

Group Photo:
Workshop on Regional
Impact Assessment



SAC20/ 9/ 2

Annual report of the activities by Task Force on Soil and Vegetation Monitoring in 2019/2020

Chair of the Task Force
Secretariat of the Task Force



1

Introduction

- The Task Force on Soil and Vegetation Monitoring of the EANET (TFSV) and the Network Center for the EANET (NC) as the Secretariat of the Task Force have been making efforts to implement activities in line with The *“Strategy Paper for Future Direction of EANET on Monitoring of Effects on Agricultural Crops, Forest and Inland Water by Acidifying Species and Related Chemical Substances”*, which was adopted by the Scientific Advisory Committee at its Fourteenth Session (SAC14) in 2014.
- In this document, we review major outputs from the activities implemented by the members and NC scientists in 2019/2020.



2

Major outputs: The 6th Meeting of TFSV on 20 November 2019

- The meeting reviewed scientific activities implemented in line with the strategy paper.
- Taking account of the activity outputs so far and the current situation in the region, **the meeting discussed update of the strategy paper.**
- The meeting minutes is attached as **Attachment 2.**



3

Major outputs (continued): Updated strategy paper (final draft: Attachment 3)-1

- The meeting confirmed the following conditions:
 - **The current strategy paper has already described importance of air pollutants**, such as ozone and particulate matters.
 - According to the suggestion at SAC14, **the main text would not significantly be changed to keep the long-term directions and activities** (although slight modification might be necessary).
 - The specific activities for the next term from 2021 to 2025 would mainly be updated in this process.
 - **Selected activities taking account of their feasibilities would be described and attached as the annex** (not to become too ambitious for the EANET community).



4

Major outputs (continued):

Updated strategy paper (final draft: Attachment 3)-2

No major revision was made for the main text:

- i. Descriptions of introduction were updated.
- ii. The wording “air pollution” was used in addition to “acid deposition”, such as “air pollution/acid deposition”, from a scientific point of view for evaluation of ecological impacts.
- iii. Importance of biomass burning was added.



5

Major outputs (continued):

Updated strategy paper (final draft: Attachment 3)-3

As for the specific activities for the next term from 2021 to 2025, only three activities were left taking account of the feasibility, which included:

- i. Accumulation of information on air pollution effects in forest area and agricultural field
- ii. Promotion of catchment analysis
- iii. Promotion of regional impact assessment



6

Major outputs (continued):

Updated strategy paper (final draft: [Attachment 3](#))-4

To implement the specific activities effectively, clear subjects were also set for the term:

- i. Recovery of ecosystems from acidification
- ii. Loads of atmospheric nitrogen to ecosystems and its cycle
- iii. Effects of ozone and PM on trees/crops



The interactions between air pollution and climate change should also be taken into consideration for the subjects above.



7

Major outputs (continued):

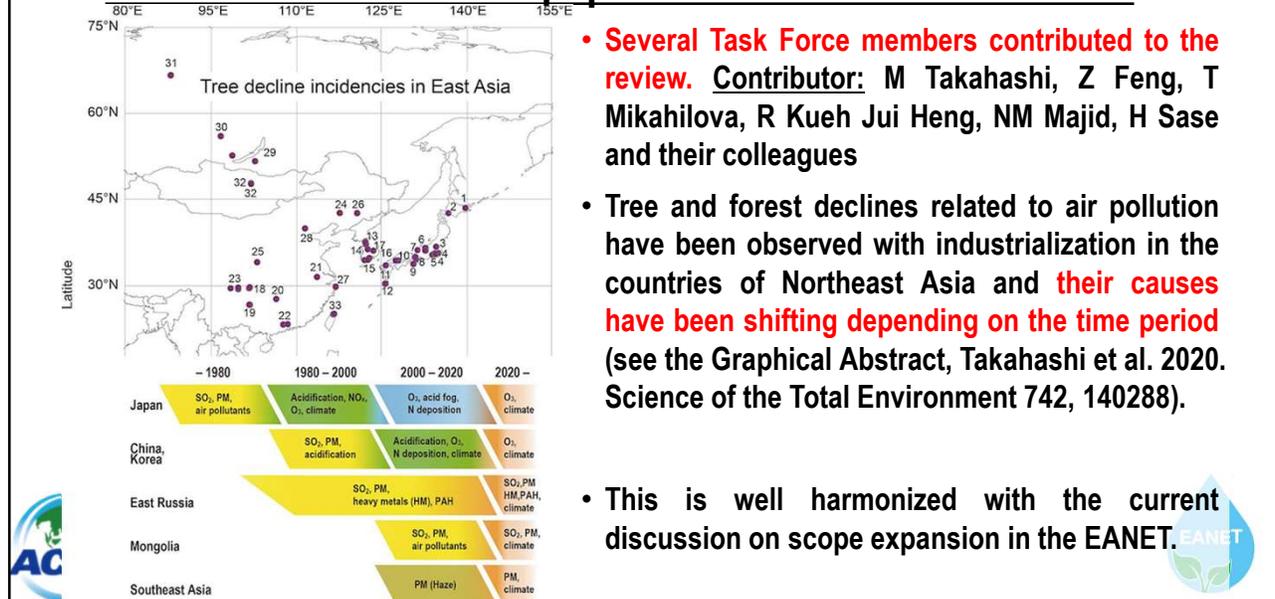
Workshop on regional impact assessment (Summary: [Attachment 4](#))

- ***“Workshop on the regional impact assessment of atmospheric deposition and air pollution on forest ecosystems”*** was held on 21 – 22 November 2019 in Niigata, Japan, **in cooperation with ICP Forests under CLRTAP.**
- **Conclusive remarks included:**
 - ✓ In Europe, the regional impact assessment has contributed to policy making on air pollution abatement.
 - ✓ In East Asia, efforts should also be made to further promote regional impact assessments to provide scientific inputs useful for policy making.
 - ✓ Modeling and satellite observation need to be more integrated to support and extend assessment. High quality of the monitoring data is essential to validate the output of these different approaches.



