



Introduction of EANET (Acid Deposition Monitoring Network in East Asia):

Cooperation with WMO/GAW and new data base

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Progress of the cooperation between EANET and WMO/GAW

Relationship between EANET and WMO

EANET has been closely related with WMO for a long time.

- WMO officer participated in EANET meetings as an observer and workshops organized by the EANET Network Center and Secretariat.
- Some experts involved in EANET activities have contributed to WMO/GAW as a member of SAGs for Precipitation Chemistry and Reactive Gases.
- WMO/GAW acknowledged cooperative partner networks of precipitation chemistry measurement including EANET.
- The Network Center (NC) and some laboratories in EANET member countries are participating laboratory inter-comparisons of wet deposition samples.

Timeline until signing LoA

November, 2017

The revised draft of the LoA according to comments received by 19th Intergovernmental Meeting of EANET (IG19) was circulated to the National Focal Points.

January, 2018

Secretariat compiled the comments and suggestions from participating countries. Clean draft (with comments provided as attachment) was circulated to participating countries.

February, 2018

NC consulted with WMO for comments on the draft LoA.

April, 2018

There was no more comments from the participating countries and no content changes on the draft LoA.

August, 2018

LoA was signed by the Chairperson of IG19 and the Deputy Secretary General of WMO.

List of items for cooperation (described in LoA)

[Atmospheric composition]

SO₂, O₃, NO, NO₂, HNO₃, HCl, NH₃, PM₁₀, PM_{2.5},
Components in TSP (SO₄²⁻, NO₃⁻, Cl⁻, NH₄⁺, Na⁺, Mg²⁺,
K⁺ and Ca²⁺).

[Precipitation chemistry]

Precipitation amount, pH, conductivity, and concentrations
of SO₄²⁻, NO₃⁻, Cl⁻, NH₄⁺, Na⁺, Mg²⁺, K⁺ and Ca²⁺.

[Meta data]

Site location (Latitude, Longitude, Height), Characteristics
of sites (Remote, Rural, Urban), Monitoring items, Sampling
interval of each items, Monitoring duration, Monitoring
Instruments.

Activities of EANET within the framework cooperation (described in LoA)

- a. Assign to the stations of the EANET the status of "GAW Contributing Station" in appropriate GAW/WMO databases, web pages, and other publications
- b. Provide information for all stations in EANET for WMO/GAW
- c. Provide the GAW Station Information System (GAWSIS) with a list of sites from the relevant networks and relevant metadata
- d. Maintain current metadata descriptions on the EANET website that may be used in GAWSIS
- e. Establish a link from the EANET website to the homepage of the WMO/GAW World Data Centre for Reactive Gases and Precipitation Chemistry as well as to GAWSIS
- f. Allow WMO/GAW to freely use of EANET data followed by the data disclosure policy of EANET described in the Detailed Mechanism of the Procedures on Data and Information Disclosure (EANET/SAC 3/6/2_rev).

Activities of WMO/GAW within the framework cooperation (described in LoA)

- a. Run the network according to the principles shown in Guidelines for Acid Deposition Monitoring in East Asia, Technical Manuals and related EANET policies and publications
- b. Establish links from GAWSIS and the WMO/GAW World Data Center for Reactive Gases and Precipitation Chemistry to the data archive of the EANET network
- c. Collect EANET data and products for uses intended for WMO/GAW products, such as assessments and bulletins
- d. Acknowledge EANET, where appropriate, for the contribution to the WMO/GAW Programme, including on its web pages
- e. Allow EANET to freely use of WMO/GAW data followed by the data disclosure policy of WMO

Draft work plan of cooperation with WMO/GAW in 2018/19

1. Provide list of all current operating atmospheric monitoring stations of EANET for the WMO/GAW
2. Provide necessary information on atmospheric monitoring stations of EANET for the GAW Station Information System (GAWSIS)
3. Discuss and exchange information on monitoring database
 - The NC is currently developing a new data downloading system for EANET website by considering the database format to increase user-friendliness.
4. Provide link to the World Data Centers (WDCs) homepage and GAWSIS at EANET website
 - The NC and the Secretariat is currently revamping the EANET website.
5. Start discussions on a joint event in the 10th International Conference on Acid Deposition

New EANET data request registration and download system

Characteristics of EANET data (1): Spatial and temporal coverage

Atmospheric sites in 2017

	Urban	Rural	Remote
Wet and Dry deposition monitoring site	●	●	●
Wet deposition monitoring site	■	■	■
Dry deposition monitoring site	◆	◆	—



