

Atmospheric ozone monitoring in the frame of WMO/Global Atmospheric Watch program

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The Global Atmosphere Watch (GAW) programme of WMO is a partnership involving the Members of WMO, contributing networks and collaborating organizations and bodies. This community provides reliable scientific data and information on the chemical composition of the atmosphere enabling monitoring of variability due to natural and anthropogenic factors. Ozone is an essential climate variable monitored by a global network of ground-based stations, aircraft- and satellite-borne instruments for columnar measurements and vertical profiles. The operation and quality of the observational network of ozone under GAW is coordinated and assessed with the aid of the Scientific Advisory Group (SAG) for ozone. For several decades GAW has been able to maintain the global spatial coverage of the Dobson and Brewer spectrophotometer total ozone and ozonesonde networks, and quality of the data provided. An important aspect for climate studies is to maintain traceability of measurements which extend for many decades. For ozone, this has been achieved through the world and regional calibration centres for Dobson and Brewer spectrophotometers and the world calibration centre for ozonesondes which have successfully operated for many years. Near real time (NRT) data provision is becoming an important component of GAW. For example, profile and column ozone data are used for weather, air quality and UV Index forecasting in the Monitoring of Atmospheric Composition and Climate (MACC) project. Many side activities have been initiated under GAW in collaboration with the IAMS/International Ozone Commission (IO3C) and Network for the Detection of Atmospheric Composition Change (NDACC), aiming at the improvement of quality and comparability of data from different platforms, such as the homogenization of ozone profiles derived by ozonesondes (SI2N) and the assessment of absorption cross sections used for ozone retrieval (ACSO), which are both part of the IGACO (Integrated Global Atmospheric Chemistry Observations) activities within WMO-GAW. GAW disseminates data via the World Ozone Data Centre (<http://www.woudc.org>) and information to scientists and the public through a series of publications, including the Antarctic Ozone Bulletin, which is produced during the austral spring period since 2000. Finally GAW collaborates and has established linkages with various programmes and activities at European and International levels, such as, the NDACC, the EU In-service Aircraft for a Global Observing System (IAGOS) infrastructure project, the EU COST Action EUBREWNET, the EURAMET project Traceability for atmospheric total column ozone (ATMOZ), and so on.