

**\*\* December 2024 News from Sentinel Asia Project Office \*\***

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Topics:

1. [News] Emergency Observation of Disasters (as of 27 December)
2. [Interview] Dr. Joel Joseph S. Marciano Jr., Director General, Philippine Space Agency
3. How to send an Emergency Observation Request
4. Using Sentinel Asia Operation System, OPTEMIS

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1. [News] Emergency Observation of Disasters (as of 20 December)

(1) Flood by Northeast Monsoon in Southern Thailand on 26 November, 2024 (GLIDE Number [TC-FL-2024-000217-THA](#))

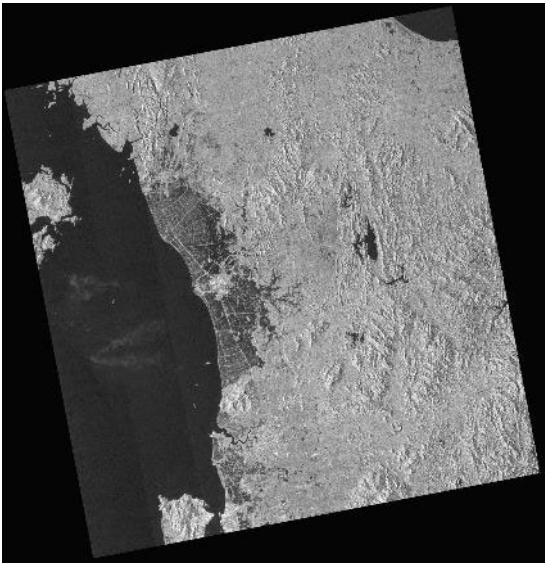
According to ReliefWeb, continuous heavy rains brought by the northeast monsoon caused floods and flash floods over the southern region of Thailand in late November. A total of 136,219 households were affected in Satun, Surat Thani, Nakhon Si Thammarat, Songkhla, Pattani, Narathiwat, and Yala provinces, it reported.

<https://reliefweb.int/report/thailand/flash-update-no-01-flooding-malaysia-and-southern-thailand-28-november-2024>

GISTDA made an Emergency Observation Request (EOR) to Sentinel Asia on 29 November. Among Data Provider Nodes (DPNs), ISRO, JAXA, and TASA provided data. Among Data Analysis Nodes (DANs), AIT, EOS, and MBRSC provided their Value-Added Products (VAPs).

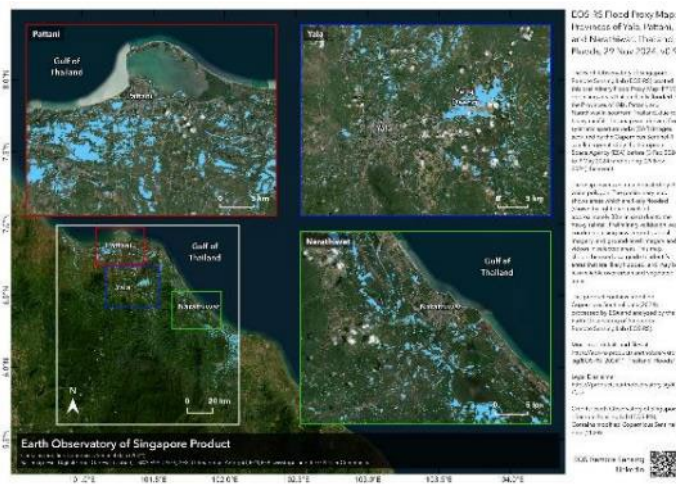
Information on the latest response by Sentinel Asia is available at the link below.

<https://sentinel-asia.org/EO/2024/article20241126TH.html>



Post-disaster satellite image (EOS-04) provided by ISRO





Value-Added Product by EOS



Value-Added Product by MBRSC

(2) Flood and Landslide in West Java, Indonesia on 03 December, 2024 (GLIDE Number [FL-2024-000221-IDN](#))

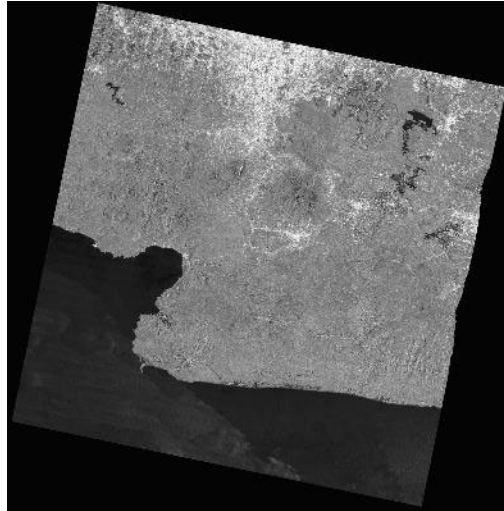
The Tempo reported that floods and landslides hit Sukabumi Regency, West Java, in early December and Acting Governor of West Java confirmed that three people died and four remain missing in the aftermath of these events.