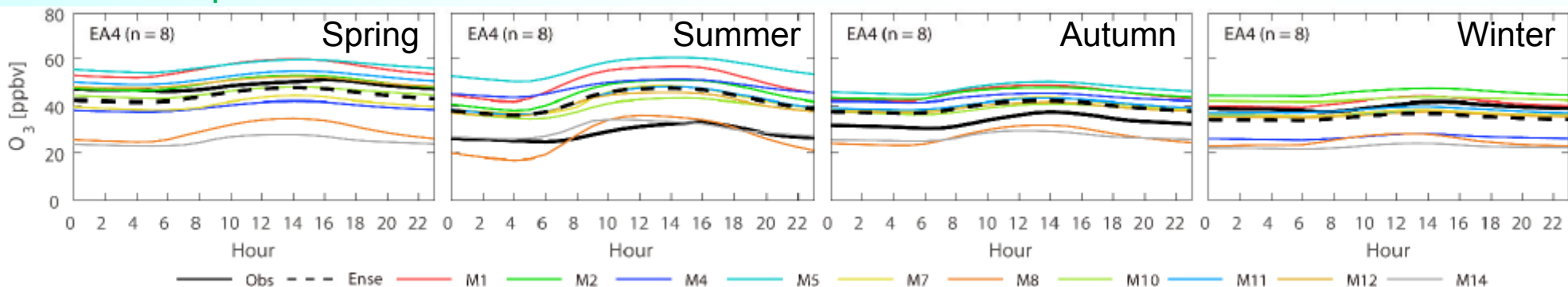
- 13 EANET countries reported atmospheric monitoring (wet, air concentration) data in 2017.
- The number of atmospheric monitoring sites are 62 sites, including 27 urban, 16 rural, and 19 remote sites.
- Soil and vegetation monitoring and monitoring on inland aquatic environment are conducted at 31 plots in 10 countries and 19 lakes/ rivers in 11 countries, respectively.
- Most of the ecological monitoring sites are corresponded to the deposition monitoring sites.
- Historical data since 2000 are included. Historical record of EANET monitoring site name is shown in Web page.

Characteristics of EANET data (2): Time resolution

Monitoring items	Subitems	Time resolution
Wet deposition	Precipitation chemistry	Daily, Weekly
Dry deposition (Air concentration)	Automatic air monitor	Hourly, Daily, Monthly
	Manual monitor (Filterpack, Passive sampler)	Weekly, Bi-weekly, Monthly
Soil & Vegetation	Soil chemistry	Once in 3 or 5 years
	Observation of tree decline	Once a year
Inland aquatic	Inland water chemistry	2, 3, 4, 5 or 6 times/year
Catchment	Stream water chemistry Water discharge	Bi-weekly

