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EXPERT TEAM ON SATELLITE UTILIZATION AND PRODUCTS

ITEM:

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MTSAT Data Access

(Submitted by JMA)

Summary and Purpose of Document

This working paper reports the status of access to the data of the Multi-functional Transport Satellite (MTSAT), which is currently operated by the Japan Meteorological Agency.

ACTION PROPOSED

The sixth session is invited to take note of the information provided in this document.

MTSAT DATA ACCESS

This working paper reports the status of access to the data of the Multi-functional Transport Satellite (MTSAT), which is currently operated by the Japan Meteorological Agency.

1. Status of MTSAT operation

JMA operates two geostationary satellites: Multi-functional Transport Satellite-1R and Multi-functional Transport Satellite 2 (MTSAT-1R and MTSAT-2). The geostationary positions of them are 140 degrees east for MTSAT-1R and 145 degrees east for MTSAT-2, respectively. Currently, JMA operates MTSAT-2 as a primary earth observing satellite, and MTSAT-1R as its backup. Operating these satellites, JMA captures the earth observations of 24 full-disk images, 24 Northern Hemisphere images and 8 Southern Hemisphere images a day. To disseminate observed images, MTSAT-1R has continued to operate the service even after the imaging operation was switched over to MTSAT-2 on 1 July 2010.

2. Provision of MTSAT imagery data

2.1 Direct image dissemination service from space

There are two types of MTSAT imagery data directly disseminated via MTSAT to users. Full resolution imagery data is broadcast to the Medium-scale Data Utilization Stations (MDUSs) by the procedure of the High Rate Information Transmission (HRIT), and low resolution imagery data is broadcast to the Small-scale Data Utilization Stations (SDUSs) by the procedure of the Low Rate Information Transmission (LRIT). The data format of HRIT and LRIT is a digital format standardized by the Coordination Group for Meteorological Satellites (CGMS), "CGMS 03-LRIT HRIT Global Specification" (CGMS, 1999), http://www.eumetsat.int/idcplg?IdcService=GET_FILE&dDocName=PDF_CGMS_03&RevisionSelectionMethod=LatestReleased

For more information, please visit the JMA Web page, <http://www.jma.go.jp/jma/jma-eng/satellite/ds.html>.

2.2 Image provision service via landline

In addition to the direct dissemination services from space, JMA operates the landline provision service of MTSAT imagery data via the JMA Data Dissemination System (JDDS) to National Meteorological and Hydrological Services (NMHSs). There are three types of data available on JDDS, such as HRIT, JPEG and the Satellite Animation and Interactive Diagnosis (SATAID) data.

The HRIT data of all channels and all observations is prepared on the ftp server on JDDS. The JPEG picture imagery data is also prepared on the ftp server. This data is for the support of users having low bandwidth Internet connection. The HRIT and JPEG data are downloadable via the Internet. SATAID data, which can be browsed on its dedicated viewer software, can be accessible via the Internet Virtual Private Network (Internet-VPN). The access to these data is free of charge. However, this service is limited to NMHSs due to the limitations of server's capability and network bandwidth.

For more information, please visit the JMA Web page, <http://www.jma.go.jp/jma/jma-eng/satellite/ds.html>.

2.2 Clipped MTSAT imagery on Web page

JMA provides real-time MTSAT images clipped for various areas of WMO RA-II and RA-V on its web page (http://mscweb.kishou.go.jp/sat_dat/index.htm) as shown in Figure 1. Through this page, individuals and national weather service providers in RA-II and RA-V can easily see satellite

images of clouds directly on the Internet without the need for a particular image-viewing system. Currently, imagery from the 15 areas listed in Table 1 is provided. The web page shows the latest 24 hourly images, which can be played as an animation. JMA can also provide additional image sectors in line with user requirements.

3. DCPC DESIGNATION OF MSC

In its role as part of the WMO Information Service (WIS), JMA was designated as a Global Information System Centre (GISC) and the Meteorological Satellite Center (MSC) was selected as a Data Collection or Production Centre (DCPC) at the 16th WMO Congress in May 2011. JMA officially started GISC and DCPC operations on 1 August 2011. GISC Tokyo's portal site is now online at <http://www.wis-jma.go.jp/cms/>.

