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COMMISSION FOR BASIC SYSTEMS  
OPEN PROGRAMME AREA GROUP ON INTEGRATED OBSERVING SYSTEMS

INTER-PROGRAMME EXPERT TEAM ON SATELLITE UTILIZATION AND  
PRODUCTS

ITEM: 10.2

FIRST SESSION

Original: ENGLISH

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## **MTSAT-1R Special Observation for Tracking Typhoon Hagupit**

*(Submitted by JMA)*

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

This document reports on the MTSAT-1R special observation carried out for tracking typhoon Hagupit (T1422).

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### **ACTION PROPOSED**

The first session is invited to note the activities of JMA with satellite observations for disaster risk reduction.

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- Appendices:**
- A. RSMC best track of Typhoon Hagupit (T1422)
  - B. JMA/MSC website for the MTSAT-1R special observation

## DISCUSSION

### 1. Introduction

Typhoon Hagupit (T1422), which formed as a tropical depression (TD) at 12 UTC on 30 November 2014 and was upgraded to typhoon (TY) intensity at 18 UTC on 2 December 2014 keeping its westward track, was expected to hit and seriously affect the Philippines. In order to help the Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA) react to Hagupit, the Japan Meteorological Agency (JMA) conducted 10-minute interval special observation by MTSAT-1R as the activities of the Regional Specialized Meteorological Center (RSMC) Tokyo - Typhoon Center.

#### **Special observation for Typhoon Hagupit**

Satellite: MTSAT-1R

Period: 03UTC 4 - 00UTC 11 December 2014

Observation Interval: 10-minute

Target: Typhoon Hagupit (T1422) (see Appendix A for the RSMC best track.)

### 2. Data distribution

RGB composite images from the MTSAT-1R special observation were provided in real time at the website of JMA/MSM (see Appendix B). The URL of the website was informed to PAGASA, contact points of SWFDP-Southeast Asia and focal points of Working Group of Meteorology in Typhoon Committee. JMA also provided NetCDF data and HRIT file data via JDDS (JMA Data Dissemination System). An announcement was made for JDDS account application to users who needed it.

### 3. Other activities conducted by JMA

Besides the MTSAT-1R special observation, JMA conducted the following activities to fully prepare for typhoon Hagupit.

- JMA assigned a senior forecaster of Tokyo Typhoon Center as a contact person on this action. His cell phone number and e-mail address were accessible 24 hours from PAGASA.
- JMA experts exchanged technical views on storm surge forecasts with PAGASA experts.
- JMA provided regular products through various channels.

### 4. From MTSAT-1R special observation to Himawari-8

The interval of the MTSAT-1R special observation is the same as that of Himawari-8 full disk observation (10-minute interval). This means that rapid scan observation will be standard in the East Asia and the Western Pacific when Himawari-8 becomes operational in the middle of 2015. Himawari-8 also observes target area (1000 x 1000 km) at 2.5-min interval. The highest priorities will be given to typhoons and volcanic eruptions for target area selection and scheduling.