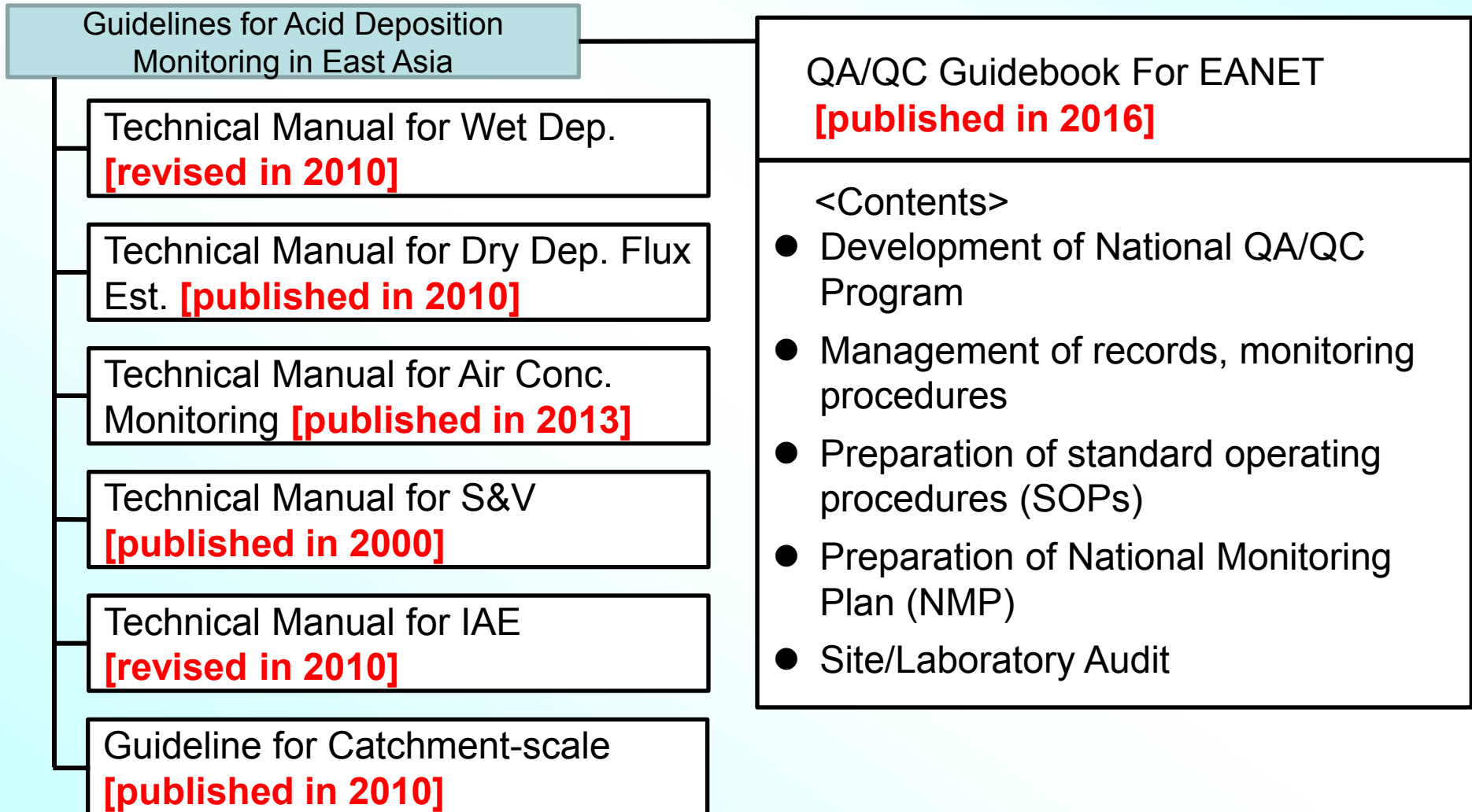
[Example of hourly data use]

