



CGMS-38 JMA-WP-02  
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## **MULTI-FUNCTIONAL TRANSPORT SATELLITE (MTSAT) STATUS**

In response to CGMS Permanent Action 1

JMA switched the operational use of MTSAT-1R's imaging function over to MTSAT-2 on 1 July 2010.

MTSAT-2 operates in geostationary orbit at 145 degrees, and MTSAT-1R has been on standby in geostationary orbit at 140 degrees east since the switchover of the imaging function.

The IDCS of MTSAT-1R has been functioning properly since the satellite began operation.

JMA currently obtains images from MTSAT-1R to enable examination and review of small-sector observation capability.

Note:  
MTSAT - Multi-functional Transport Satellite

## **MULTI-FUNCTIONAL TRANSPORT SATELLITE (MTSAT) STATUS**

### **1 INTRODUCTION**

The Multi-functional Transport Satellite-2 (MTSAT-2), launched on 18 February, 2006, has been operating in geostationary orbit at 145 degrees east since 1 July 2010. MTSAT-1R, launched on 26 February, 2005, has been on standby in geostationary orbit at 140 degrees east since 1 July 2010. JMA switched the operational use of MTSAT-1R's imaging function over to MTSAT-2 on 1 July 2010 in response to MTSAT-1R's earth imaging sensor reaching the end of its five-year design lifetime. The current status of the two satellites is outlined below.

### **2 CURRENT MTSAT STATUS**

#### **2.1 MTSAT-2**

No significant spacecraft anomalies on MTSAT-2 have occurred since CGMS-37. The satellite observes 24 full-disk images, 24 Northern Hemisphere images and 8 Southern Hemisphere images a day. The imaging and dissemination schedule has been slightly different since the switchover. In addition, full-disk visible images have been added to the LRIT timetable to be disseminated hourly; operational information can be accessed at <http://mscweb.kishou.go.jp/operation/index.htm>.

#### **2.2 MTSAT-1R**

Operation provisionally switched to MTSAT-2 observation during MTSAT-1R system's loss of lock (LOL) for the earth pointing and attitude control that occurred in November 2009.

MTSAT-1R has been on standby in geostationary orbit at 140 degrees east since 1 July 2010. In the event of the need for antenna or ground system annual maintenance or problems with MTSAT-2, MTSAT-1R will take over its observation duties until the MTSAT-2 system's recovery.

MTSAT-1R is observing a small-sector around the Japan area at five-minute intervals on a trial basis from September to October 2010. Moreover, JMA is planning to provide small-sector imagery data and products to aeronautical users during the daytime from June to September 2011.

#### **2.3 DCS (Data Collection System)**

##### **2.3.1 Status of registered IDCPs**

MTSAT-1R's International Data Collection System (IDCS) has been functioning properly since the satellite started operation. Although severe interference was frequently observed on IDCS channel 33 from August 2009 to July 2010, there was no negative effect on IDCS operation because no International Data Collection Platform (IDCP) is registered on this channel. IDCPs were registered on 5 out of 33

MTSAT-IDCS channels as of 31 July, 2010, and no effective data has been transmitted during the reporting period. Further information regarding MTSAT-IDCS is available under the Monthly Operations reports on the MSC website at [http://mscweb.kishou.go.jp/operation/opr\\_report.htm](http://mscweb.kishou.go.jp/operation/opr_report.htm).

### **2.3.2 Tidal data from coastal DCPs**

Since the 2004 Indian Ocean Tsunami, the number of DCPs reporting tidal data has increased in the MTSAT-1R's Regional DCS. As of 1 September 2010, tidal data are received from 24 DCPs, and four DCPs are waiting to start operation this year. Currently, their data transmission intervals are mostly 12, 15 and 60 minutes. However, the ICG/PTWS\* has recommended shorter intervals such as five minutes or less for tsunami warnings and detection. If the interval is five or six minutes, one channel can be allocated to two or three DCPs only. Accordingly, it may be necessary to restructure channel allocation to make more efficient use of the frequency including the IDCS channel.

\* ICG/PTWS: Intergovernmental Coordination Group for the Pacific Tsunami Warning and Mitigation System

## **3 MTSAT DISSEMINATION SERVICES**

### **3.1 Configuration of operation**

The geostationary orbit positions of MTSAT-1R and MTSAT-2 have not changed, and cloud images continue to be acquired from 145 degrees east since the switchover.

In the event of MTSAT-2 abnormalities or the need for antenna or ground system annual maintenance, MTSAT-1R will be brought back into operation.

### **3.2 Dissemination services**

MTSAT-1R has continued its HRIT/LRIT image data dissemination services from space to MDUS/SDUS (Medium-scale Data Utilization Stations/Small-scale Data Utilization Stations) since the switchover. As a result, MDUS and SDUS users do not need to change the direction of their receiving antennas. Landline dissemination services via the JMA Data Distribution System (JDDS) providing HRIT and JPEG image data have also continued.

### **3.3 Dissemination of data**

The longitude of the center of HRIT image data has changed to 145 degrees east since the switchover in accordance with MTSAT-2's position of geostationary orbit. The map projection parameters for LRIT and JPEG image data have not changed.

### **3.4 DCS**

MTSAT-1R has continued DCS operation, including that of IDCS, to collect environmental data from DCPs since the switchover.