

## **Report on activities of WMO World Data Centre for Greenhouse Gases (WDCGG)**

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### **Summary and Purpose of Document**

Activities of WMO World Data Centre for Greenhouse Gases (WDCGG) by Japan Meteorological Agency (JMA) for the year 2007 are reported. The WDCGG has now been operating for 17 years since 1990. In 2007, The WDCGG revised the "Data Reporting Manual for WDCGG" and the new WDCGG website was made available.

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### **ACTION PROPOSED**

The meeting is invited to note the information contained in this document for discussions under Agenda Item 6.4.

# Report on activities of WMO World Data Centre for Greenhouse Gases (WDCGG)

## Japan Meteorological Agency

### 1. WDCGG in GAW

In the Global Atmosphere Watch programme promoted by WMO, there are six World Data Centres—for Greenhouse Gases, Ozone/ UV, Precipitation Chemistry, Solar Radiation, and Aerosols, Remote Sensing of the Atmosphere—which collect, archive, and provide observation data at stations all over the world. The WMO World Data Centre for Greenhouse Gases (WDCGG), first established at the Japan Meteorological Agency (JMA) in 1990, has now been operating for more than 15 years under the GAW programme.

The functions of WDCGG are as follows: 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 (Fig.1).

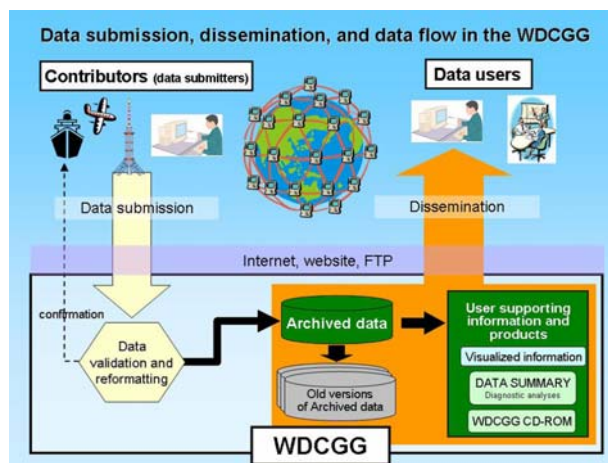


Fig.1 Schematic architecture of functions of the WDCGG

### 2. Data collection and archive

So far, about 300 stations in 60 countries submitted data to the WDCGG (Fig.2). Data submitting stations have been increasing (Fig.3). The WDCGG is establishing the data validation procedure that confirms the data quality to a submitter when submitting data are unnatural. Currently, most of the observation data are submitted to the WDCGG with 1 ~ 2 year delay.

The WDCGG has archived data on the concentrations of greenhouse and related gases (about 60 gaseous species: CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, CO, etc.) in the atmosphere and the ocean.

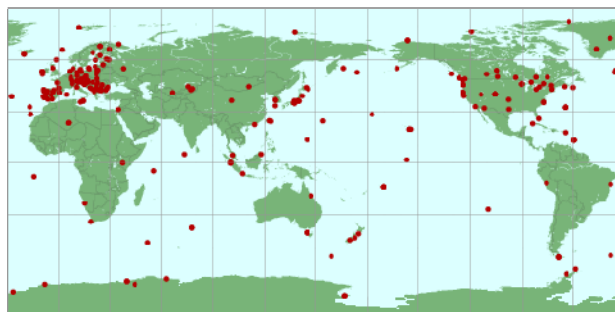


Fig.2 Location map of data submitting stations (except mobile stations)

### 3. Distribution of data and supporting information

The WDCGG provides archive data and supporting information, such as visualized information and data diagnostic products. All archive data and supporting information can be viewed or downloaded on the WDCGG website (<http://gaw.kishou.go.jp/wdcgg/wdcgg.html>).

