



Sentinel Asia

Sentinel Asia Report

17 November 2022

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Co-Chair of Sentinel Asia Steering Committee

1. Overview of Sentinel Asia

- ✓ Sentinel Asia is an initiative aiming space-based international cooperation for disaster management in the Asia-Pacific region
- ✓ In February 2006, Sentinel Asia was established in accordance with the recommendation at APRSAF-12 in October 2005
- ✓ Sentinel Asia is expected to implement not only emergency observation but activities covering entire disaster management cycle including mitigation/preparedness and recovery phase after a disaster

Concept of Sentinel Asia Strategic Plan

“Challenges for Disaster Risk Reduction by a Collaboration between Space and Disaster Management Agencies”

MITIGATION

- Hazard Map
- Early Warning
- Success Story
- Pre-disaster monitoring

RECOVERY

- Mid/Long-term monitoring
- Recovery Status

PREPADNESS

- Training
- Capacity Building
- Standard Operation Procedure (SOP)

RESPONSE

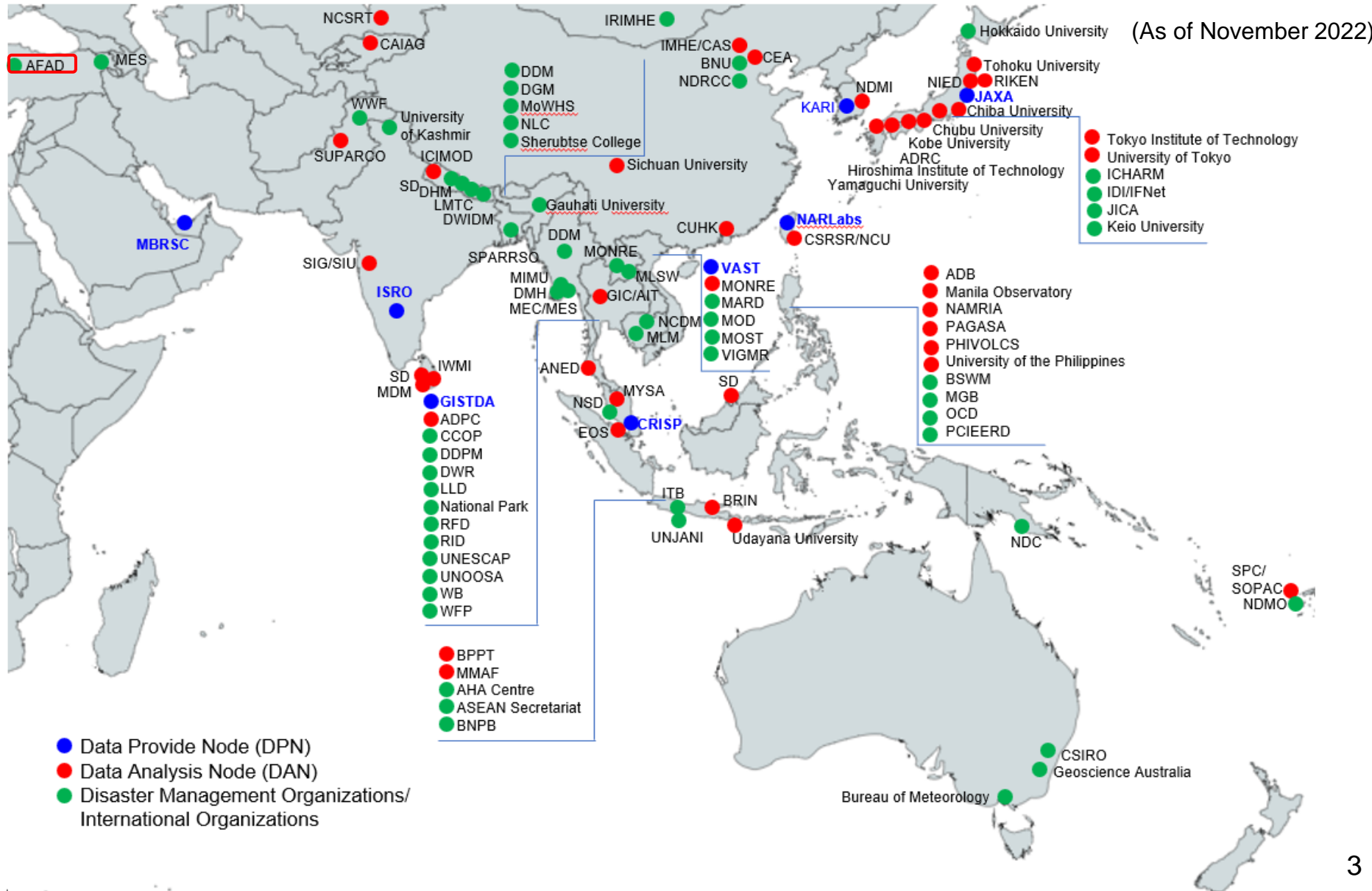
- Emergency Observation
- Data Analysis
- Damage Assessment



