

**\*\* July 2021 News from Sentinel Asia Project Office \*\***

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**Topics:**

1. [News] Emergency Observation of Disasters
2. [Interview] Mr. Hans Guttman, Executive Director of the Asian Disaster Preparedness Center (ADPC)
3. [Event] Sentinel Asia Webinar on Drought Risk Management hosted by ISRO and IWMI
4. How to Send an Emergency Observation Request
5. Using Sentinel Asia Operation System, OPTEMIS

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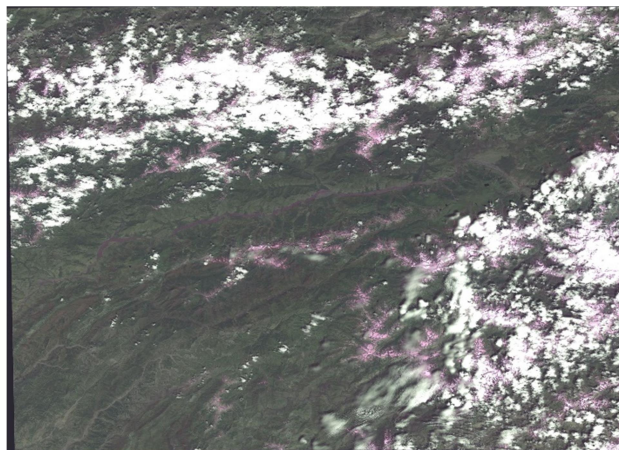
1. [News] Emergency Observation of Disasters (as of 29 July)

(1) Earthquake in Tajikistan (GLIDE Number: [EQ-2021-000081-TJK](#))

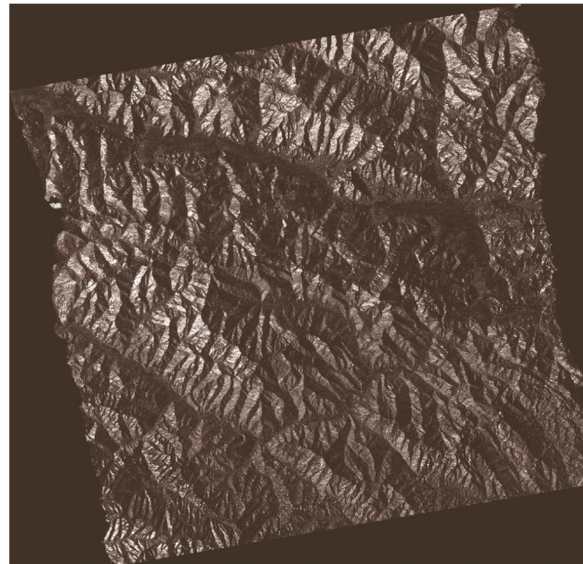
A magnitude 5.9 earthquake struck 27 km east of the Rasht district in Tajikistan on 10 July 2021. Al Jazeera reported that at least five people have died, according to authorities in the mountainous country. (<https://www.aljazeera.com/news/2021/7/10/at-least-five-killed-in-tajikistan-quake>)

The Central Asian Institute of Applied Geosciences (CAIAG) made an Emergency Observation Request (EOR) to Sentinel Asia on 14 July. Among Data Provider Nodes (DPNs), the Indian Space Research Organization (ISRO) and Japan Aerospace Exploration Agency (JAXA) provided their observation data. Among Data Analysis Nodes (DANs), the Asian Institute of Technology (AIT) provided their Value Added Products (VAPs). Information on the latest response by Sentinel Asia is available from the following link:

