Vietnam's expectations of new-generation satellites for hazard monitoring

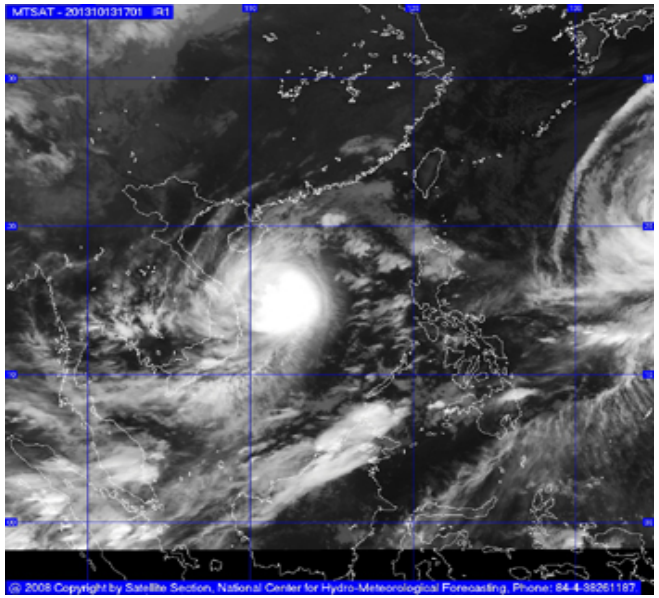
6th Asia/Oceania Meteorological Satellite User Conference

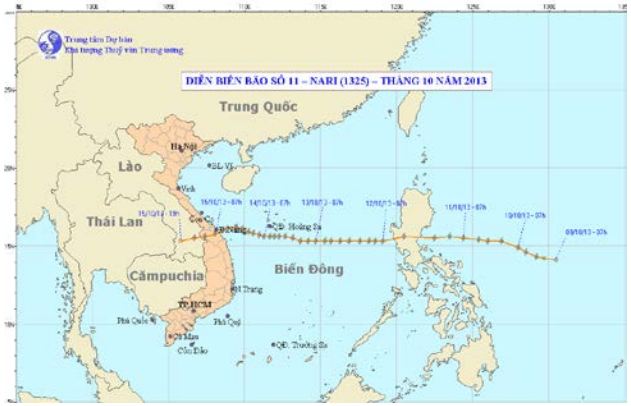
Tokyo, Japan, 9 November 2015

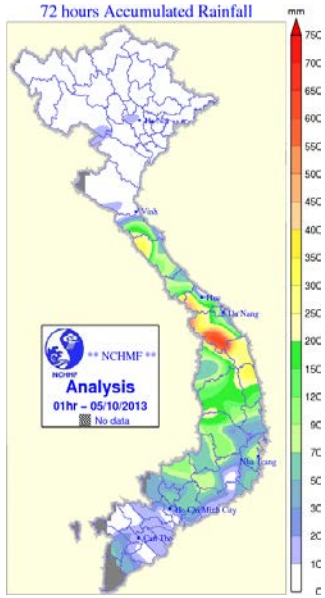
Tokyo International Exchange Center/Plaza Heisei Meeting Facilities

Vietnam's top three hazards
that can be monitored by satellite

- Hazard 1: tropical cyclones (Typhoons)
  - Annual: around 11 TCs directly influence VN
  - Typhoon Nari (Oct. 2013): Pmin 980mb (at Tam Kỳ)







