BMKG's Expectations Of New-Generation Satellites For Hazard Monitoring

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6th Asia/Oceania Meteorological Satellite User Conference

Tokyo, Japan, 9 November 2015

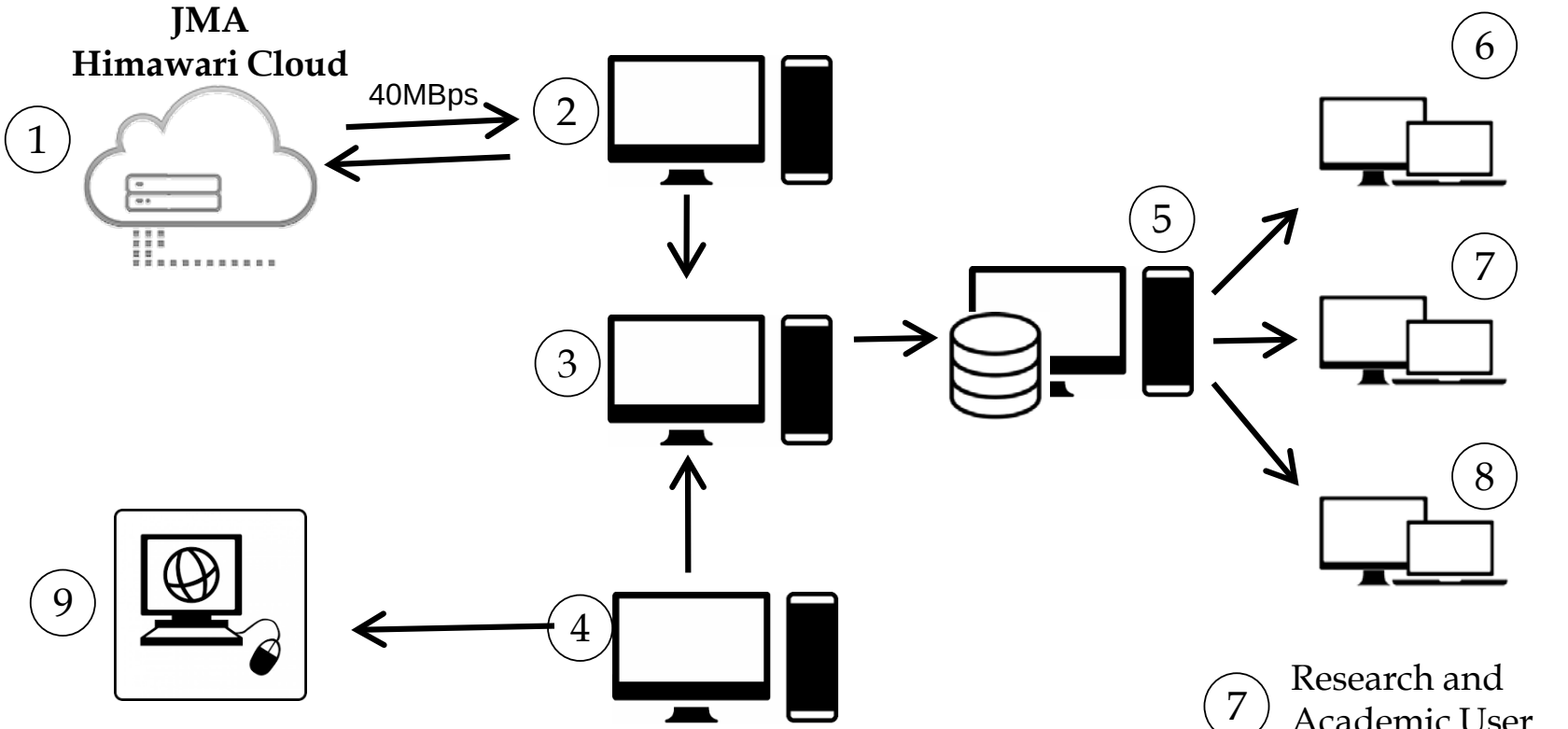
Tokyo International Exchange Center/Plaza Heisei Meeting Facilities







