EANET/IG28/6/3

Consideration of Strategy Papers developed by Task Forces under the SAC

Chairpersons and Secretariats of the TFAE and TFEE

Background

- In 2022, the Scientific Advisory Committee (SAC) reformed its task force structure to strengthen EANET's scientific activities and address emerging environmental challenges. As a result, the former task forces were reorganized into the Task Force on Monitoring and Assessment of Atmospheric Environment (TFAE), the Task Force on Monitoring and Assessment of Environmental Effects (TFEE) and Task Force on Atmospheric Environmental Quality Management (TFAEM).

- By following the EANET Medium-Term Plan (2026–2030), TFAE and TFEE reviewed their strategic directions and developed new or updated Strategy Papers. These papers provide the framework for future activities on atmospheric monitoring and assessment, as well as ecological impact monitoring and evaluation, and support the implementation of the EANET Medium-Term Plan.

Outlines of the *Strategy Paper on the Future Direction of Monitoring and Data Evaluation for Air Pollutants and Atmospheric Deposition in East Asia (2027–2032)*

The final draft of the Strategy Paper is attached in Annex 1.

Contents of the Strategy Paper

I. Introduction
II. Current status
III. Objectives
IV. Activities to be implemented to achieve the objectives from 2027 to 2032
V. Capacity building of atmospheric monitoring activities
VI. Collaboration with relevant networks/organizations

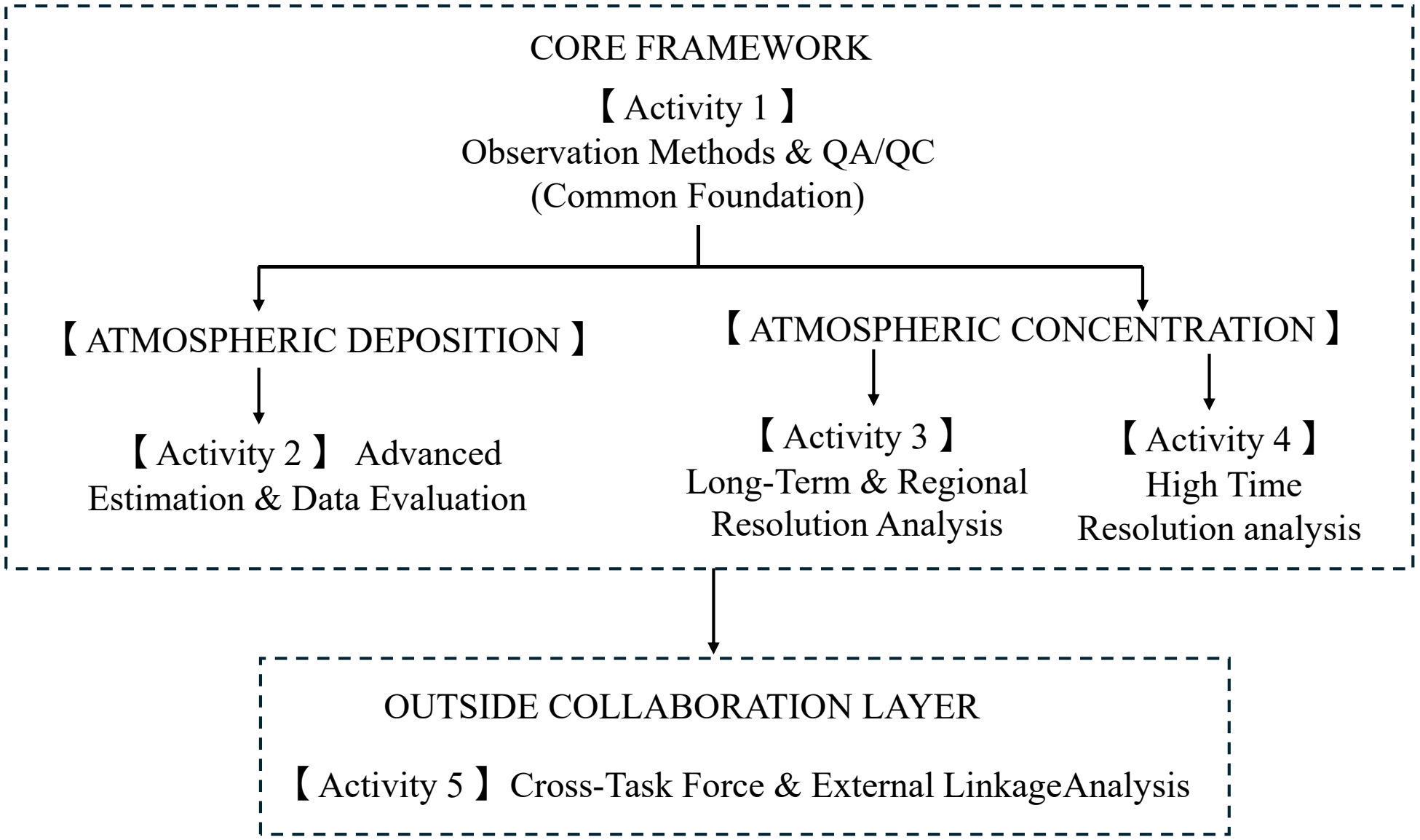
Chapter III. Objectives of the Strategy Paper

I. **Strengthen and harmonize monitoring systems** for air pollutants and atmospheric deposition across the EANET region through expanded monitoring coverage, integration of satellite-based information, broader monitoring parameters, and enhanced QA/QC frameworks.