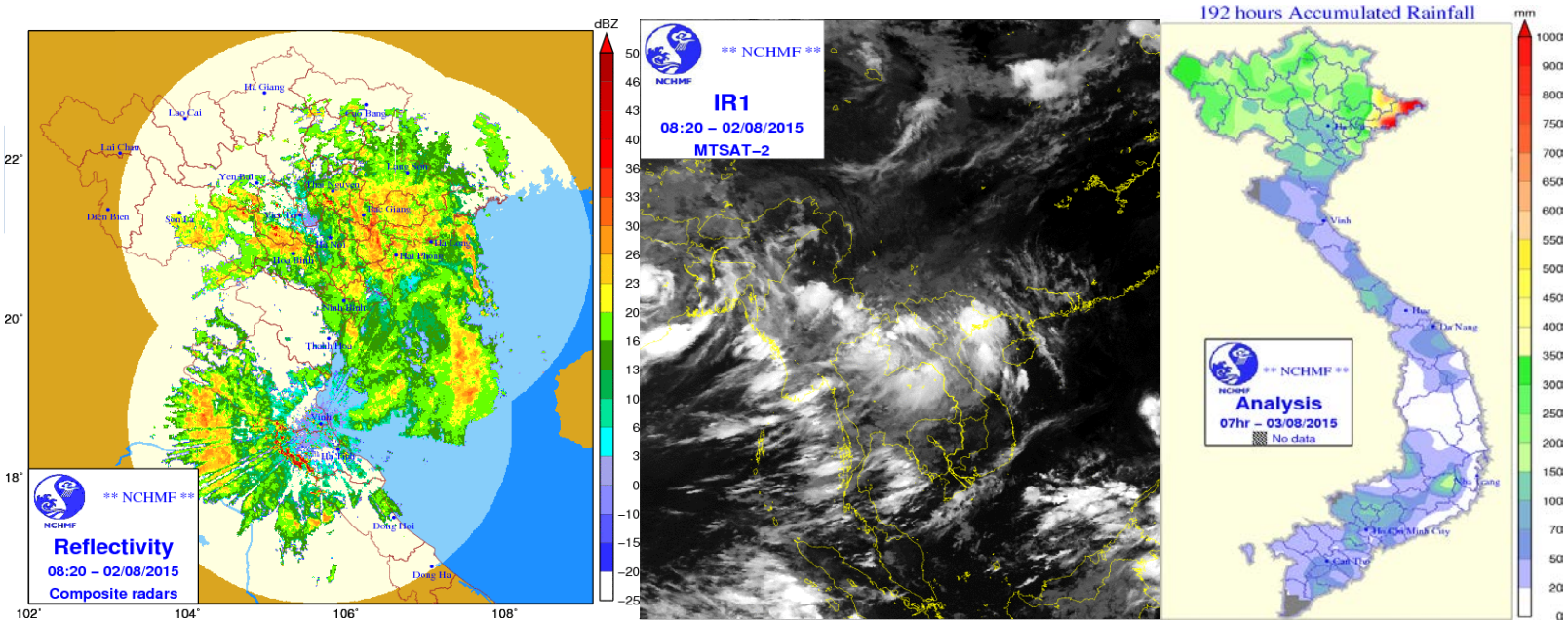
Vietnam's top three hazards
that can be monitored by satellite

- Hazard 1: tropical cyclones (Typhoons)
  - Typhoon Nari(Oct. 2013) left around 6 people dead or unaccounted for, 50 people hurt, around 511 houses destroyed and around 27.700 houses unroofed, 3.824 ha agricultural crops inundated…



Vietnam's top three hazards
that can be monitored by satellite

- Hazard 2: torrential rain
  - A flash flood caused by extremely heavy rain (>1000mm/8 days) in Quang Ninh (28 Jul. 2015) left 17 people dead, 6 people unaccounted for, .



