



Global Atmosphere Watch (GAW) Programme

Paolo Laj



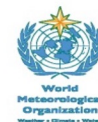
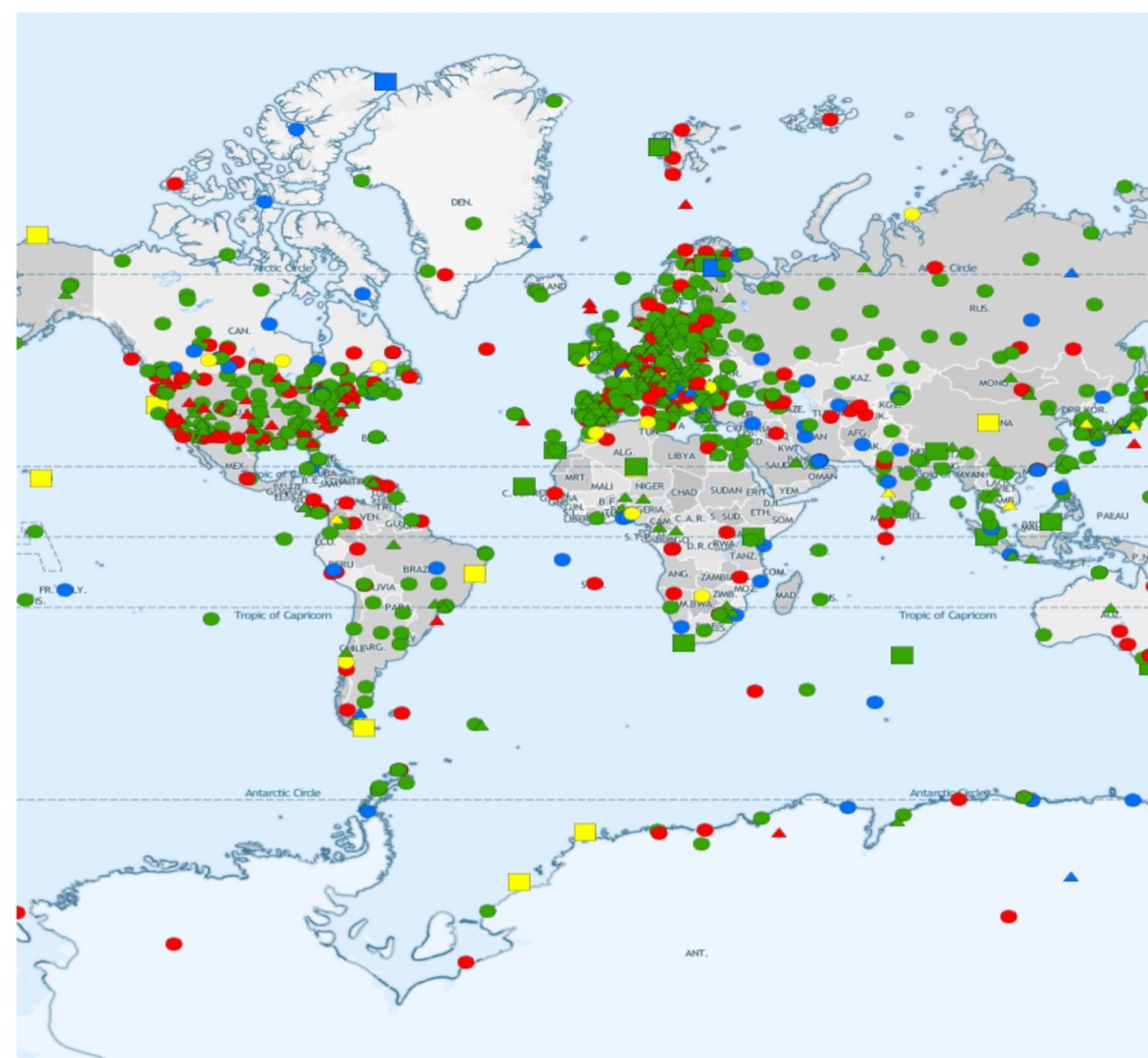
WORLD
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ORGANIZATION