Comparison of diurnal O₃ conc. between observation and model at EANET sites

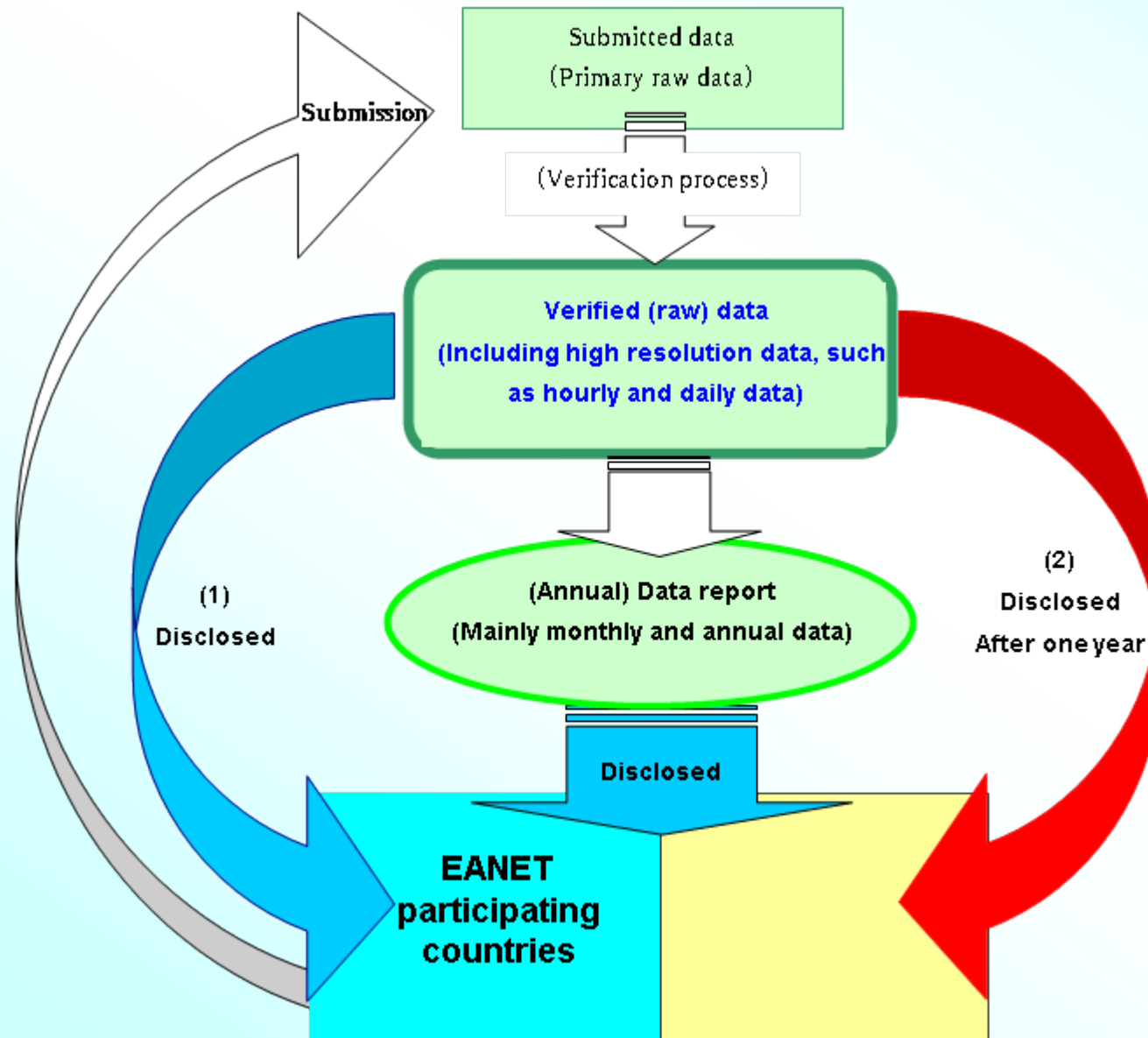


Characteristics of EANET data (3): QA/QC

Each monitoring station should follow monitoring guidelines to obtain reliable data that can be comparable among the countries of the East Asian region and with other networks.



Procedures on EANET data disclosure



Disclosure of “Verified (raw) data”

(1) For the EANET participating countries

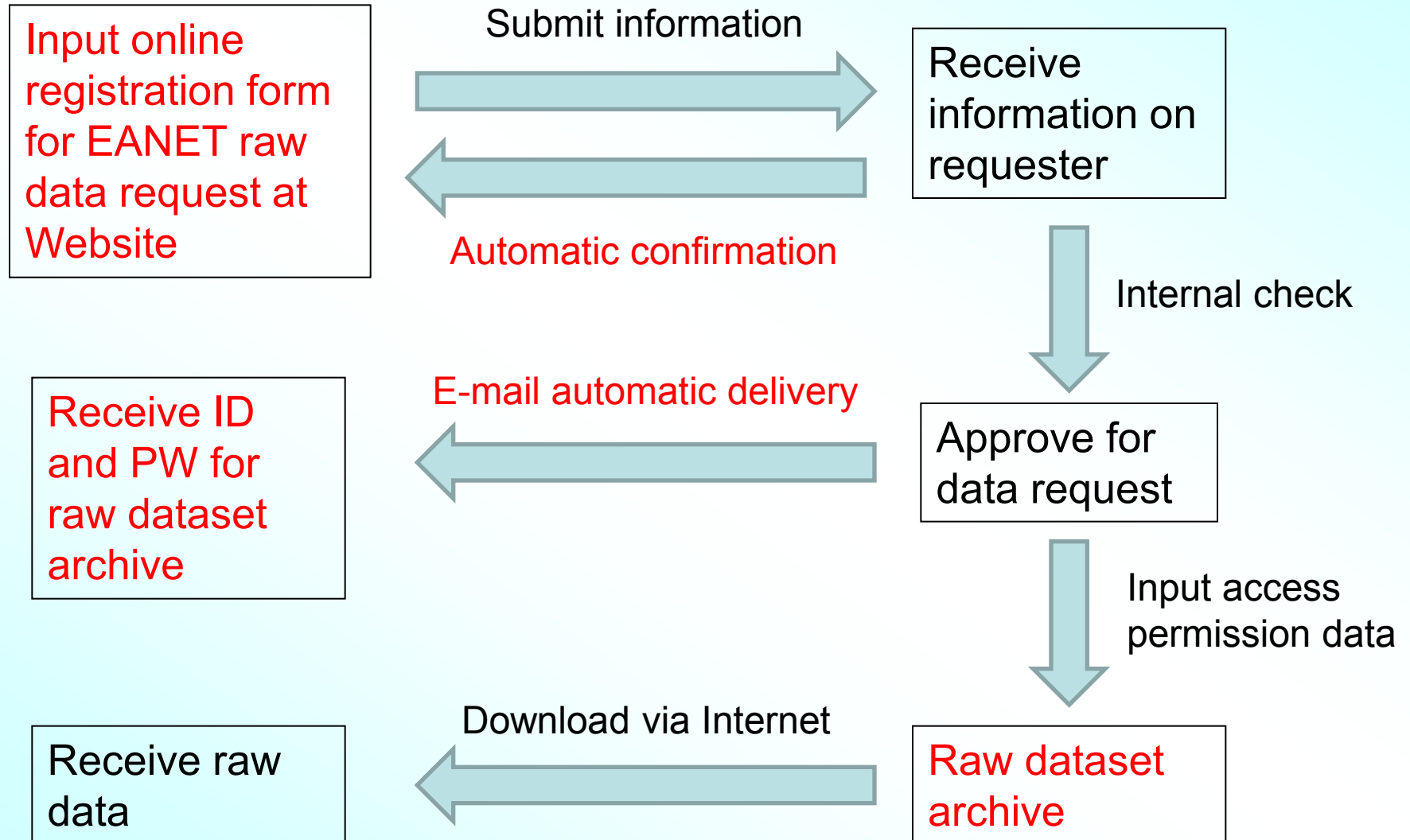
“Verified (raw) data” would be disclosed immediately for the National Focal Points after verification and endorsement by SAC, and disclosed for scientists upon their requests.

