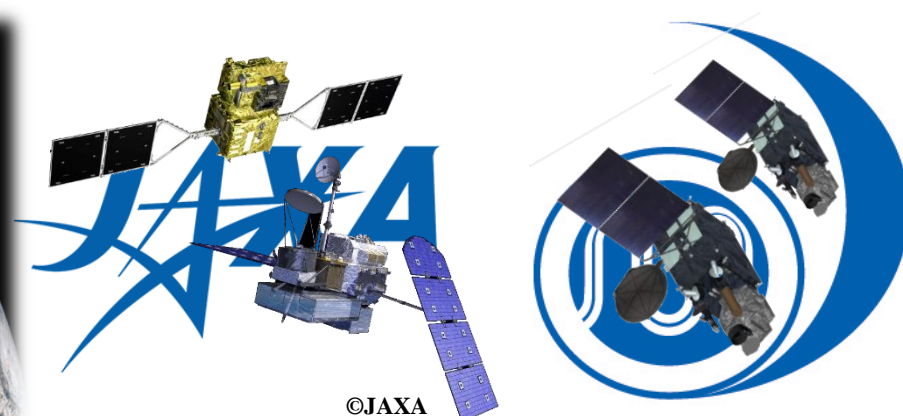
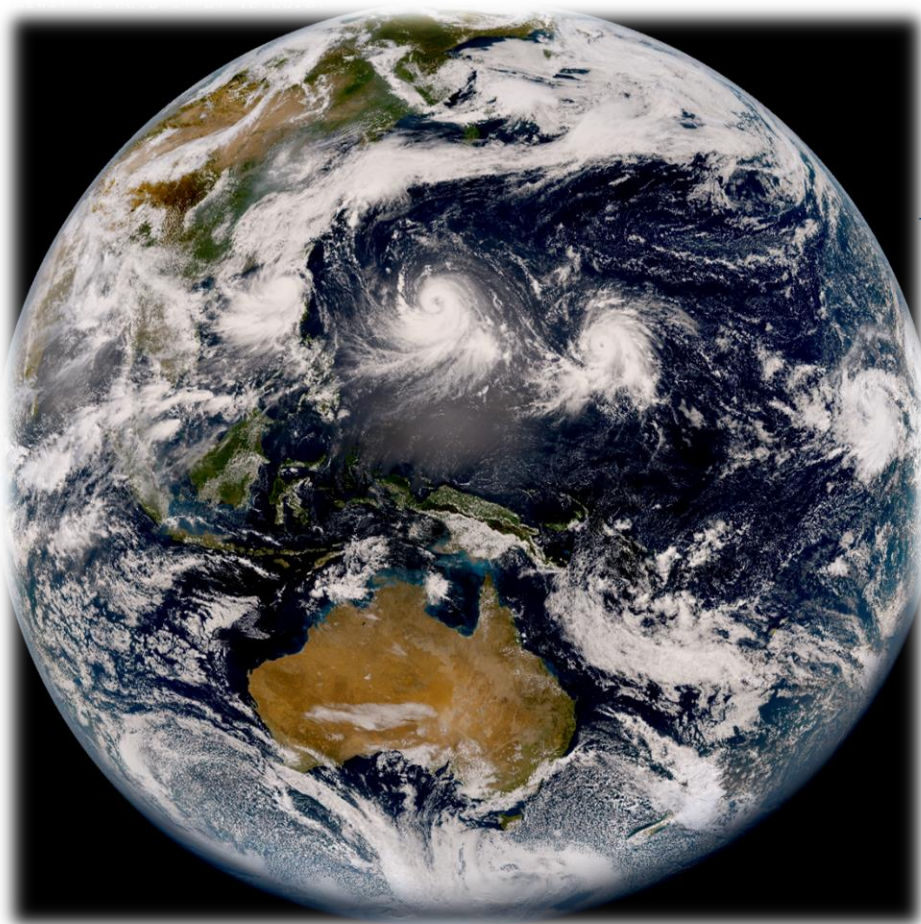


Cooperation for Use of Satellite Data Between JMA and JAXA



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BESSHO Kotaro***

***Satellite Program Division
Japan Meteorological Agency**

First operational image of Himawari-8(July 7, 2015 11JST)