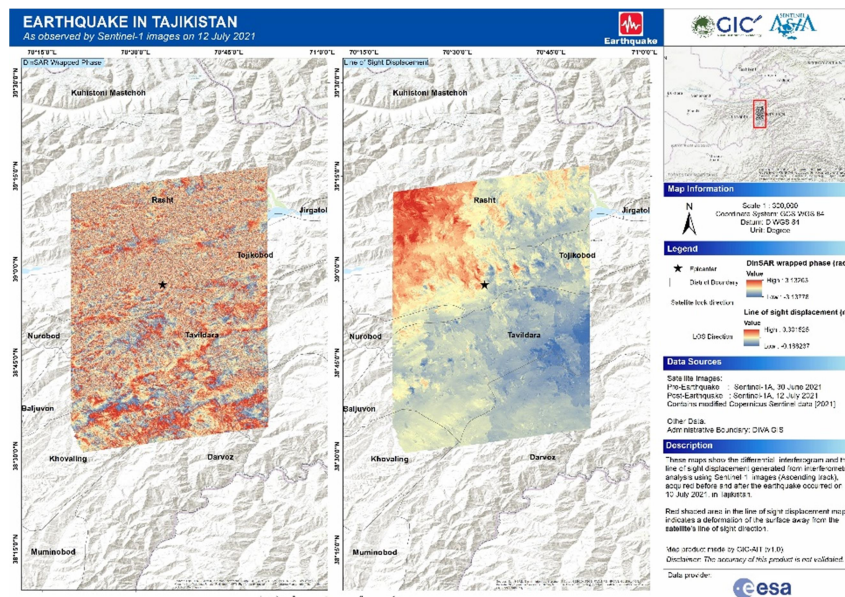
<https://sentinel-asia.org/EO/2021/article20210707TJ.html>



Satellite image (Resourcesat-2) provided by ISRO



Satellite image (ALOS-2) provided by JAXA



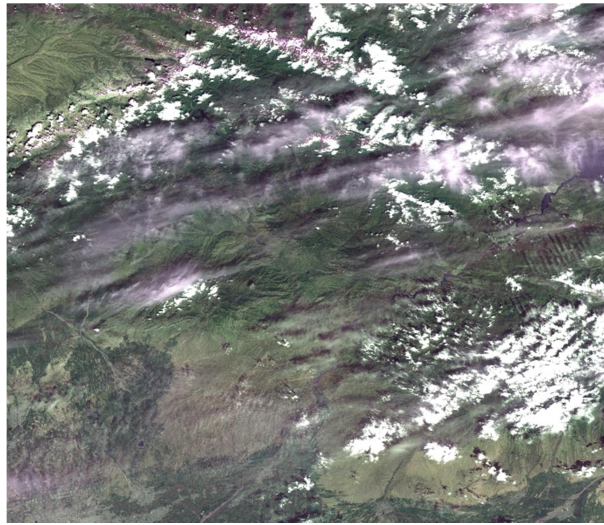
Value Added Product by AIT

(2) Flood in Kyrgyzstan (GLIDE Number: [MS-2021-000082-KGZ](#))

A flood occurred in Kyrgyzstan on 12 July 2021. According to the FloodList, floods and mudslides caused by heavy rains swept away houses in two villages in the Aksy district in Jalal-Abad Region of western Kyrgyzstan, close to the border with Uzbekistan. At least seven people have died as a result. (<https://floodlist.com/asia/kyrgyzstan-uzbekistan-floods-july-2021>)

CAIAG made an EOR to Sentinel Asia on 14 July. Among DPNs, ISRO provided observation data. In addition, the Geo-Informatics and Space Technology Development Agency (GISTDA) planned to provide data. Information on the latest response by Sentinel Asia is available from the following link:

<https://sentinel-asia.org/EO/2021/article20210712KG.html>



Satellite image (Resourcesat-2) provided by ISRO

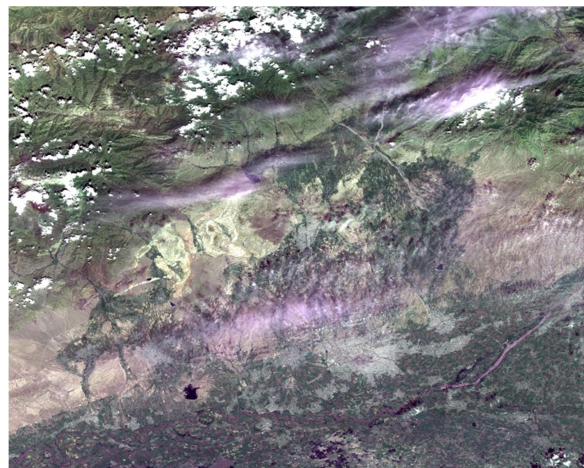
(3) Flood in Uzbekistan (GLIDE Number: [MS-2021-000082-UZB](#))

A flood occurred in Uzbekistan on 13 July. The Ministry of Emergency Situations of the Republic of Uzbekistan reported that the mudslide and floods flowed from neighboring Kyrgyzstan and into the Kosonsoy district of Namangan region of Uzbekistan, causing severe damage. As of 13 July, eight people had died and six were injured.

