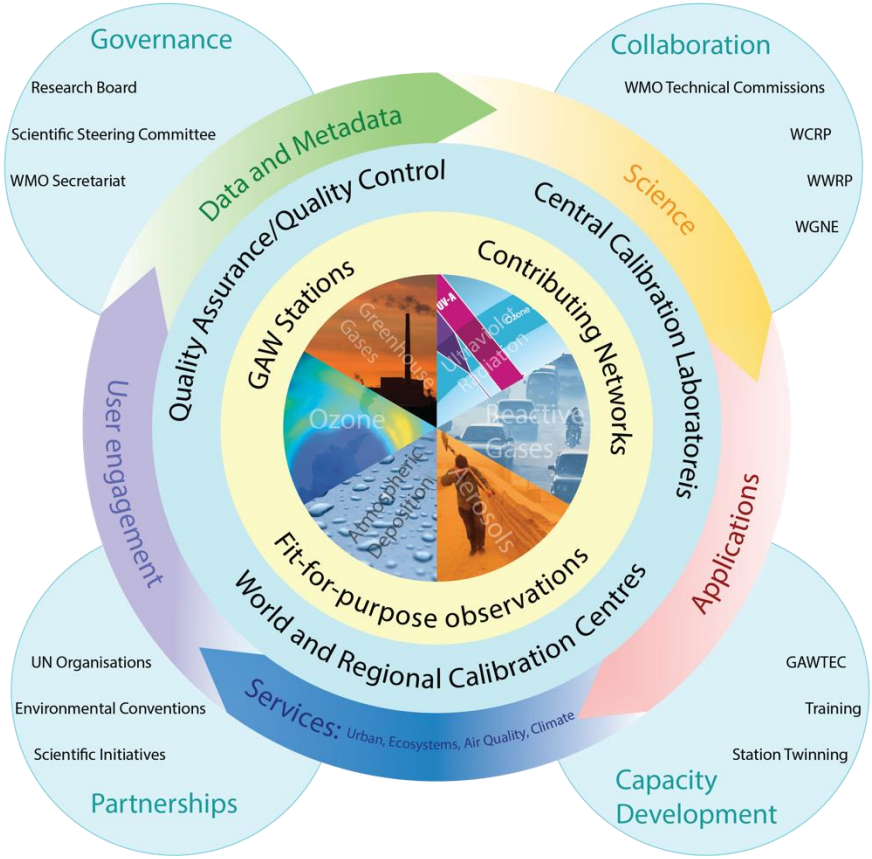
WCRP and GAW

46th Session of the WCRP

Joint Scientific Committee (JSC-46)

