

JMA'S GSICS ACTIVITIES

In response to CGMS Recommendations 34.05 and 34.06

This paper reports on JMA's activities regarding GSICS in response to Recommendations 34.05 and 34.06.

JMA has been participating in GSICS since the system's establishment, and plans to operate a GSICS infrared intercalibration system on the same platform as the current MTSAT-1R/NOAA intercalibration system by June 2008.

In March 2007, JMA installed a new storage system with 160 TB of disk space that is capable of holding all historical data from the JMA meteorological satellites. Using this system and data, JMA plans to reprocess GMS-5 and MTSAT-1R images and regenerate AMVs from these images for reanalysis.

JMA'S GSICS ACTIVITIES

This paper reports on the activities of the Japan Meteorological Agency (JMA) regarding the Global Satellite Intercalibration System (GSICS) in response to Recommendations 34.05 and 34.06.

1 PREPARATION TOWARD GSICS INFRARED INTERCALIBRATION

JMA plans to implement a GSICS infrared intercalibration system by June 2008 in accordance with the decision made at the first GSICS Executive Panel meeting in October 2006. The system will be constructed on the basis of an algorithm to be defined in discussions of the GSICS Research Working Group (GRWG). As reported at CGMS-34 JMA-WP-07, JMA operationally performs the intercalibration of the MTSAT-1R's infrared channels by comparing with AVHRR on board satellites NOAA-16, 17 and 18. The results are available on the website at http://mscweb.kishou.go.jp/monitoring/mtsats_monit.htm.

The results of the GSICS infrared intercalibration will also be available on JMA's Meteorological Satellite Center (MSC) website. JMA will implement the GSICS infrared intercalibration on the same platform as the current MTSAT-1R/NOAA intercalibration system. The platform consists of fast and redundant configured servers, disks, networks and a large-volume tape library sufficient for operational use.

2 PREPARATION TOWARD GSICS VISIBLE INTERCALIBRATION

In collaboration with Tokyo University's Center for Climate System Research (CCSR) and Chiba University's Center for Environmental Remote Sensing (CEReS), JMA is developing a reprocessing technique for the calibration of previous GMS-5 visible images. The calibration is examined using radiance comparison between observation and simulation over specific homogeneous target surfaces such as ocean, desert and smooth cloud top. For the simulation, the RSTAR radiative transfer model developed by CCSR is used along with atmospheric fields analyzed by the JMA reanalysis JRA-25 and MODIS retrieved properties. The achievements and acquisitions of this study are expected to contribute to the establishment of a GSICS visible calibration algorithm.

3 PLAN TO REPROCESS PREVIOUS SATELLITE DATA

In March 2007, JMA installed a new storage system consisting of two UNIX servers, two LINUX servers and a 160 TB NAS disk with a view to enhancing the reprocessing of previous satellite images and products for climate diagnostics and research. All historical data from the GMS series and MTSAT-1R will be copied to this storage facility. Using this system and the data stored, JMA plans to reprocess the calibration of GMS-5 visible images and the navigation of MTSAT-1R images by the end of March 2008. JMA also plans to regenerate atmospheric motion vectors from previous images of GMS-5 and MTSAT-1R using the latest algorithms for the Japanese reanalysis project.