

Additional Information

Additional information about the WMO, the activities of the WCCAP, and the GAW aerosol measurement program can be found on following websites:

www.wmo.int
gaw.tropos.de/WCCAP

Acknowledgements

World Meteorological Organization (WMO)

„Global Atmosphere Watch Programme“ (GAW)

Quality Assurance and Scientific Activity Center (QA/SAC) Germany

The WCCAP is a facility at the Leibniz Institute for Tropospheric Research in cooperation with the Federal Environment Agency of Germany and the World Meteorological Organization (WMO). The WCCAP is funded by the Environment Agency of Germany as well as by scientific projects.



Particle Mobility Size Spectrometers

Contact

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World Calibration Centre
for Aerosol Physics

World Calibration Center for Aerosol Physics (WCCAP)

Quality assurance and control of aerosol measurements as well as capacity building of station personnel and young scientists.



Mitglied der



World Meteorological Organization

The United Nations founded the World Meteorological Organization (WMO) in 1951 to bring research and observations of the weather, climate, and the water cycle in a global context.

The WMO realized already in an early stage that physical and chemical processes in the atmosphere are of great relevance for weather and climate.

Global Observation Network

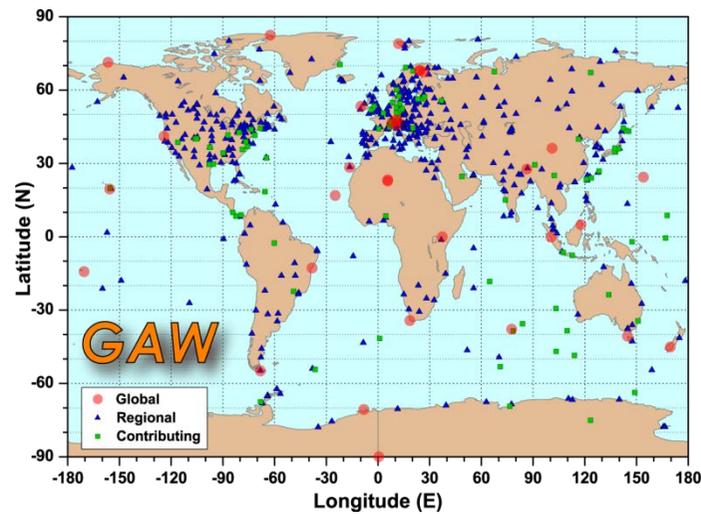
For the intensive observation of physical and chemical processes in the atmosphere, measuring networks were founded within the WMO, which were unified to the „Global Atmosphere Watch“ Programme (GAW) in 1989.

Tasks of GAW

The main tasks of GAW are to observe the impact of human activities on the chemical composition as well as the physical and optical parameters of the atmosphere in a global perspective. A better understanding of this complex context should be achieved to possibly facilitate a control.

Organization und Structure of GAW

High quality measurements of relevant parameters are fundamentally needed to fulfill the mission of GAW. Presently, around 500 stations in more than 100 countries are in operation, belonging to national weather services and research institutes.



World Calibration Center for Aerosol Physics

Since 2002, the research group “Tropospheric Aerosols” of the Leibniz Institute for Tropospheric Research (TROPOS) hosts the World Calibration Center for Aerosol Physics (WCCAP) in the frame of the World Meteorological Organization – Global Atmosphere Watch program (WMO-GAW).

Tasks of the WCCAP

- Site audits of measuring stations
- Calibration and comparison workshops for physical aerosol instrumentation
- Capacity building of station personnel and young scientists
- Advices in the implementation of new sampling sites
- Scientific evaluations of aerosol measurements
- Twinning partnerships to build up new aerosol programs
- Development of Standard Operation Procedures for physical aerosol instrumentation

Atmospheric Aerosol

Aerosol particles have an impact on the climate, the ecosystems in general, and specifically, on the human health. Toxic particle compounds may cause diseases in the respiratory tract or in the cardio-vascular system. Aerosol particles influence also the energy balance of the atmosphere directly by light scattering and absorption and indirectly due to their ability to act as condensation nuclei for cloud droplets.

The aim of GAW is therefore to monitor the temporal and spatial variability of aerosol parameters in terms of climate forcing and air quality over a long time period.

Quality Assurance of Aerosol Measurements

The WCCAP performs frequently intercomparison workshops of physical aerosol instruments. Especially, particle mobility size spectrometers, integrating nephelometers, and absorption photometers have a high priority.



Intercomparison workshop at the WCCAP