(<https://floodlist.com/asia/kyrgyzstan-uzbekistan-floods-july-2021>)

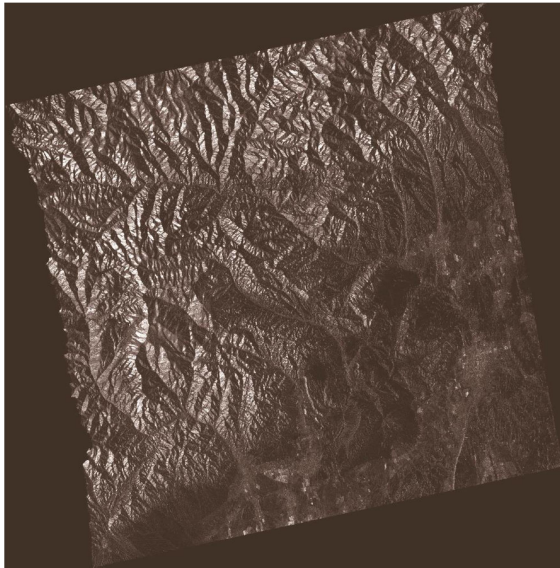
CAIAG made an EOR to Sentinel Asia on 14 July. Among DPNs, ISRO, JAXA, GISTDA, and National Applied Research Laboratories (NARL) provided observation data. Among Data Analysis Nodes (DANs), AIT provided their VAP. Information on the latest response by Sentinel Asia is available from the following link:

