Introduction to the JMA's next generation meteorological satellite, Himawari-8/9

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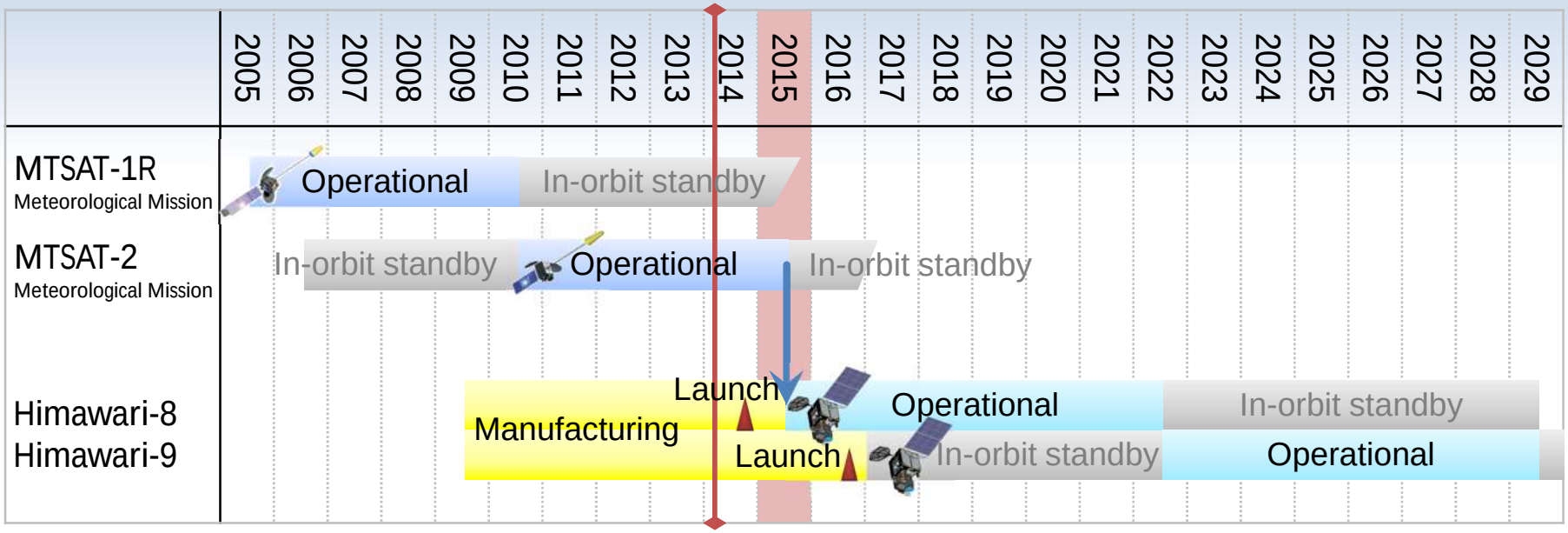
Transition of Operational Satellites

