

**** June 2023 News from Sentinel Asia Project Office ****

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Topics:

1. [News] Emergency Observation of Disasters
2. [Interview] Mr. Tatiya Chuentragun, Geo-Informatics and Space Technology Development Agency (GISTDA)
3. How to Send an Emergency Observation Request
4. Using the Sentinel Asia Operation System, OPTEMIS

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1. [News] Emergency Observation of Disasters (as of 29 June)

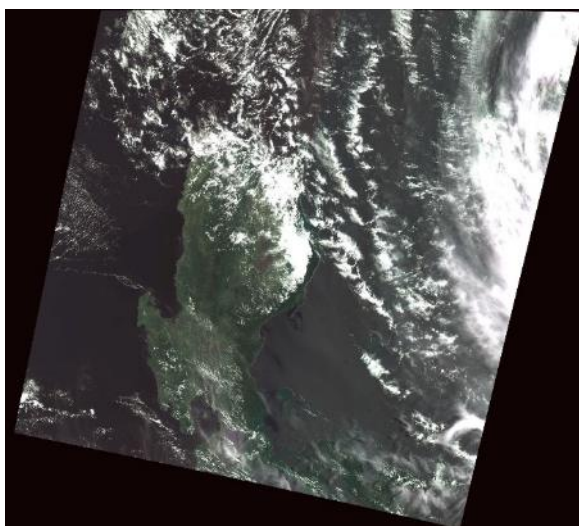
(1) Typhoon Mawar in the Philippines on 27 May, 2023 (GLIDE Number [TC-2023-000077-PHL](#))

After having caused damage on the Island of Guam, Typhoon Mawar (Betty) approached the Philippines, although it proceeded off the country's island of Luzon.

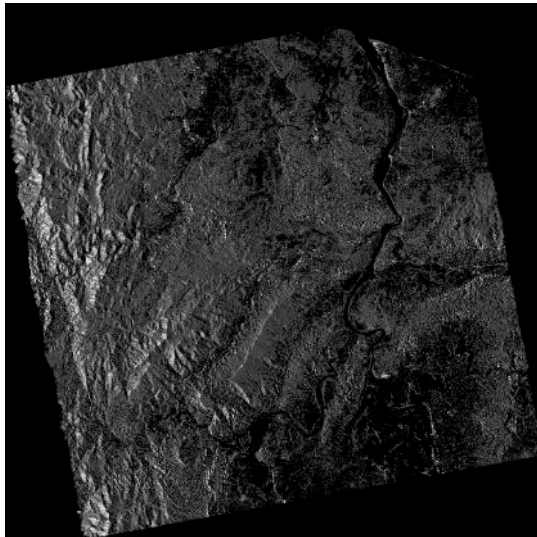
<https://www.nytimes.com/article/typhoon-mawar.html>

Anticipating damage in the country, the Manila Observatory (MO) made an EOR to Sentinel Asia on 25 May. Among DPNs, ISRO, JAXA, and TASA provided data. Among DANs, AIT and MBRSC provided their VAPs. Information on the latest response by Sentinel Asia is available at the link below.

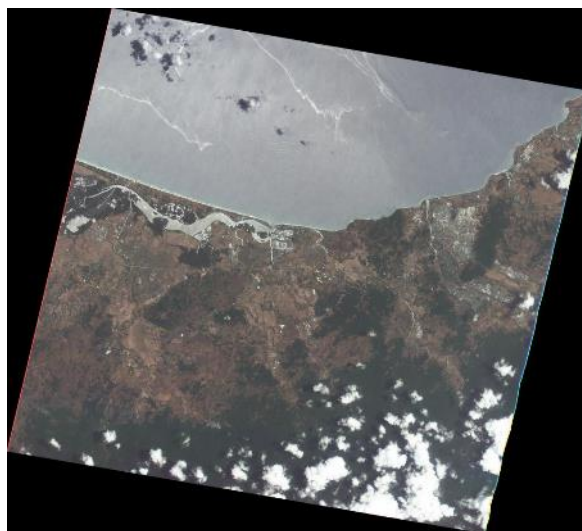
<https://sentinel-asia.org/EO/2023/article20230527PH.html>



