Vietnam’s expectations of new-generation satellites for hazard monitoring
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**
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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

<table>
<thead>
<tr>
<th>Major hazard</th>
<th>Features of new generation GEO met. satellite</th>
</tr>
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<tbody>
<tr>
<td>Hazard 1: tropical cyclones</td>
<td><strong>Rapid scanning:</strong> Data from rapid scanning observation will enable early detection convective clouds.</td>
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<td>Hazard 2: torrential rain</td>
<td><strong>Multi-spectral bands:</strong> New signals derived from multi-spectral-band observations will support issuance of more effective warnings, supply quantitative products...</td>
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<td>Hazard 3: severe thunderstorms</td>
<td><strong>High spatial resolution:</strong> Get more details of atmospheric structure</td>
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Vietnam’s requirements to get desired benefits from the new generation of satellites

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<td>Hazard 1: tropical cyclones</td>
<td><strong>Training in imagery analysis:</strong> Understand basic of each image type (band) and purpose of them</td>
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<td>Hazard 2: torrential rain</td>
<td><strong>Product algorithms:</strong> How to make the products, Can we derive products of our self (RGBs imagery...)?</td>
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<td>Hazard 3: severe thunderstorms</td>
<td><strong>Easy-to-understand product:</strong> 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.</td>
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</table>
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