May 12-16, 2025



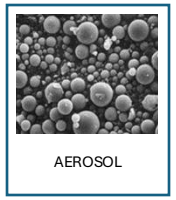
Paolo Laj

Chief, Atmospheric Environment Research

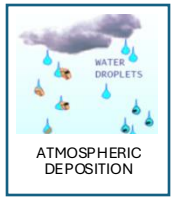
WORLD METEOROLOGICAL ORGANIZATION

1950-2025 SCIENCE for ACTION

The Global Atmosphere Watch Programme

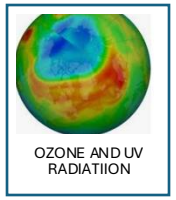

AEROSOL

REACTIVE GASES



ATMOSPHERIC DEPOSITION


GREENHOUSE GASES

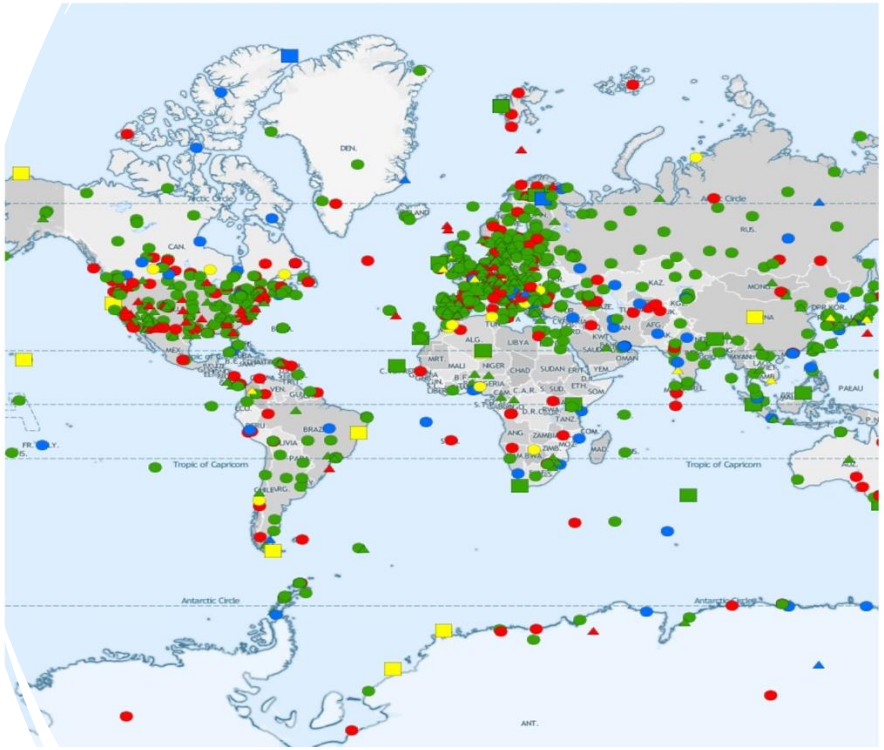

OZONE AND UV RADIATIION

Monitoring Infrastructure: provision of atmospheric composition data from GAW network of stations.

Scientific assessments: advance scientific understanding coordinating assessments on the state of the atmospheric composition

Science-for-Service Initiatives: engage with user communities for supporting Services, Policies, and Treaties

Capacity Building and education: provide training opportunities for GAW users from all regions



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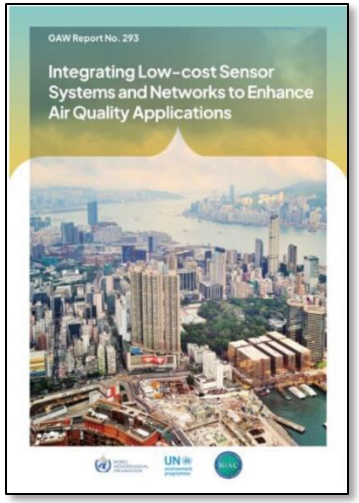