8

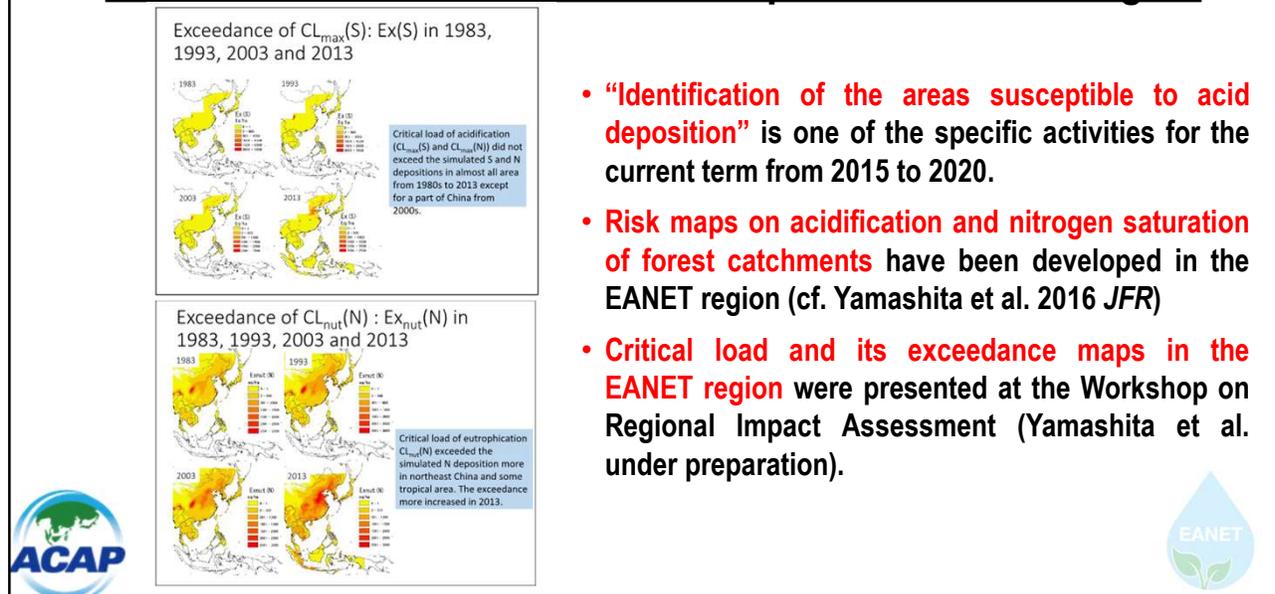
Major outputs (continued): Publication of a review paper on tree and forest decline



- **Several Task Force members contributed to the review.** **Contributor:** M Takahashi, Z Feng, T Mikahilova, R Kueh Jui Heng, NM Majid, H Sase and their colleagues
- Tree and forest declines related to air pollution have been observed with industrialization in the countries of Northeast Asia and **their causes have been shifting depending on the time period** (see the Graphical Abstract, Takahashi et al. 2020. Science of the Total Environment 742, 140288).
- This is well harmonized with the current discussion on scope expansion in the EANET.

9

Major outputs (continued): Critical load and its exceedance maps in the EANET region



- **“Identification of the areas susceptible to acid deposition”** is one of the specific activities for the current term from 2015 to 2020.
- **Risk maps on acidification and nitrogen saturation of forest catchments** have been developed in the EANET region (cf. Yamashita et al. 2016 *JFR*)
- **Critical load and its exceedance maps in the EANET region** were presented at the Workshop on Regional Impact Assessment (Yamashita et al. under preparation).

10

Major outputs (continued): Other relevant activities contributed to the strategy

1. **Establishing a new scientific community on air pollution impacts:** The 5th **Asian Air Pollution Workshop (AAPW)** was held in Varanasi, India, from 5 to 7 November 2019, which discussed the current air pollution conditions in Asia, its impacts on ecosystems, and possible collaborations among scientists from Asia and other regions.

Contributors: Z Feng (as the organizer)

2. **Joint scientific session of monitoring networks in IUFRO World Congress 2019:** The NC scientist organized the scientific session in the IUFRO World Congress in Curitiba, Brazil, in October 2019, in cooperation with the Scientific Committee of ICP Forests. Major outcomes from PRSAD3 were presented at the session with some of Task Force members.

Contributors: H Sase, WM Carandang, N Yamashita, E Philip, J Shindo, T Saito, M Morohashi, Masaaki Takahashi, and T Ohizumi



11

Actions required at SAC20

- SAC 20 is invited to review the outputs above, **especially the final draft of the updated strategy paper for adoption.**



12