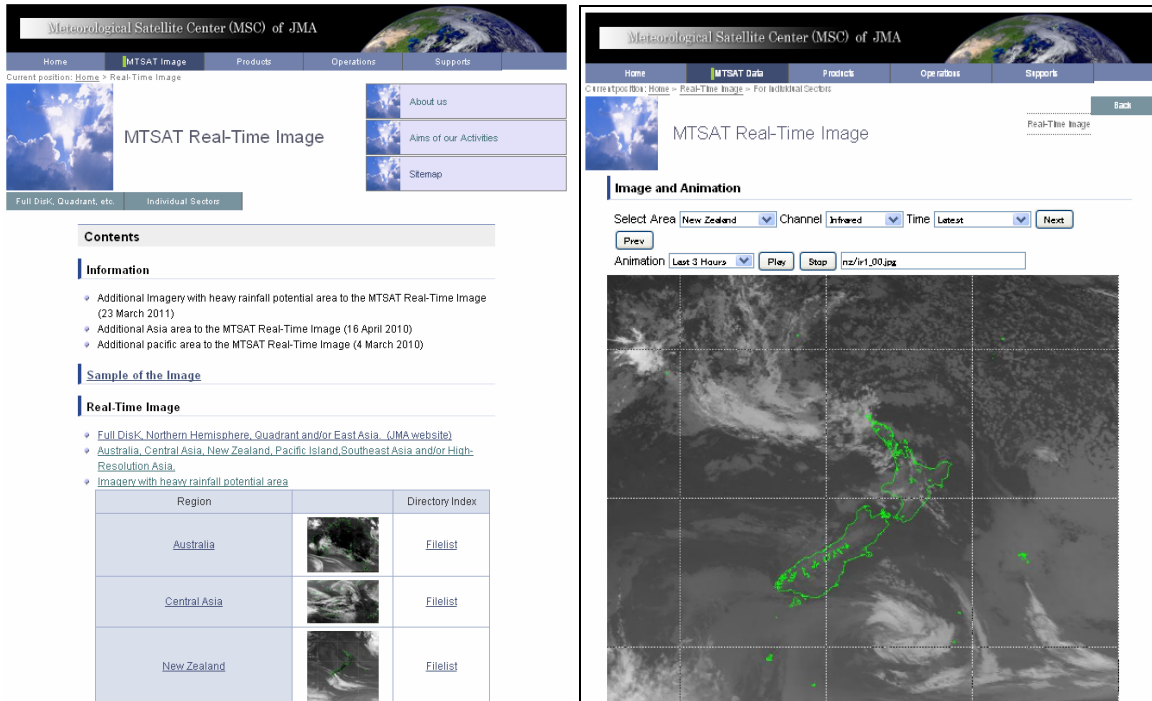


Figure 1 Real-time MTSAT imagery on the MSC website (http://mscweb.kishou.go.jp/sat_dat/index.htm)

Table 1 List of imagery areas

Name of area	Upper left long. lat.	Lower right long. lat.
Australia	110°E, 10°S	155°E, 45°S
Central Asia	70°E, 55°N	120°E, 25°N
New Zealand	155°E, 25°S	170°W, 60°S
Pacific Islands 1	130°E, 25°N	165°E, 5°S
Pacific Islands 2	155°E, 20°N	175°W, 5°S
Pacific Islands 3	140°E, 0	160°W, 25°S
Pacific Islands 4	172°E, 9°S	167°W, 26°S
Pacific Islands 5	156°E, 9°S	178°E, 26°S
Pacific Islands 6	149°E, 1°S	178°E, 26°S
Southeast Asia 1	80°E, 30°N	115°E, 0
Southeast Asia 2	105°E, 30°N	140°E, 0
Southeast Asia 3	90°E, 10°N	145°E, 15°S
High-Resolution Asia 1	99°E, 16°N	110°E, 8°N
High-Resolution Asia 2	80°E, 32°N	92°E, 24°N
High-Resolution Asia 3	84°E, 27°N	95°E, 19°E