Himawari-8 Data Reception and Products Dissemination in BMKG



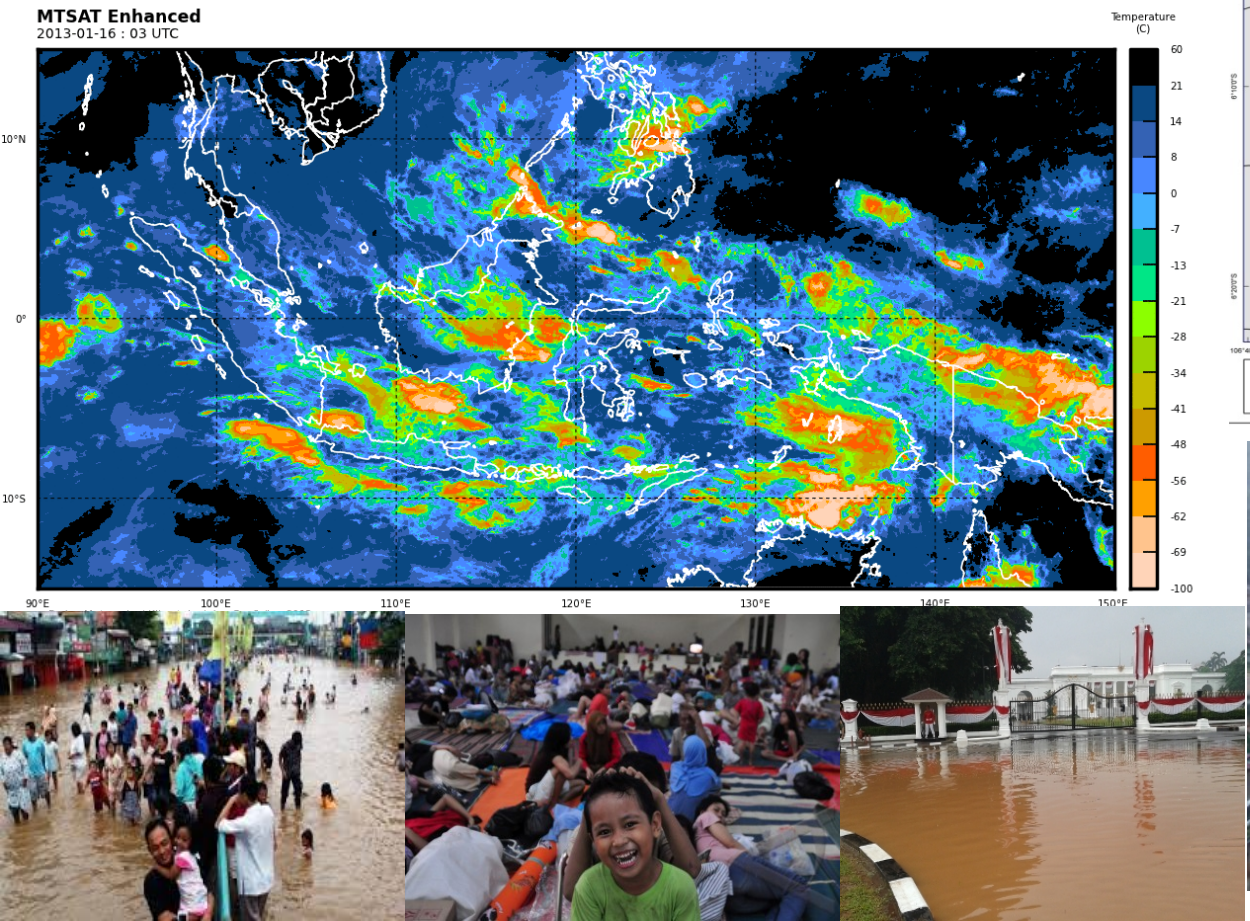
1 Himawari Cloud Server
2 Downloader Server
3 Local Storage Server
4 Image Processing Server
5 Database Center
6 Local Office
7 Research and Academic User
8 Other Institution
9 Satellite Website

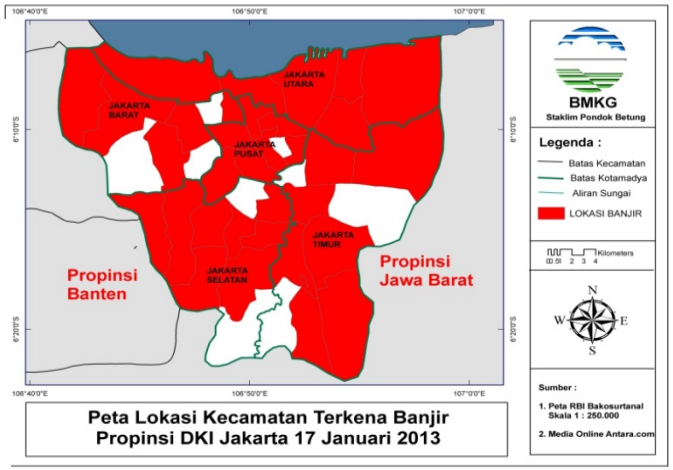
BMKG's Top Three Hazards

that can be monitored by satellite

- Hazard 1: Torrential Rain

  A flash flood caused by extremely heavy rain in Jakarta (capital city of Indonesia) (17 January 2013)