<https://en.tempo.co/read/1949403/landslides-floods-strike-west-javas-sukabumi-3-killed-4-missing>

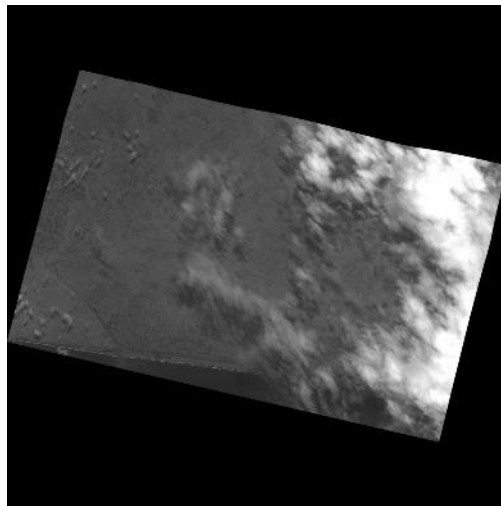
The National Research and Innovation Agency of Indonesia (BRIN) made an EOR to Sentinel Asia on 6 December. This EOR was escalated to the International Disasters Charter. BRIN assumed the role of Project Manager for this Charter activation. Among DPNs, ISRO, GISTDA, and TASA provided data. Among DANs, BRIN, EOS, and MBRSC provided their VAPs.

Information on the latest response by Sentinel Asia is available at the link below.

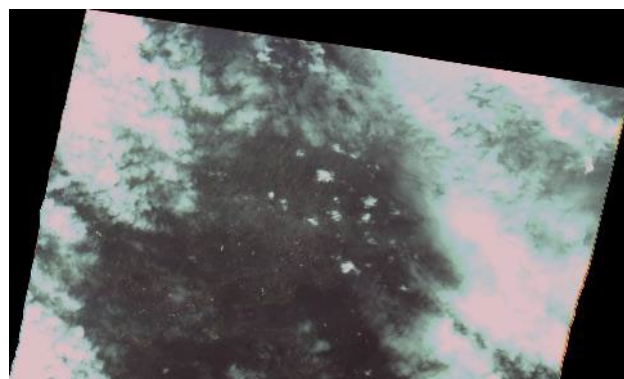
<https://sentinel-asia.org/EO/2024/article20241203ID.html>



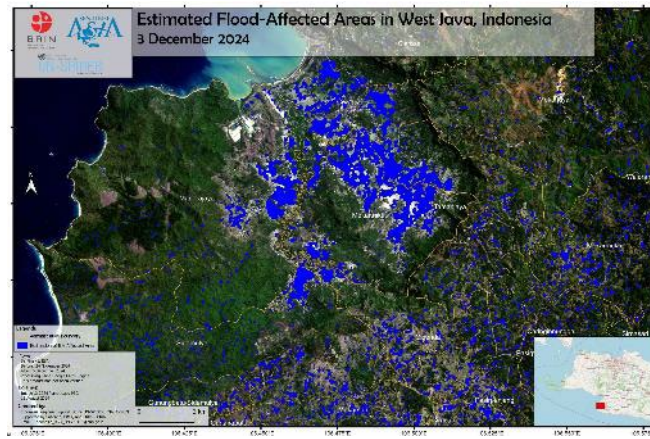
Post-disaster satellite image (EOS-04) provided by ISRO



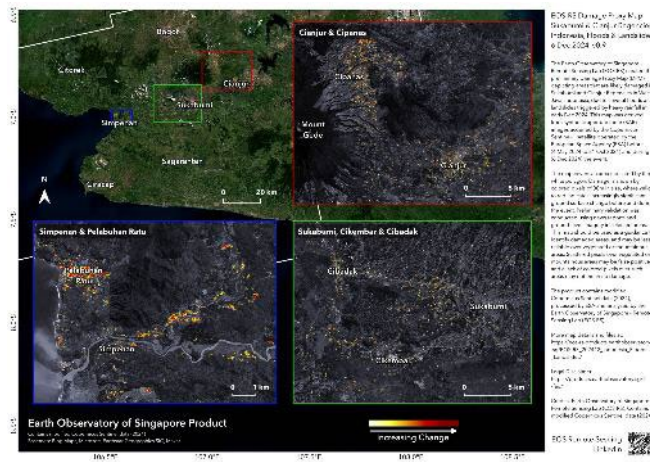
Post-disaster satellite image (THEOS-1) provided by GISTDA



