sado-seki | 60 | 59 | 24 | 99 | 99 | 100 | 81 | 99 | 73 | 81 | 99 | 97 | 86 |
| | Happo | 99 | 84 | 47 | 98 | 99 | 100 | 100 | 100 | 100 | 100 | 97 | 18 | 89 |
| | Oki | 99 | 99 | 100 | 46 | 78 | 85 | 73 | 98 | 73 | 100 | 100 | 100 | 90 |
| | Yusuhara | 100 | 99 | 96 | 94 | 91 | 100 | 99 | 88 | 100 | 100 | 36 | 100 | 95 |
| | Ogasawara | 99 | 98 | 100 | 99 | 100 | 99 | 100 | 97 | 100 | 96 | 97 | 99 | 99 |
| | Hedo | 99 | 99 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Ijira | 100 | 100 | 100 | 99 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Banryu | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Malaysia | Petaling Jaya | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 99 | 100 | 100 | 100 |
| | Tanah Rata | 98 | 100 | 99 | 100 | 100 | 98 | 90 | 98 | 100 | 100 | 100 | 90 | 99 |
| Mongolia | Ulaanbaatar | 0 | 0 | 0 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 0 | 0 | 100 |
| | Terelj | 0 | 0 | 0 | 100 | 100 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 100 |
| Philippines | Metro Manila | 97 | 97 | 67 | 0 | 26 | 100 | 100 | 30 | 0 | 0 | 99 | 99 | 55 |
| | Los Banos | 100 | 100 | 63 | 86 | 100 | 100 | 100 | 98 | 100 | 100 | 100 | 86 | 97 |
| Republic | Kanghwa | 7 | 0 | 57 | 85 | 97 | 99 | 100 | 99 | 0 | 91 | 90 | 88 | 90 |
| of Korea | Cheju | 0 | 0 | 0 | 0 | 0 | 99 | 100 | 100 | 94 | 100 | 90 | 88 | 76 |
| | Imsil | 100 | 100 | 67 | 89 | 62 | 77 | 100 | 76 | 0 | 92 | 0 | 86 | 81 |
| Russia | Mondy | 100 | * | 100 | 100 | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Listvyanka | 100 | 100 | 100 | 100 | 100 | 100 | 99 | 98 | 100 | 32 | 100 | 100 | 98 |
| | Irkutsk | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Thailand | Bangkok | * | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Patumthani | * | * | 88 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 99 |
| | Khao Lam Dam | * | * | 98 | 80 | 37 | 0 | 2 | 49 | 8 | 1 | 0 | * | 26 |
| | Mae Hia | * | * | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Vietnam | Hanoi | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 93 | 100 | 100 | 99 |
| | Hoa Binh | 70 | 67 | 99 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

Table 3.35 Monthly weighted averages of conductivity unit: mS/m

| Country | Name of sites | 2001 Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annua | Daily or Event Max | M | Min | M | Weekly Max | M | Min | M | F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| China | Chongqing | | | | | | | | | | | | | | | | | | | | | | |
| | -Guanyinqiao | 10.6 | 10.2 | 10.2 | 6.30 | 5.08 | 6.88 | 4.91 | 4.80 | 10.6 | 7.73 | 6.32 | 17.2 | 7.00 | 35.4 | 12 | 0.00 | 7 | | | | | d |
| | -Jinyunshan | 8.47 | 12.3 | 6.00 | 9.98 | 3.88 | 4.65 | - | 13.7 | 8.27 | 6.48 | 6.12 | 10.3 | 6.23 | 46.9 | 8 | 1.16 | 6 | | | | | d |
| | Xi'an | | | | | | | | | | | | | | | | | | | | | | |
| | -Shizhan | - | - | - | 31.9 | 2.05 | 16.0 | 11.2 | 18.3 | 11.4 | 57.0 | 20.4 | 15.5 | 19.5 | 87.7 | 10 | 2.05 | 5 | | | | | d |
| | -Weishuiyuan | - | - | - | 27.9 | 37.4 | 29.0 | - | - | - | - | - | 20.6 | 27.7 | 46.2 | 7 | 8.05 | 7 | | | | | d |
| | -Jiwozi | - | - | - | 31.9 | 2.05 | 16.0 | 4.70 | 1.75 | 3.71 | 1.81 | - | - | 9.65 | 34.8 | 4 | 0.15 | 9 | | | | | d |
| | Xiamen | | | | | | | | | | | | | | | | | | | | | | |
| | -Hongwen | 12.4 | 15.8 | 3.04 | - | - | - | - | 1.65 | 3.67 | 33.0 | - | 4.90 | 3.87 | 33.0 | 10 | 0.98 | 8 | | | | | d |
| | -Xiaoping | 0.70 | 2.22 | 2.19 | 2.07 | 2.08 | 0.88 | 1.95 | 1.55 | 0.80 | - | - | - | 1.42 | 6.74 | 5 | 0.43 | 6 | | | | | d |
| | Zhuhai | | | | | | | | | | | | | | | | | | | | | | |
| | -Xiang Zhou | 4.68 | 4.72 | 3.19 | 4.63 | 1.62 | 0.98 | 1.53 | 1.97 | 2.15 | - | 13.0 | 2.84 | 1.95 | 16.1 | 2 | 0.49 | 6 | | | | | d |
| | -Zhuxian Cavern | 2.66 | 4.44 | 2.84 | 3.25 | 4.32 | 1.42 | 1.04 | 5.30 | 2.05 | - | - | 2.93 | 2.08 | 16.7 | 9 | 0.30 | 6 | | | | | d |
| Indonesia | Jakarta | 29.0 | 13.2 | 31.7 | 19.9 | 37.3 | 14.7 | 122 | 71.8 | - | 13.4 | 4.33 | 2.26 | 26.4 | | | | | 135 | 8 | 1.48 | 12 | w |
| | Serpong | - | 1.86 | 2.07 | 2.77 | 2.29 | 2.88 | 4.63 | 6.16 | 2.62 | 1.97 | 1.98 | - | 2.94 | 10.8 | 8 | 0.57 | 11 | | | | | e |
| | Kototabang | - | - | - | 0.30 | 0.38 | 0.55 | 0.93 | 0.52 | 0.34 | 0.55 | 0.48 | 0.46 | 0.43 | | | | | 1.80 | 7 | 0.12 | 4 | w |
| | Bandung | 2.03 | 0.88 | 2.22 | 1.57 | 2.03 | 2.43 | 2.13 | 2.75 | 2.11 | 2.94 | 1.80 | - | 2.08 | 5.70 | 5 | 0.46 | 2 | | | | | e |
| Japan | Rishiri | 6.28 | 15.6 | 11.1 | 4.30 | 2.20 | 3.15 | 1.37 | 0.78 | 2.84 | 3.16 | 4.95 | 15.2 | 4.51 | 71.6 | 2 | 0.26 | 8 | | | | | d |
| | Tappi | - | 6.12 | 18.9 | 8.23 | 2.69 | 2.98 | 3.09 | 1.99 | 2.64 | 2.94 | 4.66 | 16.1 | 3.52 | 58.6 | 12 | 0.32 | 6 | | | | | d |
| | Sado-seki | 11.1 | 16.6 | 38.1 | 7.41 | 3.33 | 1.07 | 3.26 | 1.40 | 2.28 | 2.38 | 9.32 | 12.6 | 5.64 | 114 | 3 | 0.28 | 9 | | | | | d |
| | Happo | 1.16 | 1.05 | 1.56 | 1.88 | 1.79 | 0.58 | 1.46 | 1.28 | 0.77 | 0.57 | 0.97 | 1.22 | 0.96 | 9.24 | 5 | 0.12 | 10 | | | | | d |
| | Oki | 14.3 | 9.48 | 9.16 | 9.73 | 1.67 | 0.74 | 1.78 | 4.80 | 5.01 | 2.74 | 4.41 | 9.37 | 5.90 | 264 | 1 | 0.21 | 6 | | | | | d |
| | Yusuhara | 1.57 | 2.11 | 2.98 | 0.96 | 0.82 | 0.64 | 1.17 | 1.30 | 0.33 | 0.76 | 1.17 | 1.37 | 0.98 | 14.6 | 3 | 0.13 | 9 | | | | | d |
| | Ogasawara | 1.70 | 1.95 | 2.08 | 1.37 | 1.82 | 1.16 | 5.56 | 5.22 | 2.31 | 2.76 | 2.01 | 2.99 | 2.20 | 19.9 | 7 | 0.56 | 1 | | | | | d |
| | Hedo | 2.84 | 6.58 | 3.68 | 1.94 | 1.71 | 1.00 | 0.94 | 1.89 | 1.62 | 29.6 | 4.14 | 6.33 | 2.95 | 712 | 10 | 0.27 | 9 | | | | | d |
| | Ijira | 1.92 | 2.42 | 2.58 | 2.73 | 2.41 | 2.43 | 1.82 | 2.84 | 2.86 | 2.41 | 2.04 | 2.97 | 2.44 | | | | | 14.0 | 7 | 0.51 | 8 | w |
| | Banryu | 3.40 | 5.69 | 7.17 | 2.79 | 2.88 | 0.93 | 0.58 | 0.95 | 1.34 | 1.96 | 3.19 | 6.56 | 2.52 | | | | | 15.1 | 12 | 0.33 | 7 | w |
| Malaysia | Petaling Jaya | 1.72 | 2.80 | 2.59 | 2.79 | 2.19 | 1.76 | 2.15 | 1.50 | 3.21 | 1.70 | 1.78 | 1.86 | 2.13 | | | | | 4.52 | 2 | 0.62 | 10 | w |
| | Tanah Rata | 0.58 | 0.85 | 0.70 | 0.44 | 0.92 | 0.59 | 1.29 | 0.68 | 0.66 | 0.35 | 0.38 | 0.37 | 0.54 | | | | | 1.46 | 7 | 0.27 | 10 | w |
| Mongolia | Ulaanbaatar | - | - | - | 6.54 | 1.39 | 1.94 | 5.19 | 1.45 | 2.54 | 6.06 | - | - | 1.91 | 11.0 | 8 | 0.55 | 5 | | | | | d |
| | Terelj | - | - | - | 0.75 | 0.52 | 1.36 | - | - | - | - | - | - | 0.93 | 2.09 | 5 | 0.28 | 5 | | | | | d |
| Philippines | Metro Manila | 4.00 | 5.17 | 37.6 | - | 1.55 | 2.89 | 6.62 | 2.50 | - | - | 9.65 | 22.9 | 6.49 | | | | | 37.6 | 3 | 1.55 | 5 | w |
| | Los Banos | 7.86 | 5.92 | 11.0 | 4.12 | 4.12 | 3.41 | 1.40 | 0.73 | 1.51 | 1.09 | 1.20 | 1.10 | 2.08 | | | | | 12.3 | 2 | 0.08 | 8 | w |
| Republic | Kanghwa | 12.5 | - | 8.58 | 12.6 | 7.80 | 2.07 | 1.65 | 1.07 | - | 1.33 | 3.05 | 6.67 | 1.98 | 12.6 | 4 | 0.61 | 7 | | | | | d |
| of Korea | Cheju | - | - | - | - | - | 0.83 | 1.42 | 3.68 | 1.87 | 2.19 | 3.51 | 6.81 | 2.56 | 13.9 | 12 | 0.19 | 6 | | | | | d |
| | Imsil | 1.61 | 2.08 | 7.38 | 0.93 | 2.08 | 0.65 | 1.01 | 2.75 | - | 1.47 | - | 1.42 | 1.31 | | | | | 7.38 | 3 | 0.00 | 10 | w |
| Russia | Mondy | 0.48 | - | 1.64 | 0.89 | - | 1.12 | 0.49 | 0.34 | 0.44 | 0.63 | 1.19 | 0.73 | 0.68 | 2.47 | 3 | 0.28 | 10 | | | | | d |
| | Listvyanka | 1.46 | 1.80 | 0.89 | 0.86 | 1.31 | 1.19 | 0.83 | 0.86 | 1.14 | 1.70 | 0.81 | 1.11 | 0.95 | 2.94 | 2 | 0.40 | 8 | | | | | d |
| | Irkutsk | 5.35 | 3.55 | 2.79 | 3.35 | 6.64 | 2.07 | 0.70 | 0.84 | 2.09 | 1.77 | 6.59 | 2.45 | 1.79 | 30.3 | 9 | 0.41 | 8 | | | | | d |
| Thailand | Bangkok | - | - | 1.24 | 4.84 | 1.83 | 1.14 | 1.55 | 0.87 | 1.90 | 1.38 | 0.96 | 12.1 | 1.50 | 12.1 | 12 | 0.20 | 6 | | | | | d |
| | Patumthani | - | - | 1.30 | 1.28 | 0.97 | 1.30 | 1.78 | 0.86 | 2.73 | 1.55 | 1.62 | 1.54 | 1.80 | 5.16 | 10 | 0.28 | 8 | | | | | d |
| | Khao Lam Dam | - | - | 0.71 | 1.02 | 0.43 | - | 1.19 | 0.25 | 0.24 | 5.08 | - | - | 0.56 | 5.08 | 10 | 0.01 | 5 | | | | | d |
| | Mae Hia | - | - | - | 2.16 | 0.67 | 0.55 | 1.10 | 1.05 | 1.12 | 0.47 | 0.28 | 0.77 | 0.88 | 2.72 | 7 | 0.26 | 10 | | | | | d |
| Vietnam | Hanoi | 8.48 | 2.82 | 1.41 | 1.29 | 0.88 | 0.64 | 0.65 | 0.65 | 1.29 | 1.19 | 1.33 | 1.78 | 0.92 | | | | | 11.9 | 1 | 0.31 | 8 | w |
| | Hoa Binh | 2.41 | 1.89 | 1.50 | 2.10 | 1.11 | 0.71 | 0.48 | 0.59 | 1.80 | 1.85 | 2.89 | 3.12 | 1.04 | | | | | 4.50 | 12 | 0.30 | 8 | w |

Table 3.36 Data completeness of conductivity (Percent total precipitation) unit: %

| Country | Name of sites | 2001 Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| China | Chongqing | | | | | | | | | | | | | |
| | -Guanyinqiao | 79 | 100 | 100 | 97 | 100 | 99 | 100 | 100 | 100 | 98 | 96 | 86 | 97 |
| | -Jinyunshan | 100 | 100 | 100 | 100 | 100 | 100 | * | 100 | 100 | 100 | 100 | 100 | 100 |
| | Xi'an | | | | | | | | | | | | | |
| | -Shizhan | 0 | 0 | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | -Weishuiyuan | 0 | 0 | 0 | 100 | 100 | 100 | 100 | 100 | 100 | * | * | 100 | 100 |
| | -Jiwozi | 0 | 0 | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 0 | 0 | 100 |
| | Xiamen | | | | | | | | | | | | | |
| | -Hongwen | 100 | 100 | 100 | * | * | * | * | 100 | 100 | 100 | * | 100 | 100 |
| | -Xiaoping | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | * | * | 100 |
| | Zhuhai | | | | | | | | | | | | | |
| | -Xiang Zhou | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | 100 | 100 |
| | -Zhuxian Cavern | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | * | 100 |
| Indonesia | Jakarta | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | 100 | 100 | 100 | 100 |
| | Serpong | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | * | 100 |
| | Kototabang | * | * | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Bandung | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 0 | 100 |
| Japan | Rishiri | 91 | 95 | 100 | 58 | 99 | 99 | 99 | 100 | 98 | 100 | 99 | 99 | 97 |
| | Tappi | 0 | 45 | 11 | 88 | 99 | 98 | 100 | 99 | 99 | 93 | 67 | 93 | 87 |
| | Sado-seki | 60 | 59 | 24 | 99 | 99 | 100 | 81 | 99 | 73 | 81 | 99 | 97 | 86 |
| | Happo | 99 | 84 | 47 | 98 | 99 | 100 | 100 | 100 | 100 | 100 | 97 | 18 | 89 |
| | Oki | 99 | 99 | 100 | 46 | 78 | 85 | 73 | 98 | 73 | 100 | 100 | 100 | 90 |
| | Yusuhara | 100 | 99 | 96 | 94 | 91 | 100 | 99 | 88 | 100 | 100 | 36 | 100 | 95 |
| | Ogasawara | 99 | 98 | 100 | 99 | 100 | 99 | 100 | 97 | 100 | 96 | 97 | 99 | 99 |
| | Hedo | 99 | 99 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Ijira | 100 | 100 | 100 | 99 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Banryu | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Malaysia | Petaling Jaya | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 99 | 100 | 100 | 100 |
| | Tanah Rata | 98 | 100 | 99 | 100 | 100 | 98 | 90 | 98 | 100 | 100 | 100 | 90 | 99 |
| Mongolia | Ulaanbaatar | 0 | 0 | 0 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 0 | 0 | 100 |
| | Terelj | 0 | 0 | 0 | 100 | 100 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 100 |
| Philippines | Metro Manila | 97 | 97 | 43 | 0 | 26 | 100 | 100 | 30 | 0 | 0 | 99 | 99 | 55 |
| | Los Banos | 100 | 100 | 63 | 86 | 100 | 100 | 100 | 98 | 100 | 100 | 100 | 86 | 97 |
| Republic | Kanghwa | 7 | 0 | 57 | 85 | 97 | 99 | 100 | 99 | 0 | 91 | 90 | 88 | 90 |
| of Korea | Cheju | 0 | 0 | 0 | 0 | 0 | 99 | 100 | 100 | 94 | 100 | 90 | 88 | 76 |
| | Imsil | 100 | 100 | 67 | 89 | 62 | 77 | 100 | 76 | 0 | 100 | 0 | 86 | 82 |
| Russia | Mondy | 100 | * | 100 | 100 | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Listvyanka | 100 | 100 | 100 | 100 | 100 | 100 | 99 | 98 | 100 | 32 | 100 | 100 | 98 |
| | Irkutsk | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Thailand | Bangkok | * | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | Patumthani | * | * | 88 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 99 |
| | Khao Lam Dam | * | * | 98 | 80 | 35 | 0 | 2 | 49 | 8 | 1 | 0 | * | 26 |
| | Mae Hia | * | * | * | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Vietnam | Hanoi | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 93 | 100 | 100 | 99 |
| | Hoa Binh | 70 | 67 | 99 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

Table 3.37 Monthly $SO_4^{2-}$ deposition amounts unit: mmol/m$^2$

| Country | Name of sites | 2001 Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| China | Chongqing | | | | | | | | | | | | | |
| | -Guanyinqiao | 10.1 | 1.82 | 8.09 | 15.1 | 14.8 | 29.8 | 6.01 | 12.5 | 10.7 | 23.3 | 7.10 | 15.3 | 154 |
| | -Jinyunshan | 2.80 | 2.94 | 1.98 | 10.7 | 6.96 | 21.6 | 0.00 | 0.87 | 12.5 | 16.7 | 5.03 | 5.69 | 87.7 |
| | Xi'an | | | | | | | | | | | | | |
| | -Shizhan | - | - | 0.00 | 35.0 | 1.11 | 26.8 | 39.1 | 13.5 | 14.7 | 20.2 | - | 20.2 | 171 |
| | -Weishuiyuan | - | - | - | 41.5 | 9.65 | 19.6 | - | - | - | 0.00 | 0.00 | 34.0 | 105 |
| | -Jiwozi | - | - | 0.00 | 35.0 | 1.11 | 26.8 | 1.43 | 0.67 | 1.49 | 1.50 | - | - | 68.0 |
| | Xiamen | | | | | | | | | | | | | |
| | -Hongwen | 1.67 | 0.16 | 4.69 | 0.00 | 0.00 | 0.00 | 0.00 | 2.19 | 4.16 | 2.92 | 0.00 | 0.93 | 16.7 |
| | -Xiaoping | 0.33 | 0.02 | 4.65 | 7.33 | 14.4 | 7.50 | 17.4 | 11.1 | 15.1 | 0.00 | 0.00 | 0.00 | 77.8 |
| | Zhuhai | | | | | | | | | | | | | |
| | -Xiang Zhou | 0.88 | 1.11 | 3.21 | 2.62 | 1.97 | 3.14 | 2.45 | 2.94 | 6.52 | 0.00 | 4.34 | 2.01 | 31.2 |
| | -Zhuxian Cavern | 0.87 | 1.03 | 3.21 | 3.53 | 4.49 | 6.93 | 6.97 | 12.5 | 8.10 | 0.00 | 0.00 | 1.97 | 49.5 |
| Indonesia | Jakarta | 4.92 | 6.12 | 8.49 | 1.42 | 0.35 | 5.63 | 15.3 | 12.3 | 0.00 | 15.8 | 3.56 | 1.93 | 77.5 |
| | Serpong | 0.00 | 0.89 | 1.61 | 1.77 | 3.77 | 2.01 | 18.9 | 5.47 | 13.2 | 3.48 | 10.3 | 0.00 | 61.4 |
| | Kototabang | 0.00 | 0.00 | 0.00 | 0.43 | 0.20 | 0.24 | 0.70 | 0.12 | 1.89 | 0.58 | 0.66 | 0.84 | 5.66 |
| | Bandung | 4.12 | 1.22 | 5.52 | 16.2 | 6.60 | 11.4 | 7.35 | 2.37 | 4.06 | 11.7 | 17.3 | - | 87.8 |
| Japan | Rishiri | 1.58 | 2.09 | 1.97 | 1.37 | 1.50 | 2.11 | 1.06 | 0.79 | 0.28 | 0.55 | 2.27 | 3.76 | 19.1 |
| | Tappi | - | 0.85 | 6.95 | 2.79 | 2.14 | 1.89 | 5.30 | 1.13 | 2.39 | 3.16 | 1.49 | 1.54 | 24.7 |
| | Sado-seki | 5.57 | 5.94 | 8.97 | 1.32 | 1.23 | 2.28 | 0.89 | 1.37 | 1.33 | 1.81 | 4.78 | 7.43 | 39.8 |
| | Happo | 3.10 | 2.35 | 4.75 | 0.73 | 3.79 | 4.15 | 1.86 | 2.01 | 1.23 | 1.24 | 1.60 | 2.87 | 27.4 |
| | Oki | 9.21 | 3.88 | 4.41 | 1.17 | 2.31 | 1.62 | 0.62 | 0.24 | 4.37 | 2.03 | 3.62 | 7.23 | 42.1 |
| | Yusuhara | 2.13 | 2.06 | 3.42 | 1.20 | 1.99 | 1.37 | 1.18 | 1.50 | 0.91 | 1.92 | 1.21 | 0.44 | 19.0 |
| | Ogasawara | 1.08 | 1.02 | 3.04 | 3.10 | 3.65 | 0.39 | 2.42 | 0.99 | 2.62 | 0.83 | 1.05 | 0.49 | 20.7 |
| | Hedo | 2.45 | 2.04 | 3.96 | 2.18 | 4.52 | 1.72 | 0.55 | 0.86 | 4.44 | 6.58 | 0.77 | 3.90 | 33.9 |
| | Ijira | 4.89 | 0.91 | 4.83 | 1.32 | 5.99 | 7.66 | 2.62 | 6.48 | 6.36 | 4.52 | 1.16 | 2.38 | 49.1 |
| | Banryu | 3.57 | 3.66 | 4.92 | 0.67 | 4.07 | 3.07 | 1.60 | 0.96 | 1.53 | 1.88 | 3.30 | 4.70 | 33.9 |
| Malaysia | Petaling Jaya | 11.2 | 8.33 | 5.29 | 7.19 | 2.36 | 5.88 | 4.50 | 1.92 | 6.94 | 4.89 | 6.46 | 3.52 | 68.4 |
| | Tanah Rata | 0.54 | 0.91 | 1.14 | 0.68 | 0.90 | 0.53 | 0.54 | 0.65 | 1.24 | 0.98 | 1.25 | 0.43 | 9.79 |
| Mongolia | Ulaanbaatar | - | - | - | 0.16 | 0.76 | 1.02 | 0.42 | 1.06 | 0.63 | 0.13 | - | - | 4.17 |
| | Terelj | - | - | - | <0.01 | 0.23 | 0.63 | - | - | - | - | - | - | 0.86 |
| Philippines | Metro Manila | 0.79 | 1.25 | 1.29 | - | 3.89 | - | 18.5 | 28.5 | - | - | 3.11 | 7.05 | 85.5 |
| | Los Banos | 0.05 | 1.13 | 2.51 | 2.27 | 6.14 | - | 4.01 | 3.31 | 2.52 | 0.86 | 2.37 | 0.85 | 28.4 |
| Republic | Kanghwa | 7.53 | - | 2.60 | 1.44 | 2.05 | 4.56 | 10.4 | 1.79 | - | 1.54 | 0.64 | 1.93 | 28.5 |
| of Korea | Cheju | - | - | - | - | - | 2.02 | 2.24 | 5.71 | 0.22 | 1.42 | 1.64 | 5.11 | 23.0 |
| | Imsil | 1.29 | 3.26 | 2.96 | 0.41 | 0.42 | 2.42 | 5.25 | 1.18 | - | 1.64 | - | 0.76 | 21.3 |
| Russia | Mondy | 0.03 | 0.00 | 0.06 | 0.16 | 0.00 | 2.05 | 0.18 | 0.36 | 0.50 | 0.07 | 0.08 | 0.01 | 3.51 |
| | Listvyanka | 0.10 | 0.09 | 0.43 | 0.37 | 0.61 | 0.52 | 1.82 | 1.64 | 0.49 | 0.25 | 0.13 | 0.17 | 6.60 |
| | Irkutsk | 0.53 | 0.53 | 0.88 | 0.73 | 5.00 | 1.30 | 1.99 | 0.78 | 0.75 | 0.52 | 0.31 | 0.57 | 13.9 |
| Thailand | Bangkok | 0.00 | 0.00 | 1.81 | 0.52 | 1.20 | 1.95 | 1.23 | 1.02 | 6.87 | 5.95 | 0.60 | 0.18 | 21.3 |
| | Patumthani | 0.00 | 0.00 | 1.55 | 0.55 | 2.31 | 1.27 | 1.49 | 3.04 | 10.8 | 1.70 | 0.36 | 0.12 | 23.2 |
| | Khao Lam Dam | 0.00 | 0.00 | 0.75 | 0.60 | 1.28 | - | 1.65 | 0.62 | 0.53 | 1.80 | - | 0.00 | 7.91 |
| | Mae Hia | 0.00 | 0.00 | 0.00 | 0.33 | 0.30 | 0.23 | 0.13 | 0.41 | 0.55 | 0.75 | 0.12 | 0.21 | 3.02 |
| Vietnam | Hanoi | 1.47 | 1.57 | 3.25 | 1.62 | 4.05 | 3.65 | 3.66 | 4.65 | 1.33 | 4.05 | 0.60 | 1.74 | 31.5 |
| | Hoa Binh | 0.25 | 0.29 | 3.47 | 0.58 | 7.45 | 1.87 | 2.10 | 2.30 | 5.16 | 6.63 | 1.56 | 1.09 | 32.6 |

Table 3.38 Monthly nss-$SO_4^{2-}$ deposition amounts unit: mmol/$m^2$

| Country | Name of sites | 2001 Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| China | Chongqing | | | | | | | | | | | | | |
| | -Guanyinqiao | 10.0 | 1.80 | 8.05 | 15.0 | 14.8 | 29.7 | 5.99 | 12.4 | 10.7 | 23.3 | 7.07 | 15.2 | 154 |
| | -Jinyunshan | 2.77 | 2.93 | 1.96 | 10.6 | 6.87 | 21.5 | 0.00 | 0.86 | 12.5 | 16.7 | 5.00 | 5.67 | 87.3 |
| | Xi'an | | | | | | | | | | | | | |
| | -Shizhan | - | - | 0.00 | 34.7 | 0.81 | 26.1 | 38.2 | 13.1 | 14.1 | 19.9 | - | 20.1 | 167 |
| | -Weishuiyuan | - | - | - | 41.0 | 9.52 | 19.4 | - | - | - | 0.00 | 0.00 | 33.9 | 104 |
| | -Jiwozi | - | - | 0.00 | 34.7 | 0.81 | 26.1 | 1.31 | 0.62 | 1.29 | 1.22 | - | - | 66.0 |
| | Xiamen | | | | | | | | | | | | | |
| | -Hongwen | 1.66 | 0.16 | 4.66 | 0.00 | 0.00 | 0.00 | 0.00 | 2.16 | 4.13 | 2.85 | 0.00 | 0.91 | 16.5 |
| | -Xiaoping | 0.33 | 0.02 | 4.60 | 7.30 | 14.3 | 7.41 | 16.9 | 9.37 | 15.0 | 0.00 | 0.00 | 0.00 | 75.2 |
| | Zhuhai | | | | | | | | | | | | | |
| | -Xiang Zhou | 0.86 | 1.07 | 3.08 | 2.53 | 1.86 | 2.87 | 1.92 | 2.47 | 6.32 | 0.00 | 4.15 | 1.93 | 29.1 |
| | -Zhuxian Cavern | 0.85 | 1.01 | 3.05 | 3.40 | 4.41 | 6.19 | 5.40 | 12.0 | 7.95 | 0.00 | 0.00 | 1.92 | 46.2 |
| Indonesia | Jakarta | 4.78 | 5.44 | 8.17 | 1.38 | 0.27 | 5.44 | 15.0 | 12.0 | 0.00 | 15.4 | 3.40 | 1.71 | 74.6 |
| | Serpong | 0.00 | 0.83 | 1.49 | 1.73 | 3.58 | 1.95 | 18.4 | 5.23 | 12.6 | 3.42 | 9.82 | 0.00 | 59.1 |
| | Kototabang | 0.00 | 0.00 | 0.00 | 0.42 | 0.18 | 0.24 | 0.70 | 0.12 | 1.77 | 0.50 | 0.58 | 0.81 | 5.33 |
| | Bandung | 4.00 | 1.13 | 5.30 | 15.3 | 6.31 | 11.0 | 7.05 | 2.24 | 3.89 | 11.3 | 17.0 | - | 84.6 |
| Japan | Rishiri | 1.06 | 1.05 | 1.22 | 1.12 | 1.41 | 1.75 | 1.00 | 0.73 | 0.10 | 0.29 | 1.01 | 0.75 | 11.2 |
| | Tappi | - | 0.36 | 3.49 | 1.83 | 1.99 | 1.35 | 4.82 | 1.02 | 0.54 | 1.60 | 0.88 | 0.30 | 16.0 |
| | Sado-seki | 1.12 | 2.74 | 3.77 | 0.98 | 1.12 | 2.07 | 0.77 | 1.11 | 0.83 | 1.47 | 1.95 | 2.28 | 18.9 |
| | Happo | 2.69 | 2.25 | 4.62 | 0.72 | 3.76 | 4.12 | 1.85 | 1.99 | 1.22 | 1.21 | 1.52 | 2.80 | 26.6 |
| | Oki | 2.37 | 1.92 | 2.11 | 0.79 | 2.15 | 1.30 | 0.46 | 0.14 | 1.45 | 1.35 | 1.88 | 2.28 | 18.4 |
| | Yusuhara | 1.88 | 1.88 | 2.97 | 1.15 | 1.83 | 1.32 | 1.15 | 1.44 | 0.84 | 1.84 | 1.17 | 0.39 | 17.6 |
| | Ogasawara | 0.45 | 0.58 | 1.93 | 1.96 | 2.49 | 0.24 | 0.20 | 0.33 | 0.24 | 0.15 | 0.47 | 0.19 | 9.23 |
| | Hedo | 1.02 | 0.84 | 2.51 | 1.68 | 2.38 | 0.96 | 0.31 | 0.58 | 1.47 | 0.18 | 0.49 | 1.37 | 13.8 |
| | Ijira | 3.91 | 0.84 | 4.35 | 1.27 | 5.58 | 7.56 | 2.46 | 6.34 | 6.08 | 4.35 | 1.01 | 1.37 | 45.1 |
| | Banryu | 2.62 | 2.79 | 3.45 | 0.55 | 3.42 | 2.79 | 1.46 | 0.85 | 1.01 | 1.51 | 2.14 | 2.90 | 25.5 |
| Malaysia | Petaling Jaya | 11.1 | 8.21 | 5.21 | 7.15 | 2.33 | 5.82 | 4.45 | 1.88 | 6.88 | 4.86 | 6.39 | 3.46 | 67.7 |
| | Tanah Rata | 0.52 | 0.86 | 1.12 | 0.66 | 0.89 | 0.52 | 0.54 | 0.63 | 1.19 | 0.96 | 1.20 | 0.40 | 9.49 |
| Mongolia | Ulaanbaatar | - | - | - | 0.15 | 0.73 | 1.00 | 0.42 | 1.04 | 0.62 | 0.12 | - | - | 4.08 |
| | Terelj | - | - | - | <0.01 | 0.22 | 0.55 | - | - | - | - | - | - | 0.78 |
| Philippines | Metro Manila | 0.77 | 1.02 | 0.90 | - | 3.65 | - | 3.57 | 26.9 | - | - | 2.93 | 6.66 | 52.0 |
| | Los Banos | 0.05 | 0.82 | 2.10 | 2.20 | 5.69 | - | 3.37 | 3.12 | 2.24 | 0.62 | 1.28 | 0.47 | 23.9 |
| Republic | Kanghwa | 6.80 | - | 2.48 | 1.38 | 1.95 | 4.33 | 9.00 | 1.40 | - | 1.42 | 0.60 | 1.78 | 25.6 |
| of Korea | Cheju | - | - | - | - | - | 1.69 | 1.64 | 4.44 | 0.19 | 0.98 | 1.35 | 4.10 | 18.0 |
| | Imsil | 1.19 | 3.10 | 2.94 | 0.38 | 0.39 | 2.27 | 4.92 | 1.14 | - | 1.53 | - | 0.66 | 20.1 |
| Russia | Mondy | 0.03 | 0.00 | 0.06 | 0.15 | 0.00 | 2.04 | 0.18 | 0.35 | 0.50 | 0.06 | 0.08 | 0.01 | 3.46 |
| | Listvyanka | 0.09 | 0.08 | 0.42 | 0.36 | 0.60 | 0.51 | 1.79 | 1.63 | 0.49 | 0.23 | 0.13 | 0.17 | 6.50 |
| | Irkutsk | 0.49 | 0.51 | 0.85 | 0.71 | 4.99 | 1.28 | 1.97 | 0.77 | 0.70 | 0.52 | 0.30 | 0.56 | 13.6 |
| Thailand | Bangkok | 0.00 | 0.00 | 1.74 | 0.51 | 1.13 | 1.85 | 1.17 | 0.98 | 6.80 | 5.79 | 0.57 | 0.18 | 20.7 |
| | Patumthani | 0.00 | 0.00 | 1.51 | 0.53 | 2.16 | 1.22 | 1.43 | 2.95 | 10.5 | 1.67 | 0.35 | 0.12 | 22.5 |
| | Khao Lam Dam | 0.00 | 0.00 | 0.73 | 0.56 | 1.01 | - | 0.95 | 0.42 | 0.47 | 1.37 | - | 0.00 | 6.89 |
| | Mae Hia | 0.00 | 0.00 | 0.00 | 0.31 | 0.23 | 0.20 | 0.11 | 0.38 | 0.53 | 0.70 | 0.12 | 0.20 | 2.78 |
| Vietnam | Hanoi | 1.41 | 1.48 | 2.98 | 1.56 | 3.87 | 3.51 | 3.33 | 4.41 | 1.28 | 3.92 | 0.59 | 1.73 | 30.0 |
| | Hoa Binh | 0.23 | 0.27 | 3.27 | 0.56 | 7.15 | 1.77 | 1.88 | 2.08 | 5.04 | 6.52 | 1.56 | 1.09 | 31.3 |

Table 3.39 Monthly $NO_3^-$ deposition amounts unit: mmol/$m^2$

| Country | Name of sites | 2001 Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| China | Chongqing | | | | | | | | | | | | | |
| | -Guanyinqiao | 3.01 | 0.67 | 2.03 | 3.32 | 3.41 | 8.47 | 1.61 | 3.73 | 2.32 | 5.47 | 1.93 | 3.76 | 39.7 |
| | -Jinyunshan | 1.04 | 1.05 | 0.71 | 2.70 | 1.94 | 6.91 | 0.00 | 0.38 | 3.63 | 5.65 | 2.07 | 2.54 | 28.6 |
| | Xi'an | | | | | | | | | | | | | |
| | -Shizhan | - | - | 0.00 | 3.40 | 1.73 | 17.5 | 15.7 | 4.39 | 5.91 | 4.14 | - | 2.95 | 55.8 |
| | -Weishuiyuan | - | - | - | 6.05 | 1.25 | 4.21 | - | - | - | 0.00 | 0.00 | 3.03 | 14.5 |
| | -Jiwozi | - | - | 0.00 | 3.40 | 1.73 | 17.5 | 1.26 | 0.37 | 3.26 | 1.76 | - | - | 29.3 |
| | Xiamen | | | | | | | | | | | | | |
| | -Hongwen | 0.47 | 0.07 | 3.04 | 0.00 | 0.00 | 0.00 | 0.00 | 1.43 | 2.67 | 3.10 | 0.00 | 0.43 | 11.2 |
| | -Xiaoping | 0.40 | 0.02 | 5.93 | 7.96 | 2.06 | 8.06 | 13.3 | 30.7 | 13.8 | 0.00 | 0.00 | 0.00 | 82.2 |
| | Zhuhai | | | | | | | | | | | | | |
| | -Xiang Zhou | 0.69 | 0.88 | 3.57 | 2.57 | 1.78 | 2.51 | 1.67 | 3.94 | 6.11 | 0.00 | 3.77 | 0.56 | 28.0 |
| | -Zhuxian Cavern | 0.63 | 0.70 | 4.01 | 7.95 | 4.64 | 4.05 | 3.92 | 21.5 | 8.86 | 0.00 | 0.00 | 0.84 | 57.1 |
| Indonesia | Jakarta | 3.51 | 1.59 | 9.39 | 1.12 | 1.19 | 7.95 | 13.3 | 9.8 | 0.00 | 13.5 | 4.03 | 1.08 | 66.4 |
| | Serpong | 0.00 | 0.99 | 2.52 | 2.26 | 4.30 | 2.63 | 25.3 | 5.95 | 15.1 | 6.21 | 16.2 | 0.00 | 81.4 |
| | Kototabang | 0.00 | 0.00 | 0.00 | 0.23 | 0.25 | 0.10 | 0.19 | 0.03 | 1.16 | 0.57 | 0.39 | 0.39 | 3.32 |
| | Bandung | 3.46 | 1.18 | 5.05 | 15.0 | 5.71 | 10.4 | 6.42 | 2.92 | 3.15 | 8.33 | 8.39 | - | 70.0 |
| Japan | Rishiri | 0.70 | 1.09 | 0.78 | 0.96 | 1.32 | 1.93 | 1.18 | 0.79 | 0.12 | 0.23 | 1.34 | 0.82 | 11.1 |
| | Tappi | - | 0.22 | 2.95 | 2.24 | 1.73 | 1.64 | 3.94 | 1.06 | 0.82 | 2.09 | 1.11 | 0.40 | 16.5 |
| | Sado-seki | 0.74 | 2.90 | 3.67 | 1.49 | 0.83 | 2.70 | 1.00 | 1.72 | 1.38 | 1.11 | 2.44 | 2.66 | 21.6 |
| | Happo | 1.50 | 1.45 | 4.58 | 0.49 | 2.85 | 3.59 | 2.39 | 1.38 | 0.91 | 0.80 | 1.00 | 1.43 | 20.8 |
| | Oki | 2.49 | 1.63 | 2.31 | 0.96 | 1.09 | 1.37 | 0.68 | 0.38 | 2.11 | 1.55 | 1.91 | 2.81 | 19.5 |
| | Yusuhara | 1.95 | 1.62 | 2.40 | 1.23 | 1.63 | 1.05 | 0.46 | 1.59 | 0.76 | 0.62 | 0.44 | 0.48 | 14.2 |
| | Ogasawara | 0.30 | 0.46 | 1.08 | 2.11 | 1.45 | 0.18 | 0.17 | 0.13 | 0.15 | 0.11 | 0.38 | 0.14 | 6.67 |
| | Hedo | 0.86 | 1.21 | 2.15 | 1.75 | 2.53 | 0.91 | 0.49 | 0.35 | 1.23 | 0.31 | 0.53 | 1.65 | 14.0 |
| | Ijira | 3.54 | 1.73 | 4.87 | 1.78 | 3.53 | 9.27 | 4.23 | 7.45 | 5.07 | 3.60 | 1.40 | 2.03 | 48.5 |
| | Banryu | 2.58 | 3.42 | 4.56 | 0.73 | 1.99 | 2.92 | 2.04 | 1.08 | 1.27 | 1.31 | 2.79 | 6.38 | 31.1 |
| Malaysia | Petaling Jaya | 10.8 | 9.36 | 6.47 | 9.44 | 2.73 | 6.97 | 4.59 | 1.16 | 10.2 | 3.23 | 6.63 | 1.60 | 73.2 |
| | Tanah Rata | 0.24 | 0.95 | 1.02 | 0.15 | 0.97 | 1.09 | 0.66 | 0.76 | 0.94 | 0.79 | 1.21 | 0.11 | 8.90 |
| Mongolia | Ulaanbaatar | - | - | - | 0.08 | 0.49 | 0.76 | 0.52 | 0.86 | 0.49 | 0.23 | - | - | 3.43 |
| | Terelj | - | - | - | <0.01 | 0.25 | 0.56 | - | - | - | - | - | - | 0.81 |
| Philippines | Metro Manila | 3.97 | 1.56 | 0.45 | - | 1.69 | 0.18 | 7.99 | 10.1 | - | - | 2.64 | 2.29 | 42.5 |
| | Los Banos | 0.04 | 12.8 | 6.92 | 1.74 | 2.43 | 0.18 | 1.92 | 1.88 | 1.71 | 0.44 | 0.83 | 0.26 | 25.3 |
| Republic | Kanghwa | 5.93 | - | 2.27 | 1.07 | 2.41 | 7.23 | 10.4 | 1.27 | - | 2.22 | 0.59 | 3.47 | 32.6 |
| of Korea | Cheju | - | - | - | - | - | 2.26 | 2.36 | 4.88 | 0.22 | 0.85 | 1.46 | 4.32 | 20.5 |
| | Imsil | 1.21 | 3.62 | 1.94 | 0.57 | 0.48 | 2.21 | 5.11 | 1.36 | - | 1.21 | - | 0.61 | 20.2 |
| Russia | Mondy | 0.02 | 0.00 | 0.05 | 0.16 | 0.00 | 1.29 | 0.62 | 0.41 | 0.74 | 0.09 | 0.00 | 0.00 | 3.38 |
| | Listvyanka | 0.17 | 0.34 | 0.48 | 0.34 | 0.58 | 0.71 | 2.04 | 1.23 | 0.38 | 0.24 | 0.24 | 0.52 | 7.26 |
| | Irkutsk | 0.57 | 0.45 | 0.48 | 0.29 | 0.94 | 1.24 | 2.61 | 0.56 | 0.50 | 0.36 | 0.13 | 0.47 | 8.61 |
| Thailand | Bangkok | 0.00 | 0.00 | 1.29 | 0.46 | 1.24 | 1.69 | 0.84 | 0.59 | 6.88 | 6.75 | 0.91 | 0.34 | 21.0 |
| | Patumthani | 0.00 | 0.00 | 1.91 | 0.59 | 2.02 | 1.41 | 1.44 | 2.43 | 13.9 | 2.19 | 0.48 | 0.11 | 26.5 |
| | Khao Lam Dam | 0.00 | 0.00 | 1.04 | 0.97 | 1.69 | - | 0.99 | 0.46 | 0.41 | 0.15 | - | 0.00 | 10.2 |
| | Mae Hia | 0.00 | 0.00 | 0.00 | 0.73 | 0.62 | 0.54 | 0.24 | 0.57 | 0.51 | 0.86 | 0.01 | 0.40 | 4.47 |
| Vietnam | Hanoi | 0.34 | 0.36 | 0.79 | 0.53 | 1.57 | 0.86 | 1.41 | 3.29 | 0.70 | 1.28 | 0.09 | 0.20 | 11.4 |
| | Hoa Binh | 0.01 | 0.06 | 0.94 | 0.14 | 2.04 | 1.98 | 3.82 | 4.22 | 4.00 | 2.05 | 0.09 | 0.13 | 19.5 |

Table 3.40 Monthly $Cl^-$ deposition amounts unit: $mmol/m^2$

| Country | Name of sites | 2001 Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| China | Chongqing | | | | | | | | | | | | | |
| | -Guanyinqiao | 1.91 | 0.30 | 0.99 | 2.31 | 2.18 | 4.01 | 0.83 | 2.11 | 0.87 | 3.65 | 1.10 | 2.25 | 22.4 |
| | -Jinyunshan | 1.78 | 0.42 | 0.25 | 1.25 | 1.53 | 26.3 | 0.00 | 3.38 | 1.22 | 2.07 | 1.21 | 0.96 | 40.3 |
| | Xi'an | | | | | | | | | | | | | |
| | -Shizhan | - | - | 0.00 | 6.61 | 0.11 | 7.57 | 5.62 | 2.00 | 3.30 | 1.59 | - | 2.73 | 29.6 |
| | -Weishuiyuan | - | - | - | 9.33 | 1.29 | 4.99 | - | - | - | 0.00 | 0.00 | 3.66 | 19.3 |
| | -Jiwozi | - | - | 0.00 | 6.61 | 0.11 | 7.57 | 0.96 | 0.18 | 3.26 | 1.97 | - | - | 20.7 |
| | Xiamen | | | | | | | | | | | | | |
| | -Hongwen | 0.82 | 0.11 | 2.52 | 0.00 | 0.00 | 0.00 | 0.00 | 1.26 | 2.91 | 2.40 | 0.00 | 0.56 | 10.6 |
| | -Xiaoping | 0.92 | 0.02 | 2.70 | 4.00 | 8.87 | 7.69 | 71.6 | 26.8 | 8.42 | 0.00 | 0.00 | 0.00 | 131 |
| | Zhuhai | | | | | | | | | | | | | |
| | -Xiang Zhou | 0.43 | 0.86 | 2.87 | 2.85 | 2.99 | 8.47 | 36.0 | 4.43 | 11.7 | 0.00 | 3.59 | 1.02 | 75.2 |
| | -Zhuxian Cavern | 0.44 | 0.43 | 3.33 | 3.39 | 2.00 | 14.6 | 26.1 | 9.31 | 10.3 | 0.00 | 0.00 | 1.29 | 71.2 |
| Indonesia | Jakarta | 6.74 | 7.08 | 2.83 | 0.48 | 2.37 | 2.03 | 6.62 | 3.22 | 0.00 | 7.11 | 7.40 | 2.29 | 48.2 |
| | Serpong | 0.00 | 0.39 | 2.27 | 0.90 | 3.53 | 1.42 | 12.4 | 3.31 | 14.0 | 4.93 | 8.76 | 0.00 | 51.8 |
| | Kototabang | 0.00 | 0.00 | 0.00 | 0.44 | 0.34 | 0.31 | 0.29 | 0.05 | 1.94 | 1.85 | 1.69 | 1.07 | 7.97 |
| | Bandung | 2.97 | 1.09 | 3.46 | 10.8 | 4.90 | 8.24 | 5.57 | 1.51 | 4.91 | 9.95 | 11.7 | - | 65.1 |
| Japan | Rishiri | 9.50 | 18.8 | 13.7 | 4.67 | 1.71 | 6.11 | 1.13 | 1.14 | 3.37 | 4.81 | 24.0 | 55.5 | 145 |
| | Tappi | - | 9.89 | 66.8 | 19.0 | 2.86 | 11.0 | 9.07 | 2.34 | 35.7 | 30.1 | 12.0 | 23.7 | 169 |
| | Sado-seki | 73.8 | 54.2 | 87.3 | 6.90 | 2.13 | 3.84 | 2.10 | 4.46 | 9.01 | 6.37 | 51.9 | 95.3 | 367 |
| | Happo | 8.69 | 1.84 | 3.49 | 0.31 | 0.93 | 0.99 | 0.63 | 0.52 | 0.50 | 0.70 | 1.75 | 1.41 | 20.7 |
| | Oki | 132 | 36.8 | 42.7 | 6.92 | 3.10 | 6.07 | 2.90 | 1.71 | 53.3 | 12.8 | 32.3 | 93.1 | 448 |
| | Yusuhara | 4.04 | 2.84 | 8.89 | 0.75 | 2.40 | 0.66 | 0.76 | 1.12 | 0.82 | 1.36 | 0.83 | 0.86 | 25.6 |
| | Ogasawara | 12.7 | 9.25 | 21.5 | 21.6 | 21.8 | 2.79 | 43.7 | 12.8 | 45.4 | 12.9 | 11.3 | 5.89 | 222 |
| | Hedo | 26.6 | 21.8 | 26.9 | 9.40 | 40.1 | 14.4 | 4.47 | 4.90 | 55.2 | 120 | 4.63 | 45.3 | 373 |
| | Ijira | 17.6 | 1.08 | 7.83 | 0.95 | 7.56 | 2.03 | 2.75 | 2.84 | 5.05 | 3.62 | 2.68 | 19.0 | 73.0 |
| | Banryu | 16.6 | 15.4 | 28.2 | 2.21 | 10.9 | 5.20 | 3.09 | 1.28 | 8.53 | 7.25 | 21.5 | 34.5 | 155 |
| Malaysia | Petaling Jaya | 2.9 | 2.66 | 1.62 | 1.21 | 0.82 | 1.47 | 2.14 | 0.63 | 1.33 | 5.34 | 1.55 | 1.46 | 23.2 |
| | Tanah Rata | 0.94 | 1.27 | 0.87 | 0.46 | 0.27 | 0.38 | 0.21 | 0.51 | 0.44 | 0.84 | 1.05 | 0.64 | 7.87 |
| Mongolia | Ulaanbaatar | - | - | - | 0.07 | 0.37 | 0.37 | 0.13 | 0.40 | 0.19 | 0.07 | - | - | 1.60 |
| | Terelj | - | - | - | <0.01 | 0.36 | 0.41 | - | - | - | - | - | - | 0.77 |
| Philippines | Metro Manila | 0.67 | 4.31 | 4.03 | - | 7.34 | 2.32 | 135 | 18.0 | - | - | 2.88 | 6.52 | 264 |
| | Los Banos | 0.17 | 6.15 | 8.54 | 2.69 | 7.73 | 4.28 | 9.89 | 2.00 | 1.14 | 3.54 | 15.0 | 5.42 | 62.7 |
| Republic | Kanghwa | 21.4 | - | 2.10 | 1.05 | 1.75 | 4.99 | 22.5 | 4.64 | - | 2.94 | 0.80 | 3.38 | 48.6 |
| of Korea | Cheju | - | - | - | - | - | 6.82 | 11.9 | 36.2 | 1.31 | 10.8 | 6.67 | 25.5 | 125 |
| | Imsil | 3.24 | 2.91 | 5.79 | 0.47 | 0.62 | 2.85 | 9.01 | 5.25 | - | 2.90 | - | 1.88 | 37.3 |
| Russia | Mondy | 0.01 | 0.00 | 0.02 | 0.03 | 0.00 | 0.00 | 0.02 | 0.12 | 0.10 | 0.05 | 0.09 | 0.02 | 0.46 |
| | Listvyanka | 0.00 | 0.09 | 0.12 | 0.11 | 0.02 | 0.10 | 0.30 | 0.09 | 0.03 | 0.17 | 0.01 | 0.01 | 1.07 |
| | Irkutsk | 0.52 | 0.38 | 0.41 | 0.18 | 0.17 | 0.14 | 0.22 | 0.07 | 3.31 | 0.05 | 0.12 | 0.14 | 5.72 |
| Thailand | Bangkok | 0.00 | 0.00 | 1.06 | 0.11 | 1.35 | 1.67 | 2.26 | 0.75 | 1.87 | 1.69 | 0.24 | 0.06 | 11.1 |
| | Patumthani | 0.00 | 0.00 | 0.56 | 0.34 | 1.64 | 0.96 | 1.48 | 1.95 | 2.8 | 0.49 | 0.17 | 0.06 | 10.5 |
| | Khao Lam Dam | 0.00 | 0.00 | 0.84 | 0.43 | 3.72 | - | 10.3 | 2.28 | 1.16 | 3.80 | - | 0.00 | 15.1 |
| | Mae Hia | 0.00 | 0.00 | 0.00 | 0.26 | 0.81 | 0.71 | 1.00 | 0.58 | 0.40 | 0.70 | 0.11 | 0.32 | 4.91 |
| Vietnam | Hanoi | 4.52 | 4.05 | 6.97 | 3.28 | 7.61 | 5.31 | 12.4 | 9.79 | 1.62 | 3.74 | 0.48 | 1.26 | 61.2 |
| | Hoa Binh | 0.19 | 0.60 | 7.62 | 1.16 | 12.4 | 3.90 | 6.29 | 5.95 | 5.10 | 5.18 | 0.58 | 0.45 | 49.2 |

Table 3.41 Monthly $NH_4^+$ deposition amounts unit: mmol/m$^2$

| Country | Name of sites | 2001 Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| China | Chongqing | | | | | | | | | | | | | |
| | -Guanyinqiao | 18.3 | 4.23 | 7.47 | 9.67 | 17.0 | 38.6 | 3.78 | 10.6 | 9.55 | 23.0 | 6.86 | 10.1 | 158 |
| | -Jinyunshan | 4.68 | 2.77 | 2.22 | 6.34 | 5.43 | 19.4 | 0.00 | 1.14 | 11.1 | 14.8 | 4.53 | 6.67 | 79.1 |
| | Xi'an | | | | | | | | | | | | | |
| | -Shizhan | - | - | 0.00 | 14.2 | 0.09 | 9.71 | 26.9 | 6.85 | 9.10 | 21.6 | - | 4.18 | 92.8 |
| | -Weishuiyuan | - | - | - | 11.6 | 1.36 | 8.70 | - | - | - | 0.00 | 0.00 | 2.81 | 24.5 |
| | -Jiwozi | - | - | 0.00 | 14.2 | 0.09 | 9.71 | 3.70 | 0.88 | 1.36 | 5.74 | - | - | 35.7 |
| | Xiamen | | | | | | | | | | | | | |
| | -Hongwen | 0.34 | 0.07 | 6.11 | 0.00 | 0.00 | 0.00 | 0.00 | 2.95 | 5.93 | 2.96 | 0.00 | 0.81 | 19.2 |
| | -Xiaoping | 1.65 | 0.05 | 10.8 | 13.8 | 26.9 | 14.2 | 31.1 | 21.6 | 20.5 | 0.00 | 0.00 | 0.00 | 141 |
| | Zhuhai | | | | | | | | | | | | | |
| | -Xiang Zhou | 0.78 | 1.45 | 4.30 | 3.31 | 3.39 | 4.50 | 14.8 | 5.35 | 6.35 | 0.00 | 3.87 | 1.68 | 49.8 |
| | -Zhuxian Cavern | 0.86 | 0.74 | 3.97 | 3.87 | 3.43 | 13.4 | 25.7 | 15.8 | 8.10 | 0.00 | 0.00 | 1.89 | 77.8 |
| Indonesia | Jakarta | 10.4 | 13.2 | 12.6 | 2.11 | 1.92 | 10.7 | 9.04 | 2.76 | 0.00 | 7.64 | 5.71 | 5.79 | 81.9 |
| | Serpong | 0.00 | 1.24 | 3.65 | 2.66 | 7.92 | 3.20 | 37.9 | 7.25 | 24.1 | 8.86 | 11.9 | 0.00 | 109 |
| | Kototabang | 0.00 | 0.00 | 0.00 | 0.10 | 0.04 | 0.20 | 0.25 | 0.09 | 1.19 | 0.32 | 0.51 | 0.24 | 2.88 |
| | Bandung | 5.82 | 3.84 | 6.64 | 27.9 | 12.1 | 9.68 | 8.77 | 3.29 | 4.35 | 7.97 | 8.42 | - | 98.8 |
| Japan | Rishiri | 0.94 | 0.89 | 1.37 | 1.40 | 1.67 | 3.78 | 1.94 | 0.80 | 0.32 | 0.49 | 1.83 | 0.83 | 16.0 |
| | Tappi | - | 0.18 | 3.37 | 2.64 | 1.45 | 2.46 | 3.08 | 0.64 | 0.31 | 0.98 | 0.83 | 0.16 | 13.8 |
| | Sado-seki | 0.08 | 2.40 | 2.02 | 1.81 | 0.77 | 2.81 | 0.88 | 1.83 | 0.91 | 0.87 | 2.37 | 2.51 | 19.2 |
| | Happo | 1.94 | 1.60 | 4.14 | 0.54 | 3.94 | 5.94 | 2.73 | 1.57 | 0.82 | 0.41 | 1.04 | 1.68 | 25.3 |
| | Oki | 1.98 | 1.84 | 2.47 | 1.00 | 1.20 | 1.84 | 0.78 | 0.23 | 1.31 | 1.40 | 2.20 | 1.92 | 18.4 |
| | Yusuhara | 1.03 | 1.49 | 2.71 | 1.20 | 1.24 | 0.86 | 0.31 | 0.93 | 0.05 | 0.17 | 0.71 | 0.26 | 10.7 |
| | Ogasawara | 0.50 | 0.36 | 1.14 | 2.87 | 1.63 | 0.26 | 0.21 | 0.50 | 0.44 | 0.17 | 0.56 | 0.07 | 8.70 |
| | Hedo | 0.50 | 0.17 | 2.26 | 1.93 | 1.48 | 0.61 | 0.19 | 0.16 | 1.01 | 0.00 | 0.46 | 0.75 | 9.52 |
| | Ijira | 3.38 | 0.90 | 4.58 | 1.09 | 3.19 | 7.77 | 3.88 | 5.74 | 4.40 | 1.60 | 1.44 | 1.40 | 39.4 |
| | Banryu | 2.31 | 3.21 | 4.72 | 0.61 | 1.89 | 2.86 | 1.41 | 0.74 | 0.40 | 0.62 | 2.20 | 3.62 | 24.6 |
| Malaysia | Petaling Jaya | 28.7 | 17.4 | 11.7 | 25.8 | 6.98 | 23.9 | 8.20 | 8.61 | 16.3 | 3.79 | 24.6 | 3.23 | 179 |
| | Tanah Rata | 12.0 | 10.7 | 10.8 | 15.2 | 6.53 | 3.93 | 3.45 | 5.38 | 10.7 | 2.44 | 12.3 | 0.14 | 93.0 |
| Mongolia | Ulaanbaatar | - | - | - | 0.10 | 1.57 | 2.10 | 0.76 | 2.34 | 1.23 | 0.18 | - | - | 8.28 |
| | Terelj | - | - | - | <0.01 | 0.71 | 1.98 | - | - | - | - | - | - | 2.70 |
| Philippines | Metro Manila | 0.76 | 2.22 | 4.18 | - | 0.49 | 3.15 | 15.1 | 47.0 | - | - | 26.1 | 49.7 | 177 |
| | Los Banos | 0.13 | 1.58 | 4.90 | 3.94 | 1.48 | 5.32 | 5.27 | 5.56 | 4.29 | 0.98 | 7.25 | 1.68 | 40.7 |
| Republic | Kanghwa | 8.42 | - | 1.43 | 0.86 | 0.99 | 6.94 | 21.0 | 2.13 | - | 1.82 | 0.69 | 3.44 | 42.7 |
| of Korea | Cheju | - | - | - | - | - | 7.26 | 5.14 | 8.55 | 0.47 | 1.62 | 1.42 | 3.69 | 36.0 |
| | Imsil | 1.62 | 5.40 | 2.81 | 1.20 | 1.50 | 12.4 | 19.9 | 2.07 | - | 1.79 | - | 1.26 | 54.9 |
| Russia | Mondy | 0.00 | 0.00 | 0.07 | 0.23 | 0.00 | 4.24 | 0.52 | 0.73 | 1.01 | 0.08 | 0.19 | 0.00 | 7.08 |
| | Listvyanka | <0.01 | 0.05 | 0.27 | 0.41 | 0.58 | 0.83 | 1.61 | 1.03 | 0.26 | 0.14 | 0.06 | 0.09 | 5.34 |
| | Irkutsk | 0.86 | 0.37 | 0.55 | 0.59 | 1.66 | 1.91 | 2.68 | 0.89 | 0.87 | 0.38 | 0.26 | 0.70 | 11.7 |
| Thailand | Bangkok | 0.00 | 0.00 | 4.59 | 0.62 | 3.28 | 5.56 | 2.23 | 1.98 | 12.2 | 10.49 | 1.05 | 0.41 | 42.5 |
| | Patumthani | 0.00 | 0.00 | 2.80 | 1.33 | 3.33 | 2.81 | 3.29 | 7.17 | 22.4 | 3.59 | 0.89 | 0.28 | 47.9 |
| | Khao Lam Dam | 0.00 | 0.00 | 1.91 | 1.49 | 3.02 | - | 1.01 | 0.33 | 0.52 | 0.87 | - | 0.00 | 16.7 |
| | Mae Hia | 0.00 | 0.00 | 0.00 | 1.38 | 2.35 | 1.89 | 2.59 | 3.95 | 1.75 | 2.52 | 0.25 | 0.41 | 17.1 |
| Vietnam | Hanoi | 0.39 | 1.14 | 3.86 | 2.11 | 4.81 | 3.91 | 9.66 | 8.08 | 2.16 | 5.85 | 0.82 | 3.06 | 45.7 |
| | Hoa Binh | 0.02 | 0.36 | 4.57 | 0.70 | 8.33 | 1.70 | 1.50 | 1.71 | 3.40 | 2.30 | 1.45 | 1.85 | 27.8 |

Table 3.42 Monthly $Na^+$ deposition amounts unit: $mmol/m^2$

| Country | Name of sites | 2001 Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| China | Chongqing | | | | | | | | | | | | | |
| | -Guanyinqiao | 0.78 | 0.24 | 0.58 | 1.53 | 0.62 | 1.03 | 0.31 | 0.52 | 0.40 | 0.95 | 0.40 | 0.79 | 8.11 |
| | -Jinyunshan | 0.46 | 0.10 | 0.27 | 1.05 | 1.48 | 2.06 | 0.00 | 0.10 | 0.40 | 0.59 | 0.42 | 0.33 | 7.25 |
| | Xi'an | | | | | | | | | | | | | |
| | -Shizhan | - | - | 0.00 | 4.73 | 5.08 | 12.5 | 14.9 | 5.70 | 10.4 | 4.31 | - | 2.11 | 59.8 |
| | -Weishuiyuan | - | - | - | 8.29 | 2.11 | 3.51 | - | - | - | 0.00 | 0.00 | 1.23 | 15.1 |
| | -Jiwozi | - | - | 0.00 | 4.73 | 5.08 | 12.5 | 1.96 | 0.88 | 3.31 | 4.65 | - | - | 33.1 |
| | Xiamen | | | | | | | | | | | | | |
| | -Hongwen | 0.13 | 0.03 | 0.55 | 0.00 | 0.00 | 0.00 | 0.00 | 0.51 | 0.48 | 1.19 | 0.00 | 0.32 | 3.20 |
| | -Xiaoping | 0.04 | <0.01 | 0.87 | 0.63 | 1.45 | 1.55 | 7.81 | 28.9 | 1.65 | 0.00 | 0.00 | 0.00 | 42.9 |
| | Zhuhai | | | | | | | | | | | | | |
| | -Xiang Zhou | 0.32 | 0.64 | 2.13 | 1.52 | 1.75 | 4.50 | 22.4 | 7.84 | 3.33 | 0.00 | 3.15 | 1.35 | 49.0 |
| | -Zhuxian Cavern | 0.26 | 0.28 | 2.62 | 2.19 | 1.43 | 12.7 | 40.8 | 6.96 | 2.48 | 0.00 | 0.00 | 0.89 | 70.7 |
| Indonesia | Jakarta | 4.02 | 11.3 | 5.29 | 0.69 | 1.33 | 3.23 | 5.02 | 4.56 | 0.00 | 7.14 | 2.58 | 3.61 | 48.8 |
| | Serpong | 0.00 | 1.14 | 1.96 | 0.77 | 3.08 | 0.99 | 7.88 | 3.96 | 8.90 | 0.95 | 8.56 | 0.00 | 38.2 |
| | Kototabang | 0.00 | 0.00 | 0.00 | 0.04 | 0.21 | 0.05 | 0.01 | <0.01 | 2.07 | 1.39 | 1.26 | 0.43 | 5.46 |
| | Bandung | 1.99 | 1.36 | 3.70 | 14.3 | 4.80 | 6.3 | 4.99 | 2.05 | 2.83 | 5.98 | 4.37 | - | 52.7 |
| Japan | Rishiri | 8.74 | 17.2 | 12.4 | 4.24 | 1.43 | 5.91 | 0.95 | 1.01 | 3.01 | 4.25 | 21.0 | 49.9 | 130 |
| | Tappi | - | 8.15 | 57.4 | 16.0 | 2.44 | 9.64 | 7.83 | 1.95 | 30.8 | 26.0 | 10.2 | 20.5 | 145 |
| | Sado-seki | 75.3 | 53.1 | 86.2 | 5.64 | 1.82 | 3.58 | 1.98 | 4.22 | 8.41 | 5.13 | 47.0 | 85.5 | 345 |
| | Happo | 6.86 | 1.60 | 2.24 | 0.17 | 0.48 | 0.50 | 0.21 | 0.17 | 0.18 | 0.45 | 1.35 | 1.20 | 14.6 |
| | Oki | 114 | 32.4 | 38.3 | 6.38 | 2.63 | 5.27 | 2.68 | 1.70 | 48.4 | 11.3 | 28.8 | 82.3 | 394 |
| | Yusuhara | 4.07 | 2.89 | 7.43 | 0.79 | 2.60 | 0.87 | 0.61 | 1.03 | 1.30 | 1.23 | 0.70 | 0.72 | 24.5 |
| | Ogasawara | 10.5 | 7.94 | 18.4 | 18.9 | 19.1 | 2.48 | 36.9 | 11.0 | 39.5 | 9.39 | 9.63 | 5.07 | 189 |
| | Hedo | 23.7 | 19.9 | 24.1 | 8.27 | 35.5 | 12.5 | 3.94 | 4.61 | 49.5 | 113 | 4.58 | 41.9 | 341 |
| | Ijira | 16.2 | 1.17 | 7.96 | 0.90 | 6.85 | 1.78 | 2.57 | 2.38 | 4.61 | 2.87 | 2.47 | 16.6 | 66.4 |
| | Banryu | 15.7 | 14.4 | 24.3 | 1.99 | 10.8 | 4.55 | 2.47 | 1.83 | 8.65 | 6.10 | 19.2 | 29.9 | 140 |
| Malaysia | Petaling Jaya | 1.24 | 1.99 | 1.31 | 0.60 | 0.52 | 0.92 | 0.73 | 0.60 | 1.04 | 0.43 | 1.16 | 0.88 | 11.4 |
| | Tanah Rata | 0.28 | 0.85 | 0.36 | 0.27 | 0.22 | 0.24 | 0.10 | 0.33 | 0.74 | 0.24 | 0.93 | 0.49 | 5.05 |
| Mongolia | Ulaanbaatar | - | - | - | 0.15 | 0.41 | 0.35 | 0.11 | 0.31 | 0.10 | 0.08 | - | - | 1.51 |
| | Terelj | - | - | - | <0.01 | 0.13 | 1.27 | - | - | - | - | - | - | 1.41 |
| Philippines | Metro Manila | 0.39 | 3.61 | 5.23 | - | 3.68 | 2.60 | 268 | 27.4 | - | - | 3.08 | 6.41 | 470 |
| | Los Banos | 0.04 | 3.95 | 6.69 | 1.10 | 7.49 | 3.28 | 10.7 | 3.00 | 4.59 | 3.85 | 18.2 | 6.31 | 67.6 |
| Republic | Kanghwa | 12.2 | - | 1.90 | 1.07 | 1.56 | 3.80 | 23.5 | 6.57 | - | 2.03 | 0.66 | 2.49 | 47.5 |
| of Korea | Cheju | - | - | - | - | - | 5.60 | 9.92 | 21.1 | 0.59 | 7.18 | 4.73 | 16.9 | 83.2 |
| | Imsil | 1.70 | 2.64 | 0.35 | 0.39 | 0.56 | 2.50 | 5.44 | 0.66 | - | 1.83 | - | 1.67 | 20.0 |
| Russia | Mondy | 0.02 | 0.00 | 0.02 | 0.05 | 0.00 | 0.22 | 0.11 | 0.13 | 0.12 | 0.04 | 0.02 | <0.01 | 0.73 |
| | Listvyanka | 0.05 | 0.12 | 0.14 | 0.07 | 0.08 | 0.11 | 0.56 | 0.18 | 0.06 | 0.17 | 0.05 | 0.06 | 1.67 |
| | Irkutsk | 0.58 | 0.34 | 0.56 | 0.34 | 0.22 | 0.31 | 0.28 | 0.06 | 0.84 | 0.06 | 0.13 | 0.16 | 3.88 |
| Thailand | Bangkok | 0.00 | 0.00 | 1.04 | 0.10 | 1.22 | 1.59 | 1.00 | 0.58 | 1.26 | 2.57 | 0.37 | 0.05 | 9.78 |
| | Patumthani | 0.00 | 0.00 | 0.62 | 0.31 | 2.40 | 0.86 | 1.02 | 1.36 | 3.49 | 0.53 | 0.20 | 0.07 | 10.9 |
| | Khao Lam Dam | 0.00 | 0.00 | 0.36 | 0.62 | 4.41 | - | 11.6 | 3.37 | 1.01 | 7.13 | - | 0.00 | 17.1 |
| | Mae Hia | 0.00 | 0.00 | 0.00 | 0.21 | 1.20 | 0.48 | 0.51 | 0.45 | 0.42 | 0.80 | 0.05 | 0.15 | 4.27 |
| Vietnam | Hanoi | 0.88 | 1.42 | 4.61 | 0.93 | 2.94 | 2.33 | 5.48 | 4.09 | 0.83 | 2.14 | 0.06 | 0.24 | 25.9 |
| | Hoa Binh | 0.20 | 0.32 | 3.21 | 0.30 | 4.94 | 1.70 | 3.64 | 3.62 | 1.96 | 1.75 | 0.15 | 0.14 | 21.8 |