WCRP JSC, 29 May, 2024

GAW Infrastructure

The overarching global long-term in-situ monitoring network for atmospheric composition

- Operated by single institutions, research centers, HM services or contributing networks
- Operated with compatible protocols and quality controls
- Data centralized in World data center under a unified policy
- Access to ECV quantities for GHG, Aerosol, Ozone and their precursors is, for in-situ, almost exclusively through GAW



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

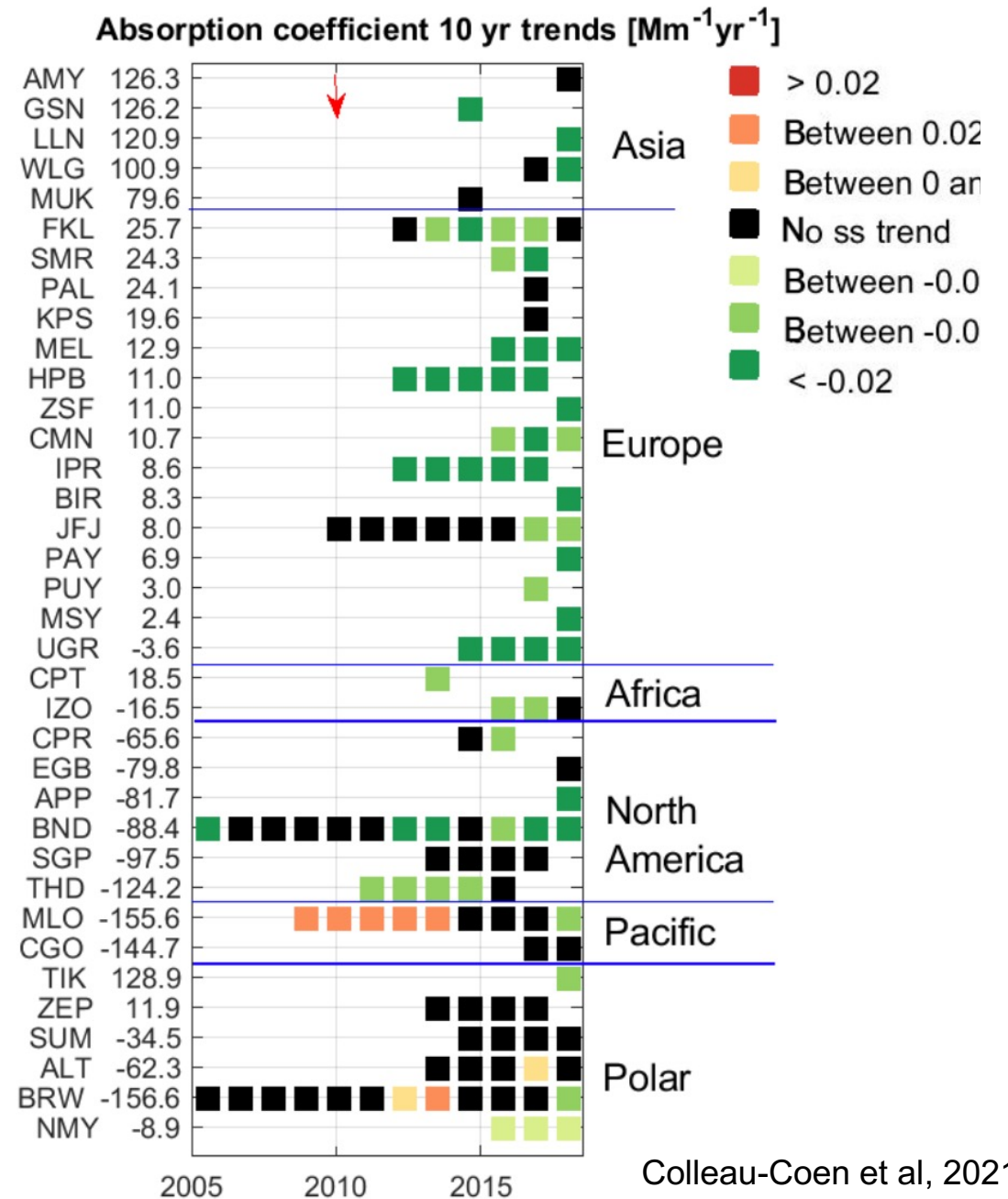
Federal Department of Home Affairs FDHA
Federal Office of Meteorology and Climatology MeteoSwiss