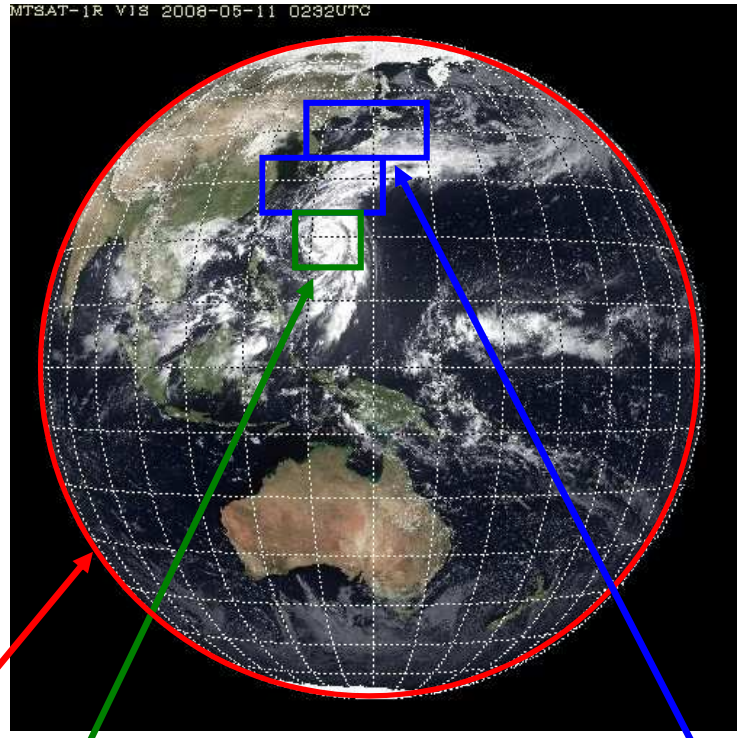


- JMA plans to launch Himawari-8 in 2014 and begin its operation in 2015.
- The launch of Himawari-9 for in-orbit standby is scheduled in 2016.
- Himawari-8/9 will be in operation around 140 degrees East covering the East Asia and Western Pacific regions for 15 years.

Himawari-8/9: Specification of Observation

Channels of the Advanced Himawari Imager (AHI)

Channel	Central Wavelength [μm]	Spatial Resolution	
1	0.43 – 0.48	1 km	RGB Composite True Color Image
2	0.50 – 0.52	1 km	
3	0.63 – 0.66	0.5 km	
4	0.85 – 0.87	1 km	
5	1.60 – 1.62	2 km	
6	2.25 – 2.27	2 km	
7	3.74 – 3.96	2 km	
8	6.06 – 6.43	2 km	Water Vapor
9	6.89 – 7.01	2 km	
10	7.26 – 7.43	2 km	
11	8.44 – 8.76	2 km	SO_2
12	9.54 – 9.72	2 km	O_3
13	10.3 – 10.6	2 km	Atmospheric Windows
14	11.1 – 11.3	2 km	
15	12.2 – 12.5	2 km	
16	13.2 – 13.4	2 km	CO_2



Full disk
Interval: **10 minutes** (6 times per hour)

Japan area
Interval: **2.5 minutes** (4 times in 10 minutes)
Dimension: EW x NS: 2000 x 1000 km x 2

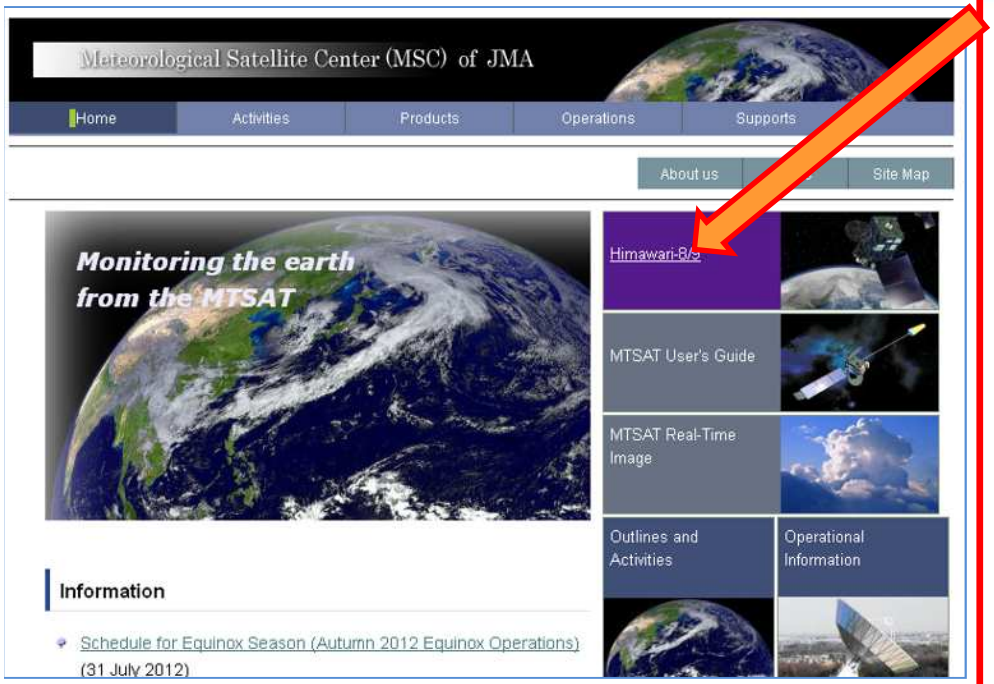
Target area
Interval: **2.5 minutes** (4 times in 10 minutes)
Dimension: EW x NS: 1000 x 1000 km