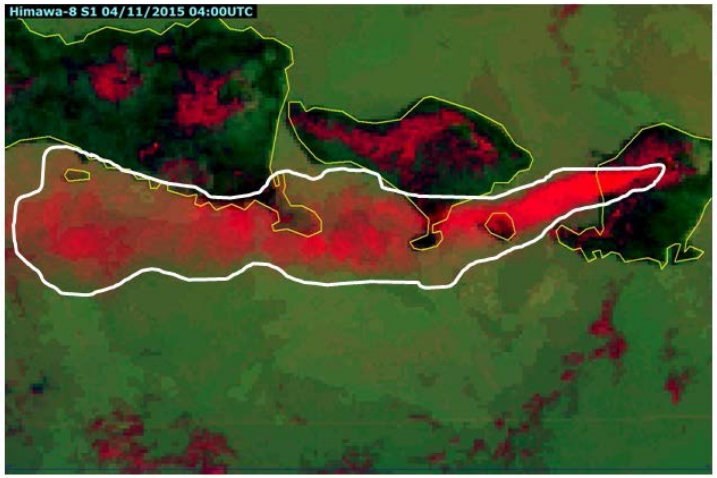


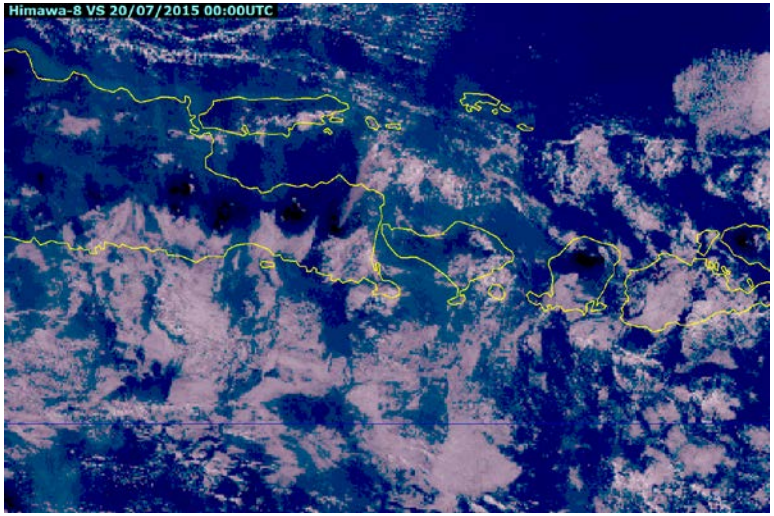


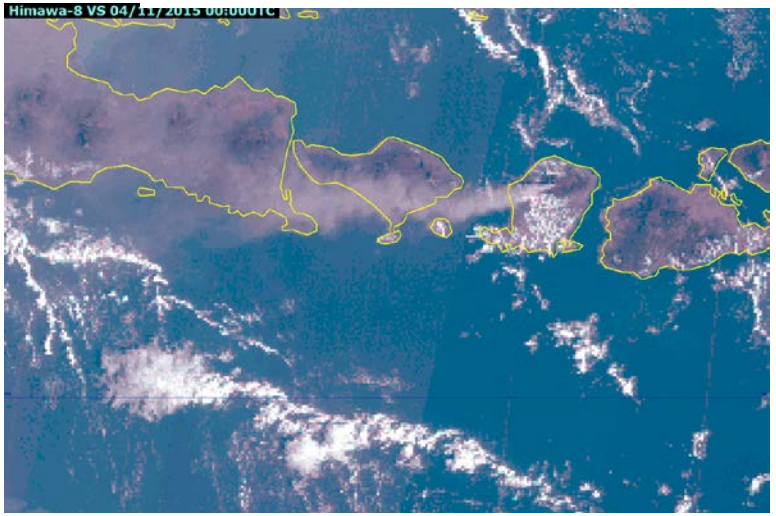
BMKG's Top Three Hazards

that can be monitored by satellite

- Hazard 2: volcanic eruptions and ash
  - The eruption of Mt. Raung (9 July 2015)
  - The eruption of Mt. Rinjani (2 November 2015)