Table 3.43 Monthly $K^+$ deposition amounts unit: mmol/$m^2$

| Country | Name of sites | 2001 Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| China | Chongqing | | | | | | | | | | | | | |
| | -Guanyinqiao | 1.42 | 0.19 | 0.48 | 1.38 | 1.33 | 2.56 | 0.49 | 1.26 | 0.87 | 1.83 | 0.72 | 1.55 | 14.0 |
| | -Jinyunshan | 0.87 | 0.22 | 0.20 | 0.93 | 1.01 | 20.9 | 0.00 | 2.33 | 1.27 | 1.74 | 0.96 | 1.13 | 31.6 |
| | Xi'an | | | | | | | | | | | | | |
| | -Shizhan | - | - | 0.00 | 1.01 | 0.61 | 5.31 | 2.76 | 0.78 | 1.75 | 2.30 | - | 0.80 | 15.3 |
| | -Weishuiyuan | - | - | - | 1.82 | 0.51 | 2.20 | - | - | - | 0.00 | 0.00 | 0.65 | 5.19 |
| | -Jiwozi | - | - | 0.00 | 1.01 | 0.61 | 5.31 | 0.23 | 0.10 | 0.43 | 1.42 | - | - | 9.11 |
| | Xiamen | | | | | | | | | | | | | |
| | -Hongwen | 0.30 | 0.05 | 1.20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.20 | 0.21 | 1.04 | 0.00 | 0.06 | 3.06 |
| | -Xiaoping | 0.34 | <0.01 | 0.69 | 0.55 | 0.28 | 0.11 | 0.75 | 8.65 | 1.74 | 0.00 | 0.00 | 0.00 | 13.1 |
| | Zhuhai | | | | | | | | | | | | | |
| | -Xiang Zhou | 0.17 | 0.26 | 0.32 | 0.24 | 0.32 | 1.21 | 0.64 | 2.25 | 1.09 | 0.00 | 0.81 | 0.70 | 8.00 |
| | -Zhuxian Cavern | 0.10 | 0.12 | 0.52 | 0.22 | 0.25 | 5.34 | 3.37 | 2.75 | 2.11 | 0.00 | 0.00 | 0.28 | 15.1 |
| Indonesia | Jakarta | - | - | - | - | - | - | 1.14 | 0.52 | 0.00 | 1.38 | 2.64 | 2.67 | 30.1 |
| | Serpong | 0.00 | 0.26 | 0.35 | 0.15 | 0.61 | 0.58 | 2.07 | 1.12 | 2.88 | 0.61 | 2.68 | 0.00 | 11.3 |
| | Kototabang | 0.00 | 0.00 | 0.00 | - | - | <0.01 | <0.01 | <0.01 | 0.63 | 0.21 | 0.29 | 0.11 | 1.59 |
| | Bandung | 1.58 | 0.18 | 1.12 | 4.80 | 1.67 | 1.32 | 1.38 | 0.34 | 2.84 | 7.07 | 10.4 | - | 32.7 |
| Japan | Rishiri | 0.23 | 0.58 | 0.53 | 0.14 | 0.18 | 0.30 | 0.08 | 0.04 | 0.07 | 0.11 | 0.54 | 0.91 | 3.71 |
| | Tappi | - | 0.18 | 1.51 | 0.50 | 0.11 | 0.28 | 0.22 | 0.04 | 0.58 | 0.58 | 0.26 | 0.50 | 3.55 |
| | Sado-seki | 1.66 | 1.28 | 1.79 | 0.19 | 0.11 | 0.25 | 0.08 | 0.16 | 0.20 | 0.19 | 1.08 | 1.62 | 7.95 |
| | Happo | 0.26 | 0.16 | 0.29 | 0.03 | 0.32 | 0.20 | 0.03 | 0.05 | 0.03 | 0.02 | 0.10 | 0.15 | 1.50 |
| | Oki | 2.60 | 0.91 | 1.18 | 0.25 | 0.27 | 0.35 | 0.16 | 0.09 | 1.35 | 0.44 | 0.85 | 2.05 | 10.9 |
| | Yusuhara | 0.14 | 0.15 | 0.48 | 0.04 | 0.11 | <0.01 | 0.01 | 0.02 | <0.01 | <0.01 | 0.08 | 0.03 | 1.05 |
| | Ogasawara | 0.84 | 0.22 | 0.62 | 0.84 | 0.52 | 0.09 | 1.25 | 0.77 | 1.30 | 0.23 | 0.59 | 0.11 | 7.37 |
| | Hedo | 0.54 | 0.41 | 0.71 | 0.36 | 0.90 | 0.25 | 0.07 | 0.08 | 0.96 | 2.35 | 0.14 | 0.83 | 7.57 |
| | Ijira | 1.44 | 0.20 | 1.20 | 0.24 | 0.73 | 0.96 | 0.58 | 0.49 | 1.79 | 0.52 | 0.20 | 0.75 | 9.09 |
| | Banryu | 0.47 | 0.57 | 0.89 | 0.10 | 0.33 | 0.33 | 0.11 | 0.12 | 0.28 | 0.22 | 0.59 | 0.88 | 4.89 |
| Malaysia | Petaling Jaya | 0.55 | 0.57 | 0.41 | 0.30 | 0.66 | 0.40 | 0.16 | 0.14 | 0.44 | 0.11 | 0.40 | 0.26 | 4.39 |
| | Tanah Rata | 0.17 | 0.17 | 0.21 | 0.20 | 0.12 | 0.10 | 0.05 | 0.11 | 0.40 | 0.16 | 0.52 | 0.18 | 2.40 |
| Mongolia | Ulaanbaatar | - | - | - | 0.02 | 0.16 | 0.24 | 0.06 | 0.19 | 0.06 | 0.04 | - | - | 0.77 |
| | Terelj | - | - | - | <0.01 | 0.12 | 0.22 | - | - | - | - | - | - | 0.34 |
| Philippines | Metro Manila | 0.48 | 3.13 | 3.45 | - | 0.98 | 0.99 | 6.89 | 1.51 | - | - | 8.45 | 9.74 | 53.1 |
| | Los Banos | 0.01 | 2.31 | 3.19 | 1.27 | 4.35 | 1.38 | 1.19 | 1.09 | 0.51 | 0.88 | 1.68 | 0.57 | 17.3 |
| Republic | Kanghwa | 1.13 | - | 0.23 | 0.21 | 0.25 | 0.75 | 1.93 | 0.57 | - | 0.57 | 0.13 | 0.40 | 5.40 |
| of Korea | Cheju | - | - | - | - | - | 1.47 | 1.05 | 1.49 | 0.67 | 2.19 | 0.35 | 0.95 | 10.4 |
| | Imsil | 1.96 | 1.58 | 0.74 | 0.30 | 0.43 | 1.04 | 5.69 | 4.06 | - | 1.13 | - | 0.55 | 19.3 |
| Russia | Mondy | 0.01 | 0.00 | 0.01 | 0.04 | 0.00 | 0.16 | 0.17 | 0.12 | 0.11 | 0.02 | 0.02 | <0.01 | 0.66 |
| | Listvyanka | 0.03 | 0.08 | 0.06 | 0.05 | 0.02 | 0.07 | 0.26 | 0.13 | 0.03 | 0.08 | 0.02 | 0.03 | 0.86 |
| | Irkutsk | 0.13 | 0.05 | 0.11 | 0.11 | 0.16 | 0.19 | 0.19 | 0.04 | 2.36 | 0.03 | 0.04 | 0.04 | 3.45 |
| Thailand | Bangkok | 0.00 | 0.00 | 0.29 | 0.03 | 0.24 | 0.20 | 0.11 | 0.17 | 0.90 | 2.67 | 0.19 | 0.03 | 4.83 |
| | Patumthani | 0.00 | 0.00 | 0.30 | 0.11 | 0.23 | 0.11 | 0.16 | 0.46 | 0.70 | 0.13 | 0.05 | 0.02 | 2.27 |
| | Khao Lam Dam | 0.00 | 0.00 | 0.30 | 0.39 | 1.87 | - | 2.63 | 1.20 | 0.36 | 2.29 | - | 0.00 | 7.54 |
| | Mae Hia | 0.00 | 0.00 | 0.00 | 0.20 | 0.80 | 0.31 | 0.13 | 0.22 | 0.19 | 0.91 | 0.07 | 0.36 | 3.19 |
| Vietnam | Hanoi | 0.47 | 0.33 | 0.98 | 0.71 | 1.33 | 1.04 | 1.33 | 1.23 | 0.24 | 0.81 | 0.03 | 0.12 | 8.59 |
| | Hoa Binh | 0.04 | 0.13 | 0.70 | 0.18 | 1.33 | 0.29 | 0.50 | 0.44 | 0.82 | 0.52 | 0.08 | 0.23 | 5.19 |

Table 3.44 Monthly $Ca^{2+}$ deposition amounts unit: $mmol/m^2$

| Country | Name of sites | 2001 Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| China | Chongqing | | | | | | | | | | | | | |
| | -Guanyinqiao | 4.25 | 1.15 | 6.14 | 13.5 | 8.36 | 17.7 | 3.73 | 8.52 | 7.54 | 15.2 | 5.39 | 11.2 | 103 |
| | -Jinyunshan | 1.73 | 1.72 | 1.06 | 5.91 | 3.05 | 6.41 | 0.00 | 0.76 | 3.29 | 3.68 | 1.98 | 2.30 | 31.9 |
| | Xi'an | | | | | | | | | | | | | |
| | -Shizhan | - | - | 0.00 | 22.7 | 3.18 | 41.8 | 83.3 | 20.8 | 30.3 | 33.9 | - | 9.29 | 246 |
| | -Weishuiyuan | - | - | - | 49.3 | 8.42 | 15.4 | - | - | - | 0.00 | 0.00 | 6.99 | 80.0 |
| | -Jiwozi | - | - | 0.00 | 22.7 | 3.18 | 41.8 | 7.85 | 1.21 | 5.52 | 7.25 | - | - | 89.5 |
| | Xiamen | | | | | | | | | | | | | |
| | -Hongwen | 1.76 | 0.22 | 2.61 | 0.00 | 0.00 | 0.00 | 0.00 | 0.53 | 1.19 | 3.89 | 0.00 | 0.53 | 10.7 |
| | -Xiaoping | 0.02 | <0.01 | 0.91 | 0.50 | 0.66 | 0.18 | 3.22 | 10.4 | 7.59 | 0.00 | 0.00 | 0.00 | 23.5 |
| | Zhuhai | | | | | | | | | | | | | |
| | -Xiang Zhou | 0.33 | 0.43 | 1.08 | 0.25 | 0.81 | 2.21 | 2.91 | 1.48 | 1.64 | 0.00 | 3.37 | 1.34 | 15.8 |
| | -Zhuxian Cavern | 0.42 | 0.71 | 2.00 | 0.96 | 0.82 | 19.2 | 5.14 | 3.25 | 2.72 | 0.00 | 0.00 | 1.62 | 36.8 |
| Indonesia | Jakarta | 8.11 | 8.35 | 14.1 | 2.43 | 2.14 | 4.11 | 14.0 | 7.14 | 0.00 | 9.41 | 6.22 | 3.53 | 79.6 |
| | Serpong | 0.00 | 0.20 | 0.64 | 0.71 | 1.42 | 0.95 | 6.17 | 2.02 | 6.51 | 0.93 | 2.28 | 0.00 | 21.8 |
| | Kototabang | 0.00 | 0.00 | 0.00 | 0.07 | 0.03 | 0.04 | 0.01 | <0.01 | 0.62 | 0.41 | 0.32 | 0.22 | 1.73 |
| | Bandung | 2.18 | 2.08 | 4.70 | 15.9 | 4.65 | 8.05 | 5.30 | 1.32 | 2.04 | 6.46 | 10.3 | - | 63.0 |
| Japan | Rishiri | 0.30 | 0.63 | 0.80 | 0.62 | 1.02 | 0.45 | 0.21 | 0.08 | 0.10 | 0.15 | 0.77 | 1.24 | 6.21 |
| | Tappi | - | 0.21 | 5.51 | 1.38 | 0.62 | 0.43 | 0.52 | 0.05 | 0.58 | 0.65 | 0.35 | 0.61 | 6.25 |
| | Sado-seki | 2.19 | 2.68 | 6.85 | 0.46 | 0.55 | 0.65 | 0.20 | 0.29 | 0.39 | 0.47 | 1.37 | 2.38 | 15.4 |
| | Happo | 1.33 | 1.70 | 4.46 | 0.41 | 1.93 | 0.56 | 0.42 | 0.10 | 0.11 | 0.13 | 0.30 | 0.96 | 10.1 |
| | Oki | 3.60 | 1.87 | 2.46 | 1.16 | 0.43 | 0.41 | 0.19 | 0.08 | 1.23 | 0.58 | 1.02 | 2.64 | 16.1 |
| | Yusuhara | 2.02 | 0.71 | 2.70 | 0.31 | 0.50 | 0.11 | 0.26 | 0.08 | 0.04 | 0.08 | 0.10 | <0.01 | 7.09 |
| | Ogasawara | 0.78 | 0.34 | 0.90 | 1.72 | 0.79 | 0.12 | 1.71 | 0.51 | 2.11 | 0.29 | 0.36 | 0.19 | 9.81 |
| | Hedo | 0.85 | 0.74 | 1.79 | 1.00 | 0.80 | 0.53 | 0.06 | 0.10 | 0.85 | 2.53 | 0.20 | 0.95 | 10.4 |
| | Ijira | 1.95 | 0.56 | 2.40 | 0.61 | 1.58 | 1.21 | 0.70 | 0.70 | 0.51 | 0.76 | 0.19 | 1.39 | 12.6 |
| | Banryu | 1.54 | 2.06 | 2.78 | 0.33 | 0.72 | 0.53 | 0.25 | 0.07 | 0.32 | 0.21 | 0.54 | 1.31 | 10.7 |
| Malaysia | Petaling Jaya | 4.08 | 2.02 | 2.43 | 1.43 | 1.04 | 2.76 | 0.81 | 0.53 | 1.76 | 0.38 | 0.83 | 1.37 | 19.4 |
| | Tanah Rata | 0.36 | 0.67 | 0.79 | 0.68 | 0.46 | 0.71 | 0.25 | 0.73 | 0.78 | 0.76 | 0.98 | 0.95 | 8.13 |
| Mongolia | Ulaanbaatar | - | - | - | 0.29 | 1.62 | 1.88 | 1.10 | 1.76 | 0.95 | 0.26 | - | - | 7.86 |
| | Terelj | - | - | - | <0.01 | 0.41 | 0.91 | - | - | - | - | - | - | 1.33 |
| Philippines | Metro Manila | 0.88 | 1.45 | 2.20 | - | 1.86 | 3.59 | 87.6 | 9.31 | - | - | 2.60 | 2.34 | 164 |
| | Los Banos | 0.13 | 1.74 | 1.94 | 0.65 | 5.28 | 3.08 | 77.5 | 23.5 | 0.51 | 0.75 | 1.82 | 0.98 | 119 |
| Republic | Kanghwa | 3.32 | - | 1.18 | 1.73 | 2.56 | 3.15 | 4.18 | 0.64 | - | 0.55 | 0.21 | 0.96 | 15.9 |
| of Korea | Cheju | - | - | - | - | - | 0.31 | 0.70 | 1.58 | 0.07 | 0.59 | 0.45 | 1.53 | 6.56 |
| | Imsil | 0.69 | 1.57 | 2.30 | 0.23 | 0.07 | 0.14 | 0.51 | 0.44 | - | 0.67 | - | 0.63 | 7.60 |
| Russia | Mondy | 0.05 | 0.00 | 0.10 | 0.38 | 0.00 | 0.77 | 0.18 | 0.15 | 0.28 | 0.10 | 0.19 | 0.04 | 2.24 |
| | Listvyanka | 0.09 | 0.12 | 0.37 | 0.36 | 0.35 | 0.35 | 0.72 | 0.57 | 0.13 | 0.13 | 0.17 | 0.22 | 3.58 |
| | Irkutsk | 1.08 | 0.91 | 1.21 | 1.54 | 4.93 | 1.76 | 2.08 | 0.29 | 0.42 | 0.48 | 0.66 | 0.96 | 16.3 |
| Thailand | Bangkok | 0.00 | 0.00 | 1.35 | 0.32 | 0.96 | 1.48 | 1.33 | 0.50 | 3.41 | 3.93 | 0.69 | 0.12 | 14.1 |
| | Patumthani | 0.00 | 0.00 | 0.89 | 0.58 | 1.85 | 1.10 | 2.34 | 3.70 | 5.22 | 1.17 | 0.43 | 0.26 | 17.5 |
| | Khao Lam Dam | 0.00 | 0.00 | 0.42 | 0.65 | 4.62 | - | 6.61 | 1.61 | 0.00 | 5.01 | - | 0.00 | 13.7 |
| | Mae Hia | 0.00 | 0.00 | 0.00 | 0.38 | 0.87 | 0.77 | 0.97 | 1.56 | 0.76 | 1.71 | 0.13 | 0.38 | 7.53 |
| Vietnam | Hanoi | 2.52 | 1.68 | 1.49 | 1.02 | 2.43 | 2.46 | 2.86 | 4.37 | 0.70 | 3.11 | 0.59 | 0.92 | 24.1 |
| | Hoa Binh | 0.15 | 0.21 | 2.40 | 0.52 | 4.19 | 1.71 | 2.70 | 2.68 | 3.59 | 3.80 | 0.71 | 0.51 | 23.1 |

Table 3.45 Monthly nss-$Ca^{2+}$ deposition amounts unit: $mmol/m^2$

| Country | Name of sites | 2001 Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| China | Chongqing | | | | | | | | | | | | | |
| | -Guanyinqiao | 4.23 | 1.15 | 6.13 | 13.5 | 8.35 | 17.7 | 3.73 | 8.51 | 7.53 | 15.2 | 5.39 | 11.2 | 103 |
| | -Jinyunshan | 1.72 | 1.72 | 1.05 | 5.89 | 3.02 | 6.37 | 0.00 | 0.75 | 3.28 | 3.67 | 1.97 | 2.29 | 31.7 |
| | Xi'an | | | | | | | | | | | | | |
| | -Shizhan | - | - | 0.00 | 22.6 | 3.07 | 41.5 | 83.0 | 20.7 | 30.1 | 33.8 | - | 9.25 | 244 |
| | -Weishuiyuan | - | - | - | 49.1 | 8.37 | 15.3 | - | - | - | 0.00 | 0.00 | 6.97 | 79.7 |
| | -Jiwozi | - | - | 0.00 | 22.6 | 3.07 | 41.5 | 7.80 | 1.19 | 5.45 | 7.15 | - | - | 88.8 |
| | Xiamen | | | | | | | | | | | | | |
| | -Hongwen | 1.76 | 0.22 | 2.60 | 0.00 | 0.00 | 0.00 | 0.00 | 0.52 | 1.18 | 3.86 | 0.00 | 0.53 | 10.7 |
| | -Xiaoping | 0.02 | <0.01 | 0.89 | 0.48 | 0.63 | 0.15 | 3.05 | 9.82 | 7.55 | 0.00 | 0.00 | 0.00 | 22.6 |
| | Zhuhai | | | | | | | | | | | | | |
| | -Xiang Zhou | 0.33 | 0.42 | 1.03 | 0.21 | 0.77 | 2.11 | 2.42 | 1.31 | 1.57 | 0.00 | 3.30 | 1.31 | 14.8 |
| | -Zhuxian Cavern | 0.41 | 0.71 | 1.94 | 0.91 | 0.79 | 18.9 | 4.26 | 3.10 | 2.67 | 0.00 | 0.00 | 1.60 | 35.3 |
| Indonesia | Jakarta | 8.03 | 8.10 | 14.0 | 2.41 | 2.11 | 4.04 | 13.9 | 7.0 | 0.00 | 9.3 | 6.17 | 3.45 | 78.5 |
| | Serpong | 0.00 | 0.18 | 0.60 | 0.69 | 1.35 | 0.93 | 6.00 | 1.93 | 6.32 | 0.91 | 2.09 | 0.00 | 21.0 |
| | Kototabang | 0.00 | 0.00 | 0.00 | 0.07 | 0.03 | 0.04 | 0.01 | <0.01 | 0.61 | 0.38 | 0.29 | 0.21 | 1.65 |
| | Bandung | 2.14 | 2.05 | 4.62 | 15.5 | 4.54 | 7.9 | 5.19 | 1.28 | 1.98 | 6.33 | 10.2 | - | 61.8 |
| Japan | Rishiri | 0.11 | 0.26 | 0.53 | 0.53 | 0.99 | 0.32 | 0.19 | 0.05 | 0.03 | 0.06 | 0.31 | 0.16 | 3.40 |
| | Tappi | - | 0.03 | 4.27 | 1.03 | 0.57 | 0.23 | 0.35 | 0.02 | 0.02 | 0.10 | 0.13 | 0.17 | 3.25 |
| | Sado-seki | 0.57 | 1.53 | 4.99 | 0.33 | 0.51 | 0.57 | 0.15 | 0.19 | 0.20 | 0.36 | 0.36 | 0.67 | 8.08 |
| | Happo | 1.18 | 1.67 | 4.41 | 0.41 | 1.92 | 0.55 | 0.41 | 0.10 | 0.11 | 0.12 | 0.27 | 0.93 | 9.80 |
| | Oki | 1.15 | 1.17 | 1.63 | 1.03 | 0.38 | 0.29 | 0.13 | 0.04 | 0.20 | 0.34 | 0.40 | 0.87 | 7.60 |
| | Yusuhara | 1.94 | 0.65 | 2.54 | 0.30 | 0.47 | 0.10 | 0.25 | 0.06 | 0.03 | 0.07 | 0.08 | <0.01 | 6.68 |
| | Ogasawara | 0.55 | 0.18 | 0.51 | 1.31 | 0.39 | 0.06 | 0.91 | 0.28 | 1.26 | 0.08 | 0.15 | 0.08 | 5.77 |
| | Hedo | 0.33 | 0.31 | 1.27 | 0.82 | 0.18 | 0.29 | 0.02 | 0.02 | 0.05 | 0.14 | 0.10 | 0.10 | 3.64 |
| | Ijira | 1.60 | 0.54 | 2.22 | 0.59 | 1.43 | 1.18 | 0.65 | 0.64 | 0.42 | 0.70 | 0.14 | 1.03 | 11.1 |
| | Banryu | 1.20 | 1.75 | 2.26 | 0.29 | 0.49 | 0.44 | 0.21 | 0.03 | 0.14 | 0.08 | 0.13 | 0.66 | 7.68 |
| Malaysia | Petaling Jaya | 4.05 | 1.97 | 2.40 | 1.42 | 1.03 | 2.74 | 0.79 | 0.52 | 1.74 | 0.37 | 0.81 | 1.35 | 19.2 |
| | Tanah Rata | 0.36 | 0.65 | 0.78 | 0.68 | 0.46 | 0.71 | 0.25 | 0.72 | 0.76 | 0.75 | 0.96 | 0.94 | 8.02 |
| Mongolia | Ulaanbaatar | - | - | - | 0.29 | 1.62 | 1.88 | 1.09 | 1.75 | 0.94 | 0.25 | - | - | 7.83 |
| | Terelj | - | - | - | <0.01 | 0.41 | 0.88 | - | - | - | - | - | - | 1.30 |
| Philippines | Metro Manila | 0.87 | 1.37 | 2.09 | - | 1.78 | 3.54 | 81.8 | 8.72 | - | - | 2.53 | 2.20 | 154 |
| | Los Banos | 0.13 | 1.66 | 1.80 | 0.62 | 5.12 | 3.01 | 77.3 | 23.5 | 0.43 | 0.66 | 1.42 | 0.85 | 117 |
| Republic | Kanghwa | 3.06 | - | 1.14 | 1.71 | 2.53 | 3.06 | 3.67 | 0.50 | - | 0.51 | 0.19 | 0.90 | 14.9 |
| of Korea | Cheju | - | - | - | - | - | 0.21 | 0.49 | 1.12 | 0.06 | 0.44 | 0.35 | 1.17 | 4.79 |
| | Imsil | 0.65 | 1.51 | 2.30 | 0.22 | 0.06 | 0.09 | 0.40 | 0.43 | - | 0.63 | - | 0.60 | 7.16 |
| Russia | Mondy | 0.05 | 0.00 | 0.10 | 0.38 | 0.00 | 0.77 | 0.17 | 0.15 | 0.28 | 0.10 | 0.19 | 0.04 | 2.22 |
| | Listvyanka | 0.09 | 0.12 | 0.37 | 0.35 | 0.35 | 0.35 | 0.71 | 0.57 | 0.13 | 0.13 | 0.17 | 0.22 | 3.54 |
| | Irkutsk | 1.06 | 0.91 | 1.19 | 1.53 | 4.92 | 1.76 | 2.07 | 0.29 | 0.40 | 0.48 | 0.65 | 0.95 | 16.2 |
| Thailand | Bangkok | 0.00 | 0.00 | 1.32 | 0.32 | 0.94 | 1.44 | 1.31 | 0.49 | 3.38 | 3.88 | 0.68 | 0.11 | 13.9 |
| | Patumthani | 0.00 | 0.00 | 0.88 | 0.58 | 1.80 | 1.08 | 2.31 | 3.68 | 5.11 | 1.16 | 0.42 | 0.26 | 17.3 |
| | Khao Lam Dam | 0.00 | 0.00 | 0.42 | 0.64 | 4.52 | - | 6.36 | 1.54 | 0.00 | 4.86 | - | 0.00 | 13.4 |
| | Mae Hia | 0.00 | 0.00 | 0.00 | 0.38 | 0.85 | 0.76 | 0.96 | 1.55 | 0.75 | 1.69 | 0.13 | 0.37 | 7.44 |
| Vietnam | Hanoi | 2.50 | 1.65 | 1.39 | 0.99 | 2.36 | 2.40 | 2.75 | 4.28 | 0.68 | 3.06 | 0.58 | 0.92 | 23.5 |
| | Hoa Binh | 0.15 | 0.20 | 2.33 | 0.52 | 4.09 | 1.67 | 2.62 | 2.60 | 3.55 | 3.76 | 0.70 | 0.50 | 22.6 |

Table 3.46 Monthly $Mg^{2+}$ deposition amounts unit: $mmol/m^2$

| Country | Name of sites | 2001 Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| China | Chongqing | | | | | | | | | | | | | |
| | -Guanyinqiao | 0.52 | 0.30 | 0.62 | 1.21 | 0.87 | 1.35 | 0.35 | 0.73 | 0.55 | 1.14 | 0.35 | 0.75 | 8.73 |
| | -Jinyunshan | 0.78 | 0.20 | 0.19 | 0.75 | 0.23 | 0.64 | 0.00 | 0.08 | 0.30 | 0.40 | 0.28 | 0.23 | 4.09 |
| | Xi'an | | | | | | | | | | | | | |
| | -Shizhan | - | - | 0.00 | 1.88 | 0.27 | 3.59 | 3.44 | 0.85 | 2.83 | 3.57 | - | 1.18 | 17.6 |
| | -Weishuiyuan | - | - | - | 3.63 | 0.49 | 1.34 | - | - | - | 0.00 | 0.00 | 0.66 | 6.13 |
| | -Jiwozi | - | - | 0.00 | 1.88 | 0.27 | 3.59 | 0.61 | 0.18 | 0.60 | 1.45 | - | - | 8.58 |
| | Xiamen | | | | | | | | | | | | | |
| | -Hongwen | 0.15 | 0.02 | 0.50 | 0.00 | 0.00 | 0.00 | 0.00 | 0.16 | 0.36 | 0.50 | 0.00 | 0.17 | 1.86 |
| | -Xiaoping | 0.00 | <0.01 | 0.19 | 0.18 | 0.20 | 0.09 | 7.46 | 2.48 | 1.77 | 0.00 | 0.00 | 0.00 | 12.4 |
| | Zhuhai | | | | | | | | | | | | | |
| | -Xiang Zhou | 0.05 | 0.10 | 0.26 | 0.24 | 0.24 | 0.73 | 2.59 | 0.43 | 0.40 | 0.00 | 0.52 | 0.27 | 5.83 |
| | -Zhuxian Cavern | 0.03 | 0.04 | 0.55 | 0.31 | 0.30 | 1.74 | 4.21 | 0.72 | 0.41 | 0.00 | 0.00 | 0.23 | 8.56 |
| Indonesia | Jakarta | 17.9 | 14.0 | 21.2 | 4.61 | 3.00 | 10.2 | 2.10 | 2.07 | 0.00 | 9.18 | 0.61 | 0.47 | 85.3 |
| | Serpong | 0.00 | 0.03 | 0.10 | 0.07 | 0.11 | 0.08 | 1.42 | 0.75 | 2.06 | 0.35 | 0.71 | 0.00 | 5.67 |
| | Kototabang | 0.00 | 0.00 | 0.00 | 0.01 | - | <0.01 | <0.01 | <0.01 | 0.53 | 0.19 | 0.12 | 0.15 | 1.25 |
| | Bandung | 0.44 | 0.16 | 0.57 | 1.95 | 0.86 | 1.64 | 0.98 | 0.34 | 0.26 | 1.73 | 1.67 | - | 10.6 |
| Japan | Rishiri | 1.06 | 1.95 | 1.52 | 0.53 | 0.27 | 0.73 | 0.17 | 0.15 | 0.33 | 0.49 | 2.42 | 5.58 | 15.2 |
| | Tappi | - | 0.97 | 6.74 | 2.06 | 0.44 | 1.11 | 0.86 | 0.19 | 3.25 | 2.96 | 1.18 | 2.38 | 16.7 |
| | Sado-seki | 8.53 | 6.24 | 10.0 | 0.74 | 0.30 | 0.51 | 0.27 | 0.53 | 0.97 | 0.68 | 5.23 | 9.17 | 39.3 |
| | Happo | 1.07 | 0.41 | 0.81 | 0.12 | 0.37 | 0.20 | 0.22 | 0.12 | 0.11 | 0.10 | 0.22 | 0.30 | 3.73 |
| | Oki | 13.1 | 3.77 | 4.56 | 0.89 | 0.47 | 0.74 | 0.34 | 0.22 | 5.47 | 1.35 | 3.24 | 9.27 | 45.6 |
| | Yusuhara | 0.59 | 0.42 | 1.36 | 0.12 | 0.42 | 0.01 | 0.06 | 0.19 | 0.18 | 0.21 | 0.07 | 0.10 | 3.80 |
| | Ogasawara | 1.41 | 1.02 | 2.52 | 2.66 | 2.44 | 0.34 | 4.36 | 1.31 | 4.86 | 1.14 | 1.23 | 0.66 | 23.9 |
| | Hedo | 2.65 | 2.15 | 2.75 | 1.07 | 3.67 | 1.09 | 0.37 | 0.49 | 4.88 | 11.90 | 0.53 | 4.37 | 35.8 |
| | Ijira | 2.30 | 0.20 | 1.11 | 0.26 | 0.99 | 0.23 | 0.34 | 0.38 | 0.59 | 0.46 | 0.29 | 1.77 | 8.93 |
| | Banryu | 2.04 | 1.80 | 3.11 | 0.28 | 1.20 | 0.48 | 0.23 | 0.08 | 0.79 | 0.67 | 2.12 | 3.48 | 16.3 |
| Malaysia | Petaling Jaya | 0.56 | 0.68 | 0.40 | 0.24 | 0.24 | 0.44 | 0.18 | 0.16 | 0.43 | 0.10 | 0.33 | 0.26 | 4.02 |
| | Tanah Rata | 0.06 | 0.13 | 0.11 | 0.09 | 0.05 | 0.06 | 0.03 | 0.09 | 0.17 | 0.07 | 0.13 | 0.09 | 1.07 |
| Mongolia | Ulaanbaatar | - | - | - | 0.04 | 0.20 | 0.22 | 0.09 | 0.26 | 0.07 | 0.02 | - | - | 0.90 |
| | Terelj | - | - | - | <0.01 | 0.11 | 0.12 | - | - | - | - | - | - | 0.22 |
| Philippines | Metro Manila | 0.06 | 0.86 | 3.02 | - | 0.59 | 0.56 | 11.5 | 2.83 | - | - | 1.54 | 3.43 | 34.4 |
| | Los Banos | 0.01 | 0.92 | 1.85 | 0.44 | 2.32 | 0.76 | 6.77 | 2.41 | 0.70 | 0.75 | 2.65 | 0.98 | 20.1 |
| Republic | Kanghwa | 2.06 | - | 0.46 | 0.34 | 0.63 | 0.86 | 2.09 | 0.25 | - | 0.40 | 0.14 | 0.46 | 6.00 |
| of Korea | Cheju | - | - | - | - | - | 0.26 | 1.15 | 3.09 | 0.07 | 0.93 | 0.72 | 2.65 | 11.1 |
| | Imsil | 0.21 | 0.38 | 0.88 | 0.07 | 0.02 | 0.06 | 0.19 | 0.13 | - | 0.26 | - | 0.22 | 2.49 |
| Russia | Mondy | 0.01 | 0.00 | 0.02 | 0.09 | 0.00 | 0.11 | 0.05 | 0.06 | 0.09 | 0.02 | 0.02 | <0.01 | 0.47 |
| | Listvyanka | 0.03 | 0.03 | 0.06 | 0.10 | 0.07 | 0.07 | 0.19 | 0.14 | 0.05 | 0.05 | 0.04 | 0.05 | 0.88 |
| | Irkutsk | 0.20 | 0.14 | 0.17 | 0.20 | 0.72 | 0.29 | 0.41 | 0.06 | 0.10 | 0.09 | 0.07 | 0.17 | 2.60 |
| Thailand | Bangkok | 0.00 | 0.00 | 0.25 | 0.05 | 0.76 | 0.90 | 0.65 | 0.13 | 0.49 | 0.40 | 0.07 | 0.02 | 3.71 |
| | Patumthani | 0.00 | 0.00 | 0.13 | 0.13 | 0.69 | 0.18 | 0.29 | 0.67 | 0.69 | 0.10 | 0.04 | 0.01 | 2.93 |
| | Khao Lam Dam | 0.00 | 0.00 | 0.20 | 0.13 | 1.16 | - | 4.32 | 0.35 | 0.17 | 1.50 | - | 0.00 | 3.82 |
| | Mae Hia | 0.00 | 0.00 | 0.00 | 0.09 | 0.22 | 0.24 | 0.38 | 0.09 | 0.05 | 0.09 | <0.01 | 0.02 | 1.19 |
| Vietnam | Hanoi | 0.69 | 0.59 | 0.74 | 0.58 | 1.49 | 1.20 | 1.15 | 1.45 | 0.39 | 0.56 | 0.06 | 0.03 | 8.94 |
| | Hoa Binh | 0.06 | 0.06 | 1.15 | 0.17 | 2.39 | 0.59 | 1.09 | 0.98 | 1.00 | 0.57 | 0.13 | 0.09 | 8.25 |

Table 3.47 Monthly $H^+$ deposition amounts unit: mmol/$m^2$

| Country | Name of sites | 2001 Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| China | Chongqing | | | | | | | | | | | | | |
| | -Guanyinqiao | 1.95 | 0.09 | 0.02 | 0.14 | 0.78 | 5.11 | 0.42 | 1.15 | 0.15 | 1.73 | 0.67 | 0.14 | 12.1 |
| | -Jinyunshan | 2.81 | 0.92 | 0.01 | 0.33 | 0.57 | 7.38 | 0.00 | 0.54 | 9.05 | 17.8 | 3.41 | 3.69 | 46.5 |
| | Xi'an | | | | | | | | | | | | | |
| | -Shizhan | - | - | 0.00 | <0.01 | <0.01 | 0.08 | 0.02 | <0.01 | 0.01 | 0.02 | - | <0.01 | 0.15 |
| | -Weishuiyuan | - | - | - | <0.01 | <0.01 | <0.01 | - | - | - | 0.00 | 0.00 | 0.02 | 0.03 |
| | -Jiwozi | - | - | 0.00 | <0.01 | <0.01 | 0.08 | <0.01 | <0.01 | 0.01 | 0.01 | - | - | 0.12 |
| | Xiamen | | | | | | | | | | | | | |
| | -Hongwen | <0.01 | <0.01 | 2.18 | 0.00 | 0.00 | 0.00 | 0.00 | 1.82 | 4.71 | 0.01 | 0.00 | 0.02 | 8.75 |
| | -Xiaoping | 0.78 | 0.02 | 3.81 | 7.06 | 5.28 | 7.46 | 12.3 | 4.14 | 14.6 | 0.00 | 0.00 | 0.00 | 55.5 |
| | Zhuhai | | | | | | | | | | | | | |
| | -Xiang Zhou | 0.21 | 0.68 | 0.79 | 3.92 | 1.47 | 1.01 | 1.60 | 4.42 | 7.23 | 0.00 | 0.12 | 1.24 | 22.7 |
| | -Zhuxian Cavern | 0.59 | 0.43 | 1.44 | 3.28 | 6.89 | 3.04 | 3.88 | 14.7 | 8.19 | 0.00 | 0.00 | 0.55 | 43.0 |
| Indonesia | Jakarta | 0.21 | 0.03 | 0.16 | 0.01 | 0.18 | 0.97 | 0.07 | 0.4 | 0.00 | 1.21 | 0.71 | 0.69 | 4.68 |
| | Serpong | 0.00 | 0.08 | 0.45 | 1.00 | 1.84 | 2.48 | 17.5 | 1.39 | 6.0 | 2.72 | 4.6 | 0.00 | 38.0 |
| | Kototabang | 0.00 | 0.00 | 0.00 | 1.23 | 0.27 | 0.17 | 0.31 | 0.13 | 3.88 | 0.69 | 1.36 | 2.28 | 10.3 |
| | Bandung | 0.81 | 0.04 | 2.88 | 1.89 | 3.21 | 2.91 | 1.76 | 0.67 | 1.37 | 4.10 | 6.73 | - | 26.4 |
| Japan | Rishiri | 1.35 | 1.06 | 0.34 | 0.79 | 0.58 | 1.19 | 1.15 | 1.77 | 0.10 | 0.23 | 1.10 | 0.86 | 10.3 |
| | Tappi | - | 0.48 | 0.23 | 0.54 | 2.49 | 1.23 | 8.15 | 2.37 | 1.85 | 3.89 | 1.52 | 0.55 | 24.9 |
| | Sado-seki | 1.32 | 1.62 | 0.43 | 1.09 | 1.19 | 3.05 | 1.37 | 2.01 | 1.87 | 2.19 | 2.84 | 3.23 | 22.5 |
| | Happo | 2.84 | 1.65 | 1.53 | 0.60 | 2.89 | 6.66 | 2.83 | 4.07 | 2.64 | 2.64 | 2.52 | 3.36 | 34.1 |
| | Oki | 2.83 | 1.50 | 1.10 | 0.03 | 2.64 | 1.11 | 0.45 | 0.11 | 2.76 | 1.99 | 2.56 | 3.60 | 21.1 |
| | Yusuhara | 3.11 | 3.17 | 1.66 | 2.24 | 3.23 | 2.77 | 2.58 | 3.69 | 2.37 | 4.11 | 1.82 | 0.82 | 31.1 |
| | Ogasawara | 0.46 | 1.24 | 2.81 | 2.24 | 4.22 | 0.47 | 0.28 | 0.21 | 0.74 | 0.35 | 1.15 | 0.39 | 14.6 |
| | Hedo | 1.69 | 1.64 | 1.96 | 1.43 | 5.08 | 1.92 | 0.68 | 0.89 | 3.24 | 0.41 | 0.46 | 3.68 | 23.1 |
| | Ijira | 5.45 | 0.94 | 3.36 | 1.41 | 6.94 | 15.7 | 4.58 | 14.5 | 12.4 | 11.2 | 2.29 | 4.18 | 82.9 |
| | Banryu | 3.31 | 2.95 | 2.42 | 0.54 | 6.34 | 4.09 | 2.43 | 1.08 | 1.57 | 2.97 | 4.25 | 7.20 | 39.1 |
| Malaysia | Petaling Jaya | 20.5 | 17.3 | 8.48 | 20.3 | 5.76 | 15.8 | 8.82 | 5.50 | 25.0 | 15.1 | 21.5 | 8.81 | 173 |
| | Tanah Rata | 1.89 | 2.26 | 3.84 | 3.45 | 2.92 | 2.41 | 1.18 | 1.47 | 4.48 | 2.79 | 4.61 | 2.15 | 33.4 |
| Mongolia | Ulaanbaatar | - | - | - | <0.01 | 0.02 | 0.04 | <0.01 | 0.03 | 0.01 | <0.01 | - | - | 0.11 |
| | Terelj | - | - | - | <0.01 | 0.06 | 0.02 | - | - | - | - | - | - | 0.08 |
| Philippines | Metro Manila | <0.01 | <0.01 | <0.01 | - | 2.31 | 2.05 | 1.94 | 0.57 | - | - | 0.14 | <0.01 | 8.86 |
| | Los Banos | <0.01 | <0.01 | <0.01 | <0.01 | 0.03 | 3.11 | 0.11 | 0.09 | 1.54 | 0.12 | 0.24 | 0.01 | 5.41 |
| Republic | Kanghwa | 0.12 | - | 0.03 | <0.01 | <0.01 | 1.03 | 5.77 | 1.20 | - | 1.16 | 0.44 | 1.14 | 11.6 |
| of Korea | Cheju | - | - | - | - | - | 1.13 | 0.46 | 2.84 | 0.14 | 0.86 | 1.44 | 4.80 | 14.4 |
| | Imsil | 0.74 | 1.35 | 0.02 | 0.03 | 0.03 | 0.89 | 3.48 | 0.32 | - | 1.79 | - | 0.33 | 10.5 |
| Russia | Mondy | <0.01 | 0.00 | <0.01 | <0.01 | 0.00 | 0.42 | 0.18 | 0.21 | 0.17 | 0.01 | <0.01 | <0.01 | 1.00 |
| | Listvyanka | 0.03 | 0.05 | 0.15 | 0.10 | 0.31 | 0.30 | 1.86 | 1.53 | 0.81 | 0.06 | 0.03 | 0.14 | 5.42 |
| | Irkutsk | <0.01 | <0.01 | 0.02 | <0.01 | 0.31 | 0.19 | 0.79 | 0.65 | 0.33 | 0.17 | <0.01 | <0.01 | 2.49 |
| Thailand | Bangkok | 0.00 | 0.00 | 0.84 | 0.37 | 0.04 | 0.20 | 0.02 | 0.18 | 5.17 | 5.64 | 0.08 | 0.07 | 12.6 |
| | Patumthani | 0.00 | 0.00 | 1.35 | 0.02 | 0.80 | 0.48 | 0.09 | 0.85 | 5.8 | 0.65 | 0.04 | <0.01 | 10.0 |
| | Khao Lam Dam | 0.00 | 0.00 | 0.67 | 1.15 | 0.23 | - | 0.02 | 0.32 | 1.04 | 22.9 | - | 0.00 | 8.29 |
| | Mae Hia | 0.00 | 0.00 | 0.00 | 1.08 | 0.19 | 0.10 | 0.08 | 0.36 | 0.16 | 0.11 | <0.01 | 0.03 | 2.10 |
| Vietnam | Hanoi | 0.02 | 0.06 | 0.40 | 0.15 | 0.53 | 0.46 | 0.46 | 0.61 | 0.31 | 0.23 | 0.02 | 0.05 | 3.31 |
| | Hoa Binh | 0.01 | <0.01 | 0.20 | 0.01 | 0.59 | 1.65 | 1.56 | 2.45 | 5.69 | 7.49 | 0.50 | <0.01 | 20.2 |

Table 3.48 Results of ion balance and conductivity agreement check

| Country | Name of sites | Sample(N) | R1(N) | R1(AA) | % | R2(N) | R2(AA) | % | R1&R2(N) | R1&R2(AA) | % |
|---|---|---|---|---|---|---|---|---|---|---|---|
| China | Chongqing | | | | | | | | | | |
| | -Guanyinqiao | 87 | 72 | 61 | 85 | 72 | 61 | 85 | 72 | 56 | 78 |
| | -Jinyunshan | 69 | 68 | 51 | 75 | 68 | 48 | 71 | 68 | 43 | 63 |
| | Xi'an | | | | | | | | | | |
| | -Shizhan | 34 | 34 | 4 | 12 | 34 | 13 | 38 | 34 | 1 | 3 |
| | -Weishuiyuan | 16 | 16 | 5 | 31 | 16 | 5 | 31 | 16 | 2 | 13 |
| | -Jiwozi | 34 | 34 | 9 | 26 | 34 | 4 | 12 | 34 | 1 | 3 |
| | Xiamen | | | | | | | | | | |
| | -Hongwen | 16 | 15 | 7 | 47 | 15 | 13 | 87 | 15 | 7 | 47 |
| | -Xiaoping | 83 | 82 | 41 | 50 | 82 | 69 | 84 | 82 | 34 | 41 |
| | Zhuhai | | | | | | | | | | |
| | -Xiang Zhou | 62 | 61 | 35 | 57 | 61 | 32 | 52 | 61 | 20 | 33 |
| | -Zhuxian Cavern | 79 | 78 | 43 | 55 | 78 | 49 | 63 | 78 | 29 | 37 |
| Indonesia | Jakarta | 28 | 11 | 5 | 45 | 11 | 3 | 27 | 11 | 1 | 9 |
| | Serpong | 69 | 68 | 35 | 51 | 68 | 65 | 96 | 68 | 35 | 51 |
| | Kototabang | 59 | 28 | 21 | 75 | 28 | 19 | 68 | 28 | 15 | 54 |
| | Bandung | 110 | 110 | 39 | 35 | 110 | 70 | 64 | 110 | 29 | 26 |
| Japan | Rishiri | 115 | 113 | 108 | 96 | 113 | 113 | 100 | 113 | 108 | 96 |
| | Tappi | 122 | 91 | 90 | 99 | 90 | 90 | 100 | 90 | 89 | 99 |
| | Sado-seki | 171 | 121 | 117 | 97 | 121 | 120 | 99 | 121 | 116 | 96 |
| | Happo | 178 | 165 | 154 | 93 | 165 | 164 | 99 | 165 | 153 | 93 |
| | Oki | 177 | 143 | 137 | 96 | 143 | 141 | 99 | 143 | 135 | 94 |
| | Yusuhara | 142 | 123 | 120 | 98 | 123 | 123 | 100 | 123 | 120 | 98 |
| | Ogasawara | 168 | 145 | 131 | 90 | 145 | 145 | 100 | 145 | 131 | 90 |
| | Hedo | 163 | 156 | 155 | 99 | 156 | 156 | 100 | 156 | 155 | 99 |
| | Ijira | 50 | 48 | 48 | 100 | 48 | 48 | 100 | 48 | 48 | 100 |
| | Banryu | 47 | 46 | 44 | 96 | 46 | 46 | 100 | 46 | 44 | 96 |
| Malaysia | Petaling Jaya | 52 | 50 | 6 | 12 | 50 | 10 | 20 | 50 | 4 | 8 |
| | Tanah Rata | 50 | 42 | 1 | 2 | 42 | 13 | 31 | 42 | 1 | 2 |
| Mongolia | Ulaanbaatar | 36 | 35 | 1 | 3 | 35 | 34 | 97 | 35 | 1 | 3 |
| | Terelj | 15 | 14 | 3 | 21 | 14 | 14 | 100 | 14 | 3 | 21 |
| Philippines | Metro Manila | 22 | 13 | 4 | 31 | 13 | 7 | 54 | 13 | 3 | 23 |
| | Los Banos | 27 | 21 | 6 | 29 | 21 | 7 | 33 | 21 | 0 | 0 |
| Republic | Kanghwa | 25 | 24 | 13 | 54 | 24 | 23 | 96 | 24 | 13 | 54 |
| of Korea | Cheju | 40 | 39 | 30 | 77 | 39 | 34 | 87 | 39 | 28 | 72 |
| | Imsil | 21 | 17 | 8 | 47 | 17 | 14 | 82 | 17 | 6 | 35 |
| Russia | Mondy | 23 | 22 | 22 | 100 | 22 | 22 | 100 | 22 | 22 | 100 |
| | Listvyanka | 67 | 61 | 61 | 100 | 61 | 61 | 100 | 61 | 61 | 100 |
| | Irkutsk | 102 | 100 | 98 | 98 | 100 | 100 | 100 | 100 | 98 | 98 |
| Thailand | Bangkok | 65 | 64 | 19 | 30 | 64 | 29 | 45 | 64 | 6 | 9 |
| | Patumthani | 69 | 66 | 24 | 36 | 66 | 49 | 74 | 66 | 14 | 21 |
| | Khao Lam Dam | 35 | 34 | 11 | 32 | 33 | 13 | 39 | 33 | 6 | 18 |
| | Mae Hia | 65 | 64 | 16 | 25 | 64 | 27 | 42 | 64 | 5 | 8 |
| Vietnam | Hanoi | 43 | 42 | 42 | 100 | 42 | 42 | 100 | 42 | 42 | 100 |
| | Hoa Binh | 41 | 36 | 36 | 100 | 36 | 36 | 100 | 36 | 36 | 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 caluculated 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 R1and R2
Guanyinqiao,Jinyunshan,Ulaanbaatar, Terelj, Mondy, Listvyanka, Irkutsk
: R1 and R2, calculated including concentrations of additional measured constituents
Hanoi, Hoa Binh : $Mg^{2+}$ concentrations are determined by calculation.

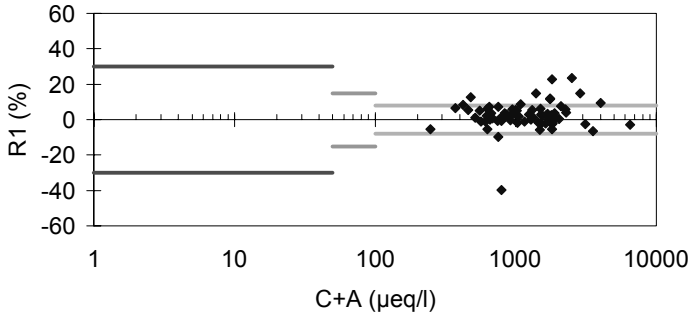



Fig. 3.2 Chongqing(Guanyinqiao) Ion Balance (R1)

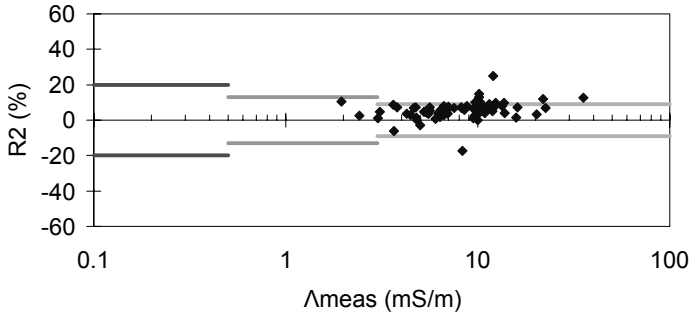



Fig. 3.3 Chongqing(Guanyinqiao) Conductivity Agreement (R2)

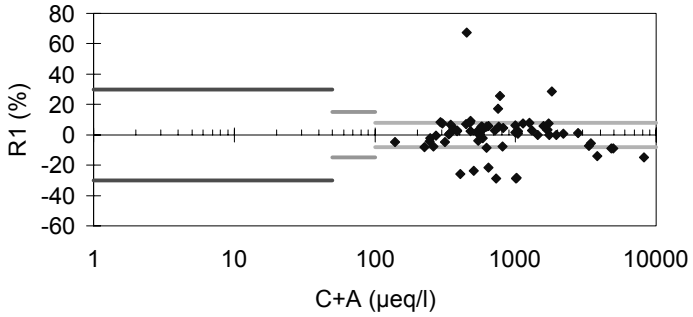



Fig. 3.4 Chongqing(Jinyunshan) Ion Balance (R1)

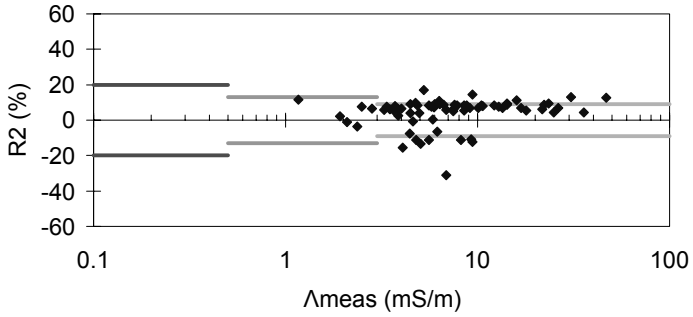



Fig. 3.5 Chongqing(Jinyunshan) Conductivity Agreement (R2)

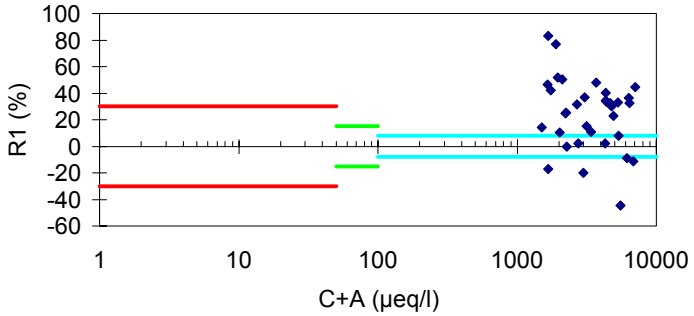



Fig. 3.6 Xi'an(Shizhan) Ion Balance (R1)

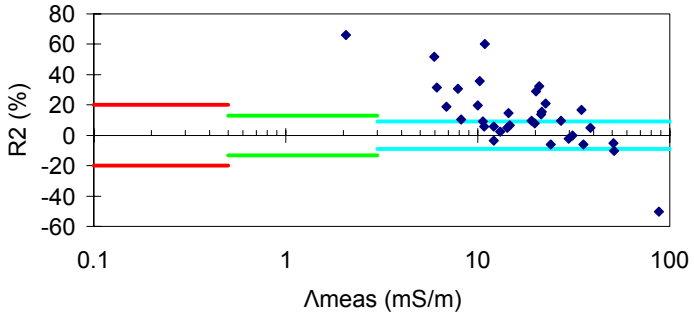



Fig. 3.7 Xi'an(Shizhan) Conductivity Agreement (R2)

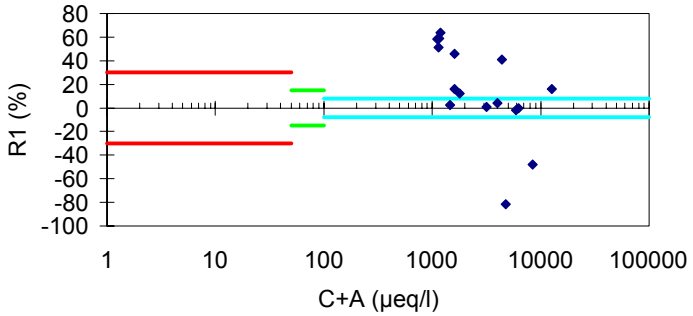



Fig. 3.8 Xi'an(Weishuiyuan) Ion Balance (R1)

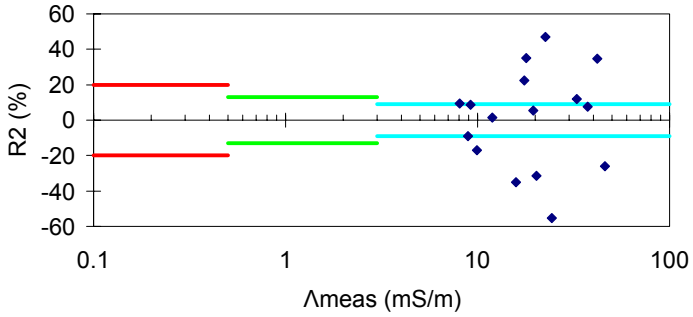



Fig. 3.9 Xi'an(Weishuiyuan) Conductivity Agreement (R2)

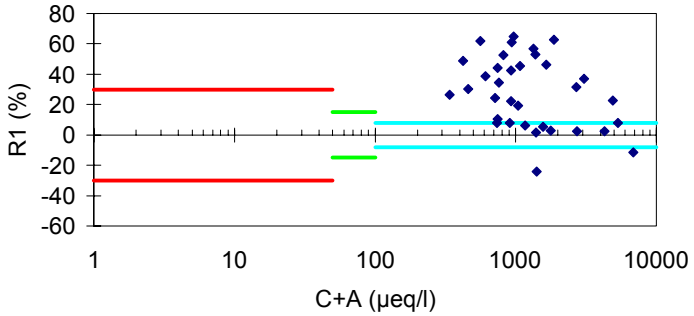



Fig. 3.10 Xi'an(Jiwozi) Ion Balance (R1)

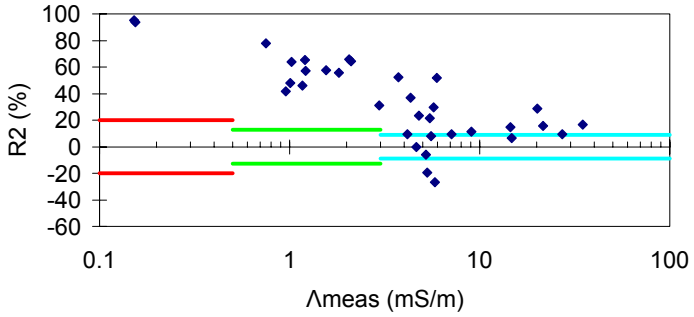



Fig. 3.11 Xi'an(Jiwozi) Conductivity Agreement (R2)

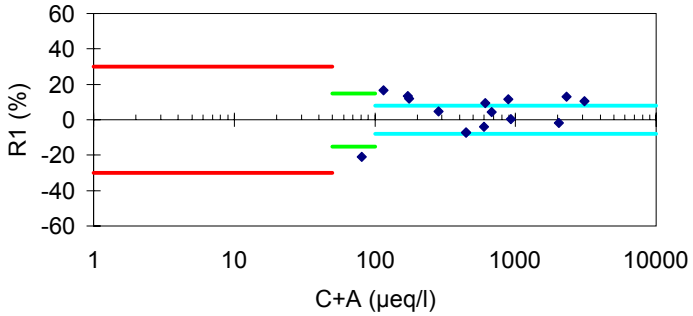



Fig. 3.12 Xiamen(Hongwen) Ion Balance (R1)

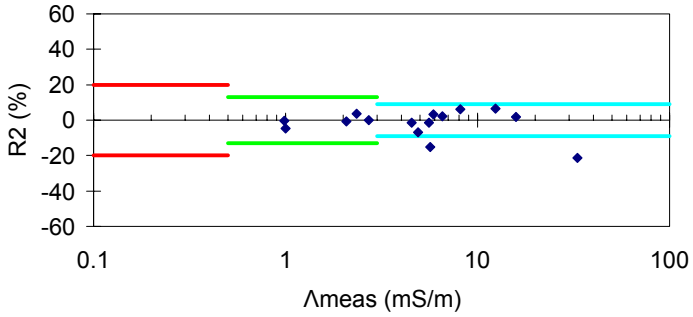



Fig. 3.13 Xiamen(Hongwen) Conductivity Agreement (R2)

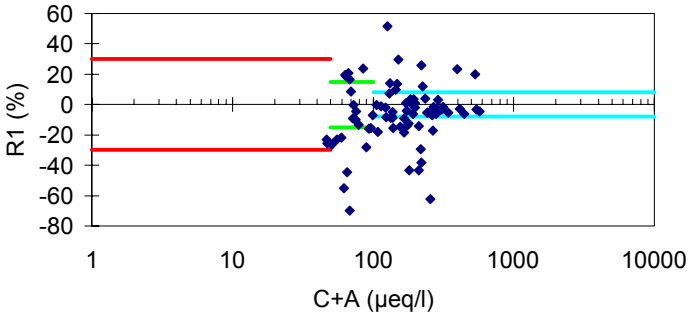



Fig. 3.14 Xiamen(Xiaoping) Ion Balance (R1)

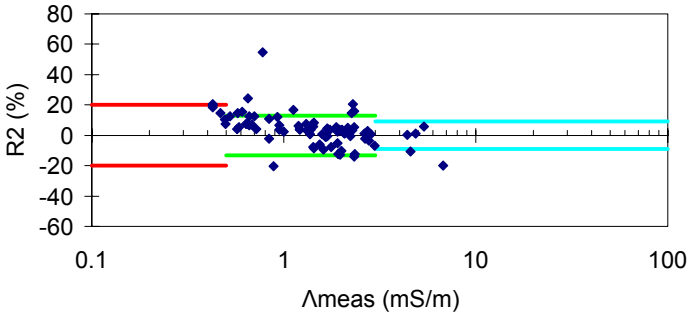



Fig. 3.15 Xiamen(Xiaoping) Conductivity Agreement (R2)

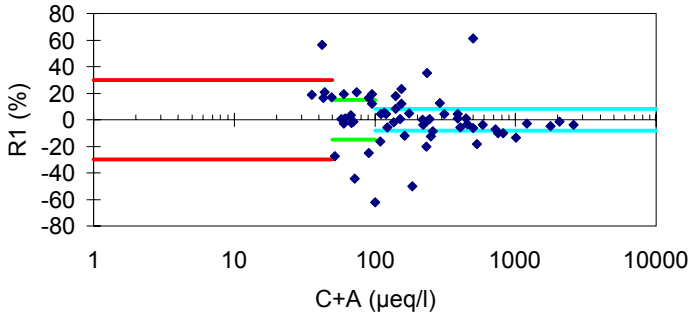



Fig. 3.16 Zhuhai(XiangZhou) Ion Balance (R1)

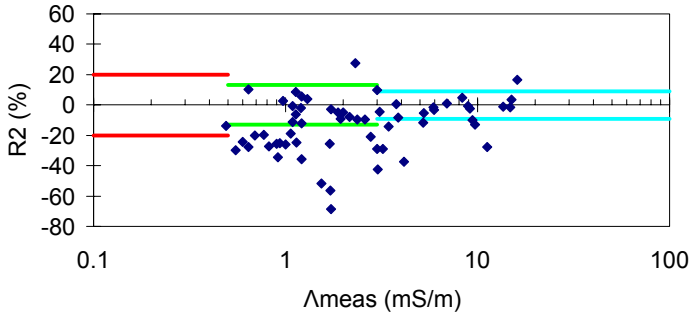



Fig. 3.17 Zhuhai(XiangZhou) Conductivity Agreement (R2)

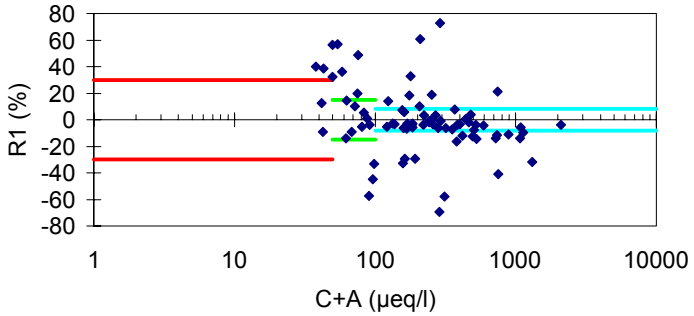



Fig. 3.18 Zhuhai(Zhuxian Cavern) Ion Balance (R1)

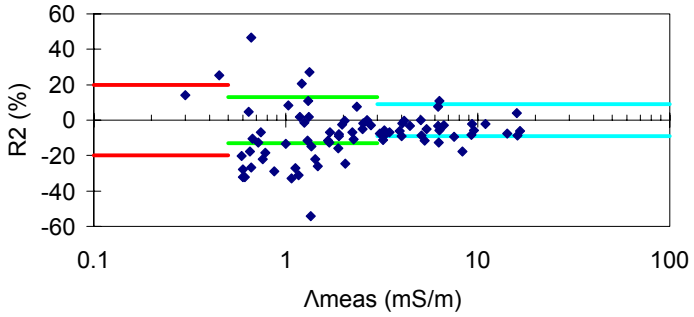



Fig. 3.19 Zhuhai(Zhuxian Cavern) Conductivity Agreement (R2)

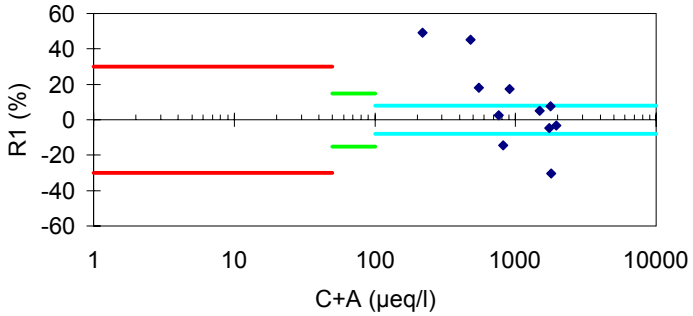



Fig. 3.20 Jakarta Ion Balance (R1)

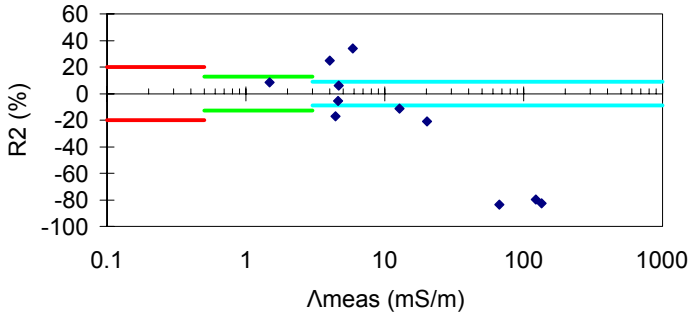



Fig. 3.21 Jakarta Conductivity Agreement (R2)

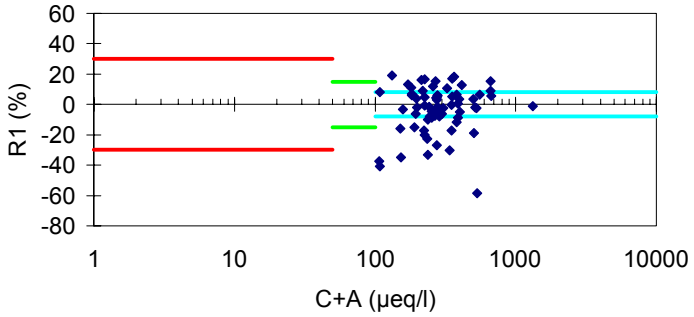



Fig. 3.22 Serpong Ion Balance (R1)

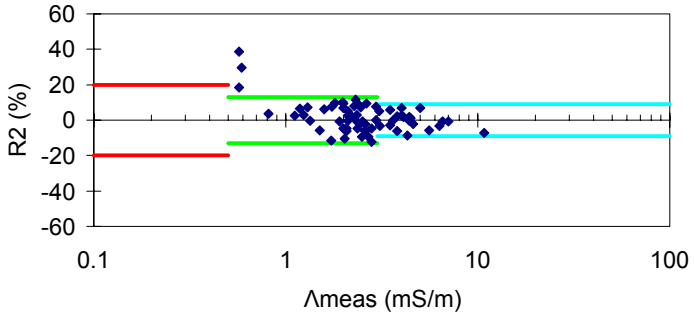



Fig 3.23 Serpong Conductivity Agreement (R2)

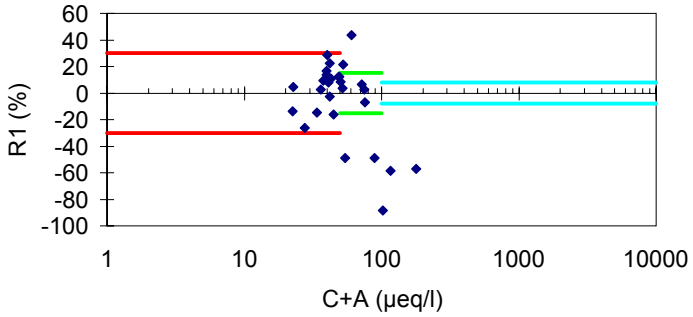



Fig. 3.24 Kototabang Ion Balance (R1)

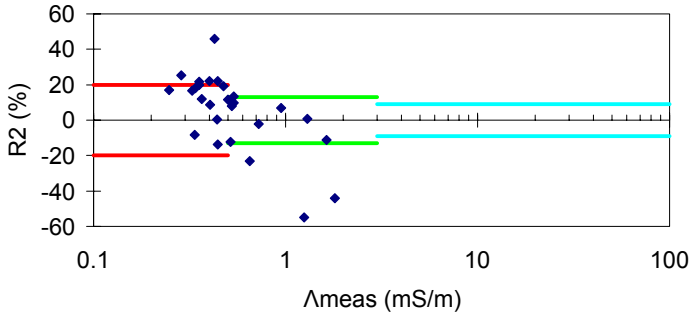



Fig. 3.25 Kototabang Conductivity Agreement (R2)

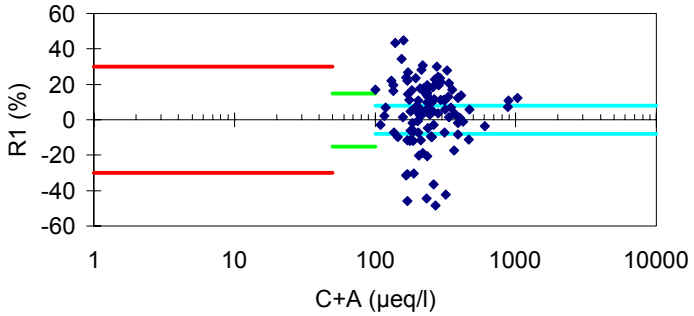



Fig. 3.26 Bandung Ion Balance (R1)

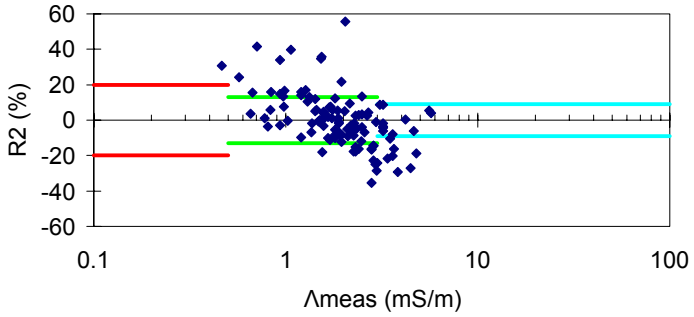



Fig. 3.27 Bandung Conductivity Agreement (R2)