II. **Advance data evaluation methodologies and integrated analysis** by improving atmospheric deposition estimation, long-term trend assessment, and the integration of monitoring data with research analyses to improve understanding of atmospheric processes.

III. **Enhance policy support and regional cooperation** through greater accessibility and utilization of monitoring and assessment results, strengthened science-policy interfaces, capacity building, information exchange, and collaboration involving both observation and modeling communities.

Chapter IV. Conceptual framework illustrates the interrelationships among the five activities of the Task Force



Chapter IV. Activities to be implemented to achieve the objectives from 2027 to 2032

i) Integrated Enhancement of Atmospheric Observation Methods and QA/QC

- Review and update Technical Manuals for priority pollutants ($PM_{2.5}$ components, O_3, NOx, and NH_3)
- Harmonize monitoring methodologies, calibration procedures, and data reporting formats
- Strengthen QA/QC systems and ozone calibration practices
- Evaluate the applicability of satellite observations, model data, and low-cost sensors
- Review future priorities for $PM_{2.5}$ chemical component monitoring

ii) Advanced Estimation and Data Evaluation Methods for Atmospheric Deposition in EANET

- Integrating atmospheric pollutant and meteorological observations
- Assessing the use of reanalysis and model-derived meteorological datasets
- Improving inferential methods for deposition estimation, particularly for reactive nitrogen species
- Reviewing deposition velocity parameterizations and simplified estimation approaches
- Updating technical guidelines for dry deposition flux estimation

Chapter IV. Activities to be implemented to achieve the objectives from 2027 to 2032

iii) Review and Update of Methods for Long-Term Trend Analysis and Regional Comparison Using EANET Data

iv) Promotion of Atmospheric Process Understanding Using High-Time-Resolution Data

These activities serve as core scientific contributions to the upcoming EANET Periodic Report covering the period from 2025 to 2029.

v) Strengthening Collaborative Research through Coordination with Other Task Forces

- Evaluating nitrogen deposition and its impacts on ecosystems
- Assessing health impacts associated with O_3 and $PM_{2.5}$ exposure
- Conducting joint research among EANET task forces
- Disseminating scientific findings through workshops, projects, and capacity-building activities

Chapter V. Capacity building of atmospheric monitoring activities

- **Strengthen capacity building in atmospheric monitoring** through on-site training courses, workshops, and seminars for monitoring and QA/QC personnel, while leveraging training opportunities provided by international organizations such as WMO/GAW, APCAP, and JICA.
- **Enhance regional scientific cooperation through an expert network** by maintaining and expanding a roster of atmospheric monitoring and assessment experts to facilitate the exchange of technical knowledge, best practices, research findings, and emerging monitoring methodologies among EANET participating countries.

Outlines of 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*

The final draft of the Strategy Paper is attached in Annex 2.