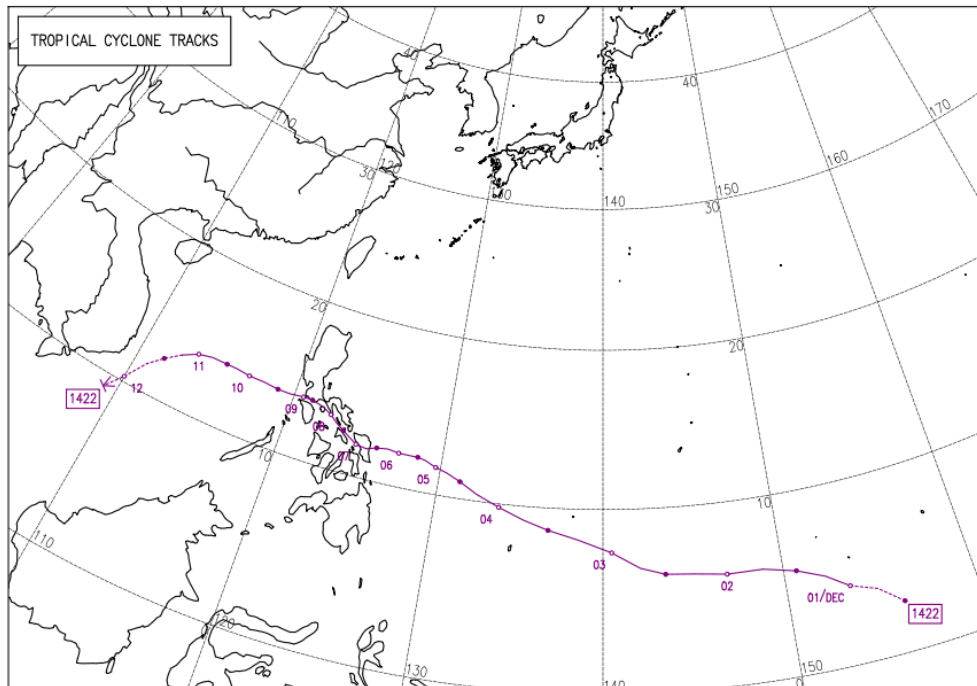
Himawari-8 full disk data with high temporal resolution (10-minute interval) will be distributed by JMA to National Meteorological and Hydrological Services via the Internet (HimawariCloud service) and a communication satellite (HimawariCast service). Unlike additional data and products from a provisional special observation, high temporal resolution data and products used in routine operations would be easily incorporated into routine forecasting procedures in an emergency. This would be expected to truly contribute to disaster risk reduction. To fully enjoy the benefits of Himawari-8, it would be most important to establish Himawari-8 data receiving environment. At the same time, research and development activities should be promoted within the framework of WMO and CGMS in cooperation with RSMCs in order to explore new techniques to utilize Himawari-8 data for operational meteorological services including tropical cyclone analysis and forecasts.

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### Appendix A: RSMC Best Track of Typhoon Hagupit (T1422)

Best track data is available at the website of RSMC Tokyo – Typhoon Center:

[http://www.jma.go.jp/jma/jma-eng/jma-center/rsmc-hp-pub-eq/RSMC\\_HP.htm](http://www.jma.go.jp/jma/jma-eng/jma-center/rsmc-hp-pub-eq/RSMC_HP.htm)



- : TS, STS, TY
- : Position at 0000 UTC with date
- YNNN : Identification Number
- - - - - : TD or extratropical cyclone
- : Position at 1200 UTC

### Appendix B: JMAMSC website for the MTSAT-1R special observation

Meteorological Satellite Center (MSC) of JMA

[Home](#) | [MTSAT Data](#) | [Products](#) | [Operations](#) | [Supports](#)

Current position: [Home](#) > [Real-Time Image](#) > For RGB Composite Imagery

**Image and Animation (tentative)**

Area R2E Time 03:10 UTC 04 December 2014 Sandwich ▼ Prev Next

Animation Last 1 Hours Play Stop

The screenshot shows a satellite image of the Earth from the MTSAT-1R satellite. The image displays a typhoon over the Philippines and Japan. The typhoon is characterized by a bright red and yellow core, indicating high cloud tops, surrounded by a spiral of blue and green clouds. The surrounding area shows a mix of white and grey clouds. The image is overlaid with a grid of latitude and longitude lines. The interface includes a navigation bar with "Home", "MTSAT Data", "Products", "Operations", and "Supports" links. Below the navigation bar, there is a breadcrumb trail: "Current position: Home > Real-Time Image > For RGB Composite Imagery". The main content area is titled "Image and Animation (tentative)" and includes controls for "Area" (R2E), "Time" (03:10 UTC 04 December 2014), "Sandwich" (dropdown), "Prev", "Next", "Animation" (Last 1 Hours), "Play", and "Stop" buttons.