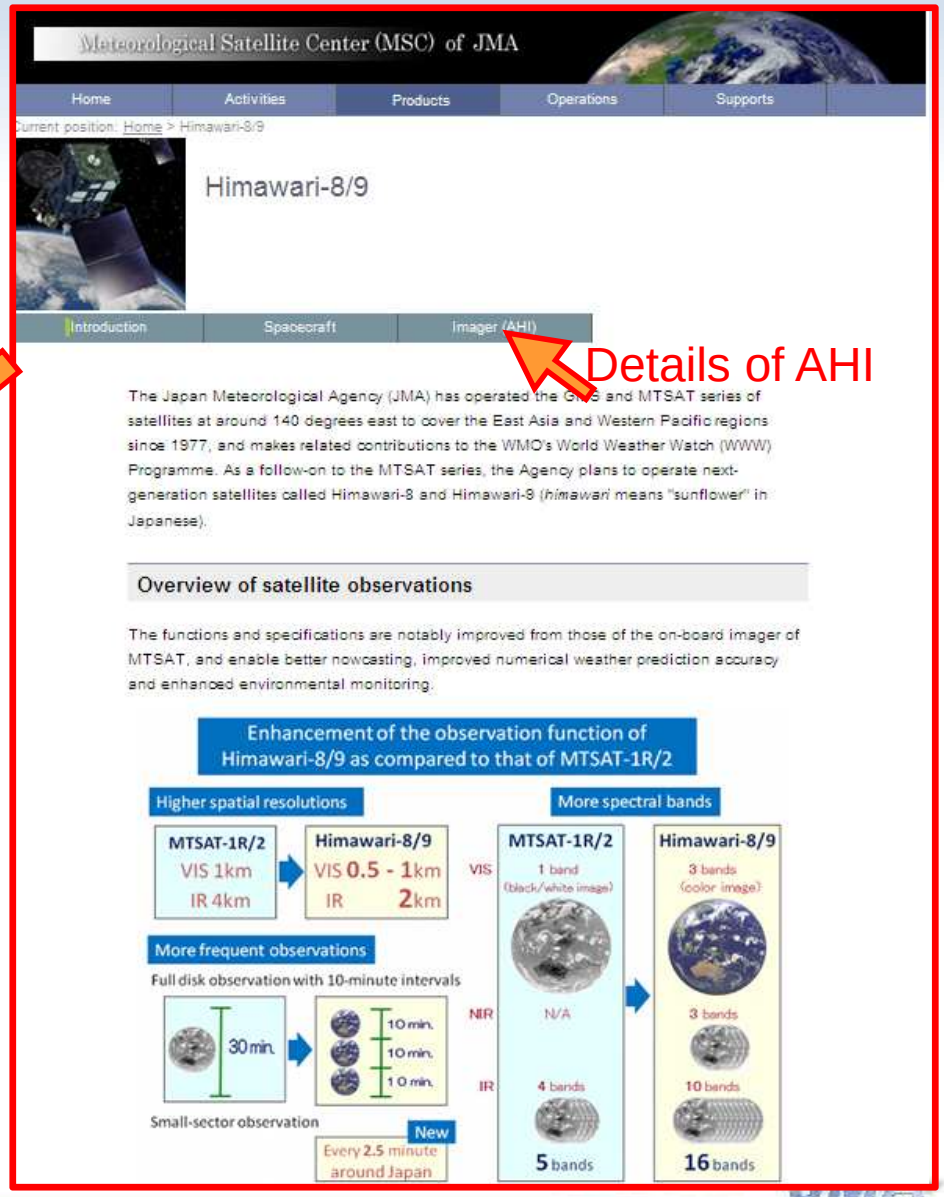
Number of Channels: 5 ⇨ 16

Interval: 30/60 min. ⇨ 10min.

