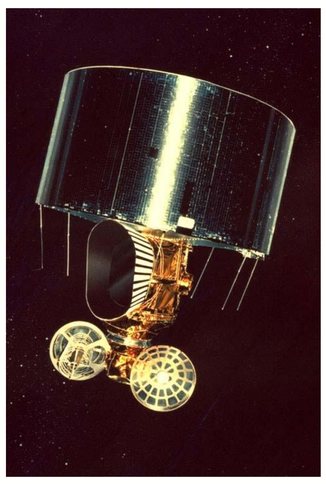
History of the Japanese geostationary meteorological satellite “Himawari”

- Since 1978, JMA has operated geostationary meteorological satellites and provided the data on a free and unrestricted basis, as well as technical cooperation for effective use of the data.
- Manufacturing of the follow-on satellite, Himawari-10, is underway, with operations planned to begin in the Japanese fiscal year 2030.

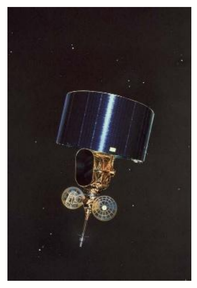
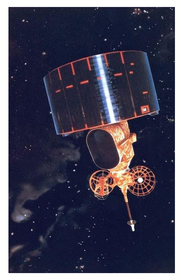
History of “Himawari” and its contribution

History of “Himawari”



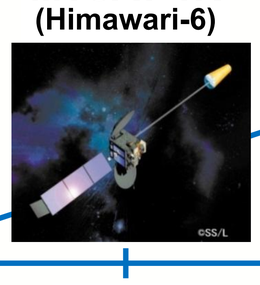
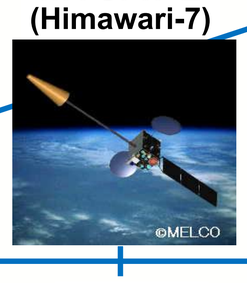
GMS (Himawari)

GMS Series (Geostationary Meteorological Satellite)

GMS-2 (Himawari-2)	GMS-3 (Himawari-3)	GMS-4 (Himawari-4)	GMS-5 (Himawari-5)
			
Apr 1978 – Dec 1981	Dec 1981 – Sep 1984	Sep 1984 – Dec 1989	Dec 1989 – Jun 1995

(GOES-9) From May 2003 to June 2005

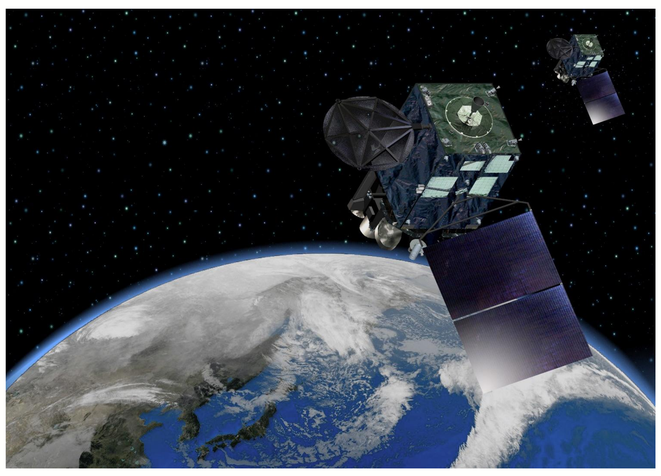
MTSAT Series (Multi-functional Transport SATellite)

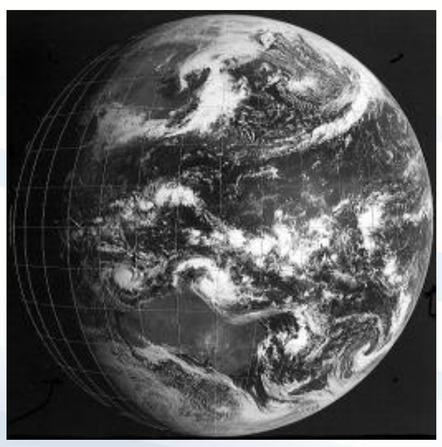
MTSAT-1R (Himawari-6)	MTSAT-2 (Himawari-7)
	