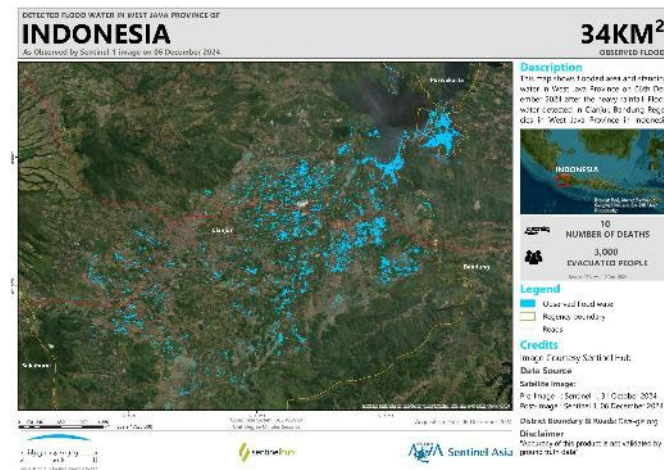
Post-disaster satellite image (FORMOSAT-5) provided by TASA



Value-Added Product by BRIN



Value-Added Product by EOS



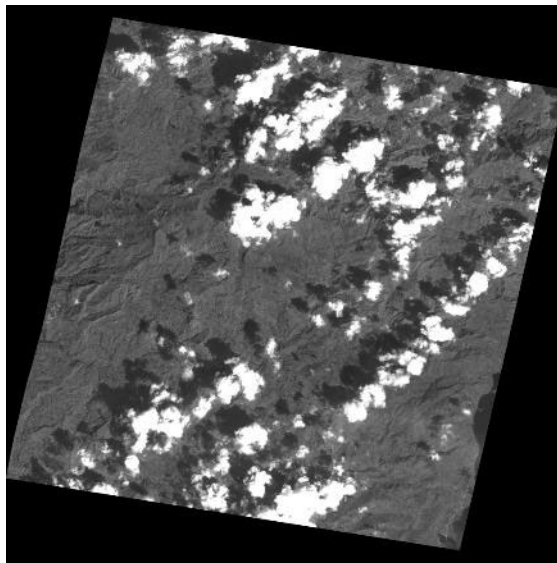
Value-Added Product by MBRSC

(3) Eruption Occurred Kanlaon Volcano in Philippines on 09 December, 2024 (GLIDE Number [VO-2024-000222-PHL](#))

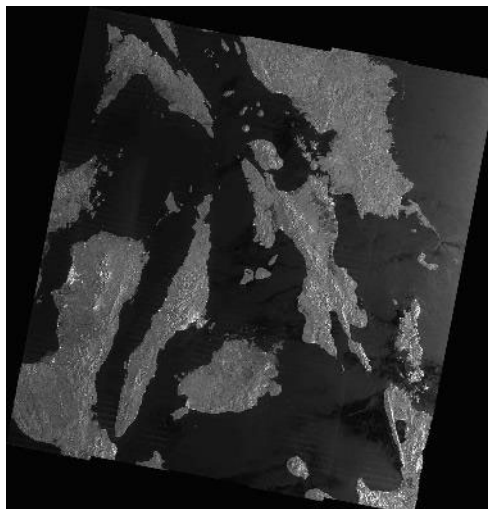
The Philippine Institute of Volcanology and Seismology (PHIVOLCS) issued a report stating that

an explosive eruption occurred at the summit vent of Kanlaon Volcano on 9 December 2024. The eruption produced a voluminous plume that rapidly rose to 3,000 meters above the vent. Pyroclastic density currents descended the slopes on the general southeastern edifice based on IP and thermal camera monitors. PHIVOLCS raised the volcano alert to Level 3 (magmatic unrest). <https://www.phivolcs.dost.gov.ph/index.php/volcano-advisory-menu/28593-kanlaon-volcano-raisingalert-level-2-to-3>

