BMKG

COUNTRY REPORT FOR INDONESIA

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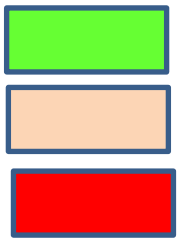
BMKG

CURRENT RECEIPTION SYSTEMS STATUS

Orbit Type	Satellite	Receiption System	Location
GEO	Himawari-8	Himawari Cloud Himawari Cast	BMKG Jakarta (2015) STMKG (2016)
	FengYun-2	CMACast	BMKG Jakarta (2008)
LEO	Suomi NPP	GSR X band	Balikpapan (2013)
	Terra, Aqua, NOAA	GSR X/L band	BMKG Jakarta (2007)
	NOAA	GSR X band	Medan (2011), Ambon (2011), Jayapura (2011), Makassar (2009), Bali (2008), Ciputat (2009), STMKG (2007/2016)

L2 Products retrieved through internet services :

1. High-resolution Cloud Analysis Information (HCAI) from JMA
2. Global Satellite Map Precipitation (GSMaP) from JAXA
3. Fire Spot MODIS-VIIRS from LAPAN and FIRMS-NASA



Operational

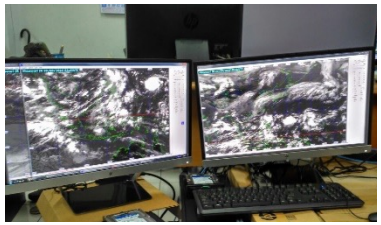
Plan to be upgraded

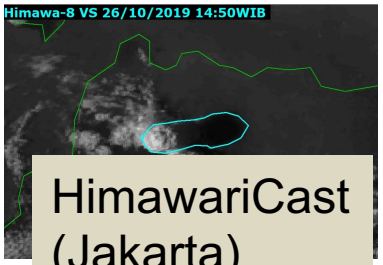
Not active

GEO AND LEO RECEIPTION SYSTEMS

BMKG

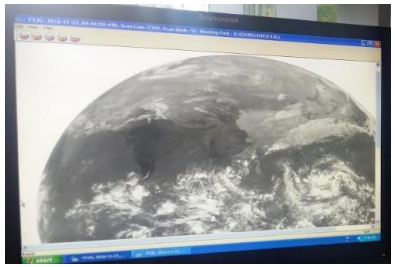
Operational





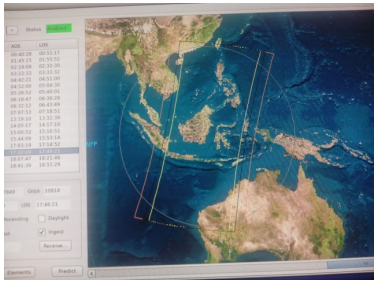
HimawariCast (Jakarta)

Plan to be upgraded



CMACast (Jakarta)

Not active



S-NPP (Balikpapan)