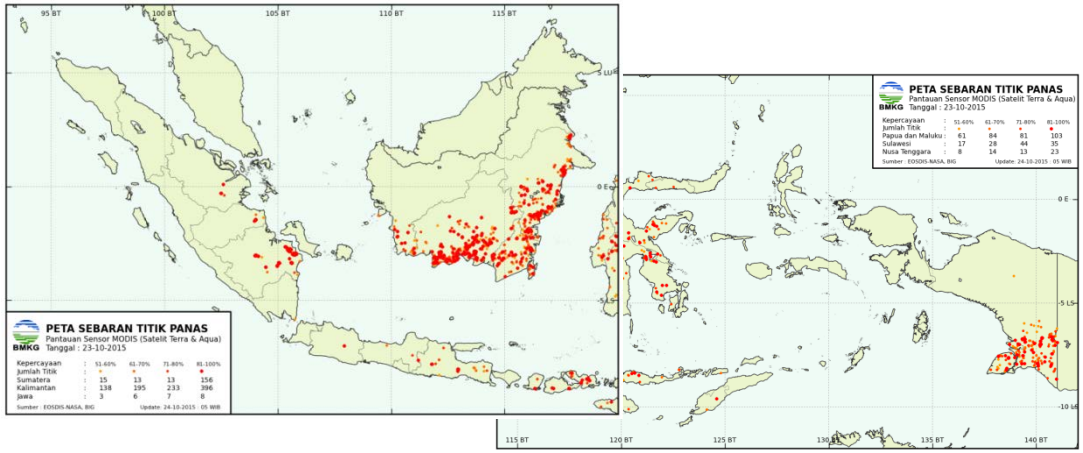


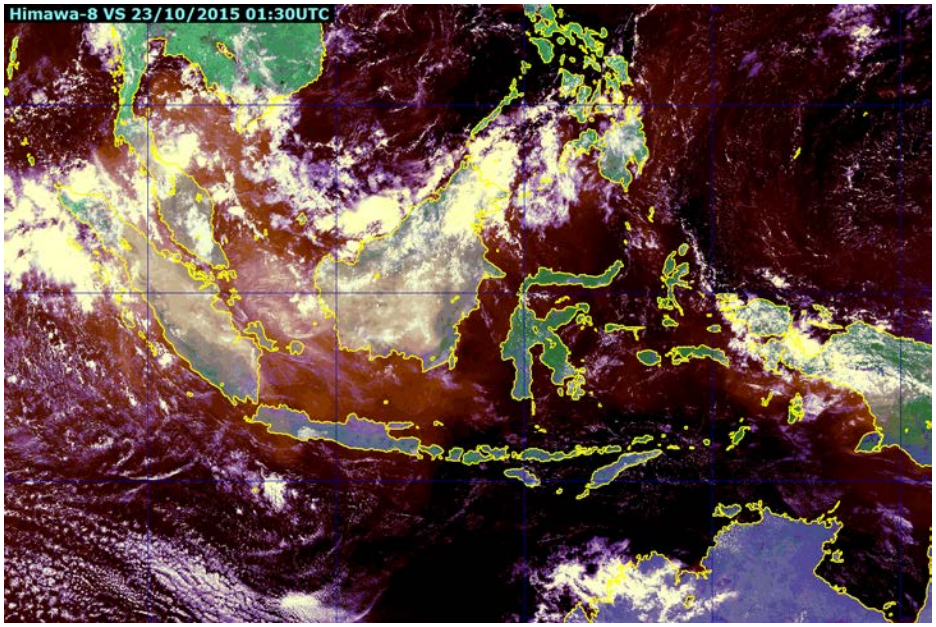


BMKG's Top Three Hazards

that can be monitored by satellite

- Hazard 3: Forest Fire





BMKG's expectations of new series of satellites for hazard monitoring

Major hazard	Features of new generation GEO met. satellite
Hazard 1: Torrential rain	**Multi-spectral bands:** New signals derived from multi-spectral band observation before extremely heavy rainfall are expected to be useful. **Rapid scanning:** Rapid scanning imagery will give more accurate cloud movement and early warning for area that effect by potentially cloud.
Hazard 2: Volcanic eruptions and ash	**Multi-spectral bands:** New quantitative products will be derived from multi-spectral band observation data. **High Spatial resolution** Data from rapid scanning observation will enable early detection of volcanic eruptions and related ash flow.
Hazard 3: Forest fire	**Multi spectral bands:** New signals derived from multi-spectral-band observations will support issuance of more effective warnings. **High Spatial resolution** Accuration for hotspot detection, the information can be distributed more often (hourly basis)

BMKG's requirements to get desired benefits from the new generation of satellites

Major hazard	Features of new generation GEO met. satellite
Hazard 1: Torrential Rain	Training in imagery analysis Trainig would improve the ability to detect and monitoring convective cloud development, and also to create heavy rainfall estimation area.
Hazard 2: volcanic eruptions and ash	Training in the basics of multi-spectral observation Training would increase the knowledge and capability to improve the existing volcanic ash identification products. Product algorithms Improve the ability to generate height plume estimation, trajectory, volcanic ash dispertion products.
Hazard 3: Forest Fire	Training in the basics of multi-spectral observation Training would improve the ability to detect fire spot, smoke, and create trajectory poducts.

BMKG's plans/expectations for utilization of new-generation geostationary meteorological satellite data

- in monitoring local severe convective system which usually have short life-cycle by utilizing new Himawari-8 data through derivation of various operational products
- Programming skill to answer the challenges of technological development and the algorithms techniques

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