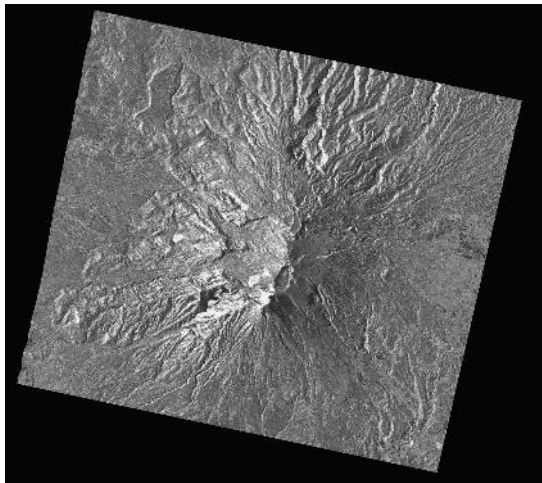
PHIVOLCS made an EOR to Sentinel Asia on 6 December. Among DPNs, GISTDA, JAXA, and ISRO provided data. Among DANs, MBRSC provided its VAP as of 27 Dec. Information on the latest response by Sentinel Asia is available at the link below. <https://sentinel-asia.org/EO/2024/article20241209PH.html>



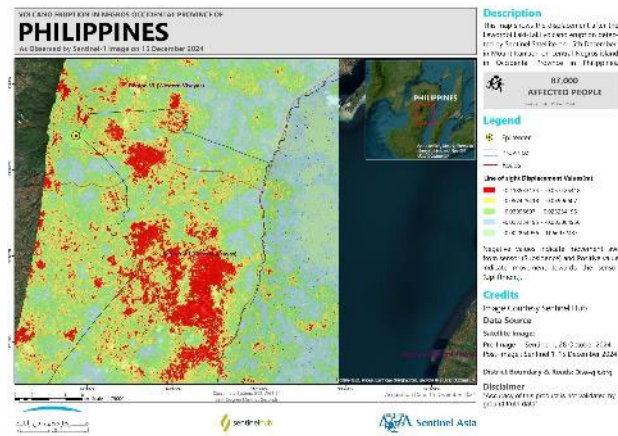
Post-disaster satellite image (THEOS-1) provided by GISTDA



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



Post-disaster satellite image (EOS-04) provided by ISRO



Value-Added Product by MBRSC

(4) Earthquake in Vanuatu on 17 December, 2024 (GLIDE Number [EQ-2024-000227-VUT](#))

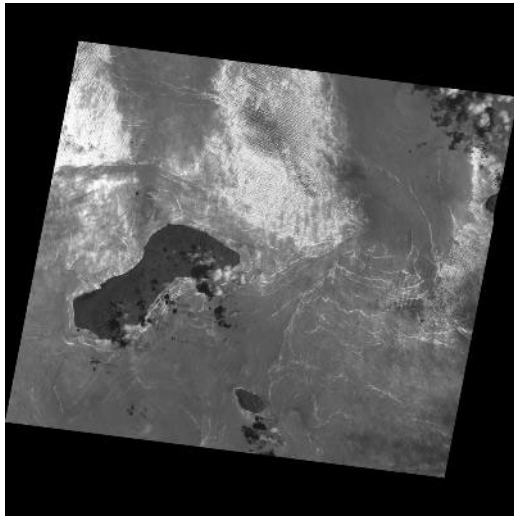
CNN reported that a 7.3-magnitude earthquake hit Vanuatu on 17 December. The quake struck 30 kilometers west of Port Vila, the capital of Vanuatu, at about 57.1 kilometers deep according to the United States Geological Survey (USGS). It was followed by a 5.5-magnitude aftershock. At least 14 people were reportedly killed and 200 have been treated for injuries.

<https://edition.cnn.com/2024/12/16/world/earthquake-vanuatu-intl-hnk/index.html>

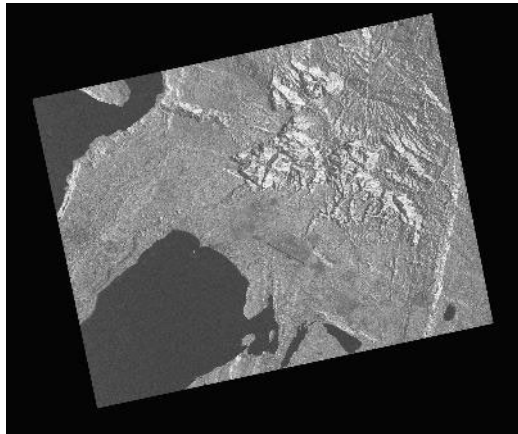
Pacific Community (SPC) made an EOR to Sentinel Asia on 17 December. Among DPNs, GISTDA, ISRO, and JAXA provided data. Among DANs, EOS provided its VAPs as of Dec 27.

