

## Climate Services, World Meteorological Organization (WMO) and Global Atmosphere Watch (GAW) Observations

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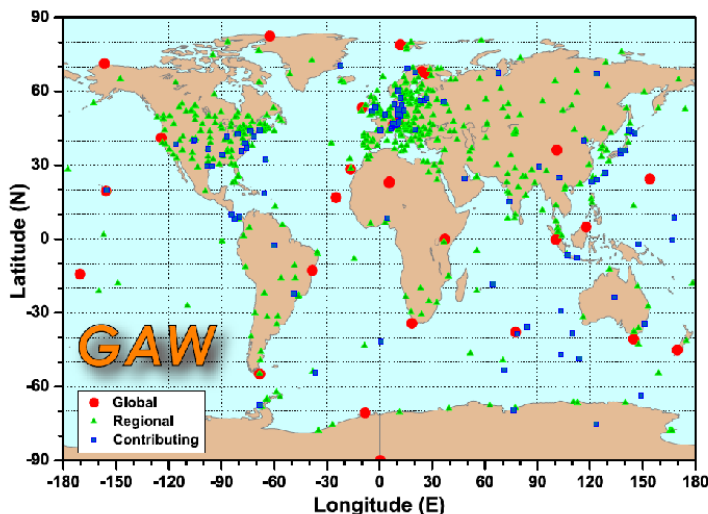
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The World Climate Conference-3, that was held 31 Aug – 4 Sept 2009 in Geneva Switzerland, and organized by the WMO, resulted in the establishment of the Global Framework for Climate Services (GFCS) to strengthen the production, availability, delivery and application of science-based climate prediction and services. The components of the GFCS that are being proposed are: (1) Observations; (2) Climate Research, Modeling and Prediction; (3) the Climate Services Information System (CSIS); (4) the Climate User Interface Programme (CUIP); and (5) Capacity Building. The WMO/GAW Programme will be providing input to the components 1, 3 and 5.

GAW provides quality assured and controlled global data on ozone, greenhouse gases, reactive gases, aerosols, atmospheric wet deposition and UV radiation. GAW CO<sub>2</sub>, CH<sub>4</sub> and ozone measurements form a comprehensive baseline network of the Global Climate Observing System (GCOS) with discussions on the way for the inclusion of aerosol observations. GAW is encouraging for enhanced use of the data in environmental assessments related to climate, air quality, ozone depletion and the long-range transport of pollution between regions.

In regard to atmospheric chemistry observations related to climate change, it is vital to continue these as they provide the only way of telling whether mitigation is working. There are indications that there can be substantial air-quality co-benefits to mitigating climate change and it is therefore important to integrate air-quality and climate-stabilization goals in the design of environmental policy to realize potential synergistic benefits. Because of the potential role of greenhouse gases in the future of emissions control and emissions trading, these measurements will be seriously scrutinized. The need for traceable, accurate measurements will be critical for defensible results and therefore the role of the National Metrology Institutes in the GAW greenhouse gas measurements has been carefully considered and an agreement between WMO and Bureau International des Poids et Mesures (BIPM) has been signed.

WMO/GAW, with support of its Members publishes annually the Greenhouse Gas Bulletin, in time for the annual sessions of the Conference of the Parties to the United Nations Framework Convention on Climate Change. GAW recognizes the important support of the participating agencies, institutes, services and experts for its activities. NOAA ESRL is a major GAW partner, for instance hosting the WMO primary standards for CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O. Many other WMO GAW participants contribute to the network following WMO GAW measurement guidelines, data quality objectives, and submission of data to the appropriate World Data Centre.



**Figure 1.** The GAW station networks.