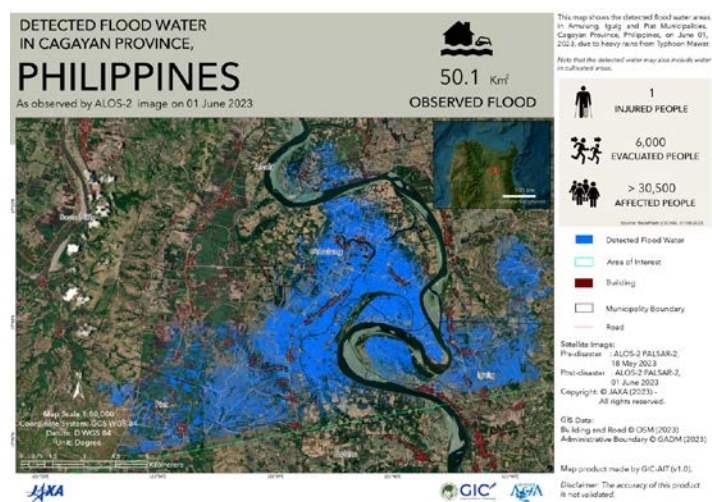
Post-disaster satellite image (Resourcesat-2) provided by ISRO



Post-disaster satellite image (ALOS-2) provided by JAXA



Post-disaster satellite image (FORMOSAT-5) provided by TASA



Value-Added Product by AIT



Value-Added Product by MBRSC

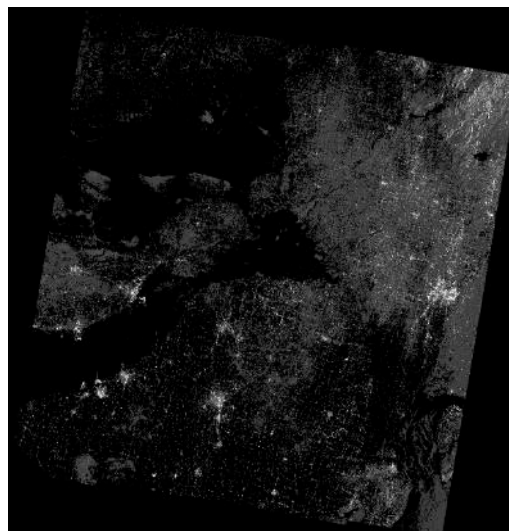
(2) Cyclone Biparjoy in India on 15 June, 2023 (GLIDE Number [TC-2023-000095-IND](#))

Cyclone Biparjoy made landfall in India's western Gujarat state on the northeastern coast of the Arabian Sea on 15 June. Al Jazeera reported that more than 100,000 people have been evacuated from eight coastal districts in Gujarat and moved to shelters.

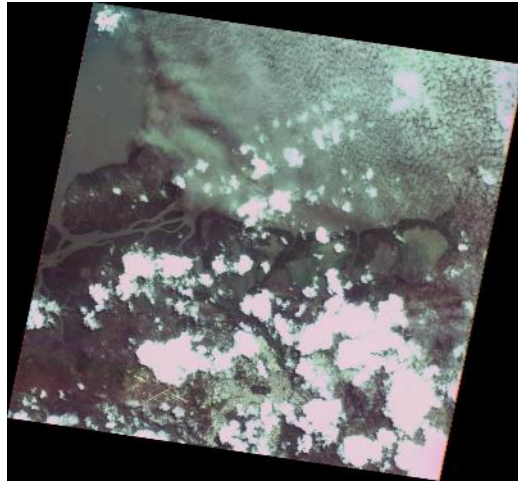
https://www.aljazeera.com/news/2023/6/15/cyclone-biparjoy-damages-power-lines-makes-landfall-in-india?traffic_source=KeepReading

ISRO made an EOR to Sentinel Asia on 14 June in anticipation of the approach of the cyclone. Among DPNs, JAXA and TASA provided data. Among DANs, AIT provided its VAPs. Information on the latest response by Sentinel Asia is available at the link below.