Contents

- Cooperation between JMA & JAXA
- Distribution of Himawari data from JAXA system
- Cooperation in product development
- Data assimilation of JAXA's satellite data in JMA
NWP models
- Conclusion

Cooperation between JMA & JAXA

➤ JMA (Japan Meteorological Agency)

& JAXA (Japan Aerospace Exploration Agency)



➤ Concluded a basic agreement on data verification and exchange in 2003

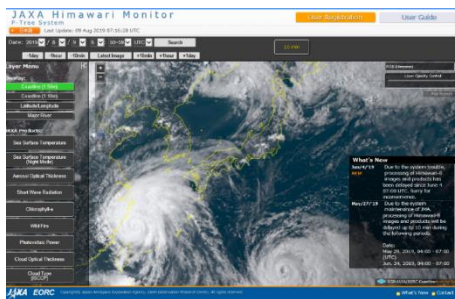
➤ Implementation details specify various data exchanges, joint research, product development, etc.

➤ Specific cooperation

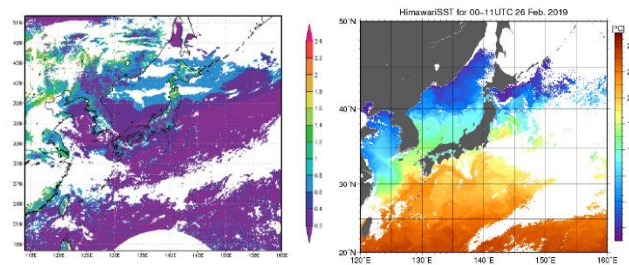
➤ Himawari data and products are displayed and archived on JAXA's data server

➤ JMA implements Himawari products based on algorithms developed by JAXA

➤ Assimilation of JAXA's satellite data into JMA NWP models



Himawari monitor



Aerosol & SST product



Data assimilation

Distribution of Himawari Data from JAXA system

JAXA Himawari Monitor

<https://www.eorc.jaxa.jp/ptree/index.html>

- Himawari data and products are displayed on JAXA's data server
- Himawari data and products can be downloaded from JAXA distribution system.
- HSD, Himawari L1 Gridded data, geophysical parameters produced by JAXA.

Registration here!!

JAXA Himawari Monitor
P-Tree System

日本語 Last Update: 31 Oct 2022 06:43:21 UTC

Date: 2022 / 10 / 31 6:20-29 UTC Search

-1day -1hour -10min Latest Image +10min +1hour +1day 10 min

Layer Menu

Overlay:

- Coastline (1.50m)
- Coastline (1:10m)
- Latitude/Longitude
- Major River

JAXA Products:

- Sea Surface Temperature
- Sea Surface Temperature (Night Mode)
- Aerosol Optical Thickness
- Short Wave Radiation
- Chlorophyll-a
- Wild Fire
- Photovoltaic Power
- Cloud Optical Thickness
- Cloud Type (ISCCP)

RGB (Himawari)

Layer Opacity Control

Full Screen

What's New

- Oct./11/22 Due to the network maintenance, our Web site and FTP service will be unavailable during about 2 hours on the following period. Date: Oct. 13, 2022, 02:50 - 04:00 (UTC)
- Oct./03/22 We have released new version of HIMAWARI-8 Short Wave Radiation products (version 2.0), and Chlorophyll-a products (version 2.0). PLEASE NOTE that the previous version will stop its distribution at the same time and switch to Ver.2.0.

JAXA EORC Copyright © Japan Aerospace Exploration Agency, Earth Observation Research Center, All rights reserved.

RGB-JAXA/EORC | Coastline: 1.50m 1:10m

What's New Contact Us

Cooperation in Product development

Himawari products; SST & Aerosol, retrieved based on JAXA's algorithm and used for monitoring in JMA.