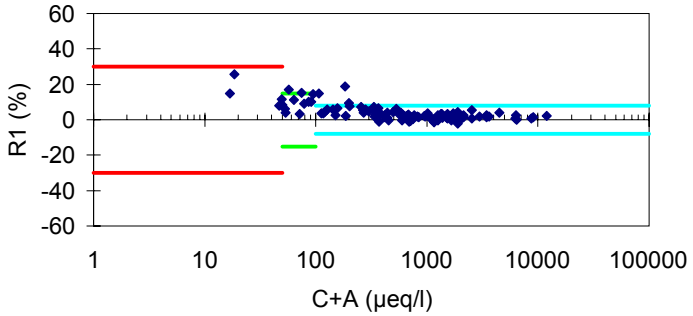



Fig. 3.28 Rishiri Ion Balance (R1)

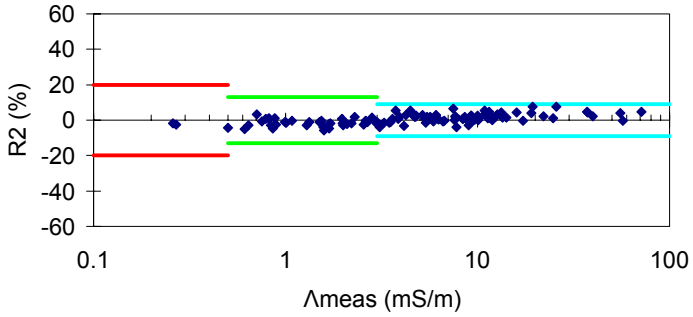



Fig. 3.29 Rishiri Conductivity Agreement (R2)

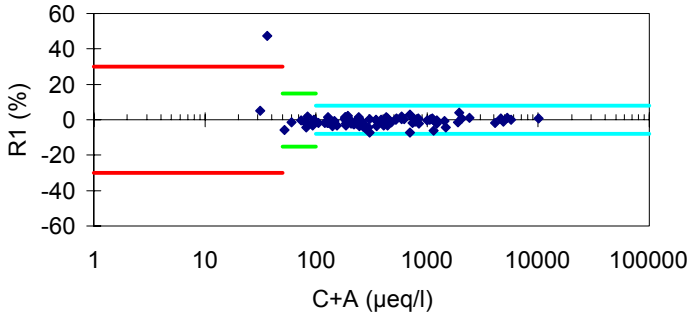



Fig. 3.30 Tappi Ion Balance (R1)

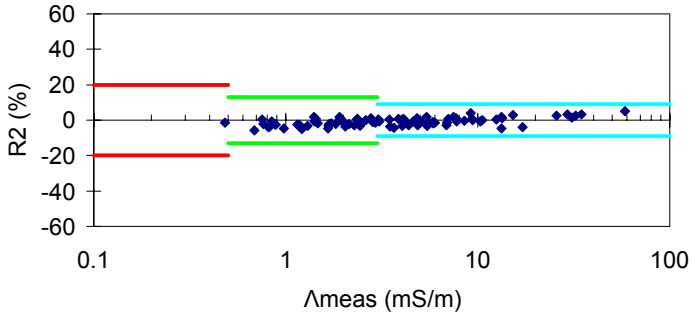



Fig. 3.31 Tappi Conductivity Agreement (R2)

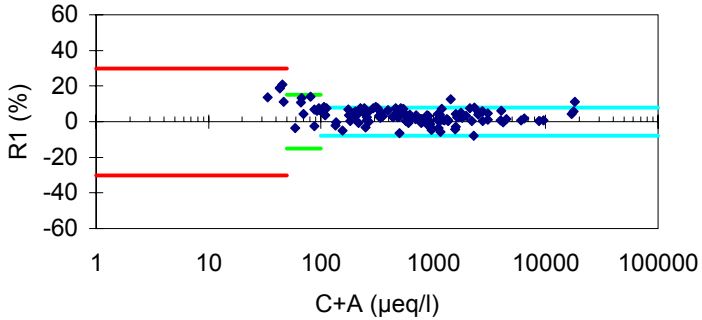



Fig. 3.32 Sado-seki Ion Balance (R1)

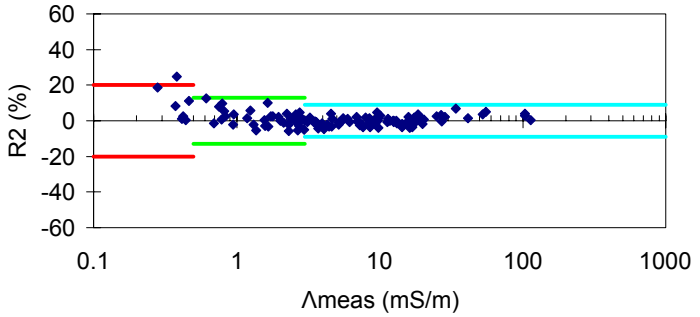



Fig. 3.33 Sado-seki Conductivity Agreement (R2)

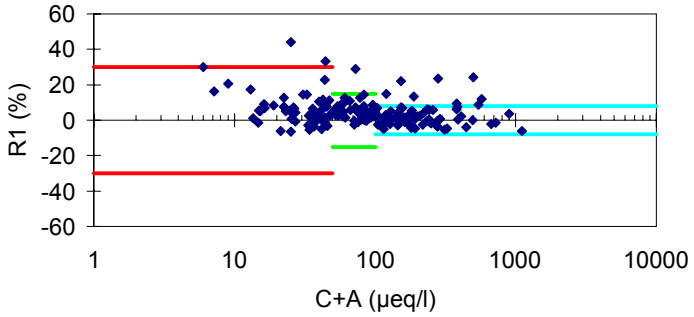



Fig. 3.34 Happo Ion Balance (R1)

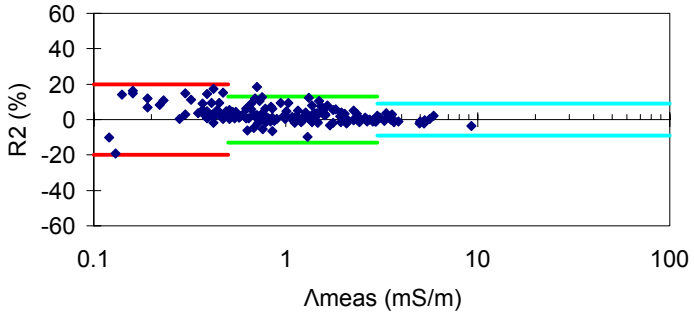



Fig. 3.35 Happo Conductivity Agreement (R2)

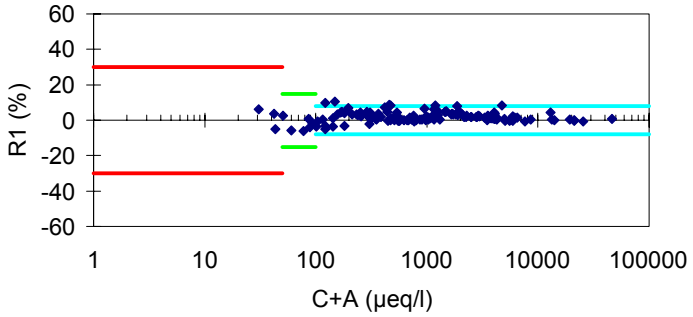



Fig. 3.36 Oki Ion Balance (R1)

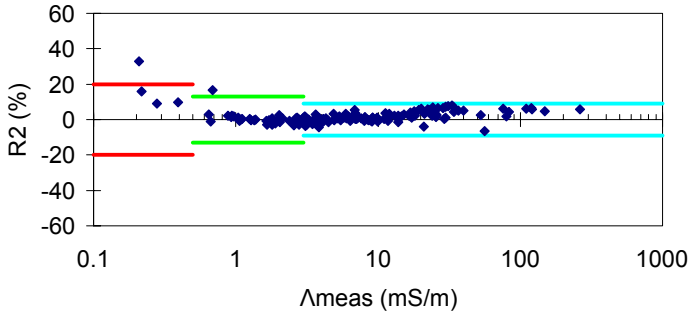



Fig. 3.37 Oki Conductivity Agreement (R2)

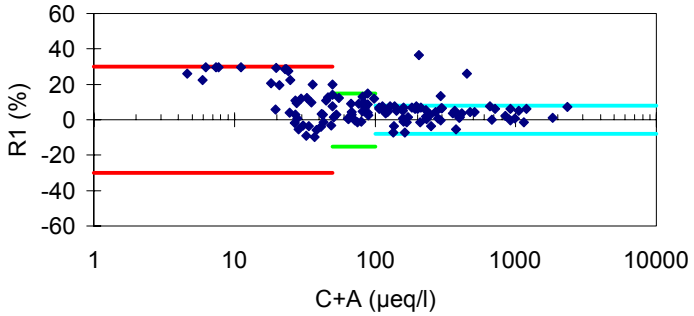



Fig. 3.38 Yusuhara Ion Balance (R1)

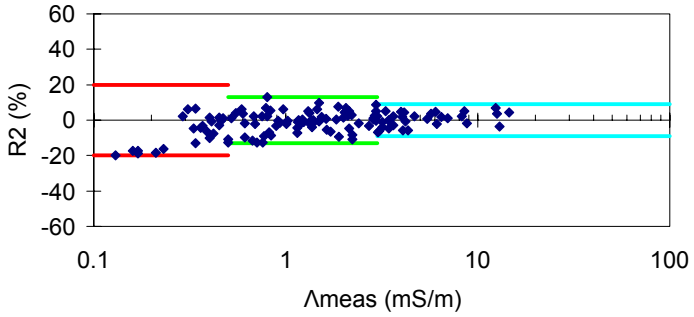



Fig. 3.39 Yusuhara Conductivity Agreement (R2)

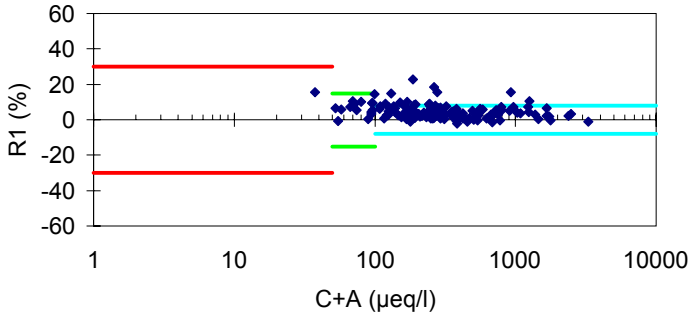



Fig. 3.40 Ogasawara Ion Balance (R1)

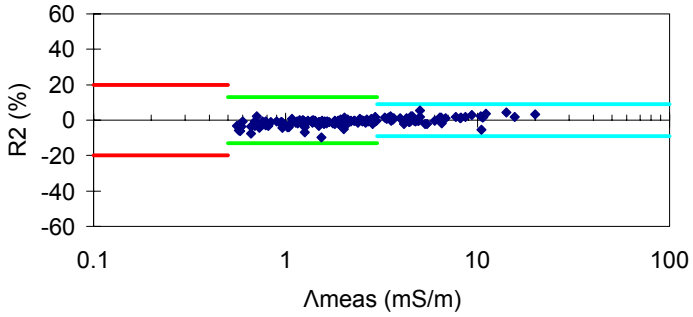



Fig. 3.41 Ogasawara Conductivity Agreement (R2)

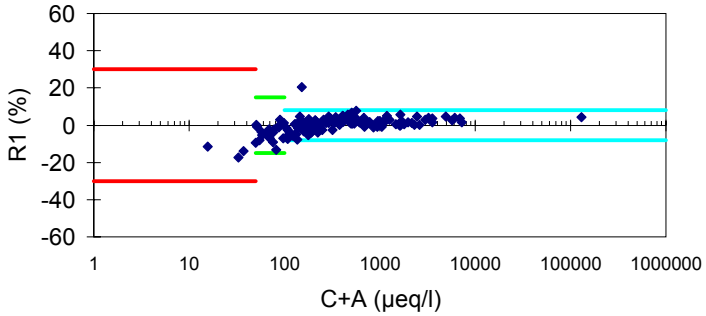



Fig. 3.42 Hedo Ion Balance (R1)

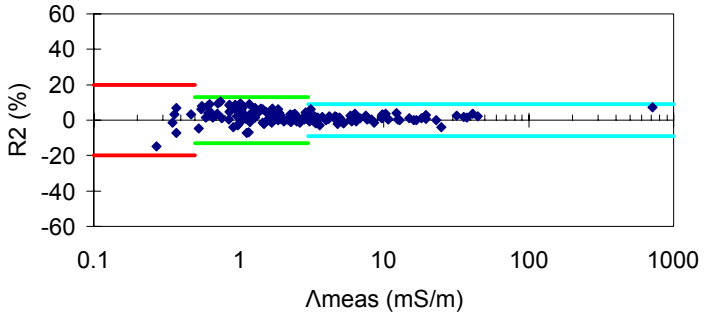



Fig. 3.43 Hedo Conductivity Agreement (R2)

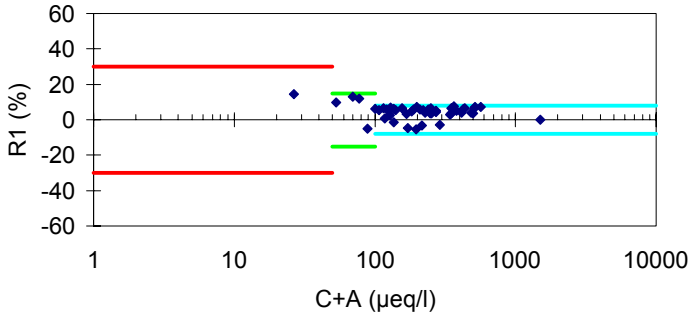



Fig. 3.44 Ijira Ion Balance (R1)

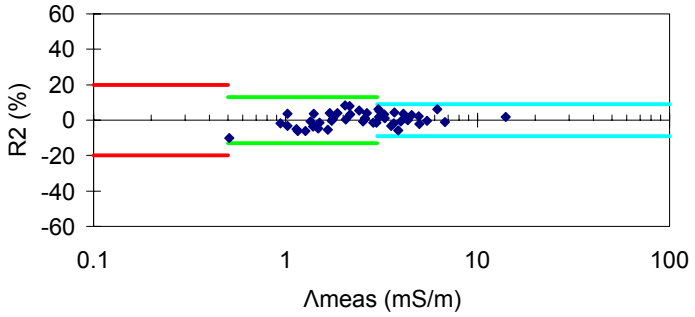



Fig. 3.45 Ijira Conductivity Agreement (R2)

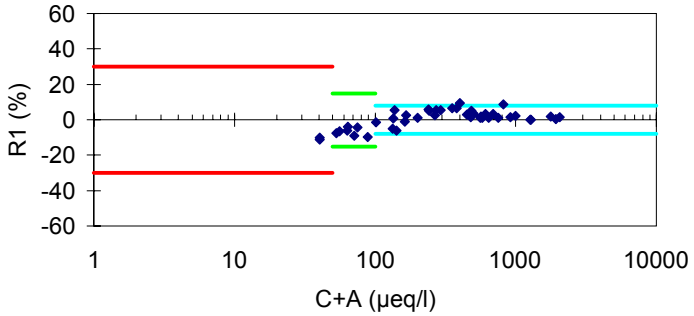



Fig. 3.46 Banryu Ion Balance (R1)

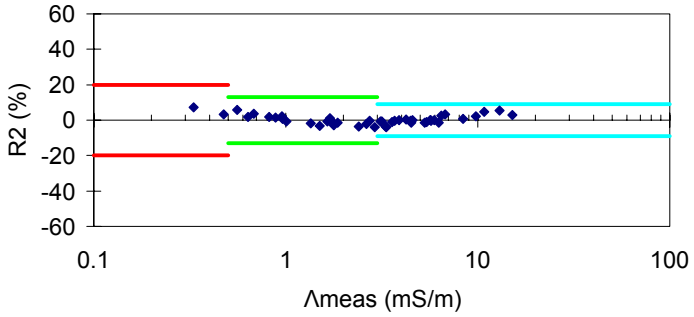



Fig. 3.47 Banryu Conductivity Agreement (R2)

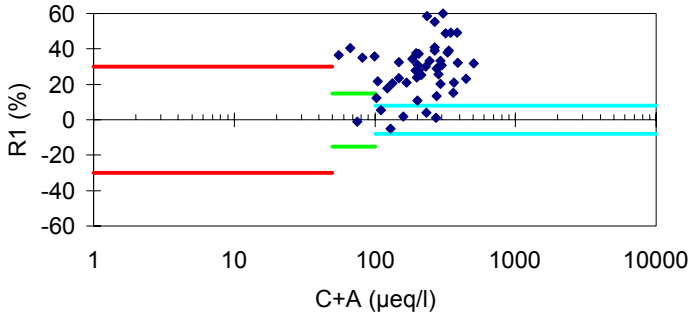



Fig. 3.48 Petaling Jaya Ion Balance (R1)

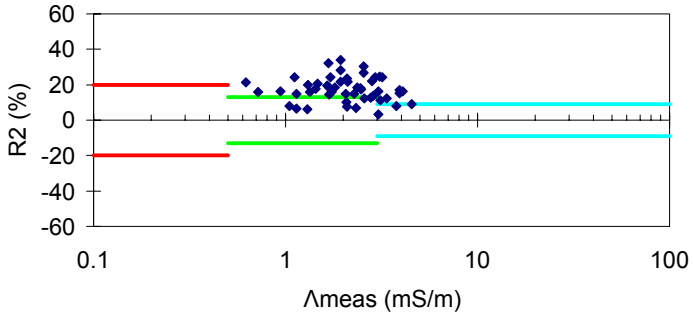



Fig. 3.49 Petaling Jaya Conductivity Agreement (R2)

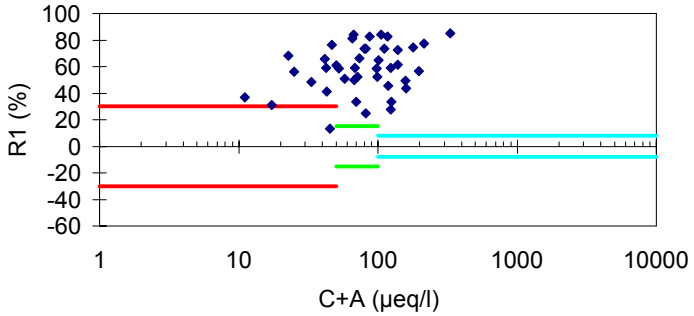



Fig. 3.50 Tanah Rata Ion Balance (R1)

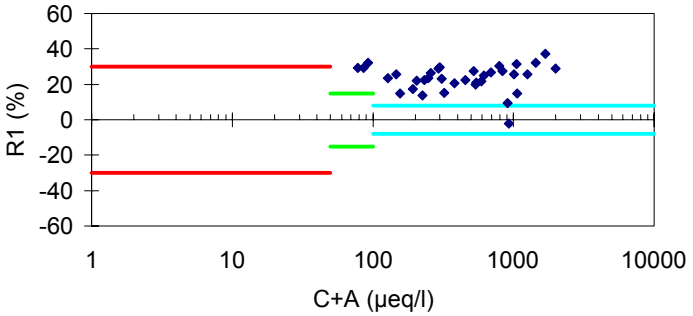



Fig. 3.52 Ulaanbaatar Ion Balance (R1)

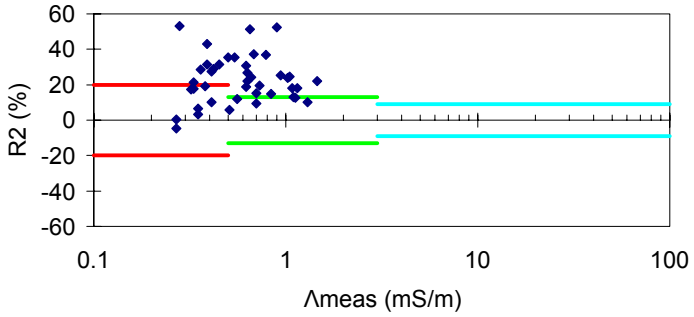



Fig. 3.51 Tanah Rata Conductivity Agreement (R2)

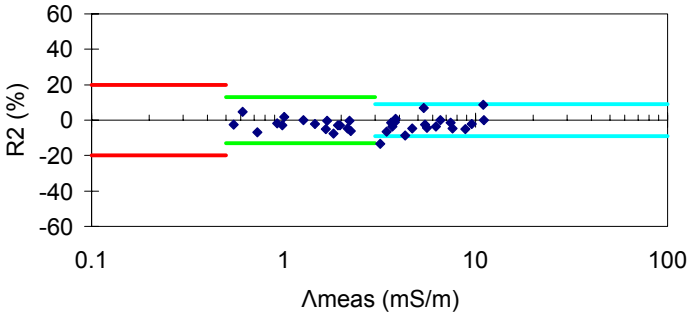



Fig. 3.53 Ulaanbaatar Conductivity Agreement (R2)

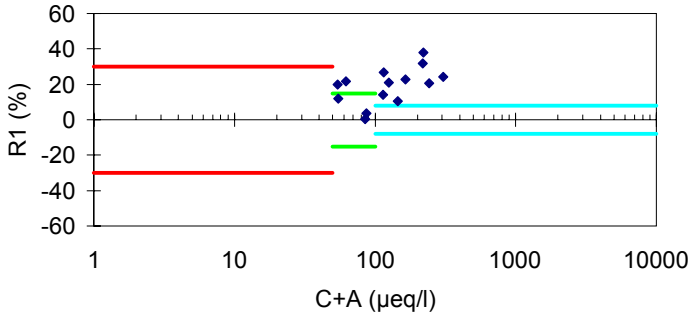



Fig. 3.54 Terelj Ion Balance (R1)

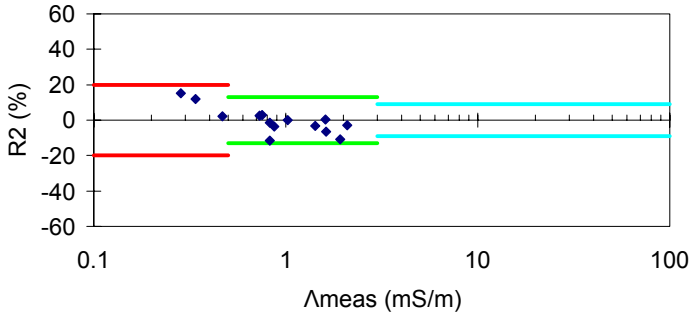



Fig. 3.55 Terelj Conductivity Agreement (R2)

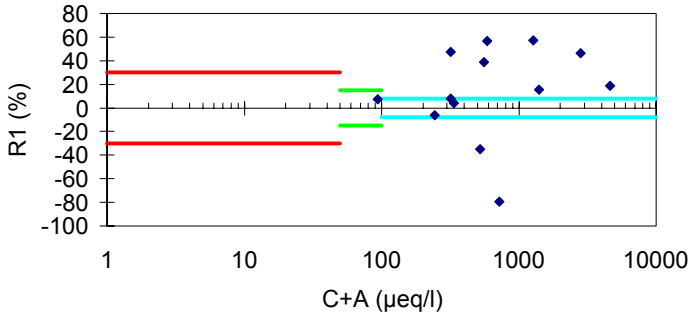



Fig. 3.56 Metro Manila Ion Balance (R1)

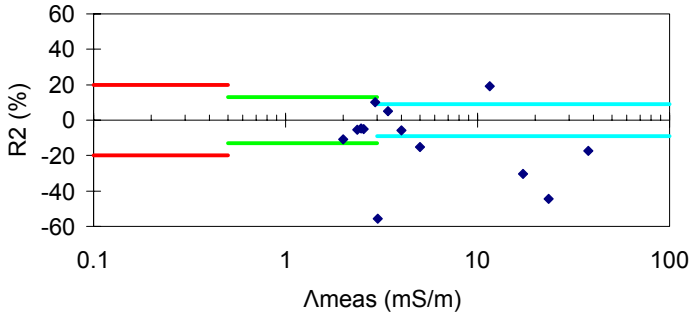



Fig. 3.57 Metro Manila Conductivity Agreement (R2)

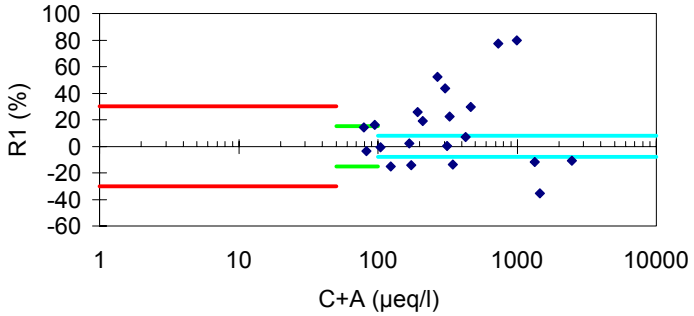



Fig. 3.58 Los Banos Ion Balance (R1)

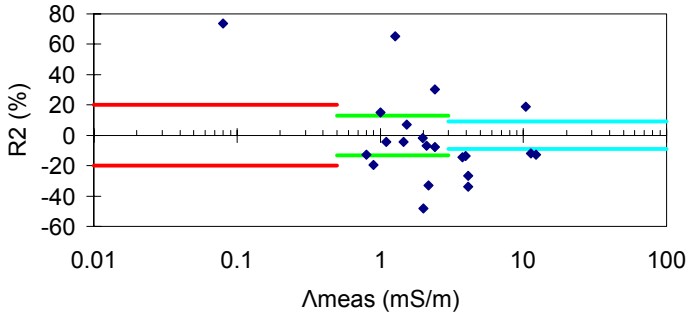



Fig. 3.59 Los Banos Conductivity Agreement (R2)

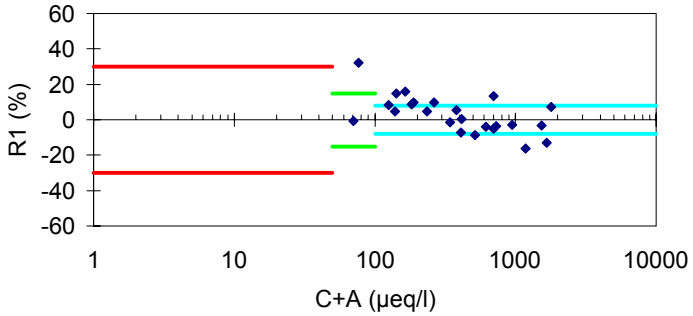



Fig. 3.60 Kanghwa Ion Balance (R1)

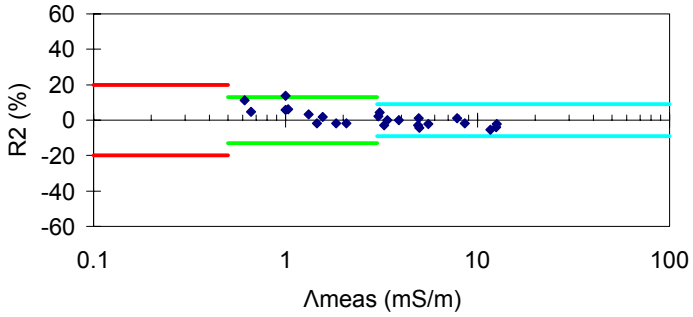



Fig. 3.61 Kanghwa Conductivity Agreement (R2)

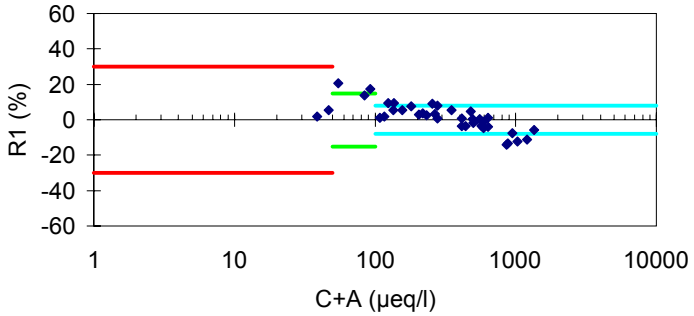



Fig. 3.62 Cheju(Kosan) Ion Balance (R1)

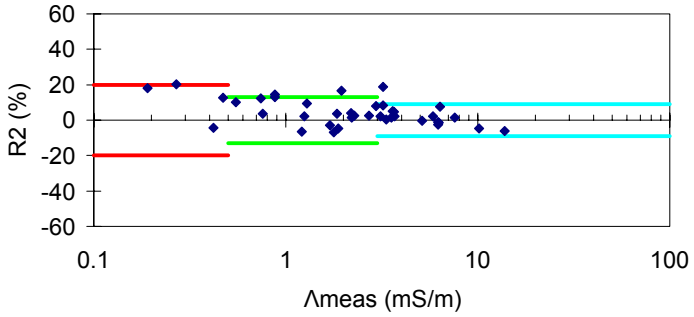



Fig. 3.63 Cheju(Kosan) Conductivity Agreement (R2)

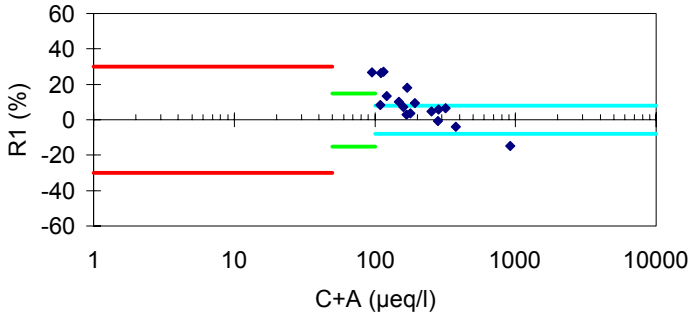



Fig. 3.64 Imsil Ion Balance (R1)

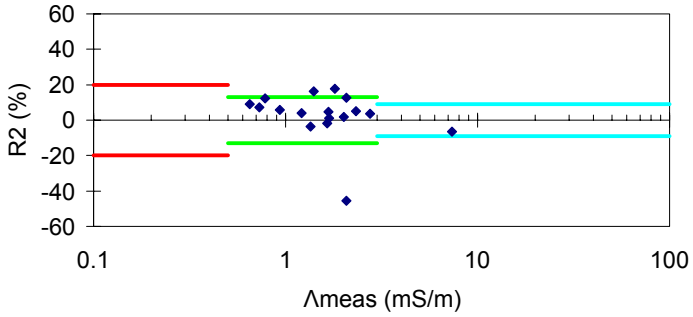



Fig. 3.65 Imsil Conductivity Agreement (R2)

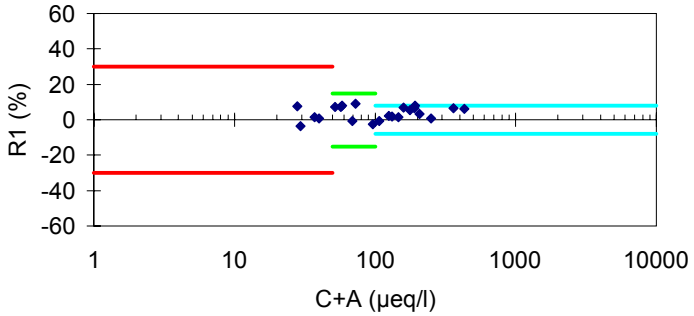



Fig. 3.66 Mondy Ion Balance (R1)

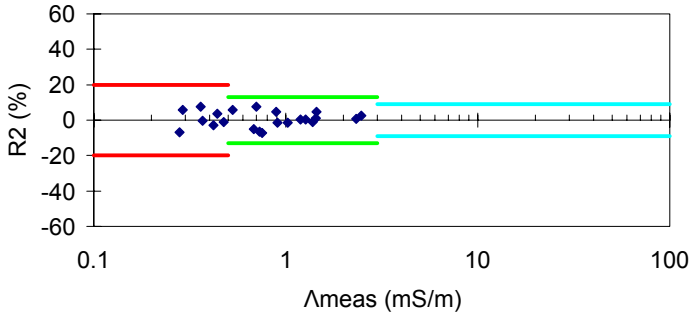



Fig. 3.67 Mondy Conductivity Agreement (R2)

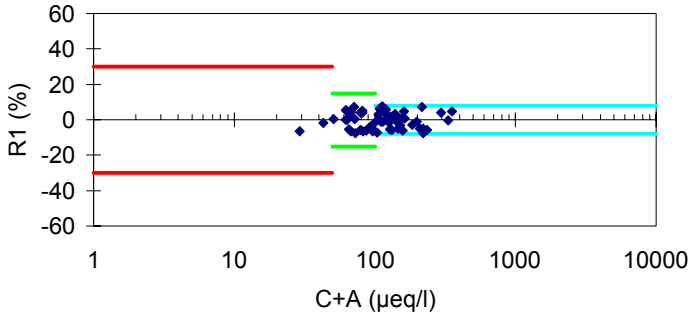



Fig. 3.68 Listvyanka Ion Balance (R1)

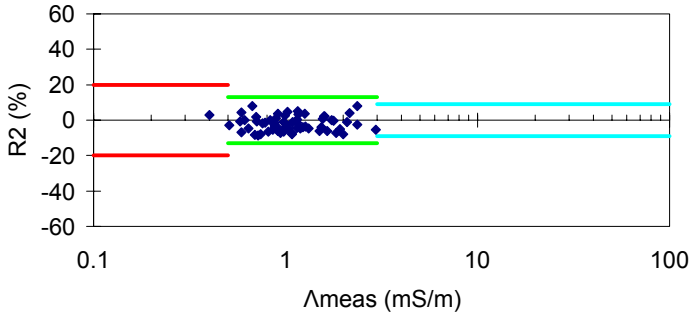



Fig. 3.69 Listvyanka Conductivity Agreement (R2)

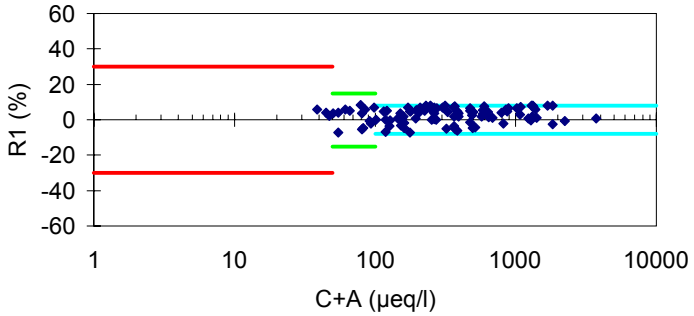



Fig. 3.70 Irkutsk Ion Balance (R1)

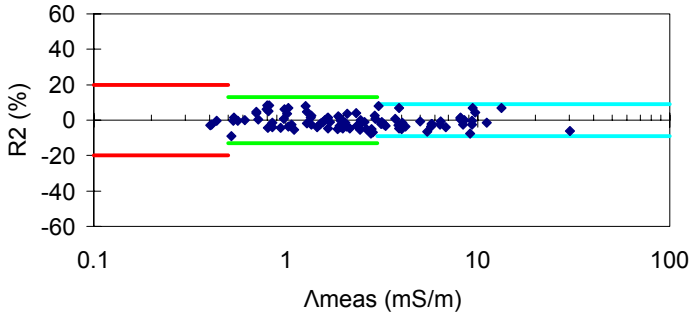



Fig. 3.71 Irkutsk Conductivity Agreement (R2)

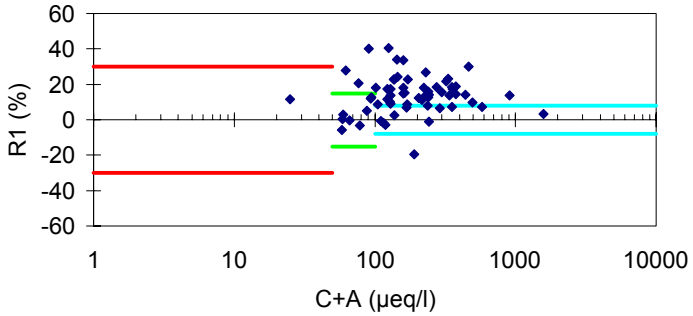



Fig. 3.72 Bangkok Ion Balance (R1)

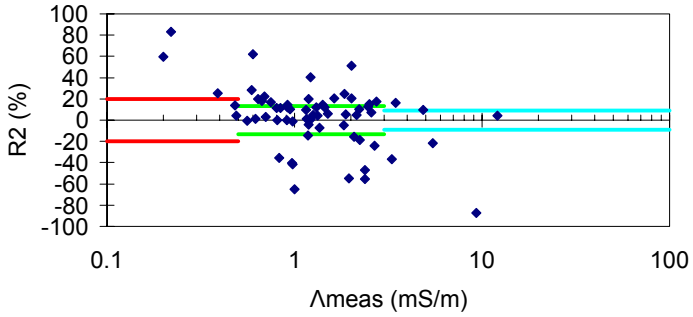



Fig. 3.73 Bangkok Conductivity Agreement (R2)

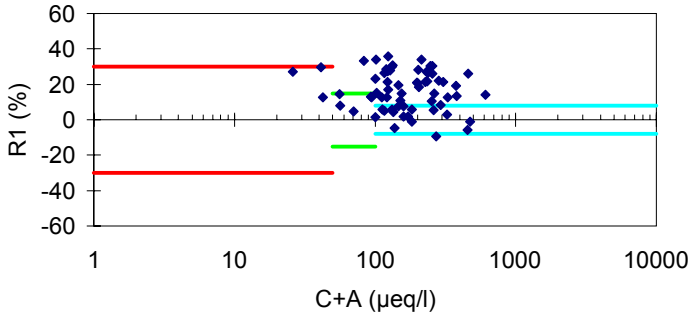



Fig. 3.74 Patumthani Ion Balance (R1)

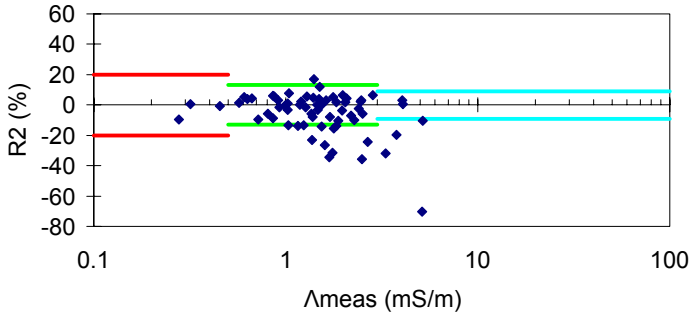



Fig. 3.75 Patumthani Conductivity Agreement (R2)

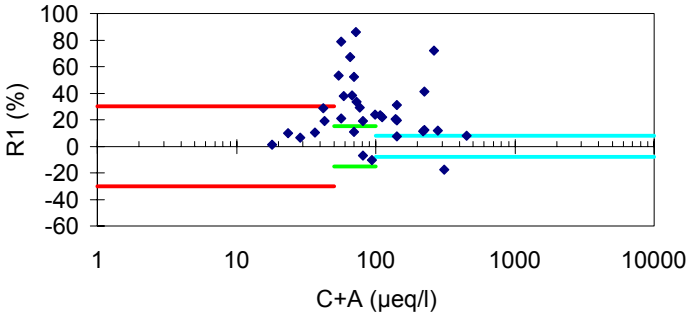



Fig. 3.76 Khao Lam Dam Ion Balance (R1)

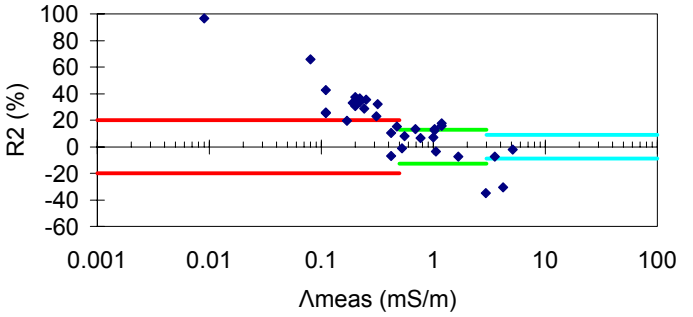



Fig. 3.77 Khao Lam Dam Conductivity Agreement (R2)

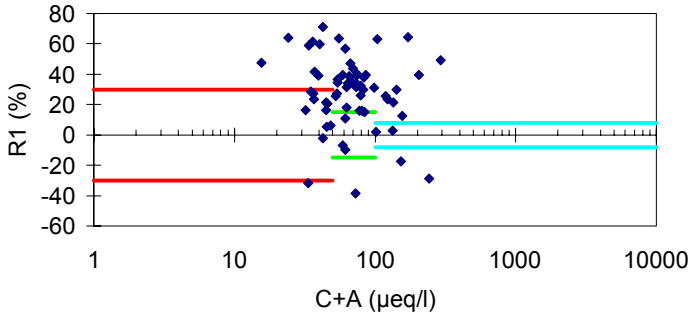



Fig. 3.78 Mae Hia Ion Balance (R1)

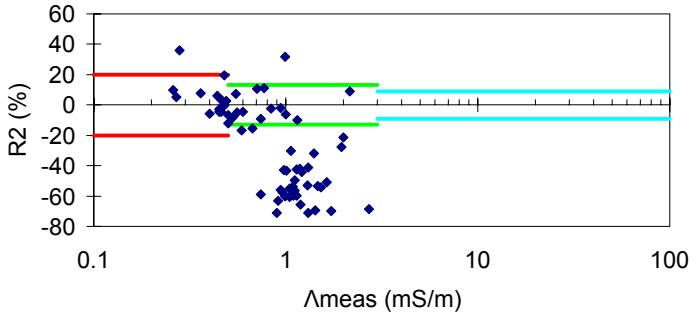



Fig. 3.79 Mae Hia Conductivity Agreement (R2)

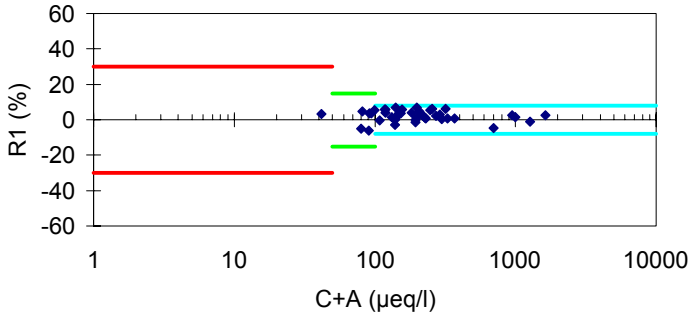



Fig. 3.80 Hanoi Ion Balance (R1)

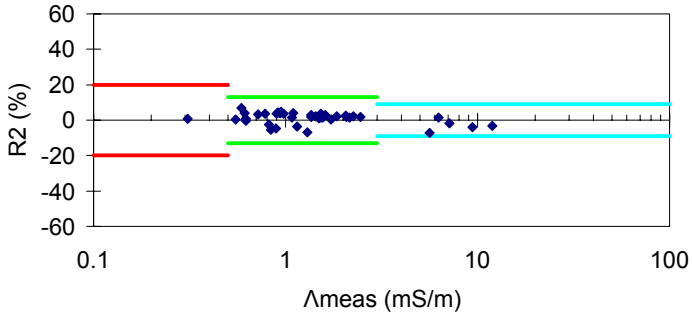



Fig. 3.81 Hanoi Conductivity Agreement (R2)

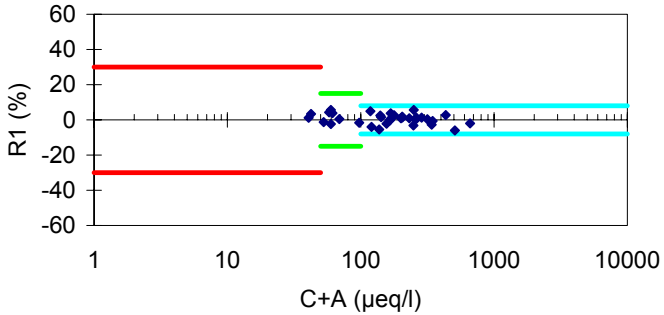



Fig. 3.82 Hoa Binh Ion Balance (R1)

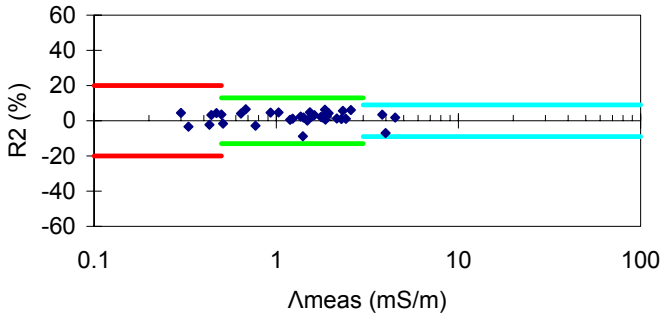



Fig. 3.83 Hoa Binh Conductivity Agreement (R2)

## 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 2001. The monitoring items were selected, taking into account the following priority chemical species that are described in the "Strategy Paper for Future Direction of Dry Deposition Monitoring of EANET" (1999):

First priority: $NO_2$(urban), $SO_2$, $O_3$, and NO, and particulate mass concentration;

Second priority: $NO_2$(rural and remote), $HNO_3$, $NH_3$, particles ($SO_4^{2-}$, $NO_3^-$, $NH_4^+$, and $Ca^{2+}$).

Sampling methods and parameters for Dry Deposition (Air Concentration) Monitoring in 2001 are shown in Table 4.1.

#### 1) Automatic monitoring method

The first priority chemical species such as $SO_2$, $NO_2$(urban), NO, $O_3$, and PM could be monitored in the case of automatic monitoring methods. The methods were used by Japan, China and Thailand. The QA/QC program for monitoring the $SO_2$, $NO_2$(urban), NO, $O_3$, and PM using automatic monitors was described in the "QA/QC Program for the Air Concentration Monitoring in East Asia" (2001). Individual methods of each site are shown in Table 4.2.

#### 2) Filter pack method

Filter pack methods were used by Indonesia, Malaysia, Mongolia, Philippines, Republic of Korea, Russia, Thailand and Vietnam for the filter pack monitoring in 2001. The methods could determine gaseous ($SO_2$, $HNO_3$, HCl, $NH_3$ ) and particulate components ($SO_4^{2-}$, $NO_3^-$, $Cl^-$, $Na^+$, $K^+$, $NH_4^+$, $Ca^{2+}$, $Mg^{2+}$).

The secretariat of the Task Force on Dry Deposition Monitoring prepared the "Technical Document of Filter Pack Monitoring in East Asia (preliminary draft)" and distributed it to the Task Force member for their considerations in September 2002. The draft technical document currently forces on the four-stage filter pack method, taking into account the present situation of EANET filter pack monitoring. Recommended specification of four-stage filter pack method is shown in Fig. 4.1. Indonesia, Malaysia, Mongolia, Philippines, Russia, Thailand and Vietnam adopted the recommended specifications.

#### 3) Other methods

In order to monitor particulate matter, aerosol sampler was used by Thailand. Malaysia adopted aerosol sampler to monitor particulate matter components and passive sampler to monitor gases such as $SO_2$, $HNO_3$, $NO_2$ and $NH_3$. It is expected to consider the applicability of the passive sampler in the Dry Deposition Monitoring of EANET in the future.

**Table 4.1 Sampling Method and Parameter for Dry Deposition (Air Concentration) Monitoring in 2001**

| Country | Name of sites | Characteristics of sites | Method | Parameter |
|---|---|---|---|---|
| China | Chongqing | | | |
| | -Guanyinqiao | Urban | - | None |
| | -Jinyunshan | Rural | AT | $SO_2$, $NO_2$, $PM_{10}$ |
| | Xi'an | | | |
| | -Shizhan | Urban | - | None |
| | -Weishuiyuan | Rural | AT | $SO_2$, $NO_2$, $PM_{10}$ |
| | -Jiwozi | Remote | - | None |
| | Xiamen | | | |
| | -Hongwen | Urban | AT | $SO_2$, $NO_2$, $PM_{10}$ |
| | -Xiaoping | Remote | - | None |
| | Zhuhai | | | |
| | -Xiang Zhou | Urban | AT | $SO_2$, $NO_2$, $PM_{10}$ |
| | -Zhuxian Cavern | Urban | - | None |
| Indonesia | Jakarta | Urban | - | None |
| | Serpong | Rural | FP | $SO_2$,$HNO_3$,HCl,$NH_3$,PMC |
| | Kototabang | Remote | - | None |
| | Bandung | Urban | - | None |
| Japan | Rishiri | Remote | AT | $SO_2$, $NO_x$, $O_3$, $PM_{10}$ , $PM_{2.5}$ |
| | Tappi | Remote | AT | $SO_2$, $NO_x$, $O_3$, $PM_{10}$ |
| | Ogasawara | Remote | AT | $SO_2$, $NO_x$, $O_3$, $PM_{10}$ |
| | Sado-seki | Remote | AT | $SO_2$, $NO_x$, $O_3$, $PM_{10}$ |
| | Happo | Remote | AT | $SO_2$, $NO_x$, $O_3$, $PM_{10}$ |
| | Oki | Remote | AT | $SO_2$, $NO_x$, $O_3$, $PM_{10}$ , $PM_{2.5}$ |
| | Yusuhara | Remote | AT | $SO_2$, $NO_x$, $O_3$, $PM_{10}$ |
| | Hedo | Remote | AT | $SO_2$, $NO_x$, $O_3$, $PM_{10}$ |
| | Ijira | Rural | AT | $SO_2$, $NO_x$, $O_3$, $PM_{10}$ |
| | Banryu | Urban | AT | $SO_2$, $NO_x$, $O_3$, $PM_{10}$ |
| Malaysia | Petaling Jaya | Urban | AS | PMC |
| | | | PS | $SO_2$,$HNO_3$,$NO_2$,$NH_3$ |
| | Tanah Rata | Remote | FP | $SO_2$,$HNO_3$, HCl,$NH_3$,PMC |
| | | | PS | $NO_2$ |
| 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 |
| | Los Banos | Rural | FP | $SO_2$,$HNO_3$,HCl,$NH_3$,PMC |
| Republic of Korea | Kanghwa | Rural | FP | PMC in $PM_{2.5}$ |
| | Cheju (Kosan) | Remote | FP | PMC in $PM_{2.5}$ |
| | Imsil | Rural | FP | $HNO_3$,HCl,$NH_3$,PMC in $PM_{2.5}$ |

(Note 1) AT: Automatic monitor, FP: Filter pack, AS: Aerosol sampler, PS: passive sampler, PMC: particulate matter components

(Note 2) The data of $SO_2$, $HNO_3$, $NH_3$ measured by PS and PMC measured by AS in Tanah Rata, Malaysia were annexed in this Section 4.

**Table 4.1 Sampling Method and Parameter for Dry Deposition (Air Concentration) Monitoring in 2001 (continued)**

| Country | Name of sites | Characteristics of sites | Method | Parameter |
|---|---|---|---|---|
| Russia | Mondy | Remote | 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 | $HNO_3$,PMC |
| Thailand | Bangkok | Urban | AT, AS | $SO_2$, $NO_x$, $PM_{10}$, TSP |
| | Samutprakarn | Urban | AT, AS | $SO_2$, $NO_x$, $O_3$, TSP |
| | Patumthani | Rural | - | |
| | Khao Lam Dam | Remote | AT | $SO_2$, $NO_x$, $O_3$, $PM_{10}$ |
| | Mae Hia | 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) AT: Automatic monitor, FP: Filter pack, AS: Aerosol sampler, PS: passive sampler, PMC: particulate matter components

**Table 4.2 Methods of automatic monitors in 2001**

| Country | Sites | Parameter | | | |
|---|---|---|---|---|---|
| | | $SO_2$ | $NO_x$ | $O_3$ | $PM_{10}$ ($PM_{2.5}$) |
| China | Jinyunshan | UVF | CLD | - | β–ray |
| | Weishuiyuan | UVF | CLD | - | β–ray |
| | Hongwen | DOAS | DOAS | - | TEOM |
| | Xianzhou | DOAS | DOAS | - | TEOM |
| Japan | Rishiri | UVF | CLD | UVP | β–ray (TEOM) |
| | Tappi | UVF | CLD | UVP | TEOM |
| | Ogasawara | UVF | CLD | UVP | β–ray |
| | Sado-seki | UVF | CLD | UVP | TEOM |
| | Happo | UVF | CLD | UVP | β–ray |
| | Oki | UVF | CLD | UVP | TEOM (TEOM) |
| | Yusuhara | UVF | CLD | UVP | β–ray |
| | Hedo | UVF | CLD | UVP | β–ray |
| | Ijira | UVF | CLD | UVP | TEOM |
| | Banryu | UVF | CLD | UVP | TEOM |
| Thailand | Bangkok | UVF | CLD | - | - |
| | Samutprakarn | UVF | CLD | UVP | - |
| | Khao Lam Dam | UVF | CLD | UVP | β–ray |

(Note) UVF: ultraviolet fluorescent method, CLD: chemiluminescence detection method, UVP: ultraviolet photometric method, β –ray: β–ray absorption method, TEOM: TEOM method, DOAS: Open pass method

**Preparation of filter pack**

| Stage | Specification of filter | Collected species |
|---|---|---|
| 1st (F0) | PTFE filter (pore size: 0.8μm, diameter: 47mm) | Aerosols |
| 2nd (F1) | Polyamide filter (pore size: 0.45μm, diameter: 47mm) | $HNO_3$, $SO_2$, HCl, $NH_3$ |
| 3rd (F2) | Impregnated cellulose filter Solution: 6% $K_2CO_3$ + 2% glycerin | $SO_2$, HCl |
| 4th (F3) | Impregnated cellulose filter Solution: 5% phosphoric acid + 2% glycerin | $NH_3$ |

↓

**Sampling on site**

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

↓

**Pretreatment of filter pack**

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

↓

**Chemical analysis**

By Ion Chromatography or other suitable analytical methods

**Fig. 4.1 Recommended specification of four-stage filter pack method**

## 4.2 Results of Monitoring

Monitoring data are summed up into monthly average value with maximum, minimum and data completeness in a month. In the calculations of monthly averages, non-detected data were regarded as zero. Summarized data are shown in Table 4.3 through Table 4.21.

In these tables, terms and abbreviations indicate the followings:

Mean : monthly arithmetic average value,
Max-d : maximum value by daily data in a month,
Min-d : minimum value by daily data in a month,
Max-10d : maximum value by 10-day interval data in a month,
Min-10d : minimum value by 10-day interval data in a month,
Max-w : maximum value by weekly data in a month,
Min-w : minimum value by weekly data in a month,
Max-2w : maximum value by biweekly data in a month,
Min-2w : minimum value by biweekly data in a month,
Max-* : maximum value by flexible interval data in a month,
Min-* : minimum value by flexible interval data in a month,
% : percentage of period of available data during a month,
NOx* : NOx measured by CLD in remote.

In the case of automatic monitoring in rural and remote sites, a lot of non-detected data can be appeared, especially in the data of $SO_2$ and $NO_x$. Median value could be representative value in that case. Median value (Median) and percentage of period of available data during a month not including data under detection limit (%*) in Japanese remote sites are shown in Table 4.22 through Table 4.24.

In the Table 4.3 though Table 4.24, ppb unit for gas and $\mu g/m^3$ unit for particle were used. Approximate conversion ratios from ppb to $\mu g/m^3$ , which are based on 20 degrees C, 1 atm, were shown in Table 4.25.

Actuary detection limit depends on specification of instrument or procedures of sampling and analysis. NC set up expedient detection limits as shown in Table 4.26 taking into account methods adopted by each country. Data under the detection limit were treated as “N.D.” in the Table 4.3 though Table 4.24.

**Table 4.3 $SO_2$**

| Unit: ppb | | | 2001 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Country | Site | | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| China | Jinyunshan | Mean | 13.3 | 22.1 | 18.9 | 7.8 | 7.6 | 1.1 | 7.9 | 4.9 | 6.9 | 5.0 | 10.6 | 14.0 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | | Max-d | 24.8 | 63.8 | 37.1 | 26.3 | 33.0 | 6.8 | 29.6 | 19.5 | 17.6 | 13.1 | 21.8 | 31.9 |
| | | Min-d | 3.4 | 5.6 | 2.3 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 1.5 | 0.8 | 1.5 | 3.0 |
| | Weishuiyuan | Mean | 7.1 | 3.4 | 6.3 | 4.9 | 5.3 | 7.7 | 5.8 | 3.4 | 1.9 | 2.8 | 5.7 | 7.2 |
| | | % | 97 | 100 | 100 | 63 | 90 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | | Max-d | 27.8 | 6.4 | 38.6 | 9.8 | 10.9 | 19.1 | 10.9 | 10.9 | 3.4 | 8.6 | 16.1 | 12.8 |
| | | Min-d | 1.1 | 1.1 | 2.3 | 2.3 | 2.3 | 3.4 | 2.3 | 1.1 | 1.1 | 1.1 | 2.3 | 1.1 |
| | Hongwen | Mean | 5.5 | 5.6 | 7.7 | 8.4 | 8.4 | 6.6 | 6.6 | 7.3 | 9.4 | 10.3 | 13.0 | 13.7 |
| | | % | 100 | 100 | 100 | 100 | 97 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | | Max-d | 10.1 | 10.5 | 22.5 | 15.4 | 16.9 | 17.3 | 13.1 | 12.0 | 20.3 | 17.6 | 24.0 | 24.8 |
| | | Min-d | 1.9 | 2.6 | 2.6 | 5.3 | 3.8 | 2.6 | 1.9 | 2.6 | 2.3 | 5.6 | 6.4 | 2.3 |
| | Xiang Zhou | Mean | 8.9 | 12.9 | 8.9 | 6.7 | 6.6 | 2.3 | 2.5 | 11.9 | 13.3 | 13.4 | 17.0 | 15.9 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | | Max-d | 24.4 | 26.3 | 19.1 | 22.9 | 16.5 | 8.6 | 15.4 | 157.5 | 32.6 | 30.4 | 34.9 | 33.8 |
| | | Min-d | 2.6 | 1.9 | 2.3 | 2.6 | 1.5 | 0.8 | 0.4 | 0.8 | 0.8 | 3.0 | 4.1 | 6.0 |
| Indonesia | Serpong | Mean | - | - | - | - | - | - | 0.2 | 2.3 | 0.7 | - | 1.0 | 0.5 |
| | | % | - | - | - | - | - | - | 26 | 48 | 53 | - | 45 | 96 |
| | | Max-w | - | - | - | - | - | - | 0.2 | 2.8 | 1.4 | - | 1.2 | 2.3 |
| | | Min-w | - | - | - | - | - | - | 0.2 | 1.8 | N.D. | - | 0.7 | N.D. |
| Japan | Rishiri | Mean | 0.3 | 0.6 | 0.2 | N.D. | 0.2 | N.D. | N.D. | N.D. | N.D. | 0.1 | 0.3 | 0.3 |
| | | % | 46 | 98 | 37 | 34 | 98 | 99 | 98 | 98 | 98 | 98 | 98 | 98 |
| | | Max-d | 0.8 | 1.7 | 0.7 | 0.5 | 1.2 | 0.7 | 0.5 | 0.4 | 0.3 | 0.5 | 1.3 | 1.3 |
| | | Min-d | 0.1 | 0.2 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| | Tappi | Mean | 0.6 | 0.6 | 0.6 | 0.7 | 0.5 | 0.6 | 0.4 | 0.3 | 0.2 | 0.2 | 0.5 | 0.3 |
| | | % | 99 | 62 | 33 | 99 | 99 | 75 | 77 | 98 | 99 | 73 | 83 | 99 |
| | | Max-d | 2.1 | 1.4 | 1.1 | 3.0 | 2.0 | 2.4 | 2.2 | 0.9 | 0.8 | 0.7 | 1.5 | 1.0 |
| | | Min-d | 0.1 | 0.3 | 0.1 | 0.2 | N.D. | 0.1 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| | Sado-seki | Mean | 0.6 | 0.6 | 0.8 | 1.4 | 0.7 | 0.3 | 1.4 | 0.4 | 0.1 | 0.3 | 0.4 | 0.3 |
| | | % | 98 | 99 | 98 | 98 | 94 | 98 | 99 | 98 | 98 | 54 | 98 | 99 |
| | | Max-d | 3.2 | 2.2 | 5.5 | 8.1 | 4.4 | 5.8 | 11.2 | 3.8 | 0.7 | 1.9 | 2.2 | 1.4 |
| | | 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. |
| | Happo | Mean | 1.3 | 0.6 | 0.9 | 2.7 | 1.4 | 0.6 | 0.4 | 0.4 | 0.6 | 0.5 | 0.6 | 0.3 |
| | | % | 98 | 98 | 98 | 98 | 98 | 98 | 98 | 98 | 97 | 98 | 84 | 98 |
| | | Max-d | 8.4 | 1.8 | 3.4 | 16.0 | 17.4 | 10.9 | 3.3 | 2.0 | 2.6 | 2.6 | 3.1 | 1.5 |
| | | Min-d | 0.1 | 0.1 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| | Ogasawara | Mean | 0.1 | 0.2 | 0.1 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 0.2 |
| | | % | 97 | 90 | 97 | 99 | 97 | 95 | 98 | 98 | 98 | 95 | 97 | 97 |
| | | Max-d | 0.8 | 3.6 | 1.3 | 0.8 | N.D. | 0.2 | 0.1 | 0.1 | 0.1 | 0.0 | 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. |
| | Oki | Mean | 0.7 | 0.8 | 0.7 | 1.5 | 0.9 | 0.3 | 0.8 | 0.2 | 0.1 | 0.4 | 0.6 | 0.5 |
| | | % | 98 | 98 | 95 | 98 | 88 | 94 | 45 | 71 | 91 | 53 | 91 | 82 |
| | | Max-d | 2.1 | 1.8 | 3.4 | 15.3 | 3.3 | 1.4 | 2.6 | 1.2 | 0.8 | 2.0 | 2.8 | 3.1 |
| | | 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. |
| | Ijira | Mean | 0.3 | 0.5 | 0.8 | 2.4 | 1.9 | 0.9 | 2.3 | 0.8 | 0.4 | 0.4 | 0.3 | 0.1 |
| | | % | 100 | 100 | 100 | 100 | 99 | 100 | 96 | 99 | 100 | 100 | 100 | 100 |
| | | Max-d | 0.6 | 2.2 | 4.7 | 21.8 | 12.8 | 7.0 | 26.2 | 6.1 | 1.2 | 1.8 | 1.2 | 0.6 |
| | | 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. |
| | Banryu | Mean | 1.2 | 1.0 | 1.3 | 1.4 | 0.9 | 0.7 | 0.8 | 0.8 | 0.6 | 1.2 | 1.0 | 1.1 |
| | | % | 98 | 98 | 98 | 97 | 97 | 98 | 98 | 97 | 65 | 70 | 94 | 73 |
| | | Max-d | 2.5 | 2.4 | 3.6 | 4.7 | 2.3 | 2.1 | 2.7 | 2.0 | 1.2 | 4.4 | 2.2 | 4.0 |
| | | Min-d | 0.5 | 0.1 | 0.4 | 0.5 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.3 | 0.2 | 0.4 |
| | Yusuhara | Mean | 1.1 | 1.4 | 1.6 | 1.5 | 0.6 | 0.8 | 1.6 | 1.1 | 0.9 | 0.8 | 1.1 | 1.0 |
| | | % | 98 | 82 | 99 | 98 | 98 | 98 | 98 | 98 | 98 | 98 | 98 | 82 |
| | | Max-d | 2.3 | 3.2 | 5.1 | 6.2 | 2.2 | 4.1 | 21.5 | 10.6 | 3.2 | 3.6 | 3.5 | 3.6 |
| | | Min-d | 0.2 | 0.2 | 0.2 | 0.1 | N.D. | N.D. | 0.2 | 0.1 | N.D. | N.D. | 0.2 | 0.3 |
| | Hedo | Mean | 0.3 | 0.3 | 0.5 | 0.3 | 0.5 | 0.3 | 0.3 | 0.1 | N.D. | 0.2 | 0.4 | 0.3 |
| | | % | 98 | 99 | 99 | 98 | 53 | 97 | 97 | 97 | 98 | 97 | 96 | 89 |
| | | Max-d | 0.9 | 0.8 | 2.6 | 1.3 | 3.4 | 1.7 | 1.7 | 0.7 | 0.2 | 1.4 | 2.4 | 1.8 |
| | | 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. |

**Table 4.3 $SO_2$**

| Unit: ppb | | | 2001 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Country | Site | | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| Malaysia | Tanah Rata | Mean | N.D. | 0.1 | 0.1 | N.D. | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | N.D. | N.D. | N.D. |
| | | % | 100 | 100 | 100 | 80 | 100 | 100 | 100 | 100 | 80 | 100 | 75 | 100 |
| | | Max-w | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 |
| | | Min-w | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 0.1 | N.D. | N.D. | N.D. | N.D. | N.D. |
| | Petaling Jaya | Mean | 4.8 | 6.3 | 6.1 | 5.3 | 5.3 | 5.4 | 6.5 | 6.0 | 4.1 | 5.2 | 4.3 | 3.8 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | | Max-w | 6.1 | 8.6 | 8.5 | 6.5 | 7.7 | 8.4 | 9.0 | 8.9 | 5.2 | 6.7 | 6.6 | 5.6 |
| | | Min-w | 3.5 | 3.9 | 4.7 | 4.0 | 1.1 | 4.5 | 4.8 | 4.1 | 2.4 | 2.8 | 3.2 | 1.0 |
| Mongolia | Ulaanbaatar | Mean | - | - | - | - | 1.5 | 1.0 | 1.0 | 1.5 | 1.6 | 2.5 | 2.6 | - |
| | | % | - | - | - | - | 100 | 100 | 100 | 80 | 100 | 100 | 22 | - |
| | | Max-w | - | - | - | - | 2.3 | 1.4 | 1.6 | 2.7 | 2.5 | 3.5 | 2.6 | - |
| | | Min-w | - | - | - | - | 0.5 | 0.5 | 0.5 | 0.9 | 1.2 | 1.3 | 2.6 | - |
| | Terelj | Mean | 0.8 | 1.3 | 0.5 | 0.2 | 0.2 | 0.2 | - | - | - | - | - | - |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | - | - | - | - | - | - |
| | | Max-2w | 0.8 | 1.5 | 0.8 | 0.2 | 0.2 | 0.2 | - | - | - | - | - | - |
| | | Min-2w | 0.7 | 1.0 | 0.2 | 0.1 | 0.1 | 0.1 | - | - | - | - | - | - |
| Philippines | Metro Manila | Mean | 6.2 | 2.4 | 2.9 | 1.8 | 4.0 | 6.4 | 4.2 | 4.5 | 4.3 | 4.9 | 4.8 | 4.1 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 66 | 100 | 59 |
| | | Max-* | 10.7 | 5.8 | 4.4 | 3.0 | 7.4 | 7.7 | 5.2 | 5.9 | 5.6 | 9.0 | 6.7 | 4.9 |
| | | Min-* | 3.6 | 0.9 | 1.3 | N.D. | 0.6 | 5.4 | 3.3 | 1.8 | 2.3 | 5.6 | 3.0 | 3.4 |
| | Los Banos | Mean | 1.0 | N.D. | N.D. | N.D. | 0.2 | 1.2 | 1.3 | 2.2 | 1.1 | 0.6 | 0.5 | 0.3 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 41 |
| | | Max-* | 1.3 | 0.7 | N.D. | N.D. | 0.2 | 1.5 | 2.0 | 3.4 | 2.5 | 0.9 | 0.5 | 0.5 |
| | | Min-* | 0.6 | N.D. | N.D. | N.D. | 0.2 | 0.8 | 0.6 | 1.2 | 0.3 | 0.4 | 0.4 | 0.1 |
| Russia | Mondy | Mean | 0.4 | 0.5 | 0.2 | - | 0.1 | 0.2 | 0.1 | 0.3 | - | 0.2 | 0.1 | N.D. |
| | | % | 100 | 100 | 100 | - | 100 | 28 | 100 | 100 | - | 100 | 100 | 66 |
| | | Max-* | 0.4 | 0.5 | 0.2 | - | 0.1 | 0.2 | 0.1 | 0.4 | - | 0.2 | 0.2 | N.D. |
| | | Min-* | 0.4 | 0.5 | 0.1 | - | 0.1 | 0.2 | 0.1 | 0.1 | - | 0.1 | N.D. | N.D. |
| | Listvyanka | Mean | 6.2 | 5.8 | 3.4 | 0.8 | 0.3 | 0.1 | 0.1 | 0.1 | 0.2 | 0.7 | 0.6 | 7.5 |
| | | % | 97 | 97 | 97 | 100 | 100 | 100 | 100 | 100 | 100 | 97 | 100 | 90 |
| | | Max-10d | 8.9 | 8.0 | 8.0 | 1.4 | 0.6 | 0.1 | 0.1 | 0.2 | 0.2 | 1.1 | 1.0 | 10.6 |
| | | Min-10d | 3.4 | 3.5 | 0.7 | 0.3 | 0.1 | 0.1 | N.D. | 0.1 | 0.1 | 0.2 | 0.2 | 3.4 |
| | Irkutsk | Mean | 5.5 | 12.1 | 3.7 | 4.2 | 3.0 | 1.9 | 1.3 | 0.8 | 0.9 | 0.7 | 0.3 | 1.5 |
| | | % | 97 | 67 | 100 | 73 | 100 | 93 | 89 | 100 | 100 | 94 | 40 | 89 |
| | | Max-2w | 11.1 | 13.9 | 7.0 | 6.1 | 5.4 | 1.9 | 1.7 | 1.0 | 0.9 | 0.8 | 0.3 | 3.9 |
| | | Min-2w | 1.9 | 10.4 | 1.6 | 2.6 | 1.4 | 1.9 | 1.0 | 0.6 | 0.8 | 0.6 | 0.3 | 1.1 |
| Thai Land | Mae Hia | Mean | 0.2 | 1.3 | 1.4 | - | 0.1 | 0.1 | 0.2 | 1.5 | 0.3 | 0.3 | 0.4 | 0.2 |
| | | % | 39 | 28 | 30 | - | 18 | 32 | 18 | 19 | 32 | 32 | 25 | 22 |
| | | Max-w | - | - | - | - | - | - | - | - | - | - | - | - |
| | | Min-w | - | - | - | - | - | - | - | - | - | - | - | - |
| | Khao Lam Dam | Mean | - | - | - | - | - | - | 0.9 | 1.0 | - | - | N.D. | N.D. |
| | | % | - | - | - | - | - | - | 24 | 19 | - | - | 10 | 37 |
| | | Max-d | - | - | - | - | - | - | 1.0 | 1.0 | - | - | N.D. | 0.2 |
| | | Min-d | - | - | - | - | - | - | 0.7 | 1.0 | - | - | N.D. | N.D. |
| | Bangkok | Mean | 3.9 | 6.0 | 2.9 | 2.0 | 1.7 | 3.0 | 2.7 | 3.0 | 2.6 | 1.7 | 1.5 | 3.2 |
| | | % | 84 | 88 | 94 | 97 | 90 | 99 | 97 | 97 | 99 | 70 | 94 | 87 |
| | | Max-d | 9.7 | 9.0 | 9.5 | 3.5 | 3.6 | 5.1 | 5.0 | 6.4 | 5.3 | 4.3 | 6.9 | 11.8 |
| | | Min-d | 1.0 | 2.0 | 0.5 | 1.2 | 0.2 | 0.7 | N.D. | 0.8 | 0.8 | 0.5 | N.D. | 0.3 |
| | Samutprakarn | Mean | 5.9 | 5.5 | 4.7 | 0.8 | 2.0 | 6.9 | 4.9 | 9.3 | 5.1 | 3.7 | 3.1 | 4.0 |
| | | % | 96 | 95 | 87 | 82 | 69 | 97 | 95 | 74 | 79 | 83 | 76 | 95 |
| | | Max-d | 14.7 | 11.6 | 10.7 | 3.7 | 8.7 | 23.2 | 14.2 | 19.3 | 15.9 | 7.1 | 8.3 | 5.5 |
| | | Min-d | 2.3 | 1.6 | N.D. | N.D. | N.D. | N.D. | 0.3 | 2.4 | 0.1 | N.D. | 1.6 | 1.2 |
| Viet Nam | Hanoi | Mean | 3.4 | 5.7 | 5.5 | 3.6 | 2.6 | 4.2 | 2.8 | - | - | - | - | 0.1 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | - | - | - | - | 100 |
| | | Max-w | 4.6 | 6.4 | 8.4 | 3.8 | 3.7 | 5.6 | 4.3 | - | - | - | - | 0.3 |
| | | Min-w | 1.8 | 4.1 | 3.3 | 3.4 | 2.0 | 2.6 | 3.3 | - | - | - | - | 0.3 |
| | Hoa Binh | Mean | 3.3 | 3.5 | 2.7 | 3.6 | 3.1 | 1.8 | 1.5 | 3.1 | 3.3 | 3.8 | 0.4 | 0.7 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | | Max-w | 5.5 | 5.2 | 4.2 | 4.4 | 4.0 | 3.3 | 2.6 | 5.5 | 5.5 | 7.8 | 0.9 | 1.2 |
| | | Min-w | 1.6 | 0.0 | 1.9 | 2.6 | 2.1 | 0.7 | 0.7 | 0.1 | 0.1 | 0.1 | 0.2 | 0.3 |