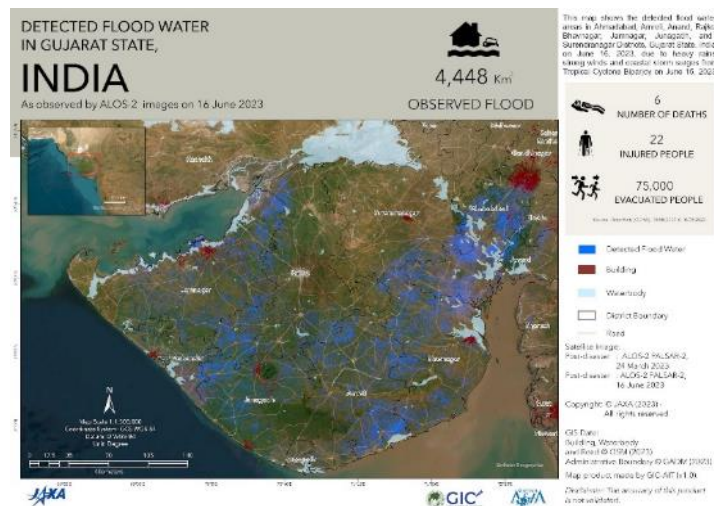
<https://sentinel-asia.org/EO/2023/article20230615IN.html>



Post-disaster satellite image (ALOS-2) provided by JAXA



Post-disaster satellite image (FORMOSAT-5) provided by TASA



Value-Added Product by AIT

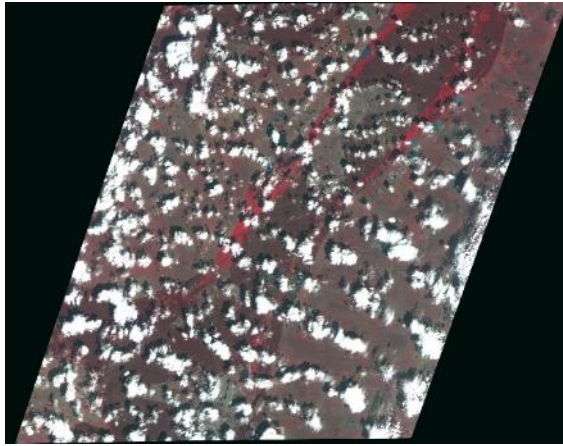
(3) Forest Fire in Kazakhstan on 08 June, 2023 (GLIDE Number [WF-2023-000100-KAZ](#))

A massive wild fire started on the natural reserve of “Semei Ormany” in the eastern part of Kazakhstan on 8 June. According to the Astana Times, 14 people died in the fire.

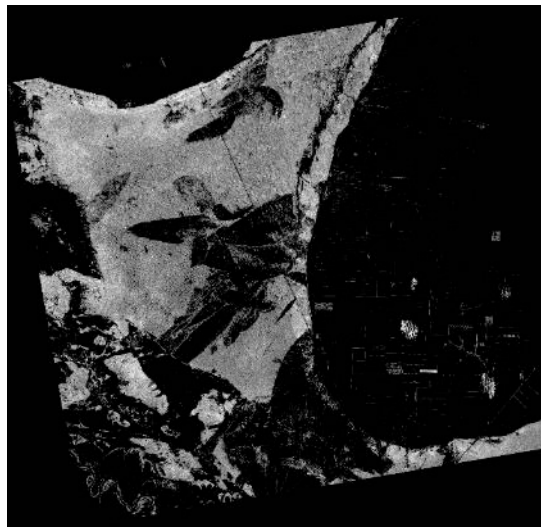
<https://astanatimes.com/2023/06/president-of-kazakhstan-declares-june-12-as-national-day-of-mourning-for-forest-fires-victims-in-abai-region/>

Central Asian Institute of Applied Geosciences (CAIAG) made an EOR to Sentinel Asia on 16 June. Among DPNs, ISRO, JAXA and TASA provided data. Among DANs, AIT provided its VAPs. Information on the latest response by Sentinel Asia is available at the link below.