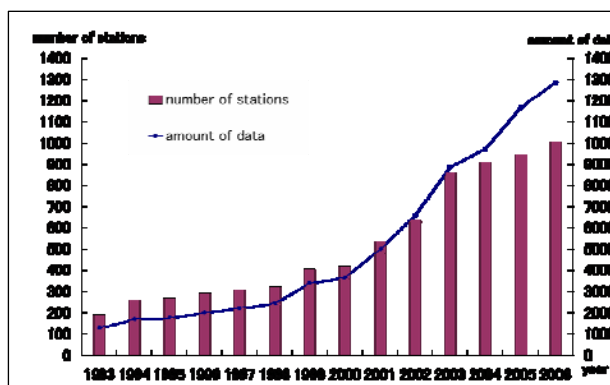


Fig.3 Annual variation of submitted data

#### 4. New WDCGG Guide

The WDCGG revised the “DATA REPORTING MANUAL of the WMO World Data Centre for Greenhouse Gases” published in 1991, and newly published it as the “WDCGG Data Submission and Dissemination Guide” in June 2007. The objectives of this Guide are 1) To make better use of Archived data, the overall activities of the WDCGG in responding to the social demands of observers, scientific communities, and the public are introduced and 2) To gather more appropriate observation data and associated metadata, the purposes, function, and operational courses of the WDCGG are clarified. The new WDCGG Guide can be downloaded on the WDCGG website. The points of the new Guide are as follows:

##### 1. Data format

After publishing the DATA REPORTING MANUAL in 1991, various species and types of data were received to the WDCGG, which caused a divergence in the dissemination of archived data files. As a result, this situation causes complications in data handling and consequently degraded the usability of the WDCGG. To improve this situation, the WDCGG has established new data dissemination file formats, aiming at the facilitation of use of archived data in the WDCGG. The new data dissemination file formats are computer familiar FORTRAN fitting formats.

##### 2. Metadata

The items (format) of the metadata have been changed. The metadata are converted from the current (old) formats to the new ones by the WDCGG, but some items that newly introduced are being left blank. The WDCGG requests contributors to fill these blanks on the new website.

#### 5. New WDCGG website

The new WDCGG website, which offers enhanced convenience to users, e.g. by improving the search function for targeted stations and data, has been released since July 2007

(<http://gaw.kishou.go.jp/wdcgg/wdcgg.html>). This renewal was introduced after the publication of the WDCGG Guide. Through this website, users can download the archive data by FTP. Furthermore, the new website has easy-to-use search functions for targeted stations and data (Fig.4), and a quick plot function to produce figures in both PNG and PDF formats.

For non-profit purposes only, the archive data can be used freely with the following credit: “On any publication using data from individual station, the author must contact data submitters concerning co-authorship or acknowledgments, contact data submitters concerning co-authorship or acknowledgments, and make proper descriptions of data sources in their references. They are formal obligations of WMO/GAW for data users.”

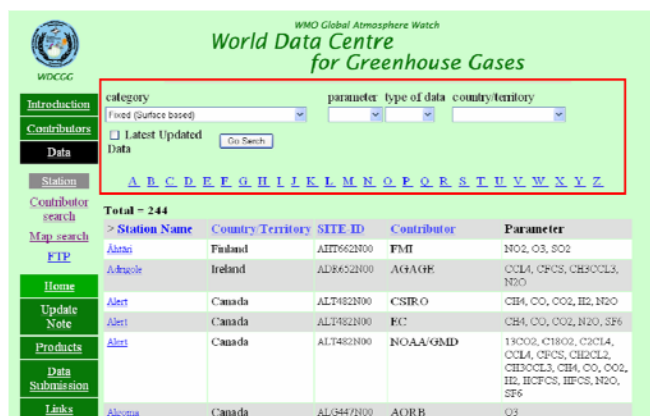


Fig.4 A sample page of WDCGG website

#### 6. WMO Annual Greenhouse Gas Bulletin

The annual publication of WMO Greenhouse Gas Bulletin, which reports the latest trends and atmospheric burdens of the most influential, long-lived greenhouse gases - CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O - as well as a summary of the contributions of the lesser gases, were issued in November 2007 (also available from the above page). The WDCGG is contributing to the preparation of this Bulletin by taking charge of the analysis of the observational data from the stations. The Bulletin will be issued every year, just before the Conference of the Parties of UNFCCC.