**Table 4.4 $HNO_3$**

| Unit: ppb | | | 2001 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Country | Site | | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| Indonesia | Serpong | Mean | - | - | - | - | - | - | N.D. | 1.2 | 0.7 | - | N.D. | N.D. |
| | | % | - | - | - | - | - | - | 26 | 48 | 53 | - | 45 | 96 |
| | | Max-w | - | - | - | - | - | - | N.D. | 1.3 | 0.7 | - | N.D. | 0.1 |
| | | Min-w | - | - | - | - | - | - | N.D. | 1.1 | 0.7 | - | N.D. | N.D. |
| Malaysia | Tanah Rata | Mean | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 0.1 | N.D. | N.D. | N.D. | N.D. | N.D. |
| | | % | 100 | 100 | 100 | 80 | 100 | 100 | 100 | 100 | 80 | 100 | 75 | 100 |
| | | Max-w | N.D. | 0.1 | N.D. | N.D. | N.D. | N.D. | 0.1 | 0.1 | N.D. | N.D. | N.D. | N.D. |
| | | Min-w | N.D. | 0.0 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| | Petaling Jaya | Mean | 0.9 | 1.5 | 1.3 | 1.4 | 1.2 | 2.0 | 1.7 | 1.7 | 1.2 | 0.9 | 1.6 | 1.2 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | | Max-w | 1.6 | 2.4 | 2.0 | 1.7 | 1.6 | 5.1 | 3.3 | 2.8 | 1.7 | 1.6 | 3.2 | 1.6 |
| | | Min-w | 0.5 | 0.8 | 1.0 | 1.2 | 1.0 | 1.2 | 0.8 | 1.2 | 0.6 | 0.5 | 1.0 | 0.9 |
| Mongolia | Ulaanbaatar | Mean | - | - | - | - | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | - |
| | | % | - | - | - | - | 100 | 100 | 100 | 80 | 100 | 100 | 22 | - |
| | | Max-w | - | - | - | - | 0.1 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | - |
| | | Min-w | - | - | - | - | N.D. | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | - |
| | Terelj | Mean | N.D. | 0.1 | 0.1 | 0.1 | N.D. | 0.1 | - | - | - | - | - | - |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | - | - | - | - | - | - |
| | | Max-2w | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | - | - | - | - | - | - |
| | | Min-2w | N.D. | 0.1 | 0.1 | 0.1 | N.D. | 0.1 | - | - | - | - | - | - |
| Philippines | Metro Manila | Mean | N.D. | 0.7 | 0.4 | 0.4 | 0.4 | 0.6 | 0.2 | 0.1 | 0.2 | 0.3 | 0.1 | 0.1 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 66 | 100 | 59 |
| | | Max-* | 1.2 | 1.2 | 0.7 | 0.5 | 0.5 | 0.9 | 0.3 | 0.1 | 0.2 | 0.5 | 0.3 | 0.2 |
| | | Min-* | N.D. | 0.4 | 0.3 | 0.4 | 0.3 | 0.2 | 0.1 | N.D. | 0.1 | 0.4 | N.D. | N.D. |
| | Los Banos | Mean | 0.1 | 0.1 | 0.5 | 0.2 | 0.1 | 0.2 | 0.2 | 0.2 | 0.1 | N.D. | 0.1 | 0.1 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 41 |
| | | Max-* | 0.2 | 0.3 | 0.9 | 0.3 | 0.1 | 0.3 | 0.2 | 0.3 | 0.3 | 0.1 | 0.1 | 0.3 |
| | | Min-* | 0.1 | 0.0 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | N.D. | N.D. | 0.1 | N.D. |
| Republic of Korea | Imsil | Mean | - | - | - | 0.6 | - | - | - | 0.2 | - | - | 0.7 | - |
| | | Complete | - | - | - | 33 | - | - | - | 32 | - | - | 33 | - |
| | | Max-d | - | - | - | 1.4 | - | - | - | 0.4 | - | - | 1.4 | - |
| | | Min-d | - | - | - | 0.1 | - | - | - | 0.0 | - | - | 0.1 | - |
| Russia | Mondy | Mean | N.D. | N.D. | N.D. | - | 0.1 | 0.3 | 0.1 | 0.1 | - | 0.1 | N.D. | N.D. |
| | | % | 100 | 100 | 100 | - | 100 | 28 | 100 | 100 | - | 100 | 100 | 66 |
| | | Max-* | N.D. | N.D. | 0.1 | - | 0.1 | 0.3 | 0.1 | 0.1 | - | 0.2 | 0.1 | N.D. |
| | | Min-* | N.D. | N.D. | N.D. | - | 0.1 | 0.3 | 0.1 | 0.1 | - | N.D. | N.D. | N.D. |
| | Listvyanka | Mean | N.D. | 0.3 | N.D. | 0.3 | 0.2 | 0.3 | 0.2 | 0.2 | 0.5 | 0.2 | 0.1 | 0.4 |
| | | % | 97 | 97 | 97 | 100 | 100 | 100 | 100 | 100 | 100 | 97 | 100 | 90 |
| | | Max-10d | N.D. | 0.4 | N.D. | 0.5 | 0.2 | 0.4 | 0.3 | 0.3 | 0.7 | 0.2 | 0.2 | 0.4 |
| | | Min-10d | N.D. | 0.1 | N.D. | 0.1 | 0.2 | 0.1 | 0.2 | 0.1 | 0.2 | 0.2 | N.D. | 0.4 |
| | Irkutsk | Mean | 0.3 | 0.4 | 0.2 | 0.4 | 0.4 | 0.3 | 0.4 | 0.4 | 0.8 | 0.4 | N.D. | 0.2 |
| | | % | 97 | 67 | 100 | 73 | 100 | 93 | 89 | 100 | 100 | 94 | 40 | 89 |
| | | Max-2w | 0.4 | 0.6 | 0.4 | 0.6 | 0.4 | 0.3 | 0.5 | 0.4 | 1.1 | 0.4 | N.D. | 0.5 |
| | | Min-2w | N.D. | 0.2 | 0.1 | 0.3 | 0.4 | 0.3 | 0.3 | 0.4 | 0.4 | 0.4 | N.D. | 0.1 |
| | Primorskaya | Mean | - | - | - | - | - | - | - | - | - | - | 0.2 | 0.3 |
| | | % | - | - | - | - | - | - | - | - | - | - | 100 | 100 |
| | | Max-w | - | - | - | - | - | - | - | - | - | - | 0.3 | 0.4 |
| | | Min-w | - | - | - | - | - | - | - | - | - | - | 0.1 | 0.2 |
| Thai Land | Mae Hia | Mean | 0.4 | 0.4 | 0.4 | - | 0.3 | N.D. | 0.1 | 0.3 | 0.1 | 0.2 | 0.4 | 0.1 |
| | | % | 39 | 28 | 30 | - | 18 | 32 | 18 | 19 | 32 | 32 | 25 | 22 |
| | | Max-w | - | - | - | - | - | - | - | - | - | - | - | - |
| | | Min-w | - | - | - | - | - | - | - | - | - | - | - | - |
| Viet Nam | Hanoi | Mean | 1.0 | 1.2 | 0.6 | 0.3 | 0.5 | 0.4 | 0.3 | - | - | - | - | N.D. |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | - | - | - | - | 100 |
| | | Max-w | 1.4 | 1.8 | 1.0 | 0.3 | 0.5 | 0.4 | 0.5 | - | - | - | - | 0.2 |
| | | Min-w | 0.6 | 0.9 | 0.3 | 0.3 | 0.4 | 0.3 | 0.3 | - | - | - | - | 0.2 |
| | Hoa Binh | Mean | 0.4 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.4 | 0.3 | 0.2 | 0.1 | 0.3 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | | Max-w | 0.9 | 0.3 | 0.2 | 0.3 | 0.3 | 0.2 | 0.5 | 0.6 | 0.3 | 0.4 | 0.2 | 0.4 |
| | | Min-w | 0.2 | 0.0 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.1 | 0.1 | 0.2 |

**Table 4.5 HCl**

| Unit: ppb | | | 2001 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Country | Site | | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| Indonesia | Serpong | Mean | - | - | - | - | - | - | 0.2 | 1.1 | 0.6 | - | 1.2 | 3.8 |
| | | % | - | - | - | - | - | - | 26 | 48 | 53 | - | 45 | 96 |
| | | Max-w | - | - | - | - | - | - | 0.2 | 1.6 | 1.2 | - | 2.7 | 7.4 |
| | | Min-w | - | - | - | - | - | - | 0.2 | 0.7 | N.D. | - | N.D. | 2.2 |
| Malaysia | Tanah Rata | Mean | 0.1 | 0.3 | 0.2 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.1 | N.D. | 0.1 |
| | | % | 100 | 100 | 100 | 80 | 100 | 100 | 100 | 100 | 80 | 100 | 75 | 100 |
| | | Max-w | 0.1 | 0.3 | 0.3 | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.3 | 0.2 | 0.1 | 0.1 |
| | | Min-w | N.D. | 0.2 | 0.1 | N.D. | 0.1 | N.D. | 0.1 | N.D. | 0.2 | 0.1 | N.D. | N.D. |
| Mongolia | Ulaanbaatar | Mean | - | - | - | - | 0.3 | 0.4 | 0.2 | 0.2 | 0.1 | N.D. | 0.1 | - |
| | | % | - | - | - | - | 100 | 100 | 100 | 80 | 100 | 100 | 22 | - |
| | | Max-w | - | - | - | - | 0.5 | 0.4 | 0.3 | 0.3 | 0.1 | 0.1 | 0.1 | - |
| | | Min-w | - | - | - | - | 0.2 | 0.3 | 0.2 | 0.1 | 0.1 | N.D. | 0.1 | - |
| | Terelj | Mean | 0.2 | 0.2 | 0.1 | 0.2 | 0.4 | 0.5 | - | - | - | - | - | - |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | - | - | - | - | - | - |
| | | Max-2w | 0.2 | 0.2 | 0.2 | 0.3 | 0.5 | 0.6 | - | - | - | - | - | - |
| | | Min-2w | 0.2 | 0.1 | 0.1 | 0.1 | 0.2 | 0.5 | - | - | - | - | - | - |
| Philippines | Metro Manila | Mean | 7.2 | 1.7 | 1.9 | 0.3 | N.D. | N.D. | 0.8 | N.D. | N.D. | 0.7 | 0.4 | 0.2 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 66 | 100 | 59 |
| | | Max-* | 17.0 | 4.0 | 3.3 | 1.5 | 0.1 | 0.2 | 2.2 | N.D. | 0.2 | 1.9 | 1.5 | 0.4 |
| | | Min-* | 2.4 | N.D. | 0.6 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 0.2 | N.D. | N.D. |
| | Los Banos | Mean | 0.7 | - | - | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 0.4 | N.D. | N.D. |
| | | % | 7 | - | - | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 41 |
| | | Max-* | 2.0 | - | - | 0.8 | N.D. | 0.1 | N.D. | 0.2 | 0.6 | 0.4 | 0.5 | N.D. |
| | | Min-* | 2.0 | - | - | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 0.3 | N.D. | N.D. |
| Republic of Korea | Imsil | Mean | - | - | - | 0.3 | - | - | - | 0.2 | - | - | 0.3 | - |
| | | Complete | - | - | - | 33 | - | - | - | 32 | - | - | 33 | - |
| | | Max-d | - | - | - | 0.4 | - | - | - | 0.4 | - | - | 0.4 | - |
| | | Min-d | - | - | - | 0.1 | - | - | - | 0.1 | - | - | 0.1 | - |
| Russia | Mondy | Mean | 0.3 | 0.1 | 0.2 | - | 0.2 | 0.4 | 0.2 | 0.3 | - | 0.3 | 0.1 | N.D. |
| | | % | 100 | 100 | 100 | - | 100 | 28 | 100 | 100 | - | 100 | 100 | 66 |
| | | Max-* | 0.3 | 0.1 | 0.2 | - | 0.2 | 0.4 | 0.2 | 0.3 | - | 0.5 | 0.2 | N.D. |
| | | Min-* | 0.3 | 0.1 | 0.1 | - | 0.2 | 0.4 | 0.2 | 0.3 | - | 0.1 | N.D. | N.D. |
| | Listvyanka | Mean | 0.4 | 0.4 | 0.6 | 0.1 | 0.2 | 0.2 | 0.2 | 0.3 | 0.4 | 0.2 | 0.4 | 0.8 |
| | | % | 97 | 97 | 97 | 100 | 100 | 100 | 100 | 100 | 100 | 97 | 100 | 90 |
| | | Max-10d | 0.6 | 0.4 | 0.8 | 0.1 | 0.2 | 0.2 | 0.2 | 0.6 | 0.7 | 0.2 | 0.9 | 0.9 |
| | | Min-10d | 0.2 | 0.4 | 0.2 | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 | 0.2 | N.D. | 0.7 |
| | Irkutsk | Mean | 0.8 | 0.2 | 0.3 | 1.1 | 1.1 | 0.3 | 0.7 | 1.2 | 1.0 | 0.7 | N.D. | 0.4 |
| | | % | 97 | 67 | 100 | 73 | 100 | 93 | 89 | 100 | 100 | 94 | 40 | 89 |
| | | Max-2w | 1.0 | 0.2 | 0.3 | 1.2 | 1.2 | 0.5 | 1.0 | 1.2 | 1.2 | 0.8 | N.D. | 0.6 |
| | | Min-2w | 0.6 | 0.1 | 0.2 | 1.0 | 1.1 | 0.2 | 0.4 | 1.1 | 0.9 | 0.7 | N.D. | 0.2 |
| Thai Land | Mae Hia | Mean | 0.3 | 1.6 | 1.6 | - | 0.1 | 0.0 | 0.8 | 1.3 | 1.7 | 1.3 | 1.5 | 0.3 |
| | | % | 39 | 28 | 30 | - | 18 | 32 | 18 | 19 | 32 | 32 | 25 | 22 |
| | | Max-w | - | - | - | - | - | - | - | - | - | - | - | - |
| | | Min-w | - | - | - | - | - | - | - | - | - | - | - | - |
| Viet Nam | Hanoi | Mean | 2.8 | 1.6 | 1.5 | 2.7 | 0.7 | 1.0 | 0.7 | - | - | - | - | 0.3 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | - | - | - | - | 100 |
| | | Max-w | 5.9 | 2.1 | 2.0 | 5.7 | 1.0 | 2.0 | 1.5 | - | - | - | - | 1.4 |
| | | Min-w | 0.1 | 0.9 | 1.0 | 1.4 | 0.5 | 0.3 | 0.6 | - | - | - | - | 1.4 |
| | Hoa Binh | Mean | 0.7 | 0.5 | 0.4 | 0.4 | 0.4 | 0.2 | 0.5 | 0.9 | 0.4 | 1.0 | 0.9 | 1.0 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | | Max-w | 1.5 | 0.9 | 0.5 | 0.6 | 0.7 | 0.3 | 1.0 | 2.1 | 0.8 | 1.7 | 2.3 | 1.3 |
| | | Min-w | 0.1 | N.D. | 0.3 | 0.3 | 0.1 | 0.1 | 0.1 | 0.3 | 0.1 | 0.3 | 0.4 | 0.9 |

**Table 4.6 $NH_3$**

| Unit: ppb | | | 2001 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Country | Site | | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| Indonesia | Serpong | Mean | - | - | - | - | - | - | 7.8 | 11.1 | 2.2 | - | 1.7 | 0.1 |
| | | % | - | - | - | - | - | - | 26 | 48 | 53 | - | 45 | 96 |
| | | Max-w | - | - | - | - | - | - | 7.8 | 12.8 | 2.6 | - | 2.4 | 2.1 |
| | | Min-w | - | - | - | - | - | - | 7.8 | 9.3 | 1.8 | - | 1.1 | N.D. |
| Malaysia | Tanah Rata | Mean | 0.1 | 0.2 | 0.2 | 0.1 | 0.2 | 0.2 | 0.5 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 |
| | | % | 100 | 100 | 100 | 80 | 100 | 100 | 100 | 100 | 80 | 100 | 75 | 100 |
| | | Max-w | 0.2 | 0.3 | 0.3 | 0.2 | 0.2 | 0.3 | 0.9 | 0.2 | 0.2 | 0.1 | 0.2 | 0.1 |
| | | Min-w | 0.1 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| | Petaling Jaya | Mean | 7.9 | 10.1 | 11.5 | 8.2 | 11.7 | 12.8 | 13.2 | 8.6 | 6.2 | 8.7 | 12.9 | 9.4 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | | Max-w | 12.4 | 14.8 | 21.6 | 11.3 | 23.0 | 19.2 | 18.7 | 15.3 | 8.1 | 12.7 | 25.4 | 13.8 |
| | | Min-w | 5.2 | 7.4 | 4.7 | 6.5 | 8.0 | 7.0 | 9.1 | 2.9 | 3.7 | 5.2 | 6.4 | 7.0 |
| Mongolia | Ulaanbaatar | Mean | - | - | - | - | 7.3 | 5.7 | 7.6 | 10.4 | 6.1 | 6.3 | 7.4 | - |
| | | % | - | - | - | - | 100 | 100 | 100 | 80 | 100 | 100 | 22 | - |
| | | Max-w | - | - | - | - | 8.9 | 9.2 | 8.4 | 12.2 | 6.6 | 8.0 | 7.4 | - |
| | | Min-w | - | - | - | - | 5.3 | 3.0 | 6.5 | 8.8 | 5.6 | 4.8 | 7.4 | - |
| | Terelj | Mean | 0.3 | 0.3 | 0.9 | 0.7 | 0.9 | 1.3 | - | - | - | - | - | - |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | - | - | - | - | - | - |
| | | Max-2w | 0.3 | 0.3 | 1.2 | 0.8 | 1.3 | 3.1 | - | - | - | - | - | - |
| | | Min-2w | 0.3 | 0.2 | 0.7 | 0.6 | 0.5 | N.D. | - | - | - | - | - | - |
| Philippines | Metro Manila | Mean | 1.0 | 0.2 | N.D. | 0.2 | 15.6 | 17.4 | 6.5 | 6.5 | 7.2 | 8.6 | 11.0 | 11.3 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 59 |
| | | Max-* | 4.4 | 0.5 | 0.1 | 0.3 | 18.4 | 21.6 | 8.3 | 9.9 | 7.4 | 12.6 | 12.6 | 12.0 |
| | | Min-* | N.D. | N.D. | N.D. | N.D. | 12.8 | 11.1 | 3.4 | 3.7 | 6.8 | 3.7 | 8.5 | 10.5 |
| | Los Banos | Mean | 0.5 | N.D. | N.D. | N.D. | 5.9 | 8.9 | 6.5 | 3.7 | 8.2 | 5.2 | 4.7 | 7.4 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 41 |
| | | Max-* | 0.6 | N.D. | N.D. | 0.1 | 5.9 | 9.3 | 7.9 | 5.7 | 19.0 | 5.4 | 5.2 | 8.3 |
| | | Min-* | 0.3 | N.D. | N.D. | N.D. | 5.9 | 8.6 | 4.8 | 0.4 | 0.6 | 4.9 | 4.3 | 6.4 |
| Republic of Korea | Imsil | Mean | - | - | - | 7.9 | - | - | - | 4.3 | - | - | 2.6 | - |
| | | Complete | - | - | - | 33 | - | - | - | 32 | - | - | 33 | - |
| | | Max-d | - | - | - | 9.3 | - | - | - | 6.7 | - | - | 3.9 | - |
| | | Min-d | - | - | - | 5.9 | - | - | - | 2.8 | - | - | 1.8 | - |
| Russia | Mondy | Mean | 0.2 | 0.1 | 0.3 | - | N.D. | 0.1 | 0.1 | 0.8 | - | 0.4 | 0.3 | N.D. |
| | | % | 100 | 100 | 100 | - | 100 | 28 | 100 | 100 | - | 100 | 100 | 66 |
| | | Max-* | 0.2 | 0.1 | 0.4 | - | N.D. | 0.1 | 0.1 | 0.8 | - | 0.5 | 0.5 | 0.1 |
| | | Min-* | 0.2 | 0.1 | 0.1 | - | N.D. | 0.1 | 0.1 | 0.8 | - | 0.3 | 0.2 | N.D. |
| | Listvyanka | Mean | 0.1 | N.D. | 0.2 | 0.1 | 0.2 | 0.3 | 0.2 | 0.5 | 0.1 | 0.1 | 0.1 | 0.1 |
| | | % | 97 | 97 | 97 | 100 | 100 | 100 | 100 | 100 | 100 | 97 | 100 | 90 |
| | | Max-10d | 0.2 | N.D. | 0.2 | 0.3 | 0.3 | 0.5 | 0.2 | 0.7 | 0.2 | 0.1 | 0.1 | 0.1 |
| | | Min-10d | 0.1 | N.D. | 0.1 | N.D. | N.D. | 0.1 | 0.1 | 0.2 | N.D. | N.D. | N.D. | N.D. |
| | Irkutsk | Mean | 0.2 | 0.3 | 0.8 | 1.0 | 0.5 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.8 | 0.9 |
| | | % | 97 | 67 | 100 | 73 | 100 | 93 | 89 | 100 | 100 | 94 | 40 | 89 |
| | | Max-2w | 0.3 | 0.4 | 1.2 | 1.7 | 0.6 | 0.4 | 0.5 | 0.4 | 0.4 | 0.5 | 0.8 | 1.7 |
| | | Min-2w | 0.1 | 0.2 | 0.5 | 0.6 | 0.4 | 0.4 | 0.4 | 0.4 | 0.3 | 0.3 | 0.8 | 0.1 |
| Thai Land | Mae Hia | Mean | 6.0 | 8.6 | 2.6 | - | 5.6 | 3.6 | 1.9 | 20.8 | 5.7 | 4.2 | 3.9 | 8.8 |
| | | % | 39 | 28 | 30 | - | 18 | 32 | 18 | 19 | 32 | 32 | 25 | 22 |
| | | Max-w | - | - | - | - | - | - | - | - | - | - | - | - |
| | | Min-w | - | - | - | - | - | - | - | - | - | - | - | - |
| Viet Nam | Hanoi | Mean | 9.5 | 8.9 | 9.7 | 8.6 | 1.1 | 6.2 | 2.0 | - | - | - | - | 0.2 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | - | - | - | - | 100 |
| | | Max-w | 19.1 | 10.7 | 12.4 | 10.0 | 1.7 | 9.4 | 5.9 | - | - | - | - | 1.0 |
| | | Min-w | 5.6 | 6.2 | 4.4 | 5.0 | 0.8 | 0.7 | 0.8 | - | - | - | - | 1.0 |
| | Hoa Binh | Mean | 8.9 | 7.7 | 3.8 | 2.5 | 1.5 | 0.6 | 1.1 | 2.6 | 0.4 | 0.2 | 0.2 | 2.8 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | | Max-w | 11.1 | 20.9 | 6.2 | 3.0 | 2.3 | 1.2 | 1.7 | 5.0 | 0.4 | 0.3 | 0.2 | 4.0 |
| | | Min-w | 5.0 | 2.2 | 1.2 | 1.9 | 0.6 | 0.3 | 0.6 | 0.5 | 0.3 | 0.1 | 0.2 | 0.6 |

**Table 4.7 NO**

| Unit: ppb | | | 2001 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Country | Site | | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| Japan | Rishiri | Mean | N.D. | N.D. | N.D. | N.D. | 0.1 | N.D. | 0.1 | N.D. | N.D. | N.D. | N.D. | N.D. |
| | | % | 46 | 98 | 36 | 34 | 98 | 99 | 98 | 98 | 98 | 97 | 98 | 98 |
| | | Max-d | 0.1 | 0.1 | 0.1 | 0.3 | 0.4 | 0.2 | 0.4 | 0.2 | 0.2 | 0.2 | 0.4 | 0.4 |
| | | 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. |
| | Tappi | Mean | N.D. | N.D. | N.D. | 0.2 | 0.2 | 0.2 | 0.1 | N.D. | N.D. | N.D. | N.D. | N.D. |
| | | % | 99 | 97 | 86 | 98 | 98 | 96 | 77 | 54 | 90 | 6 | 80 | 99 |
| | | Max-d | 0.2 | 0.2 | 0.4 | 1.1 | 1.6 | 1.1 | 0.2 | 0.2 | 0.5 | N.D. | 0.1 | 0.1 |
| | | 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. |
| | Sado-seki | 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. |
| | | %] | 98 | 99 | 98 | 98 | 94 | 98 | 54 | 98 | 98 | 54 | 98 | 99 |
| | | Max-d | 0.3 | 0.1 | 0.2 | 0.2 | 0.4 | 0.1 | 0.3 | 0.3 | 0.2 | 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. |
| | Happo | Mean | N.D. | N.D. | 0.1 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 0.1 |
| | | % | 33 | 48 | 47 | 32 | 95 | 98 | 54 | 98 | 97 | 91 | 59 | 73 |
| | | Max-d | 0.3 | 0.3 | 0.3 | 0.1 | 0.2 | 0.2 | 0.1 | 0.2 | 0.4 | 0.2 | 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. |
| | Ogasawara | Mean | 0.3 | N.D. | 0.2 | 0.1 | 0.1 | 0.4 | 0.1 | N.D. | N.D. | N.D. | N.D. | N.D. |
| | | % | 97 | 90 | 97 | 99 | 97 | 95 | 98 | 98 | 98 | 95 | 97 | 97 |
| | | Max-d | 1.2 | 0.3 | 1.4 | 0.8 | N.D. | 2.3 | 1.3 | 0.2 | 0.2 | 0.6 | 0.4 | 0.2 |
| | | 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. |
| | Oki | 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. |
| | | % | 98 | 81 | 70 | 73 | 69 | 71 | 42 | 71 | 91 | 71 | 91 | 44 |
| | | Max-d | 0.2 | 0.1 | 0.1 | 0.2 | 0.1 | N.D. | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 |
| | | 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. |
| | Ijira | Mean | 0.2 | 0.1 | 0.2 | 0.2 | 0.2 | 0.4 | 0.6 | 0.5 | 0.3 | 0.2 | 0.3 | 0.3 |
| | | % | 100 | 100 | 100 | 100 | 99 | 100 | 97 | 100 | 100 | 100 | 100 | 100 |
| | | Max-d | 1.0 | 0.6 | 0.6 | 0.7 | 0.9 | 1.8 | 2.0 | 2.9 | 1.0 | 0.8 | 1.8 | 2.2 |
| | | Min-d | N.D. | N.D. | N.D. | N.D. | N.D. | 0.1 | 0.1 | N.D. | N.D. | N.D. | N.D. | N.D. |
| | Banryu | Mean | 0.3 | 0.4 | 0.3 | 0.3 | 0.2 | 0.4 | 0.4 | 0.4 | 0.4 | 0.3 | 0.3 | 0.3 |
| | | % | 98 | 98 | 73 | 74 | 57 | 98 | 98 | 97 | 87 | 98 | 95 | 98 |
| | | Max-d | 0.9 | 0.9 | 0.5 | 0.6 | 0.5 | 1.3 | 0.8 | 0.7 | 1.9 | 1.1 | 1.2 | 0.9 |
| | | Min-d | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | N.D. | 0.1 |
| | Yusuhara | Mean | 0.1 | 0.2 | 0.1 | 0.2 | 0.2 | 0.3 | 0.2 | N.D. | N.D. | 0.1 | N.D. | 0.2 |
| | | % | 99 | 98 | 99 | 98 | 98 | 94 | 92 | 83 | 98 | 98 | 98 | 86 |
| | | Max-d | 0.2 | 0.3 | 0.2 | 0.4 | 0.4 | 0.5 | 0.4 | 0.2 | 0.2 | 0.2 | 0.2 | 0.4 |
| | | Min-d | N.D. | N.D. | N.D. | N.D. | 0.1 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| | Hedo | Mean | 0.1 | 0.2 | 0.1 | 0.1 | 0.2 | - | - | - | - | - | - | N.D. |
| | | % | 98 | 99 | 99 | 98 | 42 | - | - | - | - | - | - | 54 |
| | | Max-d | 0.3 | 0.3 | 0.2 | 0.4 | 0.3 | - | - | - | - | - | - | 0.1 |
| | | Min-d | N.D. | 0.1 | N.D. | N.D. | 0.1 | - | - | - | - | - | - | 0.0 |
| Thai Land | Khao Lam Dam | Mean | - | - | - | - | - | - | 0.9 | 1.0 | - | - | 1.5 | 1.5 |
| | | % | - | - | - | - | - | - | 24 | 19 | - | - | 10 | 37 |
| | | Max-d | - | - | - | - | - | - | 1.1 | 1.0 | - | - | 1.8 | 1.9 |
| | | Min-d | - | - | - | - | - | - | 0.6 | 0.9 | - | - | 1.3 | 1.1 |
| | Bangkok | Mean | 20.0 | 17.9 | 18.9 | 8.5 | 16.7 | 25.8 | 21.6 | 29.7 | 28.5 | 47.0 | 31.9 | 34.3 |
| | | % | 79 | 86 | 94 | 97 | 91 | 96 | 97 | 97 | 99 | 71 | 94 | 87 |
| | | Max-d | 56.8 | 115.6 | 43.6 | 18.8 | 40.6 | 43.9 | 37.2 | 57.3 | 62.0 | 115.0 | 123.7 | 219.9 |
| | | Min-d | 6.8 | 4.0 | 2.8 | 3.8 | 6.8 | 4.0 | 8.4 | 9.2 | 1.8 | 15.5 | 6.5 | 3.6 |
| | Samutprakarn | Mean | 13.2 | 14.2 | 11.3 | 2.2 | 14.5 | 18.1 | 15.7 | 26.1 | 16.7 | 28.9 | 31.4 | 34.8 |
| | | % | 96 | 95 | 95 | 96 | 95 | 95 | 95 | 74 | 80 | 95 | 80 | 95 |
| | | Max-d | 42.0 | 68.3 | 44.8 | 11.9 | 47.5 | 34.8 | 30.0 | 52.2 | 35.2 | 69.7 | 88.3 | 116.3 |
| | | Min-d | 1.3 | N.D. | 0.3 | N.D. | 1.3 | 0.7 | 3.0 | 6.2 | 0.8 | 1.0 | 16.2 | 1.3 |

**Table 4.8 $NO_2$**

| Unit: ppb | | | 2001 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Country | Site | | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| China | Jinyunshan | Mean | 4.1 | 6.0 | 3.3 | 3.0 | 1.8 | 1.6 | 2.5 | 1.2 | 2.0 | 1.5 | 2.7 | 3.5 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | | Max-d | 7.8 | 36.1 | 13.1 | 24.6 | 6.3 | 4.7 | 21.4 | 2.1 | 3.7 | 3.1 | 7.3 | 7.3 |
| | | Min-d | 1.6 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| | Weishuiyuan | Mean | 3.5 | 2.7 | 5.0 | 5.7 | 5.5 | 8.9 | 5.7 | 3.7 | 1.8 | 2.9 | 5.4 | 5.1 |
| | | % | 97 | 100 | 100 | 63 | 90 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | | Max-d | 6.3 | 6.3 | 34.5 | 12.0 | 12.0 | 22.5 | 12.0 | 9.4 | 3.1 | 7.3 | 17.3 | 8.4 |
| | | Min-d | 1.0 | 1.0 | 2.1 | 1.0 | 1.0 | 3.1 | 2.1 | 1.0 | 1.0 | 1.0 | 1.0 | 2.1 |
| | Hongwen | Mean | 11.1 | 8.8 | 9.9 | 11.6 | 10.6 | 10.7 | 10.2 | 10.7 | 12.4 | 11.3 | 13.4 | 15.4 |
| | | % | 97 | 100 | 100 | 100 | 97 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | | Max-d | 19.9 | 20.4 | 22.5 | 18.3 | 20.9 | 16.7 | 15.7 | 14.6 | 22.0 | 16.2 | 29.3 | 28.2 |
| | | Min-d | 2.1 | 2.6 | 1.6 | 4.2 | 4.7 | 6.3 | 7.3 | 5.2 | 8.4 | 8.4 | 8.9 | 2.1 |
| | Xiang Zhou | Mean | 13.6 | 13.8 | 15.9 | 14.0 | 10.4 | 9.8 | 7.8 | 19.2 | 28.3 | 23.5 | 34.7 | 32.6 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | | Max-d | 27.2 | 28.8 | 32.9 | 31.4 | 36.1 | 18.8 | 19.9 | 35.6 | 45.5 | 47.1 | 58.6 | 53.9 |
| | | Min-d | 3.1 | 2.1 | 6.8 | 5.2 | 2.6 | 3.1 | 2.1 | 4.2 | 4.7 | 11.5 | 10.5 | 19.4 |
| Japan | Ijira | Mean | 1.8 | 2.3 | 3.4 | 5.2 | 3.7 | 4.4 | 4.8 | 2.9 | 2.8 | 2.1 | 1.9 | 1.9 |
| | | % | 100 | 100 | 100 | 100 | 99 | 100 | 97 | 100 | 100 | 100 | 100 | 100 |
| | | Max-d | 4.6 | 6.9 | 11.4 | 11.4 | 13.0 | 11.3 | 13.5 | 6.8 | 5.9 | 5.5 | 7.0 | 9.5 |
| | | Min-d | 0.3 | 0.4 | 0.8 | 1.0 | 0.4 | 0.8 | 0.8 | 0.0 | 0.3 | 0.3 | 0.3 | 0.3 |
| | Banryu | Mean | 4.2 | 4.8 | 4.5 | 4.8 | 3.4 | 3.6 | 2.8 | 3.0 | 3.6 | 4.0 | 4.2 | 4.4 |
| | | % | 98 | 98 | 28 | 64 | 96 | 72 | 47 | 21 | 87 | 98 | 95 | 98 |
| | | Max-d | 10.4 | 11.1 | 6.7 | 6.4 | 5.1 | 7.0 | 4.1 | 5.5 | 6.4 | 8.5 | 7.0 | 8.4 |
| | | Min-d | 1.4 | 1.3 | 2.5 | 2.4 | 1.5 | 1.8 | 2.0 | 2.0 | 1.8 | 1.6 | 1.9 | 2.3 |
| Malaysia | Tanah Rata | Mean | 0.9 | 0.9 | 0.8 | 1.4 | 0.9 | 0.8 | 0.9 | 0.6 | 1.0 | 0.5 | 1.0 | 0.8 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 97 | 100 | 100 | 100 |
| | | Max-w | 1.3 | 1.1 | 1.2 | 2.1 | 1.0 | 1.0 | 1.2 | 1.0 | 1.6 | 1.0 | 1.6 | 0.9 |
| | | Min-w | 0.6 | 0.8 | 0.5 | 0.9 | 0.6 | 0.4 | 0.8 | 0.4 | 0.6 | 0.4 | 0.8 | 0.8 |
| | Petaling Jaya | Mean | 29.0 | 33.8 | 27.2 | 28.1 | 23.7 | 25.4 | 26.0 | 24.2 | 28.1 | 20.9 | 25.8 | 27.6 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | | Max-w | 35.9 | 39.5 | 30.4 | 30.5 | 29.5 | 31.5 | 31.4 | 29.3 | 38.6 | 25.0 | 30.3 | 30.5 |
| | | Min-w | 23.9 | 30.6 | 22.9 | 24.7 | 15.1 | 19.4 | 22.7 | 18.9 | 18.8 | 16.2 | 21.9 | 25.2 |
| Thailand | Bangkok | Mean | 31.1 | 32.0 | 27.6 | 22.0 | 19.6 | 24.2 | 19.5 | 22.4 | 17.3 | 27.1 | 22.9 | 37.8 |
| | | % | 79 | 86 | 94 | 97 | 91 | 96 | 97 | 97 | 99 | 71 | 94 | 87 |
| | | Max-d | 50.9 | 59.4 | 44.0 | 35.8 | 25.4 | 33.6 | 26.5 | 39.5 | 24.5 | 56.2 | 58.7 | 77.5 |
| | | Min-d | 14.4 | 10.3 | 15.2 | 13.9 | 14.6 | 15.3 | 12.9 | 13.7 | 0.0 | 11.3 | 8.7 | 23.0 |
| | Samutprakarn | Mean | 21.6 | 17.8 | 16.3 | 7.1 | 9.4 | 10.9 | 9.9 | 14.4 | 23.0 | 29.4 | 40.1 | 40.4 |
| | | % | 96 | 95 | 95 | 96 | 95 | 95 | 95 | 74 | 80 | 93 | 80 | 87 |
| | | Max-d | 52.5 | 43.3 | 32.2 | 14.8 | 17.8 | 19.2 | 18.9 | 22.7 | 48.0 | 47.4 | 82.1 | 72.5 |
| | | Min-d | 5.0 | 5.7 | 5.5 | 2.7 | 0.7 | 0.4 | 0.8 | 6.8 | 8.3 | 2.4 | 3.3 | 16.6 |

**Table 4.9 NOx**

| Unit: ppb | | | 2001 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Country | Site | | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| Japan | Rishiri | Mean | 0.8 | 1.0 | 0.8 | 0.6 | 1.1 | 0.8 | 1.1 | 0.3 | 0.1 | 0.1 | 1.1 | 0.9 |
| | (NOx*) | % | 46 | 98 | 36 | 34 | 98 | 99 | 98 | 98 | 98 | 97 | 98 | 98 |
| | | Max-d | 1.1 | 2.3 | 2.3 | 8.8 | 3.2 | 2.2 | 2.2 | 1.0 | 0.5 | 0.7 | 2.2 | 1.9 |
| | | Min-d | 0.4 | 0.5 | 0.3 | N.D. | N.D. | 0.2 | 0.4 | N.D. | N.D. | N.D. | N.D. | 0.5 |
| | Tappi | Mean | 0.9 | 0.9 | 1.6 | 2.2 | 1.7 | 1.5 | 1.4 | 0.8 | 0.7 | 0.7 | 0.9 | 0.7 |
| | (NOx*) | % | 99 | 97 | 86 | 98 | 98 | 96 | 77 | 54 | 90 | 6 | 80 | 99 |
| | | Max-d | 2.9 | 1.9 | 4.6 | 7.8 | 7.7 | 8.0 | 3.9 | 1.7 | 2.9 | 1.4 | 1.5 | 2.8 |
| | | Min-d | 0.5 | 0.5 | 0.4 | 0.8 | 0.1 | 0.4 | 0.5 | 0.3 | 0.1 | 0.5 | 0.3 | 0.4 |
| | Sado-seki | Mean | 0.8 | 1.1 | 1.4 | 2.3 | 1.5 | 0.7 | 1.2 | 0.8 | 0.9 | 1.3 | 1.5 | 1.4 |
| | (NOx*) | % | 98 | 99 | 98 | 98 | 94 | 98 | 54 | 98 | 98 | 54 | 98 | 99 |
| | | Max-d | 2.8 | 3.4 | 5.3 | 5.8 | 3.7 | 1.7 | 3.1 | 2.9 | 2.9 | 2.6 | 4.6 | 3.7 |
| | | Min-d | N.D. | N.D. | N.D. | N.D. | 0.1 | N.D. | N.D. | N.D. | N.D. | 0.2 | 0.6 | 0.7 |
| | Happo | Mean | 1.0 | 0.9 | 1.3 | 1.4 | 2.5 | 2.2 | 2.6 | 2.3 | 2.1 | 1.7 | 1.3 | 1.2 |
| | (NOx*) | % | 33 | 48 | 47 | 32 | 95 | 98 | 54 | 98 | 97 | 91 | 59 | 73 |
| | | Max-d | 1.6 | 1.9 | 2.1 | 3.2 | 6.0 | 3.9 | 6.0 | 3.5 | 5.7 | 2.9 | 2.2 | 1.9 |
| | | Min-d | 0.6 | 0.4 | 0.7 | 0.6 | 0.7 | 1.1 | 1.1 | 1.3 | 0.8 | 0.5 | 0.6 | 0.7 |
| | Ogasawara | Mean | 1.6 | 0.8 | 1.5 | 0.7 | 0.7 | 0.9 | 0.4 | 0.1 | 0.1 | 0.2 | 0.6 | 0.8 |
| | (NOx*) | % | 97 | 90 | 97 | 99 | 97 | 95 | 98 | 98 | 98 | 95 | 97 | 97 |
| | | Max-d | 4.3 | 1.8 | 3.6 | 2.1 | 0.1 | 4.8 | 2.4 | 1.3 | 0.6 | 1.2 | 2.3 | 2.3 |
| | | Min-d | 0.3 | 0.1 | 0.1 | 0.1 | 0.1 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 0.3 |
| | Oki | Mean | 1.1 | 1.2 | 2.4 | 2.2 | 1.9 | 1.1 | 0.7 | 0.6 | 0.6 | 1.1 | 1.6 | 1.3 |
| | (NOx*) | % | 98 | 90 | 49 | 73 | 69 | 45 | 19 | 88 | 91 | 53 | 65 | 30 |
| | | Max-d | 3.3 | 3.8 | 5.3 | 4.2 | 3.7 | 2.9 | 1.0 | 2.3 | 1.8 | 2.8 | 3.7 | 2.8 |
| | | Min-d | 0.2 | 0.2 | 0.8 | 0.6 | 0.4 | 0.4 | 0.2 | N.D. | N.D. | 0.3 | 0.6 | 0.6 |
| | Ijira | Mean | 2.0 | 2.4 | 3.6 | 5.4 | 3.9 | 4.7 | 5.5 | 3.4 | 3.1 | 2.3 | 2.3 | 2.2 |
| | | % | 100 | 100 | 100 | 100 | 99 | 100 | 97 | 100 | 100 | 100 | 100 | 100 |
| | | Max-d | 5.6 | 7.6 | 11.9 | 11.8 | 13.2 | 11.8 | 13.9 | 7.2 | 6.8 | 5.9 | 8.8 | 11.8 |
| | | Min-d | 0.4 | 0.4 | 0.9 | 1.1 | 0.4 | 0.9 | 1.0 | 0.1 | 0.4 | 0.4 | 0.4 | 0.3 |
| | Banryu | Mean | 4.5 | 5.1 | 5.2 | 5.1 | 3.6 | 4.0 | 3.1 | 3.4 | 4.0 | 4.4 | 4.6 | 4.6 |
| | | % | 98 | 98 | 73 | 68 | 96 | 72 | 47 | 21 | 87 | 98 | 95 | 98 |
| | | Max-d | 11.2 | 12.0 | 7.9 | 6.8 | 5.4 | 8.3 | 4.8 | 6.0 | 8.1 | 9.1 | 7.4 | 8.6 |
| | | Min-d | 1.5 | 1.5 | 2.7 | 2.7 | 1.7 | 2.0 | 2.1 | 2.2 | 2.1 | 1.6 | 2.1 | 2.4 |
| | Yusuhara | Mean | 2.1 | 2.0 | 2.3 | 1.8 | 1.3 | 1.1 | 0.9 | 1.6 | 1.4 | 1.6 | 2.4 | 2.7 |
| | (NOx*) | % | 99 | 98 | 99 | 95 | 98 | 94 | 83 | 83 | 98 | 98 | 98 | 86 |
| | | Max-d | 3.8 | 5.3 | 4.4 | 3.5 | 2.7 | 2.8 | 2.4 | 5.0 | 2.1 | 2.6 | 4.8 | 4.9 |
| | | Min-d | 1.1 | 1.1 | 1.2 | 0.6 | 0.4 | 0.4 | 0.4 | 0.5 | 0.5 | 0.4 | 0.8 | 1.5 |
| | Hedo | Mean | 0.8 | 0.8 | 1.1 | 0.9 | 0.8 | - | - | - | - | - | - | 0.8 |
| | (NOx*) | % | 98 | 99 | 99 | 98 | 42 | - | - | - | - | - | - | 54 |
| | | Max-d | 1.3 | 1.3 | 2.2 | 1.8 | 1.2 | - | - | - | - | - | - | 1.7 |
| | | Min-d | 0.4 | 0.6 | 0.9 | 0.4 | 0.4 | - | - | - | - | - | - | 0.4 |
| Thai Land | Khao Lam Dam | Mean | - | - | - | - | - | - | 1.4 | 1.3 | - | - | 3.3 | 2.8 |
| | (NOx*) | % | - | - | - | - | - | - | 24 | 19 | - | - | 10 | 37 |
| | | Max-d | - | - | - | - | - | - | 1.6 | 1.4 | - | - | 3.4 | 3.3 |
| | | Min-d | - | - | - | - | - | - | 1.2 | 1.1 | - | - | 3.2 | 2.1 |
| | Bangkok | Mean | 51.4 | 51.3 | 47.4 | 31.5 | 36.5 | 50.6 | 40.9 | 51.1 | 45.8 | 74.4 | 54.8 | 72.2 |
| | | % | 79 | 86 | 94 | 97 | 91 | 96 | 97 | 96 | 99 | 71 | 94 | 87 |
| | | Max-d | 96.5 | 182.5 | 75.1 | 55.6 | 58.8 | 73.8 | 61.2 | 85.4 | 76.8 | 138.5 | 162.3 | 284.4 |
| | | Min-d | 21.8 | 19.3 | 24.2 | 18.6 | 23.2 | 20.3 | 27.4 | 23.9 | 2.0 | 39.4 | 20.1 | 29.8 |
| | Samutprakarn | Mean | 34.8 | 32.0 | 27.4 | 8.8 | 23.6 | 28.9 | 25.5 | 40.5 | 39.6 | 57.9 | 71.5 | 76.0 |
| | | % | 96 | 95 | 95 | 96 | 94 | 95 | 95 | 74 | 79 | 93 | 80 | 87 |
| | | Max-d | 94.1 | 92.3 | 64.0 | 26.5 | 58.2 | 52.7 | 48.3 | 65.0 | 67.6 | 102.3 | 160.7 | 177.3 |
| | | Min-d | 6.8 | 5.5 | 4.8 | 2.4 | 3.0 | 7.9 | 7.0 | 12.7 | 14.7 | 15.6 | 31.5 | 17.9 |

**Table 4.10 $O_3$**

| Unit: ppb | | | 2001 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Country | Site | | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| Japan | Rishiri | Mean | 40 | 40 | 44 | 55 | 50 | 39 | 32 | 28 | 33 | 36 | 36 | 37 |
| | | % | 46 | 98 | 37 | 34 | 98 | 99 | 98 | 98 | 98 | 98 | 98 | 98 |
| | | Max-d | 43 | 47 | 48 | 72 | 87 | 62 | 56 | 44 | 46 | 50 | 48 | 44 |
| | | Min-d | 37 | 32 | 39 | 42 | 30 | 27 | 21 | 21 | 25 | 24 | 29 | 34 |
| | Tappi | Mean | 45 | 48 | 53 | 63 | 54 | 46 | 39 | 34 | 41 | 48 | 45 | 41 |
| | | % | 19 | 99 | 86 | 98 | 99 | 96 | 77 | 99 | 99 | 73 | 83 | 99 |
| | | Max-d | 48 | 54 | 77 | 95 | 96 | 70 | 58 | 48 | 52 | 59 | 63 | 46 |
| | | Min-d | 40 | 44 | 43 | 45 | 39 | 32 | 27 | 24 | 15 | 41 | 37 | 37 |
| | Sado-seki | Mean | 35 | 35 | 45 | 65 | 57 | 40 | 36 | 33 | 38 | 44 | 34 | 30 |
| | | % | 98 | 99 | 98 | 98 | 93 | 98 | 99 | 98 | 98 | 54 | 98 | 99 |
| | | Max-d | 37 | 41 | 75 | 88 | 79 | 77 | 72 | 57 | 67 | 53 | 52 | 33 |
| | | Min-d | 30 | 32 | 33 | 49 | 40 | 27 | 23 | 18 | 11 | 37 | 27 | 27 |
| | Happo | Mean | 47 | 52 | 60 | 75 | 67 | 58 | 52 | 45 | 45 | 53 | 46 | 47 |
| | | % | 99 | 98 | 97 | 98 | 98 | 99 | 98 | 98 | 96 | 98 | 84 | 98 |
| | | Max-d | 54 | 61 | 76 | 95 | 92 | 84 | 84 | 72 | 68 | 62 | 55 | 53 |
| | | Min-d | 42 | 43 | 50 | 61 | 47 | 28 | 31 | 29 | 21 | 39 | 36 | 42 |
| | Ogasawara | Mean | 28 | 35 | 42 | 42 | 32 | 10 | 12 | 15 | 15 | 18 | 31 | 40 |
| | | % | 97 | 90 | 97 | 99 | 97 | 95 | 98 | 98 | 98 | 95 | 97 | 97 |
| | | Max-d | 34 | 48 | 60 | 58 | 26 | 40 | 23 | 28 | 39 | 45 | 42 | 45 |
| | | Min-d | 21 | 21 | 25 | 17 | 26 | 2 | 3 | 8 | 5 | 6 | 10 | 32 |
| | Oki | Mean | 40 | 43 | 49 | 59 | 58 | 44 | 32 | - | 41 | 43 | 41 | 39 |
| | | % | 98 | 98 | 70 | 77 | 69 | 95 | 42 | - | 37 | 96 | 91 | 94 |
| | | Max-d | 44 | 52 | 69 | 73 | 80 | 73 | 55 | - | 58 | 51 | 59 | 44 |
| | | Min-d | 34 | 36 | 43 | 44 | 44 | 27 | 22 | - | 33 | 35 | 26 | 34 |
| | Ijira | Mean | 30 | 34 | 37 | 45 | 41 | 33 | 30 | 28 | 19 | 21 | 19 | 18 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 97 | 100 | 100 | 100 | 100 | 100 |
| | | Max-d | 40 | 44 | 48 | 70 | 56 | 74 | 54 | 55 | 32 | 35 | 26 | 28 |
| | | Min-d | 16 | 18 | 21 | 25 | 24 | 10 | 7 | 8 | 5 | 8 | 9 | 11 |
| | Banryu | Mean | 34 | 36 | 46 | 49 | 49 | 37 | 26 | 27 | 31 | 31 | 31 | 31 |
| | | % | 98 | 98 | 98 | 97 | 97 | 98 | 98 | 63 | 88 | 98 | 95 | 56 |
| | | Max-d | 42 | 45 | 60 | 69 | 67 | 63 | 40 | 42 | 46 | 42 | 42 | 41 |
| | | Min-d | 22 | 21 | 34 | 33 | 26 | 14 | 11 | 17 | 14 | 16 | 22 | 23 |
| | Yusuhara | Mean | 18 | 29 | 38 | 37 | 33 | 25 | 26 | 27 | 26 | - | - | - |
| | | % | 100 | 99 | 100 | 99 | 99 | 96 | 99 | 99 | 99 | - | - | - |
| | | Max-d | 23 | 48 | 48 | 50 | 45 | 58 | 53 | 46 | 39 | - | - | - |
| | | Min-d | 11 | 14 | 31 | 26 | 21 | 5 | 11 | 4 | 9 | - | - | - |
| | Hedo | Mean | 47 | 50 | 57 | 55 | 48 | 26 | 16 | 27 | 27 | 48 | 51 | 46 |
| | | % | 92 | 98 | 99 | 98 | 98 | 69 | 48 | 99 | 99 | 98 | 98 | 91 |
| | | Max-d | 51 | 58 | 76 | 70 | 71 | 65 | 29 | 57 | 46 | 71 | 58 | 57 |
| | | Min-d | 39 | 29 | 34 | 24 | 25 | 8 | 8 | 10 | 11 | 21 | 32 | 36 |
| Thai Land | Khao Lam Dam | Mean | - | - | - | - | - | - | 5 | 8 | - | - | 17 | 12 |
| | | % | - | - | - | - | - | - | 23 | 19 | - | - | 10 | 37 |
| | | Max-d | - | - | - | - | - | - | 6 | 10 | - | - | 18 | 18 |
| | | Min-d | - | - | - | - | - | - | 4 | 5 | - | - | 16 | 8 |
| | Samutprakarn | Mean | 2 | 3 | 1 | N.D. | 3 | 6 | 4 | 4 | 7 | 9 | 5 | 6 |
| | | % | 86 | 79 | 24 | 36 | 72 | 70 | 89 | 62 | 93 | 90 | 87 | 82 |
| | | Max-d | 3 | 10 | 2 | 2 | 4 | 12 | 8 | 9 | 14 | 13 | 10 | 17 |
| | | Min-d | N.D. | N.D. | 1 | N.D. | N.D. | N.D. | 2 | 1 | 1 | 4 | 1 | 1 |

**Table 4.11 $PM_{10}$**

| Unit: $\mu g/m^3$ | | | 2001 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Country | Site | | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| China | Jinyunshan | Mean | 105 | 132 | 161 | 111 | 89 | 69 | 70 | 74 | 79 | 57 | 102 | 100 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | | Max-d | 243 | 255 | 315 | 232 | 161 | 110 | 149 | 109 | 146 | 100 | 152 | 228 |
| | | Min-d | 30 | N.D. | 63 | 15 | 24 | 25 | 36 | 17 | 24 | 11 | 23 | 14 |
| | Weishuiyuan | Mean | 101 | 127 | 138 | 190 | 101 | 122 | 79 | 89 | 82 | 125 | 173 | 144 |
| | | % | 97 | 100 | 100 | 63 | 90 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | | Max-d | 141 | 159 | 279 | 957 | 201 | 283 | 124 | 144 | 142 | 317 | 284 | 233 |
| | | Min-d | 53 | 74 | 79 | 92 | 37 | 38 | 45 | 50 | 44 | 64 | 75 | 66 |
| | Hongwen | Mean | 55 | 62 | 84 | 63 | 62 | 36 | 34 | 38 | 57 | 80 | 82 | 72 |
| | | % | 100 | 100 | 100 | 100 | 97 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | | Max-d | 99 | 117 | 131 | 120 | 167 | 117 | 62 | 71 | 130 | 107 | 165 | 138 |
| | | Min-d | 14 | 25 | 22 | 30 | 13 | 12 | 16 | 15 | 20 | 47 | 37 | 13 |
| | Xiang Zhou | Mean | 31 | 49 | 47 | 48 | 42 | 26 | 32 | 44 | 71 | 70 | 87 | 62 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | | Max-d | 68 | 152 | 92 | 114 | 80 | 52 | 71 | 92 | 139 | 135 | 138 | 118 |
| | | Min-d | 5 | 11 | N.D. | 14 | 16 | 10 | 14 | 20 | 15 | 37 | 34 | 24 |
| Japan | Rishiri | Mean | 17 | 15 | 19 | 45 | 23 | 12 | 15 | 10 | 13 | 18 | 22 | 10 |
| | | % | 47 | 100 | 99 | 99 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | | Max-h | 41 | 41 | 77 | 236 | 72 | 31 | 40 | 19 | 41 | 40 | 117 | 28 |
| | | Min-h | 6 | 5 | 4 | 5 | 4 | 2 | 3 | 6 | 5 | 2 | 7 | 3 |
| | Tappi | Mean | 12 | 17 | 28 | 39 | 24 | 15 | 14 | 12 | 13 | 21 | 19 | 14 |
| | | % | 99 | 99 | 85 | 100 | 100 | 100 | 82 | 100 | 97 | 100 | 100 | 100 |
| | | Max-h | 24 | 33 | 88 | 113 | 142 | 36 | 42 | 22 | 23 | 48 | 38 | 35 |
| | | Min-h | 5 | 9 | 7 | 13 | 4 | 5 | 3 | 4 | 6 | 6 | 8 | 6 |
| | Sado-seki | Mean | 21 | 23 | 39 | 51 | 41 | 21 | 22 | 16 | 14 | 21 | 17 | 13 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | | Max-h | 73 | 53 | 112 | 140 | 179 | 65 | 46 | 27 | 24 | 33 | 30 | 20 |
| | | Min-h | 7 | 10 | 15 | 18 | 6 | 8 | 9 | 7 | 9 | 7 | 8 | 6 |
| | Happo | Mean | 5 | 7 | 26 | 27 | 25 | 12 | 23 | 13 | 8 | 8 | 7 | 6 |
| | | % | 90 | 94 | 97 | 100 | 100 | 100 | 55 | 100 | 100 | 100 | 89 | 78 |
| | | Max-h | 10 | 21 | 83 | 59 | 54 | 36 | 58 | 30 | 21 | 16 | 20 | 36 |
| | | Min-h | 1 | 2 | 2 | 8 | 2 | 2 | 6 | 2 | 1 | 1 | 3 | 2 |
| | Ogasawara | Mean | 14 | 14 | 21 | 18 | 11 | 6 | 10 | 10 | 9 | 11 | 10 | 14 |
| | | % | 99 | 100 | 100 | 100 | 83 | 100 | 100 | 99 | 85 | 99 | 100 | 100 |
| | | Max-h | 32 | 20 | 53 | 58 | 39 | 12 | 20 | 18 | 30 | 26 | 24 | 25 |
| | | Min-h | 7 | 4 | 2 | 2 | 2 | 3 | 4 | 2 | 2 | 4 | 4 | 7 |
| | Oki | Mean | 32 | 33 | 49 | 47 | 40 | 21 | 20 | 20 | 17 | 24 | 22 | 23 |
| | | % | 100 | 100 | 96 | 100 | 100 | 100 | 100 | 100 | 97 | 100 | 100 | 100 |
| | | Max-h | 69 | 70 | 143 | 107 | 162 | 59 | 39 | 48 | 27 | 40 | 56 | 46 |
| | | Min-h | 8 | 11 | 8 | 19 | 10 | 7 | 10 | 8 | 10 | 8 | 7 | 9 |
| | Ijira | Mean | 9 | 16 | 28 | 32 | 31 | 27 | 29 | 26 | 19 | 20 | 13 | 10 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | | Max-h | 18 | 61 | 84 | 77 | 81 | 62 | 62 | 49 | 39 | 39 | 34 | 26 |
| | | Min-h | 5 | 7 | 8 | 6 | 9 | 7 | 10 | 11 | 7 | 9 | 4 | 5 |
| | Banryu | Mean | 27 | 29 | 64 | 50 | 41 | 26 | 21 | 25 | 23 | 25 | 21 | 21 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 99 | 100 | 100 | 99 |
| | | Max-h | 73 | 61 | 381 | 149 | 167 | 65 | 38 | 44 | 39 | 37 | 43 | 51 |
| | | Min-h | 8 | 13 | 12 | 21 | 13 | 11 | 8 | 14 | 10 | 10 | 10 | 12 |
| | Yusuhara | Mean | 15 | 19 | 45 | 33 | 28 | 20 | 19 | 20 | 16 | 17 | 15 | 12 |
| | | % | 96 | 90 | 98 | 93 | 95 | 94 | 87 | 90 | 87 | 91 | 89 | 96 |
| | | Max-h | 54 | 34 | 183 | 82 | 161 | 56 | 32 | 35 | 32 | 30 | 33 | 20 |
| | | Min-h | 2 | 5 | 3 | 2 | 4 | 4 | 6 | 4 | 3 | 1 | 7 | 5 |
| | Hedo | Mean | 38 | 38 | 51 | 54 | 46 | 60 | - | - | - | - | 41 | 41 |
| | | % | 15 | 87 | 76 | 73 | 77 | 4 | - | - | - | - | 63 | 75 |
| | | Max-h | 50 | 63 | 182 | 122 | 110 | 84 | - | - | - | - | 93 | 79 |
| | | Min-h | 21 | 23 | 23 | 30 | 17 | 46 | - | - | - | - | 26 | 18 |
| Thailand | Khao Lam Dam | Mean | - | - | - | - | - | - | 18 | 15 | - | - | 27 | 22 |
| | | % | - | - | - | - | - | - | 20 | 15 | - | - | 9 | 34 |
| | | Max-d | - | - | - | - | - | - | 25 | 18 | - | - | 29 | 25 |
| | | Min-d | - | - | - | - | - | - | 14 | 14 | - | - | 26 | 19 |
| | Bangkok | Mean | 76 | 49 | 71 | 35 | 36 | 30 | - | - | 43 | - | - | - |
| | | % | 10 | 14 | 10 | 10 | 10 | 3 | - | - | 3 | - | - | - |
| | | Max-d | 97 | 59 | 93 | 40 | 40 | 30 | - | - | 43 | - | - | - |
| | | Min-d | 52 | 40 | 56 | 28 | 29 | 30 | - | - | 43 | - | - | - |

**Table 4.12 $PM_{2.5}$**

| Unit: μg/m$^3$ | | | 2001 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Country | Site | | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| Japan | Rishiri | Mean | 8 | 10 | 12 | 15 | 14 | 6 | 8 | 7 | 6 | 10 | 10 | 6 |
| | | % | 46 | 100 | 58 | 99 | 29 | 97 | 100 | 100 | 93 | 99 | 100 | 100 |
| | | Max-d | 12 | 21 | 32 | 37 | 21 | 17 | 23 | 15 | 10 | 21 | 34 | 10 |
| | | Min-d | 5 | 5 | 2 | 4 | 4 | 2 | 3 | 3 | 3 | 2 | 4 | 3 |
| | Oki | Mean | 11 | 13 | 19 | 21 | 15 | 9 | 13 | 13 | 7 | 11 | 9 | 8 |
| | | % | 100 | 99 | 96 | 100 | 100 | 100 | 100 | 100 | 97 | 100 | 100 | 100 |
| | | Max-d | 20 | 21 | 46 | 34 | 46 | 22 | 32 | 36 | 13 | 20 | 18 | 15 |
| | | Min-d | 4 | 4 | 5 | 8 | 5 | 4 | 4 | 4 | 3 | 5 | 4 | 4 |

**Table 4.13 Particulate matter component: $SO_4^{2-}$**

| Unit: μg/m³ | | | 2001 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Country | Site | | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| Indonesia | Serpong | Mean | - | - | - | - | - | - | N.D. | 7.7 | 0.9 | - | 0.5 | N.D. |
| | | % | - | - | - | - | - | - | 26 | 48 | 53 | - | 45 | 96 |
| | | Max-w | - | - | - | - | - | - | N.D. | 9.0 | 1.8 | - | 1.6 | N.D. |
| | | Min-w | - | - | - | - | - | - | N.D. | 6.4 | N.D. | - | N.D. | N.D. |
| Malaysia | Tanah Rata | Mean | 0.3 | 1.0 | 0.8 | 0.4 | 0.8 | 0.7 | 1.1 | 0.7 | 1.1 | 0.3 | 0.2 | 0.5 |
| | | % | 100 | 100 | 100 | 80 | 100 | 100 | 100 | 100 | 80 | 100 | 75 | 100 |
| | | Max-w | 0.6 | 1.9 | 1.1 | 0.7 | 1.0 | 1.1 | 1.6 | 1.4 | 1.4 | 0.5 | 0.4 | 0.8 |
| | | Min-w | 0.0 | 0.6 | 0.5 | 0.2 | 0.6 | 0.5 | 0.6 | 0.1 | 0.7 | 0.2 | N.D. | 0.1 |
| | Petaling Jaya | Mean | 4.4 | 4.8 | 5.3 | 4.3 | 3.7 | 1.6 | 3.8 | 3.9 | 4.6 | 1.8 | 2.4 | 2.7 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | | Max-w | 5.3 | 8.1 | 6.1 | 4.6 | 5.3 | 5.3 | 4.3 | 5.2 | 7.5 | 2.5 | 2.7 | 4.0 |
| | | Min-w | 4.0 | 1.6 | 4.6 | 4.0 | 0.3 | 2.6 | 3.2 | 2.4 | 2.9 | 0.5 | 2.1 | 1.2 |
| Mongolia | Ulaanbaatar | Mean | - | - | - | - | 3.4 | 3.5 | 1.4 | 2.0 | 2.0 | 2.5 | 3.1 | - |
| | | % | - | - | - | - | 100 | 100 | 100 | 80 | 100 | 100 | 22 | - |
| | | Max-w | - | - | - | - | 5.1 | 8.2 | 1.6 | 4.5 | 2.4 | 2.8 | 3.1 | - |
| | | Min-w | - | - | - | - | 2.7 | 0.3 | 1.1 | 0.4 | 1.7 | 1.8 | 3.1 | - |
| | Terelj | Mean | 1.3 | 2.3 | 2.1 | 1.4 | 1.3 | 1.0 | - | - | - | - | - | - |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | - | - | - | - | - | - |
| | | Max-2w | 1.4 | 2.7 | 2.6 | 1.6 | 1.6 | 1.4 | - | - | - | - | - | - |
| | | Min-2w | 1.1 | 1.9 | 1.6 | 1.1 | 0.6 | 0.8 | - | - | - | - | - | - |
| Philippines | Metro Manila | Mean | 3.9 | 1.9 | 1.4 | 2.3 | N.D. | N.D. | 1.8 | 1.9 | 2.9 | 3.5 | 1.7 | 1.1 |
| | | % | 39 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 59 |
| | | Max-* | 6.6 | 3.3 | 3.6 | 4.0 | N.D. | N.D. | 2.6 | 4.1 | 3.2 | 5.2 | 3.0 | 1.7 |
| | | Min-* | 1.2 | 1.5 | 0.4 | 0.9 | N.D. | N.D. | 0.6 | 0.2 | 2.7 | 1.8 | 1.0 | 0.5 |
| | Los Banos | Mean | 1.3 | 1.4 | 2.5 | 1.5 | N.D. | N.D. | 0.4 | 0.5 | 1.4 | 0.6 | 0.6 | N.D. |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 41 |
| | | Max-* | 2.1 | 2.3 | 4.4 | 2.6 | N.D. | N.D. | 0.8 | 0.5 | 3.2 | 0.9 | 1.6 | 0.2 |
| | | Min-* | 0.4 | 0.3 | 0.8 | 0.8 | N.D. | N.D. | 0.5 | 0.4 | N.D. | 0.3 | N.D. | N.D. |
| Republic of Korea | Kanghwa | Mean | 3.5 | 4.9 | 7.8 | 3.5 | 9.3 | 6.2 | 5.9 | 4.3 | - | 2.1 | - | 1.1 |
| | | % | 16 | 18 | 14 | 10 | 10 | 13 | 13 | 16 | - | 13 | - | 6 |
| | | Max-d | 7.3 | 9.8 | 21.2 | 4.2 | 13.7 | 9.5 | 10.6 | 7.0 | - | 3.7 | - | 2.2 |
| | | Min-d | 0.6 | 1.6 | 1.8 | 2.6 | 6.3 | 2.4 | 3.1 | 2.1 | - | 0.7 | - | 0.1 |
| | Cheju | Mean | 2.6 | - | - | - | - | 1.8 | 2.7 | 2.6 | 1.1 | 5.9 | 2.1 | - |
| | | % | 39 | - | - | - | - | 50 | 35 | 39 | 60 | 48 | 7 | - |
| | | Max-* | 5.2 | - | - | - | - | 5.1 | 3.9 | 5.8 | 1.6 | 16.6 | 2.2 | - |
| | | Min-* | 0.1 | - | - | - | - | 0.1 | 1.9 | 0.9 | 0.8 | 2.1 | 2.0 | - |
| | Imsil | Mean | 1.8 | 1.8 | 1.9 | 5.9 | - | 1.0 | 1.1 | 2.5 | 1.2 | 0.9 | 2.5 | - |
| | | % | 72 | 68 | 65 | 35 | - | 44 | 100 | 63 | 100 | 68 | 7 | - |
| | | Max-* | 2.9 | 3.4 | 3.6 | 10.5 | - | 1.8 | 1.6 | 3.2 | 1.4 | 1.3 | 3.6 | - |
| | | Min-* | 1.3 | 0.1 | 0.5 | 1.7 | - | 1.1 | 0.8 | 1.3 | 1.1 | 0.9 | 1.4 | - |
| Russia | Mondy | Mean | 0.6 | 1.0 | 0.7 | - | 1.2 | 1.8 | 0.6 | 0.2 | - | 0.4 | 0.7 | 0.5 |
| | | % | 100 | 100 | 100 | - | 100 | 28 | 100 | 100 | - | 100 | 100 | 66 |
| | | Max-* | 0.6 | 1.0 | 0.9 | - | 1.2 | 1.8 | 0.6 | 0.2 | - | 0.5 | 0.7 | 0.6 |
| | | Min-* | 0.6 | 1.0 | 0.5 | - | 1.2 | 1.8 | 0.6 | 0.1 | - | 0.2 | 0.6 | 0.4 |
| | Listvyanka | Mean | 2.7 | 3.8 | 3.2 | 2.4 | 2.1 | 1.1 | 1.0 | 2.1 | 2.2 | 1.9 | 4.0 | 3.1 |
| | | % | 97 | 97 | 97 | 100 | 100 | 100 | 100 | 100 | 100 | 97 | 100 | 90 |
| | | Max-10d | 4.2 | 4.0 | 4.9 | 3.0 | 2.6 | 1.8 | 1.6 | 3.4 | 3.2 | 3.7 | 6.8 | 4.4 |
| | | Min-10d | 1.2 | 3.6 | 2.4 | 1.6 | 1.8 | 0.4 | 0.5 | 1.1 | 1.1 | 0.4 | 1.3 | 1.6 |
| | Irkutsk | Mean | 5.0 | 4.9 | 2.3 | 7.8 | 3.6 | 7.0 | 6.3 | 2.5 | 0.8 | 2.4 | 0.2 | 3.1 |
| | | % | 97 | 67 | 100 | 73 | 100 | 93 | 89 | 100 | 100 | 94 | 40 | 89 |
| | | Max-2w | 10.8 | 5.8 | 4.7 | 13.8 | 10.6 | 9.4 | 16.3 | 3.9 | 1.3 | 3.7 | 0.2 | 7.7 |
| | | Min-2w | 0.9 | 4.1 | 1.1 | 2.3 | 1.2 | 4.6 | 0.7 | 1.2 | 0.2 | 1.2 | 0.2 | 1.9 |
| | Primorskaya | Mean | - | - | - | - | - | - | - | - | - | - | 2.4 | 5.3 |
| | | % | - | - | - | - | - | - | - | - | - | - | 100 | 100 |
| | | Max-w | - | - | - | - | - | - | - | - | - | - | 3.5 | 9.3 |
| | | Min-w | - | - | - | - | - | - | - | - | - | - | 0.7 | 3.1 |
| Thai Land | Mae Hia | Mean | 1.1 | 0.7 | 0.7 | - | 1.4 | N.D. | 0.4 | 2.6 | 0.4 | 0.3 | 1.7 | 0.4 |
| | | % | 39 | 28 | 30 | - | 18 | 32 | 18 | 19 | 32 | 32 | 25 | 22 |
| | | Max-w | - | - | - | - | - | - | - | - | - | - | - | - |
| | | Min-w | - | - | - | - | - | - | - | - | - | - | - | - |
| Viet Nam | Hanoi | Mean | 3.4 | 0.8 | 4.0 | 0.4 | 1.0 | 0.9 | 0.6 | - | - | - | - | 0.3 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | - | - | - | - | 100 |
| | | Max-w | 10.6 | 1.6 | 14.9 | 0.6 | 2.2 | 3.4 | 1.1 | - | - | - | - | 1.3 |
| | | Min-w | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.5 | - | - | - | - | 1.3 |
| | Hoa Binh | Mean | 3.0 | 3.1 | 6.7 | 3.0 | 1.0 | 0.8 | 0.1 | 1.4 | 2.9 | 2.2 | 2.4 | 4.3 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | | Max-w | 6.6 | 9.4 | 9.2 | 8.5 | 3.6 | 2.3 | 0.1 | 6.0 | 4.5 | 7.3 | 8.2 | 7.2 |
| | | Min-w | 0.1 | 0.1 | 2.6 | 0.4 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 2.8 |

