

Global Atmosphere Watch Programme: the Role of the National Programmes in Supporting the Global Value Chain

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The Global Atmosphere Watch Programme (GAW) is the research programme of the World Meteorological Organisation (WMO) that provides a long-term international framework for integrated observations, analysis, and assessment of atmospheric chemical composition. The programme is a collaboration of more than 100 countries and it relies fundamentally on the contributions of its Members to help build a single, coordinated global understanding of atmospheric composition and its change. The mission of GAW and the key implementation principles are described in the “WMO Global Atmosphere Watch (GAW) Implementation Plan: 2016 – 2023”. The vision for the next decade of GAW is to grow the international network of high-quality atmospheric observations across local to global scales to drive high quality and impact science while co-producing a new generation of research-enabled products and services.

The research activities of GAW are supported by a dedicated infrastructure, which includes observing systems supplemented by a set of Central Facilities supporting the quality assurance system, a data management system, advisory groups, expert teams, and a steering committee (Fig.1). To address the needs of the countries related to diverse environmental issues, GAW currently focuses on six groups of variables (also called focal areas): greenhouse gases, ozone, aerosol, selected reactive gases, total atmospheric deposition, and solar ultraviolet (UV) radiation. Cross-cutting activities related to the development of regional and global scale atmospheric composition forecasting are addressed by the dedicated Scientific Advisory Group (SAG) on Applications, while similar activities on the urban scale are addressed by the SAG of the GAW Urban Research Meteorology and Environment (GURME) project.

National programmes, like the one operated by the ESRL/GMD, provide an essential contribution to the success of GAW at all steps of the value chain from observations through quality assurance to the delivery of integrated products and capacity development. In recognition of the highest measurement quality of the NOAA-operated observational networks, several of them are recognized as baseline networks of the Global Climate Observing System. ESRL/GMD operates a number of the global central facilities that allow having globally compatible observations. GMD supports global research related to the evaluation of sources and sinks as well as trends and global distributions of a number of atmospheric constituents relevant to climate and regional air quality. The value of the different ESRL/GMD contributions in the GAW Programme will be described in the presentation.

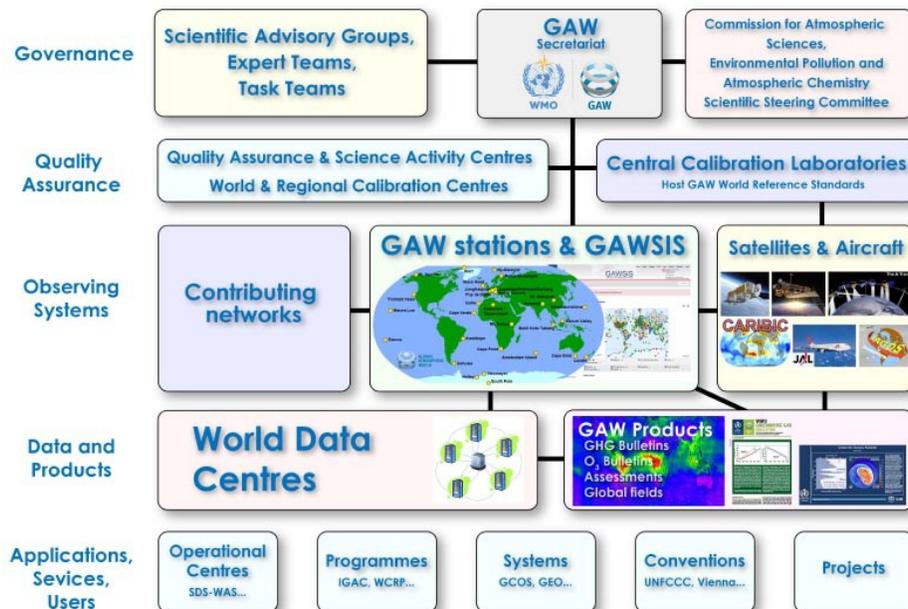


Figure 1. Components of the WMO/GAW Programme.