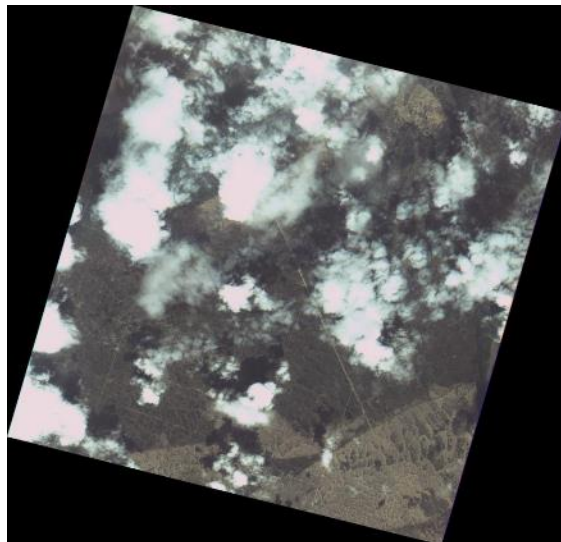
<https://sentinel-asia.org/EO/2023/article20230608KZ.html>



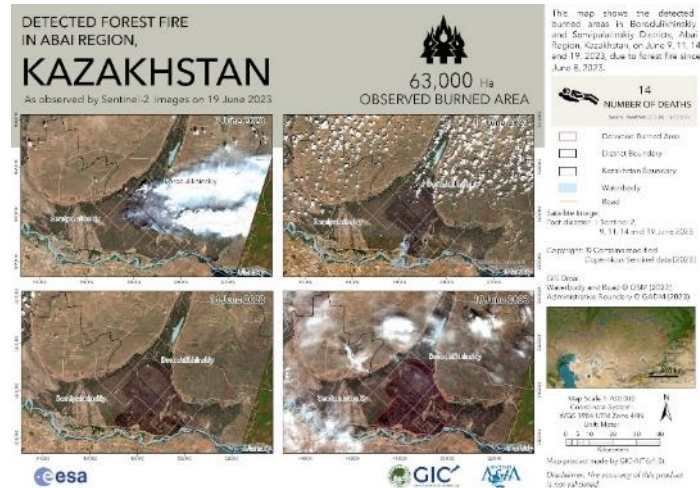
Post-disaster satellite image (Resourcesat-2) provided by ISRO



Post-disaster satellite image (ALOS-2) provided by JAXA



Post-disaster satellite image (FORMOSAT-5) provided by TASA



Value-Added Product by AIT

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2. [Interview] Mr. Tatiya Chuentragun, Geo-Informatics and Space Technology Development Agency (GISTDA)

Geo-Informatics and Space Technology Development Agency (GISTDA) is a longtime member of the Sentinel Asia. They provide satellite imagery from their Thaichote or THEOS-1 satellite as Data Provider Node and provide Value Added Products as Data Analysis Node also.

Mr. Tatiya Chuentragun, Deputy Executive Director of GISTDA, serves as a co-chair of the Steering Committee of Sentinel Asia. Sentinel Asia Secretariat interviewed him on his effort for Sentinel Asia, GISTDA's contribution to Sentinel Asia, and the disaster management scheme in Thailand.



Sentinel Asia Secretariat

First of all, the Sentinel Asia Secretariat would like to express our appreciation for GISTDA's long-time contributions to Sentinel Asia, including ones by the National Remote Sensing Center (NRSC) and the National Research Council of Thailand (NRCT), former bodies of GISTDA. GISTDA is now working as a Data Provider Node (DPN) as well as a Data Analysis Node (DAN). What is the history of Thailand and GISTDA joining Sentinel Asia and what is the motivation for being a member of Sentinel Asia?

Mr. Tatiya Chuentragun

When Thailand joined Sentinel Asia (SA), we intended to learn how to use new technologies for disaster monitoring. We strongly believe that we had received for some time and that when the right time arrived, we must give back. This mindset was one of the reasons for the development

of our Earth Observation (EO) satellite Thaichote or THEOS-1, to contribute to SA by data provision. Since the beginning of Thailand's participation in SA, we have gained a lot of expertise in the field of disaster monitoring using EO data and its data provision. Based on those experiences we have also acted as a Data Analysis Node (DAN). And since Thailand is very prone to different disasters, using that gained knowledge, our staff is busy all year round to provide analytics related to disasters to different parties.