**Table 4.14 Particulate matter component: $NO_3^-$**

| Unit: µg/m³ | | | 2001 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Country | Site | | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| Indonesia | Serpong | Mean | - | - | - | - | - | - | 0.1 | 2.3 | 0.6 | - | 0.5 | N.D. |
| | | % | - | - | - | - | - | - | 26 | 48 | 53 | - | 45 | 96 |
| | | Max-w | - | - | - | - | - | - | 0.1 | 2.9 | 1.2 | - | 0.9 | N.D. |
| | | Min-w | - | - | - | - | - | - | 0.1 | 1.8 | N.D. | - | N.D. | N.D. |
| Malaysia | Tanah Rata | Mean | N.D. | 0.1 | N.D. | N.D. | N.D. | 0.1 | 0.1 | N.D. | N.D. | N.D. | N.D. | N.D. |
| | | % | 100 | 100 | 100 | 80 | 100 | 100 | 100 | 100 | 80 | 100 | 75 | 100 |
| | | Max-w | 0.2 | 0.1 | 0.1 | N.D. | N.D. | 0.1 | 0.3 | 0.1 | 0.1 | 0.1 | N.D. | N.D. |
| | | Min-w | N.D. | 0.1 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| | Petaling Jaya | Mean | 0.6 | 1.2 | 0.6 | 0.5 | 0.4 | 0.2 | 0.8 | 0.5 | 1.0 | 0.6 | 0.3 | 0.5 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | | Max-w | 1.3 | 2.5 | 1.0 | 0.7 | 0.7 | 0.7 | 1.7 | 0.6 | 3.1 | 0.9 | 0.4 | 0.8 |
| | | Min-w | 0.1 | 0.3 | 0.5 | 0.3 | 0.2 | 0.2 | 0.3 | 0.4 | 0.3 | 0.4 | 0.2 | 0.2 |
| Mongolia | Ulaanbaatar | Mean | - | - | - | - | 1.7 | 2.0 | 0.8 | 0.8 | 1.3 | 1.5 | 1.5 | - |
| | | % | - | - | - | - | 100 | 100 | 100 | 80 | 100 | 100 | 22 | - |
| | | Max-w | - | - | - | - | 2.8 | 5.0 | 0.9 | 1.5 | 1.6 | 1.8 | 1.5 | - |
| | | Min-w | - | - | - | - | 1.1 | 0.2 | 0.7 | 0.3 | 1.1 | 1.1 | 1.5 | - |
| | Terelj | Mean | 0.1 | 0.3 | 0.2 | 0.1 | 0.2 | 0.2 | - | - | - | - | - | - |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | - | - | - | - | - | - |
| | | Max-2w | 0.1 | 0.3 | 0.2 | 0.1 | 0.4 | 0.3 | - | - | - | - | - | - |
| | | Min-2w | 0.1 | 0.2 | 0.2 | 0.1 | N.D. | 0.2 | - | - | - | - | - | - |
| Philippines | Metro Manila | Mean | 2.2 | 2.2 | 0.4 | 0.7 | 0.9 | 0.3 | 0.6 | 0.5 | 1.4 | 1.2 | 1.3 | 1.0 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 59 |
| | | Max-* | 7.0 | 6.2 | 1.0 | 1.3 | 1.7 | 0.7 | 0.9 | 0.7 | 1.8 | 1.9 | 2.2 | 1.3 |
| | | Min-* | 0.6 | 0.8 | 0.2 | 0.4 | 0.1 | 0.4 | 0.2 | N.D. | 1.2 | 0.7 | 0.5 | 0.6 |
| | Los Banos | Mean | 0.4 | 0.5 | 5.5 | 0.7 | N.D. | 0.2 | 0.2 | 0.4 | 0.4 | 0.1 | 0.3 | 0.3 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 41 |
| | | Max-* | 0.6 | 0.7 | 18.0 | 0.8 | N.D. | 0.4 | 0.3 | 0.9 | 0.8 | 0.3 | 0.5 | 0.5 |
| | | Min-* | 0.3 | 0.3 | 0.5 | 0.4 | N.D. | 0.4 | 0.3 | 0.1 | N.D. | N.D. | 0.2 | 0.1 |
| Republic of Korea | Kanghwa | Mean | 0.4 | 0.7 | 1.5 | 0.4 | 0.4 | 0.5 | 0.2 | 0.2 | - | 0.4 | - | 0.3 |
| | | % | 16 | 18 | 14 | 10 | 10 | 13 | 13 | 16 | - | 13 | - | 6 |
| | | Max-d | 0.7 | 1.2 | 5.0 | 0.6 | 0.5 | 1.3 | 0.5 | 0.3 | - | 0.7 | - | 0.5 |
| | | Min-d | 0.1 | 0.3 | 0.3 | 0.3 | 0.3 | 0.1 | 0.1 | 0.1 | - | 0.2 | - | 0.1 |
| | Cheju | Mean | 0.1 | - | - | - | - | N.D. | N.D. | 0.1 | 0.1 | 0.2 | 0.2 | - |
| | | % | 39 | - | - | - | - | 50 | 35 | 39 | 60 | 48 | 7 | - |
| | | Max-* | 0.2 | - | - | - | - | 0.1 | N.D. | 0.1 | 0.2 | 0.4 | 0.2 | - |
| | | Min-* | N.D. | - | - | - | - | N.D. | N.D. | N.D. | N.D. | 0.1 | 0.2 | - |
| | Imsil | Mean | 0.1 | 0.1 | 0.7 | 1.1 | - | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 | 0.9 | - |
| | | % | 72 | 68 | 65 | 35 | - | 44 | 100 | 63 | 100 | 68 | 7 | - |
| | | Max-* | 0.4 | 0.2 | 2.1 | 2.1 | - | 0.1 | 0.1 | 0.4 | 0.3 | 0.1 | 1.3 | - |
| | | Min-* | N.D. | N.D. | 0.1 | 0.3 | - | 0.1 | N.D. | N.D. | 0.1 | 0.1 | 0.5 | - |
| Russia | Mondy | Mean | N.D. | 0.2 | 0.1 | - | N.D. | 0.3 | N.D. | 0.2 | - | 0.1 | 0.1 | 0.3 |
| | | % | 100 | 100 | 100 | - | 100 | 28 | 100 | 100 | - | 100 | 100 | 66 |
| | | Max-* | N.D. | 0.2 | 0.1 | - | N.D. | 0.3 | N.D. | 0.2 | - | 0.1 | 0.2 | 0.5 |
| | | Min-* | N.D. | 0.2 | N.D. | - | N.D. | 0.3 | N.D. | 0.1 | - | N.D. | 0.1 | N.D. |
| | Listvyanka | Mean | 0.6 | 0.8 | 0.7 | 0.4 | 0.2 | 0.4 | 0.2 | 0.4 | 0.4 | 0.3 | 0.4 | 0.4 |
| | | % | 97 | 97 | 97 | 100 | 100 | 100 | 100 | 100 | 100 | 97 | 100 | 90 |
| | | Max-10d | 0.6 | 0.9 | 0.9 | 0.7 | 0.3 | 0.9 | 0.4 | 0.6 | 0.6 | 0.4 | 0.5 | 0.7 |
| | | Min-10d | 0.5 | 0.6 | 0.3 | 0.3 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.3 | 0.2 | 0.2 |
| | Irkutsk | Mean | 0.8 | 1.9 | 1.0 | 1.0 | 0.4 | 6.3 | 0.3 | 1.0 | 0.2 | 0.4 | 0.4 | 1.1 |
| | | % | 97 | 67 | 100 | 73 | 100 | 93 | 89 | 100 | 100 | 94 | 40 | 89 |
| | | Max-2w | 1.6 | 2.2 | 1.4 | 1.5 | 0.7 | 7.8 | 0.4 | 1.4 | 0.3 | 0.5 | 0.4 | 2.1 |
| | | Min-2w | 0.2 | 1.6 | 0.5 | 0.6 | N.D. | 4.9 | 0.2 | 0.6 | 0.1 | 0.3 | 0.4 | 0.5 |
| | Primorskaya | Mean | - | - | - | - | - | - | - | - | - | - | 1.3 | 2.4 |
| | | % | - | - | - | - | - | - | - | - | - | - | 100 | 100 |
| | | Max-w | - | - | - | - | - | - | - | - | - | - | 2.7 | 5.2 |
| | | Min-w | - | - | - | - | - | - | - | - | - | - | 0.1 | 1.2 |
| Viet Nam | Hanoi | Mean | 0.9 | 0.4 | 0.3 | 0.3 | 0.2 | 0.1 | 0.1 | - | - | - | - | 0.2 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | - | - | - | - | 100 |
| | | Max-w | 1.5 | 0.5 | 0.8 | 0.7 | 0.3 | 0.2 | 0.2 | - | - | - | - | 0.8 |
| | | Min-w | 0.4 | 0.3 | N.D. | N.D. | 0.1 | N.D. | N.D. | - | - | - | - | 0.8 |
| | Hoa Binh | Mean | 1.3 | 0.3 | 0.3 | 0.4 | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 | 0.2 | 0.2 | 1.1 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | | Max-w | 4.9 | 1.0 | 0.5 | 0.6 | 0.2 | 0.3 | 0.4 | 0.2 | 0.2 | 0.3 | 0.3 | 1.3 |
| | | Min-w | N.D. | N.D. | 0.3 | 0.2 | 0.1 | N.D. | N.D. | N.D. | N.D. | 0.1 | N.D. | 0.9 |
| Thai Land | Mae Hia | Mean | 0.6 | 2.1 | 2.1 | - | 0.2 | N.D. | 0.2 | 1.2 | 0.4 | 0.1 | 0.4 | N.D. |
| | | % | 39 | 28 | 30 | - | 18 | 32 | 18 | 19 | 32 | 32 | 25 | 22 |
| | | Max-w | - | - | - | - | - | - | - | - | - | - | - | - |
| | | Min-w | - | - | - | - | - | - | - | - | - | - | - | - |

**Table 4.15 Particulate matter component: $Cl^-$**

| Unit: μg/m³ | | | 2001 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Country | Site | | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| Indonesia | Serpong | Mean | - | - | - | - | - | - | N.D. | 0.7 | N.D. | - | N.D. | N.D. |
| | | % | - | - | - | - | - | - | 26 | 48 | 53 | - | 45 | 96 |
| | | Max-w | - | - | - | - | - | - | N.D. | 0.8 | N.D. | - | N.D. | N.D. |
| | | Min-w | - | - | - | - | - | - | N.D. | 0.5 | N.D. | - | N.D. | N.D. |
| 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. |
| | | % | 100 | 100 | 100 | 80 | 100 | 100 | 100 | 100 | 80 | 100 | 75 | 100 |
| | | Max-w | 0.1 | N.D. | N.D. | N.D. | N.D. | N.D. | 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. |
| | Petaling Jaya | Mean | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | N.D. | 0.1 | N.D. | 0.1 | 0.1 | N.D. | N.D. |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | | Max-w | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 | 0.3 | 0.1 | 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. |
| Mongolia | Ulaanbaatar | Mean | - | - | - | - | 0.7 | 0.7 | 0.4 | 0.4 | 0.7 | 1.0 | 1.0 | - |
| | | % | - | - | - | - | 100 | 100 | 100 | 80 | 100 | 100 | 22 | - |
| | | Max-w | - | - | - | - | 0.9 | 1.4 | 0.5 | 0.6 | 1.0 | 1.4 | 1.0 | - |
| | | Min-w | - | - | - | - | 0.6 | 0.2 | 0.3 | 0.3 | 0.6 | 0.6 | 1.0 | - |
| | Terelj | Mean | 0.1 | 0.1 | 0.2 | 0.1 | 0.4 | 0.3 | - | - | - | - | - | - |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | - | - | - | - | - | - |
| | | Max-2w | 0.1 | 0.1 | 0.2 | 0.1 | 0.8 | 0.5 | - | - | - | - | - | - |
| | | Min-2w | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | - | - | - | - | - | - |
| Philippines | Metro Manila | Mean | 0.6 | 1.4 | 0.8 | 0.9 | 0.2 | N.D. | 0.3 | 0.5 | 0.5 | 0.1 | 0.2 | 0.2 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 59 |
| | | Max-* | 1.0 | 3.1 | 1.5 | 1.2 | 0.2 | 0.1 | 0.8 | 1.7 | 0.9 | 0.2 | 0.5 | 0.3 |
| | | Min-* | 0.9 | 0.8 | 0.6 | 0.7 | 0.1 | N.D. | N.D. | 0.1 | N.D. | N.D. | N.D. | 0.2 |
| | Los Banos | Mean | 0.8 | 1.6 | 3.9 | 1.6 | 0.1 | 0.3 | N.D. | 0.3 | 0.9 | 0.1 | 1.0 | 0.7 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 41 |
| | | Max-* | 1.3 | 2.5 | 8.2 | 1.8 | 0.1 | 0.6 | N.D. | 0.8 | 1.9 | 0.1 | 2.1 | 1.0 |
| | | Min-* | 0.1 | 0.3 | 1.6 | 1.5 | 0.1 | 0.6 | N.D. | N.D. | N.D. | 0.1 | N.D. | 0.3 |
| Republic of Korea | Kanghwa | Mean | 0.5 | 0.1 | 0.4 | 0.4 | 0.3 | 0.3 | 0.2 | 0.5 | - | 0.4 | - | 0.5 |
| | | % | 16 | 18 | 14 | 10 | 10 | 13 | 13 | 16 | - | 13 | - | 6 |
| | | Max-d | 1.5 | 0.3 | 0.9 | 0.8 | 0.9 | 0.7 | 0.4 | 0.9 | - | 1.0 | - | 0.9 |
| | | Min-d | 0.1 | N.D. | 0.1 | 0.2 | N.D. | N.D. | 0.1 | N.D. | - | 0.1 | - | 0.2 |
| | Cheju | Mean | 0.2 | - | - | - | - | 0.3 | 0.2 | 0.3 | 0.2 | 0.2 | 0.4 | - |
| | | % | 39 | - | - | - | - | 50 | 35 | 39 | 60 | 48 | 7 | - |
| | | Max-* | 0.4 | - | - | - | - | 0.7 | 0.3 | 0.6 | 0.4 | 0.3 | 0.4 | - |
| | | Min-* | 0.1 | - | - | - | - | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.4 | - |
| | Imsil | Mean | 0.3 | 0.3 | 0.2 | 0.4 | - | 0.1 | 0.1 | 0.3 | 0.1 | 0.1 | 0.5 | - |
| | | % | 72 | 68 | 65 | 35 | - | 44 | 100 | 63 | 100 | 68 | 7 | - |
| | | Max-* | 0.4 | 0.5 | 0.4 | 1.0 | - | 0.1 | 0.1 | 0.7 | 0.2 | 0.1 | 0.5 | - |
| | | Min-* | 0.1 | 0.2 | 0.1 | 0.1 | - | 0.1 | N.D. | N.D. | N.D. | N.D. | 0.5 | - |
| Russia | Mondy | Mean | N.D. | 0.6 | 0.1 | - | N.D. | N.D. | N.D. | N.D. | - | N.D. | 0.1 | 0.1 |
| | | % | 100 | 100 | 100 | - | 100 | 28 | 100 | 100 | - | 100 | 100 | 66 |
| | | Max-* | N.D. | 0.6 | 0.2 | - | N.D. | N.D. | N.D. | N.D. | - | 0.1 | 0.1 | 0.1 |
| | | Min-* | N.D. | 0.6 | N.D. | - | N.D. | N.D. | N.D. | N.D. | - | N.D. | N.D. | 0.1 |
| | Listvyanka | Mean | 1.4 | 0.8 | 2.4 | 0.2 | 0.1 | 3.4 | 0.1 | 0.6 | 0.1 | N.D. | 0.3 | 0.3 |
| | | % | 97 | 97 | 97 | 100 | 100 | 100 | 100 | 100 | 100 | 97 | 100 | 90 |
| | | Max-10d | 1.5 | 1.7 | 3.2 | 0.4 | 0.1 | 9.9 | 0.2 | 1.2 | 0.2 | N.D. | 0.6 | 0.4 |
| | | Min-10d | 1.4 | N.D. | 1.8 | 0.1 | N.D. | N.D. | 0.1 | 0.2 | 0.1 | N.D. | 0.1 | 0.2 |
| | Irkutsk | Mean | 1.1 | N.D. | 0.1 | 0.8 | 0.2 | 0.5 | 1.0 | 0.9 | 0.2 | 0.3 | 0.1 | 0.1 |
| | | % | 97 | 67 | 100 | 73 | 100 | 93 | 89 | 100 | 100 | 94 | 40 | 89 |
| | | Max-2w | 2.6 | N.D. | 0.1 | 1.7 | 0.4 | 0.5 | 2.4 | 1.0 | 0.3 | 0.4 | 0.1 | 0.2 |
| | | Min-2w | N.D. | N.D. | N.D. | 0.3 | 0.1 | 0.5 | 0.3 | 0.8 | N.D. | 0.1 | 0.1 | 0.0 |
| | Primorskaya | Mean | - | - | - | - | - | - | - | - | - | - | 0.4 | 0.7 |
| | | % | - | - | - | - | - | - | - | - | - | - | 100 | 100 |
| | | Max-w | - | - | - | - | - | - | - | - | - | - | 0.6 | 2.2 |
| | | Min-w | - | - | - | - | - | - | - | - | - | - | 0.1 | 0.0 |
| Viet Nam | Hanoi | Mean | 5.2 | 1.8 | 1.9 | 1.3 | 0.7 | 0.4 | 0.6 | - | - | - | - | 0.1 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | - | - | - | - | 100 |
| | | Max-w | 7.7 | 2.4 | 7.4 | 1.6 | 1.0 | 1.1 | 1.2 | - | - | - | - | 0.6 |
| | | Min-w | 2.1 | 0.9 | N.D. | 0.7 | 0.1 | N.D. | N.D. | - | - | - | - | 0.6 |
| | Hoa Binh | Mean | 0.7 | 0.2 | 0.3 | 0.2 | N.D. | N.D. | 0.1 | N.D. | N.D. | 0.1 | 0.1 | 0.1 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | | Max-w | 1.5 | 0.4 | 0.7 | 0.4 | 0.1 | 0.2 | 0.4 | 0.1 | N.D. | 0.2 | 0.3 | 0.2 |
| | | Min-w | N.D. | 0.1 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 0.1 |
| Thai Land | Mae Hia | Mean | 0.2 | 2.3 | N.D. | - | 0.1 | N.D. | 0.1 | 0.4 | 0.2 | 0.2 | 0.3 | N.D. |
| | | % | 39 | 28 | 30 | - | 18 | 32 | 18 | 19 | 32 | 32 | 25 | 22 |
| | | Max-w | - | - | - | - | - | - | - | - | - | - | - | - |
| | | Min-w | - | - | - | - | - | - | - | - | - | - | - | - |

**Table 4.16 Particulate matter component: $NH_4^+$**

| Unit: μg/m³ | | | 2001 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Country | Site | | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| Indonesia | Serpong | Mean | - | - | - | - | - | - | 0.1 | 1.6 | 0.2 | - | 0.2 | N.D. |
| | | % | - | - | - | - | - | - | 26 | 48 | 53 | - | 45 | 96 |
| | | Max-w | - | - | - | - | - | - | 0.1 | 1.7 | 0.3 | - | 0.3 | N.D. |
| | | Min-w | - | - | - | - | - | - | 0.1 | 1.4 | 0.1 | - | 0.1 | N.D. |
| Malaysia | Tanah Rata | Mean | 0.2 | 0.4 | 0.4 | 0.2 | 0.4 | 0.3 | 0.5 | 0.3 | 0.5 | 0.1 | 0.1 | 0.2 |
| | | % | 100 | 100 | 100 | 80 | 100 | 100 | 100 | 100 | 80 | 100 | 75 | 100 |
| | | Max-w | 0.1 | 0.7 | 0.5 | 0.3 | 0.6 | 0.5 | 0.7 | 0.6 | 0.7 | 0.1 | 0.2 | 0.4 |
| | | Min-w | N.D. | 0.3 | 0.2 | 0.1 | 0.3 | 0.3 | 0.4 | N.D. | 0.3 | 0.1 | N.D. | 0.1 |
| | Petaling Jaya | Mean | 0.9 | 0.8 | 1.2 | 1.0 | 1.0 | 0.3 | 1.1 | 1.2 | 1.2 | 0.4 | 0.7 | 0.7 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | | Max-w | 1.3 | 1.2 | 1.5 | 1.1 | 1.6 | 1.0 | 1.3 | 1.7 | 2.4 | 0.6 | 0.8 | 1.1 |
| | | Min-w | 0.4 | 0.4 | 0.8 | 0.8 | N.D. | 0.7 | 0.6 | 0.6 | 0.7 | N.D. | 0.6 | 0.3 |
| Mongolia | Ulaanbaatar | Mean | - | - | - | - | 0.6 | 0.1 | 0.4 | 0.2 | 0.4 | 0.3 | 0.9 | - |
| | | % | - | - | - | - | 100 | 100 | 100 | 80 | 100 | 100 | 22 | - |
| | | Max-w | - | - | - | - | 0.8 | 0.3 | 1.1 | 0.6 | 0.8 | 0.5 | 0.9 | - |
| | | Min-w | - | - | - | - | 0.4 | N.D. | 0.1 | N.D. | 0.1 | 0.2 | 0.9 | - |
| | Terelj | Mean | 0.3 | 0.5 | 0.7 | 0.5 | 0.4 | 0.2 | - | - | - | - | - | - |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | - | - | - | - | - | - |
| | | Max-2w | 0.3 | 0.5 | 0.9 | 0.5 | 0.5 | 0.3 | - | - | - | - | - | - |
| | | Min-2w | 0.3 | 0.5 | 0.5 | 0.4 | 0.2 | 0.1 | - | - | - | - | - | - |
| Philippines | Metro Manila | Mean | N.D. | N.D. | N.D. | N.D. | 0.4 | 0.1 | 0.2 | 0.3 | 0.7 | 0.6 | 0.7 | 0.8 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 59 |
| | | Max-* | N.D. | N.D. | N.D. | 0.1 | 0.7 | 0.2 | 0.3 | 0.6 | 1.0 | 0.7 | 1.1 | 0.9 |
| | | Min-* | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 0.3 | 0.5 | 0.3 | 0.8 |
| | Los Banos | Mean | N.D. | N.D. | N.D. | N.D. | N.D. | 2.1 | N.D. | 0.2 | 0.5 | 0.3 | 0.4 | 1.2 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 41 |
| | | Max-* | N.D. | N.D. | N.D. | N.D. | N.D. | 4.2 | 0.1 | 0.2 | 1.1 | 0.4 | 0.4 | 1.3 |
| | | Min-* | N.D. | N.D. | N.D. | N.D. | N.D. | 4.2 | N.D. | N.D. | 0.1 | 0.3 | 0.3 | 1.0 |
| Republic of Korea | Kanghwa | Mean | 1.6 | 2.0 | 2.9 | 1.7 | 2.9 | 2.1 | 2.7 | 1.4 | - | 1.4 | - | 0.8 |
| | | % | 16 | 18 | 14 | 10 | 10 | 13 | 13 | 16 | - | 13 | - | 6 |
| | | Max-d | 3.2 | 3.4 | 6.8 | 2.0 | 3.1 | 3.1 | 4.4 | 2.1 | - | 1.9 | - | 0.9 |
| | | Min-d | 0.8 | 0.8 | 1.4 | 1.3 | 0.9 | 0.9 | 1.7 | 0.8 | - | 1.0 | - | 0.8 |
| | Cheju | Mean | 0.7 | - | - | - | - | 0.6 | 0.6 | 0.7 | 0.3 | 1.2 | 0.5 | - |
| | | % | 39 | - | - | - | - | 50 | 35 | 39 | 60 | 48 | 7 | - |
| | | Max-* | 1.6 | - | - | - | - | 1.3 | 0.9 | 1.7 | 0.4 | 2.5 | 0.5 | - |
| | | Min-* | N.D. | - | - | - | - | 0.1 | 0.4 | 0.1 | 0.2 | 0.5 | 0.5 | - |
| | Imsil | Mean | 0.6 | 0.7 | 0.5 | 1.2 | - | 0.3 | 0.3 | 0.7 | 0.4 | 0.2 | 0.6 | - |
| | | % | 72 | 68 | 65 | 35 | - | 44 | 100 | 63 | 100 | 68 | 7 | - |
| | | Max-* | 1.0 | 1.2 | 1.1 | 2.0 | - | 0.5 | 0.5 | 0.9 | 0.5 | 0.3 | 0.9 | - |
| | | Min-* | 0.2 | N.D. | 0.1 | 0.6 | - | 0.3 | 0.1 | 0.4 | 0.3 | 0.2 | 0.2 | - |
| Russia | Mondy | Mean | 0.1 | 0.5 | 0.3 | - | 0.3 | 0.4 | 0.2 | 0.1 | - | 0.1 | 0.3 | 0.3 |
| | | % | 100 | 100 | 100 | - | 100 | 28 | 100 | 100 | - | 100 | 100 | 66 |
| | | Max-* | 0.1 | 0.5 | 0.4 | - | 0.3 | 0.4 | 0.2 | 0.1 | - | 0.1 | 0.3 | 0.3 |
| | | Min-* | 0.1 | 0.5 | 0.2 | - | 0.3 | 0.4 | 0.2 | 0.1 | - | 0.1 | 0.3 | 0.2 |
| | Listvyanka | Mean | 1.7 | 2.0 | 2.7 | 0.2 | 0.3 | 2.4 | 0.2 | 0.5 | 0.9 | 0.7 | 1.4 | 1.0 |
| | | % | 97 | 97 | 97 | 100 | 100 | 100 | 100 | 100 | 100 | 97 | 100 | 90 |
| | | Max-10d | 2.2 | 2.1 | 3.7 | 0.3 | 0.4 | 6.9 | 0.5 | 0.7 | 1.5 | 1.3 | 2.0 | 1.3 |
| | | Min-10d | 1.2 | 1.8 | 2.1 | 0.2 | 0.3 | N.D. | N.D. | 0.3 | 0.3 | 0.4 | 0.5 | 0.5 |
| | Irkutsk | Mean | 0.8 | 1.9 | 0.5 | 2.7 | 1.2 | 4.4 | 2.6 | 2.8 | 0.2 | 1.3 | 0.1 | 1.0 |
| | | % | 97 | 67 | 100 | 73 | 100 | 93 | 89 | 100 | 100 | 94 | 40 | 89 |
| | | Max-2w | 1.4 | 2.2 | 1.3 | 4.9 | 4.2 | 5.7 | 7.1 | 3.1 | 0.3 | 2.0 | 0.1 | 3.7 |
| | | Min-2w | 0.1 | 1.5 | N.D. | 0.5 | 0.2 | 3.2 | 0.1 | 2.5 | 0.2 | 0.5 | 0.1 | 0.2 |
| | Primorskaya | Mean | - | - | - | - | - | - | - | - | - | - | 0.9 | 1.5 |
| | | % | - | - | - | - | - | - | - | - | - | - | 100 | 100 |
| | | Max-w | - | - | - | - | - | - | - | - | - | - | 1.4 | 2.5 |
| | | Min-w | - | - | - | - | - | - | - | - | - | - | 0.2 | 0.8 |
| Viet Nam | Hanoi | Mean | 3.9 | 3.8 | 1.4 | 0.9 | 1.2 | 0.4 | 0.3 | - | - | - | - | 0.3 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | - | - | - | - | 100 |
| | | Max-w | 6.4 | 6.2 | 3.6 | 1.1 | 1.6 | 0.6 | 0.6 | - | - | - | - | 1.4 |
| | | Min-w | 0.3 | 2.0 | 0.5 | 0.6 | 0.5 | 0.2 | N.D. | - | - | - | - | 1.4 |
| | Hoa Binh | Mean | 0.9 | 0.4 | 0.9 | 0.3 | 0.4 | 0.3 | 0.1 | 0.4 | 1.3 | 1.8 | 1.3 | 2.0 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | | Max-w | 1.6 | 1.2 | 1.3 | 0.6 | 1.0 | 0.4 | 0.1 | 1.3 | 2.2 | 3.0 | 1.7 | 4.2 |
| | | Min-w | N.D. | 0.1 | 0.7 | 0.2 | N.D. | 0.1 | N.D. | 0.1 | 0.8 | 1.3 | 0.5 | 0.4 |
| Thai Land | Mae Hia | Mean | 0.6 | 0.8 | 0.6 | - | 0.7 | 0.2 | 0.1 | 1.1 | 0.3 | 0.7 | 1.1 | 0.4 |
| | | % | 39 | 28 | 30 | - | 18 | 32 | 18 | 19 | 32 | 32 | 25 | 22 |
| | | Max-w | - | - | - | - | - | - | - | - | - | - | - | - |
| | | Min-w | - | - | - | - | - | - | - | - | - | - | - | - |

**Table 4.17 Particulate matter component: $Na^+$**

| Unit: μg/m³ | | | 2001 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Country | Site | | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| Indonesia | Serpong | Mean | - | - | - | - | - | - | 0.2 | 0.3 | 0.8 | - | 0.1 | 0.7 |
| | | % | - | - | - | - | - | - | 26 | 48 | 53 | - | 45 | 96 |
| | | Max-w | - | - | - | - | - | - | 0.2 | 0.3 | 1.2 | - | 0.6 | 2.2 |
| | | Min-w | - | - | - | - | - | - | 0.2 | 0.3 | 0.3 | - | N.D. | N.D. |
| Malaysia | Tanah Rata | Mean | 0.1 | 0.3 | 0.1 | N.D. | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | N.D. | 0.2 |
| | | % | 100 | 100 | 100 | 80 | 100 | 100 | 100 | 100 | 80 | 100 | 75 | 100 |
| | | Max-w | 0.2 | 0.4 | 0.3 | 0.1 | 0.1 | 0.2 | 0.3 | 0.2 | 0.2 | 0.3 | 0.0 | 0.3 |
| | | Min-w | N.D. | 0.2 | 0.1 | N.D. | N.D. | N.D. | N.D. | N.D. | 0.1 | N.D. | N.D. | N.D. |
| | Petaling Jaya | Mean | 0.3 | 0.4 | 0.4 | 0.2 | 0.2 | 0.1 | 0.3 | 0.3 | 0.3 | 0.2 | 0.1 | 0.3 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | | Max-w | 0.5 | 0.7 | 0.5 | 0.3 | 0.3 | 0.2 | 0.3 | 0.3 | 0.5 | 0.4 | 0.2 | 0.4 |
| | | Min-w | 0.2 | 0.1 | 0.3 | 0.2 | 0.0 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 |
| Mongolia | Ulaanbaatar | Mean | - | - | - | - | 0.5 | 0.6 | 0.2 | 0.2 | 0.3 | 0.2 | 0.2 | - |
| | | % | - | - | - | - | 100 | 100 | 100 | 80 | 100 | 100 | 22 | - |
| | | Max-w | - | - | - | - | 0.7 | 1.3 | 0.3 | 0.3 | 0.5 | 0.3 | 0.2 | - |
| | | Min-w | - | - | - | - | 0.3 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | - |
| | Terelj | Mean | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | - | - | - | - | - | - |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | - | - | - | - | - | - |
| | | Max-2w | 0.2 | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 | - | - | - | - | - | - |
| | | Min-2w | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | N.D. | - | - | - | - | - | - |
| Philippines | Metro Manila | Mean | 3.0 | 0.7 | 0.6 | 0.9 | 0.3 | N.D. | 2.4 | 2.9 | 0.8 | 0.6 | 0.5 | 0.5 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 59 |
| | | Max-* | 8.6 | 1.3 | 1.1 | 1.4 | 0.8 | N.D. | 3.4 | 8.3 | 1.1 | 1.1 | 1.0 | 0.6 |
| | | Min-* | 0.8 | 0.8 | 0.5 | 0.6 | N.D. | N.D. | 0.6 | N.D. | 0.6 | 0.3 | 0.2 | 0.4 |
| | Los Banos | Mean | 2.3 | 1.2 | 3.7 | 0.9 | N.D. | 0.1 | 1.3 | 2.1 | 3.6 | 0.2 | 0.8 | 0.5 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 41 |
| | | Max-* | 4.7 | 1.6 | 9.4 | 1.2 | N.D. | 0.3 | 3.5 | 4.2 | 7.6 | 0.3 | 1.6 | 0.6 |
| | | Min-* | 0.7 | 0.8 | 0.9 | 0.6 | N.D. | 0.3 | 0.4 | 0.4 | 0.2 | 0.2 | N.D. | 0.4 |
| Republic of Korea | Kanghwa | Mean | 0.4 | 0.1 | 0.3 | 0.2 | 0.3 | 0.4 | 0.3 | 0.3 | - | 0.4 | - | 0.3 |
| | | % | 16 | 18 | 14 | 10 | 10 | 13 | 13 | 16 | - | 13 | - | 6 |
| | | Max-d | 1.3 | 0.3 | 0.5 | 0.4 | 0.6 | 0.6 | 0.4 | 1.0 | - | 0.9 | - | 0.6 |
| | | Min-d | 0.1 | N.D. | 0.2 | N.D. | 0.2 | 0.2 | 0.2 | N.D. | - | 0.2 | - | N.D. |
| | Cheju | Mean | 0.1 | - | - | - | - | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | N.D. | - |
| | | % | 39 | - | - | - | - | 50 | 35 | 39 | 60 | 48 | 7 | - |
| | | Max-* | 0.4 | - | - | - | - | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.1 | - |
| | | Min-* | N.D. | - | - | - | - | N.D. | 0.1 | N.D. | N.D. | N.D. | N.D. | - |
| | Imsil | Mean | 0.4 | 0.5 | 0.3 | 0.6 | - | 0.1 | 0.1 | 0.4 | 0.1 | 0.1 | 0.6 | - |
| | | % | 72 | 68 | 65 | 35 | - | 44 | 100 | 63 | 100 | 68 | 7 | - |
| | | Max-* | 0.5 | 0.6 | 0.3 | 1.0 | - | 0.2 | 0.1 | 0.9 | 0.2 | 0.1 | 0.6 | - |
| | | Min-* | 0.2 | 0.2 | 0.2 | 0.3 | - | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.6 | - |
| Russia | Mondy | Mean | N.D. | N.D. | N.D. | - | N.D. | 0.1 | 0.1 | N.D. | - | N.D. | N.D. | N.D. |
| | | % | 100 | 100 | 100 | - | 100 | 28 | 100 | 100 | - | 100 | 100 | 66 |
| | | Max-* | N.D. | N.D. | N.D. | - | N.D. | 0.1 | 0.1 | N.D. | - | N.D. | N.D. | N.D. |
| | | Min-* | N.D. | N.D. | N.D. | - | N.D. | 0.1 | 0.1 | N.D. | - | N.D. | N.D. | N.D. |
| | Listvyanka | Mean | 0.1 | 0.2 | 0.1 | 0.4 | 0.2 | 0.2 | 0.1 | 0.3 | 0.2 | 0.1 | 0.1 | 0.1 |
| | | % | 97 | 97 | 97 | 100 | 100 | 100 | 100 | 100 | 100 | 97 | 100 | 90 |
| | | Max-10d | 0.1 | 0.2 | 0.1 | 0.5 | 0.2 | 0.3 | 0.1 | 0.5 | 0.3 | 0.2 | 0.1 | 0.1 |
| | | Min-10d | N.D. | 0.2 | N.D. | 0.3 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| | Irkutsk | Mean | N.D. | 0.1 | N.D. | 0.2 | 0.1 | 0.1 | N.D. | 0.1 | 0.1 | N.D. | N.D. | 0.2 |
| | | % | 97 | 67 | 100 | 73 | 100 | 93 | 89 | 100 | 100 | 94 | 40 | 89 |
| | | Max-2w | N.D. | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 | N.D. | N.D. | 0.3 |
| | | Min-2w | N.D. | 0.1 | N.D. | 0.1 | N.D. | 0.1 | N.D. | N.D. | N.D. | N.D. | N.D. | 0.2 |
| | Primorskaya | Mean | - | - | - | - | - | - | - | - | - | - | 0.2 | 0.4 |
| | | % | - | - | - | - | - | - | - | - | - | - | 100 | 100 |
| | | Max-w | - | - | - | - | - | - | - | - | - | - | 0.3 | 0.6 |
| | | Min-w | - | - | - | - | - | - | - | - | - | - | 0.1 | 0.1 |
| Viet Nam | Hanoi | Mean | 1.4 | 1.0 | 0.4 | 0.3 | 0.1 | 0.1 | 0.2 | - | - | - | - | 0.1 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | - | - | - | - | 100 |
| | | Max-w | 2.2 | 1.5 | 1.2 | 0.5 | 0.1 | 0.2 | 0.4 | - | - | - | - | 0.5 |
| | | Min-w | 0.6 | 0.3 | N.D. | 0.2 | 0.1 | 0.1 | N.D. | - | - | - | - | 0.5 |
| | Hoa Binh | Mean | 0.8 | 0.1 | 0.1 | 0.1 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 | 0.2 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | | Max-w | 1.5 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.3 | 0.1 | 0.4 |
| | | Min-w | 0.2 | N.D. | 0.1 | 0.1 | N.D. | N.D. | N.D. | N.D. | N.D. | 0.1 | 0.1 | 0.1 |
| Thai Land | Mae Hia | Mean | 0.2 | 0.2 | 0.1 | - | 0.1 | N.D. | 0.1 | 0.4 | 0.1 | N.D. | 0.1 | 0.1 |
| | | % | 39 | 28 | 30 | - | 18 | 32 | 18 | 19 | 32 | 32 | 25 | 22 |
| | | Max-w | - | - | - | - | - | - | - | - | - | - | - | - |
| | | Min-w | - | - | - | - | - | - | - | - | - | - | - | - |

**Table 4.18 Particulate matter component: $K^+$**

| Unit: μg/m³ | | | 2001 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Country | Site | | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| Indonesia | Serpong | Mean | - | - | - | - | - | - | 0.5 | 0.6 | 0.6 | - | 0.2 | 0.2 |
| | | % | - | - | - | - | - | - | 26 | 48 | 53 | - | 45 | 96 |
| | | Max-w | - | - | - | - | - | - | 0.5 | 0.6 | 0.6 | - | 0.6 | 0.6 |
| | | Min-w | - | - | - | - | - | - | 0.5 | 0.5 | 0.6 | - | N.D. | 0.1 |
| Malaysia | Tanah Rata | Mean | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 |
| | | % | 100 | 100 | 100 | 80 | 100 | 100 | 100 | 100 | 80 | 100 | 75 | 100 |
| | | Max-w | 0.1 | 0.4 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.2 | 0.1 | 0.1 | 0.1 |
| | | Min-w | N.D. | 0.1 | 0.1 | N.D. | 0.1 | 0.1 | 0.1 | N.D. | 0.1 | 0.1 | N.D. | N.D. |
| | Petaling Jaya | Mean | 0.4 | 0.4 | 0.5 | 0.3 | 0.3 | 0.2 | 0.4 | 0.4 | 0.4 | 0.2 | 0.2 | 0.3 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | | Max-w | 0.4 | 0.5 | 0.5 | 0.4 | 0.4 | 0.4 | 0.6 | 0.4 | 0.5 | 0.4 | 0.3 | 0.5 |
| | | Min-w | 0.3 | 0.2 | 0.4 | 0.3 | N.D. | 0.4 | 0.2 | 0.3 | 0.2 | N.D. | 0.2 | 0.1 |
| Mongolia | Ulaanbaatar | Mean | - | - | - | - | 0.4 | 0.4 | 0.2 | 0.3 | 0.3 | 0.5 | 0.2 | - |
| | | % | - | - | - | - | 100 | 100 | 100 | 80 | 100 | 100 | 22 | - |
| | | Max-w | - | - | - | - | 0.4 | 0.7 | 0.3 | 0.5 | 0.4 | 0.7 | 0.2 | - |
| | | Min-w | - | - | - | - | 0.3 | N.D. | 0.1 | 0.1 | 0.2 | 0.3 | 0.2 | - |
| | Terelj | Mean | 0.1 | 0.1 | 0.2 | 0.1 | 0.3 | 0.2 | - | - | - | - | - | - |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | - | - | - | - | - | - |
| | | Max-2w | 0.1 | 0.2 | 0.2 | 0.1 | 1.0 | 0.3 | - | - | - | - | - | - |
| | | Min-2w | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | - | - | - | - | - | - |
| Philippines | Metro Manila | Mean | 1.3 | 5.5 | 1.6 | 1.9 | 0.4 | N.D. | 0.2 | 0.2 | 0.2 | 0.3 | 0.2 | 0.1 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 59 |
| | | Max-* | 2.7 | 11.2 | 4.0 | 3.3 | 0.5 | 0.1 | 0.3 | 0.3 | 0.3 | 0.4 | 0.4 | 0.2 |
| | | Min-* | 0.9 | 3.4 | 0.2 | 0.4 | 0.3 | N.D. | 0.1 | N.D. | 0.1 | 0.3 | N.D. | 0.1 |
| | Los Banos | Mean | 0.5 | 4.5 | 2.8 | 1.6 | 0.2 | 1.0 | 0.3 | 0.4 | 0.3 | 0.1 | 0.1 | 0.2 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 41 |
| | | Max-* | 1.1 | 8.1 | 7.9 | 3.0 | 0.2 | 2.0 | 0.4 | 1.2 | 0.4 | 0.2 | 0.1 | 0.4 |
| | | Min-* | 0.2 | 0.5 | 0.4 | 0.4 | 0.2 | 2.0 | 0.4 | N.D. | N.D. | 0.1 | N.D. | N.D. |
| Republic of Korea | Kanghwa | Mean | 0.5 | 0.4 | 0.4 | 0.3 | 0.8 | 0.8 | 0.1 | 0.5 | - | 0.4 | - | 0.4 |
| | | % | 16 | 18 | 14 | 10 | 10 | 13 | 13 | 16 | - | 13 | - | 6 |
| | | Max-d | 1.3 | 0.6 | 0.9 | 0.5 | 0.4 | 1.4 | 0.3 | 0.8 | - | 1.0 | - | 0.6 |
| | | Min-d | N.D. | 0.1 | N.D. | 0.2 | N.D. | 0.4 | N.D. | 0.3 | - | N.D. | - | 0.3 |
| | Cheju | Mean | 0.1 | - | - | - | - | 0.2 | 0.1 | 0.2 | 0.1 | 0.3 | 0.3 | - |
| | | % | 39 | - | - | - | - | 50 | 35 | 39 | 60 | 48 | 7 | - |
| | | Max-* | 0.3 | - | - | - | - | 0.6 | 0.1 | 0.6 | 0.1 | 0.7 | 0.4 | - |
| | | Min-* | 0.1 | - | - | - | - | N.D. | 0.1 | 0.1 | 0.1 | 0.1 | 0.3 | - |
| | Imsil | Mean | 0.4 | 0.4 | 0.2 | 0.7 | - | 0.1 | 0.1 | 0.3 | 0.1 | 0.1 | 0.6 | - |
| | | % | 72 | 68 | 65 | 35 | - | 44 | 100 | 63 | 100 | 68 | 7 | - |
| | | Max-* | 0.6 | 0.6 | 0.4 | 1.2 | - | 0.1 | 0.1 | 0.6 | 0.2 | 0.2 | 0.6 | - |
| | | Min-* | 0.1 | 0.1 | 0.1 | 0.3 | - | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.5 | - |
| Russia | Mondy | Mean | N.D. | N.D. | N.D. | - | N.D. | 0.1 | N.D. | N.D. | - | N.D. | N.D. | N.D. |
| | | % | 100 | 100 | 100 | - | 100 | 28 | 100 | 100 | - | 100 | 100 | 66 |
| | | Max-* | N.D. | N.D. | N.D. | - | N.D. | 0.1 | N.D. | 0.1 | - | 0.1 | N.D. | N.D. |
| | | Min-* | N.D. | N.D. | N.D. | - | N.D. | 0.1 | N.D. | N.D. | - | N.D. | N.D. | N.D. |
| | Listvyanka | Mean | N.D. | N.D. | 0.2 | 0.3 | 0.4 | 0.2 | 0.2 | 0.3 | 0.3 | 0.1 | 0.1 | 0.6 |
| | | % | 97 | 97 | 97 | 100 | 100 | 100 | 100 | 100 | 100 | 97 | 100 | 90 |
| | | Max-10d | 0.1 | 0.1 | 0.3 | 0.4 | 0.6 | 0.2 | 0.3 | 0.5 | 0.4 | 0.2 | 0.2 | 0.8 |
| | | Min-10d | N.D. | N.D. | N.D. | 0.2 | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.3 |
| | Irkutsk | Mean | N.D. | 0.1 | N.D. | 0.1 | 0.2 | 0.3 | 0.2 | 0.6 | 0.5 | 0.4 | 0.1 | 0.2 |
| | | % | 97 | 67 | 111 | 73 | 100 | 93 | 89 | 100 | 100 | 94 | 40 | 89 |
| | | Max-2w | 0.1 | 0.1 | 0.1 | 0.1 | 0.3 | 0.4 | 0.4 | 0.6 | 0.8 | 0.8 | 0.1 | 0.2 |
| | | Min-2w | N.D. | 0.1 | N.D. | N.D. | 0.1 | 0.1 | 0.1 | 0.6 | 0.2 | N.D. | 0.1 | 0.1 |
| | Primorskaya | Mean | - | - | - | - | - | - | - | - | - | - | 0.4 | 0.6 |
| | | % | - | - | - | - | - | - | - | - | - | - | 100 | 100 |
| | | Max-w | - | - | - | - | - | - | - | - | - | - | 0.8 | 0.8 |
| | | Min-w | - | - | - | - | - | - | - | - | - | - | 0.1 | 0.4 |
| Viet Nam | Hanoi | Mean | 0.2 | 0.4 | 0.4 | 0.1 | 0.3 | 0.2 | 0.2 | - | - | - | - | 0.1 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | - | - | - | - | 100 |
| | | Max-w | 0.5 | 0.6 | 1.3 | 0.3 | 0.4 | 0.3 | 0.5 | - | - | - | - | 0.5 |
| | | Min-w | N.D. | 0.3 | N.D. | N.D. | N.D. | N.D. | N.D. | - | - | - | - | 0.5 |
| | Hoa Binh | Mean | 0.1 | 0.2 | 0.7 | 0.6 | 0.2 | 0.3 | 0.3 | 0.2 | 0.5 | 0.4 | 0.4 | 0.6 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | | Max-w | 0.3 | 0.7 | 0.9 | 1.0 | 0.5 | 0.5 | 0.6 | 0.6 | 0.6 | 0.8 | 0.6 | 1.6 |
| | | Min-w | N.D. | N.D. | 0.6 | 0.3 | N.D. | 0.2 | N.D. | N.D. | 0.3 | 0.2 | 0.3 | N.D. |
| Thai Land | Mae Hia | Mean | 0.9 | 2.2 | 0.8 | - | 0.3 | N.D. | 0.1 | 0.4 | 0.1 | N.D. | 0.2 | 0.3 |
| | | % | 39 | 28 | 30 | - | 18 | 32 | 18 | 19 | 32 | 32 | 25 | 22 |
| | | Max-w | - | - | - | - | - | - | - | - | - | - | - | - |
| | | Min-w | - | - | - | - | - | - | - | - | - | - | - | - |

**Table 4.19 Particulate matter component: $Mg^{2+}$**

| Unit: μg/m³ | | | 2001 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Country | Site | | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| Indonesia | Serpong | Mean | - | - | - | - | - | - | 0.6 | 0.1 | 0.1 | - | N.D. | 0.1 |
| | | % | - | - | - | - | - | - | 26 | 48 | 53 | - | 45 | 96 |
| | | Max-w | - | - | - | - | - | - | 0.6 | 0.1 | 0.1 | - | N.D. | 0.2 |
| | | Min-w | - | - | - | - | - | - | 0.6 | 0.1 | N.D. | - | N.D. | N.D. |
| Malaysia | Tanah Rata | Mean | N.D. | 0.1 | N.D. | N.D. | N.D. | 0.1 | 0.1 | 0.1 | N.D. | N.D. | N.D. | N.D. |
| | | % | 100 | 100 | 100 | 80 | 100 | 100 | 100 | 100 | 80 | 100 | 75 | 100 |
| | | Max-w | N.D. | 0.1 | 0.1 | N.D. | N.D. | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | N.D. | 0.1 |
| | | Min-w | N.D. | 0.1 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| | Petaling Jaya | Mean | 0.1 | 0.1 | 0.1 | N.D. | 0.1 | N.D. | 0.1 | N.D. | 0.1 | N.D. | N.D. | N.D. |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | | Max-w | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | N.D. | 0.2 | 0.1 | N.D. | 0.1 |
| | | Min-w | N.D. | N.D. | 0.1 | N.D. | N.D. | 0.1 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| Mongolia | Ulaanbaatar | Mean | - | - | - | - | 0.3 | 0.5 | 0.2 | 0.2 | 0.3 | 0.4 | 0.4 | - |
| | | % | - | - | - | - | 100 | 100 | 100 | 80 | 100 | 100 | 22 | - |
| | | Max-w | - | - | - | - | 0.5 | 1.0 | 0.2 | 0.4 | 0.4 | 0.4 | 0.4 | - |
| | | Min-w | - | - | - | - | 0.2 | N.D. | 0.2 | N.D. | 0.2 | 0.2 | 0.4 | - |
| | Terelj | Mean | N.D. | N.D. | N.D. | 0.1 | 0.1 | 0.1 | - | - | - | - | - | - |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | - | - | - | - | - | - |
| | | Max-2w | 0.1 | N.D. | N.D. | 0.1 | 0.1 | 0.2 | - | - | - | - | - | - |
| | | Min-2w | N.D. | N.D. | N.D. | 0.1 | 0.1 | N.D. | - | - | - | - | - | - |
| Philippines | Metro Manila | Mean | 0.2 | 0.1 | 0.1 | 0.1 | N.D. | N.D. | N.D. | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 59 |
| | | Max-* | 0.6 | 0.1 | 0.1 | 0.1 | N.D. | N.D. | 0.1 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 |
| | | Min-* | 0.1 | 0.1 | 0.1 | 0.1 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 0.1 |
| | Los Banos | Mean | 0.1 | 0.1 | 0.2 | 0.2 | N.D. | 0.1 | N.D. | N.D. | 0.3 | N.D. | 0.1 | 0.1 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 41 |
| | | Max-* | 0.2 | 0.1 | 0.4 | 0.4 | N.D. | 0.1 | N.D. | 0.1 | 1.0 | N.D. | 0.2 | 0.1 |
| | | Min-* | 0.1 | N.D. | 0.1 | N.D. | N.D. | 0.1 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| Republic of Korea | Kanghwa | Mean | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | - | N.D. | - | N.D. |
| | | % | 16 | 18 | 14 | 10 | 10 | 13 | 13 | 16 | - | 13 | - | 6 |
| | | Max-d | N.D. | N.D. | 0.1 | N.D. | N.D. | N.D. | N.D. | N.D. | - | N.D. | - | N.D. |
| | | Min-d | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | - | N.D. | - | N.D. |
| | Cheju | Mean | N.D. | - | - | - | - | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | - |
| | | % | 39 | - | - | - | - | 50 | 35 | 39 | 60 | 48 | 7 | - |
| | | Max-* | 0.1 | - | - | - | - | N.D. | N.D. | 0.1 | N.D. | 0.1 | N.D. | - |
| | | Min-* | N.D. | - | - | - | - | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | - |
| | Imsil | Mean | N.D. | N.D. | N.D. | 0.1 | - | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | - |
| | | % | 72 | 68 | 65 | 35 | - | 44 | 100 | 63 | 100 | 68 | 7 | - |
| | | Max-* | 0.1 | N.D. | 0.1 | 0.1 | - | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | - |
| | | Min-* | N.D. | N.D. | N.D. | N.D. | - | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | - |
| Russia | Mondy | Mean | N.D. | N.D. | N.D. | - | N.D. | N.D. | N.D. | N.D. | - | N.D. | N.D. | N.D. |
| | | % | 100 | 100 | 100 | - | 100 | 28 | 100 | 100 | - | 100 | 100 | 66 |
| | | Max-* | N.D. | N.D. | N.D. | - | N.D. | N.D. | N.D. | N.D. | - | N.D. | N.D. | N.D. |
| | | Min-* | N.D. | N.D. | N.D. | - | N.D. | N.D. | N.D. | N.D. | - | N.D. | N.D. | N.D. |
| | Listvyanka | Mean | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | N.D. | N.D. | N.D. | 0.1 | N.D. | N.D. | N.D. |
| | | % | 97 | 97 | 97 | 100 | 100 | 100 | 100 | 100 | 100 | 97 | 100 | 90 |
| | | Max-10d | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | N.D. | N.D. | 0.1 | N.D. | N.D. | 0.1 |
| | | Min-10d | N.D. | 0.1 | 0.1 | 0.1 | 0.1 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| | Irkutsk | Mean | 0.1 | 0.2 | 0.1 | 0.2 | 0.1 | 0.1 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| | | % | 97 | 67 | 100 | 73 | 100 | 93 | 89 | 100 | 100 | 94 | 40 | 89 |
| | | Max-2w | 0.2 | 0.2 | 0.1 | 0.2 | 0.2 | 0.1 | 0.1 | N.D. | 0.1 | N.D. | N.D. | 0.1 |
| | | Min-2w | 0.1 | 0.1 | 0.1 | 0.1 | N.D. | 0.1 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| | Primorskaya | Mean | - | - | - | - | - | - | - | - | - | - | 0.1 | 0.1 |
| | | % | - | - | - | - | - | - | - | - | - | - | 100 | 100 |
| | | Max-w | - | - | - | - | - | - | - | - | - | - | 0.1 | 0.2 |
| | | Min-w | - | - | - | - | - | - | - | - | - | - | N.D. | N.D. |
| Viet Nam | Hanoi | Mean | 0.5 | 0.5 | 0.2 | 0.2 | N.D. | 0.1 | 0.1 | - | - | - | - | N.D. |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | - | - | - | - | 100 |
| | | Max-w | 0.8 | 1.2 | 0.6 | 0.4 | 0.1 | 0.1 | 0.1 | - | - | - | - | N.D. |
| | | Min-w | 0.3 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | - | - | - | - | N.D. |
| | Hoa Binh | Mean | 0.4 | 0.3 | 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 | 100 |
| | | Max-w | 0.6 | 1.2 | 0.1 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 0.2 |
| | | Min-w | 0.3 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| Thai Land | Mae Hia | Mean | 0.1 | 0.1 | N.D. | - | 0.3 | N.D. | N.D. | 0.1 | N.D. | N.D. | N.D. | N.D. |
| | | % | 39 | 28 | 30 | - | 18 | 32 | 18 | 19 | 32 | 32 | 25 | 22 |
| | | Max-w | - | - | - | - | - | - | - | - | - | - | - | - |
| | | Min-w | - | - | - | - | - | - | - | - | - | - | - | - |

**Table 4.20 Particulate matter component: $Ca^{2+}$**

| Unit: μg/m³ | | | 2001 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Country | Site | | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| Indonesia | Serpong | Mean | - | - | - | - | - | - | 0.4 | 0.6 | 0.3 | - | N.D. | 0.5 |
| | | % | - | - | - | - | - | - | 26 | 48 | 53 | - | 45 | 96 |
| | | Max-w | - | - | - | - | - | - | 0.4 | 0.6 | 0.6 | - | N.D. | 1.6 |
| | | Min-w | - | - | - | - | - | - | 0.4 | 0.6 | N.D. | - | N.D. | 0.1 |
| Malaysia | Tanah Rata | Mean | 0.0 | 0.2 | 0.1 | 0.1 | 0.1 | 0.4 | 0.6 | 0.1 | 0.1 | 0.1 | N.D. | 0.1 |
| | | % | 100 | 100 | 100 | 80 | 100 | 100 | 100 | 100 | 80 | 100 | 75 | 100 |
| | | Max-w | 0.1 | 0.4 | 0.2 | 0.2 | 0.2 | 0.9 | 0.9 | 0.3 | 0.2 | 0.2 | 0.0 | 0.2 |
| | | Min-w | N.D. | 0.1 | 0.1 | N.D. | N.D. | 0.1 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| | Petaling Jaya | Mean | 0.8 | 1.1 | 0.8 | 0.6 | 0.4 | 0.2 | 0.6 | 0.3 | 0.5 | 0.3 | 0.2 | 0.2 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | | Max-w | 1.4 | 2.7 | 1.1 | 0.8 | 0.6 | 0.7 | 1.2 | 0.3 | 1.5 | 0.3 | 0.2 | 0.2 |
| | | Min-w | 0.3 | 0.4 | 0.5 | 0.4 | 0.3 | 0.5 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 |
| Mongolia | Ulaanbaatar | Mean | - | - | - | - | 5.1 | 5.0 | 3.0 | 2.9 | 4.7 | 5.4 | 4.6 | - |
| | | % | - | - | - | - | 100 | 100 | 100 | 80 | 100 | 100 | 22 | - |
| | | Max-w | - | - | - | - | 6.0 | 9.1 | 3.5 | 4.5 | 5.9 | 5.9 | 4.6 | - |
| | | Min-w | - | - | - | - | 4.1 | 1.0 | 2.5 | 1.1 | 3.4 | 4.3 | 4.6 | - |
| | Terelj | Mean | 0.2 | 0.4 | 0.3 | 0.5 | 0.5 | 0.5 | - | - | - | - | - | - |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | - | - | - | - | - | - |
| | | Max-2w | 0.3 | 0.4 | 0.4 | 0.5 | 0.8 | 0.7 | - | - | - | - | - | - |
| | | Min-2w | 0.2 | 0.3 | 0.3 | 0.4 | 0.4 | 0.3 | - | - | - | - | - | - |
| Philippines | Metro Manila | Mean | 2.3 | 1.1 | 0.7 | 1.1 | 0.2 | 0.1 | 0.7 | 1.4 | 0.6 | 0.5 | 0.4 | 0.5 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 59 |
| | | Max-* | 6.2 | 1.6 | 1.2 | 1.9 | 0.4 | 0.2 | 1.2 | 3.6 | 1.1 | 0.5 | 0.8 | 0.7 |
| | | Min-* | 1.2 | 1.2 | 0.4 | 0.4 | N.D. | 0.1 | 0.2 | N.D. | 0.3 | 0.4 | N.D. | 0.2 |
| | Los Banos | Mean | 0.6 | 0.8 | 1.3 | 2.1 | N.D. | 0.2 | 0.2 | 0.3 | 1.1 | N.D. | 0.1 | 0.3 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 41 |
| | | Max-* | 0.8 | 1.4 | 3.2 | 3.1 | N.D. | 0.5 | 0.3 | 1.0 | 3.6 | N.D. | 0.2 | 0.4 |
| | | Min-* | 0.4 | 0.4 | 0.4 | 0.3 | N.D. | 0.5 | 0.2 | N.D. | N.D. | N.D. | N.D. | 0.1 |
| Republic of Korea | Kanghwa | Mean | 0.3 | 0.3 | 0.5 | 0.4 | 0.2 | 0.1 | 0.2 | 0.1 | - | 0.2 | - | 0.1 |
| | | % | 16 | 18 | 14 | 10 | 10 | 13 | 13 | 16 | - | 13 | - | 6 |
| | | Max-d | 0.5 | 0.6 | 0.7 | 0.6 | 0.3 | 0.1 | 0.3 | 0.1 | - | 0.3 | - | 0.1 |
| | | Min-d | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | - | 0.2 | - | 0.1 |
| | Cheju | Mean | N.D. | - | - | - | - | N.D. | N.D. | N.D. | N.D. | 0.1 | N.D. | - |
| | | % | 39 | - | - | - | - | 50 | 35 | 39 | 60 | 48 | 7 | - |
| | | Max-* | 0.1 | - | - | - | - | 0.1 | 0.1 | 0.1 | N.D. | 0.1 | 0.1 | - |
| | | Min-* | N.D. | - | - | - | - | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | - |
| | Imsil | Mean | 0.1 | 0.1 | 0.1 | 0.3 | - | N.D. | N.D. | 0.1 | N.D. | N.D. | 0.2 | - |
| | | % | 72 | 68 | 65 | 35 | - | 44 | 100 | 63 | 100 | 68 | 7 | - |
| | | Max-* | 0.3 | 0.1 | 0.4 | 0.4 | - | N.D. | N.D. | 0.2 | 0.1 | N.D. | 0.2 | - |
| | | Min-* | N.D. | N.D. | N.D. | 0.1 | - | N.D. | N.D. | N.D. | N.D. | N.D. | 0.1 | - |
| Russia | Mondy | Mean | N.D. | 0.1 | 0.1 | - | 0.1 | 0.2 | 0.1 | N.D. | - | 0.1 | 0.1 | N.D. |
| | | % | 100 | 100 | 100 | - | 100 | 28 | 100 | 100 | - | 100 | 100 | 66 |
| | | Max-* | N.D. | 0.1 | 0.1 | - | 0.1 | 0.2 | 0.1 | 0.1 | - | 0.1 | 0.1 | 0.1 |
| | | Min-* | N.D. | 0.1 | N.D. | - | 0.1 | 0.2 | 0.1 | N.D. | - | N.D. | 0.1 | N.D. |
| | Listvyanka | Mean | 0.3 | 0.5 | 0.4 | 0.5 | 0.3 | 0.2 | 0.1 | 0.2 | 0.3 | 0.2 | 0.2 | 0.3 |
| | | % | 97 | 97 | 97 | 100 | 100 | 100 | 100 | 100 | 100 | 97 | 100 | 90 |
| | | Max-10d | 0.5 | 0.6 | 0.5 | 0.7 | 0.4 | 0.3 | 0.2 | 0.2 | 0.5 | 0.3 | 0.3 | 0.4 |
| | | Min-10d | 0.1 | 0.3 | 0.3 | 0.4 | 0.3 | 0.2 | 0.1 | 0.2 | 0.1 | 0.1 | 0.2 | 0.2 |
| | Irkutsk | Mean | 0.6 | 0.8 | 0.6 | 0.9 | 0.6 | 0.5 | 0.4 | 0.3 | 0.3 | 0.2 | 0.1 | 0.4 |
| | | % | 97 | 67 | 100 | 73 | 100 | 93 | 89 | 100 | 100 | 94 | 40 | 89 |
| | | Max-2w | 0.7 | 0.9 | 0.7 | 1.1 | 1.0 | 0.6 | 0.5 | 0.4 | 0.4 | 0.3 | 0.1 | 0.8 |
| | | Min-2w | 0.6 | 0.7 | 0.4 | 0.8 | 0.2 | 0.4 | 0.3 | 0.3 | 0.2 | 0.1 | 0.1 | 0.3 |
| | Primorskaya | Mean | - | - | - | - | - | - | - | - | - | - | 0.4 | 0.9 |
| | | % | - | - | - | - | - | - | - | - | - | - | 100 | 100 |
| | | Max-w | - | - | - | - | - | - | - | - | - | - | 0.6 | 1.4 |
| | | Min-w | - | - | - | - | - | - | - | - | - | - | 0.1 | 0.5 |
| Viet Nam | Hanoi | Mean | 4.0 | 3.8 | 2.0 | 2.4 | 2.0 | 1.9 | 1.1 | - | - | - | - | 1.0 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | - | - | - | - | 100 |
| | | Max-w | 6.0 | 5.3 | 3.4 | 3.4 | 2.9 | 3.1 | 2.7 | - | - | - | - | 4.1 |
| | | Min-w | 1.8 | 2.3 | 0.3 | 1.3 | 1.3 | 0.8 | 0.1 | - | - | - | - | 4.1 |
| | Hoa Binh | Mean | 1.5 | 0.8 | 1.0 | 0.6 | 0.5 | 0.7 | 0.7 | 0.8 | 0.5 | 0.7 | 1.0 | 0.9 |
| | | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | | Max-w | 1.9 | 1.2 | 1.5 | 0.8 | 1.0 | 0.8 | 1.0 | 1.2 | 0.7 | 0.8 | 1.2 | 1.2 |
| | | Min-w | 0.8 | 0.2 | 0.2 | 0.4 | N.D. | 0.5 | 0.1 | 0.5 | 0.5 | 0.5 | 0.7 | 0.7 |
| Thai Land | Mae Hia | Mean | 0.6 | 1.3 | 0.8 | - | 0.4 | 0.2 | 0.3 | 0.8 | 0.2 | 0.1 | 0.2 | 0.3 |
| | | % | 39 | 28 | 30 | - | 18 | 32 | 18 | 19 | 32 | 32 | 25 | 22 |
| | | Max-w | - | - | - | - | - | - | - | - | - | - | - | - |
| | | Min-w | - | - | - | - | - | - | - | - | - | - | - | - |

**Table 4.21 TSP**

| Unit: $\mu g/m^3$ | | | 2001 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Country | Site | | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| Thailand | Bangkok | Mean | 113 | 80 | 80 | 50 | 55 | 45 | 47 | 57 | 54 | 68 | 98 | 110 |
| | | % | 13 | 18 | 10 | 7 | 6 | 7 | 10 | 10 | 17 | 13 | 13 | 13 |
| | | Max-d | 140 | 140 | 120 | 50 | 70 | 50 | 50 | 70 | 60 | 80 | 140 | 170 |
| | | Min-d | 80 | 50 | 50 | 50 | 40 | 40 | 40 | 50 | 40 | 60 | 60 | 70 |
| | Samutprakarn | Mean | 86 | 137 | 95 | - | - | 60 | 67 | 60 | 77 | 80 | 104 | 90 |
| | | % | 16 | 11 | 6 | - | - | 7 | 10 | 13 | 10 | 16 | 17 | 6 |
| | | Max-d | 140 | 230 | 130 | - | - | 70 | 90 | 70 | 80 | 100 | 170 | 100 |
| | | Min-d | 30 | 60 | 60 | - | - | 50 | 50 | 50 | 70 | 60 | 60 | 80 |