Global	■	Reporting	●
Regional	●	Partly Reporting	●
Contributing	▲	Non-reporting	●
Local	★	Closed	●
		Planned	●
		Pre-operational	●

GAW Science-based assessments

Community activities for the exploitation of monitoring data and data products

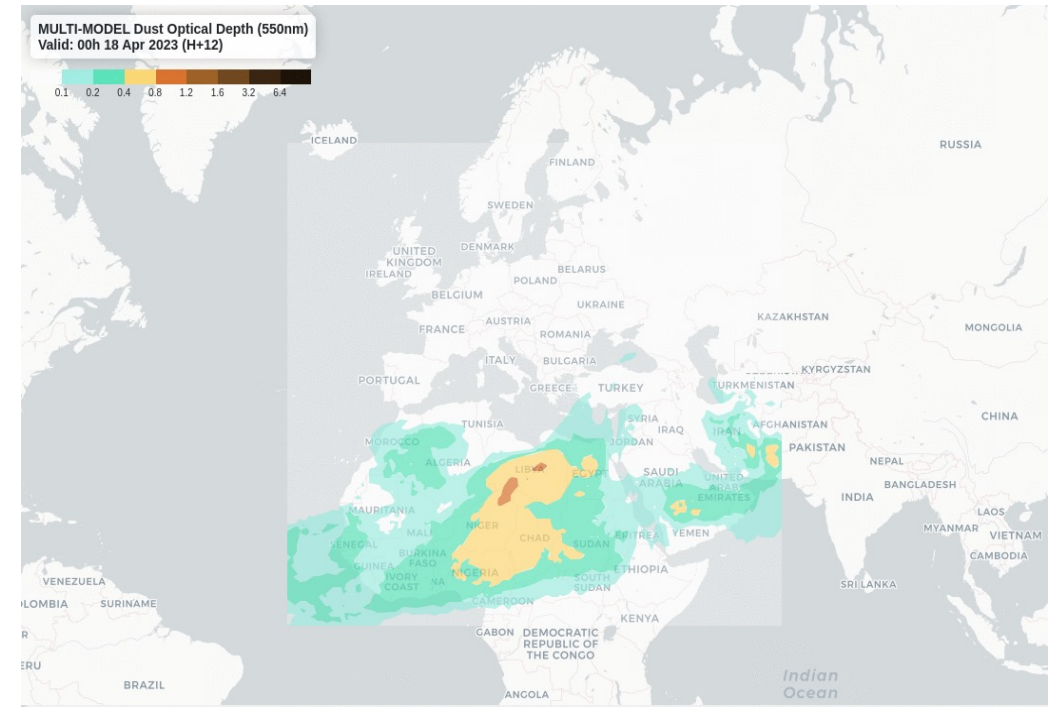
- Trends and variability of major atmospheric constituents (including ECVs)
- Verification of model performances and ground-truthing of satellite sensors
- Gap analysis and network design
- Assessments are generally published as scientific papers (well-cited and referred to in IPCC)



GAW Science-for-Service initiatives

Community activities for developing service tools

- GAW Integrated Global Greenhouse Gas Information System (**IG3IS**)
- GAW Measurement-Model Fusion for Global Total Atmospheric Deposition (**MMF-GTAD**)
- Sand and Dust Storm Warning and Advisory System (**SDS-WAS**)
- Vegetation Wildfire and Smoke Pollution Warning and Advisory System (**VFSP-WAS**)
- Global Air Quality Forecasting and Information system (**GAFIS**)



GAW and international conventions

GAW in the official body for the implementation of a number of conventions and treaties

- The Convention on Long-range Transboundary Air pollution
- The Montreal Protocol and Vienna Convention
- The United Nations Framework Convention on Climate Change (UNFCCC)
- The Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP)
- Climate and Clean Air Coalition
- United Nations Coalition for Combating Sand and Dust Storms