Jun 2005 – Jul 2010	Jul 2010 – Jul 2015

Himawari Series

Himawari-8 *Himawari-9* – Dec 2022

Himawari-8/9

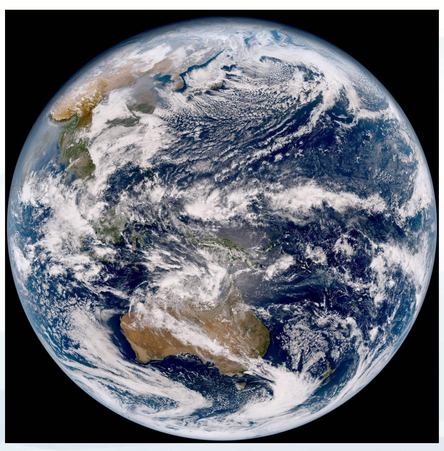




The first image from GMS (Himawari) on April 6, 1978

Himawari improvement

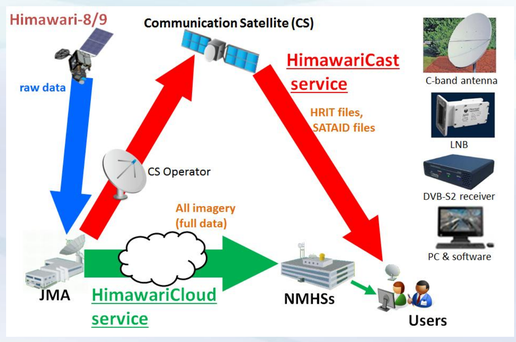
	GMS (Himawari)	Himawari-8/9
Spectral Bands	**1** Visible	**3** Visible
		3 Near Infrared
	1 Infrared	**10** Infrared
Observing Interval	**3 hours** (Full disk)	**10 minutes** (Full disk)
Spatial resolution	**1.25** km (Visible)	**0.5** or **1.0** km (Visible)
	5 km (IR)	**2** km (IR)



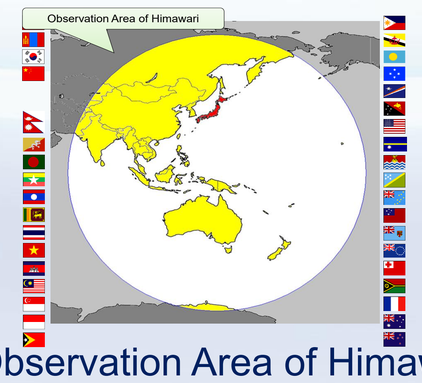
First image from Himawari-9 on January 24, 2017 (JMA, NOAA/NESDIS, CSU/CIRA)

Himawari Data Dissemination

- **“HimawariCloud”** service provides full-spec data via landlines. A total of 24 NMHSs and EUMETSAT use this service.
- **“HimawariCast”** service provides moderate-spec data via telecommunication satellite, for countries with limited landline capacity. A total of 34 NMHSs operate HimawariCast receiving systems.



Himawari-8/9 Data Dissemination



Observation Area of Himawari

HimawariRequest Service and Technical support

- JMA provides extra high-frequency observation services upon request from NMHSs called **“HimawariRequest”**, aiming to enable NMHSs to monitor hazardous events more closely and enhance their preparedness against such events.
- For effective and efficient use of the Himawari data, **technical training** courses have been organized and the update of **HimawariCast receiving systems** is also planned.

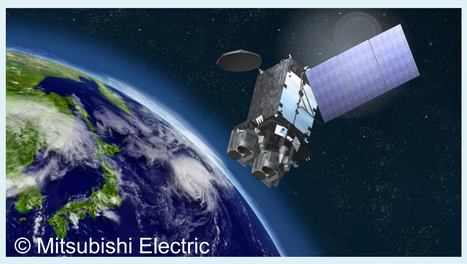
Tropical Cyclone image requested by Australia

Technical training in Fiji for Pacific island countries

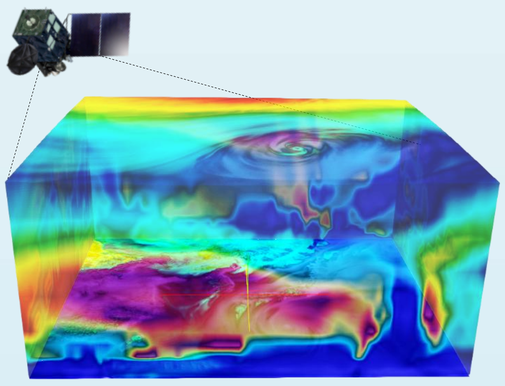
HimawariCast receiving system in Vanuatu

Himawari follow-on satellite “Himawari-10”

- JMA has started manufacturing the follow-on satellite, **“Himawari-10”**.
- Himawari-10 will start operation in the Japanese fiscal year 2030.
- Himawari-10 will be equipped with not only imager but also **hyperspectral IR sounder** in order to grasp the flow of atmospheric humidity which cause hazardous precipitation.



Himawari-10



3D humidity distribution observation by infrared sounder (diagram)