➤ Himawari Sea Surface Temperature (SST) Product

High resolution and high frequency data

➤ Nov. 2016: Start of usage for SST monitoring

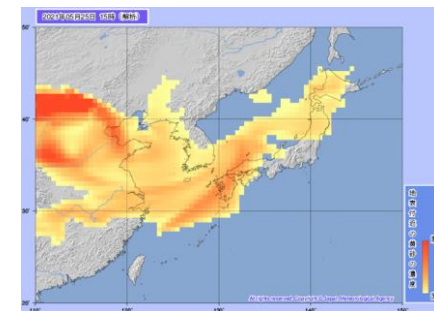
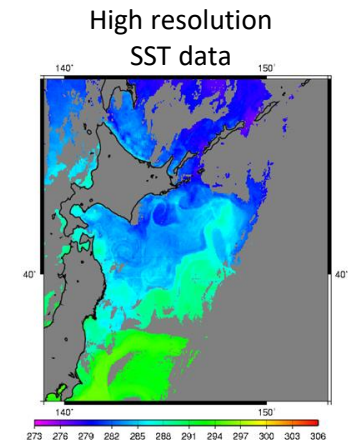
➤ Mar. 2019: Start of usage for MSM(Meso-Scale Model) system

➤ Himawari Aerosol Product

Usage for Aeolian Dust analysis & prediction system

➤ Dec. 2018: Start of creation for Himawari Visible/Near-IR Aerosol Product

➤ Jan. 2020: Start of distribution for "Aeolian Dust analysis & prediction Information"



Aeolian Dust
Information

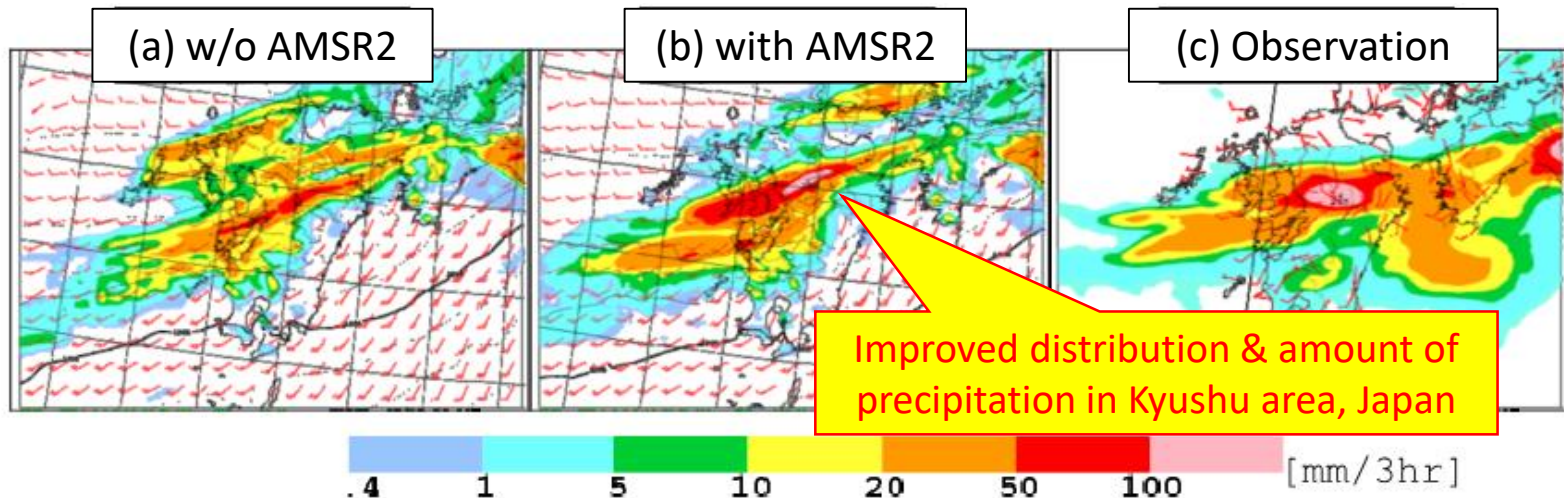
Data assimilation of JAXA's satellite data in JMA NWP models (1)

➤ GCOM-W (Global Change Observation Mission - Water)



GCOM-W/AMSR2

- Sep. 2013: **GSM & MSM** system started data assimilation
- Jan. 2017: **LFM**(Local Forecast Model) system started data assimilation
- Usage regularly in SST analysis, Sea Ice analysis, Japanese Long-term reanalysis