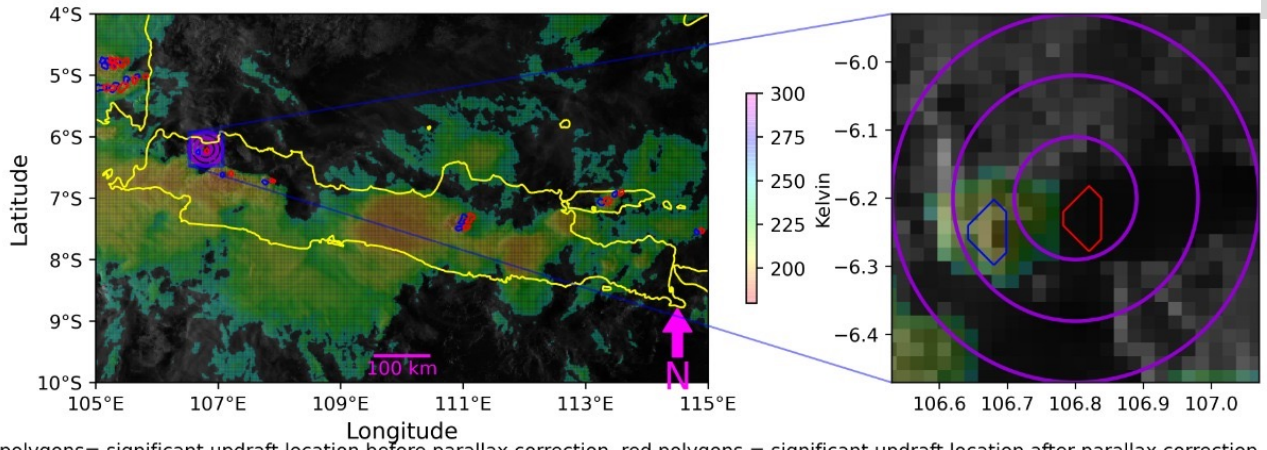
DATA REQUIREMENT

Satellite Data Required :

- FY4 and GK2 data, considering parallax error for Himawari-8 observation at western region of Indonesia
- High resolution rainfall estimation product which captures local precipitation
- Lightning product to improves severe thunderstorm warning

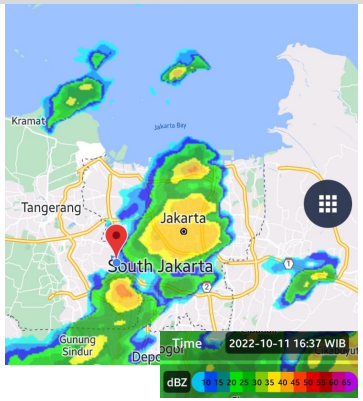
Parallax Error Cases at Jakarta

Himawari-8 Significant in-cloud updraft Area associated with severe weather 2022-10-11 09:33 UTC



blue polygons= significant updraft location before parallax correction, red polygons = significant updraft location after parallax correction

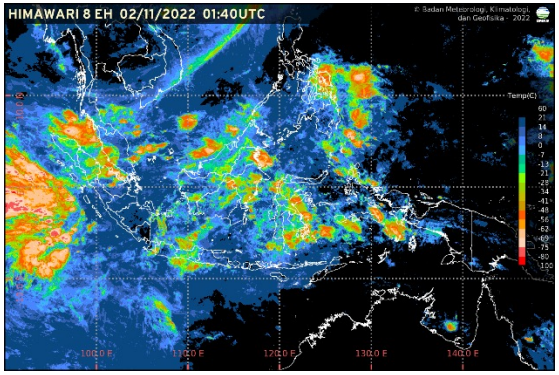
Rainfall shift under top of Cumulonimbus (height: 15km) around 20 km to east