**Table 4.22 $SO_2$ (Median)**

| Unit: ppb | | | 2001 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Country | Site | | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| Japan | Rishiri | Median | 0.3 | 0.5 | 0.1 | N.D. | 0.1 | N.D. | N.D. | N.D. | N.D. | N.D. | 0.2 | 0.1 |
| | | %* | 43 | 98 | 26 | 13 | 52 | 24 | 38 | 33 | 27 | 49 | 81 | 81 |
| | Tappi | Median | 0.4 | 0.5 | 0.5 | 0.4 | 0.2 | 0.3 | 0.2 | 0.2 | 0.1 | 0.2 | 0.2 | 0.3 |
| | | %* | 99 | 62 | 33 | 99 | 83 | 69 | 66 | 81 | 80 | 63 | 81 | 70 |
| | Sado-seki | Median | 0.2 | 0.4 | 0.2 | 0.6 | 0.2 | N.D. | 0.2 | 0.1 | N.D. | N.D. | 0.1 | 0.2 |
| | | %* | 82 | 88 | 61 | 82 | 62 | 35 | 65 | 65 | 47 | 25 | 75 | 81 |
| | Happo | Median | 0.4 | 0.3 | 0.4 | 0.9 | 0.5 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.3 | 0.2 |
| | | %* | 93 | 90 | 88 | 87 | 81 | 53 | 69 | 67 | 65 | 67 | 76 | 81 |
| | Ogasawara | Median | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 0.1 |
| | | %* | 30 | 18 | 44 | 15 | 21 | 11 | 9 | 3 | 9 | 2 | 21 | 54 |
| | Oki | Median | 0.4 | 0.6 | 0.3 | 0.7 | 0.4 | N.D. | 0.2 | 0.1 | N.D. | 0.2 | 0.2 | 0.1 |
| | | %* | 88 | 92 | 89 | 94 | 71 | 36 | 32 | 44 | 37 | 49 | 77 | 57 |
| | Ijira | Median | 0.1 | 0.2 | 0.2 | 0.6 | 0.4 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | N.D. |
| | | %* | 84 | 80 | 73 | 88 | 75 | 86 | 60 | 64 | 78 | 66 | 80 | 45 |
| | Banryu | Median | 0.8 | 0.7 | 0.8 | 0.9 | 0.5 | 0.4 | 0.3 | 0.4 | 0.2 | 0.4 | 0.6 | 0.7 |
| | | %* | 95 | 93 | 98 | 97 | 92 | 93 | 93 | 91 | 53 | 65 | 92 | 72 |
| | Yusuhara | Median | 0.9 | 1.0 | 1.0 | 0.8 | 0.4 | 0.4 | 0.6 | 0.5 | 0.5 | 0.4 | 0.9 | 0.7 |
| | | %* | 96 | 82 | 97 | 89 | 81 | 67 | 90 | 83 | 90 | 86 | 97 | 79 |
| | Hedo | Median | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | N.D. | N.D. | 0.2 | 0.2 | 0.1 |
| | | %* | 80 | 90 | 83 | 64 | 42 | 66 | 62 | 35 | 43 | 75 | 75 | 58 |

**Table 4.23 NO (Median)**

| Unit: ppb | | | 2001 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Country | Site | | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| Japan | Rishiri | Median | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| | | %* | 8 | 23 | 8 | 3 | 34 | 28 | 37 | 28 | 32 | 26 | 25 | 25 |
| | Tappi | Median | N.D. | 0.1 | 0.1 | 0.1 | 0.1 | N.D. | 0.1 | N.D. | N.D. | N.D. | N.D. | N.D. |
| | | %* | 46 | 65 | 49 | 81 | 65 | 42 | 49 | 24 | 42 | 0 | 33 | 32 |
| | Sado-seki | Median | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| | | %* | 7 | 8 | 12 | 31 | 29 | 13 | 10 | 35 | 16 | 8 | 12 | 9 |
| | Happo | Median | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| | | %* | 11 | 15 | 22 | 6 | 36 | 39 | 21 | 33 | 29 | 28 | 17 | 27 |
| | Ogasawara | Median | N.D. | N.D. | N.D. | N.D. | N.D. | 0.1 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| | | %* | 31 | 20 | 31 | 17 | 27 | 51 | 20 | 6 | 17 | 15 | 12 | 13 |
| | Oki | Median | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| | | %* | 11 | 11 | 14 | 22 | 13 | 6 | 6 | 9 | 10 | 10 | 10 | 5 |
| | Ijira | Median | N.D. | N.D. | N.D. | 0.1 | 0.1 | 0.1 | 0.3 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 |
| | | %* | 40 | 35 | 49 | 63 | 83 | 96 | 86 | 88 | 89 | 89 | 83 | 67 |
| | Banryu | Median | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | N.D. |
| | | %* | 51 | 57 | 41 | 41 | 35 | 70 | 77 | 73 | 56 | 53 | 49 | 48 |
| | Yusuhara | Median | 0.1 | 0.2 | 0.1 | 0.2 | 0.3 | 0.3 | 0.3 | N.D. | N.D. | 0.1 | N.D. | 0.2 |
| | | %* | 69 | 73 | 56 | 74 | 86 | 87 | 71 | 23 | 45 | 66 | 24 | 68 |
| | Hedo | Median | 0.2 | 0.2 | 0.1 | 0.1 | 0.2 | - | - | - | - | - | - | N.D. |
| | | %* | 65 | 99 | 82 | 83 | 42 | - | - | - | - | - | - | 14 |

**Table 4.24 $NO_x$* (Median)**

| Unit: ppb | | | 2001 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Country | Site | | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| Japan | Rishiri | Median | 0.7 | 0.9 | 0.7 | N.D. | 0.7 | 0.5 | 0.8 | 0.1 | N.D. | 0.1 | 0.9 | 0.7 |
| | ($NO_x$*) | %* | 46 | 98 | 36 | 14 | 81 | 95 | 98 | 57 | 47 | 63 | 92 | 98 |
| | Tappi | Median | 0.7 | 0.7 | 1.3 | 1.6 | 1.0 | 0.9 | 0.9 | 0.6 | 0.4 | 0.6 | 0.8 | 0.6 |
| | ($NO_x$*) | %* | 99 | 97 | 86 | 98 | 94 | 96 | 77 | 54 | 89 | 6 | 80 | 99 |
| | Sado-seki | Median | 0.6 | 0.8 | 1.0 | 2.0 | 1.2 | 0.6 | 0.8 | N.D. | 0.6 | 1.0 | 1.2 | 1.0 |
| | ($NO_x$*) | %* | 79 | 87 | 76 | 94 | 84 | 69 | 30 | 47 | 83 | 53 | 98 | 99 |
| | Happo | Median | 0.9 | 0.9 | 1.3 | 1.3 | 2.1 | 2.0 | 2.2 | 2.0 | 1.7 | 1.6 | 1.3 | 1.1 |
| | ($NO_x$*) | %* | 33 | 47 | 46 | 31 | 95 | 98 | 54 | 98 | 96 | 91 | 59 | 73 |
| | Ogasawara | Median | 0.7 | 0.4 | 0.8 | 0.3 | 0.3 | 0.3 | 0.1 | N.D. | N.D. | 0.1 | 0.3 | 0.5 |
| | ($NO_x$*) | %* | 89 | 80 | 94 | 90 | 86 | 81 | 58 | 41 | 40 | 48 | 77 | 95 |
| | Oki | Median | 0.8 | 0.9 | 1.6 | 2.0 | 1.7 | 0.9 | 0.6 | 0.3 | 0.4 | 0.9 | 1.3 | 0.8 |
| | ($NO_x$*) | %* | 96 | 88 | 49 | 73 | 69 | 45 | 18 | 76 | 87 | 53 | 65 | 30 |
| | Ijira | Median | 0.8 | 1.1 | 1.7 | 3.1 | 2.6 | 2.7 | 4.2 | 2.3 | 1.7 | 1.1 | 1.0 | 0.7 |
| | ($NO_x$*) | %* | 100 | 100 | 100 | 100 | 93 | 100 | 97 | 95 | 99 | 100 | 100 | 99 |
| | Banryu | Median | 3.3 | 3.8 | 4.6 | 4.7 | 3.2 | 3.3 | 2.8 | 2.5 | 3.3 | 3.4 | 3.8 | 3.7 |
| | | %* | 98 | 98 | 73 | 68 | 96 | 72 | 47 | 21 | 87 | 98 | 95 | 98 |
| | Yusuhara | Median | 1.9 | 1.6 | 2.2 | 1.7 | 1.0 | 0.8 | 0.7 | 1.2 | 1.2 | 1.5 | 2.0 | 2.6 |
| | ($NO_x$*) | %* | 99 | 98 | 98 | 95 | 98 | 94 | 83 | 83 | 98 | 98 | 98 | 86 |
| | Hedo | Median | 0.7 | 0.8 | 1.0 | 0.8 | 0.8 | - | - | - | - | - | - | 0.7 |
| | ($NO_x$*) | %* | 98 | 99 | 99 | 98 | 42 | - | - | - | - | - | - | 54 |

**Table 4.25 Approximate conversion ratios from ppb to μg/m$^3$**

| Species | $SO_2$ | $O_3$ | NO | $NO_2$ | $HNO_3$ | HCl | $NH_3$ |
|---|---|---|---|---|---|---|---|
| Ratio | x 2.66 | x 2.00 | x 1.25 | x 1.91 | x 2.62 | x 1.52 | x 0.792 |

**Table 4.26 Expedient detection limits for summarizing air concentration data**

| Species | Detection limits |
|---|---|
| $SO_2$ | 0.1 ppb |
| NO $NO_2$ $NO_x$ | 0.1 ppb |
| $O_3$ | 1 ppb |
| $HNO_3$ | 0.1 ppb |
| HCl | 0.1 ppb |
| $NH_3$ | 0.1 ppb |
| PM | 1 μg/m$^3$ |
| Particulate components | 0.1 μg/m$^3$ |

**Appendix: Additional data in Tanah Rata, Malaysia**

| Unit : ppb | | | | 2001 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Country | Site | Gas | | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| Malaysia | Tanah Rata | $SO_2$ | Mean | 1.4 | 1.6 | 1.3 | 1.1 | 1.1 | 0.8 | 1.1 | 0.8 | 1.6 | 1.7 | 1.0 | 1.6 |
| | | (PS) | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 97 | 100 | 100 | 100 |
| | | | Max-w | 1.6 | 2.9 | 2.3 | 1.4 | 1.8 | 1.3 | 1.6 | 1.0 | 2.0 | 2.1 | 1.2 | 2.0 |
| | | | Min-w | 1.2 | 1.1 | 0.8 | 1.0 | 0.6 | 0.3 | 0.8 | 0.4 | 0.8 | 0.9 | 0.7 | 1.1 |
| | | $HNO_3$ | Mean | 0.4 | 0.4 | 1.0 | 0.5 | 0.4 | 0.3 | 0.6 | 0.2 | 0.4 | 0.4 | 0.4 | 0.4 |
| | | (PS) | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 97 | 100 | 100 | 100 |
| | | | Max-w | 0.8 | 0.5 | 5.4 | 0.8 | 0.5 | 0.4 | 0.9 | 0.4 | 0.8 | 0.7 | 0.5 | 0.8 |
| | | | Min-w | 0.1 | 0.2 | 0.4 | 0.3 | 0.2 | 0.2 | 0.5 | 0.1 | 0.1 | 0.2 | 0.3 | 0.3 |
| | | $NH_3$ | Mean | 10.9 | 8.0 | 6.5 | 8.0 | 8.5 | 4.8 | 6.7 | 9.0 | 12.0 | 11.0 | 15.6 | 7.7 |
| | | (PS) | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 97 | 100 | 100 | 100 |
| | | | Max-w | 22.9 | 19.0 | 14.2 | 11.1 | 13.1 | 8.8 | 15.0 | 15.8 | 35.0 | 14.4 | 29.7 | 10.2 |
| | | | Min-w | 3.1 | 3.2 | 3.4 | 3.7 | 3.9 | 1.6 | 2.5 | 5.5 | 6.7 | 3.2 | 8.9 | 6.7 |

| Unit : $\mu g/m^3$ | | | | 2001 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Country | Site | Particle | | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| Malaysia | Tanah Rata | $SO_4^{2-}$ | Mean | 0.9 | 2.3 | 2.1 | 1.2 | 1.8 | 1.7 | 2.8 | 1.7 | 2.4 | 0.7 | 0.8 | 1.2 |
| | | (AS) | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | | | Max-w | 1.3 | 4.0 | 2.7 | 1.8 | 2.0 | 2.5 | 3.3 | 2.9 | 3.2 | 1.0 | 1.1 | 1.7 |
| | | | Min-w | 0.5 | 1.5 | 1.3 | 0.7 | 1.4 | 1.2 | 2.5 | 0.9 | 1.4 | 0.4 | 0.7 | 0.6 |
| | | $NO_3^-$ | Mean | 0.1 | 0.2 | 0.1 | N.D. | 0.1 | 0.2 | 0.3 | 0.1 | 0.1 | 0.1 | N.D. | 0.1 |
| | | (AS) | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | | | Max-w | 0.1 | 0.2 | 0.3 | 0.1 | 0.1 | 0.3 | 0.6 | 0.2 | 0.1 | 0.2 | 0.1 | 0.1 |
| | | | Min-w | N.D. | 0.1 | N.D. | N.D. | N.D. | 0.1 | 0.1 | 0.1 | N.D. | N.D. | N.D. | 0.1 |
| | | $Cl^-$ | Mean | N.D. | 0.1 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 0.1 |
| | | (AS) | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | | | Max-w | 0.1 | 0.1 | 0.1 | N.D. | N.D. | 0.1 | 0.1 | 0.1 | N.D. | 0.1 | N.D. | 0.3 |
| | | | 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. |
| | | $NH_4^+$ | Mean | 0.2 | 0.5 | 0.5 | 0.3 | 0.5 | 0.5 | 0.9 | 0.5 | 0.7 | 0.2 | 0.3 | 0.3 |
| | | (AS) | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | | | Max-w | 0.3 | 1.1 | 0.7 | 0.5 | 0.6 | 0.6 | 1.1 | 0.9 | 1.0 | 0.2 | 0.3 | 0.5 |
| | | | Min-w | 0.1 | 0.3 | 0.3 | 0.2 | 0.4 | 0.3 | 0.7 | 0.2 | 0.4 | 0.1 | 0.2 | 0.1 |
| | | $Na^+$ | Mean | 0.1 | 0.3 | 0.1 | N.D. | 0.1 | 0.1 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.2 |
| | | (AS) | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | | | Max-w | 0.1 | 0.4 | 0.4 | 0.1 | 0.1 | 0.2 | 0.3 | 0.2 | 0.2 | 0.2 | 0.1 | 0.3 |
| | | | Min-w | N.D. | 0.2 | 0.1 | N.D. | N.D. | N.D. | 0.1 | 0.1 | 0.1 | N.D. | N.D. | 0.1 |
| | | $K^+$ | Mean | 0.1 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 |
| | | (AS) | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | | | Max-w | 0.1 | 0.5 | 0.2 | 0.2 | 0.2 | 0.2 | 0.4 | 0.2 | 0.3 | 0.1 | 0.1 | 0.1 |
| | | | Min-w | 0.1 | 0.1 | 0.1 | N.D. | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 | N.D. | 0.1 | N.D. |
| | | $Mg^{2+}$ | 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. |
| | | (AS) | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | | | Max-w | N.D. | N.D. | N.D. | N.D. | N.D. | 0.1 | 0.1 | N.D. | N.D. | N.D. | N.D. | N.D. |
| | | | 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. |
| | | $Ca^{2+}$ | Mean | N.D. | N.D. | N.D. | N.D. | N.D. | 0.1 | 0.2 | 0.1 | N.D. | N.D. | N.D. | N.D. |
| | | (AS) | % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | | | Max-w | N.D. | 0.1 | 0.1 | N.D. | N.D. | 0.3 | 0.4 | 0.1 | 0.1 | 0.1 | N.D. | 0.1 |
| | | | Min-w | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 0.1 | N.D. | N.D. | N.D. | N.D. |

PS: Passive sampler
AS: Low volume air sampler

## 5. Soil and Vegetation Monitoring

### 5.1 Method

The objectives of this monitoring have been clarified in the Technical Manual for Monitoring Soil and Vegetation (2nd ISAG, 2000), and basic survey was adopted for the initial objectives (namely, establishment of baseline data and early detection of possible impact). The basic survey was principally carried out in the participating countries in 2001 with accordance to the Technical Manual. General items are described in the Table 5.1 but actual implement of item sets was dependent on respective site.

**Table 5.1. Basic survey for soil and forest**

| Item | Parameters |
|---|---|
| Soil | - pH($H_2O$), pH(KCl), Exchangeable base cations (Na, K, Ca, and Mg), Exchangeable acidity, Effective cation exchange capacity (ECEC)<br>- Exchangeable Al and H, Total C content, Total N content (optional)<br>- Available P, Sulfate (voluntary)<br>- 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<br>- Photographic record of tree decline, Estimation of decline causes (optional) |

#### 1) Monitoring Sites

Since the interval of soil and vegetation monitoring was decided as 3–5 years in the Technical Manual, most sites, which were reported in 2000, were not surveyed in 2001. The new monitoring site has been established in Malaysia, and the first sampling has been carried out in 2002. The data on this new monitoring site are expected to be submitted in 2003. The list of monitoring site and reported items for 2001 were presented in Table 5.2.

**Table 5.2. Outline of the Monitoring Sites in 2001**

| Country | Site | Nearest deposition monitoring site | Soil type | Items[*1] |
|---|---|---|---|---|
| China | Jiwozi (Xi'an) | Jiwozi | Not reported (one type) | S |
| | Zhuxiandong (Zhuhai) | Zhuxiandong | Not reported (one type) | S |
| Indonesia | Bogor Research Forest | EMC | Not reported (one type) | S |

| Country | Site | Nearest deposition monitoring site | Soil type | Items[*1] |
|---|---|---|---|---|
| Japan | Lake Banryu (Banryu-2/ Iwami "rinku" Factory Park) | Banryu | Cambisol/ (Acrisols)[*2] | S, F |
| Republic of Korea | Mt. Naejang | Imsil | Not reported (one type) | S, F |
| Russia | Irkutsk | Irkutsk | Eutric Regosol/ Calcaric Luvisol | S, (F)[*3] |
| Thailand | Khao Lam Dam | Khao Lam | Ferric Acrisol | S |

*[1]. S, Soil monitoring; F, Forest monitoring *[2]. Further analysis should be carried out for correspondence to accurate FAO/UNESCO classification. *[3]. Forest monitoring was carried out according to ICP Forests methodology in Bolshie Koty instead EANET method, and the data were not included in this report.

**2) Field Operation**

Basically, two forests are recommended to be selected in an area with soils of different sensitivities to acid deposition. Several plots (at least two ones) of areas from 5m*5m to 10m*10m should be chosen randomly at each forest (each soil type). Five subplots with 1m*1m square of each are set up for soil sampling at the center and along the diagonal lines of the plot (Fig.5.1). Three coaxial round plots are established for general description of trees with areas of 1000, 400 and 200 square meters respectively (Fig. 5.2). Observation of tree decline is carried out basically for selected twenty trees with average height of around 20m.

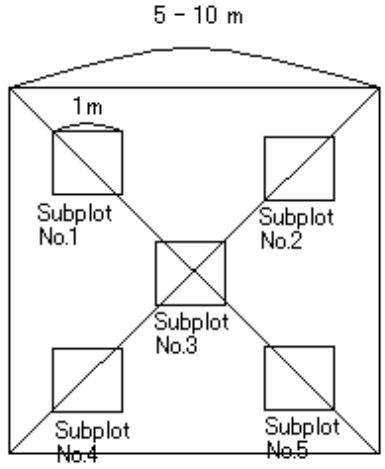



**Figure 5.1 Plot for soil sampling**

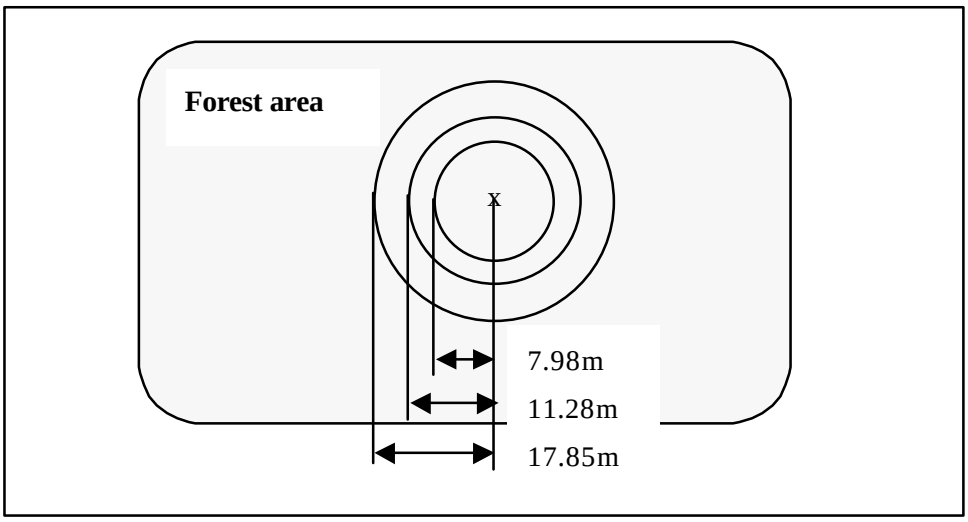



**Figure 5.2. Plots for description of trees**

**3) 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 |
|---|---|
| **Chemical Properties of Soil** | |
| a) Moisture Content | Drying oven, Balance |
| b) pH ($H_2O$) and pH (KCl) | Glass electrode |
| c) Exchangeable Base Cations (Ca, Mg, K and Na) | AAS, ICP-AES or ICP-MS ($CH_3COONH_4$-Extraction) |
| d) Exchangeable Acidity | Titration (KCl-Extraction) |
| e) Exchangeable Al , H | ibid. |
| f) Effective Cation Exchange Capacity (ECEC) | Calculation (as sum of exchangeable cations) |
| g) Carbonate Content (for calcareous soil) | Volumetric calcimeter |
| h) Total Carbon Content | Titration (Walkley-Black method) or CN-analyzer |
| i) Total Nitrogen Content | Titration (Kjeldahl method) or CN-analyzer |
| j) Available Phosphate | Spectrophotometry (Bray-1 test) |
| k) Sulfate | Turbidimetry, IC, ICP-AES or ICP-MS |
| **Physical Properties of Soil** | |
| a) Fine Earth Bulk Density | Metal sampling cylinder, Drying oven, Balance |
| b) Penetration Resistance (in the fieldwork) | Pocket penetrometer |

## 5.2 Results of Monitoring

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

Table 5.4: Results of soil chemical analysis

Table 5.5: Results of description of trees

Table 5.6: Results of understory vegetation

Table 5.7: Results of observation of tree decline

Figure 5.3: Photographic record of tree decline

## 5.3 Important subjects for elaboration in the monitoring design and procedures

The following subjects should be elaborated in the monitoring design and procedures according to the Technical Documents on Soil and Vegetation Monitoring in East Asia:

1) The type of soils should be classified according to FAO/UNESCO Soil Map of the World.
   Soil type (soil unit) of FAO/UNESCO classification has not been reported for four sites of three countries.
2) Two forest areas with different types of soil are insistently recommended to be selected in an area within 50km from a deposition-monitoring site.
   Only one type of soil has been selected at five sites of four countries.
3) Two plots should be established in each forest area, and five subplots should be set up in each soil plot.
   Only one plot has been established at three sites of two countries, and any subplots have not been established at one site.
4) Soil samples should be taken from two soil layers separately by fixed depths (0-10 and 10-20cm).
   Samples according to soil horizons were collected in two countries (sites).
5) Repeat analysis should be carried out in within-laboratory reproducibility condition.
   Only one country has reported the results of repeat analysis.

Concerning the item 2) above, some countries have difficulties in selecting two types of soil in an area. For the respective cases, appropriate solutions or alternative methods should be discussed.

**Table 5.4 a-1) Results of soil chemical analysis: China-1 (Jiwozi in Xi'an)**

| Sample No. | Location | Soil type | Plot | Subplot No. | Layer | pH | | Exchangeable base cations (B) | | | | Ex-acidity (A) | Ex-acid cations | | ECEC | Base saturation | Total C | Total N | Available Phosphate | Sulfate |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Ca | Mg | K | Na | | Al | H | (A)+(B) | | | | | |
| | | | | | | $H_2O$ | KCl | cmol(+)$kg^{-1}$ | | | | | | | | % | g $kg^{-1}$ | g $kg^{-1}$ | P ug $g^{-1}$ | S ug $g^{-1}$ |
| | Jiwozi | | 1 | 1 | A | 6.0 | 5.1 | 6.1 | 0.68 | 0.61 | 0.074 | 0.09 | 0.012 | 0.078 | 7.6 | 98.8 | 1.2 | 1.4 | 69.8 | 20.7 |
| | | | | 2 | A | 6.5 | 5.4 | 10.2 | 0.39 | 0.47 | 0.097 | 0.06 | 0.011 | 0.049 | 11.2 | 99.5 | 2.0 | 1.4 | 92.6 | 28.9 |
| | | | | 3 | A | 6.1 | 5.1 | 8.5 | 0.64 | 0.88 | 0.112 | 0.073 | 0.011 | 0.061 | 10.2 | 99.3 | 0.3 | 2.1 | 109.9 | 24 |
| | | | | 4 | A | 5.9 | 5.0 | 5.3 | 0.50 | 0.67 | 0.083 | 0.081 | 0.021 | 0.06 | 6.7 | 98.8 | 0.7 | 1.5 | 70.9 | 17.8 |
| | | | | 5 | A | 5.3 | 5.4 | 12.8 | 1.20 | 1.66 | 0.099 | 0.084 | 0.015 | 0.069 | 15.8 | 99.5 | 1.2 | 3.6 | 74.7 | 26.9 |
| | | | | 1 | B | 6.1 | 4.7 | 8.2 | 0.52 | 0.53 | 0.094 | 0.086 | 0.012 | 0.073 | 9.4 | 99.1 | 0.6 | 1.1 | 27.7 | 19.2 |
| | | | | 2 | B | 6.6 | 5.2 | 3.8 | 0.16 | 0.28 | 0.076 | 0.054 | 0.011 | 0.043 | 4.3 | 98.8 | 0.6 | 2.6 | 14.8 | 21.3 |
| | | | | 3 | B | 6.1 | 4.9 | 4.8 | 0.34 | 0.37 | 0.064 | 0.062 | 0.012 | 0.05 | 5.7 | 98.9 | 0.4 | 0.7 | 13.5 | 22.2 |
| | | | | 4 | B | 6.1 | 4.8 | 3.9 | 0.59 | 0.48 | 0.038 | 0.055 | 0.018 | 0.037 | 5.0 | 98.9 | 0.4 | 0.7 | 18.7 | 16.8 |
| | | | | 5 | B | 6.0 | 5.1 | 6.3 | 0.69 | 1.09 | 0.061 | 0.058 | 0.012 | 0.046 | 8.2 | 99.3 | 0.9 | 1.2 | 71 | 28.6 |

Note: Repeat analysis was not carried out.

**Table 5.4 a-2) Results of soil chemical analysis: China-2 (Zhuxiandong in Zhuhai)**

| Sample No. | Vegetation type of plot | Layer | pH | | Exchangeable base cations (B) | | | | Ex-acidity (A) | Ex-acid cations | | ECEC | Base saturation | Total C | Total N | Available Phosphate | Sulfate |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Ca | Mg | K | Na | | Al | H | (A)+(B) | | | | | |
| | | | $H_2O$ | KCl | cmol(+)$kg^{-1}$ | | | | | | | | % | g $kg^{-1}$ | g $kg^{-1}$ | P ug $g^{-1}$ | S ug $g^{-1}$ |
| | Acacia auriculiformis | 0~10 | 4.52 | 3.67 | 0.75 | 0.35 | 0.27 | 0.49 | 3.18 | 2.67 | 0.51 | 5.0 | 36.9 | 16.23 | 1.77 | 2.4 | 47.1 |
| | | 10~20 | 4.5 | 3.72 | 0.81 | 0.21 | 0.21 | 0.55 | 3.18 | 2.69 | 0.49 | 5.0 | 35.9 | 12.43 | 1.21 | 0.7 | 49.3 |
| | Acacia confusa | 0~10 | 4 | 3.48 | 1.09 | 0.37 | 0.25 | 0.5 | 3.31 | 2.51 | 0.8 | 5.5 | 40.0 | 34.14 | 2.91 | 7.5 | 69.2 |
| | | 10~20 | 4.08 | 3.71 | 0.91 | 0.25 | 0.23 | 0.49 | 2.96 | 2.49 | 0.47 | 4.8 | 38.8 | 18.63 | 1.81 | 5.1 | 46.1 |
| | Dicranopteris Dichotoma | 0~10 | 4.05 | 3.38 | 0.37 | 0.19 | 0.26 | 0.08 | 5.31 | 4.82 | 0.49 | 6.2 | 14.5 | 28.29 | 1.316 | 1.5 | 24.7 |
| | | 10~20 | 4.09 | 3.63 | 0.24 | 0.16 | 0.21 | 0.05 | 4.52 | 4.15 | 0.37 | 5.2 | 12.7 | 21.41 | 0.82 | 0.5 | 46.3 |
| | Pinus elliottii | 0~10 | 4.28 | 3.53 | 0.6 | 0.24 | 0.18 | 0.37 | 3.79 | 3.19 | 0.6 | 5.2 | 26.8 | 25.72 | 1.09 | 2.8 | 15.1 |
| | | 10~20 | 4.25 | 3.62 | 0.3 | 0.16 | 0.2 | 0.09 | 3.84 | 3.35 | 0.49 | 4.6 | 16.3 | 19.32 | 0.82 | 0.3 | 34.7 |

Note: Plots were established in four different vegetation types. Average data of the respective plots was reported. Repeat analysis was not carried out.

**Table 5.4 b) Results of soil chemical analysis: Indonesia (Bogor Research Forest)**

| Sample No. | Location | Soil type | Plot | Subplot No. | Layer analyzed (cm) | pH | | Exchangeable base cations | | | | Ex-acid cations | | ECEC | Base saturation | Total C | Total N |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | $H_2O$ | KCl | Ca | Mg | K | Na | Al | H | | | | |
| | | | | | | | | (cmol(+) $kg^{-1}$) | | | | | | | (%) | (g $kg^{-1}$) | |
| 1 | Bogor Research Forest | | 1 | 1 | 0 - 10 | 4.2 | 3.9 | 0.43 | 0.19 | 0.07 | 0.00 | 3.72 | 0.14 | 4.55 | 15.2 | 16.30 | 1.90 |
| 2 | | | | 2 | 0 - 10 | 4.4 | 3.9 | 1.61 | 0.46 | 0.10 | 0.00 | 2.96 | 0.04 | 5.17 | 42.0 | 15.70 | 1.80 |
| 3 | | | | 3 | 0 - 10 | 4.3 | 3.9 | 1.02 | 0.32 | 0.07 | 0.00 | 3.39 | 0.34 | 5.14 | 27.4 | 15.10 | 1.80 |
| 4 | | | | 4 | 0 - 10 | 4.4 | 3.9 | 1.31 | 0.41 | 0.07 | 0.00 | 2.79 | 0.09 | 4.67 | 38.3 | 17.40 | 1.90 |
| 5 | | | | 5 | 0 - 10 | 4.2 | 3.8 | 0.27 | 0.18 | 0.05 | 0.00 | 3.85 | 0.17 | 4.52 | 11.1 | 17.30 | 1.90 |
| 6 | | | | 1 | 10 - 20 | 4.2 | 3.9 | 0.48 | 0.23 | 0.05 | 0.00 | 3.55 | 0.19 | 4.50 | 16.9 | 14.10 | 1.80 |
| 7 | | | | 2 | 10 - 20 | 4.4 | 3.9 | 1.60 | 0.40 | 0.09 | 0.05 | 2.83 | 0.04 | 5.01 | 42.7 | 13.40 | 1.80 |
| 8 | | | | 3 | 10 - 20 | 4.3 | 3.9 | 0.76 | 0.22 | 0.07 | 0.26 | 3.64 | 0.23 | 5.18 | 25.3 | 13.90 | 1.70 |
| 9 | | | | 4 | 10 - 20 | 4.5 | 3.9 | 1.36 | 0.39 | 0.07 | 0.00 | 2.69 | 0.10 | 4.61 | 39.5 | 13.70 | 1.70 |
| 10 | | | | 5 | 10 - 20 | 4.2 | 3.8 | 0.43 | 0.18 | 0.05 | 0.00 | 3.84 | 0.21 | 4.71 | 14.0 | 15.60 | 1.80 |

Note: Repeat analysis was not reported.

**Table 5.4 c-1) Results of soil chemical analysis: Japan (Lake Banryu) -1**

| Sample No. | Location | Soil type | Plot No. | Subplot No. | Layer analyzed ( cm) | Repeat* analysis | Moisture content | pH | | Exchangeable base cations (B) | | | | Ex-acidity (A) | Ex-acid cations | | ECEC (A)+(B) | Base saturation | Total C | Total N |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | Ca | Mg | K | Na | | Al | H | | | | |
| | | | | | | | (wt%) | $H_2O$ | KCl | (cmol(+)$kg^{-1}$) | | | | | | | | % | (g $kg^{-1}$) | |
| | Banryu-2 | Cambisols | 1 | 1 | 0-10 | 1st | 5.9 | 4.6 | 3.9 | 0.094 | 0.15 | 0.11 | 0.040 | 3.7 | 3.2 | 0.44 | 4.1 | 9.6 | 16 | 0.79 |
| | | | | 2 | 0-10 | | 5.8 | 5.1 | 3.9 | 0.25 | 0.21 | 0.22 | 0.058 | 3.1 | 3.0 | 0.13 | 3.8 | 19.1 | 16 | 0.77 |
| | | | | 3 | 0-10 | | 3.4 | 4.9 | 3.9 | 0.27 | 0.31 | 0.23 | 0.090 | 3.4 | 3.3 | 0.062 | 4.3 | 20.8 | 24 | 1.3 |
| | | | | 4 | 0-10 | | 3.5 | 4.5 | 3.6 | 0.035 | 0.15 | 0.12 | 0.029 | 4.3 | 4.1 | 0.18 | 4.6 | 7.3 | 17 | 0.79 |
| | | | | 5 | 0-10 | | 4.2 | 4.8 | 3.8 | 0.72 | 0.37 | 0.20 | 0.087 | 3.7 | 3.6 | 0.080 | 5.1 | 27.3 | 26 | 1.3 |
| | | | 2 | 1 | 0-10 | 1st | 2.8 | 4.9 | 3.7 | 1.1 | 0.64 | 0.55 | 0.079 | 3.1 | 2.7 | 0.33 | 5.5 | 44.1 | 23 | 0.97 |
| | | | | 2 | 0-10 | | 2.6 | 4.5 | 3.4 | 0.48 | 0.55 | 0.23 | 0.076 | 4.0 | 3.6 | 0.48 | 5.4 | 24.7 | 19 | 0.73 |
| | | | | 3 | 0-10 | | 3.9 | 4.5 | 3.5 | 0.064 | 0.30 | 0.18 | 0.040 | 4.1 | 3.6 | 0.53 | 4.7 | 12.6 | 14 | 0.52 |
| | | | | 4 | 0-10 | | 2.4 | 4.6 | 3.7 | 0.32 | 0.31 | 0.16 | 0.053 | 3.7 | 3.3 | 0.44 | 4.6 | 18.4 | 21 | 0.81 |
| | | | | 5 | 0-10 | | 3.8 | 5.1 | 3.9 | 0.90 | 0.40 | 0.21 | 0.12 | 2.7 | 2.4 | 0.23 | 4.3 | 37.9 | 19 | 0.84 |
| | | | 1 | 1 | 10-20 | 1st | 3.2 | 5.0 | 3.9 | 0.11 | 0.19 | 0.081 | 0.057 | 3.3 | 3.0 | 0.29 | 3.7 | 11.7 | 10 | 0.45 |
| | | | | 2 | 10-20 | | 2.7 | 5.0 | 3.9 | 0.13 | 0.13 | 0.18 | 0.065 | 3.1 | 2.7 | 0.39 | 3.6 | 14.2 | 11 | 0.48 |
| | | | | 3 | 10-20 | | 3.2 | 4.9 | 3.9 | 0.091 | 0.21 | 0.16 | 0.084 | 3.5 | 3.4 | 0.14 | 4.1 | 13.4 | 13 | 0.64 |
| | | | | 4 | 10-20 | | 2.2 | 4.8 | 3.9 | 0.027 | 0.13 | 0.11 | 0.045 | 3.2 | 2.9 | 0.26 | 3.5 | 9.2 | 8.5 | 0.41 |
| | | | | 5 | 10-20 | | 2.6 | 4.7 | 3.8 | 0.22 | 0.17 | 0.13 | 0.047 | 3.5 | 3.3 | 0.23 | 4.1 | 13.8 | 14 | 0.71 |
| | | | 2 | 1 | 10-20 | 1st | 2.6 | 4.8 | 3.7 | 0.67 | 0.47 | 0.45 | 0.091 | 3.4 | 3.1 | 0.32 | 5.1 | 33.2 | 18 | 0.79 |
| | | | | 2 | 10-20 | | 3.0 | 4.6 | 3.6 | 0.21 | 0.39 | 0.20 | 0.060 | 3.7 | 3.2 | 0.47 | 4.5 | 18.9 | 12 | 0.49 |
| | | | | 3 | 10-20 | | 3.2 | 4.7 | 3.6 | 0.054 | 0.26 | 0.17 | 0.064 | 3.5 | 3.2 | 0.34 | 4.1 | 13.4 | 12 | 0.46 |
| | | | | 4 | 10-20 | | 2.7 | 4.6 | 3.7 | 0.24 | 0.24 | 0.16 | 0.048 | 3.8 | 3.3 | 0.48 | 4.5 | 15.2 | 17 | 0.68 |
| | | | | 5 | 10-20 | | 3.7 | 5.2 | 4.0 | 0.76 | 0.33 | 0.20 | 0.060 | 2.6 | 2.2 | 0.35 | 3.9 | 34.1 | 12 | 0.48 |

Note: Repeat analysis was carried out in the within-laboratory reproducibility condition.

**Table 5.4 c-2) Results of soil chemical analysis: Japan (Lake Banryu) -2**

| Sample No. | Location | Soil type | Plot No. | Subplot No. | Layer analyzed ( cm) | Repeat* analysis | Moisture content | pH | | Exchangeable base cations (B) | | | | Ex-acidity (A) | Ex-acid cations | | ECEC (A)+(B) | Base saturation | Total C | Total N |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | Ca | Mg | K | Na | | Al | H | | | | |
| | | | | | | | (wt%) | $H_2O$ | KCl | ($cmol(+)kg^{-1}$) | | | | | | | | % | ($g\ kg^{-1}$) | |
| | Banryu-2 | Cambisols | 1 | 1 | 0-10 | 2nd | 5.9 | 4.6 | 3.9 | 0.12 | 0.12 | 0.11 | 0.031 | 3.5 | 3.0 | 0.45 | 3.9 | 9.9 | 16 | 0.81 |
| | | | | 2 | 0-10 | | 5.8 | 5.1 | 3.9 | 0.28 | 0.19 | 0.22 | 0.053 | 3.0 | 2.7 | 0.27 | 3.7 | 19.9 | 15 | 0.79 |
| | | | | 3 | 0-10 | | 3.4 | 4.9 | 3.9 | 0.29 | 0.28 | 0.24 | 0.10 | 3.3 | 2.9 | 0.43 | 4.3 | 21.4 | 25 | 1.4 |
| | | | | 4 | 0-10 | | 3.5 | 4.5 | 3.7 | 0.065 | 0.16 | 0.13 | 0.051 | 4.0 | 3.6 | 0.41 | 4.4 | 9.1 | 19 | 0.93 |
| | | | | 5 | 0-10 | | 4.2 | 4.8 | 3.8 | 0.67 | 0.36 | 0.20 | 0.047 | 3.6 | 3.1 | 0.43 | 4.9 | 26.2 | 25 | 1.3 |
| | | | 2 | 1 | 0-10 | 2nd | 2.8 | 5.0 | 3.8 | 1.0 | 0.60 | 0.53 | 0.065 | 3.1 | 2.7 | 0.43 | 5.3 | 41.6 | 25 | 1.1 |
| | | | | 2 | 0-10 | | 2.6 | 4.5 | 3.4 | 0.40 | 0.51 | 0.22 | 0.069 | 4.1 | 3.5 | 0.62 | 5.3 | 22.5 | 20 | 0.81 |
| | | | | 3 | 0-10 | | 3.9 | 4.5 | 3.5 | 0.11 | 0.31 | 0.19 | 0.064 | 3.8 | 3.1 | 0.70 | 4.4 | 15.3 | 14 | 0.56 |
| | | | | 4 | 0-10 | | 2.4 | 4.5 | 3.7 | 0.30 | 0.30 | 0.17 | 0.087 | 4.0 | 3.5 | 0.54 | 4.9 | 17.7 | 23 | 0.94 |
| | | | | 5 | 0-10 | | 3.8 | 5.1 | 3.9 | 0.83 | 0.40 | 0.22 | 0.10 | 2.7 | 2.2 | 0.51 | 4.3 | 36.1 | 19 | 0.86 |
| | | | 1 | 1 | 10-20 | 2nd | 3.2 | 5.0 | 3.9 | 0.12 | 0.19 | 0.08 | 0.062 | 3.5 | 3.2 | 0.24 | 3.9 | 11.5 | 10 | 0.47 |
| | | | | 2 | 10-20 | | 2.7 | 4.9 | 3.9 | 0.13 | 0.11 | 0.18 | 0.037 | 3.2 | 2.9 | 0.29 | 3.7 | 12.5 | 9.6 | 0.46 |
| | | | | 3 | 10-20 | | 3.2 | 4.9 | 3.9 | 0.10 | 0.20 | 0.16 | 0.05 | 3.7 | 3.3 | 0.33 | 4.2 | 12.1 | 14 | 0.70 |
| | | | | 4 | 10-20 | | 2.2 | 4.7 | 3.9 | 0.100 | 0.12 | 0.12 | 0.042 | 3.3 | 2.8 | 0.50 | 3.7 | 10.4 | 9.2 | 0.49 |
| | | | | 5 | 10-20 | | 2.6 | 4.7 | 3.9 | 0.18 | 0.15 | 0.14 | 0.045 | 3.5 | 3.1 | 0.47 | 4.1 | 12.8 | 15 | 0.74 |
| | | | 2 | 1 | 10-20 | 2nd | 2.6 | 4.8 | 3.7 | 0.6 | 0.47 | 0.45 | 0.087 | 3.6 | 3.1 | 0.54 | 5.3 | 31.2 | 17 | 0.82 |
| | | | | 2 | 10-20 | | 3.0 | 4.6 | 3.6 | 0.19 | 0.38 | 0.19 | 0.071 | 3.8 | 3.2 | 0.53 | 4.6 | 18.1 | 12 | 0.50 |
| | | | | 3 | 10-20 | | 3.2 | 4.6 | 3.7 | 0.07 | 0.25 | 0.17 | 0.062 | 3.7 | 3.2 | 0.49 | 4.3 | 12.9 | 12 | 0.51 |
| | | | | 4 | 10-20 | | 2.7 | 4.6 | 3.7 | 0.20 | 0.24 | 0.16 | 0.065 | 3.8 | 3.2 | 0.51 | 4.4 | 15.0 | 18 | 0.77 |
| | | | | 5 | 10-20 | | 3.7 | 5.2 | 4.0 | 0.71 | 0.33 | 0.19 | 0.08 | 2.7 | 2.2 | 0.45 | 4.0 | 32.9 | 13 | 0.56 |

Note: Repeat analysis was carried out in the within-laboratory reproducibility condition.

**Table 5.4 c-3) Results of soil chemical analysis: Japan (Lake Banryu) -3**

| Sample No. | Location | Soil type | Plot No. | Subplot No. | Layer analyzed ( cm) | Repeat* analysis | Moisture content | pH | | Exchangeable base cations (B) | | | | Ex-acidity (A) | Ex-acid cations | | ECEC (A)+(B) | Base saturation | Total C | Total N |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | Ca | Mg | K | Na | | Al | H | | | | |
| | | | | | | | (wt%) | $H_2O$ | KCl | ($cmol(+)kg^{-1}$) | | | | | | | | % | ($g\ kg^{-1}$) | |
| | Iwami "rinku" Factory Park | (Acrisols) | 3 | 1 | 0-10 | 1st | 7.1 | 4.4 | 3.6 | 0.48 | 0.51 | 0.31 | 0.11 | 7.0 | 6.4 | 0.59 | 8.4 | 16.7 | 46 | 2.3 |
| | | | | 2 | 0-10 | | 8.5 | 4.2 | 3.3 | 0.23 | 0.33 | 0.21 | 0.045 | 6.0 | 5.2 | 0.84 | 6.9 | 11.9 | 31 | 1.6 |
| | | | | 3 | 0-10 | | 6.1 | 4.4 | 3.6 | 0.41 | 0.40 | 0.36 | 0.10 | 7.0 | 6.4 | 0.64 | 8.3 | 15.3 | 48 | 2.5 |
| | | | | 4 | 0-10 | | 12.7 | 4.3 | 3.3 | 0.37 | 0.69 | 0.32 | 0.070 | 7.5 | 6.7 | 0.78 | 9.0 | 16.2 | 43 | 2.3 |
| | | | | 5 | 0-10 | | 8.7 | 4.3 | 3.5 | 1.1 | 0.82 | 0.39 | 0.074 | 8.0 | 7.0 | 0.98 | 10 | 23.2 | 48 | 2.5 |
| | | | 4 | 1 | 0-10 | 1st | 14.9 | 4.1 | 3.1 | 0.31 | 0.55 | 0.32 | 0.15 | 11 | 9.7 | 1.3 | 12 | 10.7 | 42 | 1.9 |
| | | | | 2 | 0-10 | | 10.8 | 4.2 | 3.2 | 0.30 | 0.51 | 0.32 | 0.12 | 8.1 | 7.3 | 0.85 | 9.4 | 13.4 | 40 | 1.8 |
| | | | | 3 | 0-10 | | 15.0 | 4.3 | 3.3 | 0.69 | 0.50 | 0.24 | 0.14 | 9.7 | 8.6 | 1.0 | 11 | 13.9 | 40 | 2.0 |
| | | | | 4 | 0-10 | | 13.2 | 4.3 | 3.4 | 0.13 | 0.29 | 0.21 | 0.11 | 9.4 | 7.9 | 1.5 | 10 | 7.3 | 41 | 1.8 |
| | | | | 5 | 0-10 | | 8.7 | 4.3 | 3.4 | 0.22 | 0.31 | 0.23 | 0.12 | 7.8 | 7.3 | 0.50 | 8.7 | 10.2 | 41 | 1.9 |
| | | | 3 | 1 | 10-20 | 1st | 8.9 | 4.6 | 3.6 | 0.33 | 0.30 | 0.21 | 0.037 | 5.7 | 5.3 | 0.42 | 6.6 | 13.3 | 20 | 0.98 |
| | | | | 2 | 10-20 | | 6.5 | 4.5 | 3.6 | 0.050 | 0.21 | 0.15 | 0.058 | 6.5 | 6.1 | 0.46 | 7.0 | 6.6 | 15 | 0.71 |
| | | | | 3 | 10-20 | | 5.8 | 4.5 | 3.6 | 0.10 | 0.22 | 0.19 | 0.032 | 5.7 | 5.2 | 0.50 | 6.2 | 8.7 | 19 | 0.94 |
| | | | | 4 | 10-20 | | 8.3 | 4.6 | 3.6 | 0.050 | 0.40 | 0.21 | 0.071 | 5.8 | 5.2 | 0.58 | 6.5 | 11.2 | 20 | 1.0 |
| | | | | 5 | 10-20 | | 7.0 | 4.5 | 3.6 | 0.17 | 0.34 | 0.23 | 0.052 | 6.6 | 5.8 | 0.79 | 7.3 | 10.7 | 19 | 0.97 |
| | | | 4 | 1 | 10-20 | 1st | 10.8 | 4.4 | 3.4 | 0.050 | 0.32 | 0.18 | 0.10 | 9.8 | 9.0 | 0.75 | 10 | 6.2 | 17 | 0.87 |
| | | | | 2 | 10-20 | | 7.5 | 4.5 | 3.5 | 0.17 | 0.27 | 0.16 | 0.11 | 6.3 | 5.8 | 0.51 | 7.0 | 10.3 | 22 | 1.0 |
| | | | | 3 | 10-20 | | 9.2 | 4.6 | 3.6 | 0.20 | 0.25 | 0.17 | 0.068 | 8.5 | 7.6 | 0.83 | 9.2 | 7.6 | 15 | 0.75 |
| | | | | 4 | 10-20 | | 7.4 | 4.5 | 3.5 | 0.042 | 0.18 | 0.13 | 0.050 | 7.7 | 6.8 | 0.82 | 8.1 | 4.9 | 20 | 0.85 |
| | | | | 5 | 10-20 | | 7.2 | 4.5 | 3.6 | 0.064 | 0.13 | 0.13 | 0.10 | 6.7 | 6.2 | 0.45 | 7.1 | 6.1 | 27 | 1.3 |

Note: Repeat analysis was carried out in the within-laboratory reproducibility condition.

**Table 5.4 c-4) Results of soil chemical analysis: Japan (Lake Banryu) -4**

| Sample No. | Location | Soil type | Plot No. | Subplot No. | Layer analyzed ( cm) | Repeat* analysis | Moisture content | pH | | Exchangeable base cations (B) | | | | Ex-acidity (A) | Ex-acid cations | | ECEC (A)+(B) | Base saturation | Total C | Total N |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | Ca | Mg | K | Na | | Al | H | | | | |
| | | | | | | | (wt%) | $H_2O$ | KCl | ($cmol(+)kg^{-1}$) | | | | | | | | % | ($g\ kg^{-1}$) | |
| | Iwami "rinku" Factory Park | (Acrisols) | 3 | 1 | 0-10 | 2nd | 7.1 | 4.3 | 3.6 | 0.48 | 0.52 | 0.34 | 0.10 | 6.6 | 5.8 | 0.81 | 8.1 | 17.9 | 44 | 2.2 |
| | | | | 2 | 0-10 | | 8.5 | 4.2 | 3.3 | 0.24 | 0.34 | 0.22 | 0.066 | 6.1 | 5.2 | 0.83 | 6.9 | 12.6 | 29 | 1.4 |
| | | | | 3 | 0-10 | | 6.1 | 4.4 | 3.6 | 0.32 | 0.34 | 0.35 | 0.076 | 7.4 | 6.3 | 1.0 | 8.4 | 12.9 | 46 | 2.4 |
| | | | | 4 | 0-10 | | 12.7 | 4.2 | 3.3 | 0.38 | 0.67 | 0.33 | 0.062 | 7.5 | 6.5 | 1.1 | 9.0 | 16.1 | 45 | 2.3 |
| | | | | 5 | 0-10 | | 8.7 | 4.3 | 3.5 | 1.1 | 0.80 | 0.38 | 0.050 | 8.0 | 7.0 | 1.0 | 10 | 22.3 | 47 | 2.5 |
| | | | 4 | 1 | 0-10 | 2nd | 14.9 | 4.0 | 3.1 | 0.29 | 0.55 | 0.33 | 0.15 | 11 | 10 | 1.3 | 13 | 10.5 | 43 | 2.0 |
| | | | | 2 | 0-10 | | 10.8 | 4.2 | 3.2 | 0.35 | 0.52 | 0.32 | 0.11 | 7.9 | 6.7 | 1.2 | 9.2 | 14.1 | 40 | 1.8 |
| | | | | 3 | 0-10 | | 15.0 | 4.3 | 3.3 | 0.59 | 0.41 | 0.20 | 0.087 | 10 | 9.2 | 1.3 | 12 | 10.9 | 38 | 1.9 |
| | | | | 4 | 0-10 | | 13.2 | 4.3 | 3.4 | 0.13 | 0.28 | 0.24 | 0.089 | 10 | 9.3 | 1.2 | 11 | 6.6 | 43 | 1.8 |
| | | | | 5 | 0-10 | | 8.7 | 4.2 | 3.4 | 0.25 | 0.32 | 0.22 | 0.12 | 8.4 | 7.3 | 1.1 | 9.3 | 9.7 | 41 | 1.9 |
| | | | 3 | 1 | 10-20 | 2nd | 8.9 | 4.6 | 3.6 | 0.35 | 0.30 | 0.21 | 0.038 | 5.8 | 5.1 | 0.77 | 6.7 | 13.3 | 19 | 0.93 |
| | | | | 2 | 10-20 | | 6.5 | 4.4 | 3.6 | 0.072 | 0.21 | 0.14 | 0.053 | 7.0 | 6.0 | 1.1 | 7.5 | 6.4 | 14 | 0.64 |
| | | | | 3 | 10-20 | | 5.8 | 4.4 | 3.6 | 0.062 | 0.22 | 0.20 | 0.039 | 5.9 | 5.3 | 0.64 | 6.4 | 8.1 | 19 | 0.89 |
| | | | | 4 | 10-20 | | 8.3 | 4.5 | 3.6 | 0.078 | 0.38 | 0.20 | 0.057 | 5.9 | 5.4 | 0.56 | 6.6 | 10.7 | 20 | 1.0 |
| | | | | 5 | 10-20 | | 7.0 | 4.4 | 3.6 | 0.15 | 0.33 | 0.22 | 0.031 | 6.5 | 5.9 | 0.65 | 7.3 | 10.1 | 23 | 1.1 |
| | | | 4 | 1 | 10-20 | 2nd | 10.8 | 4.4 | 3.4 | 0.077 | 0.30 | 0.18 | 0.079 | 10 | 9.3 | 1.1 | 11 | 5.8 | 18 | 0.91 |
| | | | | 2 | 10-20 | | 7.5 | 4.4 | 3.5 | 0.071 | 0.26 | 0.18 | 0.12 | 7.0 | 5.7 | 1.3 | 7.6 | 8.1 | 23 | 1.0 |
| | | | | 3 | 10-20 | | 9.2 | 4.6 | 3.6 | 0.16 | 0.23 | 0.18 | 0.070 | 9.4 | 8.6 | 0.81 | 10 | 6.5 | 16 | 0.81 |
| | | | | 4 | 10-20 | | 7.4 | 4.5 | 3.6 | 0.057 | 0.15 | 0.11 | 0.054 | 7.6 | 6.9 | 0.72 | 8.0 | 4.6 | 21 | 0.86 |
| | | | | 5 | 10-20 | | 7.2 | 4.4 | 3.6 | 0.059 | 0.14 | 0.13 | 0.082 | 7.1 | 6.4 | 0.67 | 7.5 | 5.5 | 27 | 1.3 |

Note: Repeat analysis was carried out in the within-laboratory reproducibility condition.

**Table 5.4 c-5) Results of soil chemical analysis: Japan (Lake Banryu) -5 (optional parameters)**

| Sample No. | Location | Soil type | Plot No. | Subplot No. | Layer analyzed (cm) | Bulk density | Repeat* analysis | Available phosphate | Sulphate | Repeat* analysis | Available phosphate | Sulphate |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | $Mg \cdot m^{-3}$ | | ($Pmg \cdot kg^{-1}$) | ($Smg \cdot kg^{-1}$) | | ($Pmg \cdot kg^{-1}$) | ($Smg \cdot kg^{-1}$) |
| | Banryu-2 | Cambisols | 1 | 1 | 0-10 | 0.58 | 1st | 0.27 | 36 | 2nd | 0.30 | 37 |
| | | | | 2 | 0-10 | | | 0.12 | 18 | | 0.22 | 18 |
| | | | | 3 | 0-10 | | | 0.094 | 23 | | 0.29 | 23 |
| | | | | 4 | 0-10 | | | 0.080 | 23 | | 0.14 | 22 |
| | | | | 5 | 0-10 | | | 0.16 | 22 | | 0.36 | 22 |
| | | | 2 | 1 | 0-10 | 0.89 | 1st | 0.058 | 19 | 2nd | 0.20 | 18 |
| | | | | 2 | 0-10 | | | 0.036 | 22 | | 0.16 | 22 |
| | | | | 3 | 0-10 | | | 0.080 | 26 | | 0.12 | 24 |
| | | | | 4 | 0-10 | | | 0.10 | 35 | | 0.12 | 35 |
| | | | | 5 | 0-10 | | | 0.17 | 17 | | 0.35 | 16 |
| | | | 1 | 1 | 10-20 | 0.67 | 1st | 0.014 | 53 | 2nd | 0.087 | 54 |
| | | | | 2 | 10-20 | | | 0.022 | 51 | | 0.14 | 50 |
| | | | | 3 | 10-20 | | | 0.065 | 35 | | 0.11 | 35 |
| | | | | 4 | 10-20 | | | 0.014 | 62 | | 0.072 | 63 |
| | | | | 5 | 10-20 | | | 0.043 | 32 | | 0.17 | 30 |
| | | | 2 | 1 | 10-20 | 0.95 | 1st | 0.072 | 25 | 2nd | 0.17 | 25 |
| | | | | 2 | 10-20 | | | 0.022 | 24 | | 0.079 | 24 |
| | | | | 3 | 10-20 | | | 0.051 | 29 | | 0.13 | 29 |
| | | | | 4 | 10-20 | | | 0.036 | 40 | | 0.12 | 40 |
| | | | | 5 | 10-20 | | | 0.094 | 28 | | 0.23 | 28 |

Note: Repeat analysis was carried out in the within-laboratory reproducibility condition.

**Table 5.4 c-6) Results of soil chemical analysis: Japan (Lake Banryu) -6 (optional parameters)**

| Sample No. | Location | Soil type | Plot No. | Subplot No. | Layer analyzed (cm) | Bulk density | Repeat* analysis | Available phosphate | Sulphate | Repeat* analysis | Available phosphate | Sulphate |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | $Mg \cdot m^{-3}$ | | ($Pmg \cdot kg^{-1}$) | ($Smg \cdot kg^{-1}$) | | ($Pmg \cdot kg^{-1}$) | ($Smg \cdot kg^{-1}$) |
| | Iwami "rinku" Factory Park | (Acrisols) | 3 | 1 | 0-10 | 0.64 | 1st | 0.19 | 53 | 2nd | 0.49 | 51 |
| | | | | 2 | 0-10 | | | 0.17 | 38 | | 0.31 | 41 |
| | | | | 3 | 0-10 | | | 0.18 | 44 | | 0.36 | 47 |
| | | | | 4 | 0-10 | | | 0.24 | 33 | | 0.52 | 33 |
| | | | | 5 | 0-10 | | | 0.49 | 52 | | 1.1 | 53 |
| | | | 4 | 1 | 0-10 | 0.49 | 1st | 0.14 | 52 | 2nd | 0.34 | 49 |
| | | | | 2 | 0-10 | | | 0.32 | 32 | | 0.66 | 33 |
| | | | | 3 | 0-10 | | | 0.24 | 47 | | 0.44 | 48 |
| | | | | 4 | 0-10 | | | 0.19 | 28 | | 0.43 | 28 |
| | | | | 5 | 0-10 | | | 0.38 | 48 | | 0.75 | 48 |
| | | | 3 | 1 | 10-20 | 0.85 | 1st | 0.18 | 55 | 2nd | 0.31 | 55 |
| | | | | 2 | 10-20 | | | 0.097 | 62 | | 0.22 | 64 |
| | | | | 3 | 10-20 | | | 0.10 | 50 | | 0.26 | 51 |
| | | | | 4 | 10-20 | | | 0.16 | 35 | | 0.39 | 36 |
| | | | | 5 | 10-20 | | | 0.36 | 56 | | 0.36 | 57 |
| | | | 4 | 1 | 10-20 | 0.89 | 1st | 0.085 | 54 | 2nd | 0.23 | 54 |
| | | | | 2 | 10-20 | | | 0.22 | 32 | | 0.50 | 32 |
| | | | | 3 | 10-20 | | | 0.084 | 63 | | 0.21 | 62 |
| | | | | 4 | 10-20 | | | 0.11 | 34 | | 0.23 | 34 |
| | | | | 5 | 10-20 | | | 0.28 | 39 | | 0.56 | 38 |

Note: Repeat analysis was carried out in the within-laboratory reproducibility condition.

**Table 5.4 d) Results of soil chemical analysis: Republic of Korea (Mt. Naejang)**

| Sample No. | Location | Soil type | Plot No. | Subplot No. | Layer analyzed ( cm) | Repeat* analysis | Moisture content | pH | | Exchangeable basecations (B) | | | | Ex-acidity (A) | Ex-acid cations | | ECEC | Base saturation |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | Ca | Mg | K | Na | | Al | H | (A)+(B) | |
| | | | | | | | (wt%) | $H_2O$ | KCl | ($cmol(+)kg^{-1}$) | | | | | | | | % |
| | Mt. Naejang | | 1 | 1 | 0-10 | 1st | 2.47 | 4.90 | 3.84 | 0.93 | 0.26 | 0.25 | 0.23 | 4.20 | 4.00 | 0.20 | 5.9 | 28.4 |
| | | | | 2 | 0-10 | | 1.78 | 4.79 | 3.79 | 0.06 | 0.12 | 0.12 | 0.03 | 4.28 | 3.87 | 0.41 | 4.6 | 7.2 |
| | | | | 3 | 0-10 | | 2.21 | 4.94 | 3.86 | 0.65 | 0.20 | 0.13 | 0.07 | 3.88 | 3.27 | 0.61 | 4.9 | 21.3 |
| | | | | 4 | 0-10 | | 2.26 | 5.23 | 3.89 | 1.58 | 0.51 | 0.19 | 0.09 | 2.86 | 2.25 | 0.61 | 5.2 | 45.3 |
| | | | | 5 | 0-10 | | 1.81 | 4.95 | 3.73 | 0.60 | 0.19 | 0.11 | 0.08 | 3.46 | 3.26 | 0.20 | 4.4 | 22.1 |
| | | | 2 | 1 | 0-10 | 1st | 2.74 | 5.12 | 4.05 | 1.03 | 0.36 | 0.18 | 0.21 | 3.50 | 3.29 | 0.21 | 5.3 | 33.7 |
| | | | | 2 | 0-10 | | 2.45 | 5.07 | 3.98 | 0.55 | 0.29 | 0.10 | 0.07 | 4.70 | 3.48 | 0.10 | 5.7 | 17.7 |
| | | | | 3 | 0-10 | | 2.61 | 4.90 | 3.98 | 0.37 | 0.17 | 0.10 | 0.12 | 5.07 | 3.90 | 0.21 | 5.8 | 13.0 |
| | | | | 4 | 0-10 | | 1.89 | 5.10 | 3.94 | 0.73 | 0.34 | 0.11 | 0.16 | 4.70 | 2.75 | 0.31 | 6.0 | 22.2 |
| | | | | 5 | 0-10 | | 1.99 | 5.36 | 4.03 | 1.43 | 0.47 | 0.11 | 0.16 | 2.55 | 2.04 | 0.51 | 4.7 | 46.0 |
| | | | 1 | 1 | 10-20 | 1st | 2.03 | 4.86 | 3.88 | 0.04 | 0.07 | 0.16 | 0.06 | 3.58 | 3.27 | 0.31 | 3.9 | 8.4 |
| | | | | 2 | 10-20 | | 2.22 | 4.90 | 3.77 | 0.69 | 0.19 | 0.13 | 0.11 | 4.19 | 3.88 | 0.31 | 5.3 | 21.1 |
| | | | | 3 | 10-20 | | 1.85 | 4.80 | 3.84 | 0.32 | 0.13 | 0.33 | 0.17 | 3.57 | 3.26 | 0.31 | 4.5 | 21.0 |
| | | | | 4 | 10-20 | | 2.00 | 5.27 | 3.87 | 0.63 | 0.35 | 0.18 | 0.13 | 3.37 | 3.37 | 0.00 | 4.7 | 27.7 |
| | | | | 5 | 10-20 | | 1.70 | 5.04 | 3.88 | 0.21 | 0.15 | 0.11 | 0.08 | 3.25 | 3.05 | 0.20 | 3.8 | 14.5 |
| | | | 2 | 1 | 10-20 | 1st | 2.54 | 4.94 | 4.14 | 0.02 | 0.08 | 0.10 | 0.09 | 3.07 | 2.97 | 0.10 | 3.4 | 8.6 |
| | | | | 2 | 10-20 | | 2.19 | 4.97 | 3.96 | 0.20 | 0.26 | 0.06 | 0.17 | 3.57 | 3.37 | 0.20 | 4.3 | 16.2 |
| | | | | 3 | 10-20 | | 2.20 | 4.80 | 4.03 | 0.04 | 0.19 | 0.07 | 0.14 | 3.58 | 3.17 | 0.41 | 4.0 | 10.9 |
| | | | | 4 | 10-20 | | 1.95 | 5.14 | 3.96 | 0.42 | 0.37 | 0.08 | 0.15 | 3.26 | 2.85 | 0.51 | 4.3 | 23.8 |
| | | | | 5 | 10-20 | | 1.55 | 5.36 | 3.88 | 0.37 | 0.24 | 0.06 | 0.16 | 2.85 | 2.34 | 0.51 | 3.7 | 22.6 |

Note: Repeat analysis was not reported.

**Table 5.4 e) Results of soil chemical analysis: Russia (Irkutsk)**

| Sample No. | Location | Soil type | Plot No. | Sub-plot No | Layer analysed (cm) | Moisture content (wt%) | pH | | Exchangeable base cations (B) | | | | Ex-acidity (A) | Ex-acid cations | | ECEC (A)+(B) | Base saturation | $CaCO_3$ | Total C | Total N |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Ca | Mg | K | Na | | Al | H | | | | | |
| | | | | | | | $H_2O$ | KCl | (cmol(+) $kg^{-1}$) | | | | | | | | (%) | (%) | (g $kg^{-1}$) | |
| 1 | Irkutsk (near Limno-Logical Institute) | Eutric regosol | 8 | 1 | $A_{(1-3)}$ | 5.17 | 6.70 | 5.29 | 14.9 | 3.2 | 0.35 | 0.13 | 0.13 | 0.08 | 0.05 | 18.7 | 99.3 | - | 35.4 | * |
| 2 | | | | 2 | $A_{(1-4)}$ | 6.10 | 6.70 | 5.56 | 18.2 | 3.2 | 0.37 | 0.13 | 0.20 | 0.13 | 0.07 | 22.1 | 99.1 | - | 57.6 | * |
| 3 | | | | 3 | $A_{(1-3)}$ | 4.72 | 6.32 | 4.76 | 13.0 | 3.4 | 0.37 | 0.11 | 0.18 | 0.13 | 0.05 | 17.0 | 98.9 | - | 30.8 | * |
| 4 | | | | 4 | $A_{(1-8)}$ | 12.39 | 7.00 | 5.49 | 28.9 | 6.9 | 0.55 | 0.18 | 0.13 | 0.08 | 0.05 | 36.7 | 99.6 | - | 71.1 | * |
| 5 | | | | 5 | $A_{(1-3)}$ | 4.73 | 7.00 | 6.06 | 22.9 | 4.2 | 0.49 | 0.23 | 0.10 | 0.08 | 0.02 | 27.9 | 99.6 | - | 67.2 | * |
| 6 | | | | 1 | $B_{(3-13)}$ | 3.74 | 6.16 | 3.90 | 13.0 | 2.7 | 0.13 | 0.11 | 0.42 | 0.36 | 0.06 | 16.4 | 97.4 | - | 9.3 | * |
| 7 | | | | 2 | $B_{(4-14)}$ | 3.98 | 6.26 | 4.23 | 13.0 | 2.5 | 0.13 | 0.10 | 0.29 | 0.24 | 0.05 | 16.0 | 98.2 | - | 14.7 | * |
| 8 | | | | 3 | $B_{(3-13)}$ | 3.04 | 6.27 | 3.89 | 10.3 | 2.4 | 0.18 | 0.09 | 0.41 | 0.36 | 0.05 | 13.4 | 96.9 | - | 11.1 | * |
| 9 | | | | 4 | $B_{(8-18)}$ | 4.13 | 6.75 | 4.42 | 13.1 | 3.6 | 0.27 | 0.10 | 0.14 | 0.10 | 0.04 | 17.3 | 99.2 | - | 11.4 | * |
| 10 | | | | 5 | $B_{(3-13)}$ | 2.86 | 6.56 | 4.47 | 11.3 | 2.3 | 0.21 | 0.12 | 0.19 | 0.16 | 0.03 | 14.2 | 98.7 | - | 13.2 | * |
| 11 | | | | 1 | $B_{(13-23)}$ | 3.30 | 6.31 | 3.94 | 11.8 | 2.2 | 0.26 | 0.10 | 0.31 | 0.27 | 0.04 | 14.6 | 97.9 | - | 9.6 | * |
| 12 | | | | 2 | $B_{>14}$ | 3.62 | 6.40 | 4.07 | 12.1 | 3.2 | 0.14 | 0.17 | 0.21 | 0.18 | 0.03 | 15.8 | 98.7 | - | 9.8 | * |
| 13 | | | | 3 | $B_{>13}$ | 3.27 | 6.26 | 4.01 | 13.6 | 3.2 | 0.18 | 0.14 | 0.19 | 0.19 | 0.03 | 17.3 | 98.9 | - | 11.8 | * |
| 14 | | | | 4 | $B_{>18}$ | 3.25 | 6.38 | 3.92 | 12.1 | 3.4 | 0.17 | 0.13 | 0.32 | 0.27 | 0.05 | 16.1 | 98.0 | - | 6.9 | * |
| 15 | | | | 5 | $B_{(3-13)}$ | 2.86 | 6.56 | 4.47 | 11.3 | 2.3 | 0.21 | 0.12 | 0.19 | 0.16 | 0.03 | 14.2 | 98.7 | - | 13.2 | * |
| 16 | Irkutsk | Calcaric Luvisol | 9 | 1 | $A_{(0-6)}$ | 5.74 | 6.19 | 5.42 | 26.8 | 6.4 | 0.23 | 0.18 | - | - | - | 33.7 | 100.0 | - | 100.0 | 4.7 |
| 17 | | | | 2 | $A_{(0-6)}$ | 3.96 | 5.98 | 5.01 | 20.8 | 6.0 | 0.21 | 0.17 | 0.12 | 0.10 | 0.02 | 27.3 | 99.6 | - | 45.5 | 4.4 |
| 18 | | | | 3 | $A_{(0-6)}$ | 4.46 | 6.52 | 5.74 | 22.0 | 7.2 | 0.21 | 0.17 | - | - | - | 29.6 | 100.0 | - | 73.8 | 5.8 |
| 19 | | | | 4 | $A_{(0-6)}$ | 4.66 | 6.60 | 5.72 | 25.6 | 5.6 | 0.22 | 0.18 | - | - | - | 31.7 | 100.0 | - | 78.7 | 5.5 |
| 20 | | | | 5 | $A_{(0-6)}$ | 5.24 | 6.65 | 5.79 | 26.6 | 6.4 | 0.23 | 0.18 | - | - | - | 33.5 | 100.0 | - | 91.2 | 5.0 |
| 21 | | | | 1 | $B_{(6-16)}$ | 4.17 | 6.00 | 4.91 | 19.2 | 4.4 | 0.20 | 0.16 | 0.21 | 0.17 | 0.04 | 24.2 | 99.1 | - | 56.7 | 2.3 |
| 22 | | | | 2 | $B_{(6-16)}$ | 3.51 | 5.86 | 4.63 | 17.6 | 5.6 | 0.19 | 0.16 | 0.16 | 0.12 | 0.04 | 23.8 | 99.3 | - | 32.5 | 2.9 |
| 23 | | | | 3 | $B_{(6-16)}$ | 3.70 | 5.60 | 4.48 | 14.0 | 5.2 | 0.18 | 0.15 | 0.66 | 0.58 | 0.08 | 20.2 | 96.7 | - | 42.2 | 3.1 |
| 24 | | | | 4 | $B_{(6-16)}$ | 4.00 | 6.56 | 5.21 | 22.0 | 5.6 | 0.21 | 0.17 | - | - | - | 28.0 | 100.0 | - | 49.0 | 4.2 |
| 25 | | | | 5 | $B_{(6-16)}$ | 3.37 | 6.89 | 5.72 | 21.9 | 5.4 | 0.22 | 0.19 | - | - | - | 27.7 | 100.0 | - | 25.3 | 2.7 |
| 26 | | | | 5 | $BC_{(16-35)}$ | 2.82 | 7.94 | 6.16 | 17.0 | 4.4 | 0.19 | 0.15 | - | - | - | 21.8 | 100.0 | - | 3.2 | 0.6 |

Note: - not found; * not measured; Repeat analysis was not reported.