<https://sentinel-asia.org/EO/2021/article20210713UZ.html>

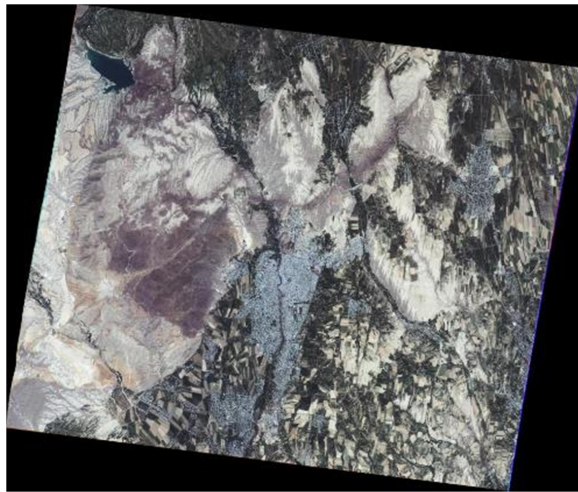


Satellite image (Resourcesat-2) provided by ISRO

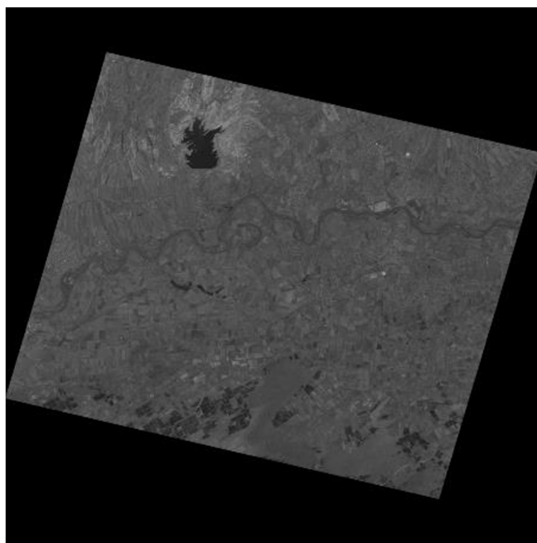




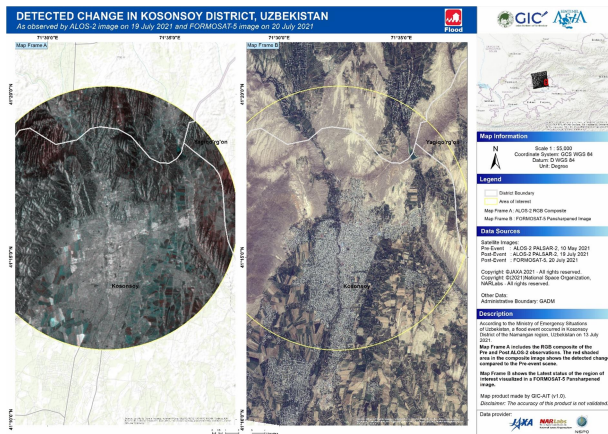
Satellite image (ALOS-2) provided by JAXA



Satellite image (FORMOSAT-5) provided by NARL



Satellite image (THEOS1) provided by GISTDA



Value Added Product by AIT

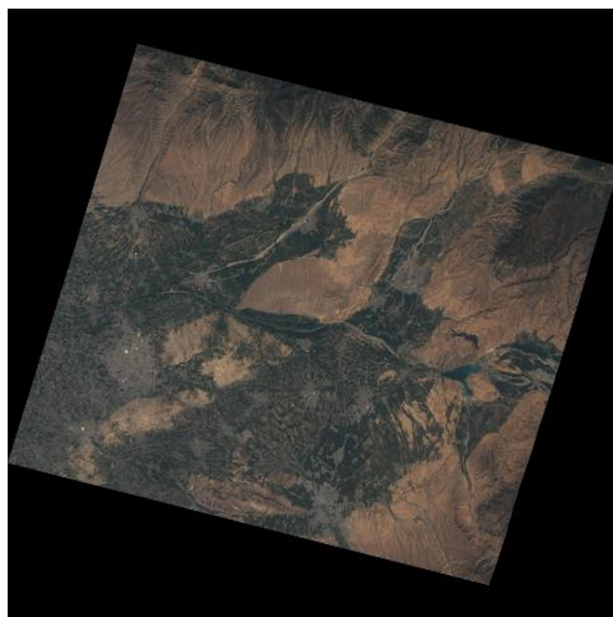
(4) Flood and Mudflow in Kyrgyzstan (GLIDE Number: [FF-2021-000087-KGZ](#))

A flood occurred in Suzak district Jalal-Abad region in Kyrgyzstan in 20 July and caused mudflow in Changyr-Tash and Dostuk villages.

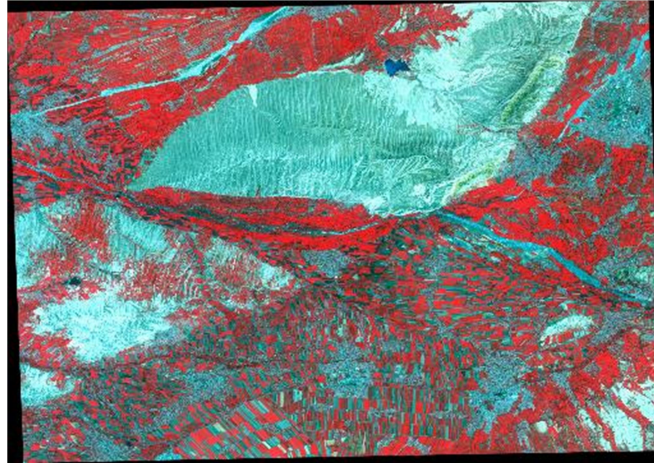
([https://akipress.com/news:660784:6yo\\_girl\\_killed\\_by\\_mudflow\\_in\\_Jalal-Abad\\_region/](https://akipress.com/news:660784:6yo_girl_killed_by_mudflow_in_Jalal-Abad_region/))