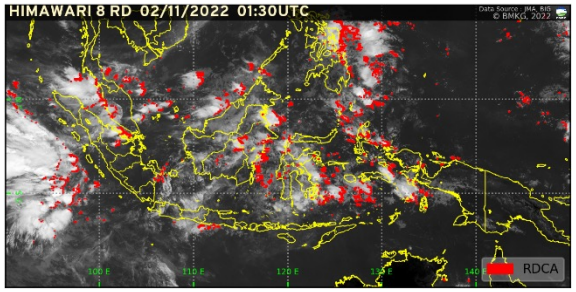


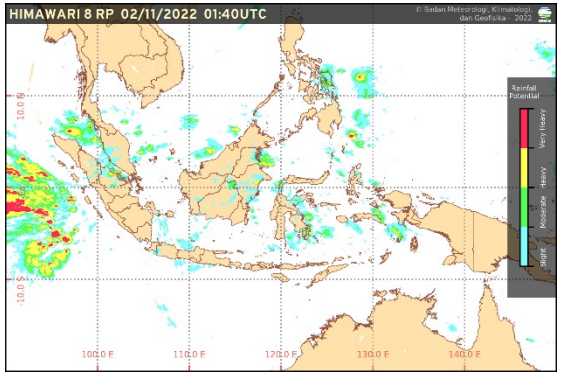
DATA UTILIZATION

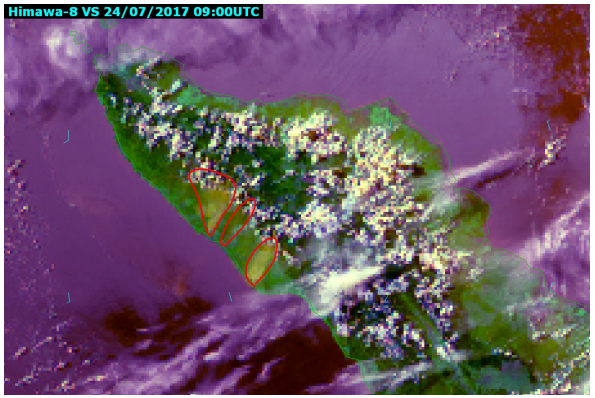
Main Activities :

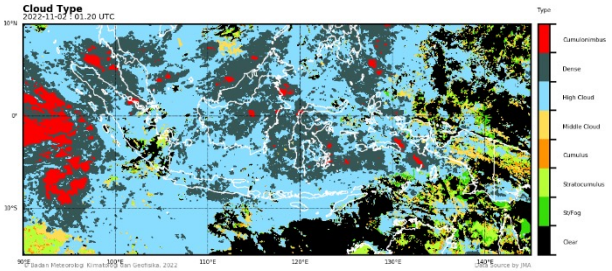
- Weather Forecasting /Analysis (Public, Aviation, Marine Services)
- Extreme Weather Warning
- Transboundary Haze Detection
- Volcanic Ash Monitoring
- Tropical Cyclone Monitoring

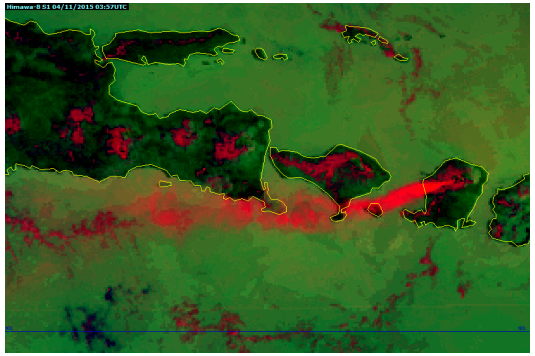








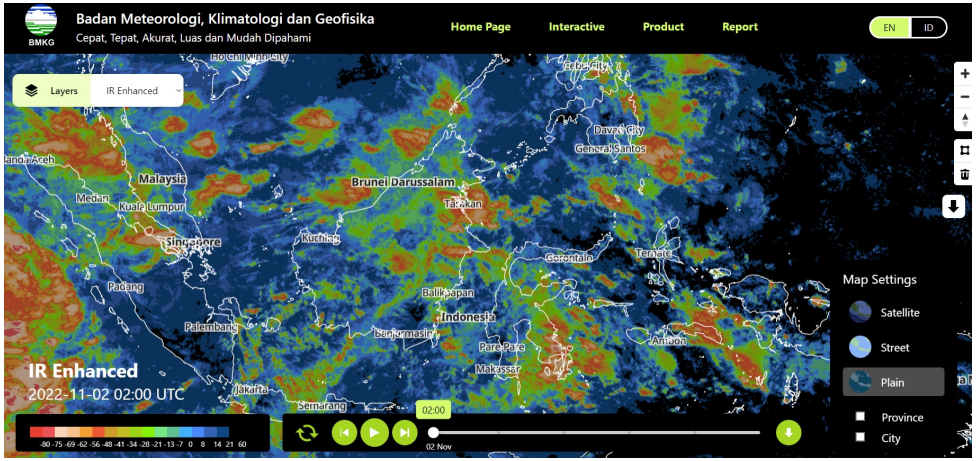


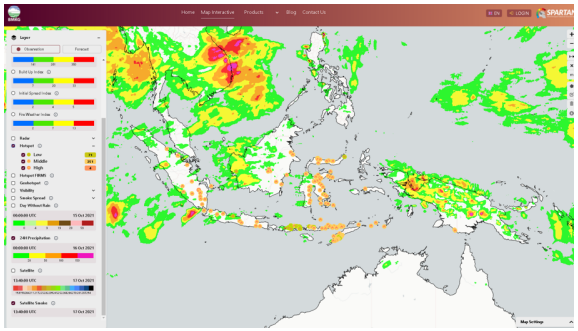


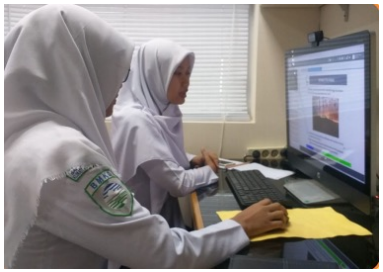
CHALLENGES

Challenges :