Information on the latest response by Sentinel Asia is available at the link below.

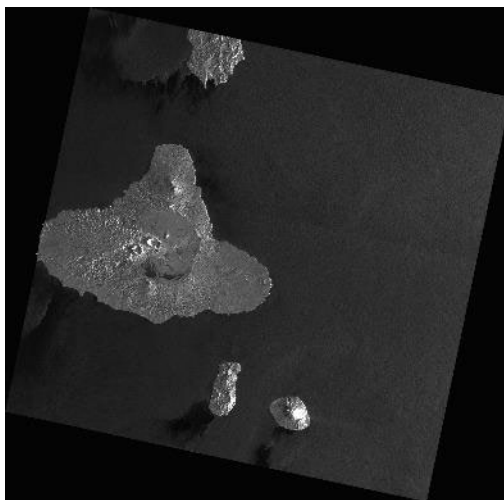
<https://sentinel-asia.org/EO/2024/article20241217VU.html>



Post-disaster satellite image (THEOS-1) provided by GISTDA



Post-disaster satellite image (EOS-04) provided by ISRO



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





Value-Added Product by EOS

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2. [Interview] Dr. Joel Joseph S. Marciano Jr., Director General, Philippine Space Agency

Established in 2019 under Republic Act No. 11363, or the Philippine Space Act, the Philippine Space Agency (PhilSA) is actively expanding its operations. As a Data Provider Node (DPN) for Sentinel Asia since January 2023, PhilSA has been instrumental in providing critical satellite data to support disaster response and management efforts in the Philippines, a country frequently affected by natural disasters such as storms, earthquakes, and volcanic eruptions. In November 2024, PhilSA co-hosted Sentinel Asia’s Joint Project Team Meeting (JPTM), which was held in Quezon City, Philippines. During the event, Dr. Joel Joseph S. Marciano Jr., Director General of PhilSA, was interviewed by the Sentinel Asia Secretariat to introduce the agency’s activities, particularly its involvement with Sentinel Asia and its contributions to the global space community.



***Sentinel Asia Secretariat***

Over the past 10 years, much has changed in the Philippines regarding space policy and

stakeholder involvement. Given that the Philippine Space Agency (PhilSA) was established in 2019, could you share the story behind its establishment and its purpose?

***Dr. Marciano***

The establishment of PhilSA is a significant milestone for the Philippines. Before its creation, the Department of Science and Technology (DOST) managed various projects in space science and applications while simultaneously supporting activities related to space policy formulation. It became increasingly clear to DOST—and the nation as a whole—that the Philippines needed to build capabilities in space technology to address challenges like natural disasters while also leveraging this technology in areas such as national and food security and marine resource management. This realization led to initiatives such as developing microsattellites in collaboration with Japanese universities and JAXA.

On the policy front, the efforts culminated in the Philippine Space Policy, signed in 2019, outlined the principles and necessity of having a space program. This policy emphasizes the importance of being a global actor, keeping pace with other nations in space innovation, ensuring representation in international space-related bodies, and leveraging space technologies for scientific advancement, disaster and climate resilience, and economic progress.

The policy identifies six key development areas where space science and technology can contribute. These include national security and development, hazard management and climate studies, space industry capacity building, space research and development, education and awareness, and international cooperation. PhilSA's mandate is to address these areas, fostering a domestic space ecosystem while coordinating national policies and initiatives.

PhilSA also benefits from strategic oversight. The Philippine Space Act established the Philippine Space Council, chaired by the President and vice-chaired by the Secretary of National Defense and the Secretary of Science and Technology, with other members from various government departments and the legislative branch. This positioning underscores the agency's pivotal role in integrating space technology into national socioeconomic development and resilience strategies.

***Sentinel Asia Secretariat***

What is PhilSA's role within the Philippine government for space development, particularly in disaster management using space technologies?

***Dr. Marciano***

PhilSA's role is rooted in our national space program, which, in turn, is aligned with the Philippine Space Policy. Our vision is to bridge, uplift, and empower the nation through the peaceful uses of outer space, and our mission is to promote a robust space ecosystem that creates value across all sectors of society. To achieve this, we use the space value chain as a strategic framework that guides us in ensuring that investments in space capabilities yield socioeconomic benefits.