CAIAG made an EOR to Sentinel Asia on 22 July. Among DPNs, ISRO and GISTDA provided observation data. In addition, the Mohammed Bin Rashid Space Centre (MBRSC) planned to provide data. Information on the latest response by Sentinel Asia is available from the following link:

<https://sentinel-asia.org/EO/2021/article20210720KG.html>



Satellite image (THEOS1) provided by GISTDA



Satellite image (Resourcesat-2) provided by ISRO

(5) Typhoon Fabian in Philippines (GLIDE Number: [FL-2021-000091-PHL](#))

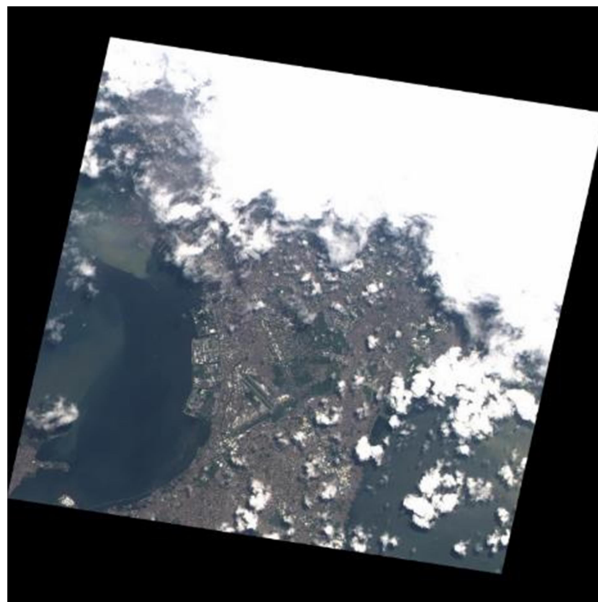
Typhoon Fabian (In-fa) hit the Philippines and caused heavy rain.

(<https://mb.com.ph/2021/07/24/tropical-cyclone-fabian-tracker/>)

The Manila Observatory (MO) made an EOR to Sentinel Asia on 25 July. Among DPNs, GISTDA provided observation data. In Addition, NARL planned to provide the data.

Information on the latest response by Sentinel Asia is available from the following link:

<https://sentinel-asia.org/EO/2021/article20210725PH.html>



Satellite image (THEOS1) provided by GISTDA

(6) Flood in Myanmar (GLIDE Number: [FL-2021-000095-MMR](#))

A flood occurred in Myanmar on 26 July. The Radio Free Asia reported that heavy rains battered the southern states of Kayin and Mon and Tanintharyi region beginning on 25 July,

impacting as many as 3,000 people. More than 100 people in Kayin’s Hlaingbwe had to be evacuated, according to a relief official from the area.

( <https://www.rfa.org/english/news/myanmar/flooding-07262021205343.html>)

The ASEAN Coordinating Centre for Humanitarian Assistance on disaster management (AHA Centre) made an EOR to Sentinel Asia on 27 July. Among DPNs, NARL planned to provide the data. Information on the latest response by Sentinel Asia is available from the following link:

<https://sentinel-asia.org/EO/2021/article20210727MM.html>

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2. [Interview] Mr. Hans Guttman, Executive Director of the Asian Disaster Preparedness Center (ADPC)



The Asian Disaster Preparedness Center (ADPC) is an autonomous international organization that works to build the resilience of people and institutions to disasters and the impacts of climate change in Asia and the Pacific. Established in 1986, it provides comprehensive technical services across social and physical sciences to countries in the region to support sustainable solutions for risk reduction and climate resilience.

Since joining in 2014, ADPC has also been an active member of Sentinel Asia. ADPC has supported the disaster management activities of the Sentinel Asia community, and notably co-organized and hosted the last Joint Project Team Meeting in 2019. The Sentinel Asia Secretariat interviewed Mr. Hans Guttman, the executive director of ADPC.

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(Sentinel Asia Secretariat)

We would like to ask you to introduce ADPC’s mission. We understand that ADPC defines its vision as “Safer communities and sustainable development through disaster risk reduction.”

