PAPUA NEW GUINEA COUNTRY REPORT

6th Asia/Oceania Meteorological Satellite User Conference

Tokyo, Japan, 09 – 14 November 2015

Presented by

ANTHONY. KALAI

OPERATIONAL METEOROLOGIST

PNGNWS FORECASTING & WARNING DIVISION

PH: +675 324 4583

FAX: +675 325 5544

Mobile: +675 72497257

EMAIL: asolok@gmail.com

PNG National Weather Service's Expectations of New Generation Satellites for Hazard Monitoring

PNGNWS's top three hazards that can be monitored by satellite:

- Hazard 1: Torrential rains

➢ Continuous Heavy rainfall (Jan. 2013) caused severe flooding and landslides that affected homes, properties, food gardens, vegetation, water source and infrastructure for basic services in many areas throughout the country.




PNGNWS's top three hazards that can be monitored by satellite:

- Hazard 2: Volcanic eruptions and ash

➢A major eruption on Manam island (Nov. 2004) killed five people; and forced the emergency evacuation of over 9000 residents.

➢The eruption of Mt. Tavurvur and Vulcan(19 Sep. 1994) caused considerable damage to property, especially to structures within five km downwind of the two vents; Four people were killed; and Total damage to property was estimated at around K200 million (~US$69 million).


7 4:09 PM


John Seach


John Seach


10 05 98

PNGNWS's top three hazards that can be monitored by satellite:

- Hazard 3: Tropical Cyclone

➢TC Guba (2007) caused severe flooding that resulted in over 200 deaths; Bridges, roads and houses were washed away; 145,000 people affected; and Total damage to property was estimated at around US$71.4 million.

PNGNWS'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: The combination of multi spectral bands is expected to provide new useful information before extremely heavy rainfall.
Hazard 2: volcanic eruptions and ash	Rapid scanning: Early detection and warning of volcanic eruptions and associated ash flow can be made effective from rapid scanning observation data. Multi-spectral bands: New quantitative products will be derived from multi-spectral band observation data.
Hazard 3: Tropical cyclones	Muti-spectral bands: New signals derived from multi-spectral-band observations will support issuance of more effective warnings.

PNGNWS'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	Easy-to-understand product: PNGNWS needs to be assured that new products derived from multi-spectral observation data are easily comprehensible.
Hazard 2: Volcanic eruptions and ash	Product algorithms: PNGNWS would need access to product algorithms that would essentially allow for the development of a volcanic product that suits our purposes.
Hazard 3: Tropical cyclones	Training in imagery analysis: PNGNWS would need to be given more training in imagery analysis so that we can have the capacity to derive new signals from the multi-spectral band observation.

PNGNWS's plans/expectations for the utilization of new-generation geostationary meteorological satellite data:

- The PNGNWS is certainly hopeful that Himawari 8 satellite data will significantly help us to develop a more improved forecasting and warning system.
- The PNGNWS is planning to have more of our young scientists to be trained in imagery analysis, the basics of muti-spectral observation ,and product development.
- The PNGNWS would like to actively take part in scientific conferences/meetings that are concerned with the application of new-generation satellite data.