Sentinel Asia Secretariat

We also appreciate your co-chairship at the Sentinel Asia Steering Committee. As a co-chair, do you have anything you would like to achieve in the activities of Sentinel Asia?

Mr. Tatiya Chuentragun

I don't know how to give a full and fair picture of what I wished I could do as co-chair of the Steering Committee when I have been appointed. But let me begin with the fact that SA is a volunteer-based activity and therefore it is not easy to get all the members to actively participate in SA. And as a co-chair of the Steering Committee, I wish I could enhance collaborations among the members. To enhance collaborations, more communication is needed, and this is where I think we can start to work. Unfortunately, in the past, SA only had face-to-face meetings, which are very important for initiating collaborations, a few times. We can take meeting opportunities to show and expand our past success stories and projects. Of course, the budget will always be an issue, but even with the limited budget, we can engage members through training and workshops that not only transfer knowledge and technologies but also enhance communication and dialogue among all the members.

The other fact is that SA has been collaborating with different disaster-related international entities such as the International Disasters Charter. It's truly a wise move on SA's part to place such collaborations at the forefront, enabling all SA members to witness firsthand the remarkable strength of the network and the availability of data access.

Sentinel Asia Secretariat

Are there any cases that stand out of disasters in your country where Sentinel Asia observation was useful?

Mr. Tatiya Chuentragun

Yes, in 2011, Thailand experienced one of the biggest flood events in its history. At that time, Thailand sought related data from different entities and organizations. Those data helped Thailand to get through that disaster and I believe that in that experience, Thailand's continuous efforts in collaboration with different entities and organizations paid off.

After the disaster response by GISTDA, the Thailand government could get a clearer and fairer image of how the EO data can support disaster management. Before the mentioned flood event, such EO-related activities have been used in the planning phase, but only during that event, for

the first time in Thailand's history, the space application had been put in front of the decision-makers for their decisions.

Sentinel Asia Secretariat

Do you have any lessons learned through such cases?

Mr. Tatiya Chuentragun

To answer this question, I refer to the experience mentioned in the last question. Looking at such experiences, we realized that the data and technology are out there, but it is important to know/learn how to show the potential of such data to decision-makers. From those experiences, we learned that to make that potential recognized by decision-makers, the data must be presented to the right people at the right time and in the right format. That is why after the 2011 flood event, we initiated an "Actionable Intelligence Policy" (AIP), which requires us to engage more with policymakers and decision-makers along with other end-users.

Sentinel Asia Secretariat

Currently, Thailand has eight Sentinel Asia member agencies. Do they have any roles or responsibilities regarding disasters in Thailand? What role does GISTDA play among them? How does GISTDA cooperate with them? In addition, does GISTDA get any feedback from Disaster Management Organizations such as the Department of Disaster Prevention and Mitigation (DDPM)? And is there any cooperation between GISTDA and International Organizations in Thailand such as the Asian Disaster Preparedness Center?

Mr. Tatiya Chuentragun

In this regard, I should mention that out of seven SA member organizations in Thailand, namely the Department of Water Resources (DWR), the Royal Forest Department (RFD), the National Park and Wildlife Plan Department, the Royal Irrigation Department (RID), the Land Development Department (LDD), and the Andaman Environment and Natural Disaster Research Center, Prince of Songkla University (ANED, PSU), GISTDA has been collaborating with most SA members organizations in Thailand. Unfortunately, I cannot remember whether we signed an MoU with all of them or not. Typically, at the time of a disaster, DDPM is our focus organization since it is the main department that is responsible for disaster relief along with some others.

Based on the MOU with DDPM and GISTDA, even if GISTDA doesn't push particular data to DDPM platforms directly, DDPM can have direct access to the GISTDA servers and most of its data through some APIs. Usually, GISTDA prepares the final product such as flood maps and flood area in the form of shapefiles and map services, and shares them with DDPM so they can focus on their tasks and leave most of the remote sensing and experience to us.