- Applying machine learning to quickly generates value-added products, e.g. VA detection
- Scheme optimization for data archiving and data sharing services
- Exploring polar satellite applications for better predicition
- Sharing knowledge of satellite data utilization for local and regional forecasters / researchers

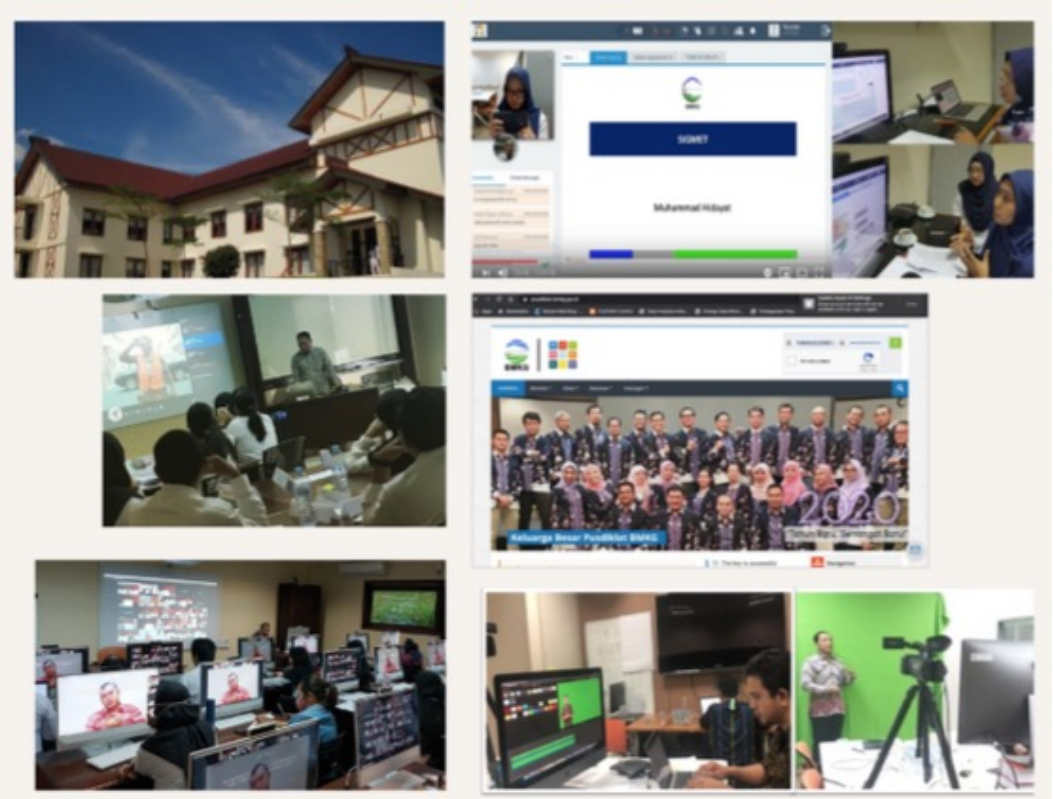






ESTABLISHING THE INDONESIA VLAB CENTER OF EXCELLENCE

- WMO considers BMKG has capability to conduct special training in aspects related to satellite meteorology
- Raising more awareness in the use of satellite data in operations, R&D, and training
- Strengthening cooperation and collaboration with stakeholders (e.g. BoM, CMA, JMA, KMA)
- Developing more tailor-made courses for specific users (e.g forecaster in maritime continent)
- BMKG has facilities to accommodate 250-300 participants and also promoting online learning platforms and technology



THANK YOU