

CGMS-XXXI JMA-WP-12

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-Agenda Item: II/4

-Discussed in WG II

Status of Data Processing for Climate Monitoring Applications~~ON MULTI-~~
~~FUNCTIONAL TRANSPORT SATELLITES~~

~~To~~ [This paper](#) reports on the status of data processing for climate monitoring applications at MSC as the response to the Action Item 30.09 from the previous meeting.

Status of Data Processing for Climate Monitoring Applications ~~PLAN ON~~ ~~MULTI-FUNCTIONAL TRANSPORT SATELLITES~~

As the contribution to the climate monitoring and relevant research activities, Meteorological satellite Center (MSC) of Japan Meteorological Agency (JMA) has been producing and providing basic data sets for International Satellite Cloud Climatology Project (ISCCP) and Global Precipitation Climatology Project (GPCP), which are promoted under the framework of WCRP. Additionally, the re-processing of the Atmospheric Motion Vectors (AMVs) and the re-analysis of the quality control for TOVS data have been performed for the use of the long-term reanalysis project of JMA, Japanese Re-Analysis 25 years (JRA-25). These activities are summarized in following sections.

1. Production and Provision of the ISCCP/GPCP data for Climate Monitoring

For the purpose of ISCCP, MSC has been providing infrared channel (IR) and visible channel (VIS) observation data of Japanese geostationary meteorological satellites in predetermined format since July 1983. The IR1 histogram data has been provided as the fundamental information for the global precipitation datasets of GPCP since January 1987. The production and the provision of the datasets for ISCCP and GPCP have been continued under the back-up operation of GMS-5 with GOES-9 since 22 May 2003.

2. Re-processing of AMVs

JMA, in cooperation with the Central Research Institute of Electric Power Industry (CRIEPI), initiated JRA-25 aiming to produce homogenous and high-quality analysis data set of the global atmosphere covering the period from 1979 to 2004. (Please refer to the URL: <http://www.jreap.org/indexe.html> for more details). For the use of this re-analysis project, MSC has re-processed the archived GMS VISSR IR data from April 1987 to December 2002 and VIS data from April 1991 to December 2002, and produced the high-density AMVs with high accuracy. WV AMV's are also re-processed for the period from June 1995 to December 2002. AMVs are derived using the MSC's latest AMV extraction software that automatically derives the high-density wind vectors tagged with quality control indexes same as EUMETSAT Quality Indicator (QI). [2009 after-stand-by-operation-in-a-geostationary-orbit](#)

3. Quality Controls for TOVS data re-analysis

In the process of JRA-25, it is planned to make use of the level-1c TOVS/ATOVS data (from 1978 TIROS-N to 2002 NOAA-15, 16) developed by ECMWF for its long-term reanalysis project, ERA-40. MSC has been performing quality controls (QC) of the TOVS/ATOVS data in cooperation with Climate Information Division of JMA as in the part of JRA-25. It is expected that understandings about the historical TOVS/ATOVS data will be accumulated and deepened, and the produced QC information and the data passed the QC will contribute to improve the reliability of JRA-25 and future climate analyses.