(2) For outside of EANET “Verified (raw) data” would be disclosed one year after confirmation/evaluation by SAC.

New EANET raw data request procedure

Data user

Network Center (ACAP)



Data report and Interlaboratory report in new EANET Web page

Data Report / Monitoring System

Data Report

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

Files can be downloaded without ID & PW.

Note for data usage

[pdf file Overview of EANET monitoring system](#)

Overview of EANET monitoring system

According to the "Procedures on data and information disclosure for EANET" adopted by the Third Session of the Intergovernmental Meeting on the EANET (IG3), all the data and information that are obtained through the EANET activities should be disclosed outside EANET after verification and endorsement by Scientific Advisory Committee (SAC). These data and information have been available for public users.

Users who wish to get any data and information for EANET are requested to follow the next requirements.

1. No reproduction or republication without written permission.
2. The received data and information will not be supplied in whole or in part to any third party.
3. The data shall be available for non-commercial use, e.g. scientific, policy-related, or educational activities.
4. Asia Center for Air Pollution Research (ACAP), designated as the Network Center (NC) for EANET, will not undertake any responsibility for problems, damage and loss caused by using the data file.
5. The source should be properly acknowledged in any work done with these data and information as follows:
Network Center for EANET, EANET Data on the Acid Deposition in the East Asian Region,
<https://monitoring.eanet.asia/document/public/index> (Last accessed date, month and year)
6. All rights are reserved by the NC for EANET for any files on this site.
7. Users are requested to do feedback with their research results in which EANET data are used (fully or partially) by sending the reprints and/ or detailed working reports to the NC.
8. In case any mistakes or changes of data arise, those will be announced on this site. Please read comments on read me.

You can freely download the data report (pdf), monthly and annual data of wet and dry deposition monitoring (xlsx), annual data of inland, soil & vegetation and catchment monitoring (xlsx) and annual report of Inter-Laboratory Comparison Project (pdf) without registration.

In order to access the download site for hourly, weekly, bi-weekly data of wet and dry deposition monitoring (csv), you should submit the registration form online. You can input and submit the registration form [ON THIS SITE](#).

- Data Report
→ pdf format
- Monthly and annual data of wet and dry deposition
→ xlsx format
- All data of soil and vegetation, inland and catchment
→ xlsx format
- Inter-Laboratory Comparison Project Report
→ pdf format

Year	Title	Update	Size	Kind	Downloads
2000					
2001					
2002					
2003					
2004					
2005					
2006					
2007					
2008					
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2012					
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2017					
	Dry Monthly 2000	05/03/2019	230 KB	Microsoft Excel Worksheet - xls	↓
	Data Report 2000	05/03/2019	2.3 MB	Adobe Acrobat Document - pdf	↓

Online registration form for EANET raw data request

<https://monitoring.eanet.asia/document/register/index>

Registration / Monitoring System

Registration

* required entry

Title/Name*

Prof

First name:
Enter First Name..