One key area of our work is the development of satellites and upstream infrastructure, which play a critical role in disaster risk reduction and management and address other pressing concerns in the Philippines. We have engineers building satellites and collaborating with stakeholders to

determine requirements for data and applications. This process is reflected in our decadal survey, which outlines gaps and opportunities in Earth observation over the next 10 years.

Once data is gathered—whether from our satellites, commercial sources, or open platforms such as the International Disasters Charter or Sentinel Asia—our focus shifts to ensuring its effective utilization. Partnerships with agencies and organizations are vital for producing insights and maps that address real-world needs. However, the true value of these outputs is realized only when they are actively used by stakeholders. Engaging end users through feedback loops is key to maximizing the societal benefits of space investments.

Our work involves bridging gaps, fostering collaboration, and ensuring that space technology outputs are integrated into decision-making processes. Without widespread adoption, the potential of space technology to contribute to disaster management and national development remains untapped.

### ***Sentinel Asia Secretariat***

What is PhilSA's position in relation to Sentinel Asia?

### ***Dr. Marciano***

Sentinel Asia provides a platform that aligns perfectly with PhilSA's functions and mandate. Initially, the Philippines participated as a data user. Now, with PhilSA inheriting satellite operations from DOST, we have progressed to being a Data Provider Node (DPN). Developing space missions and operating satellites have put us in an excellent position to contribute actively to the Sentinel Asia community.

Beyond data contribution, we see Sentinel Asia as an opportunity to share experiences—both in generating data and in how it is applied. Each member country has unique use cases, from emergency response to disaster management. Sharing insights about how data is distributed, presented, and used by various groups can lead to valuable lessons for everyone involved. For instance, feedback from end users, whether high-level decision-makers or local responders, helps refine how data is delivered and ensures that it has practical value.

Sentinel Asia also emphasizes capacity building, ensuring that skilled professionals can analyze and apply data effectively. By participating in this platform, we aim to both learn from and contribute to the growing knowledge and capabilities of the regional space community.

### ***Sentinel Asia Secretariat***

Could you tell us about PhilSA's plans for developing future Earth observation satellites?

### ***Dr. Marciano***

Strengthening the entire space value chain also entails building satellites and upstream infrastructure. Our goal is to enhance proficiency in satellite manufacturing, particularly in Earth observation technologies. This journey began before PhilSA was established, through DOST-led projects developed in partnership with Japan.

The success of these projects lies in the skills acquired by the people involved. Many of them have gone on to mentor younger engineers, contributing to a growing pool of talent in space

technology. For example, our recent multispectral satellite, which includes a 5-meter resolution camera, addresses applications such as agriculture and environmental monitoring. These missions are based on identified gaps and national needs, and they underscore the importance of continuity in satellite development.

While one satellite alone cannot address all challenges, it builds the foundation for future collaborations. Our goal is to reach a level of proficiency where we can contribute meaningfully to international missions, whether by building entire satellites or developing

specific components. Collaboration also extends to downstream activities, such as data analysis and utilization.

Building satellites is not just about technology; it's about building expertise and ecosystems. We're working with universities to train the next generation of scientists and engineers, ensuring that the Philippines remains an active participant in the global space community.



The Philippines' next earth observation satellite  
“Multispectral Unit for Land Assessment” (MULA)

### ***Sentinel Asia Secretariat***

PhilSA co-organized Sentinel Asia's Joint Project Team Meeting (JPTM) 2024, and you personally participated in the event. What are your impressions of the meeting, and what was the purpose and outcome of hosting it?

### ***Dr. Marciano***

Hosting JPTM was an invaluable opportunity for PhilSA. As a young agency, such events allow us to grow and learn from the broader regional and global space community. More importantly, they reaffirm our commitment to collaboration, which is central to the work of any space agency. Through initiatives such as JPTM, we contribute to and benefit from the shared knowledge, expertise, and experience of the Sentinel Asia community.

For the Philippines, the meeting also showcased our hospitality and highlighted our aspirations to play a meaningful role in regional cooperation. Hosting JPTM gave us a chance to engage more deeply with other countries, share our progress, and reflect on how we can continue to contribute



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Sentinel Asia Project Office

Satellite Applications and Operations Center (SAOC)

Japan Aerospace Exploration Agency (JAXA)

Ochanomizu Sola City, 4-6 Kandasurugadai, Chiyoda-ku, Tokyo 101-8008 Japan

E-mail: [Z-SENTINEL.ASIA@ml.jaxa.jp](mailto:Z-SENTINEL.ASIA@ml.jaxa.jp)