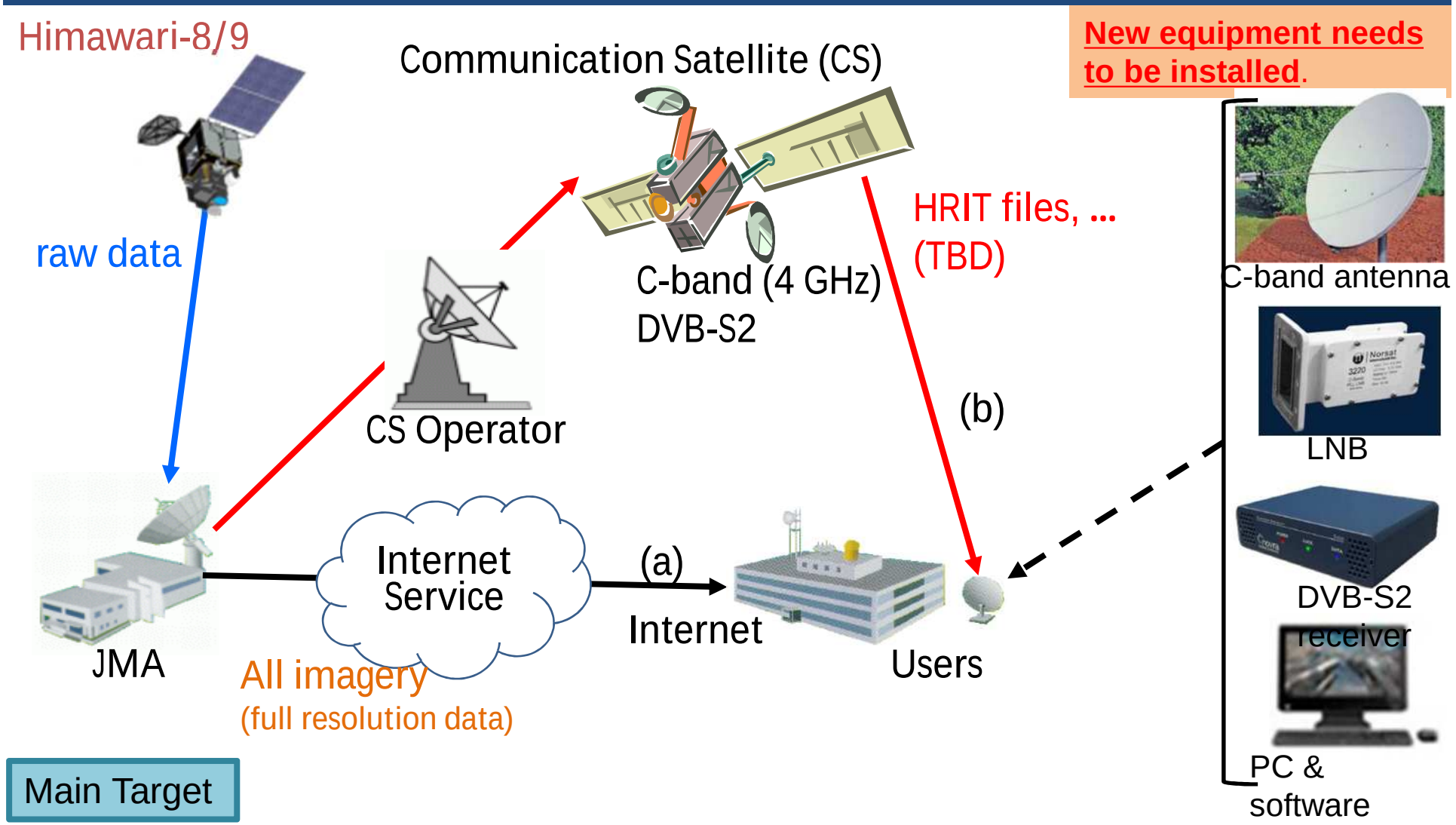
MSC Web Page for Himawari-8/9 Information