Middle name:
Enter Middle Name..

Family name:
Enter Family Name..

Company (Organization)*
Enter Company(Organization)..

Department*
Enter Department..

Postal address*
Address:
Enter Address..

City(State):
Enter City(State)..

Country:
Afghanistan

Zip(Postal code)
Enter Address..

Telephone*
Enter Telephone..

Facsimile
Enter Facsimile..

Email*
Enter Email..

Intended Use* Research
 Atmospheric deposition
 Ecosystem Process
 Aquatic Effects
 Material Effects
 Terrestrial Effects
 Modeling
Enter modelling here..

Other, Please specify
Enter other contents here..

Policy related
 Others, Please specify
Enter other contents here..

Request
Enter Request..

Confirm

The registration form should be submitted online, in order to download the following data.

- Hourly, weekly, bi-weekly data of wet and dry deposition monitoring → csv format
- The data user should input information on register (shown left) and submit. After approval, ID and PW for data archive access will be sent by E-mail.

Sign in page for EANET raw data archive

<https://monitoring.eanet.asia/document/signin>

Download / Monitoring System

Download

Please Sign In using a valid ID and password.

ID(email)*

Password*

**Input ID and PW
(Valid for one year, after
that you must re-register.)**

1. On the download site, you can select country, year, site and item as you need. Available data are shown in the drop-down list.
2. If you select "all" in year, site and item lists, you can download all available data.
3. When the list is selected, the data file will be downloaded as a zipfile. Please unzip a file using appropriate software.
4. If there were no files corresponding to the specified conditions, warning is indicated. In this case, please specify other conditions.
5. When any mistakes or changes of data arise, the readme text file is attached with the data file.
6. The account to access EANET data download site is valid for ONE YEAR after approval. When you need to access this site after account expiration, please register again.
7. If any problems raised, please contact to the administrator.

Note for data download

[🔗 csv file description of monitoring data](#)

Description of monitoring data file

[🔗 xlsx file Historical record of EANET monitoring site name \(Updated in 2017\)](#)

Historical record of EANET monitoring site name

Download page for EANET raw data archive

Choose pull down menu to download.

Download / Monitoring System

Download

Country:

Year:

Site:

Item:

There were no files corresponding to the specified conditions. Please specify other conditions.

1. On the download site, you can select country, year, site and item as you need. Available data are shown in the drop-down list.
2. If you select "all" in year, site and item lists, you can download all available data.
3. When the list is selected, the data file will be downloaded as a zipfile. Please unzip a file using appropriate software.
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[csv file description of monitoring data](#)

[xlsx file Historical record of EANET monitoring site name \(Updated in 2017\)](#)

[data report and annual report of Inter-Laboratory Comparison Project](#)

Monitoring Data Download

Country:

Year:

Site:

Item:

There were no files corresponding to the specified conditions.

- Cambodia
- China
- Indonesia
- Japan
- Korea, Republic of
- Lao People's Democratic Republic
- Malaysia
- Mongolia
- Myanmar
- Philippines
- Russia
- Thailand
- Viet Nam

Monitoring Data Download

Country:

Year:

Site:

Item:

- Dry Deposition Auto
- Dry Deposition Filter Pack
- Dry Deposition Passive Sampler
- Wet Deposition

Monitoring Data Download

Country:

Year:

Site:

Item:

- Rishiri
- Ochiishi
- Tappi
- Sado-seki
- Happo
- Ijira
- Okii
- Banryu
- Yusuhara
- Hedo
- Ogasawara
- Tokyo

[Report Data](#)

[Sign Out](#)

Select menu and click download

Monitoring Data Download

Country:

Year:

Site:

Item:

- 2000
- 2001
- 2002
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- 2006
- 2007
- 2008
- 2009
- 2010
- 2011
- 2012
- 2013
- 2014
- 2015
- 2016
- 2017

Request for acknowledgement of EANET data source and sending reprints and/or reports

- The source should be properly acknowledged in any work done with EANET data and information as follows:

Network Center for EANET, EANET Data on the Acid Deposition in the East Asian Region,
<https://monitoring.eanet.asia/document/public/index> (Last accessed date, month and year)

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