Three hour amount forecast of MSM on 12 July 2012

(a)21 hours forecast (w/o AMSR2), (b)21 hours forecast (with AMSR2), (c)Observation

Data assimilation of JAXA's satellite data in JMA NWP models (2)

➤ GPM (Global Precipitation Measurement mission)

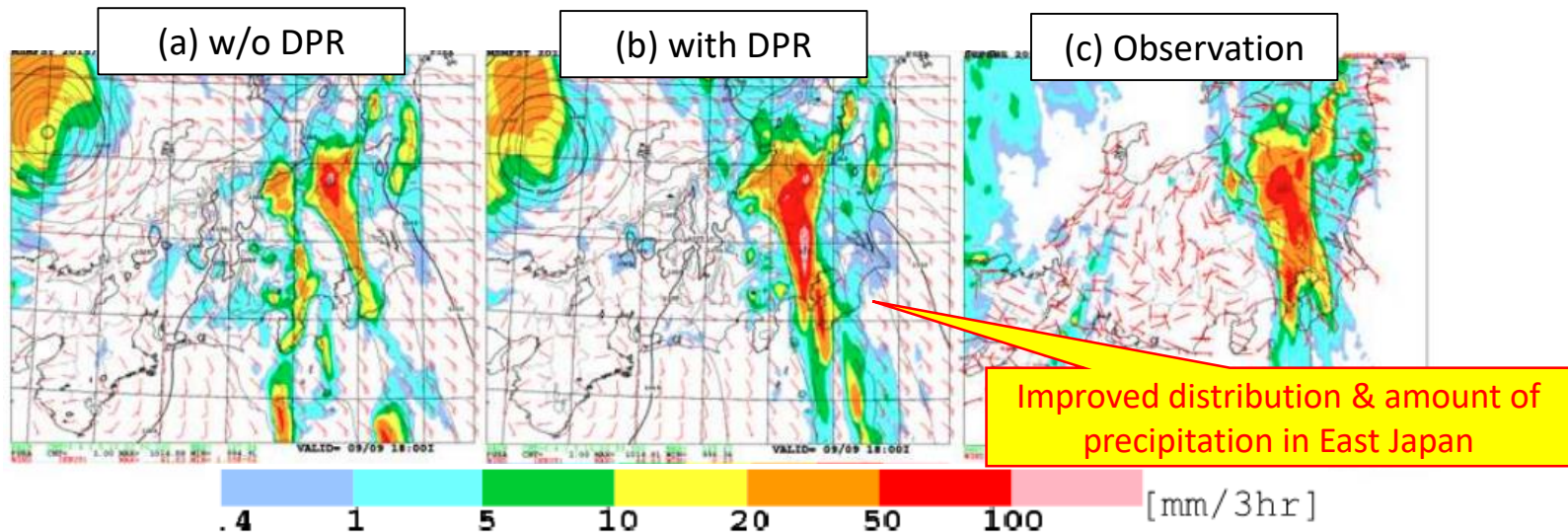


GPM/GMI (GPM Microwave Imager)

- Mar. 2016: **GSM & MSM** system started data assimilation
- Jan. 2017: **LFM**(Local Forecast Model) system started data assimilation

GPM/DPR (Dual-frequency Precipitation Radar)

- Mar. 2016: **MSM** system started data assimilation



Three hour amount forecast of MSM on 9 September 2013

(a)33 hours forecast (w/o DPR), (b)33 hours forecast (with DPR), (c)Observation

Conclusion

- JMA and JAXA are promoting cooperation in various fields based on the basic agreement since 2003.
 - Display and distribution of Himawari data using JAXA data server for researchers
 - JMA's operational use of Himawari products using algorithms developed by JAXA
 - Data assimilation of JAXA satellite into NWP
 - Utilization of GSMaP data developed by JAXA through the RSMC Tokyo for Nowcasting
- Cooperation in future satellites
 - Himawari follow-on program: technical supports by JAXA experts (e.g., Worldwide Technology Trend Survey on Future Satellite/Instruments, feasibility study of GEO IR sounder)
 - JAXA's earth observation mission (e.g., GOSAT-GW, EarthCARE): data utilization and product development of JMA service