(Mr. Hans Guttman)

Speaking more specifically, the ADPC Mission is that “ADPC is the premier international organization for cooperation in and implementation of disaster risk reduction and building climate resilience in Asia and the Pacific.” This underscores the role of ADPC through its international charter to support disaster risk reduction (DRR) and climate resilience (CR) actions throughout Asia and the Pacific. For the past three decades, ADPC has provided support to actors in Asia and the



Pacific to reduce the impact of and increase the ability to respond to disasters. ADPC is also committed to continuing to contribute to DRR and CR at the global level with other international partners. I think it is important to recognize from our side at least that international cooperation and partnerships form the basis for achieving our mission.

(Sentinel Asia Secretariat)

Could you tell us what motivation you had when you joined Sentinel Asia and what it has been like to work in the Sentinel Asia community since then?

(Mr. Hans Guttman)

ADPC joined Sentinel Asia in 2014. The timing of our joining Sentinel Asia was when ADPC significantly enhanced its satellite data processing capacity through our Geospatial Information Department. By combining that satellite data processing capacity with ADPC's knowledge on disaster risk management and the connections with mandated national disaster management agencies, ADPC was in a very good position to contribute to the Sentinel Asia community in a significant way. Since then, ADPC has been actively participating in meetings and contributing to the Sentinel Asia community. For example, as one of Sentinel Asia Data Analysis Nodes (DAN), ADPC provided technical support in analyzing remotely sensed data for the dam-break flooding in Lao PDR in 2018, as well as several more floods in Myanmar in 2019. The analyses were done in collaboration not only with Sentinel Asia partners, but also with NASA and others. More importantly, through ADPC's connection with the National Disaster Management Office of Lao PDR, we were able to confirm that the maps provided to them by Sentinel Asia were used for the relief efforts. Another contribution to the Sentinel Asia community was ADPC hosting the 7th Joint Project Team Meeting for Sentinel Asia (JPTM 2019) in Bangkok, together with JAXA – for which we received very positive feedback from Sentinel Asia members. ADPC looks forward to continuing to play a very active role in the Sentinel Asia community.

(Sentinel Asia Secretariat)

We are convinced ADPC's contribution to Sentinel Asia at JPTM 2019 was immense. In particular, the training workshop hosted by ADPC was quite effective. It was the first such endeavor in Sentinel Asia's history in which JPT members mutually trained JPT members with their own strengths and expertise. The successful outcomes, thanks to the training workshop, include an upgraded DAN membership (in the case of the Myanmar Information Management Unit, MIMU) and opportune Emergency Observation Requests (EORs) from several JPT members who had previously been unable to make requests. Could you recall the event yourself and share your thoughts about it with us?

(Mr. Hans Guttman)

As mentioned earlier, the Joint Project Team Meeting in 2019 in Bangkok was successful – and I would add that this was supported by JAXA to a large degree as co-organizer. It provided an opportunity for the members to discuss country-level progress on the use of satellite data for disaster response. We saw the best practices from member countries as well as other experts such as the Earth Observatory of Singapore. We also were made aware of a tool developed by Thailand's Geo-Informatics and Space Technology Development Agency (GISTDA) for Sentinel Asia.

I think it is important to note that despite the successes in many countries, the JPT meeting also revealed the need for several Sentinel Asia members to enhance their capacities in order to reap the full benefit of the satellite data that the Sentinel Asia community can provide. There remains a gap between data providers such as space agencies and the disaster practitioners in countries.



It is clear to ADPC that we have a role in addressing this gap, given that ADPC has a great understanding of both the data providers and the disaster management users. ADPC is committed in working with Sentinel Asia to close this gap for countries in Asia and the Pacific.

(Sentinel Asia Secretariat)

You have mentioned the need to enhance capacity despite the previous successes in the Sentinel Asia community and the need to continue our efforts to close the gap to enable Sentinel Asia colleagues to make full use of space-based technology. Our Sentinel Asia colleagues, the Indian Space Research Organization (ISRO) and the International Water Management Institute (IWMI) have volunteered to jointly organize a dedicated capacity-building webinar session on space-based drought monitoring for the benefit of SA, which will be happening in two weeks\*. This is actually something inspired by the last training workshop in 2019 hosted by ADPC.