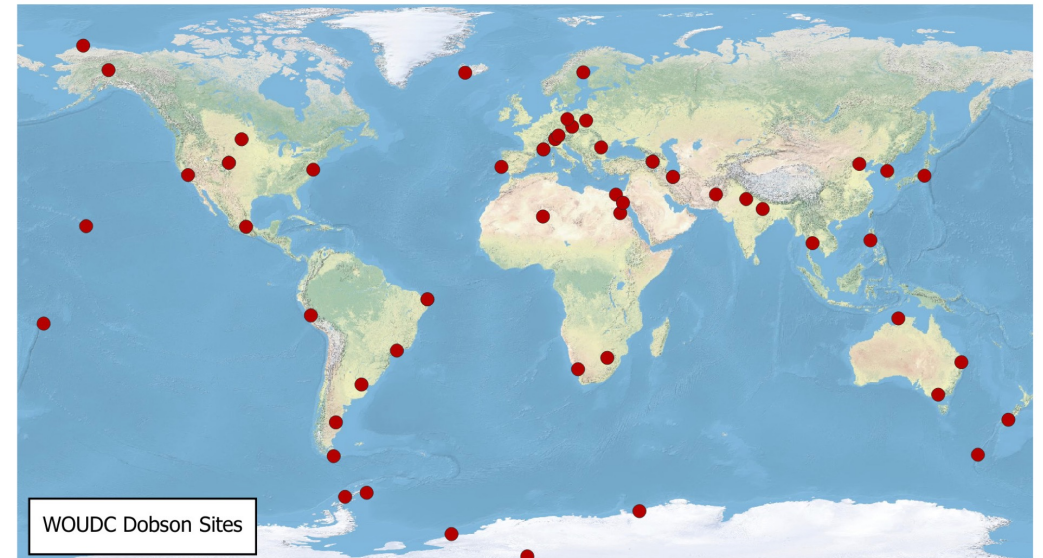
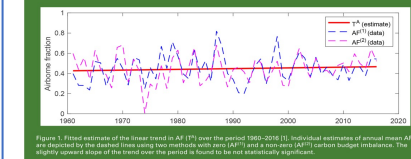
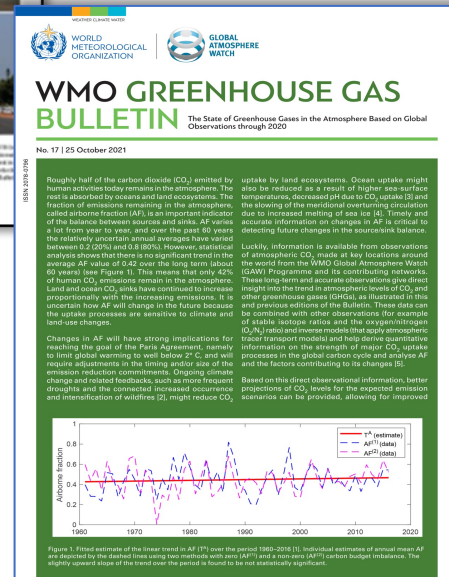
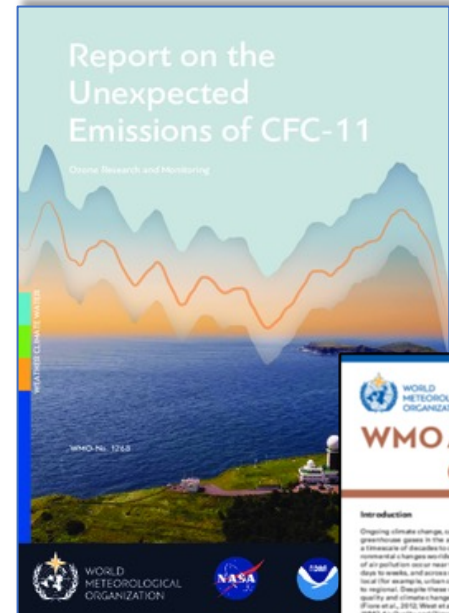


