

## Global Environmental Issues and the Japan Meteorological Agency

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JMA carries out monitoring of greenhouse gases, ozone and other atmospheric components, and provides related information under the Global Atmosphere Watch (GAW) programme of WMO.

Further to such observations, JMA operates the World Data Centre for Greenhouse Gases (WDCGG), the Quality Assurance/Science Activity Centre (QA/SAC) and the World Calibration Centre (WCC). WDCGG collects, archives and provides greenhouse gas observation data of all over the world through the Internet as part of the GAW activities. QA/SAC helps improve the quality of observational data in Asia and the Southwestern Pacific. WCC assists Asian countries in maintaining the national standards for the observations of methane and total ozone.

The followings is a introduction WDCGG, which contributes to provide the basic data and discuss on the global warming. The WDCGG, which is one of the WDCs under the WMO GAW programme, has been operating since October 1990 at the Japan Meteorological Agency (JMA). In October 2002, the WDCGG took over the role of the World Data Centre for Surface Ozone (WDCSO) from the Norwegian Institute for Air Research (NILU). Furthermore, under the agreement between Global Climate Observing System (GCOS) and WMO/GAW that considers the WMO/GAW global atmospheric CO<sub>2</sub> and CH<sub>4</sub> monitoring network as a comprehensive network of GCOS, the WDCGG is charged with the data management and dissemination of value-added products on these species in order to facilitate more reliable monitoring and data analysis. The objectives of the WDCGG are to support scientific researches, assessments and correspondence policy for environmental issues such as global warming, ultimately to contribute towards reducing societal environmental risks, and to meet the requirements of related environmental conventions.

Since its establishment in 1990, the WDCGG has been principally working to achieve the objectives of the WDCGG. In addition, the WDCGG has improved its operation and functions in accordance with the GAW Strategic Plans. The current operations of the WDCGG are composed of the following five functions: To gather measurement data and associated metadata of greenhouse and related trace gas species from various platforms of the GAW observation network and relevant international research programmes. To archive the data of known quality for long-term use after validation. To make the archived data available to users via the Internet. To disseminate value-added products and user support information in order to facilitate more reliable monitoring and data analysis.

The WDCGG gathers measurement parameters regarding greenhouse gases and related gases in the atmosphere and the ocean (64 gaseous species as of 31 December 2006). The data, which the WDCGG covers, are classified into six observation categories according to the observation platforms or methods used (see WDCGG Data Submission and Dissemination Guide). Air sampling observation at a ground-based station. Air sampling observation for a vertical profile (e.g. multi heights observation using a tower). Air sampling observation by mobile platforms (e.g., aircraft, ships, etc.) . Ice core observation. Surface seawater and overlying atmosphere observation. Hydrographic sampling observation by ships.