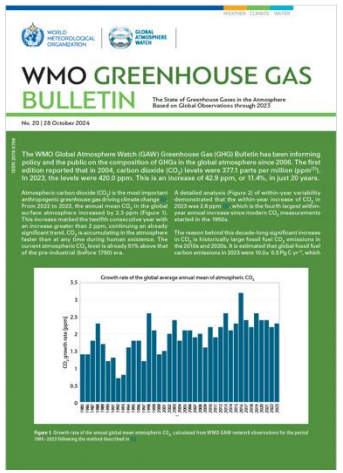

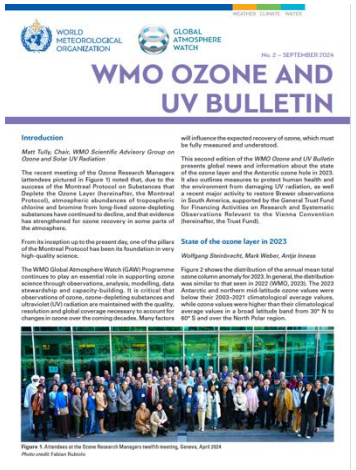

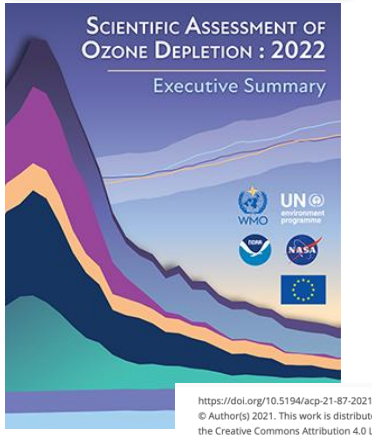

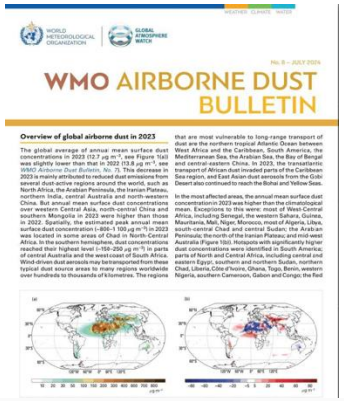

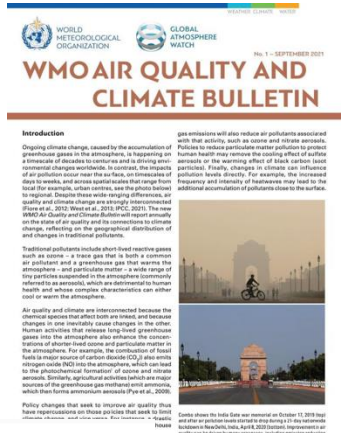

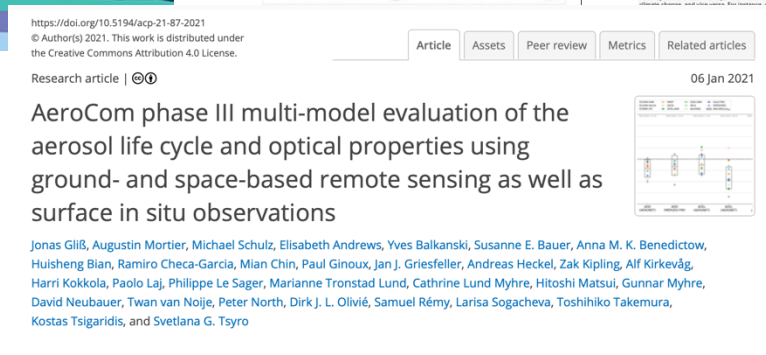

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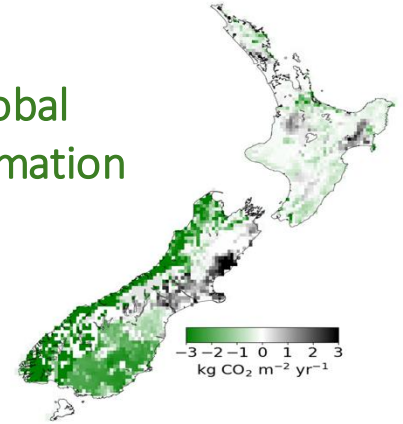
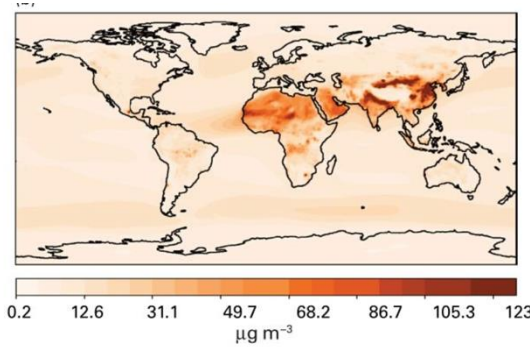
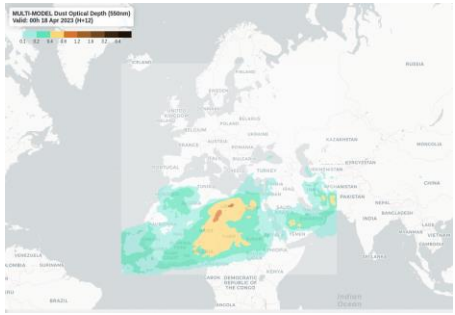
GAW Integrated Global Greenhouse Gas Information System (IG3IS)



Global Air Quality Forecasting and Information system (GAFIS)





Vegetation Wildfire and Smoke Pollution Warning and Advisory System (VFSP-WAS)

Sand and Dust Storm Warning and Advisory System (SDS-WAS)

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WORLD METEOROLOGICAL ORGANIZATION