**Table 5.4 f) Results of soil chemical analysis: Thailand (Khao Lam Dam)**

| Sample No. | Location | Soil type | Plot No. | Subplot No. | Layer analyzed ( cm) | Moisture content | pH | | Exchangeable base cations (B) | | | | Ex-acidity (A) | Ex-acid cations | | ECEC | Base saturation |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Ca | Mg | K | Na | | Al | H | (A)+(B) | |
| | | | | | | (wt%) | $H_2O$ | KCl | (cmol (+) $kg^{-1}$ ) | | | | | | | | (%) |
| 1 | Khao Lam Dam | Ferric Acrisol | 1 | 1 | 0-23 | 9.85 | 6.81 | 5.75 | 9.25 | 2.85 | 0.22 | 0.23 | 0.12 | 0.00 | 0.12 | 12.67 | 99.1 |
| 2 | | | | 2 | 0-23 | 8.87 | 6.43 | 5.26 | 12.59 | 2.41 | 0.24 | 0.23 | 0.12 | 0.00 | 0.12 | 15.59 | 99.2 |
| 3 | | | | 3 | 0-23 | 8.92 | 6.20 | 4.82 | 14.93 | 1.56 | 0.15 | 0.15 | 0.12 | 0.00 | 0.12 | 16.91 | 99.3 |
| 4 | | | | 4 | 0-23 | 9.59 | 6.42 | 5.10 | 13.18 | 1.88 | 0.17 | 0.26 | 0.12 | 0.00 | 0.12 | 15.61 | 99.2 |
| 5 | | | | 5 | 0-23 | 9.41 | 6.30 | 5.17 | 16.07 | 3.00 | 0.25 | 0.26 | 0.12 | 0.00 | 0.12 | 19.70 | 99.4 |
| 6 | | | | 1 | 23+ | 9.49 | 7.00 | 5.94 | 13.48 | 2.01 | 0.16 | 0.20 | 0.12 | 0.00 | 0.12 | 15.97 | 99.2 |
| 7 | | | | 2 | 23+ | 8.50 | 6.49 | 5.09 | 13.52 | 1.14 | 0.30 | 0.20 | 0.12 | 0.00 | 0.12 | 15.28 | 99.2 |
| 8 | | | | 3 | 23-31 | 8.53 | 6.59 | 5.12 | 9.23 | 2.78 | 0.17 | 0.21 | 0.12 | 0.00 | 0.12 | 12.51 | 99.0 |
| 9 | | | | 4 | 23+ | 10.28 | 6.62 | 5.76 | 16.71 | 2.93 | 0.24 | 0.25 | 0.12 | 0.00 | 0.12 | 20.25 | 99.4 |
| 10 | | | | 5 | 23+ | 8.76 | 6.39 | 5.03 | 6.80 | 1.65 | 0.12 | 0.20 | 0.12 | 0.00 | 0.12 | 8.89 | 98.7 |
| 11 | | | 2 | 1 | 0-20 | 7.01 | 6.63 | 5.76 | 13.04 | 1.74 | 0.18 | 0.18 | 0.12 | 0.00 | 0.12 | 15.26 | 99.2 |
| 12 | | | | 2 | 0-20 | 7.97 | 6.67 | 5.88 | 15.23 | 3.00 | 0.33 | 0.22 | 0.12 | 0.00 | 0.12 | 18.90 | 99.4 |
| 13 | | | | 3 | 0-20 | 8.47 | 6.65 | 5.96 | 13.82 | 2.37 | 0.17 | 0.05 | 0.12 | 0.00 | 0.12 | 16.53 | 99.3 |
| 14 | | | | 4 | 0-20 | 7.54 | 5.94 | 4.52 | 7.74 | 3.04 | 0.12 | 0.20 | 1.24 | 0.81 | 0.43 | 12.34 | 90.0 |
| 15 | | | | 5 | 0-20 | 7.43 | 6.41 | 5.02 | 8.17 | 3.28 | 0.32 | 0.06 | 0.12 | 0.00 | 0.12 | 11.95 | 99.0 |
| 16 | | | | 1 | 20+ | 7.61 | 6.93 | 6.56 | 24.93 | 2.96 | 0.30 | 0.17 | 0.12 | 0.00 | 0.12 | 28.48 | 99.6 |
| 17 | | | | 2 | 20+ | 7.35 | 6.91 | 5.90 | 12.85 | 1.60 | 0.18 | 0.14 | 0.12 | 0.00 | 0.12 | 14.89 | 99.2 |
| 18 | | | | 3 | 20-40 | 7.39 | 6.54 | 4.89 | 14.60 | 2.23 | 0.16 | 0.08 | 0.12 | 0.00 | 0.12 | 17.19 | 99.3 |
| 19 | | | | 4 | 20+ | 6.67 | 5.76 | 4.22 | 14.82 | 2.51 | 0.09 | 0.20 | 0.35 | 0.11 | 0.24 | 17.97 | 98.1 |
| 20 | | | | 5 | 20+ | 6.77 | 6.02 | 4.47 | 6.70 | 2.98 | 0.11 | 0.22 | 0.41 | 0.11 | 0.30 | 10.42 | 96.1 |

Note: Repeat analysis was not reported.

**Table 5.5 a-1) Results of description of trees: Japan (Lake Banryu) -1**

Name of plot: Banryu-2
Date: 2001/11/14 - 15

**Survey area 1**

| Serial No. | Species name | DBH (cm) | Height (m) |
|---|---|---|---|
| 1 | *Ilex integra* | 20.0 | 13.7 |
| 2 | *Myrica rubra* | 9.8 | 6.7 |
| 3 | *Symplocos lucida* | 16.5 | 11.6 |
| 4 | *Styrax japonica* | 6.3 | 10.0 |
| 5 | *Lindera umbellata* | 1.4 | 2.6 |
| 6 | 〃 | 1.6 | 3.5 |
| 7 | *Ligustrum japonicum* | 1.5 | 2.3 |
| 8 | *Symplocos lucida* | 15.1 | 14.1 |
| 9 | 〃 | 18.2 | 15.0 |
| 10 | *Ligustrum japonicum* | 5.9 | 5.0 |
| 11 | *Eurya japonica* | 3.2 | 4.1 |
| 12 | *Clethra barbinervis* | 6.6 | 9.9 |
| 13 | *Pieris japonica* | 5.6 | 4.8 |
| 14 | *Symplocos lucida* | 9.1 | 8.7 |
| 15 | *Machilus Thunbergii* | 5.1 | 7.1 |
| 16 | *Symplocos lucida* | 2.4 | 3.8 |
| 17 | *Symplocos lucida* | 6.1 | 6.0 |
| 18 | 〃 | 11.5 | 8.4 |
| 19 | *Ligustrum japonicum* | 1.0 | 2.6 |
| 20 | 〃 | 1.9 | 3.5 |
| 21 | *Callicarpa mollis* | 1.1 | 3.4 |
| 22 | *Eurya japonica* | 3.3 | 3.9 |
| 23 | *Symplocos prunifolia* | 22.6 | 13.3 |
| 24 | *Rhus succedanea* | 8.9 | 8.7 |
| 25 | *Symplocos lucida* | 2.7 | 3.2 |
| 26 | *Lindera umbellata* | 0.8 | 2.6 |
| 27 | *Ligustrum japonicum* | 0.6 | 1.9 |
| 28 | *Clethra barbinervis* | 0.4 | 1.9 |
| 29 | 〃 | 5.5 | 7.4 |

**Survey area 2**

| Serial No. | Species name | DBH (cm) | Height (m) |
|---|---|---|---|
| 30 | *Quercus serrata* | 14.7 | 14.3 |
| 31 | *Clethra barbinervis* | 7.9 | 9.7 |
| 32 | *Machilus Thunbergii* | 13.9 | 11.5 |
| 33 | *Machilus Thunbergii* | 22.5 | 11.2 |
| 34 | 〃 | 20.4 | 12.7 |
| 35 | 〃 | 15.4 | 12.3 |
| 37 | *Acanthopanax sciadophylloides* | 14.5 | 10.7 |
| 38 | *Pinus densiflora* | 12.3 | 11.9 |
| 39 | *Clethra barbinervis* | 9.3 | 7.5 |
| 40 | 〃 | 6.2 | 7.1 |
| 41 | 〃 | 5.4 | 7.0 |
| 42 | 〃 | 7.4 | 8.7 |
| 43 | 〃 | 7.6 | 8.2 |
| 44 | 〃 | 6.1 | 6.9 |
| 45 | *Quercus serrata* | 6.9 | 6.4 |
| 46 | *Quercus serrata* | 10.3 | 9.2 |
| 47 | *Symplocos lucida* | 13.1 | 10.0 |
| 48 | *Clethra barbinervis* | 11.8 | 9.2 |
| 49 | 〃 | 10.8 | 9.8 |
| 50 | 〃 | 7.2 | 5.6 |
| 51 | *Clethra barbinervis* | 10.8 | 11.5 |
| 52 | *Lyonia ovalifolia* | 7.6 | 8.4 |
| 53 | 〃 | 8.1 | 10.1 |
| 54 | *Clethra barbinervis* | 10.7 | 11.5 |
| 55 | *Lyonia ovalifolia* | 7.2 | 10.6 |
| 56 | 〃 | 4.7 | 8.6 |
| 57 | 〃 | 7.8 | 9.5 |
| 58 | *Ilex pedunculosa* | 11.2 | 12.6 |
| 59 | *Ilex pedunculosa* | 10.5 | 11.7 |

**Survey area 2 (continued)**

| Serial No. | Species name | DBH (cm) | Height (m) |
|---|---|---|---|
| 60 | 〃 | 13.9 | 13.4 |
| 61 | *Ligustrum japonicum* | 5.1 | 5.0 |
| 62 | *Pinus densiflora* | 18.0 | 12.1 |
| 63 | *Machilus Thunbergii* | 16.8 | 11.5 |
| 64 | *Styrax japonica* | 14.4 | 12.8 |
| 65 | *Machilus Thunbergii* | 14.2 | 12.2 |
| 66 | *Machilus Thunbergii* | 5.3 | 4.9 |
| 67 | *Quercus serrata* | 6.5 | 7.1 |
| 68 | *Symplocos lucida* | 13.7 | 8.3 |
| 69 | *Dendropanax trifidus* | 13.7 | 8.7 |
| 70 | *Ligustrum japonicum* | 4.3 | 6.4 |
| 71 | *Machilus Thunbergii* | 16.0 | 12.9 |
| 72 | *Castanopsis cuspidata* | 13.9 | 13.0 |
| 73 | *Clethra barbinervis* | 13.8 | 11.8 |
| 74 | *Symplocos lucida* | 6.6 | 6.1 |
| 75 | 〃 | 9.4 | 9.2 |
| 76 | 〃 | 10.6 | 11.5 |

**Survey area 3**

| Serial No. | Species name | DBH (cm) | Height (m) |
|---|---|---|---|
| 77 | *Machilus Thunbergii* | 24.6 | 14.6 |
| 78 | *Dendropanax trifidus* | 33.9 | 12.8 |
| 80 | *Ilex integra* | 28.4 | 9.9 |
| 81 | *Pinus densiflora* | 19.7 | 17.2 |
| 82 | *Machilus Thunbergii* | 21.3 | 14.0 |

**Table 5.5 a-2) Results of description of trees: Japan (Lake Banryu) -2**

Name of plot: Iwami "rinku" Factory Park
Date: 2001/11/15 - 16

**Survey area 1**

| Serial No. | Species name | DBH (cm) | Height (m) |
|---|---|---|---|
| 1 | *Ligustrum japonicum* | 1.6 | 2.4 |
| 2 | *Eurya japonica* | 1.3 | 2.8 |
| 3 | 〃 | 1.3 | 2.4 |
| 4 | 〃 | 1.7 | 3.1 |
| 5 | *Symplocos lucida* | 4.6 | 4.4 |
| 6 | *Eurya japonica* | 0.9 | 1.9 |
| 7 | *Symplocos lucida* | 2.6 | 3.4 |
| 8 | *Eurya japonica* | 1.1 | 1.7 |
| 9 | 〃 | 2.1 | 2.3 |
| 10 | 〃 | 1.5 | 2.2 |
| 11 | 〃 | 1.2 | 2.0 |
| 12 | *Castanopsis cuspidata* | 33.4 | 21.5 |
| 13 | 〃 | 60.6 | 20.5 |
| 14 | 〃 | 25.8 | 20.3 |
| 15 | 〃 | 48.5 | 21.9 |
| 16 | 〃 | 38.7 | 22.0 |
| 17 | 〃 | 1.5 | 3.0 |
| 18 | 〃 | 1.2 | 2.5 |
| 19 | 〃 | 1.5 | 2.5 |
| 20 | 〃 | 1.0 | 2.3 |
| 21 | 〃 | 1.9 | 5.0 |
| 22 | *Ilex integra* | 1.5 | 3.4 |
| 23 | 〃 | 2.5 | 4.4 |
| 24 | 〃 | 1.3 | 2.7 |
| 25 | *Symplocos lucida* | 2.0 | 2.1 |
| 26 | *Eurya japonica* | 1.0 | 2.2 |
| 27 | *Symplocos lucida* | 12.5 | 12.0 |
| 28 | 〃 | 13.5 | 14.0 |
| 29 | 〃 | 7.8 | 8.5 |
| 30 | *Machilus Thunbergii* | 8.9 | 3.4 |
| 31 | 〃 | 8.8 | 13.0 |
| 32 | *Symplocos lucida* | 8.1 | 9.1 |
| 33 | *Ilex rotunda* | 3.9 | 4.9 |
| 34 | 〃 | 2.0 | 2.1 |
| 35 | 〃 | 3.0 | 2.8 |
| 36 | *Symplocos lucida* | 11.5 | 14.5 |

**Survey area 2**

| Serial No. | Species name | DBH (cm) | Height (m) |
|---|---|---|---|
| 75 | *Machilus Thunbergii* | 12.6 | 14.5 |
| 76 | 〃 | 16.5 | 19.2 |
| 77 | 〃 | 10.0 | 9.5 |
| 78 | 〃 | 15.7 | 16.5 |
| 79 | 〃 | 16.7 | 18.2 |
| 80 | 〃 | 20.1 | 19.2 |
| 81 | 〃 | 17.3 | 19.5 |
| 82 | *Symplocos lucida* | 4.5 | 5.3 |
| 83 | *Symplocos lucida* | 7.8 | 6.6 |
| 84 | *Symplocos lucida* | 6.6 | 7.0 |
| 85 | *Quercus glauca* | 6.3 | 8.5 |
| 86 | 〃 | 6.0 | 9.1 |
| 87 | *Symplocos lucida* | 5.9 | 6.4 |
| 88 | 〃 | 5.3 | 6.7 |
| 89 | *Ligustrum japonicum* | 5.1 | 4.9 |
| 90 | 〃 | 4.7 | 5.4 |
| 91 | *Quercus glauca* | 9.8 | 14.0 |
| 92 | *Machilus Thunbergii* | 21.2 | 16.0 |
| 93 | 〃 | 24.5 | 19.0 |
| 94 | *Symplocos lucida* | 11.2 | 12.6 |
| 95 | *Quercus serrata* | 22.7 | 19.0 |
| 96 | *Myrica rubra* | 9.5 | 5.0 |
| 97 | 〃 | 8.6 | 8.1 |
| 98 | 〃 | 13.7 | 10.5 |
| 99 | *Quercus serrata* | 20.9 | 19.0 |
| 100 | 〃 | 25.0 | 20.0 |
| 102 | *Quercus serrata* | 21.6 | 21.0 |
| 103 | 〃 | 20.2 | 22.0 |
| 104 | *Castanopsis cuspidata* | 26.4 | 22.5 |
| 105 | 〃 | 27.2 | 22.5 |
| 106 | 〃 | 25.4 | 21.5 |
| 107 | 〃 | 26.6 | 21.5 |
| 108 | 〃 | 24.2 | 19.5 |
| 109 | *Quercus serrata* | 24.0 | 23.2 |
| 110 | 〃 | 25.0 | 23.2 |
| 111 | *Quercus serrata* | 16.2 | 20.0 |

**Survey area 3**

| Serial No. | Species name | DBH (cm) | Height (m) |
|---|---|---|---|
| 112 | *Machilus Thunbergii* | 19.2 | 20.0 |
| 113 | 〃 | 19.5 | 20.0 |
| 114 | 〃 | 25.9 | 16.0 |
| 115 | 〃 | 18.4 | 17.0 |
| 116 | *Machilus Thunbergii* | 31.4 | 20.5 |
| 117 | 〃 | 25.6 | 19.0 |
| 118 | 〃 | 24.2 | 16.5 |
| 119 | 〃 | 19.9 | 16.5 |
| 120 | *Quercus serrata* | 20.9 | 17.0 |
| 122 | *Ilex micrococca* | 27.0 | 22.0 |
| 123 | *Machilus Thunbergii* | 24.1 | 14.0 |
| 124 | *Castanopsis cuspidata* | 48.2 | 21.0 |
| 125 | 〃 | 25.4 | 21.0 |
| 126 | 〃 | 24.9 | 18.0 |
| 127 | 〃 | 24.4 | 21.0 |
| 128 | 〃 | 30.5 | 21.0 |
| 129 | *Ilex micrococca* | 26.2 | 19.5 |
| 130 | *Castanopsis cuspidata* | 22.7 | 14.1 |
| 131 | *Quercus serrata* | 27.1 | 20.7 |
| 132 | *Quercus serrata* | 25.4 | 24.0 |
| 133 | *Castanopsis cuspidata* | 27.4 | 19.8 |
| 134 | 〃 | 26.6 | 19.8 |
| 135 | 〃 | 23.4 | 19.8 |
| 136 | 〃 | 45.7 | 20.8 |
| 137 | *Quercus serrata* | 30.2 | 19.5 |
| 138 | *Machilus Thunbergii* | 21.3 | 15.0 |
| 139 | 〃 | 23.2 | 12.0 |
| 140 | *Quercus serrata* | 35.9 | 17.0 |
| 141 | *Machilus Thunbergii* | 20.7 | 14.0 |
| 142 | *Quercus serrata* | 32.5 | 19.0 |

**Table 5.5 a-2) Survey area 1(continued)**

| | | | |
|---|---|---|---|
| 37 | *Ilex micrococca* | 26.9 | 21.5 |
| 38 | 〃 | 33.0 | 22.5 |
| 39 | *Symplocos lucida* | 9.6 | 6.7 |
| 40 | *Machilus Thunbergii* | 5.6 | 5.8 |
| 41 | *Symplocos lucida* | 8.3 | 8.9 |
| 42 | 〃 | 4.5 | 6.8 |
| 43 | *Rhus succedanea* | 9.7 | 12.4 |
| 44 | 〃 | 8.6 | 25.2 |
| 45 | *Symplocos lucida* | 2.3 | 1.9 |
| 46 | *Symplocos lucida* | 4.6 | 4.9 |
| 47 | 〃 | 7.5 | 6.0 |
| 48 | 〃 | 5.0 | 4.7 |
| 49 | *Machilus Thunbergii* | 6.6 | 8.3 |
| 50 | 〃 | 7.7 | 7.7 |
| 52 | 〃 | 9.2 | 6.1 |
| 53 | 〃 | 4.8 | 5.3 |
| 54 | *Eurya japonica* | 2.9 | 3.9 |
| 55 | *Symplocos lucida* | 5.0 | 1.4 |
| 56 | 〃 | 7.2 | 7.6 |
| 57 | *Quercus glauca* | 3.6 | 4.8 |
| 58 | *Symplocos lucida* | 7.3 | 8.8 |
| 59 | *Symplocos lucida* | 3.4 | 3.2 |
| 60 | *Castanopsis cuspidata* | 27.7 | 18.0 |
| 61 | 〃 | 32.2 | 18.0 |
| 62 | 〃 | 35.2 | 19.0 |
| 63 | 〃 | 28.1 | 16.5 |
| 64 | *Symplocos lucida* | 5.2 | 5.3 |
| 65 | *Symplocos lucida* | 9.7 | 10.2 |
| 66 | *Rhus succedanea* | 10.4 | 15.0 |
| 67 | *Rhus succedanea* | 9.1 | 16.0 |
| 68 | *Ligustrum japonicum* | 5.0 | 7.6 |
| 69 | *Symplocos lucida* | 10.8 | 8.8 |
| 70 | *Machilus Thunbergii* | 14.7 | 13.8 |
| 71 | *Ilex rotunda* | 13.6 | 16.9 |
| 72 | *Ilex rotunda* | 5.1 | 5.6 |
| 73 | 〃 | 5.1 | 1.9 |
| 74 | 〃 | 13.4 | 16.9 |
| | | | |
| 143 | *Symplocos lucida* | 18.9 | 11.7 |

**Table 5.5 b) Results of description of trees: Republic of Korea (Mt. Naejang)**

Name of plot: Mt. Naejang
Date: 2001/10/23-26

| **Survey area 1** | | | | **Survey area 2 (nested quardrate; 20*20m²)** | | | | **Survey area 3 (nested quardrate; 30*30m²)** | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Serial No. | Species name | DBH (cm) | Height ( m ) | Serial No. | Species name | DBH (cm) | Height ( m ) | Serial No. | Species name | DBH (cm) | Height ( m ) |
| | | | | 1 | *Pinus densiflora* | 20.0 | 13.0 | 1 | *Pinus densiflora* | 18.0 | 11.0 |
| | | | | 2 | *Pinus densiflora* | 23.0 | 15.0 | 2 | *Pinus densiflora* | 18.0 | 11.0 |
| | | | | 3 | *Pinus densiflora* | 13.0 | 14.0 | 3 | *Pinus densiflora* | 18.0 | 14.0 |
| | | | | 4 | *Pinus densiflora* | 17.0 | 11.0 | 4 | *Pinus densiflora* | 18.0 | 11.0 |
| | | | | 5 | *Pinus densiflora* | 32.0 | 13.0 | 5 | *Pinus densiflora* | 19.0 | 11.0 |
| | | | | 6 | *Pinus densiflora* | 9.0 | 11.0 | 6 | *Pinus densiflora* | 19.0 | 12.0 |
| | | | | 7 | *Pinus densiflora* | 19.0 | 13.0 | 7 | *Pinus densiflora* | 19.0 | 10.0 |
| | | | | 8 | *Pinus densiflora* | 15.0 | 13.0 | 8 | *Pinus densiflora* | 19.0 | 13.0 |
| | | | | 9 | *Pinus densiflora* | 26.0 | 15.0 | 9 | *Pinus densiflora* | 20.0 | 13.0 |
| | | | | 10 | *Pinus densiflora* | 7.0 | 9.0 | 10 | *Pinus densiflora* | 20.0 | 10.0 |
| | | | | 11 | *Pinus densiflora* | 23.0 | 14.0 | 11 | *Pinus densiflora* | 20.0 | 11.0 |
| | | | | 12 | *Pinus densiflora* | 26.0 | 14.0 | 12 | *Pinus densiflora* | 20.0 | 12.0 |
| | | | | 13 | *Pinus densiflora* | 17.0 | 12.0 | 13 | *Pinus densiflora* | 21.0 | 8.0 |
| | | | | 14 | *Pinus densiflora* | 14.0 | 6.0 | 14 | *Pinus densiflora* | 22.0 | 14.0 |
| | | | | 15 | *Pinus densiflora* | 26.0 | 12.0 | 15 | *Pinus densiflora* | 22.0 | 11.0 |
| | | | | 16 | *Pinus densiflora* | 31.0 | 15.0 | 16 | *Pinus densiflora* | 23.0 | 14.0 |
| | | | | 17 | *Pinus densiflora* | 19.0 | 11.0 | 17 | *Pinus densiflora* | 23.0 | 13.0 |
| | | | | 18 | *Pinus densiflora* | 25.0 | 15.0 | 18 | *Pinus densiflora* | 23.0 | 12.0 |
| | | | | 19 | *Pinus densiflora* | 14.0 | 11.0 | 19 | *Pinus densiflora* | 23.0 | 15.0 |
| | | | | 20 | *Pinus densiflora* | 35.0 | 12.0 | 20 | *Pinus densiflora* | 23.0 | 13.0 |
| | | | | 21 | *Pinus densiflora* | 29.0 | 14.0 | 21 | *Pinus densiflora* | 23.0 | 12.0 |
| | | | | 22 | *Pinus densiflora* | 14.0 | 11.0 | 22 | *Pinus densiflora* | 24.0 | 12.0 |
| | | | | 23 | *Pinus densiflora* | 15.0 | 11.0 | 23 | *Pinus densiflora* | 24.0 | 12.0 |
| | | | | 24 | *Pinus densiflora* | 18.0 | 11.0 | 24 | *Pinus densiflora* | 24.0 | 11.0 |
| | | | | 25 | *Pinus densiflora* | 23.0 | 12.0 | 25 | *Pinus densiflora* | 24.0 | 15.0 |
| | | | | 26 | *Pinus densiflora* | 29.0 | 10.0 | 26 | *Pinus densiflora* | 24.0 | 11.0 |
| | | | | 27 | *Pinus densiflora* | 18.0 | 11.0 | 27 | *Pinus densiflora* | 24.0 | 12.0 |
| | | | | 28 | *Pinus densiflora* | 25.0 | 11.0 | 28 | *Pinus densiflora* | 25.0 | 15.0 |
| | | | | 29 | *Pinus densiflora* | 29.0 | 9.0 | 29 | *Pinus densiflora* | 25.0 | 14.0 |
| | | | | 30 | *Pinus densiflora* | 28.0 | 11.0 | 30 | *Pinus densiflora* | 25.0 | 15.0 |

Note: Survey was carried out in two nested quadrates (20*20 and 30*30 $m^2$)

**Table 5.5 b) (continued-1)**

| Survey area 2 (continued) | | | | Survey area 3 (continued) | | | |
|---|---|---|---|---|---|---|---|
| 31 | *Pinus densiflora* | 29.0 | 11.0 | 31 | *Pinus densiflora* | 25.0 | 11.0 |
| 32 | *Pinus densiflora* | 20.0 | 11.0 | 32 | *Pinus densiflora* | 25.0 | 16.0 |
| 33 | *Pinus densiflora* | 24.0 | 11.0 | 33 | *Pinus densiflora* | 26.0 | 11.0 |
| 34 | *Pinus densiflora* | 23.0 | 13.0 | 34 | *Pinus densiflora* | 26.0 | 14.0 |
| 35 | *Pinus densiflora* | 14.0 | 12.0 | 35 | *Pinus densiflora* | 26.0 | 15.0 |
| 36 | *Pinus densiflora* | 37.0 | 13.0 | 36 | *Pinus densiflora* | 26.0 | 14.0 |
| 37 | *Pinus densiflora* | 25.0 | 14.0 | 37 | *Pinus densiflora* | 26.0 | 14.0 |
| 38 | *Pinus rigida* | 16.0 | 12.0 | 38 | *Pinus densiflora* | 26.0 | 12.0 |
| 39 | *Pinus rigida* | 17.0 | 12.0 | 39 | *Pinus densiflora* | 28.0 | 11.0 |
| 40 | *Pinus rigida* | 14.0 | 11.0 | 40 | *Pinus densiflora* | 28.0 | 11.0 |
| 41 | *Pinus rigida* | 14.0 | 12.0 | 41 | *Pinus densiflora* | 29.0 | 11.0 |
| 42 | *Pinus rigida* | 9.0 | 10.0 | 42 | *Pinus densiflora* | 29.0 | 9.0 |
| 43 | *Pinus rigida* | 15.0 | 12.0 | 43 | *Pinus densiflora* | 29.0 | 13.0 |
| 44 | *Pinus rigida* | 14.0 | 10.0 | 44 | *Pinus densiflora* | 29.0 | 13.0 |
| 45 | *Pinus rigida* | 14.0 | 10.0 | 45 | *Pinus densiflora* | 29.0 | 10.0 |
| 46 | *Pinus rigida* | 16.0 | 10.0 | 46 | *Pinus densiflora* | 29.0 | 16.0 |
| 47 | *Pinus rigida* | 14.0 | 8.0 | 47 | *Pinus densiflora* | 29.0 | 14.0 |
| 48 | *Styrax japonica* | 10.0 | 8.0 | 48 | *Pinus densiflora* | 30.0 | 14.0 |
| 49 | *Styrax japonica* | 4.0 | 5.0 | 49 | *Pinus densiflora* | 30.0 | 12.0 |
| 50 | *Styrax japonica* | 5.0 | 5.0 | 50 | *Pinus densiflora* | 30.0 | 10.0 |
| 51 | *Styrax japonica* | 4.0 | 7.0 | 51 | *Pinus densiflora* | 31.0 | 15.0 |
| 52 | *Styrax japonica* | 4.0 | 8.0 | 52 | *Pinus densiflora* | 32.0 | 14.0 |
| 53 | *Styrax japonica* | 5.0 | 7.0 | 53 | *Pinus densiflora* | 32.0 | 13.0 |
| 54 | *Styrax japonica* | 4.0 | 6.0 | 54 | *Pinus densiflora* | 33.0 | 15.0 |
| 55 | *Styrax japonica* | 5.0 | 8.0 | 55 | *Pinus densiflora* | 34.0 | 11.0 |
| 56 | *Styrax japonica* | 4.0 | 7.0 | 56 | *Pinus densiflora* | 34.0 | 11.0 |
| 57 | *Styrax japonica* | 5.0 | 6.0 | 57 | *Pinus densiflora* | 34.0 | 14.0 |
| 58 | *Styrax japonica* | 5.0 | 7.0 | 58 | *Pinus densiflora* | 35.0 | 12.0 |
| 59 | *Styrax japonica* | 5.0 | 7.0 | 59 | *Pinus densiflora* | 35.0 | 12.0 |
| 60 | *Styrax japonica* | 4.0 | 4.0 | 60 | *Pinus densiflora* | 36.0 | 14.0 |
| 61 | *Styrax japonica* | 7.0 | 9.0 | 61 | *Pinus densiflora* | 36.0 | 12.0 |
| 62 | *Styrax japonica* | 5.0 | 8.0 | 62 | *Pinus densiflora* | 37.0 | 13.0 |
| 63 | *Styrax japonica* | 5.0 | 8.0 | 63 | *Pinus densiflora* | 38.0 | 12.0 |
| 64 | *Styrax japonica* | 6.0 | 9.0 | 64 | *Pinus rigida* | 18.0 | 11.0 |
| 65 | *Styrax japonica* | 7.0 | 9.0 | 65 | *Pinus rigida* | 19.0 | 12.0 |
| 66 | *Styrax japonica* | 5.0 | 7.0 | 66 | *Pinus rigida* | 21.0 | 14.0 |

Note: Survey was carried out in two nested quadrates (20*20 and 30*30 $m^2$)

**Table 5.5 b) (continued-2)**

**Survey area 2 (continued)**

| | | | |
|---|---|---|---|
| 67 | *Styrax japonica* | 4.0 | 10.0 |
| 68 | *Styrax japonica* | 4.0 | 5.0 |
| 69 | *Styrax japonica* | 4.0 | 6.0 |
| 70 | *Styrax japonica* | 4.0 | 7.0 |
| 71 | *Styrax japonica* | 6.0 | 8.0 |
| 72 | *Styrax japonica* | 5.0 | 7.0 |
| 73 | *Styrax japonica* | 5.0 | 7.0 |
| 74 | *Styrax japonica* | 5.0 | 7.0 |
| 75 | *Styrax japonica* | 5.0 | 7.0 |
| 76 | *Styrax japonica* | 9.0 | 9.0 |
| 77 | *Styrax japonica* | 10.0 | 10.0 |
| 78 | *Styrax japonica* | 5.0 | 8.0 |
| 79 | *Styrax japonica* | 5.0 | 7.0 |
| 80 | *Prunus maximowiczii* | 7.0 | 7.0 |
| 81 | *Prunus maximowiczii* | 5.0 | 10.0 |
| 82 | *Prunus maximowiczii* | 7.0 | 7.0 |
| 83 | *Prunus maximowiczii* | 8.0 | 8.0 |
| 84 | *Prunus maximowiczii* | 5.0 | 6.0 |
| 85 | *Prunus maximowiczii* | 5.0 | 4.0 |
| 86 | *Prunus maximowiczii* | 7.0 | 8.0 |
| 87 | *Prunus maximowiczii* | 6.0 | 5.0 |
| 88 | *Prunus maximowiczii* | 7.0 | 6.0 |
| 89 | *Prunus maximowiczii* | 9.0 | 8.0 |
| 90 | *Platycarya strobilacea* | 12.0 | 8.0 |
| 91 | *Platycarya strobilacea* | 5.0 | 6.0 |
| 92 | *Platycarya strobilacea* | 5.0 | 10.0 |
| 93 | *Platycarya strobilacea* | 5.0 | 4.0 |
| 94 | *Albizzia julibrissin* | 10.0 | 8.0 |
| 95 | *Albizzia julibrissin* | 11.0 | 9.0 |
| 96 | *Albizzia julibrissin* | 12.0 | 8.0 |
| 97 | *Carpinus tschonoskii* | 12.0 | 10.0 |
| 98 | *Carpinus tschonoskii* | 6.0 | 8.0 |
| 99 | *Juniperus rigida* | 4.0 | 6.0 |
| 100 | *Quercus serrata* | 4.0 | 5.0 |
| 101 | *Pyrus sp.* | 7.0 | 6.0 |

Note: Survey was carried out in two nested quadrates (20*20 and 30*30 $m^2$)

**Table 5.6 a-1) Results of understory vegetation: Japan (Lake Banryu) -1**

Name of plot: Banryu-2
Date: 2001/11/14 - 15
Number of species: 12

| Species name | Dominance |
|---|---|
| *Gleichenia japonica* | 5 |
| *Neolitsea sericea* | + |
| *Dendropanax trifidus* | + |
| *Eurya japonica* | + |
| *Ligustrum japonicum* | + |
| *Smilax china* | + |
| *Callicarpa mollis* | 1 |
| *Lindera umbellata* | 1 |
| *Akebia trifoliata* | + |
| *Rhus succedanea* | + |
| *Dumasia truncata* | + |
| *Ficus erecta* | + |

**Table 5.6 a-2) Results of understory vegetation: Japan (Lake Banryu) -2**

Name of plot: Iwami "rinku" Factory Park
Date: 2001/11/15 - 16
Number of species: 12

| Species name | Dominance |
|---|---|
| *Gleichenia japonica* | 3 |
| *Castanopsis cuspidata* | 1 |
| *Symplocos lucida* | 1 |
| *Ardisia japonica* | + |
| *Lindera umbellata* | + |
| *Ligustrum japonicum* | + |
| *Quercus serrata* | + |
| *Akebia trifoliata* | + |
| *Machilus Thunbergii* | + |
| *Neolitsea sericea* | + |
| *Dendropanax trifidus* | + |
| *Eurya japonica* | 1 |

**Table 5.6 b) Results of understory vegetation: Republic of Korea (Mt. Naejang)**

Name of plot: Mt. Naejang
Date: 2001/9/6-9
Number of species: 30

| Species name | Dominance |
|---|---|
| *Disporum smilacinum* | 3 |
| *Smilax china* | 1 |
| *Viola dissecta var. haerophylloides* | 1 |
| *Pyrola japonica* | 1 |
| *Pteridium aquilinum var. latiusculum* | + |
| *Juniperus rigida* | + |
| *Oplismenus undulatifolius* | + |
| *Carex humilis* | + |
| *Smilax nipponica* | + |
| *Dioscorea batatas* | + |
| *Cymbidium goeringii* | + |
| *Corylus heterophylla var. thunbergii* | + |
| *Celtis sinensis* | + |
| *Lindera obtusiloba* | + |
| *Lindera erythrocarpa* | + |
| *Stephanandra incisa* | + |
| *Rubus crataegifolius* | + |
| *Rhus trichocarpa* | + |
| *Vitis thunbergii var. sinuata* | + |
| *Parthenocissus tricuspidata* | + |
| *Symplocos chinensis for. pilosa* | + |
| *Styrax japonica* | + |
| *Fraxinus rhynchophylla* | + |
| *Fraxinus sieboldiana* | + |
| *Ligustrum obtusifolium* | + |
| *Isodon japonicus* | + |
| *Paederia scandens* | + |
| *Viburnum erosum* | + |
| *Syneilesis palmata* | + |
| *Artemisia keiskeana* | + |

**Table 5.7 a-1) Results of observation of tree decline: Japan (Lake Banryu) -1**

Name of plot: Banryu-2

| Individual No. | 82 | 76 | 84 | 85 | 63 | 64 | 65 | 81 | 83 | 37 | 38 | 34 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Plant Name | *Machilus Thunbergii* | *Symplocos lucida* | *Symplocos lucida* | *Symplocos lucida* | *Machilus Thunbergii* | *Styrax japonica* | *Machilus Thunbergii* | *Pinus densiflora* | *Quercus acutissima* | *Acanthopanax sciadophylloides* | *Pinus densiflora* | *Machilus Thunbergii* | | | | | | | | |
| Relative height | | | | | | | | + | | | | | | | | | | | | |
| Vitality of tree | | | | | | | | | | | 1 | | | | | | | | | |
| Form of tree | | | | | | | | | | | 1 | | | | | | | | | |
| Branch growth | | | | | | | | | | | 1 | | | | | | | | | |
| Dieback of stem | | | | | | | | | | | | | | | | | | | | |
| Density of foliage | | | | | | | | | | | | | | | | | | | | |
| Deformation of leaves | | | | | | | | | | | | | | | | | | | | |
| Size of leaves | | | | | | | | | | | | | | | | | | | | |
| Color of leaves | | | | | | | | | | | | | | | | | | | | |
| Injury of leaves | | | | | | | | | | | | | | | | | | | | |

Estimated cause of decline

Note: Zero (0: no symtoms) was omitted in the table.

**Table 5.7 a-2) Results of observation of tree decline: Japan (Lake Banryu) -2**

Name of plot: Iwami "rinku" Factory Park

| Individual No. | 92 | 93 | 122 | 104 | 108 | 127 | 128 | 100 | 138 | 137 | 140 | 63 | 112 | 113 | 141 | 142 | 114 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Plant Name | *Machilus Thunbergii* | *Machilus Thunbergii* | *Ilex micrococca* | *Castanopsis cuspidata* | *Castanopsis cuspidata* | *Castanopsis cuspidata* | *Castanopsis cuspidata* | *Quercus serrata* | *Machilus Thunbergii* | *Quercus serrata* | *Quercus serrata* | *Castanopsis cuspidata* | *Machilus Thunbergii* | *Machilus Thunbergii* | *Machilus Thunbergii* | *Quercus serrata* | *Machilus Thunbergii* | | | |
| Relative height | | | + | + | | | | | - | | | | | | - | | | | | |
| Vitality of tree | | | | | | | | | | | | | | | | | | | | |
| Form of tree | | | | | | | | | | | | | | | | | | | | |
| Branch growth | | | | | | | | | | | | | | | | | | | | |
| Dieback of stem | | | | | | | | | | | | | | | | | | | | |
| Density of foliage | | | | | | | | | | | | | | | | | | | | |
| Deformation of leaves | | | | | | | | | | | | | | | | | | | | |
| Size of leaves | | | | | | | | | | | | | | | | | | | | |
| Color of leaves | | | | | | | | | | | | | | | | | | | | |
| Injury of leaves | | | | | | | | | | | | | | | | | | | | |

Estimated cause of decline

Note: Zero (0: no symtoms) was omitted in the table.

**Table 5.7 b) Results of observation of tree decline: Republic of Korea (Mt. Naejang)**

Name of plot: Mt. Naejang

| Individual No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Plant Name | *Pinus densiflora* | *Pinus densiflora* | *Pinus densiflora* | *Pinus densiflora* | *Pinus densiflora* | *Pinus densiflora* | *Pinus densiflora* | *Pinus densiflora* | *Pinus densiflora* | *Pinus densiflora* | *Pinus densiflora* | *Pinus densiflora* | *Pinus densiflora* | *Pinus densiflora* | *Pinus densiflora* | *Pinus densiflora* | *Pinus densiflora* | *Pinus densiflora* | *Pinus densiflora* | *Pinus densiflora* |
| Relative height | | | | | | | | | | | | | | | | | | | | |
| Vitality of tree | | | | | | | | | | | | | | | | | | | | |
| Form of tree | | | | | | | | | | | | | | | | | | | | |
| Branch growth | | | | | | | | | | | | | | | | | | | | |
| Dieback of stem | | | | | | | | | | | | | | | | | | | | |
| Density of foliage | | | | | | | | | | | | | | | | | | | | |
| Deformation of leaves | | | | | | | | | | | | | | | | | | | | |
| Size of leaves | | | | | | | | | | | | | | | | | | | | |
| Color of leaves | | | | | | | | | | | | | | | | | | | | |
| Injury of leaves | | | | | | | | | | | | | | | | | | | | |

Estimated cause of decline

Note: Zero (0: no symtoms) was omitted in the table.

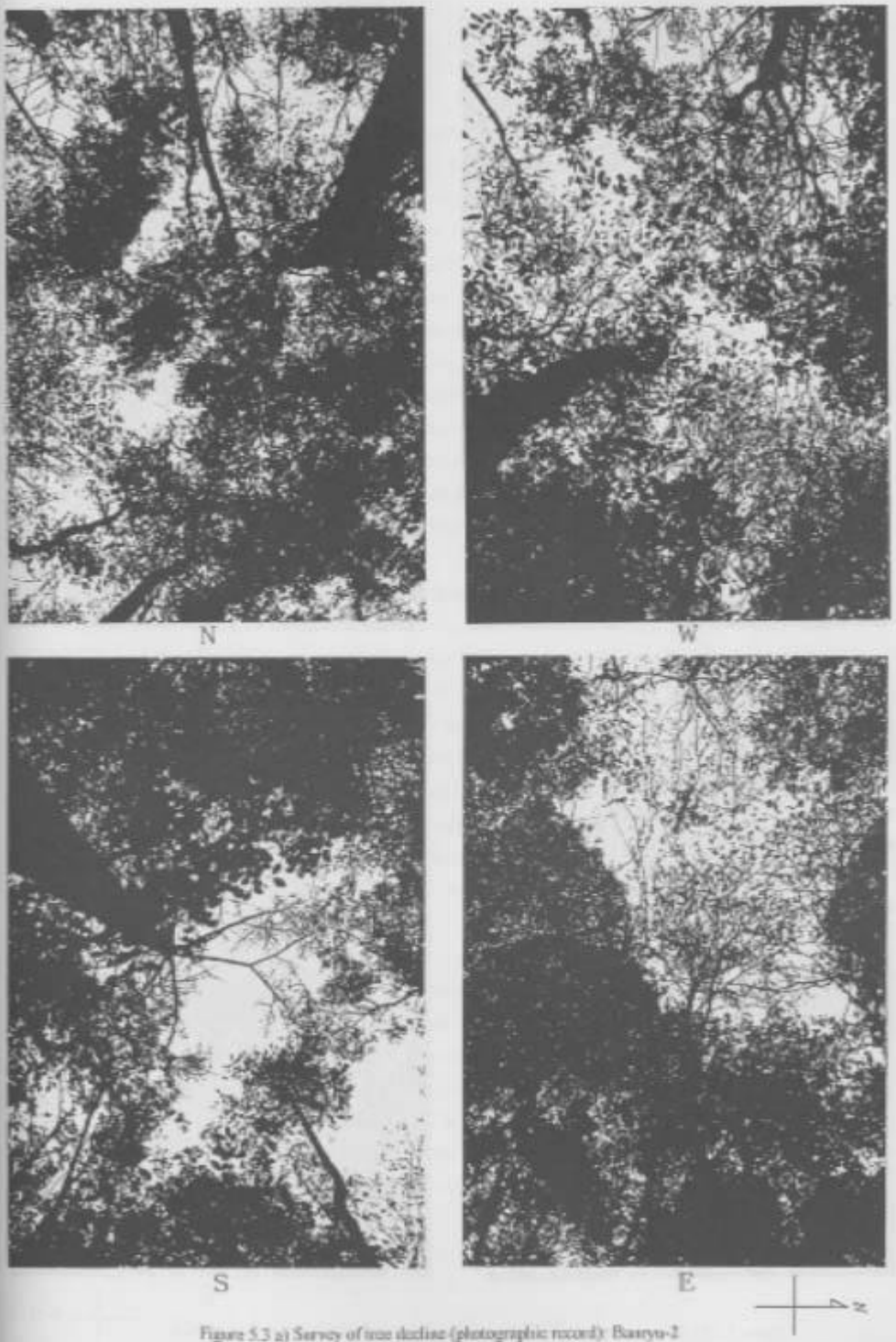



Figure 5.3 a) Survey of tree decline (photographic record): Banryu-2

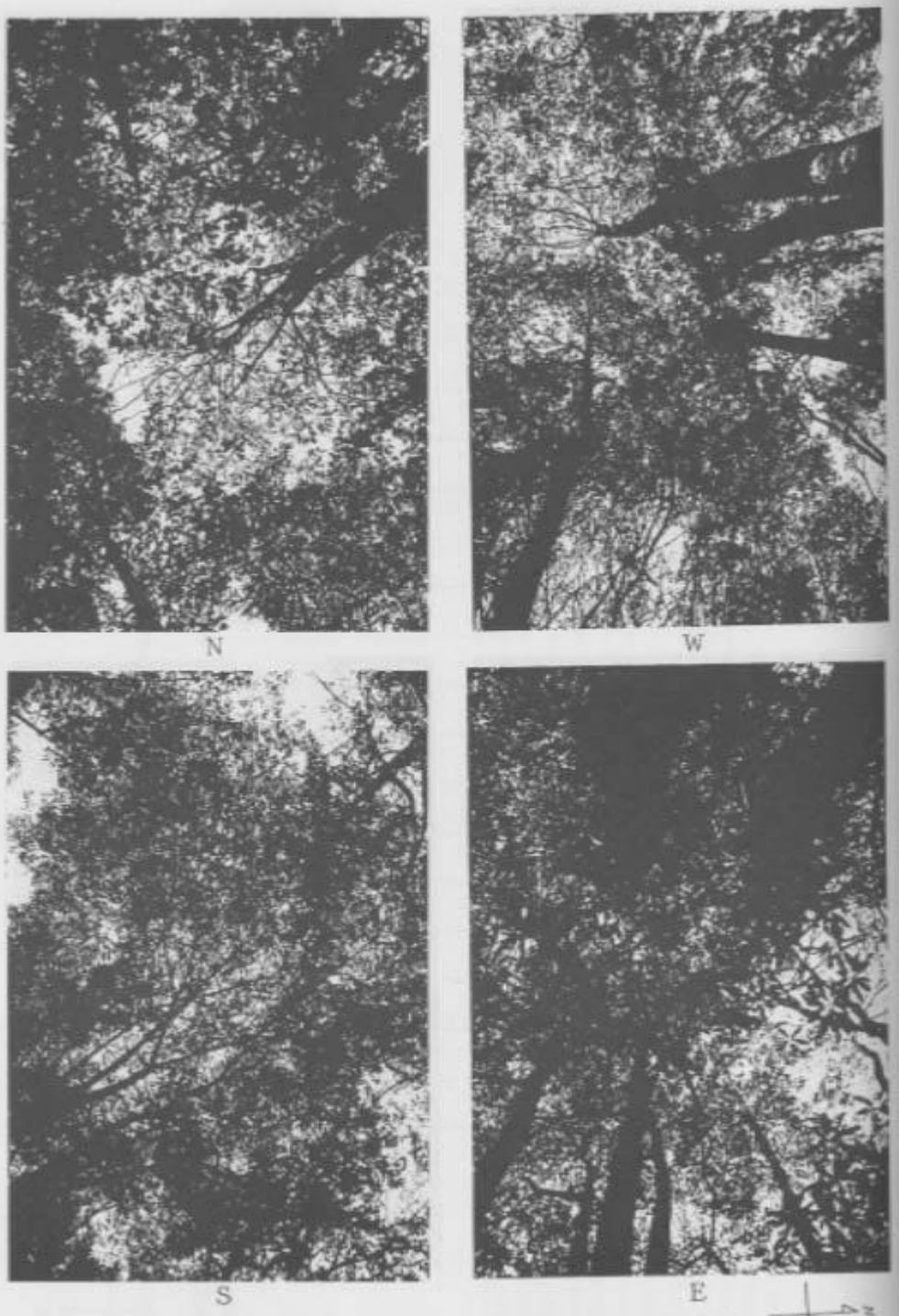



Figure 5.3 b) Survey of tree decline (photographic record): Iwami "rinku" Factory Park

## 6. Inland Aquatic Environment

### 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 were appeared as the results of this decrease, such as 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 concentrations 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, another items are specified as optional parameters to be monitored.

#### 1) Selection of Monitoring Sites

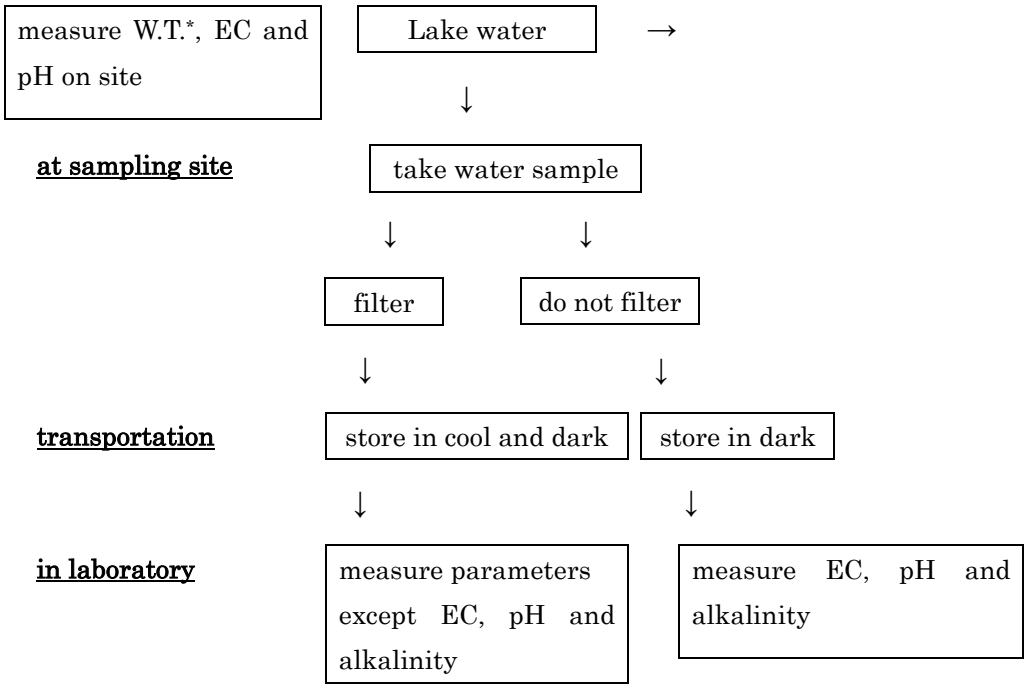
As described in Table 6.1, 7 countries (China, Indonesia, Japan, Philippines, Russia, Thailand, and Vietnam) carried out inland aquatic environment monitoring. (Properties of lakes in Table 6.3 are not completed yet.) These monitoring sites were established for 10 lakes/reservoirs and 1 stream. According to the Manual for Monitoring Inland Aquatic Environment, the lakes chosen for monitoring should be harmonic type lakes, preferably with depths of approximately 10m 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 of springs, 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.

#### 2) Field Operation

Surface water was sampled at one location at the center of the lake. In principle, measurement of pH and electric conductivity was conducted at the site before a precise measurement in the laboratory. Water samples for later analysis were put in a tightly stoppered polyethylene bottle and kept in a cool dark place. The samples were 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 Fig.6.1.

**Table 6.1 Outline of Inland Aquatic Environment Monitoring**

| Country | Name of Lake | Nearest deposition monitoring | Parameter | Interval |
|---|---|---|---|---|
| China | Chongqing Jinyunshan | Rural | Water quality of Jinyunshan lake | 4times/yr |
| | Xi'an -Jiwozi | Remote | Water quality of Jiwozi | 4times/yr |
| | Xiamen -Xiaoping | Remote | Water quality of Xiaoping | 4times/yr |
| | Zhuhai -Zhuxiandong | Urban | Water quality of Zhuxiandong reservoir | 4times/yr |
| Indonesia | Petenggang lake | Rural | Water quality of Petenggang lake | 5times/yr. |
| Japan | Lake Ijira | Rural/Ecolog. | Water quality of lake Ijira | 4times/yr. |
| | Lake Banryu | Urban/Ecolog. | Water quality of lake Banryu | 4times/yr |
| Malaysia | - | - | - | - |
| Mongolia | - | - | - | - |
| Philippines | Lake Mojicap | Rural | Water quality of Mojicap lake | 4times/yr. |
| Republic of Korea | - | - | - | - |
| Russia | River Krestvoka | Rural | Water quality of River Krestvoka | 11times/yr. |
| Thailand | Khao Lam Dam | Remote | Water quality of Khao Lam Dam | 3times/yr. |
| Vietnam | Hoa Binh Reservoir | Rural | Water quality of Hoa Binh Reservoir | 4times/yr. |




W.T.* : Water Temperature

Fig.6.1 Example of treatment procedure of lake water sample

### 3) Laboratory Operation

Collected samples were analyzed by analytical methods specified in Table 6.2 immediately or after stored in a refrigerator.

Table 6.2 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 |
| Total $Al^{3+}$ | Atomic absorption spectrometry with graphite furnace |
| Inorganic $Al^{3+}$ | (After filtration with Ultramicrofilter), Atomic absorption spectrometry or (After adding color former), Fluorescent spectrometry |
| DOC | Combustion- infrared method or wet-oxidation method |

## 6.2 Results of Monitoring

Properties of lakes are presented in Table 6.3, the results of measurements for pH, EC and concentrations of major ions are summarized in Table 6.4.

Data within or exceeded the criteria of R1,R2 were treated as judge "O" or "X" in Table 6.4.

**Table 6.3(1) Properties of lakes**

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 | 1,583mm/year (2001) |
| Solar radiation | Daylight time Ave.178hr/month (2001) |
| Wind speed | 2.2-2.9 (Ave. 2.6) m/s (2001) |
| Wind direction | SSW, S(summer), WNW,W(winter) (2001) |
| Residence time of water | 23 days |
| Lake utilization | Irrigation and fishing |
| Watershed area | 5.4 km$^2$ |
| River (flows into) | Ijira River, Koudou River |

**Table 6.3(2) Properties of lakes**

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 | |
| Lake trophic type | Mesotrophic |
| Water depth | Ave. 8-8.5m |
| Water volume | km$^3$ |
| Annual water level fluctuation | 1.5 m |
| Precipitation | 1,683mm/year (2001) |
| Solar radiation | Daylight time Ave.152hr/month (2001) |
| Wind speed | 1.5-2.3 (Ave. 1.7) m/s (2001) |
| Wind direction | SE, N(summer), NW,NW(winter) (2001) |
| Residence time of water | - days |
| Lake utilization | Irrigation |
| Watershed area | 0.73 km$^2$ |
| River (flows into) | none |

**Table 6.3(3) Properties of lakes**

Lake Name: Mojicap Lake

| | |
|---|---|
| Country | Philippines |
| Location | San Pablo City, Laguna |
| Altitude | m |
| Origin | |
| Area and shape | 0.02km$^2$ |
| Shore line length | km |
| Lake hydrologic type | |
| Lake trophic type | |
| Water depth | 25m or less |
| Water volume | km$^3$ |
| Annual water level fluctuation | m |
| Precipitation | |
| Solar radiation | |
| Wind speed | |
| Wind direction | |
| Residence time of water | - days |
| Lake utilization | |
| Watershed area | km$^2$ |
| River (flows into) | |

**Table 6.3(4) Properties of lakes**

Lake Name: Khao Lam Dam

| | |
|---|---|
| Country | Thailand |
| Location | Kanchanaburi Province |
| 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 | Avg. 149.08 m ( max:153.21 m ) |
| Water volume | 6.7276 $km^3$ |
| Annual water level fluctuation | 0-18 m (avg. 9m) |
| Precipitation | 1,780 mm/year (2001) |
| Solar radiation | - |
| Wind speed | Avg. 0.47 m/s (0.1-0.9 m/s) |
| Wind direction | SE, NW, W(summer), W(raining), SE(winter) |
| Residence time of water | 165 days |
| Lake utilization | Irrigation and Electric power |
| Watershed area | 3,720 $km^2$ |
| River (flows into) | |

**Table 6.3(5) Properties of lakes**

Lake Name: Hoa Binh Reservoir

| | |
|---|---|
| Country | Vietnam |
| Location | Kunming Province, Lai Chau, Son La and Hoa Binh Provinces |
| Altitude | 23m |
| Origin | Artificial (dam-made lake) |
| Area and shape | 208 $km^2$-25$km^2$ (*) |
| 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 km2-13,700$km^2$(*) |
| River (flows into) | Da River |

(*)The second values are in affected area of reservoir.

**Table 6.4(1) Result of Inland Aquatic Environment Monitoring**

Duration: 2001.1.-2001.12
Country: China
Lake Name:

| Site | Sampling Date | Temp. (℃) | pH | EC (mS/m) | Alkalinity (meq/l) | $SO_4^{2-}$ (mg/l) | $NO_3^-$ (mg/l) | $Cl^-$ (mg/l) | $PO_4^{3-}$ (mg/l) | $NH_4^+$ (mg/l) | $Na^+$ (mg/l) | $K^+$ (mg/l) | $Ca^{2+}$ (mg/l) | $Mg^{2+}$ (mg/l) | $Al^{3+}$ (mg/l) | $Mn^{2+}$ (mg/l) | COD (mg/l) | Chl-a (μg/l) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chongqing -Jinyunshan Lake | 2001/3/27 | 22.0 | 7.4 | 9.56 | *2 | 24.7 | 5.8 | 2.4 | | 0.1 | 2.2 | 1.6 | 8.2 | 4.2 | | | | |
| | 2001/6/6 | 28.0 | 7.62 | 7.48 | *2 | 27.8 | 10.2 | 2.6 | | 2.5 | 0.1 | 0.6 | 0.6 | 0.1 | | | | |
| | 2001/8/16 | 22.0 | 7.40 | 9.20 | *2 | 25.3 | 7.6 | 2.4 | | 0.0 | 2.1 | 2.3 | 8.6 | 2.9 | | | | |
| | 2001/11/8 | 28.0 | 7.62 | 9.95 | *2 | 26.4 | 7.1 | 2.9 | | 0.0 | 2.7 | 1.8 | 9.1 | 3.3 | | | | |
| | mean*1 | 25.0 | 7.50 | 9.05 | | 26.1 | 7.7 | 2.6 | | 0.7 | 1.8 | 1.6 | 6.6 | 2.6 | | | | |
| Xiamen -Xiaoping | 1/10/2001 | 14.8 | 7.07 | *2 | *2 | 1.00 | 0.83 | 2.01 | | *2 | *2 | *2 | *2 | *2 | | | | |
| | 4/5/2001 | 19.8 | 7.00 | *2 | *2 | 1.98 | 1.34 | 2.20 | | *2 | *2 | *2 | *2 | *2 | | | | |
| | 8/8/2001 | 22.2 | 7.47 | *2 | *2 | 1.31 | 2.16 | 1.78 | | *2 | *2 | *2 | *2 | *2 | | | | |
| | 11/7/2001 | 20.8 | 7.56 | *2 | *2 | 1.41 | 0.86 | 2.71 | | *2 | *2 | *2 | *2 | *2 | | | | |
| | mean*1 | 19.4 | 7.21 | | | 1.43 | 1.30 | 2.18 | | | | | | | | | | |
| Xi'an -Jiwozi | 3/27/2001 | 11.0 | 6.77 | 7.6 | 0.28 | 13.12 | 2.21 | 0.71 | | 0.05 | 2.40 | 0.74 | 13.57 | 1.87 | | | | |
| | 6/25/2001 | 13.5 | 7.09 | 2.8 | 0.20 | 6.61 | 0.64 | 0.79 | | 0.03 | 1.55 | 0.60 | 6.48 | 1.06 | | | | |
| | 9/26/2001 | 18.5 | 7.69 | 4.5 | 0.20 | 9.94 | 0.84 | 0.97 | | 0.02 | 1.71 | 0.76 | 7.79 | 1.29 | | | | |
| | 12/29/2001 | 4.0 | 7.38 | 3.1 | 0.22 | 10.44 | 2.19 | 1.77 | | 0.05 | 1.92 | 0.70 | 7.48 | 1.30 | | | | |
| | mean*1 | 11.8 | 7.11 | 4.5 | 0.23 | 10.03 | 1.47 | 1.06 | | 0.04 | 1.90 | 0.70 | 8.83 | 1.38 | | | | |
| Zhuhai -Zhuxiandong reservoir | 2001/1/1 | 22.0 | 7.4 | *2 | *2 | 19.5 | 0.8 | 62.0 | | 0.1 | *2 | *2 | *2 | *2 | | | | |
| | 2001/4/18 | 19.0 | 7.6 | *2 | *2 | 31.0 | 0.8 | 92.0 | | 0.2 | *2 | *2 | *2 | *2 | | | | |
| | 2001/7/17 | 28.0 | 7.6 | *2 | *2 | 7.9 | 0.4 | 7.5 | | 0.2 | *2 | *2 | *2 | *2 | | | | |
| | 2001/10/19 | 26.0 | 8.2 | *2 | *2 | 12.4 | 0.5 | 11.0 | | 0.3 | *2 | *2 | *2 | *2 | | | | |
| | mean*1 | 23.8 | 7.6 | | | 17.7 | 0.6 | 43.1 | | 0.2 | | | | | | | | |

| | | Anion | Cation | R 1 | Judge | Acalc | R2 | Judge |
|---|---|---|---|---|---|---|---|---|
| Chongqing -Jinyunshan Lake | 2001/3/27 | 675.5 | 896.8 | 14.1 | × | 10.4 | 4.25 | ○ |
| | 2001/6/6 | 816.6 | 196.5 | -61.2 | × | 7.7 | 1.73 | ○ |
| | 2001/8/16 | 717.0 | 817.8 | 6.6 | ○ | 10.3 | 5.81 | ○ |
| | 2001/11/8 | 746.0 | 889.0 | 8.7 | × | 10.9 | 4.69 | ○ |
| | mean | | | | | | | |
| Xiamen -Xiaoping | 1/10/2001 | - | - | - | - | - | - | - |
| | 4/5/2001 | - | - | - | - | - | - | - |
| | 8/8/2001 | - | - | - | - | - | - | - |
| | 11/7/2001 | - | - | - | - | - | - | - |
| | mean | | | | | | | |
| Xi'an -Jiwozi | 3/27/2001 | 609.1 | 956.8 | 22.2 | × | 9.4 | 10.57 | × |
| | 6/25/2001 | 370.0 | 494.9 | 14.4 | × | 5.1 | 29.09 | × |
| | 9/26/2001 | 447.7 | 589.5 | 13.7 | × | 6.3 | 16.38 | × |
| | 12/29/2001 | 522.5 | 584.2 | 5.6 | ○ | 6.7 | 36.88 | × |
| | mean | | | | | | | |
| Zhuhai -Zhuxiandong reservoir | 2001/1/1 | - | - | - | - | - | - | - |
| | 2001/4/18 | - | - | - | - | - | - | - |
| | 2001/7/17 | - | - | - | - | - | - | - |
| | 2001/10/19 | - | - | - | - | - | - | - |
| | mean | | | | | | | |

*1 : Mean of pH takes an average of hydrogen ion
*2 : Items were not analysed

**Table 6.4(2) Result of Inland Aquatic Environment Monitoring**

Duration: 2001.5.-2001.11
Country: Indonesia
Lake Name: Patenggang Lake

| Site | Sampling Date | Temp. (℃) | pH | EC (mS/m) | Alkalinity (meq/l) | $SO_4^{2-}$ (mg/l) | $NO_3^-$ (mg/l) | $Cl^-$ (mg/l) | $PO_4^{3-}$ (mg/l) | $NH_4^+$ (mg/l) | $Na^+$ (mg/l) | $K^+$ (mg/l) | $Ca^{2+}$ (mg/l) | $Mg^{2+}$ (mg/l) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Center (Surface) | 2001/5/26 | | 7.60 | 7.95 | 0.53 | 2.75 | 0.09 | 11.00 | 0.085 | 0.16 | 6.75 | 0.90 | 5.20 | 2.35 |
| | 2001/7/30 | | 7.80 | 8.35 | 0.53 | 4.10 | 0.03 | 11.00 | 0.105 | 0.11 | 6.75 | 0.09 | 7.20 | 1.90 |
| | 2001/9/29 | | 8.30 | 5.80 | 0.40 | 4.00 | 0.07 | 5.80 | 0.310 | 0.12 | 2.20 | 0.35 | 5.95 | 2.55 |
| | 2001/10/30 | | 8.30 | 6.15 | 0.49 | 3.15 | 0.07 | 5.05 | 0.130 | 0.11 | 2.65 | 0.40 | 6.30 | 2.00 |
| | 2001/11/8 | | 7.95 | 8.15 | 0.50 | 7.65 | 0.09 | 8.10 | 0.055 | 0.18 | 6.15 | 0.95 | 6.95 | 2.10 |
| | mean*1 | | 7.90 | 7.28 | 0.49 | 4.33 | 0.07 | 8.19 | 0.137 | 0.13 | 4.90 | 0.54 | 6.32 | 2.18 |

| | | A | C | R 1 | Judge |
|---|---|---|---|---|---|
| Center (Surface) | 5/26/2001 | 893.9 | 778.3 | -6.9 | ○ |
| | 7/30/2001 | 921.1 | 817.3 | -6.0 | ○ |
| | 9/29/2001 | 650.9 | 617.9 | -2.6 | ○ |
| | 10/30/2001 | 697.5 | 610.4 | -6.7 | ○ |
| | 11/8/2001 | 889.8 | 821.0 | -4.0 | ○ |
| | mean | | | | |

| Acalc | R2 | Judge |
|---|---|---|
| 9.5 | 8.7 | ○ |
| 9.9 | 8.5 | ○ |
| 7.2 | 10.8 | × |
| 7.2 | 8.2 | ○ |
| 9.8 | 9.4 | × |
| | | |

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

**Table 6.4(3) Result of Inland Aquatic Environment Monitoring**

Duration: 2001.7.-2002.1.
Country: Japan
Lake Name: Ijira Lake

| Site | Sampling Date | Temp. (℃) | pH | EC (mS/m) | Alkalinity (meq/l) | $SO_4^{2-}$ (mg/l) | $NO_3^-$ (mg/l) | $Cl^-$ (mg/l) | $PO_4^{3-}$ (mg/l) | $NH_4^+$ (mg/l) | $Na^+$ (mg/l) | $K^+$ (mg/l) | $Ca^{2+}$ (mg/l) | $Mg^{2+}$ (mg/l) | $Al^{3+}$ (mg/l) | COD (mg/l) | Chl-a (μg/l) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Center (Surface) ① | 2001/7/31 | 30.7 | 8.1 | 4.17 | 0.141 | 4.66 | 2.52 | 2.41 | | 0.07 | 2.33 | 0.48 | 3.19 | 1.51 | | | |
| | 2001/9/25 | 23.0 | 8.9 | 4.59 | 0.155 | 3.20 | 1.86 | 1.44 | <0.01 | 0.13 | 2.45 | 0.62 | 3.58 | 1.71 | | | |
| | 2001/11/29 | 11.3 | 6.4 | 4.55 | 0.147 | 5.72 | 2.27 | 2.43 | | 0.04 | 2.61 | 0.39 | 4.05 | 1.64 | | | |
| | 2002/1/31 | 6.8 | 6.8 | 3.99 | 0.109 | 5.08 | 2.59 | 2.46 | | 0.04 | 2.09 | 0.12 | 3.22 | 1.57 | | | |
| | mean*1 | 18.0 | 6.8 | 4.33 | 0.138 | 4.66 | 2.31 | 2.19 | <0.01 | 0.07 | 2.37 | 0.40 | 3.51 | 1.61 | | | |
| Center (near bottom) | 2001/7/31 | | | | | | | | | | | | | | | | |
| | 2001/9/25 | | | | | | | | | | | | | | | | |
| | 2001/11/29 | | | | | | | | | | | | | | | | |
| | 2002/1/31 | | | | | | | | | | | | | | | | |
| | mean | | | | | | | | | | | | | | | | |
| Ijira River (Input) ② | 2001/7/31 | 22.6 | 6.8 | 4.64 | 0.150 | 5.26 | 2.69 | 2.24 | | 0.07 | 2.62 | 0.51 | 3.57 | 1.68 | | | |
| | 2001/9/25 | 19.0 | 7.2 | 4.42 | 0.132 | 3.88 | 1.55 | 1.39 | <0.01 | 0.11 | 2.34 | 0.58 | 3.33 | 1.67 | | | |
| | 2001/11/29 | 11.3 | 6.8 | 4.58 | 0.115 | 7.84 | 1.93 | 2.38 | | 0.01 | 2.50 | 0.29 | 3.72 | 1.77 | | | |
| | 2002/1/31 | 7.0 | 7.0 | 3.96 | 0.099 | 5.70 | 2.62 | 2.26 | | 0.01 | 2.10 | 0.25 | 4.40 | 1.63 | | | |
| | mean*1 | 15.0 | 6.9 | 4.40 | 0.124 | 5.67 | 2.19 | 2.07 | <0.01 | 0.05 | 2.39 | 0.40 | 3.75 | 1.69 | | | |
| Kodo River (Input) ③ | 2001/7/31 | 20.4 | 6.4 | 4.05 | 0.128 | 4.41 | 3.05 | 2.50 | | 0.07 | 2.78 | 0.50 | 2.31 | 1.68 | | | |
| | 2001/9/25 | 18.1 | 6.4 | 3.88 | 0.113 | 2.82 | 1.60 | 1.55 | <0.01 | 0.07 | 2.54 | 0.42 | 2.15 | 1.60 | | | |
| | 2001/11/29 | | | | | | | | | | | | | | | | |
| | 2002/1/31 | 6.0 | 7.0 | 3.48 | 0.088 | 4.28 | 2.00 | 2.44 | | <0.003 | 2.49 | 0.10 | 3.07 | 1.82 | | | |
| | mean*1 | 14.8 | 6.5 | 3.80 | 0.110 | 3.84 | 2.22 | 2.16 | <0.01 | 0.05 | 2.60 | 0.34 | 2.51 | 1.70 | | | |
| Ijira River (Output) ④ | 2001/7/31 | 30.4 | 8.7 | 4.30 | 0.162 | 4.56 | 2.48 | 2.31 | | 0.07 | 2.32 | 0.44 | 3.49 | 1.44 | | | |
| | 2001/9/25 | | | | | | | | | | | | | | | | |
| | 2001/11/29 | | | | | | | | | | | | | | | | |
| | 2002/1/31 | 7.0 | 7.2 | 3.99 | 0.106 | 5.04 | 2.58 | 2.63 | | 0.07 | 2.23 | 0.31 | 4.58 | 1.71 | | | |
| | mean*1 | 18.7 | 7.5 | 4.14 | 0.134 | 4.80 | 2.53 | 2.47 | | 0.07 | 2.28 | 0.37 | 4.03 | 1.57 | | | |
| Discharge ⑤ | 2001/7/31 | 20.7 | 6.4 | 4.35 | 0.157 | 4.49 | 2.75 | 2.39 | | 0.11 | 2.35 | 0.52 | 3.34 | 1.56 | | | |
| | 2001/9/25 | 22.1 | 6.4 | 4.67 | 0.165 | 3.36 | 1.81 | 1.60 | <0.01 | 0.06 | 2.38 | 0.35 | 3.64 | 1.64 | | | |
| | 2001/11/29 | 11.1 | 6.9 | 4.63 | 0.155 | 5.73 | 2.29 | 2.67 | | 0.05 | 2.73 | 0.36 | 4.25 | 1.72 | | | |
| | 2002/1/31 | 6.6 | 7.2 | 4.09 | 0.110 | 5.05 | 2.61 | 2.73 | | 0.05 | 2.18 | 0.24 | 4.80 | 1.72 | | | |
| | mean*1 | 15.1 | 6.6 | 4.43 | 0.147 | 4.66 | 2.36 | 2.35 | <0.01 | 0.07 | 2.41 | 0.37 | 4.01 | 1.66 | | | |

