

Nitrogen Cycle Activities at The Global Atmosphere Watch Programme



WMO OMM

World Meteorological Organization

Organisation météorologique mondiale

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The Global Atmosphere Watch Programme



- GAW is The **World Meteorological Organization's** Programme that facilitates global cooperation and provides a platform for integrated long-term observations and analysis of atmospheric composition changes
- GAW is a partnership involving **100+** countries
- Approach: "Research Enabling Services"
- GAW implements an end-to-end approach: from observations to research to delivered products and services
- GAW supports diverse applications: climate studies, air quality forecasting, Numerical Weather Prediction etc.

Example of the applications in GAW



- *Support of climate negotiations:*
Integrated Global Greenhouse Gas Information System
- ***Ecosystem services:*** analysis of total deposition (e.g. through measurement-model fusion), nitrogen cycle, deposition to the oceans/marine geoengineering
- *Health:* sand and dust storms, urban air quality (GURME), biomass burning
- *Food security:* atmospheric composition and agriculture
- *Transport security:* volcanic ash forecasting



GAW Implementation Plan (2016-2023)



IP builds upon the premise that **atmospheric composition matters** - to climate, weather forecasting, human health, terrestrial and aquatic ecosystems, agricultural productivity, aeronautical operations, renewable energy production, and more.



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Nitrogen Cycle Activities at GAW



- Assist INMS by providing information on the concentrations and flows of fixed nitrogen through the atmosphere
- Measurement-Model Fusion for Total Atmospheric Deposition– Total Atmospheric Deposition (TAD) Scientific Advisory Group

Measurement-Model Fusion for Global Total Atmospheric Deposition

- Purpose: generate global maps of total atmospheric deposition (TAD) of ambient gases and particle species
- GAW's Scientific Advisory Groups and Expert Groups bring together atmospheric chemistry areas as well as data management
- TAD maps to be used for research into biogeochemical cycles, ecosystem and human health effects

Thanks for you attention!