MSC website top page
http://mscweb.kishou.go.jp/





Himawari-8/9: Data Distribution/Dissemination

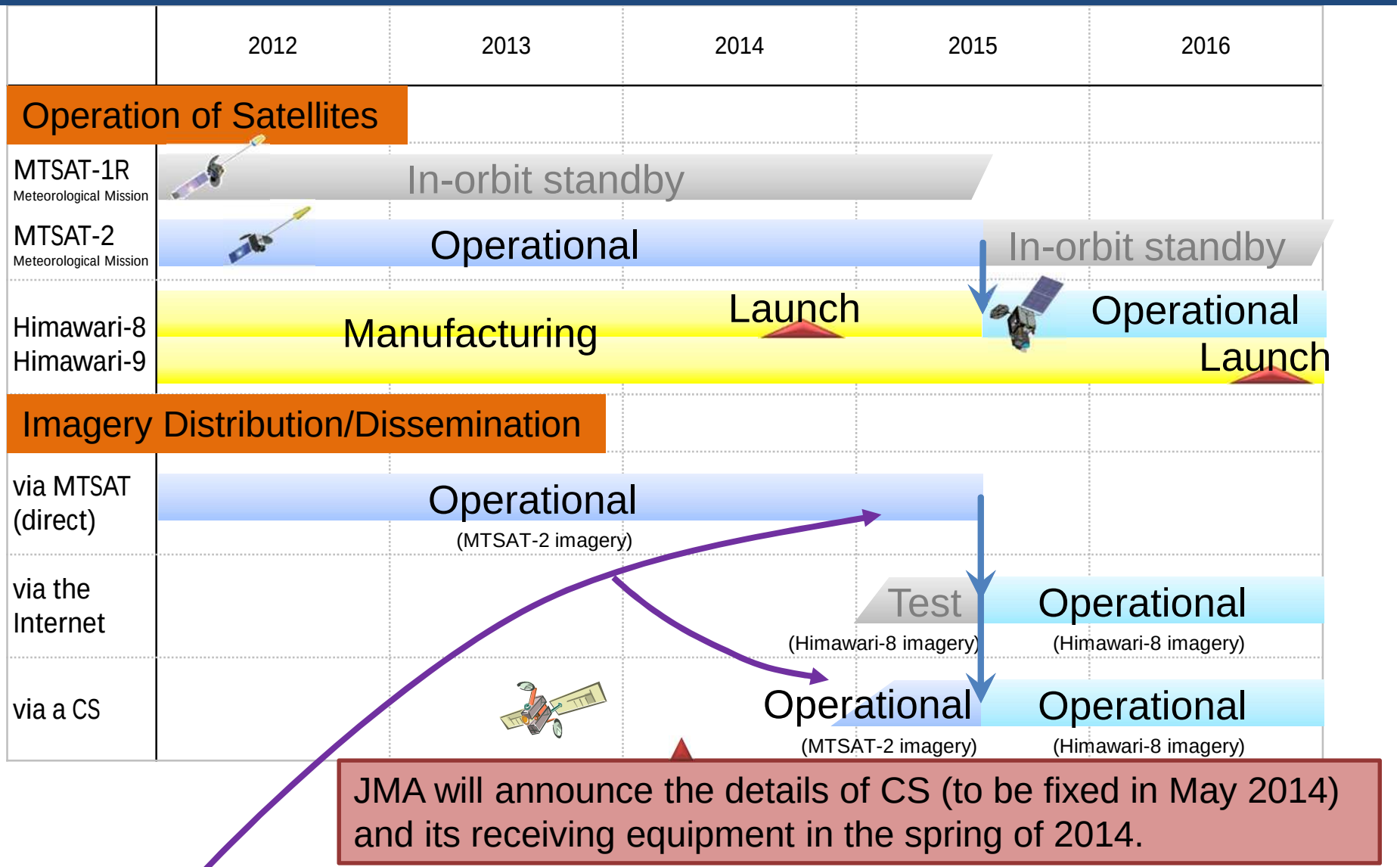


Main Target

(a) Internet Service: National Meteorological and Hydrological Services (NMHSs)
(b) CS: NMHSs with limited Internet connection

You can freely re-distribute/re-disseminate both data you receive.

