

Country Report Philippines

PAGASA's Expectations of New-generation Satellites for Hazard Monitoring

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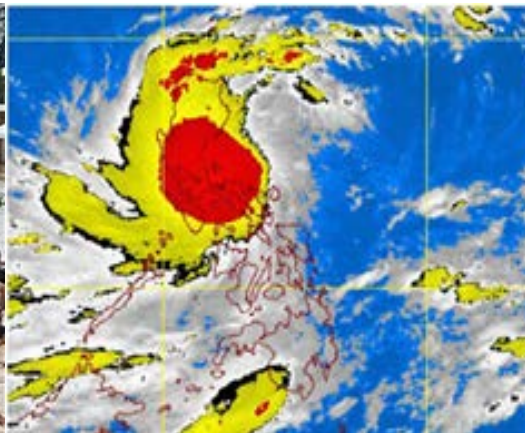
Tokyo International Exchange Center/Plaza Heisei Meeting Facilities

PAGASA's top three hazards

that can be monitored by satellite

(Q 1 of the JMA questionnaire)

- Hazard 1: Tropical cyclones (Typhoons)
 - Super Typhoon Yolanda (Haiyan) (Nov. 8, 2013) maximum sustained winds of 315 kph. It triggered storm surges in Leyte and Samar that killed 6,201 people, left 1,785 missing and more than 28,000 injured.
 - Tropical Storm Ondoy (Ketsana) (Sept. 2009)- casualties 464 dead, 529 injured and 37 missing



PAGASA's top three hazards that can be monitored by satellite (Q 1 of the JMA questionnaire)

- Hazard 2: Severe Thunderstorms
 - Heavy rains due to severe thunderstorms cause a lot of flooding in urban areas particularly Metro-Manila that resulted to impassable roads.



Abrupt, heavy rains cause floods in many parts of Metro Manila

By: Christopher Lloyd T. Caliwan, PNA | Photos, Bernard Testa, InterAksyon.com
June 17, 2015 6:00 PM



Cars make their way through flooded Quezon City streets, among many places that saw flashfloods from sudden, heavy rains on Wednesday (June 17) afternoon. BERNARD TESTA, INTERAKSYON.COM

PAGASA's top three hazards that can be monitored by satellite (Q 1 of the JMA questionnaire)

- Hazard 3: Monsoon Activity
 - During the onset of Southwest Monsoon the western part of the country suffered a lot of flooding and landslide.

Monsoon rains intensified by Falcon to continue until weekend - Pagasa

By: Rommel Rio, News 5
July 9, 2015 8:34 AM



Pagasa's satellite image as of 4 a.m. July 9, showing typhoon Falcon intensifying the southwest monsoon.

Manila suffers severe flooding following torrential rainfall

Monsoon rains in capital of Philippines worse than Typhoon Ketsana, which devastated region in 2009



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

(Q 2 of the JMA questionnaire)

Major hazard	Features of new generation GEO met. satellite
Hazard 1: tropical cyclones	<p>Multi-spectral bands: Images derived from multi-spectral-band observations will support issuance of more effective warnings.</p> <p>Rapid scanning: Rapid scanning observations will help PAGASA in the frequent updates needed by National Disaster Risk Reduction and Management Council</p>
Hazard 2: Severe Thunderstorms	<p>Rapid scanning: Data from rapid scanning observation will enable early detection of convective activities.</p> <p>Multi-spectral bands: New quantitative products will be derived from multi-spectral band observation data.</p> <p>High spatial resolution: Monitor and track convective development especially in the absence of RADAR coverage</p>

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

(Q 2 of the JMA questionnaire)

Major hazard	Features of new generation GEO met. satellite
Hazard 3: Monsoon Activity	<p>Multi spectral bands: New signals derived from multi-spectral band observation before extremely heavy rainfall are expected to be useful.</p> <p>Rapid scanning: Data from rapid scanning observation will enable early detection of convective activities.</p> <p>High spatial resolution Monitor and track convective development especially in the absence of RADAR coverage</p>

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

(Q 3 of the JMA questionnaire)

Major hazard	Features of new generation GEO met. satellite
Hazard 1: tropical cyclones	Training in imagery analysis: Training would support the retrieval of new signals from multi-spectral band observation.
Hazard 2: Severe Thundertorms	Product algorithms: The provision of product algorithms would support the creation of relevant products particularly hydromet hazards.
Hazard 3: Monsoon Activity	Easy-to-understand product: PAGASA would be interested in using a product made with multi-spectral band data that indicates new signals prior to extremely heavy rain.

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

- PAGASA will ensure to increase the internet bandwidth in order to receive new-generation satellites capable for high spatial resolution and multi-spectral bands reception and processing system.
- PAGASA plans to acquire software for processing different products including training in imagery analysis.
- PAGASA will install HimawariCast to all five (5) PAGASA Regional Services Division as backup system in case terrestrial communication will fail as PAGASA is now catering Regional Weather Forecasting.

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

- PAGASA plans to utilize high temporal resolution images and products for severe weather forecasting and warning services to support very-short range forecasting, including nowcasting, through the provision of near-real time products to monitor and track convective development, especially in the absence of operational radar coverage.
- Likewise, if possible will utilize high spatial resolution images of areas affected by hydromet hazards (for post-disaster analysis).