Figure 8. The GAW Dobson network (Dobson stations which have submitted ozone data to WOU DC within the 2018–2023 period are marked)

GAW Capacity-building and communication actions

Ensure a training offer for all competencies required in GAW – Communicate outside the scientific community

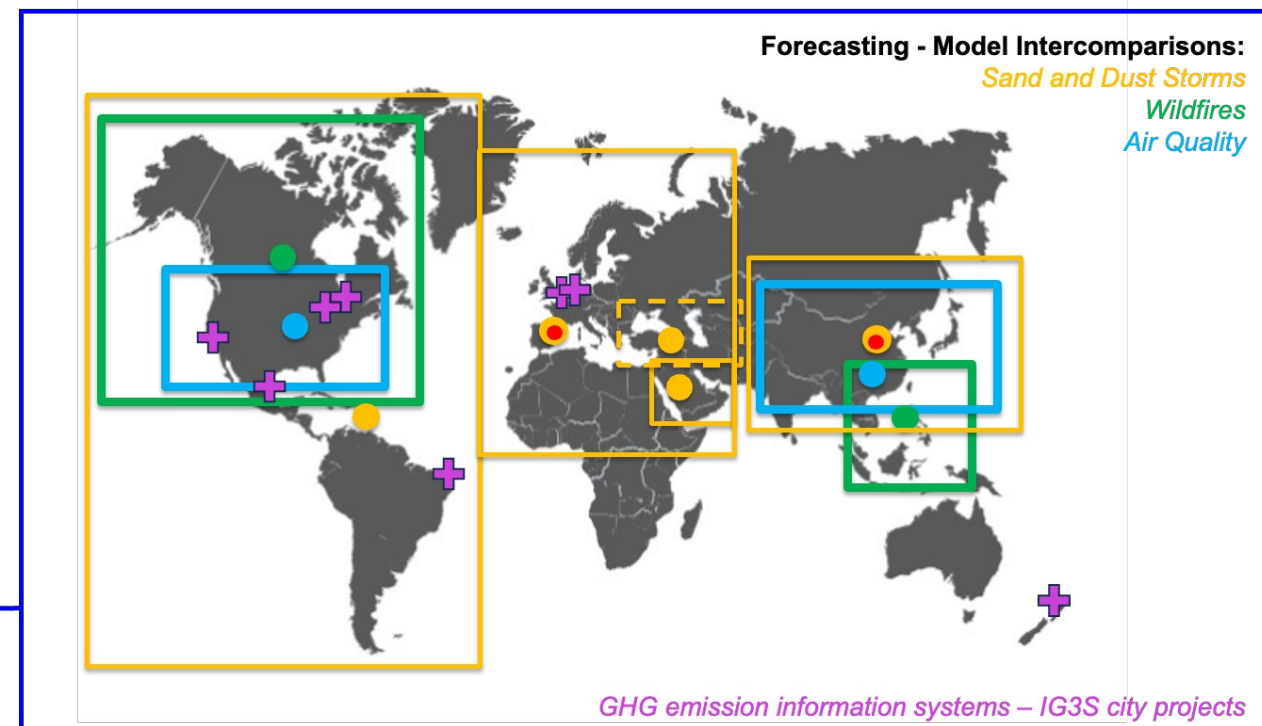
- Technical training to station operators GAW Training & Education Centre (GAWTEC)
- Training on data quality control, data use, modelling tools and quality assurance procedures
- Training of end-users on modelling and use of end-products from initiatives
- 4 regular GAW Bulletin



GAW and WCRP

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- Develop the proper regional ecosystems for climate research – from provision of observations to use for research to policies
- Joint activities on science-based assessments (APARC but not only) including gap analysis and network design
- Help designing regional networks of scientists on joint WCRP / GAW (and WWRP) issues (i.e. IGAC Latin America)
- Training and Education opportunities (WCRP Academy and GAW WG on Capacity Building)



WMO INFRASTRUCTURE - WIIPS
Regional Specialized Meteorological Center with activity specialization on Atmospheric Sand and Dust Forecast (RSMC-ASDF)

Thank you.



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<https://community.wmo.int/en/activity-areas/gaw>