Based on an MoU with DDPM and GISTDA, even if GISTDA doesn't push particular data to DDPM platforms directly, DDPM can have direct access to the GISTDA servers and most of its data through some APIs. However, usually, GISTDA prepares the final products, such as flood

maps, etc., and shares them with DDPM so they don't need to acquire remote sensing knowledge and experience.

Sentinel Asia Secretariat

The recently established “Thai Space Consortium” has developed its own EO program. As such, you have many public and private players in space development and applications in Thailand. Do they have any plan for a disaster monitoring program using space technology?

Mr. Tatiya Chuentragun

The Thai Space Consortium is a collaborative initiative between space-related activities in Thailand and mainly focuses on research, and of course, GISTDA is a major part on the Consortium. On top of that, GISTDA as the National Space Agency mainly focuses on the National Space Master Plan, which comprises a whole range of space activities, and TSC is definitely a program in the master plan. We also are planning the next generation of EO satellites. Based on such plans, by the fourth quarter of 2023, GISTDA will have two new EO satellites, “THEOS-2” and “THEOS-2A”, to be launched with aims that include disaster monitoring and international collaborations. Although the sensors onboard both satellites will be optical, GISTDA will use all its potential to utilize those data for disaster monitoring not only nationwide but also for international collaborations such as the SA. These two satellites are equipped with 50-cm and 1.1-m spatial resolution and we expect to provide detailed information. And the application is not only just the inundated area but also the direction of the flood at the time of a disaster.

We are working on the enhancement of our system accordingly. Apart from their abilities, both satellites will be dedicated to our international collaborations such as SA, and GISTDA plans to provide the data for international collaborations.

With regard to future satellite programs and the National Space Master Plan, right now GISTDA is conducting feasibility studies for a next-generation satellite with an optical sensor to be launched in next 3–5 years. When the necessary technical advancement is acquired through several satellites, GISTDA hopes to have its first SAR satellite.

Sentinel Asia Secretariat

Your Executive Director, Dr. Pakorn Apaphant, mentioned that GISTDA is providing solutions in the six areas, namely, agriculture, disaster, water management, mapping, natural resource, and urban, at the CEOS Plenary in 2022. Could you tell us about GISTDA's program on disaster management?

Mr. Tatiya Chuentragun

As mentioned above, we will have more satellites in the future the data from which we will dedicate to our international collaborations. Also, we already have our system to disseminate the data to the end-user agencies. We are continuously improving our systems to serve more

especially not only governments and organizations but also citizens and the private sector.

Sentinel Asia Secretariat

Can you tell us what you expect from Sentinel Asia and what you will contribute to Sentinel Asia?

Mr. Tatiya Chuentragun

I have quite a lot to say here. But to begin with, I'd like to refer to the scope of SA, which is not only response and post-disaster but also disaster mitigation and preparation, which are very important, especially for areas more prone to disasters such as Thailand. Disaster preparation mainly deals with early data acquisition and hot-spot mapping of prone areas. This requires historical data collection and regional collaboration, which is something that I expect in SA. As mentioned before in earlier questions, I also expect SA to show how we can take benefits from our collaborations to its members, as such stories can motivate all members to actively collaborate and communicate in SA.

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3. How to send an Emergency Observation Request

JPT member organizations are entitled to send an Emergency Observation Request (EOR) for disasters in the Asia-Pacific region. Please refer to https://sentinel-asia.org/e-learning/Emergency_Observation_Request.html.

EOR Order Desk:
Asian Disaster Reduction Center (ADRC)
HP: <http://www.adrc.asia/>
E-mail: sarequest@adrc.asia
FAX: +81-78-262-5546,
TEL: +81-78-262-5540

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4. Using Sentinel Asia Operation System, OPTEMIS

Sentinel Asia launched a new operation system, OPTEMIS. Please refer to the website on how to create an account for OPTEMIS.

https://sentinel-asia.org/e-learning/Emergency_Observation_Request.html

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