Vietnam's top three hazards
that can be monitored by satellite

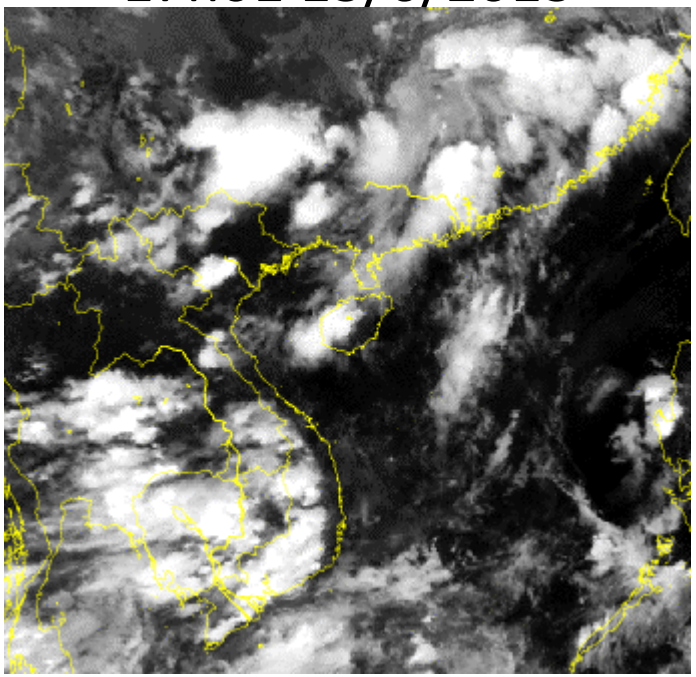
- Hazard 2: torrential rain



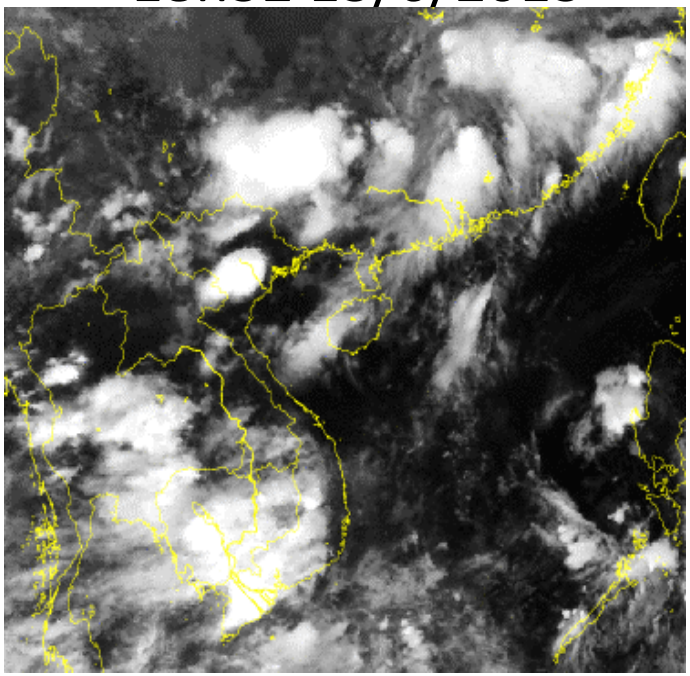

Vietnam's top three hazards
that can be monitored by satellite

- Hazard 3: Severe Thunderstorms
  - Thunderstorm in Hanoi (13 Jun. 2013) left 2 people dead, 6 people hurt, >1300 tree down, many houses destroyed…

17h01 13/6/2013



18h32 13/6/2013



Vietnam's top three hazards
that can be monitored by satellite

- Hazard 3: Severe Thunderstorms
  - Thunderstorm in Hanoi (13 Jun. 2013) left 2 people dead, 6 people hurt, >1300 tree down, many houses destroyed…

Vietnam's top three hazards
that can be monitored by satellite

- Hazard 3: Severe Thunderstorms

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

Major hazard	Features of new generation GEO met. satellite
Hazard 1: tropical cyclones Hazard 2: torrential rain Hazard 3: severe thunderstorms	**Rapid scanning:** Data from rapid scanning observation will enable early detection convective clouds. **Multi-spectral bands:** New signals derived from multi-spectral-band observations will support issuance of more effective warnings, supply quantitative products... **High spartial resolution:** Get more details of atmospheric structure

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

Major hazard	Features of new generation GEO met. satellite
Hazard 1: tropical cyclones Hazard 2: torrential rain Hazard 3: severe thunderstorms	**Training in imagery analysis:** Understand basic of each image type (band) and purpose of them
	Product algorithms: How to make the products, Can we derive products of our self (RGBs imagery…)?
	Easy-to-understand product: Products indicate new signals prior to convection that related to extremely heavy rain, severe thunderstorm. Supply high frequency and resolution in the region has signal of severe weather.

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

- Development of a weather monitoring system using enhanced features of new-generation satellites such as high spatial resolution and multi-spectral bands
- Research and development derived products such as AMV, precipitation estimated from Himawari sat,…
- Using the Himawari-8 satellite product for data assimilation in regional weather model.
- Improving monitoring and forecasting severe weather.

Thank you for your attention