

**\*\* August 2020 News from Sentinel Asia Project Office \*\***

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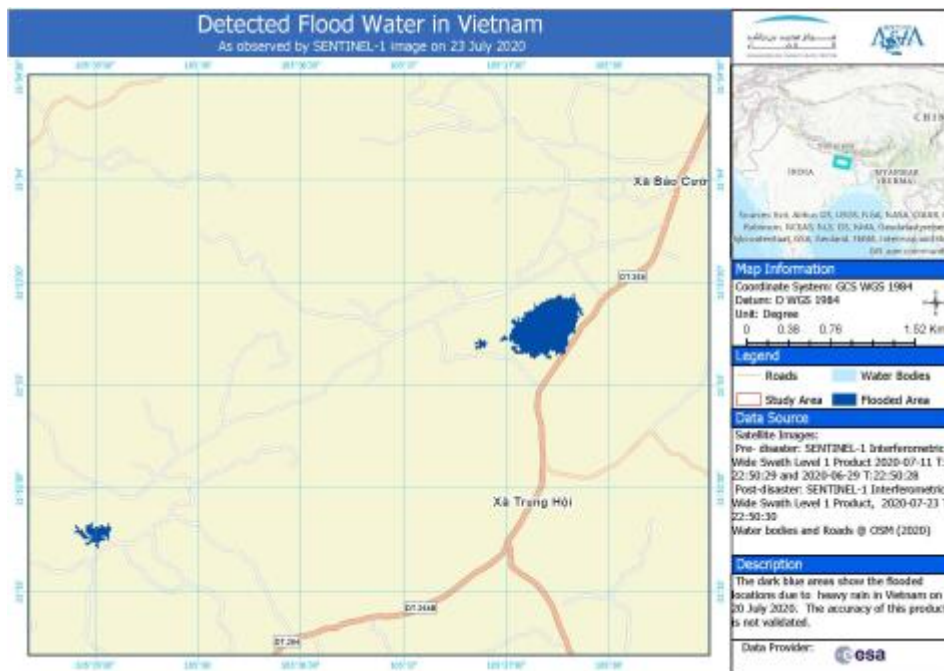
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1. [News] Emergency Observation of Disasters Occurring in July/August 2020. (as of 31 August)

**(1) Flood and Landslide in Vietnam**

Vietnam Ministry of Natural Resources and Environment requested Emergency Observation by Sentinel Asia for the flood caused by heavy rain in Ha Giang Province in the northern highlands of Vietnam. Among Data Provider Nodes (DPNs), Indian Space Research Organization (ISRO) and Japan Aerospace Exploration Agency (JAXA) provided their observation data. Among Data Analysis Nodes (DANs), Mohammed Bin Rashid Space Centre (MBRSC) analyzed the satellite data and provided their products. The information on the latest response by Sentinel Asia is available from the following link.