Schedule of Distribution/Dissemination



- Parallel dissemination is planned to ensure <u>users' smooth transition</u> to receive imagery via a CS.

Internet service

Tentative!

Format	Observation Area	Note
Himawari Standard Data	Full Disk Target Area	- Full Disk: Every 10 minutes - Target Area: Every 2.5 minutes - 16 bands - The finest spatial resolution data
Portable Network Graphics (PNG)	Full Disk Target Area	- True-color images compositing 3 visible bands - Full Disk: Every 10 minutes - Target Area: Every 2.5 minutes - Same spatial resolution as Himawari Standard Data
Network Common Data Form (NetCDF)	Target Area	- Every 2.5 minutes - 16 bands - Same spatial resolution as Himawari Standard Data
HRIT files	Full Disk	- Compatible format as current MTSAT series' HRIT service - Every 10 minutes - 5 bands (VIS: 1 band, IR: 4 bands) - Coarser spatial resolution than Himawari Standard Data

Tentative data set to be distributed via the Internet service.

- Basically one download per one nation
- Registration for account is required
- No special equipment is needed but high-speed Internet connection is required

CS dissemination

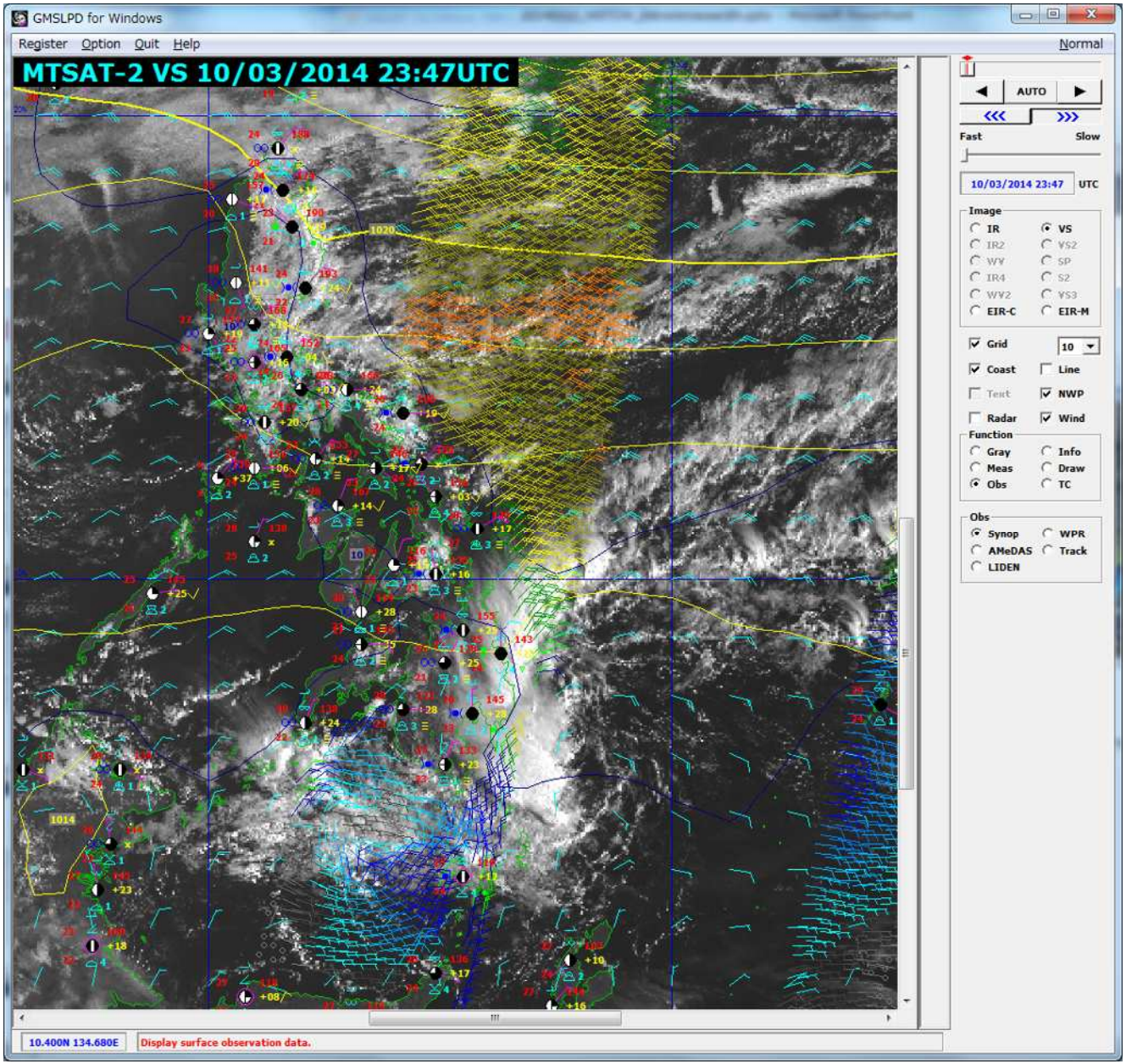
Tentative!