\*Note: Thanks to ISRO and IWMI, this webinar was held successfully on 19 and 20 July, attended by many JPT members.

(Mr. Hans Guttman)

That is very good to hear and very encouraging. Hopefully, we can see additional initiatives of a similar nature as we are moving forward, and ADPC will be happy to contribute to such initiatives. Perhaps the gap in the provision of information and tools, as well as the actual appearance of it, is an area that ADPC sees as one that needs to be addressed in order to fully leverage the capacities that now exists in remote sensing data, specifically satellite information. This is nothing new. We work closely with you and UNESCAP and their center on disaster information and they have identified a similar thing across the board of information. As I mentioned, disaster management agencies sometimes are not aware of what can be done and how it can be done, or that they do not have the capacity. So I think it is great to hear that this partner learning is expanding within them. I also think that ADPC would be keen to assist in ensuring that this level of capacity is increased. Then, people at the country level or even at the local level will be more capable and be technical able to use the information. But there is also another route by which we are looking at providing tools to assist users, that is pre-processing that they still have to ultimately modify the information. It is useful to have specific purposes, but lowering the threshold of technical competence in order to be able to do so is also important. I think those two elements need to be merged in order to fully appreciate these applications.

(Sentinel Asia Secretariat)

In terms of ADPC's contribution, at the operational level, ADPC has been also supporting Emergency Observation Requests – whether as a DAN member or as a requestor on behalf of JPT members significantly. In the newly established “Standard Operating Procedure (SOP) for making Emergency Observation Requests (EORs) concerning disasters in Thailand,” ADPC is officially designated as a member supporting disasters in Thailand. Could you elaborate on your activities in this respect?

(Mr. Hans Guttman)

I think we have to recognize that Thailand is uniquely positioned to demonstrate the success of using satellite data to support disaster management. Thailand has its own satellites operated by GISTDA and is highly capable of analyzing and providing data to support emergency response and relief. But more importantly, Thailand is also ready to take a lead in helping other countries to enhance their capacity through the Sentinel Asia community. ADPC is an autonomous international organization officially hosted by the Ministry of Foreign Affairs of Thailand. Thailand is also a founding member of ADPC, and ADPC is mandated to provide technical support to Thailand and other members. ADPC works closely with Thailand's Department of Disaster Prevention and

Mitigation (DDPM). But despite all the advancements made by DDPM, it needs to increase the use of technology such as satellite data to assist their disaster management planning and response. Through the SOPs for making EORs for Thailand, ADPC will work with JAXA and the Sentinel Asia Secretariat to make the connection between GISTDA and DDPM even stronger and will demonstrate the successes of the SOPs in future meetings of Sentinel Asia's JPT Meeting. In this context, we aim to replicate the success in other countries.

(Sentinel Asia Secretariat)

As we have just heard from you, you have provided great support to Sentinel Asia. Now, from your side, what do you expect in terms of Earth observation using space technologies for Disaster Risk Reduction, especially with respect to Sentinel Asia?

(Mr. Hans Guttman)

Satellite-derived information is becoming more available to users. For ADPC, it is important that the uses of such technology can support countries to strategically implement global frameworks such as the Agenda 2030 for Sustainable Development and the Sendai Framework for Disaster Risk Reduction. Satellite-based data will continue to generate evidence-based information that will supplement data collected on the ground that will support decision making. ADPC expects that, as the technology continues to advance, satellite-based data will become close to being real-time while gaining higher resolution and better remote observation accuracy. These are important elements to finding new applications, enhancing the current use and building the confidence of users such as national disaster management organizations. ADPC also expects that the capacity of countries to use such satellite-based data will not stop at the national level. It is prudent that local authorities, or even people in communities, have access to the same information and also have the capacity to process and use the information, preferably in an assisted way. They are the front-line team who will be faced with disaster situations and need accurate and timely data in order to make informed decisions to save lives. With this vision, it is critical that the Sentinel Asia community addresses the capacity gap observed in the disaster management community. Many developing countries do not have the capacity to access, analyze and use satellite-derived data. Through the long-standing framework of the Sentinel Asia Initiative, ADPC and its partners could bring together space agencies, national and local disaster management organizations to address these challenges

(Sentinel Asia Secretariat)

Speaking of challenges, the world – including the entire Sentinel Asia community – has been facing the COVID-19 pandemic. How are you trying to maintain ADPC's contributions to disaster monitoring while the COVID-19 pandemic continues to constrain activities?