<https://sentinel-asia.org/EO/article20200720VN.html>

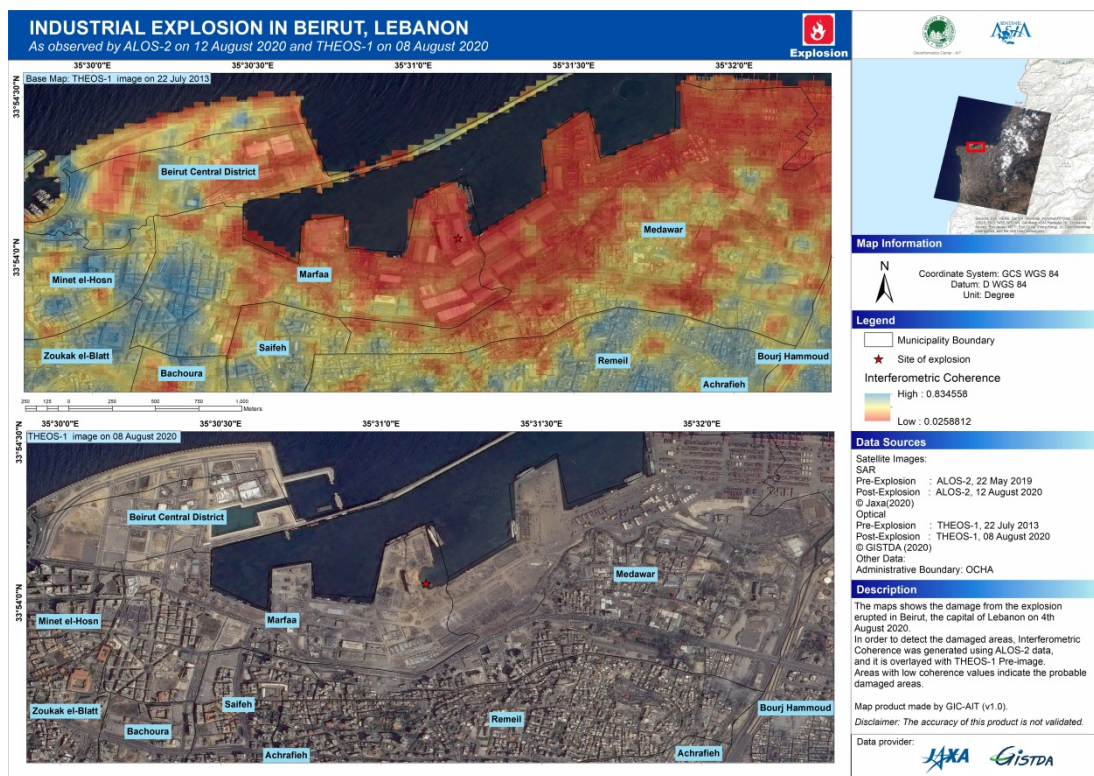


Product by MBRSC

## (2) Explosion in Beirut, Lebanon

On the evening of 4 August 2020, a sequence of two explosions occurred at the port of the city of Beirut, the capital of Lebanon. The extremely powerful second blast resulted in at least 157 deaths, 5,000 injuries, US\$10–15 billion in property damage and an estimated 300,000 people made homeless. On 8 August 2020, the Disaster and Emergency Management Authority of Turkey (AFAD) via the Asian Disaster Reduction Center (ADRC) made an Emergency Observation Request (EOR) to Sentinel Asia. Among Data Provider Nodes (DPNs), ISRO, JAXA, MBRSC, National Applied Research Laboratories (NARL), and Geo-Informatics and Space Technology Development Agency (GISTDA) provided their observation data. What deserves special mention is that MBRSC provided for the first time their KhalifaSat images which MBRSC had offered to register as part of Sentinel Asia's constellation shortly before this EOR. Among Data Analysis Nodes (DANs), MBRSC, Asian Institute of Technology (AIT), and Earth Observatory of Singapore (EOS) analyzed the satellite data and provided their products. The information on the latest response by Sentinel Asia is available from the following link.

<https://sentinel-asia.org/EO/article20200808LB.html>



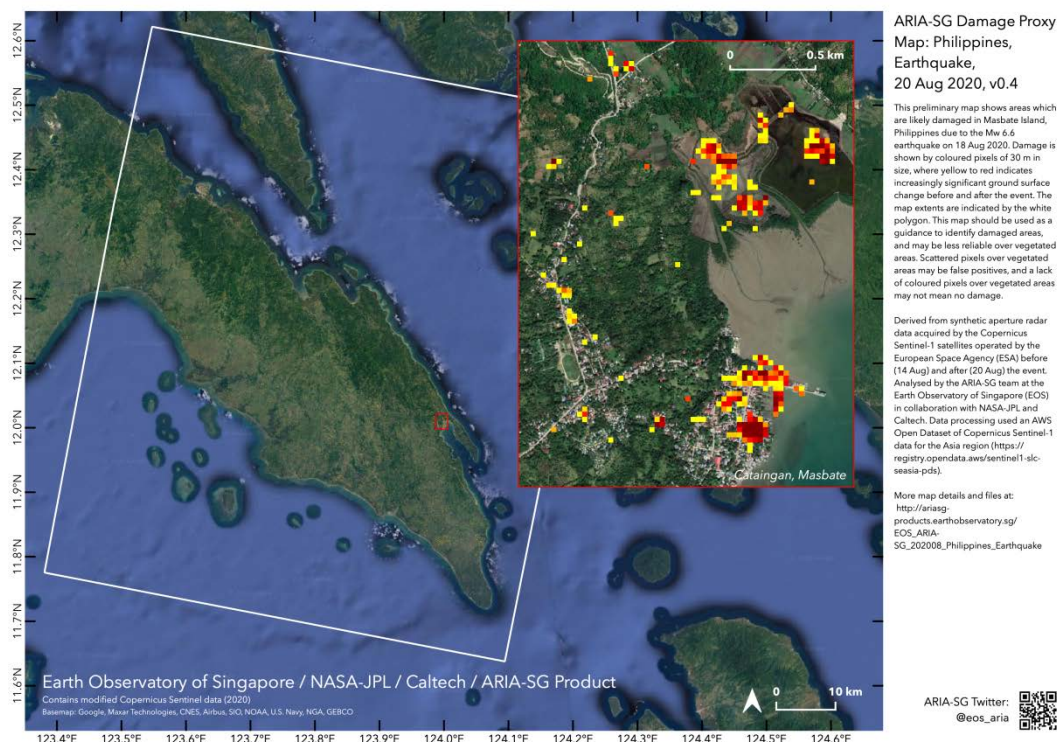
Product by AIT

## (3) Earthquake in Philippines

At 00:03 AM (UTC) of 18 Aug 2020 (Tuesday), a strong Magnitude (M) 6.6 earthquake shook the province of Masbate and vicinity. Using the Philippine Institute of Volcanology and Seismology (PHIVOLCS) seismic network, the epicenter of the earthquake is located 7 kilometers South East of Cataingan, Masbate (11.96°N, 124.03°E) at a depth of 21 kilometers. As of 1:00 PM, 18 August 2020, 28 aftershocks ranging from M1.6 to M3.8 were recorded (23 of