Data type	Format	Note
Himawari-8/9 Imagery	HRIT files LRIT files	- Similar to current MTSAT series' HRIT and LRIT services - Every 10 minutes - HRIT: 5 bands (VIS: 1 band, IR: 4 bands) - LRIT: 3 bands (VIS: 1 band, IR: 2 bands)
Numerical Weather Prediction Products (GPV)	SATAID format	- Products of JMA's Global Spectrum Model (GSM) - Every 6 hours
In-situ Observations (Surface stations, ships, radiosondes)	SATAID format	- Collected observation data from the East Asia and Western Pacific regions
ASCAT Ocean Surface Wind (EUMETSAT)	SATAID format	- Originally provided by EUMETSAT Ocean and Sea Ice Satellite Application Facility (OSI SAF), and converted into SATAID format by JMA

Tentative data set to be disseminated via a communication satellite.

- No registration required
- Some equipment and receiving software are required

Sample screenshots of SATAID



Contact point for Distribution/Dissemination

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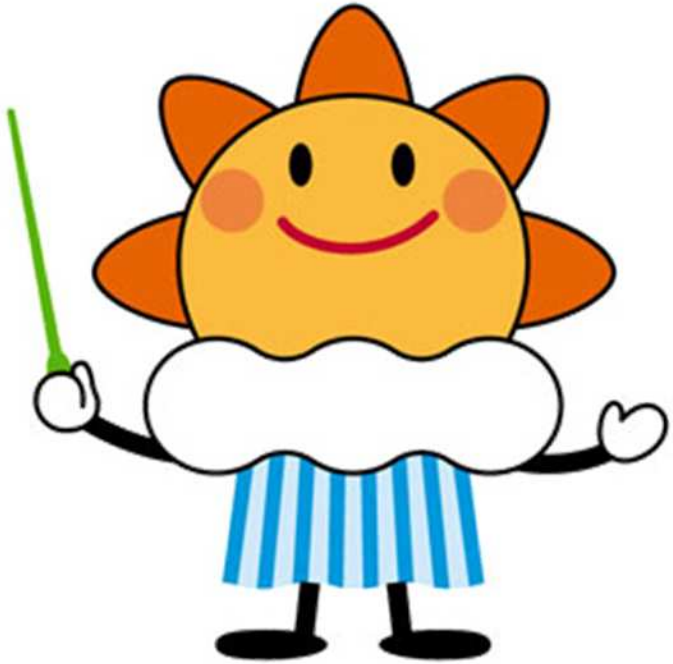
Thank You for your attention.



Main feature of Himawari Standard Data/HRIT

Himawari Standard Data (full set of Himawari-8/9 data)	HRIT (light set of Himawari-8/9 data)
From Internet service	From Communication satellite dissemination, Internet service
There is no standard viewer. User must prepare their own processing module for operation.	There are some viewers for HRIT data.
Recommended for product developers	Recommended for weather forecasters