

Global framework for observations and analysis of greenhouse gases in the atmosphere: Global Atmosphere Watch Programme

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The Global Atmosphere Watch Programme of the World Meteorological Organization is an international programme that provides a framework for coordinated global long-term observations and analysis of atmospheric chemical composition. Long-lived greenhouse gases (CO₂ and its isotopes, CH₄ and its isotopes, N₂O, SF₆ and some minor gases) are one of the programme's focal areas.

Global high-quality observations constitute the core of the programme. A comprehensive quality assurance system is developed within GAW to ensure compatibility of global observations. This system includes a set of Central Facilities operated by Member countries. The WMO reference scales are supported by Central Calibration Laboratories, while the traceability at the level of individual stations is ensured through comparison campaigns and station audits organized by the World Calibration Centers. The observations at the stations are made following GAW recommended practices. Observational data are submitted to the World Data Center for Greenhouse Gases (WDCGG) and further used in the global analysis to produce globally averaged mole fractions of the key greenhouse gases.

The compatibility goals and quality assurance practices are reviewed by the community at the biannual WMO/IAEA Meetings on Carbon Dioxide, Other Greenhouse Gases, and Related Measurement Techniques (GGMT). The 18th meeting will take place on 13-17 September 2015 in La Jolla, California, USA. The presentation will provide an overview of the outcome of this meeting.