which were plotted, and one was felt). On 19 August 2020, PHIVOLCS made an EOR to Sentinel Asia. Among Data Provider Nodes (DPNs), ISRO, JAXA and GISTDA provided their observation data and NARL planned the observation with Fomosat-5, and Sentinel Asia is expecting the data.. Among Data Analysis Nodes (DANs), EOS, MBRSC, and AIT analyzed the satellite data and provided their products. This EOR was escalated to the International Disasters Charter. PHIVOLCS provided a Project Manager for the Disaster Charter Activation. The information on the latest response by Sentinel Asia is available from the following link.

<https://sentinel-asia.org/EO/article20200818PH.html>



Product by Earth Observatory of Singapore (EOS)/NASA-JPL/Caltech/ARIA-SG team

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2. [Interview] Mr. KWOH Leong Keong, Director, Centre for Remote Imaging, Sensing and Processing (CRISP), Singapore:

Centre for Remote Imaging, Sensing and Processing (CRISP), National University of Singapore, one of the longest JPT members, recently announced that the “TeLEOS-1” satellite, which has been operating under Singapore’s Public-Private Initiative, will contribute to Sentinel Asia. Taking this opportunity, Sentinel Asia secretariat interviewed one of the long-term contributors to our activities, Mr. KWOH Leong Keong, Director, CRISP:

- Could you tell us about CRISP's and Singapore's recent situation of using EO satellites for Disaster Risk Reduction?



< Mr. KWOH >

We do not have many natural disasters in our country. Singapore is located near the equator and that is why we are not affected by natural disasters such as Typhoon. We are also far from the earthquake and volcano zones. However, we are interested in supporting disasters management in the countries around Singapore. We would like to help our neighbors out. One example of disaster we observed was an eruption of Mt. Merapi in Indonesia. One disaster of concern to Singapore is the forest fires in Southeast Asia. The haze and PM2.5 created by the fires may travel to Singapore, affecting the air quality and causing economic and health problems.

- TELEOS-1 has been recently registered as part of Sentinel Asia's constellation. Could you tell us about the satellite?

< Mr. KWOH >

We do not have a space agency in our country. For our venture into space, our Government's approach is to encourage local private companies to fund and build the satellite. TELEOS-1 is an example of such approach. It was built and launched in 2015 by private sector. Since it is private, the satellite is available for us only when they are not using it and we must receive approval from them to use the data for disaster monitoring. Our government, of course, did fund a portion of the satellite, so they can use the data. As a first step, we hope to contribute to Sentinel Asia by capturing images for emergency observation. We will be using our Government's share of the access to the satellite to service the emergency observation requests.

- Right after CRISP offered to register TELEOS-1 as part of Sentinel Asia constellation, CRISP provided TELEOS-1 images in response to the Emergency Observation Request regarding floods in Sulawesi, Indonesia that occurred in July, 2020. Notably, the TELEOS-1 images contributed to detecting estimated inundation areas. Could we ask for your remarks on that?

< Mr. KWOH >

We are very happy to be able to use Singapore satellite TELEOS-1 to successfully image the July flood in Sulawesi, Indonesia. This is the first time we are using this satellite to respond to the EOR. I hope users will find this data useful and I look forward to doing more imaging for Sentinel Asia's EOR in the coming years.

- We assume that the members of Sentinel Asia would appreciate further contribution from CRISP for disaster monitoring.

< Mr. KWOH >

We are happy to contribute more to Sentinel Asia with our satellite. Getting approval to use the data is the first step. However, I should mention the orbit of TELEOS-1 is with low inclination

and range is limited within 15 degrees latitude in North and South. Everything has just started, so we hope to provide the community with more images in the future with this approval to use the Satellite to support Sentinel Asia.

- What does CRISP expect from Sentinel Asia?

< Mr. KWOH >

Sentinel Asia has been recognized as a main initiative for disasters response in the Asia-Pacific region, and I think Sentinel Asia is good program to coordinate satellite imaging of natural disasters and sharing with affected countries.

As I said, Singapore has been spared from disasters and our interest in disaster management is aligned with the context of the regional collaboration. In this regard, I think Sentinel Asia's status as an initiative under APRSAF is quite appropriate.



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### 3. [Events]

Upcoming Events:

- APRSAF Online 2020, around October-November 2020 (TBC)
- The 8th Joint Project Team Meeting (JPTM) (Date and Place: TBC)

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### 4. How to send Emergency Observation Request

JPT member organizations are entitled to send Emergency Observation Request (EOR) for disasters in the Asia-Pacific region.

Please refer to [https://sentinel-asia.org/e-learning/Emergency\\_Observation\\_Request.html](https://sentinel-asia.org/e-learning/Emergency_Observation_Request.html)