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

| | | Anion | Cation | R 1 | Judge | Acalc | R2 | Judge |
|---|---|---|---|---|---|---|---|---|
| Center (Surface) ① | 2001/7/31 | 346.2 | 400.9 | 7.3 | ○ | 4.5 | 3.3 | ○ |
| | 2001/9/25 | 291.9 | 448.1 | 21.1 | × | 4.3 | -3.7 | ○ |
| | 2001/11/29 | 371.0 | 462.9 | 11.0 | × | 5.0 | 4.6 | ○ |
| | 2002/1/31 | 325.8 | 386.0 | 8.5 | × | 4.3 | 3.8 | ○ |
| | mean | | | | | | | |
| Center (near bottom) | 2001/7/31 | | | | | | | |
| | 2001/9/25 | | | | | | | |
| | 2001/11/29 | | | | | | | |
| | 2002/1/31 | | | | | | | |
| | mean | | | | | | | |
| Ijira River (Input) ② | 2001/7/31 | 365.8 | 447.2 | 10.0 | × | 4.8 | 2.0 | ○ |
| | 2001/9/25 | 276.8 | 426.0 | 21.2 | × | 4.1 | -3.8 | ○ |
| | 2001/11/29 | 376.1 | 447.8 | 8.7 | × | 5.0 | 4.8 | ○ |
| | 2002/1/31 | 323.7 | 451.6 | 16.5 | × | 4.7 | 8.7 | ○ |
| | mean | | | | | | | |
| Kodo River (Input) ③ | 2001/7/31 | 339.7 | 391.4 | 7.1 | ○ | 4.4 | 3.7 | ○ |
| | 2001/9/25 | 240.8 | 363.9 | 20.4 | × | 3.5 | -5.0 | ○ |
| | 2001/11/29 | | | | | | | |
| | 2002/1/31 | 278.7 | ####### | ####### | × | ####### | ####### | ○ |
| | mean | | | | | | | |
| Ijira River (Output) ④ | 2001/7/31 | 362.1 | 408.3 | 6.0 | ○ | 4.6 | 2.9 | ○ |
| | 2001/9/25 | | | | | | | |
| | 2001/11/29 | | | | | | | |
| | 2002/1/31 | 326.5 | 477.5 | 18.8 | × | 4.9 | 9.8 | × |
| | mean | | | | | | | |
| Discharge ⑤ | 2001/7/31 | 362.6 | 416.4 | 6.9 | ○ | 4.6 | 3.0 | ○ |
| | 2001/9/25 | 309.6 | 432.5 | 16.6 | × | 4.3 | -4.4 | ○ |
| | 2001/11/29 | 386.8 | 484.6 | 11.2 | × | 5.2 | 5.8 | ○ |
| | 2002/1/31 | 334.3 | 484.7 | 18.4 | × | 4.9 | 9.5 | × |
| | mean | | | | | | | |

**Table 6.4(4) Result of Inland Aquatic Environment Monitoring**

Duration: 2001.5.-2001.12
Country: Japan
Lake Name: Banryu Lake

| Site | Sampling Date | Temp. (℃) | pH | EC (mS/m) | Alkalinity (meq/l) | $SO_4^{2-}$ (mg/l) | $NO_3^-$ (mg/l) | $Cl^-$ (mg/l) | $PO_4^{3-}$ (mg/l) | $NH_4^+$ (mg/l) | $Na^+$ (mg/l) | $K^+$ (mg/l) | $Ca^{2+}$ (mg/l) | $Mg^{2+}$ (mg/l) | $Al^{3+}$ (mg/l) | $Mn^{2+}$ (mg/l) | COD (mg/l) | Chl-a (μg/l) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NO.2 | 2001/5/23 | 23.2 | 6.92 | 9.8 | 0.160 | 4.81 | <0.005 | 21.2 | <0.003 | <0.02 | 12.8 | 1.78 | 1.23 | 1.58 | <0.01 | <0.005 | 4.3 | 3.8 |
| (center) | 2001/7/24 | 32.1 | 6.99 | 8.5 | 0.134 | 4.26 | 0.013 | 18.2 | <0.003 | <0.02 | 11.3 | 1.66 | 0.98 | 1.37 | 0.07 | 0.009 | 5.6 | 5.0 |
| surface | 2001/9/25 | 24.4 | 7.02 | 9.2 | 0.173 | 3.42 | <0.005 | 19.6 | <0.003 | <0.02 | 12.2 | 1.72 | 1.14 | 1.63 | <0.01 | <0.005 | 6.7 | 6.1 |
| | 2001/12/18 | 9.0 | 7.00 | 10.2 | 0.227 | 3.80 | 0.203 | 19.9 | <0.003 | 0.15 | 12.6 | 1.84 | 1.57 | 1.82 | 0.02 | <0.005 | 4.6 | 6.6 |
| | mean[*1] | 22.2 | 6.98 | 9.4 | 0.174 | 4.07 | 0.054 | 19.7 | <0.003 | 0.04 | 12.2 | 1.75 | 1.23 | 1.60 | 0.02 | <0.005 | 5.3 | 5.4 |
| NO.2 | 2001/5/23 | 9.0 | 6.60 | 10.3 | 0.220 | 4.43 | <0.005 | 21.0 | <0.003 | 0.07 | 12.9 | 1.83 | 1.53 | 2.00 | 0.01 | 0.319 | 4.9 | 7.7 |
| (center) | 2001/7/24 | 10.1 | 6.71 | 12.4 | 0.482 | 2.57 | <0.005 | 20.8 | <0.003 | 0.10 | 13.3 | 1.95 | 2.33 | 2.56 | 0.08 | 0.798 | 6.5 | 18.9 |
| near | 2001/9/25 | 11.1 | 6.61 | 16.0 | 0.744 | 0.77 | 0.008 | 20.2 | 0.032 | 1.37 | 13.4 | 2.28 | 3.77 | 3.78 | 0.01 | 1.457 | 10.6 | 41.1 |
| bottom | 2001/12/18 | 8.4 | 6.88 | 10.3 | 0.230 | 3.79 | 0.204 | 20.0 | 0.007 | 0.17 | 12.6 | 1.83 | 1.55 | 1.82 | 0.02 | 0.005 | 4.8 | 8.1 |
| | mean[*1] | 9.7 | 6.69 | 12.3 | 0.419 | 2.89 | 0.053 | 20.5 | 0.010 | 0.43 | 13.1 | 1.97 | 2.30 | 2.54 | 0.03 | 0.645 | 6.7 | 19.0 |
| NO.3 | 2001/5/23 | 23.1 | 6.84 | 9.5 | 0.174 | 4.93 | 0.008 | 21.2 | <0.003 | <0.02 | 12.8 | 1.76 | 1.32 | 1.60 | <0.01 | <0.005 | 4.5 | 5.0 |
| surface | 2001/7/24 | 31.2 | 7.03 | 8.3 | 0.140 | 4.36 | <0.005 | 17.4 | <0.003 | <0.02 | 10.9 | 1.60 | 1.15 | 1.35 | 0.08 | 0.013 | 5.8 | 7.4 |
| | 2001/9/25 | 24.0 | 7.03 | 9.3 | 0.187 | 3.50 | <0.005 | 19.5 | <0.003 | <0.02 | 12.1 | 1.72 | 1.36 | 1.67 | <0.01 | <0.005 | 6.5 | 5.6 |
| | 2001/12/18 | 8.4 | 7.01 | 10.1 | 0.218 | 3.91 | 0.251 | 19.8 | <0.003 | 0.13 | 12.6 | 1.82 | 1.53 | 1.78 | <0.01 | <0.005 | 4.5 | 6.0 |
| | mean[*1] | 21.7 | 6.97 | 9.3 | 0.180 | 4.18 | 0.065 | 19.5 | <0.003 | 0.03 | 12.1 | 1.73 | 1.34 | 1.60 | 0.02 | <0.005 | 5.3 | 6.0 |

| | | Anion | Cation | R 1 | Judge |
|---|---|---|---|---|---|
| NO.2 | 2001/5/23 | 858.2 | 793.7 | -3.9 | ○ |
| (center) | 2001/7/24 | 736.3 | 695.6 | -2.8 | ○ |
| surface | 2001/9/25 | 797.1 | 765.7 | -2.0 | ○ |
| | 2001/12/18 | 870.7 | 831.6 | -2.3 | ○ |
| | mean | | | | |
| NO.2 | 2001/5/23 | 904.6 | 852.9 | -2.9 | ○ |
| (center) | 2001/7/24 | 1122.3 | 960.9 | -7.7 | ○ |
| near | 2001/9/25 | 1330.0 | 1216.3 | -4.5 | ○ |
| bottom | 2001/12/18 | 876.4 | 831.4 | -2.6 | ○ |
| | mean | | | | |
| NO.3 | 2001/5/23 | 874.8 | 799.4 | -4.5 | ○ |
| surface | 2001/7/24 | 721.6 | 683.5 | -2.7 | ○ |
| | 2001/9/25 | 809.9 | 775.6 | -2.2 | ○ |
| | 2001/12/18 | 862.0 | 824.6 | -2.2 | ○ |
| | mean | | | | |

| Λcalc | R2 | Judge |
|---|---|---|
| 10.3 | 2.3 | ○ |
| 8.9 | 2.3 | ○ |
| 9.6 | 2.1 | ○ |
| 10.4 | 0.8 | ○ |
| | | |
| 10.8 | 2.2 | ○ |
| 12.2 | -0.9 | ○ |
| 14.5 | -5.0 | ○ |
| 10.4 | 0.5 | ○ |
| | | |
| 10.4 | 4.4 | ○ |
| 8.7 | 2.4 | ○ |
| 9.7 | 2.2 | ○ |
| 10.3 | 0.9 | ○ |
| | | |

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

**Table 6.4(5) Result of Inland Aquatic Environment Monitoring**

Duration: 2001.3-2001.12
Country: Philippines
Lake Name: Mojicap Lake

| Site | Sampling Date | Temp. (℃) | pH | EC (mS/m) | Alkalinity (meq/l) | $SO_4^{2-}$ (mg/l) | $NO_3^-$ (mg/l) | $Cl^-$ (mg/l) | $PO_4^{3-}$ (mg/l) | $NH_4^+$ (mg/l) | $Na^+$ (mg/l) | $K^+$ (mg/l) | $Ca^{2+}$ (mg/l) | $Mg^{2+}$ (mg/l) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Surface | 3/26/2001 | | 8.12 | 0.4 | 2.86 | 1.94 | 0.380 | 6.42 | | 0.001 | 6.66 | 5.27 | 14.40 | 14.49 |
| | 6/21/2001 | | 8.12 | 16.7 | 1.42 | 0.00 | 0.000 | 0.18 | | 0.001 | 5.60 | 2.63 | 6.18 | 1.23 |
| | 9/27/2001 | | 8.16 | 30.8 | 2.90 | 3.74 | 0.063 | 5.72 | | 0.001 | 13.60 | 4.65 | 12.70 | 1.99 |
| | 12/19/2001 | | 8.20 | 31.0 | 3.32 | 3.03 | 0.255 | 6.56 | | 0.010 | 1.98 | 5.31 | 3.69 | 1.04 |
| | mean[*1] | | 8.15 | 19.7 | 2.63 | 2.18 | 0.174 | 4.72 | | 0.003 | 6.96 | 4.47 | 9.24 | 4.69 |

| | | A | C | R 1 | Judge |
|---|---|---|---|---|---|
| Surface | 3/26/2001 | 3087.6 | 2334.6 | -13.9 | × |
| | 6/21/2001 | 1425.1 | 720.3 | -32.9 | × |
| | 9/27/2001 | 3140.2 | 1507.8 | -35.1 | × |
| | 12/19/2001 | 3572.2 | 492.1 | -75.8 | × |
| | mean | | | | |

| Acalc | R2 | Judge |
|---|---|---|
| 27.6 | 97.4 | × |
| 10.5 | -23.0 | × |
| 23.3 | -13.9 | × |
| 19.7 | -22.3 | × |
| | | |

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

**Table 6.4(6) Result of Inland Aquatic Environment Monitoring**

Duration: 2001.1.-2001.12
Country: Russian Federation
Lake Name: River Krestovka

| Site | Sampling Date | Temp. (℃) | pH | EC (mS/m) | Alkalinity (meq/l) | $SO_4^{2-}$ (mg/l) | $NO_3^-$ (mg/l) | $Cl^-$ (mg/l) | $PO_4^{3-}$ (mg/l) | $NH_4^+$ (mg/l) | $Na^+$ (mg/l) | $K^+$ (mg/l) | $Ca^{2+}$ (mg/l) | $Mg^{2+}$ (mg/l) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| River Krestovka (surface) | 1/27/2001 | 0.4 | 6.86 | 8.64 | 0.54 | 9.36 | 0.32 | 0.45 | 0.018 | 0.127 | 3.36 | 0.54 | 5.99 | 2.64 |
| | 2/25/2001 | 0.35 | 6.94 | 11.89 | 0.72 | 14.56 | 0.33 | 0.47 | 0.052 | 0.170 | 4.31 | 0.88 | 8.29 | 4.08 |
| | 3/24/2001 | 0.4 | 7.13 | 16.87 | 0.98 | 19.50 | 0.39 | 0.55 | 0.023 | 0.192 | 5.40 | 1.55 | 11.24 | 6.07 |
| | 4/13/2001 | 0.3 | 6.83 | 7.92 | 0.30 | 12.51 | 1.03 | 1.14 | 0.106 | 0.548 | 2.73 | 3.07 | 3.54 | 2.23 |
| | 5/18/2001 | 2.2 | 6.80 | 5.94 | 0.23 | 9.67 | 0.64 | 0.19 | 0.017 | 0.340 | 2.17 | 0.62 | 3.59 | 2.15 |
| | 6/8/2001 | 6.5 | 7.01 | 6.20 | 0.28 | 9.80 | 0.27 | 0.19 | 0.006 | 0.127 | 2.17 | 0.60 | 3.67 | 2.15 |
| | 8/5/2001 | 8.8 | 6.71 | 6.07 | 0.29 | 9.27 | 0.17 | 0.19 | 0.006 | 0.695 | 2.32 | 0.49 | 3.69 | 1.95 |
| | 9/24/2001 | 8.5 | 7.18 | 7.77 | 0.36 | 12.73 | 0.01 | 0.36 | 0.014 | 0.238 | 3.64 | 0.84 | 3.95 | 2.34 |
| | 10/17/2001 | 1.9 | 6.91 | 7.78 | 0.37 | 13.17 | 0.01 | 0.38 | 0.009 | 0.048 | 3.74 | 0.87 | 4.18 | 2.44 |
| | 11/15/2001 | 0.6 | 6.96 | 8.07 | 0.39 | 13.09 | 0.13 | 0.40 | 0.012 | 0.027 | 3.83 | 0.81 | 4.42 | 2.47 |
| | 12/23/2001 | 0.5 | 6.47 | 8.77 | 0.39 | 13.14 | 0.20 | 0.43 | 0.014 | 0.058 | 3.84 | 0.80 | 4.52 | 2.49 |
| | mean[*1] | 2.8 | 6.85 | 8.72 | 0.44 | 12.44 | 0.32 | 0.43 | 0.025 | 0.234 | 3.41 | 1.00 | 5.19 | 2.82 |

| | | Anion | Cation | R 1 | Judge |
|---|---|---|---|---|---|
| River Krestovka (surface) | 1/27/2001 | 752.7 | 683.2 | -4.8 | ○ |
| | 2/25/2001 | 1041.9 | 968.8 | -3.6 | ○ |
| | 3/24/2001 | 1404.4 | 1345.8 | -2.1 | ○ |
| | 4/13/2001 | 604.3 | 587.5 | -1.4 | ○ |
| | 5/18/2001 | 443.6 | 485.5 | 4.5 | ○ |
| | 6/8/2001 | 490.2 | 477.1 | -1.4 | ○ |
| | 8/5/2001 | 492.7 | 496.3 | 0.4 | ○ |
| | 9/24/2001 | 635.3 | 582.6 | -4.3 | ○ |
| | 10/17/2001 | 655.0 | 597.1 | -4.6 | ○ |
| | 11/15/2001 | 675.9 | 611.9 | -5.0 | ○ |
| | 12/23/2001 | 682.8 | 621.2 | -4.7 | ○ |
| | mean | | | | |

| Λcalc | R2 | Judge |
|---|---|---|
| 7.9 | -4.25 | ○ |
| 11.2 | -2.92 | ○ |
| 15.3 | -4.81 | ○ |
| 7.2 | -4.80 | ○ |
| 5.5 | -3.99 | ○ |
| 5.6 | -4.94 | ○ |
| 5.7 | -2.75 | ○ |
| 7.1 | -4.80 | ○ |
| 7.2 | -3.56 | ○ |
| 7.4 | -4.21 | ○ |
| 7.5 | -7.67 | ○ |
| | | |

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

**Table 6.4(7) Result of Inland Aquatic Environment Monitoring**

Duration: 2001.3-2001.11
Country: Thailand
Lake Name: Khao Lam Dam

| Site | Sampling Date | Temp. (℃) | pH | EC (mS/m) | Alkalinity (meq/l) | $SO_4^{2-}$ (mg/l) | $NO_3^-$ (mg/l) | $Cl^-$ (mg/l) | $PO_4^{3-}$ (mg/l) | $NH_4^+$ (mg/l) | $Na^+$ (mg/l) | $K^+$ (mg/l) | $Ca^{2+}$ (mg/l) | $Mg^{2+}$ (mg/l) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Station1 | 2001/3/15 | 25.8 | 7.7 | 10.8 | 1.33 | 11.00 | N/A | 6.00 | 0.01 | N/A | 3.00 | 4.20 | 19.0 | 4.00 |
| (Ban Pong Chang) | 2001/7/31 | 25.5 | 7.6 | 12.6 | 1.29 | 4.91 | 0.02 | 4.08 | 0.01 | N/A | 1.15 | 0.96 | 15.9 | 2.99 |
| | 2001/11/20 | 24.1 | 7.9 | 12.4 | N/A | 1.09 | 0.03 | 1.29 | 0.01 | <1.00 | 0.72 | 1.01 | 17.7 | 3.82 |
| | mean*1 | 25.1 | 7.7 | 11.9 | 1.31 | 5.67 | 0.03 | 3.79 | 0.01 | <1.00 | 1.62 | 2.06 | 17.5 | 3.60 |
| Station2 | 2001/3/15 | 26.5 | 7.8 | 11.0 | 1.35 | 11.00 | N/A | 5.00 | <0.01 | N/A | 2.50 | 4.00 | 18.0 | 4.00 |
| (Ban Pang Pueng) | 2001/7/31 | 26.5 | 7.5 | 12.0 | 1.31 | 5.07 | 0.04 | 4.13 | <0.01 | N/A | 1.19 | 0.89 | 17.1 | 2.75 |
| | 2001/11/20 | 25.2 | 7.8 | 11.6 | N/A | 1.24 | 0.02 | 1.28 | 0.01 | <1.00 | 0.74 | 0.96 | 14.7 | 2.92 |
| | mean*1 | 26.1 | 7.7 | 11.5 | 1.33 | 5.77 | 0.03 | 3.47 | <0.01 | <1.00 | 1.48 | 1.95 | 16.6 | 3.22 |

| | | A | C | R 1 | Judge |
|---|---|---|---|---|---|
| Station1 | 2001/3/15 | 1726.7 | 1515.0 | -6.5 | ○ |
| (Ban Pong Chang) | 2001/7/31 | 1510.8 | 1113.9 | -15.1 | × |
| | 2001/11/20 | 59.6 | 1256.0 | 90.9 | × |
| | mean | | | | |
| Station2 | 2001/3/15 | 1717.1 | 1438.2 | -8.8 | × |
| (Ban Pang Pueng) | 2001/7/31 | 1528.1 | 1154.0 | -13.9 | × |
| | 2001/11/20 | 62.2 | 1030.4 | 88.6 | × |
| | mean | | | | |

| Λcalc | R2 | Judge |
|---|---|---|
| 17.90 | 24.7 | × |
| 13.94 | 5.0 | ○ |
| 7.77 | -22.9 | × |
| | | |
| 17.32 | 22.3 | × |
| 14.28 | 8.7 | ○ |
| 6.49 | -28.2 | × |
| | | |

N/A:sample are not analyzed because laboratory has some problen
*1 : Mean of pH takes an average of hydrogen ion

**Table 6.4(8) Result of Inland Aquatic Environment Monitoring**

Duration: 2001. 3.-2001.12.
Country: Vietnam
Lake Name: Hoa Binh Reservoir

| Site | Sampling Date | Temp. (℃) | pH | EC (mS/m) | Alkalinity (meq/l) | $SO_4^{2-}$ (mg/l) | $NO_3^-$ (mg/l) | $Cl^-$ (mg/l) | $PO_4^{3-}$ (mg/l) | $NH_4^+$ (mg/l) | $Na^+$ (mg/l) | $K^+$ (mg/l) | $Ca^{2+}$ (mg/l) | $Mg^{2+}$ (mg/l) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Surface | 2001/3/15 | 21.4 | 7.23 | 17.82 | 1.50 | 8.97 | 0.24 | 1.20 | | 0.13 | 2.72 | 1.07 | 24.37 | 5.73 |
| | 2001/6/15 | 25.6 | 8.49 | 17.80 | 1.70 | 2.60 | 1.19 | 0.68 | | 0.13 | 2.37 | 1.47 | 22.43 | 6.10 |
| | 2001/9/15 | 28.9 | 7.57 | 16.54 | 1.55 | 3.80 | 0.43 | 1.54 | | 0.06 | 1.50 | 1.05 | 20.42 | 6.20 |
| | 2001/12/15 | 22.5 | 7.83 | 17.44 | 1.55 | 6.40 | 0.50 | 1.20 | | 0.28 | 1.30 | 1.29 | 20.17 | 6.45 |
| | mean[*1] | 24.6 | 7.59 | 17.40 | 1.58 | 5.44 | 0.59 | 1.16 | | 0.15 | 1.97 | 1.22 | 21.85 | 6.12 |

| | | A | C | R 1 | Judge |
|---|---|---|---|---|---|
| Surface | 2001/3/15 | 1724.5 | 1840.2 | 3.2 | ○ |
| | 2001/6/15 | 1792.5 | 1768.8 | -0.7 | ○ |
| | 2001/9/15 | 1679.5 | 1624.3 | -1.7 | ○ |
| | 2001/12/15 | 1725.2 | 1642.0 | -2.5 | ○ |
| | mean | | | | |

| Acalc | R2 | Judge |
|---|---|---|
| 19.1 | 3.4 | ○ |
| 18.5 | 1.9 | ○ |
| 17.3 | 2.2 | ○ |
| 17.8 | 0.9 | ○ |
| | | |

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

**Table 6.4 (9) Summary of Inland Aquatic Environment Monitoring**

| Country | City | Site | Temp. (℃) | pH | EC (mS/m) | Alkalinity (meq/l) | $SO_4^{2-}$ (mg/l) | $NO_3^-$ (mg/l) | $Cl^-$ (mg/l) | $PO_4^{3-}$ (mg/l) | $NH_4^+$ (mg/l) | $Na^+$ (mg/l) | $K^+$ (mg/l) | $Ca^{2+}$ (mg/l) | $Mg^{2+}$ (mg/l) | $Al^{3+}$ (mg/l) | $Mn^{2+}$ (mg/l) | COD (mg/l) | Chl-a (μg/l) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| China | Chongqing | Chongqing -Jinyunshan Lake | 25.0 | 7.50 | 9.05 | - | 26.05 | 7.68 | 2.58 | - | 0.650 | 1.78 | 1.58 | 6.63 | 2.63 | | | | |
| | Xiamen | Xiamen -Xiaoping | 19.4 | 7.21 | - | - | 1.43 | 1.30 | 2.18 | - | - | - | - | - | - | | | | |
| | Xi'an | Xi'an -Jiwozi | 11.8 | 7.11 | 4.50 | 0.225 | 10.03 | 1.47 | 1.06 | - | 0.037 | 1.90 | 0.70 | 8.83 | 1.38 | | | | |
| | Zhuhai | -Zhuxiandong reservoir | 23.8 | 7.62 | - | - | 17.70 | 0.63 | 43.13 | - | 0.200 | - | - | - | - | | | | |
| Indonesia | | Patenggang Lake (Center, surface) | - | 7.90 | 7.28 | 0.488 | 4.33 | 0.07 | 8.19 | 0.137 | 0.134 | 4.90 | 0.54 | 6.32 | 2.18 | | | | |
| Japan | | Ijira Lake (Center, surface) | 18.0 | 6.85 | 4.33 | 0.138 | 4.66 | 2.31 | 2.19 | <0.01 | 0.068 | 2.37 | 0.40 | 3.51 | 1.61 | | | | |
| | | Banryu Lake (Center, surface) | 22.2 | 6.98 | 9.43 | 0.174 | 4.07 | 0.05 | 19.73 | <0.003 | 0.038 | 12.23 | 1.75 | 1.23 | 1.60 | 0.02 | <0.005 | 5.30 | 5.40 |
| Philippines | | Mojicap Lake (Surface) | - | 8.15 | 19.72 | 2.625 | 2.18 | 0.17 | 4.72 | - | 0.003 | 6.96 | 4.47 | 9.24 | 4.69 | | | | |
| Russia | | River Krestovka (Surface) | 2.8 | 6.85 | 8.72 | 0.440 | 12.44 | 0.32 | 0.43 | 0.025 | 0.234 | 3.41 | 1.00 | 5.19 | 2.82 | | | | |
| Thailand | | Khao Lam Dam (Ban Pong Chang) | 25.1 | 7.72 | 11.93 | 1.311 | 5.67 | 0.03 | 3.79 | 0.010 | <1.00 | 1.62 | 2.06 | 17.54 | 3.60 | | | | |
| | | Khao Lam Dam (Ban Pang Pueng) | 26.1 | 7.68 | 11.53 | 1.326 | 5.77 | 0.03 | 3.47 | <0.01 | <1.00 | 1.48 | 1.95 | 16.60 | 3.22 | | | | |
| Vietnam | | Hoa Binh Reservoir (Surface) | 24.6 | 7.59 | 17.40 | 1.575 | 5.44 | 0.59 | 1.16 | - | 0.150 | 1.97 | 1.22 | 21.85 | 6.12 | | | | |

# Appendix

# Meteorological Condition of Monitoring Sites

**Table Meteorological condition in 2001 (Serpong[EMC])**

| Month / Items | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tempera- ture (ºC) | monthly mean | 29 | 27 | 28 | 29 | 30 | 29 | 28 | 30 | 29 | 29 | 28 | 30 |
| | max.daily mean | 31 | 32 | 31 | 31 | 32 | 31 | 30 | 31 | 31 | 31 | 31 | 32 |
| | min.daily mean | 25 | 22 | 26 | 26 | 26 | 24 | 27 | 27 | 24 | 26 | 23 | 24 |
| Humidity (%) | monthly mean | | | | | | | | | | | | |
| | max.daily mean | | | | | | | | | | | | |
| | min.daily mean | | | | | | | | | | | | |
| Mean wind speed (m/s) | | | | | | | | | | | | | |
| Most appearance wind direction (bearings) | | | | | | | | | | | | | |
| Precipitation amount (mm/month) | | | | | | | | | | | | | |
| Sunshine duration (hours/month) | | | | | | | | | | | | | |
| Solar radiation ($MJ/m^2$/month) | | | | | | | | | | | | | |

**Table Meteorological condition in 2001 (Rishiri)**

| Month / Items | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tempera- ture (ºC) | monthly mean | -6.1 | -8.0 | -2.4 | 3.9 | 9.0 | 12.7 | 17.7 | 18.5 | 16.0 | 7.9 | 4.3 | -4.9 |
| | max.daily mean | -2.2 | 1.1 | 3.1 | 8.9 | 15.2 | 17.8 | 21.9 | 21.0 | 17.9 | 12.1 | 11.3 | -1.0 |
| | min.daily mean | -9.2 | -13.5 | -10.8 | -0.7 | 1.8 | 8.3 | 13.0 | 14.9 | 14.2 | 5.4 | -3.1 | -8.4 |
| Humidity (%) | monthly mean | 73 | 72 | 71 | 79 | 79 | 85 | 86 | 82 | 77 | 71 | 68 | 72 |
| | max.daily mean | 83 | 90 | 85 | 91 | 96 | 97 | 97 | 94 | 87 | 82 | 84 | 85 |
| | min.daily mean | 64 | 60 | 45 | 62 | 56 | 60 | 66 | 60 | 60 | 62 | 55 | 56 |
| Mean wind speed (m/s) | | 4.2 | 6.1 | 5.9 | 3.3 | 2.7 | 2.4 | 2.3 | 2.9 | 3.5 | 4.4 | 4.9 | 5.7 |
| Most appearance wind direction (bearings) | | NNW | NW | E | WNW | E | WNW | E | E | NW | WSW | W | NW |
| Precipitation amount (mm/month) | | 3 | 20 | 22 | 33 | 46 | 70 | 72 | 121 | 6 | 11 | 82 | 55 |
| Sunshine duration (hours/month) | | | | | | | | | | | | | |
| Solar radiation ($MJ/m^2$/month) | | 78 | 184 | 388 | 411 | 527 | 392 | 437 | 490 | 106 | 45 | 124 | 86 |

**Table Meteorological condition in 2001 (Tappi)**

| Month / Items | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tempera- ture (ºC) | monthly mean | -2.3 | -2.8 | 2.4 | 8.1 | 11.9 | 15.1 | 19.8 | 20.3 | 18.1 | 13.9 | 8.1 | -0.4 |
| | max.daily mean | 1.6 | 4.0 | 9.2 | 14.7 | 19.5 | 19.9 | 22.6 | 22.5 | 22.3 | 16.6 | 14.7 | 3.3 |
| | min.daily mean | -8.0 | -8.2 | -3.9 | 3.4 | 5.7 | 11.5 | 16.3 | 17.6 | 12.6 | 10.0 | 0.5 | -3.1 |
| Humidity (%) | monthly mean | 69 | 66 | 66 | 68 | 76 | 82 | 87 | 82 | 74 | 69 | 61 | 65 |
| | max.daily mean | 80 | 75 | 80 | 91 | 95 | 93 | 95 | 90 | 93 | 89 | 79 | 80 |
| | min.daily mean | 54 | 54 | 52 | 46 | 38 | 69 | 76 | 59 | 48 | 46 | 51 | 52 |
| Mean wind speed (m/s) | | 9.6 | 11.4 | 8.2 | 6.6 | 5.8 | 6.0 | 5.0 | 4.9 | 5.3 | 6.1 | 8.9 | 10.5 |
| Most appearance wind direction (bearings) | | WSW | WSW | WSW | WSW | ENE | ENE | ENE | ENE | ENE | WSW | WSW | WSW |
| Precipitation amount (mm/month) | | 26 | 27 | 28 | 44 | 73 | 50 | 206 | 79 | 218 | 214 | 51 | 18 |
| Sunshine duration (hours/month) | | | | | | | | | | | | | |
| Solar radiation ($MJ/m^2$/month) | | 160 | 204 | 331 | 543 | 550 | 517 | 375 | 571 | 465 | 312 | 174 | 111 |

**Table Meteorological condition in 2001 (Sado-seki)**

| Month / Items | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tempera- ture (ºC) | monthly mean | 0.8 | 1.4 | 5.2 | 11.6 | 16.9 | 18.7 | 24.3 | 25.2 | 20.8 | 16.5 | 10.7 | 3.8 |
| | max.daily mean | 6.1 | 8.3 | 14.7 | 18.3 | 22.2 | 22.0 | 28.1 | 28.1 | 28.3 | 20.0 | 16.5 | 8.6 |
| | min.daily mean | -3.1 | -2.8 | -1.7 | 5.2 | 11.1 | 15.9 | 19.1 | 21.1 | 14.3 | 12.1 | 4.8 | 0.9 |
| Humidity (%) | monthly mean | 72 | 74 | 61 | 56 | 66 | 82 | 77 | 75 | 72 | 67 | 66 | 70 |
| | max.daily mean | 84 | 87 | 83 | 80 | 90 | 95 | 91 | 85 | 93 | 82 | 84 | 87 |
| | min.daily mean | 51 | 59 | 25 | 27 | 34 | 51 | 57 | 57 | 53 | 52 | 49 | 55 |
| Mean wind speed (m/s) | | 9.2 | 7.3 | 7.3 | 5.2 | 3.9 | 3.7 | 3.7 | 3.0 | 3.7 | 5.1 | 6.0 | 8.0 |
| Most appearance wind direction (bearings) | | W | W | W | SW &WSW | WSW | SW | SW | ENE | ENE | W | W | W |
| Precipitation amount (mm/month) | | 57 | 49 | 52 | 25 | 34 | 216 | 17 | 115 | 100 | 79 | 96 | 109 |
| Sunshine duration (hours/month) | | | | | | | | | | | | | |
| Solar radiation ($MJ/m^2$/month) | | 99 | 146 | 342 | 597 | 559 | 494 | 602 | 598 | 410 | 321 | 188 | 92 |

**Table Meteorological condition in 2001 (Happo)**

| Month / Items | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tempera- ture (ºC) | monthly mean | -10.1 | -8.0 | -5.4 | 2.0 | 7.7 | 11.6 | 16.5 | 15.5 | 11.4 | 6.4 | -0.4 | -6.8 |
| | max.daily mean | -3.4 | -0.2 | 1.5 | 9.0 | 14.9 | 16.4 | 19.2 | 18.8 | 15.9 | 11.5 | 6.6 | -0.2 |
| | min.daily mean | -15.5 | -13.4 | -13.5 | -8.8 | 0.8 | 6.9 | 13.5 | 10.7 | 2.8 | 2.9 | -6.6 | -10.7 |
| Humidity (%) | monthly mean | 85 | 73 | 75 | 60 | 72 | 84 | 87 | 93 | 90 | 78 | 75 | 80 |
| | max.daily mean | 97 | 98 | 99 | 99 | 100 | 100 | 99 | 100 | 100 | 100 | 99 | 93 |
| | min.daily mean | 61 | 34 | 27 | 20 | 37 | 47 | 60 | 81 | 35 | 24 | 22 | 47 |
| Mean wind speed (m/s) | | 5.2 | 4.8 | 5.3 | 4.3 | 2.9 | 2.6 | 2.1 | 1.8 | 2.1 | 2.5 | 3.0 | 5.7 |
| Most appearance wind direction (bearings) | | NW | NW | NW | S | S | SSE | SSE | SSE | SSE | SSE | SSE | NW |
| Precipitation amount (mm/month) | | 247 | 128 | 175 | 28 | 137 | 630 | 63 | 158 | 164 | 226 | 153 | 179 |
| Sunshine duration (hours/month) | | | | | | | | | | | | | |
| Solar radiation ($MJ/m^2$/month) | | 249 | 321 | 481 | 694 | 619 | 436 | 477 | 341 | 301 | 319 | 252 | 226 |

**Table Meteorological condition in 2001 (Oki)**

| Month / Items | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tempera- ture (ºC) | monthly mean | 3.5 | 4.8 | 7.2 | 12.9 | 17.0 | 19.5 | 24.3 | 26.5 | 20.2 | 17.1 | 11.8 | 6.7 |
| | max.daily mean | 7.3 | 9.6 | 14.2 | 17.6 | 20.5 | 22.9 | 28.8 | 29.0 | 23.5 | 19.5 | 17.7 | 11.4 |
| | min.daily mean | -1.8 | 1.2 | 0.2 | 8.2 | 10.3 | 16.5 | 19.9 | 22.4 | 16.2 | 13.1 | 7.3 | 3.5 |
| Humidity (%) | monthly mean | 72 | 69 | 68 | 64 | 76 | 84 | 83 | 74 | 78 | 75 | 69 | 72 |
| | max.daily mean | 89 | 88 | 91 | 84 | 95 | 96 | 93 | 89 | 95 | 94 | 84 | 87 |
| | min.daily mean | 57 | 59 | 35 | 32 | 51 | 69 | 70 | 64 | 55 | 57 | 56 | 57 |
| Mean wind speed (m/s) | | 4.7 | 3.9 | 4.5 | 3.3 | 2.9 | 3.0 | 2.5 | 3.4 | 3.8 | 3.3 | 3.7 | 4.3 |
| Most appearance wind direction (bearings) | | N | N | N | S | S | S | S | NNE | NNE | NNE | WSW | N |
| Precipitation amount (mm/month) | | 122 | 69 | 76 | 14 | 102 | 209 | 30 | 5 | 147 | 116 | 139 | 146 |
| Sunshine duration (hours/month) | | | | | | | | | | | | | |
| Solar radiation ($MJ/m^2$/month) | | 133 | 232 | 352 | 597 | 474 | 462 | 537 | 612 | 313 | 380 | 218 | 146 |

**Table Meteorological condition in 2001 (Yusuhara)**

| Month / Items | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tempera- ture (ºC) | monthly mean | 0.1 | 2.8 | 5.1 | 10.9 | 15.4 | 19.2 | 22.9 | 22.4 | 19.0 | 14.8 | 8.0 | 2.8 |
| | max.daily mean | 5.4 | 11.8 | 11.8 | 15.1 | 21.4 | 24.2 | 25.8 | 26.1 | 23.0 | 17.5 | 13.1 | 8.9 |
| | min.daily mean | -7.9 | -2.5 | -5.0 | 2.4 | 11.3 | 14.6 | 19.5 | 18.2 | 15.3 | 11.2 | 1.4 | -1.3 |
| Humidity (%) | monthly mean | 80 | 76 | 72 | 69 | 78 | 83 | 83 | 82 | 90 | - | 73 | 78 |
| | max.daily mean | 98 | 97 | 98 | 98 | 98 | 98 | 96 | 94 | 97 | - | 86 | 95 |
| | min.daily mean | 63 | 42 | 42 | 40 | 38 | 38 | 52 | 68 | 80 | - | 54 | 65 |
| Mean wind speed (m/s) | | 3.5 | 2.6 | 3.0 | 2.3 | 2.0 | 1.8 | 1.5 | 1.8 | 1.7 | 2.1 | 2.8 | 3.1 |
| Most appearance wind direction (bearings) | | NNW | NNW | NNW | NNW | NNW | NNW | SSE | NNW | NNW | NNW | NNW | NNW |
| Precipitation amount (mm/month) | | 125 | 117 | 103 | 127 | 219 | 238 | 105 | 157 | 421 | 333 | 91 | 52 |
| Sunshine duration (hours/month) | | | | | | | | | | | | | |
| Solar radiation ($MJ/m^2$/month) | | 261 | 319 | 462 | 545 | 524 | 461 | 618 | 567 | 437 | 400 | 310 | 273 |

**Table Meteorological condition in 2001 (Ogasawara)**

| Month / Items | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tempera- ture (ºC) | monthly mean | 16.0 | 16.3 | 16.7 | 19.0 | 21.6 | 25.4 | 25.8 | 25.2 | 24.6 | 23.9 | 20.6 | 18.1 |
| | max.daily mean | 19.9 | 20.0 | 20.3 | 21.8 | 25.3 | 27.0 | 27.3 | 26.5 | 25.6 | 25.8 | 24.8 | 20.7 |
| | min.daily mean | 11.9 | 13.5 | 14.0 | 15.1 | 19.1 | 21.9 | 23.8 | 23.9 | 23.1 | 21.7 | 16.6 | 15.7 |
| Humidity (%) | monthly mean | 78 | 81 | 80 | 89 | 93 | 91 | 88 | 91 | 93 | 90 | 87 | 75 |
| | max.daily mean | 92 | 97 | 99 | 99 | 99 | 96 | 96 | 99 | 99 | 97 | 96 | 90 |
| | min.daily mean | 64 | 63 | 62 | 60 | 76 | 84 | 82 | 83 | 80 | 71 | 70 | 62 |
| Mean wind speed (m/s) | | 1.0 | 1.2 | 1.1 | 1.4 | 1.2 | 0.6 | 1.0 | 1.2 | 1.1 | 1.7 | 1.3 | 1.2 |
| Most appearance wind direction (bearings) | | SW | SSW | SW | SSW | SSW | SSW | Calm | NE | SSW | SSW | SSW | SW |
| Precipitation amount (mm/month) | | 132 | 98 | 222 | 319 | 328 | 59 | 113 | 40 | 300 | 64 | 112 | 34 |
| Sunshine duration (hours/month) | | | | | | | | | | | | | |
| Solar radiation ($MJ/m^2$/month) | | 302 | 326 | 425 | 359 | 379 | 600 | 594 | 472 | 376 | 410 | 312 | 339 |

**Table Meteorological condition in 2001 (Hedo)**

| Month / Items | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tempera- ture (ºC) | monthly mean | 16.7 | 17.6 | 17.1 | 20.0 | 22.4 | 26.5 | 28.8 | 28.5 | 26.5 | 24.7 | 20.9 | 18.0 |
| | max.daily mean | 20.5 | 21.5 | 21.6 | 25.7 | 25.0 | 29.4 | 29.9 | 29.4 | 28.8 | 26.5 | 24.4 | 21.7 |
| | min.daily mean | 12.0 | 13.9 | 12.3 | 15.9 | 20.0 | 20.1 | 26.9 | 26.4 | 23.9 | 22.4 | 17.7 | 13.9 |
| Humidity (%) | monthly mean | 69 | 73 | 71 | 79 | 84 | 84 | 80 | 77 | 86 | 73 | 64 | 72 |
| | max.daily mean | 89 | 89 | 93 | 92 | 94 | 94 | 88 | 88 | 94 | 90 | 86 | 94 |
| | min.daily mean | 55 | 52 | 51 | 57 | 62 | 77 | 75 | 70 | 80 | 58 | 55 | 52 |
| Mean wind speed (m/s) | | 5.5 | 5.4 | 4.5 | 4.5 | 4.0 | 3.1 | 2.8 | 3.8 | 4.0 | 5.2 | 5.5 | 5.1 |
| Most appearance wind direction (bearings) | | NNW | N | NNW | ESE | E | SSW | SE | E | SE | N | N | NNW |
| Precipitation amount (mm/month) | | 150 | 58 | 147 | 120 | 439 | 270 | 99 | 66 | 569 | 55 | 25 | 126 |
| Sunshine duration (hours/month) | | | | | | | | | | | | | |
| Solar radiation ($MJ/m^2$/month) | | 256 | 275 | 368 | 467 | 407 | 567 | 730 | 642 | 385 | 429 | 328 | 207 |

**Table Meteorological condition in 2001 (Ijira)**

| Month / Items | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tempera- ture (ºC) | monthly mean | 0.7 | 2.8 | 5.5 | 12.1 | 17.4 | 20.6 | 25.3 | 24.7 | 20.6 | 15.5 | 8.8 | 3.9 |
| | max.daily mean | 4.4 | 7.4 | 11.6 | 17.0 | 21.1 | 24.4 | 28.4 | 27.7 | 25.3 | 19.3 | 13.3 | 8.3 |
| | min.daily mean | -2.7 | -0.2 | -0.3 | 3.8 | 12.3 | 17.2 | 23.0 | 21.7 | 14.3 | 11.9 | 3.7 | 0.5 |
| Humidity (%) | monthly mean | 93 | 79 | 83 | 71 | 83 | 89 | 89 | 90 | 90 | 91 | 88 | 91 |
| | max.daily mean | 99 | 98 | 99 | 95 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 |
| | min.daily mean | 72 | 54 | 60 | 48 | 47 | 65 | 77 | 76 | 71 | 74 | 72 | 63 |
| Mean wind speed (m/s) | | 0.4 | 0.7 | 0.8 | 0.9 | 0.8 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.6 |
| Most appearance wind direction (bearings) | | Calm | W | Calm | W | W | Calm | W | W | W | W | W | W |
| Precipitation amount (mm/month) | | 313 | 61 | 148 | 40 | 207 | 349 | 193 | 249 | 214 | 248 | 72 | 147 |
| Sunshine duration (hours/month) | | | | | | | | | | | | | |
| Solar radiation ($MJ/m^2$/month) | | 179 | 277 | 369 | 504 | 490 | 400 | 538 | 462 | 378 | 311 | 268 | 208 |

**Table Meteorological condition in 2001 (Banryu)**

| Month / Items | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tempera- ture (ºC) | monthly mean | 4.2 | 5.7 | 8.5 | 13.2 | 18.1 | 21.4 | 25.7 | 26.2 | 21.2 | 17.1 | 11.2 | 6.4 |
| | max.daily mean | 9.1 | 11.6 | 15.3 | 18.1 | 21.8 | 27.3 | 29.2 | 29.6 | 25.7 | 20.9 | 16.5 | 11.0 |
| | min.daily mean | -1.9 | 2.7 | 1.7 | 6.5 | 12.6 | 17.9 | 22.5 | 20.4 | 16.2 | 13.1 | 7.4 | 1.8 |
| Humidity (%) | monthly mean | 69 | 72 | 66 | 70 | 75 | 82 | 81 | 78 | 82 | 79 | 73 | 71 |
| | max.daily mean | 89 | 88 | 90 | 93 | 93 | 93 | 93 | 92 | 93 | 94 | 89 | 89 |
| | min.daily mean | 47 | 58 | 46 | 51 | 41 | 61 | 67 | 66 | 64 | 64 | 53 | 55 |
| Mean wind speed (m/s) | | 3.7 | 3.4 | 3.7 | 3.1 | 2.7 | 2.5 | 2.2 | 2.8 | 3.0 | 2.9 | 3.1 | 3.3 |
| Most appearance wind direction (bearings) | | S | S | S | S | S | S | SSE | S | S | S | S | S |
| Precipitation amount (mm/month) | | 138 | 87 | 72 | 35 | 170 | 322 | 291 | 77 | 171 | 128 | 169 | 131 |
| Sunshine duration (hours/month) | | | | | | | | | | | | | |
| Solar radiation ($MJ/m^2$/month) | | 141 | 203 | 348 | 554 | 574 | 492 | 631 | 630 | 484 | 366 | 244 | 185 |

**Table Meteorological condition in 2001 (Metro-Manila)**

| Month / Items | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tempera- ture (ºC) | monthly mean | 26.6 | 27.0 | 28.1 | 29.7 | 29.2 | 28.8 | 27.9 | 27.7 | 28.4 | 28.1 | 27.0 | 26.2 |
| | max.daily mean | 31.2 | 31.5 | 33.1 | 34.8 | 33.4 | 33.1 | 31.6 | 31.0 | 32.0 | 32.4 | 32.0 | 30.8 |
| | min.daily mean | 22.3 | 22.6 | 23.1 | 24.6 | 24.9 | 24.5 | 24.3 | 31.9 | 24.7 | 23.8 | 22.1 | 21.6 |
| Humidity (%) | monthly mean | 79 | 82 | 77 | 74 | 79 | 80 | 85 | 89 | 84 | 85 | 78 | 80 |
| | max.daily mean | | | | | | | | | | | | |
| | min.daily mean | | | | | | | | | | | | |
| Mean wind speed (m/s) | | | | | | | | | | | | | |
| Most appearance wind direction (bearings) | | N | N | NE | N | SW | S | W | WSW | W | N | N | N |
| Precipitation amount (mm/month) | | | | | | | | | | | | | |
| Sunshine duration (hours/month) | | | | | | | | | | | | | |
| Solar radiation ($MJ/m^2$/month) | | | | | | | | | | | | | |

**Table Meteorological condition in 2001 (Los Banos)**

| Month / Items | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tempera- ture (ºC) | monthly mean | 26.5 | 26.4 | 27.2 | 29.1 | 29.3 | 28.6 | 28.0 | 27.8 | 28.2 | 27.8 | 26.9 | 25.7 |
| | max.daily mean | 30.2 | 30.0 | 31.3 | 34.1 | 34.2 | 33.2 | 32.5 | 31.5 | 32.7 | 31.8 | 30.7 | 29.2 |
| | min.daily mean | 22.7 | 22.9 | 23.1 | 24.0 | 24.3 | 24.1 | 23.5 | 24.2 | 23.7 | 23.9 | 23.1 | 22.3 |
| Humidity (%) | monthly mean | 85 | 89 | 83 | 79 | 80 | 83 | 82 | 82 | 79 | 84 | 79 | 87 |
| | max.daily mean | | | | | | | | | | | | |
| | min.daily mean | | | | | | | | | | | | |
| Mean wind speed (m/s) | | 3.3 | 3.5 | 3.3 | 3.0 | 2.4 | 1.9 | 2.2 | 2.0 | 1.7 | 1.7 | 3.2 | 2.7 |
| Most appearance wind direction (bearings) | | NE | NE | NE | NE | NE | NE | E | NE | NE | NE | NE | NE |
| Precipitation amount (mm/month) | | 7 | 133 | 44 | 58 | 191 | 244 | 253 | 279 | 128 | 169 | 261 | 187 |
| Sunshine duration (hours/month) | | 172 | 143 | 191 | 279 | 244 | 179 | 175 | 119 | 165 | 161 | 171 | 125 |
| Solar radiation ($MJ/m^2$/month) | | 470 | 517 | 613 | 745 | 636 | 607 | 671 | 546 | 611 | 624 | 542 | 488 |

**Table Meteorological condition in 2001 (Ulaanbaatar)**

| Month / Items | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tempera- ture (ºC) | monthly mean | -25.4 | -19.6 | -7.1 | 2.2 | 10.0 | 18.3 | 19.5 | 17.8 | 11.8 | 2.4 | -9.4 | -22.7 |
| | max.daily mean | -20.4 | -12.3 | -0.5 | 9.8 | 17.6 | 25.6 | 26.3 | 24.7 | 18.8 | 9.7 | -3.1 | -17.4 |
| | min.daily mean | -29.9 | -25.2 | -12.3 | -4.1 | 3.0 | 11.3 | 13.0 | 11.9 | 6.0 | -3.7 | -14.4 | -26.8 |
| Humidity (%) | monthly mean | 78 | 76 | 59 | 43 | 41 | 47 | 48 | 56 | 50 | 54 | 72 | 82 |
| | max.daily mean | 86 | 81 | 72 | 77 | 68 | 73 | 69 | 94 | 70 | 82 | 82 | 88 |
| | min.daily mean | 56 | 49 | 27 | 12 | 11 | 12 | 15 | 14 | 13 | 18 | 33 | 65 |
| Mean wind speed (m/s) | | 0.9 | 0.7 | 2.4 | 2.6 | 2.4 | 2.2 | 2.6 | 1.8 | 2.1 | 2.0 | 0.9 | 0.6 |
| Most appearance wind direction (bearings) | | NW | E | NW | NW | NW | E | E | E | E | E | SW | W |
| Precipitation amount (mm/month) | | 4 | 1 | 4 | 22 | 42 | 37 | 9 | 54 | 18 | 3 | 2 | 5 |
| Sunshine duration (hours/month) | | 141 | 191 | 247 | 261 | 328 | 291 | 292 | 235 | 244 | 233 | 188 | 118 |
| Solar radiation ($MJ/m^2$/month) | | | | | | | | | | | | | |

Note: The data are from the Ulaanbaatar meteorological station, which is located in the west 4 km away from the site.

**Table Meteorological condition in 2001 (Terelj)**

| Month / Items | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tempera- ture (ºC) | monthly mean | -28.4 | -22.8 | -9.6 | -1.0 | 7.2 | 13.5 | 14.6 | 13.6 | 7.0 | -1.8 | -12.3 | -25.2 |
| | max.daily mean | -20.7 | -12.8 | -1.8 | 7.5 | 15.5 | 22.5 | 23.3 | 21.8 | 16.5 | 8.2 | -19.4 | -17.3 |
| | min.daily mean | -35.2 | -31.5 | -17.4 | -9.0 | -7.0 | 4.3 | 12.0 | 6.7 | -1.3 | -9.6 | -28.0 | -31.0 |
| Humidity (%) | monthly mean | 81 | 77 | 66 | 60 | 56 | 67 | 70 | 75 | 70 | 70 | 77 | 80 |
| | max.daily mean | 87 | 84 | 79 | 80 | 88 | 85 | 82 | 96 | 90 | 88 | 84 | 89 |
| | min.daily mean | 68 | 64 | 49 | 36 | 41 | 48 | 60 | 63 | 56 | 55 | 59 | 71 |
| Mean wind speed (m/s) | | 1.3 | 1.3 | 2.9 | 3.0 | 3.2 | 1.1 | 1.6 | 1.4 | 1.9 | 1.7 | 1.4 | 1.2 |
| Most appearance wind direction (bearings) | | W | W | W | NW | W | W | W | N | W | N | W | W |
| Precipitation amount (mm/month) | | 6 | 0 | 5 | 31 | 58 | 100 | 42 | 46 | 30 | 4 | 6 | 5 |
| Sunshine duration (hours/month) | | | | | | | | | | | | | |
| Solar radiation ($MJ/m^2$/month) | | | | | | | | | | | | | |

**Table Meteorological condition in 2001 (Cheju)**

| Month / Items | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tempera-ture (ºC) | monthly mean | 5.7 | 6.4 | 9.0 | 13.9 | 17.4 | 20.5 | 25.8 | 26.4 | 23.0 | 18.2 | 12.6 | 7.3 |
| | max.daily mean | 10.3 | 14.1 | 14.9 | 18.6 | 21.2 | 23.2 | 29.1 | 29.5 | 25.0 | 21.1 | 17.3 | 12.5 |
| | min.daily mean | -0.6 | 1.9 | 3.7 | 9.0 | 13.6 | 18.7 | 21.5 | 20.7 | 18.7 | 17.0 | 9.0 | 4.7 |
| Humidity (%) | monthly mean | 66 | 67 | 64 | 70 | 80 | 86 | 87 | 76 | 70 | 69 | 62 | 65 |
| | max.daily mean | | | | | | | | | | | | |
| | min.daily mean | | | | | | | | | | | | |
| Mean wind speed (m/s) | | 10.0 | 8.4 | 9.3 | 6.1 | 4.8 | 4.7 | 5.8 | 5.7 | 5.1 | 7.3 | 9.8 | 11.3 |
| Most appearance wind direction (bearings) | | N | N | NNW | NNW | SE | S | SW | ENE | N | NNW | N | N |
| Precipitation amount (mm/month) | | 82 | 60 | 10 | 47 | 45 | 237 | 163 | 197 | 19 | 98 | 57 | 99 |
| Sunshine duration (hours/month) | | 89 | 114 | 195 | 226 | 175 | 128 | 232 | 212 | 221 | 184 | 178 | 69 |
| Solar radiation ($MJ/m^2$/month) | | 221 | 279 | 472 | 601 | 594 | 460 | 636 | 603 | 562 | 440 | 323 | 155 |

**Table Meteorological condition in 2001 (Kanghwa)**

| Month / Items | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tempera-ture (ºC) | monthly mean | -6.2 | -2.4 | 3.2 | 11.0 | 16.2 | 20.3 | 23.8 | 24.6 | 20.6 | 14.6 | 5.4 | -2.1 |
| | max.daily mean | 1.1 | 2.9 | 10.2 | 18.9 | 22.0 | 21.7 | 26.3 | 27.8 | 24.9 | 17.5 | 9.8 | 3.7 |
| | min.daily mean | -17.9 | -8.0 | -4.0 | 4.7 | 12.0 | 17.0 | 20.0 | 21.5 | 15.0 | 10.5 | -1.2 | -6.2 |
| Humidity (%) | monthly mean | 67 | 66 | 55 | 54 | 67 | 72 | 77 | 69 | 57 | 64 | 61 | 54 |
| | max.daily mean | | | | | | | | | | | | |
| | min.daily mean | | | | | | | | | | | | |
| Mean wind speed (m/s) | | 0.9 | 0.9 | 1.1 | 0.9 | 1.9 | 2.0 | 2.0 | 1.7 | 2.0 | 1.5 | 1.4 | 1.4 |
| Most appearance wind direction (bearings) | | NE | SW | WSW | WSW | SW | SW | N | NNE | NE | NNE | SW | WSW |
| Precipitation amount (mm/month) | | 45 | 38 | 14 | 7 | 17 | 147 | 579 | 140 | 10 | 103 | 16 | 26 |
| Sunshine duration (hours/month) | | 174 | 189 | 254 | 323 | 342 | 344 | 331 | 374 | 346 | 262 | 3 | 212 |
| Solar radiation ($MJ/m^2$/month) | | | | | | | | | | | | | |

**Table Meteorological condition in 2001 (Imsil)**

| Month / Items | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tempera- ture (ºC) | monthly mean | -3.4 | -0.7 | 3.4 | 10.5 | 16.4 | 20.7 | 24.9 | 24.2 | 19.3 | 13.7 | 4.6 | -0.9 |
| | max.daily mean | 3.8 | 4.5 | 10.6 | 17.1 | 20.1 | 24.7 | 27.5 | 28.1 | 22.6 | 17.2 | 10.0 | 4.3 |
| | min.daily mean | -13.1 | -5.8 | -4.5 | 2.3 | 12.5 | 16.5 | 21.5 | 20.0 | 14.5 | 10.5 | -0.4 | -5.1 |
| Humidity (%) | monthly mean | 72 | 68 | 65 | 59 | 67 | 73 | 75 | 71 | 68 | 75 | 70 | 71 |
| | max.daily mean | | | | | | | | | | | | |
| | min.daily mean | | | | | | | | | | | | |
| Mean wind speed (m/s) | | 1.6 | 1.4 | 1.8 | 1.6 | 1.2 | 1.0 | 1.2 | 0.7 | 1.0 | 0.9 | 1.0 | 1.2 |
| Most appearance wind direction (bearings) | | SE | N | WSW | SW | SW | WSW | ESE | NE | N | WSW | N | NNW |
| Precipitation amount (mm/month) | | 63 | 79 | 27 | 31 | 46 | 283 | 435 | 61 | 108 | 98 | 14 | 55 |
| Sunshine duration (hours/month) | | 139 | 165 | 216 | 275 | 247 | 156 | 205 | 225 | 236 | 179 | 191 | 163 |
| Solar radiation ($MJ/m^2$/month) | | | | | | | | | | | | | |

**Table Meteorological condition in 2001 (Bangkok)**

| Month / Items | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tempera- ture (ºC) | monthly mean | 27.3 | 28.0 | 28.0 | 31.1 | 28.5 | 28.7 | 28.9 | 28.4 | 28.3 | 26.6 | 24.6 | 25.4 |
| | max.daily mean | 29.2 | 29.6 | 30.3 | 32.5 | 30.3 | 31.1 | 30.4 | 30.3 | 30.9 | 28.6 | 27.9 | 28.2 |
| | min.daily mean | 25.5 | 25.0 | 22.8 | 28.9 | 26.2 | 26.5 | 26.8 | 26.2 | 25.8 | 24.0 | 22.0 | 21.5 |
| Humidity (%) | monthly mean | 72 | 70 | 79 | 70 | 79 | 75 | 74 | 87 | 91 | 96 | 87 | 85 |
| | max.daily mean | 91 | 88 | 100 | 84 | 95 | 88 | 94 | 98 | 99 | 100 | 97 | 99 |
| | min.daily mean | 57 | 52 | 64 | 62 | 68 | 63 | 65 | 64 | 81 | 89 | 69 | 73 |
| Mean wind speed (m/s) | | 0.6 | 1.2 | 1.0 | 1.2 | 1.1 | 1.3 | 1.1 | 1.4 | 1.5 | 1.8 | 0.8 | 0.8 |
| Most appearance wind direction (bearings) | | | | | | | | | | | | | |
| Precipitation amount (mm/month) | | 9 | 8 | 178 | 1 | 225 | 157 | 93 | 178 | 270 | 272 | 13 | 1 |
| Sunshine duration (hours/month) | | | | | | | | | | | | | |
| Solar radiation ($MJ/m^2$/month) | | 357 | 363 | 368 | 429 | 353 | 410 | 405 | 411 | 434 | 346 | 375 | 377 |

Note: nearest meteorological station data (Chatuchak station)

**Table Meteorological condition in 2001 (Samutprakarn)**

| Month / Items | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tempera- ture (ºC) | monthly mean | | | | | | | | | | | | |
| | max.daily mean | | | | | | | | | | | | |
| | min.daily mean | | | | | | | | | | | | |
| Humidity (%) | monthly mean | | | | | | | | | | | | |
| | max.daily mean | | | | | | | | | | | | |
| | min.daily mean | | | | | | | | | | | | |
| Mean wind speed (m/s) | | 0.5 | 0.4 | 0.7 | 1.2 | 0.9 | 1.2 | 1.3 | 1.5 | 0.5 | 0.6 | 1.1 | 0.9 |
| Most appearance wind direction (bearings) | | Calm | Calm | Calm | S | SW | SW | SW | SW | Calm | Calm | NE | NE |
| Precipitation amount (mm/month) | | 0 | 3 | 130 | 10 | 318 | 155 | 62 | 184 | 367 | 350 | 104 | 10 |
| Sunshine duration (hours/month) | | 221 | 226 | 195 | 261 | 202 | 146 | 180 | 137 | 165 | 153 | 240 | 235 |
| Solar radiation ($MJ/m^2$/month) | | 488 | 475 | 524 | 641 | | | | | | | | |

Note: nearest meteorological station data (Bangna station)

**Table Meteorological condition in 2001 (Patumthani)**

| Month / Items | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tempera- ture (ºC) | monthly mean | | | | | | | | | | | | |
| | max.daily mean | | | | | | | | | | | | |
| | min.daily mean | | | | | | | | | | | | |
| Humidity (%) | monthly mean | | | | | | | | | | | | |
| | max.daily mean | | | | | | | | | | | | |
| | min.daily mean | | | | | | | | | | | | |
| Mean wind speed (m/s) | | 1.3 | 2.0 | 1.5 | 1.8 | 2.1 | 3.1 | 2.4 | 2.7 | 1.7 | 1.5 | 2.3 | 1.7 |
| Most appearance wind direction (bearings) | | E | SE | E SE | SE | SW | SW | SW | SW | SW | N | N | N NE |
| Precipitation amount (mm/month) | | 9 | 17 | 181 | 60 | 131 | 160 | 111 | 156 | 200 | 213 | 58 | 0 |
| Sunshine duration (hours/month) | | 202 | 196 | 141 | 200 | 178 | 134 | 154 | 119 | 147 | 163 | 227 | 177 |
| Solar radiation ($MJ/m^2$/month) | | | | | | | | | | | | | |

Note: nearest meteorological station data (Patumthani station)

**Table Meteorological condition in 2001 (Khao Lam Dam)**

| Month / Items | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tempera- ture (ºC) | monthly mean | 26.4 | 26.6 | 28.4 | 30.8 | 27.1 | 27.1 | 26.8 | 26.3 | 27.2 | 27.3 | 24.0 | 24.9 |
| | max.daily mean | 34.7 | 35.7 | 35.6 | 39.3 | 32.5 | 32.2 | 31.5 | 30.7 | 33.4 | 33.5 | 32.0 | 32.8 |
| | min.daily mean | 19.5 | 18.1 | 21.6 | 22.0 | 23.2 | 23.9 | 23.2 | 22.5 | 21.9 | 21.2 | 15.6 | 15.6 |
| Humidity (%) | monthly mean | 73 | 66 | 73 | 70 | 86 | 84 | 86 | 88 | 84 | 85 | 80 | 75 |
| | max.daily mean | | | | | | | | | | | | |
| | min.daily mean | | | | | | | | | | | | |
| Mean wind speed (m/s) | | 0.4 | 0.5 | 0.7 | 0.7 | 0.1 | 0.2 | 0.2 | 0.1 | 0.4 | 0.3 | 0.8 | 0.9 |
| Most appearance wind direction (bearings) | | Calm | Calm | Calm | Calm | Calm | Calm | Calm | Calm | Calm | Calm | Calm | Calm |
| Precipitation amount (mm/month) | | 32 | 25 | 61 | 54 | 378 | 175 | 279 | 365 | 152 | 209 | 50 | 0 |
| Sunshine duration (hours/month) | | | | | | | | | | | | | |
| Solar radiation ($MJ/m^2$/month) | | | | | | | | | | | | | |

Note: nearest meteorological station data (Thong Phaphum station)

**Table Meteorological condition in 2001 (Hanoi)**

| Month / Items | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tempera- ture (ºC) | monthly mean | 18.6 | 17.5 | 21.3 | 24.3 | 27.2 | 29.0 | 29.3 | 28.7 | 28.5 | 26.1 | 21.3 | 17.8 |
| | max.daily mean | 22.2 | 20.3 | 24.5 | 28.2 | 31.2 | 33.5 | 33.6 | 32.7 | 32.6 | 30.0 | 26.3 | 21.1 |
| | min.daily mean | 16.6 | 15.6 | 19.4 | 22.1 | 24.7 | 26.3 | 26.8 | 26.3 | 25.9 | 23.8 | 17.9 | 15.6 |
| Humidity (%) | monthly mean | 79 | 81 | 85 | 86 | 80 | 81 | 83 | 84 | 79 | 82 | 74 | 78 |
| | max.daily mean | 92 | 92 | 95 | 96 | 95 | 93 | 95 | 95 | 91 | 91 | 86 | 94 |
| | min.daily mean | 66 | 68 | 73 | 75 | 67 | 68 | 69 | 68 | 62 | 67 | 51 | 64 |
| Mean wind speed (m/s) | | 6.4 | 5.1 | 4.6 | 5.0 | 4.7 | 4.8 | 5.1 | 5.3 | 4.2 | 5.0 | 4.6 | 5.1 |
| Most appearance wind direction (bearings) | | NE | NE | SE | SE | NE &SE | SE | SE | NE | NNE &NE | NE | NE | NE |
| Precipitation amount (mm/month) | | 16 | 42 | 140 | 73 | 224 | 375 | 487 | 577 | 75 | 183 | 22 | 42 |
| Sunshine duration (hours/month) | | 57 | 34 | 49 | 75 | 134 | 163 | 164 | 146 | 163 | 103 | 183 | 82 |
| Solar radiation ($MJ/m^2$/month) | | | | | | | | | | | | | |

**Table Meteorological condition in 2001 (Hoa Binh)**

| Month / Items | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tempera- ture (ºC) | monthly mean | 18.6 | 17.5 | 21.6 | 25.2 | 26.8 | 28.6 | 28.8 | 28.2 | 27.4 | 25.4 | 19.9 | 18.1 |
| | max.daily mean | 23.3 | 21.0 | 25.5 | 30.4 | 31.7 | 33.9 | 33.8 | 32.7 | 32.7 | 29.9 | 26.2 | 20.4 |
| | min.daily mean | 16.0 | 15.6 | 19.2 | 22.4 | 24.0 | 25.5 | 25.7 | 25.5 | 24.7 | 23.0 | 16.3 | 15.3 |
| Humidity (%) | monthly mean | 82 | 84 | 86 | 83 | 82 | 84 | 84 | 85 | 84 | 84 | 80 | 80 |
| | max.daily mean | 91 | 91 | 94 | 92 | 90 | 92 | 93 | 92 | 93 | 93 | 92 | 92 |
| | min.daily mean | 67 | 72 | 73 | 70 | 66 | 67 | 68 | 70 | 66 | 68 | 54 | 69 |
| Mean wind speed (m/s) | | 1.0 | 0.4 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.3 | 1.0 | 1.3 | 1.0 | 1.0 |
| Most appearance wind direction (bearings) | | N | N | N | N | N | N | N | N | N | N | N | N |
| Precipitation amount (mm/month) | | 4 | 10 | 151 | 21 | 212 | 352 | 529 | 435 | 229 | 252 | 11 | 16 |
| Sunshine duration (hours/month) | | 117 | 50 | 91 | 130 | 140 | 186 | 185 | 178 | 188 | 123 | 215 | 86 |
| Solar radiation ($MJ/m^2$/month) | | | | | | | | | | | | | |