1950-2025 SCIENCE for ACTION

GCOS
KEEPING WATCH OVER OUR CLIMATE

- Measurement Methods
- Data management

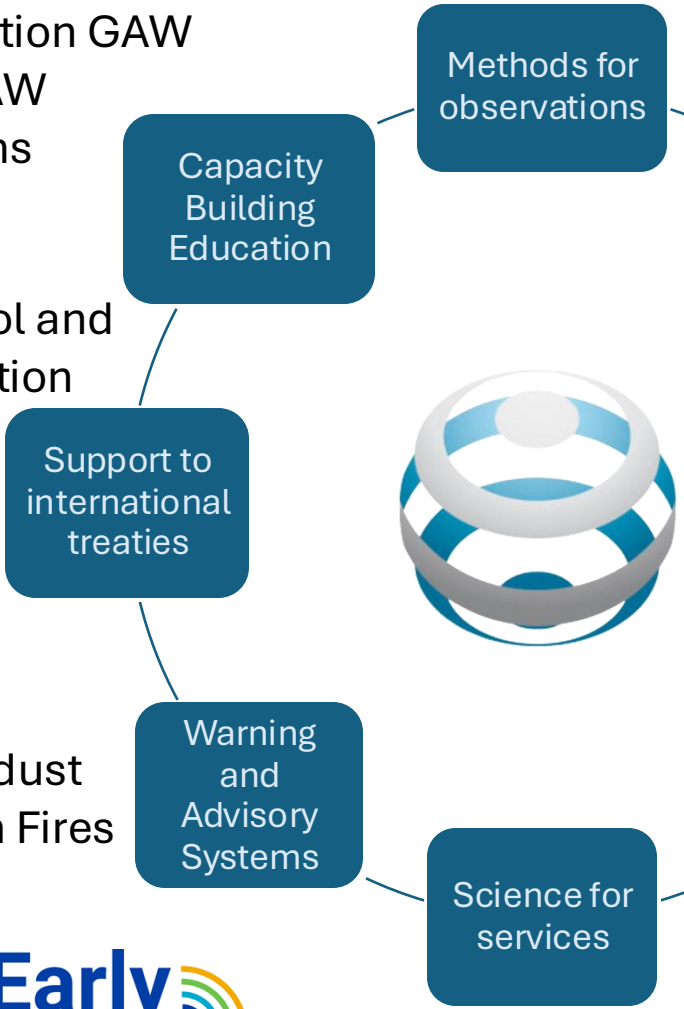
- Next generation GAW
- Regional GAW organisations

CLIMATE & CLEAN AIR COALITION
TO REDUCE SHORT-LIVED CLIMATE POLLUTANTS
a UNEP convened initiative

UN environment programme
ozone secretariat

- Montral Protocol and Vienna Convention
- UNFCC
- CLRTP
- GESAMP

GESAMP
Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection



- Worldwide measurements of Aerosol, Ozone, UV, Greenhouse and Reactive Gases

- Air Quality in a changing climat
- Health impacts

World Health Organization

- Sand and dust
- Vegetation Fires

- Scientific publications
- Scientific Assessments (i.e. ozone)

WORLD METEOROLOGICAL ORGANIZATION
1950-2025 SCIENCE for ACTION

Early Warnings for All

- GHG emissions and sinks,
- Air Pollution forecasting, atmospheric, Deposition

Global Greenhouse Gas Watch

GCOS
KEEPING WATCH OVER OUR CLIMATE

- Measurement Methods
- Data management

- Next generation GAW
- Regional GAW organisations

Methods for observations

Capacity Building Education

Observation Atmos. Compo

- Worldwide measurements of Aerosol, Ozone, UV, Greenhouse and Reactive Gases

- Montral Protocol and Vienna Convention
- UNFCC
- CLRTP
- GESAMP

Support to international treaties

Urban Meteo., AQ & Health

- Air Quality in a changing climate
- Health impacts

WWRP WORLD WEATHER RESEARCH PROGRAM

- Sand and dust
- Vegetation Fires

Warning and Advisory Systems

Scientific assessment

- Scientific publications
- Scientific Assessments (ozone)

Science for services

WCRP

- GHG emissions and sinks,
- Air Pollution forecasting, atmospheric, Deposition

WORLD METEOROLOGICAL ORGANIZATION

1950-2025 SCIENCE for ACTION

WCRP Core projects and GAW

Atmospheric Processes And their Role in Climate (APARC)

- Chemistry and Climate
- Long-term Records for Climate Understanding

Earth System Modelling and Observations (ESMO)

- Working Group on Observations for Researching Climate

- Ensuring joint WMO messages and Initiatives streamlining efforts of the scientific communities (i.e. trends and variability in atmospheric records)
- Ensuring harmonization and consistency of recommendation to policy-level
- Favouring cross-participation of experts in working groups

WMO SI as a central place facilitating global strategy