(Mr. Hans Guttman)

Firstly, we have to recognize COVID-19 itself is a huge disaster. It is true that the COVID-19 pandemic has disrupted in-person interaction between teams and between countries, even within countries, but it further highlights the need by users to be able to gain insights on disasters remotely, without having to visit the places affected by the disasters. Satellite data suits this need perfectly. ADPC continues to monitor disasters such as floods, droughts, and tropical storms through remotely sensed data and hydro-meteorological models. Our disaster data has been used by international partners such as the Mekong River Commission and the United Nations World Food Programme. We are not a mandated organization, but we do provide supplementary support or direct support when requested. Even in the COVID-19 situation, ADPC maintains its connection with national governments through its country offices and country representatives. You can see our staff presence in Sri Lanka, Bangladesh, Nepal, Pakistan, Vietnam, Myanmar, Lao PDR, Cambodia, the Philippines, Indonesia, and Thailand and they support the governments and other actors whenever

there are disasters in the countries, in which they have been quite successful and have made online interactions from Bangkok and other places.

(Sentinel Asia Secretariat)

We see that ADPC has an extensive network and connections with disaster management organizations, which we believe have contributed to your extensive support. Having been engaged in Sentinel Asia activities yourself, have you found anything to feed back to the space community and could you tell us what you would like to contribute to Sentinel Asia’s activities in the future?

(Mr. Hans Guttman)

Disaster management aims to lessen the impact of disasters, minimizing losses of life and property damage. Although satellite-based technologies have proven to be a useful tool in supporting disaster management, the capacity to fully benefit from such data has been lacking from the disaster management side in many countries in Asia. ADPC offers to be a conduit between the satellite data providers and the disaster management organizations. The satellite data providers and the Data Analysis Nodes of Sentinel Asia need to provide action-ready information such as flood extent maps that are clearly labeled. At the same time, ADPC can help disaster management organizations enhance their technical capacity to interpret and make good use of the maps, while improving the awareness of decision makers. ADPC thinks that we are well suited to work with Sentinel Asia to bring the data providers and the disaster management organizations closer to each other so they are able to reap the benefits of this technology.

ADPC will continue to provide our technical contribution as an active Data Analysis Node (DAN), and we would like to work with Sentinel Asia and some members of Sentinel Asia to develop demonstration projects with external funding. The demonstration project will serve as a platform on how a country can maximize uses of the Sentinel Asia mechanism and sustain the capacity to use the mechanism in the long term. ADPC would like to showcase such a project to other members of Sentinel Asia during a future JPT meeting. We hope for full support from Sentinel Asia in developing and implementing such demonstration projects.

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### 3. [Event] Sentinel Asia Webinar on Drought Risk Management hosted by ISRO and IWMI

The Sentinel Asia Webinar “Space Technology for Drought Risk Management” was held on 19 and 20 July 2021. The webinar was co-organized by the Indian Space Research Organization (ISRO) and the International Water Management Institute (IWMI) as part of Sentinel Asia activities. This webinar brought together around 50 experts and practitioners from the community and addressed, among other things, theories of drought risk management, the introduction and demonstration of drought management platforms, presentations by participants. In addition, the participants had an interactive open discussion on regional cooperation mechanism for drought management and the way forward. Capacity-building events of this kind in which Sentinel Asia members mutually help build capacity with their respective experience and expertise were first organized by ADPC and JAXA as part of the Joint Project Team Meeting (JPTM) in Bangkok in 2019, and this time ISRO and IWMI jointly took the lead to expand the concept further for the benefit of Sentinel Asia members. The Sentinel Asia community will continue to support and foster mutual capacity-building among members through cooperation.

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