Strategy Paper: Why the Strategy Paper Is Being Updated

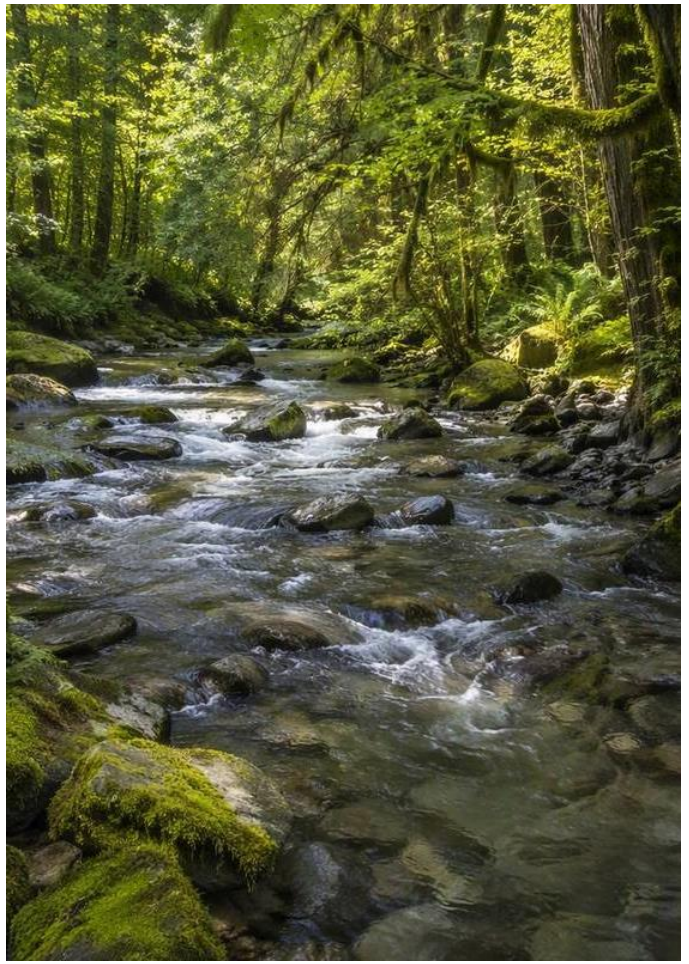
BACKGROUND

Current paper adopted at SAC20 (2020)
The strategy paper guides EANET ecological monitoring and research, building on work by the former Task Force on Soil and Vegetation Monitoring.

A five-year action annex
It set specific activities for 2021–2025, implemented by scientists from the Network Center and the Participating Countries.

TFEE now carries the work forward
TFEE took over those activities, using the paper as its reference document.

Time to update
TFEE is expected to refresh the paper — above all, the specific activities for 2026–2030.



Strategy Paper: What Changed in the Draft

In line with the SAC14 recommendation, **the long-term direction remains largely unchanged,** while the annex activities have been updated.

Introduction Aligned with the new MTP (2026–2030)

Para 10 Objectives of inland aquatic environment monitoring (IAEM)

Para 14 Catchment-scale analysis in the IAEM Technical Manual

Para 22 Inclusion of VOC

Para 24 Inclusion of LCS

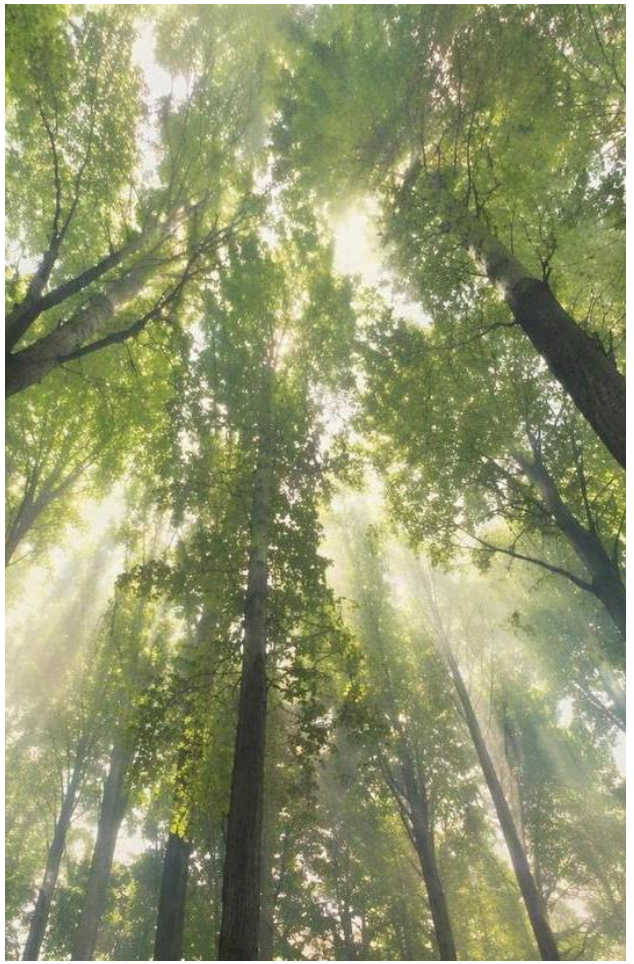
Para 33 Regular catchment monitoring in the La Mesa Watershed, Philippines

Paras 34 & 35 Reactive nitrogen monitoring in forest areas

Para 40 Catchment analysis in Russia

Section IV Collaboration with relevant networks / organizations

Section VI Acknowledgements



Strategy Paper: Proposed Specific Activities in the Annex

Three activities are proposed for 2026–2030, in line with the recommendations of the Medium-Term Plan (2026–2030).

1



Atmospheric Nr Deposition

Strengthen efforts to obtain and assess data on atmospheric reactive nitrogen (Nr) deposition (NOx, NH_3 and their ionic species).

2



Ozone & PM in Forests

Accumulate scientific knowledge on ozone and particulate matter in forest areas.

3



Ecosystem Recovery

Confirm ecosystem recovery from acidification and eutrophication.

Action Required

IG28 is invited to review the final draft of "*Strategy Paper on the Future Direction of Monitoring and Data Evaluation for Air Pollutants and Atmospheric Deposition in East Asia (2027–2032)*" and "*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*" and consider for endorsement of both Strategy Papers.