2. Membership Status of Sentinel Asia

In total: **112** organizations. **1** organizations newly joined as below:

- Disaster and Emergency Management Presidency (AFAD), Turkey in July 2022



3. Emergency Observation Review by Geographical Distribution



Number of activations

36 countries/regions

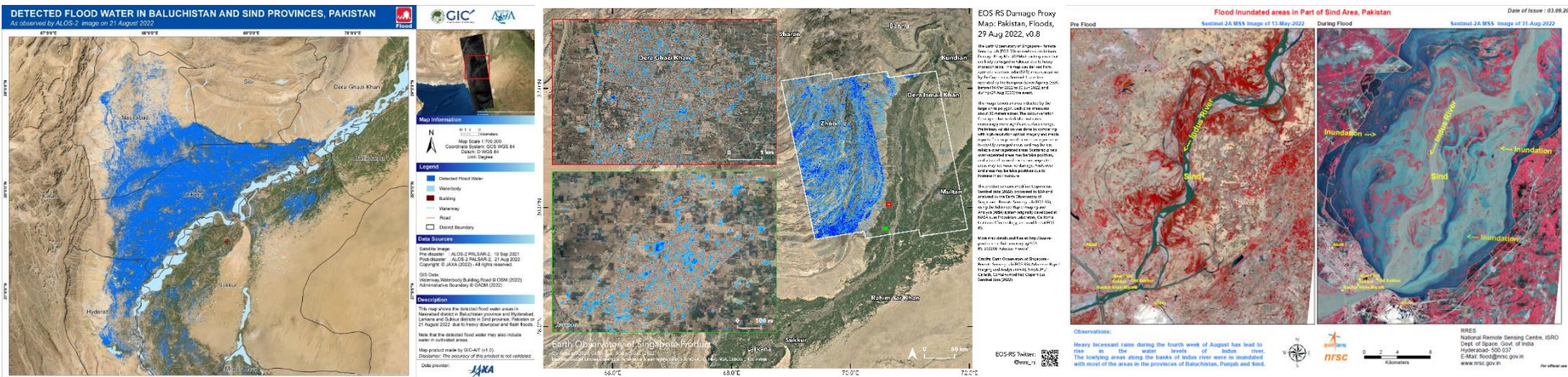
404 disasters

27 activations
since last APRSAF

Feb. 2007 - Oct. 2022

4.1 Flood in Pakistan in August 2022

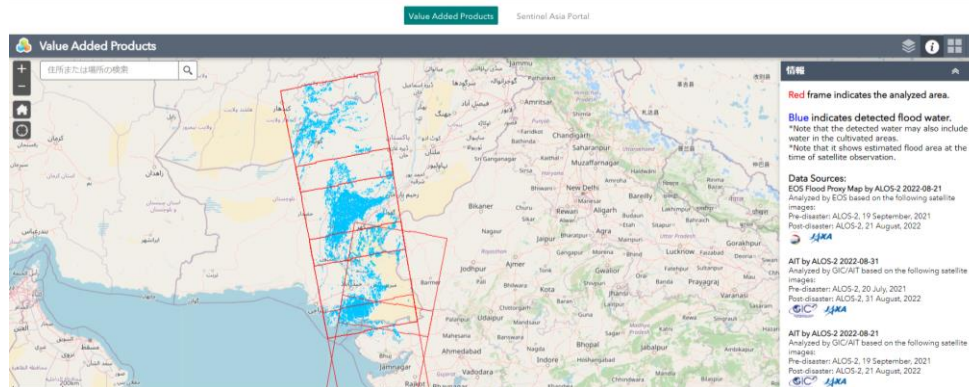
- ✓ Provincial Disaster Management Authority (PDMA) of Pakistan requested emergency observation
- ✓ JICA, UNWFP, a Consultant of a World Bank project, and a disaster response NGO asked for their access to the Web-GIS to monitor the impact of flood in Pakistan



Detected flood water by AIT

Flood proxy map by EOS

Flood inundated areas by ISRO



Web-GIS overlaying detected water areas and maps

4.2 Volcano Eruption in Indonesia in December 2021

- ✓ JICA requested emergency observation on Volcano Eruption of Mt. Semeru
- ✓ Thanks to disaster information provided by Earth Observatory of Singapore (EOS), Nanyang Technological University and optical satellite data from FORMOSAT-5 by NARLabs/NSPO on Web-GIS, JICA found potential landslide risk that was hard to acquire from the field survey

Disaster Information by EOS

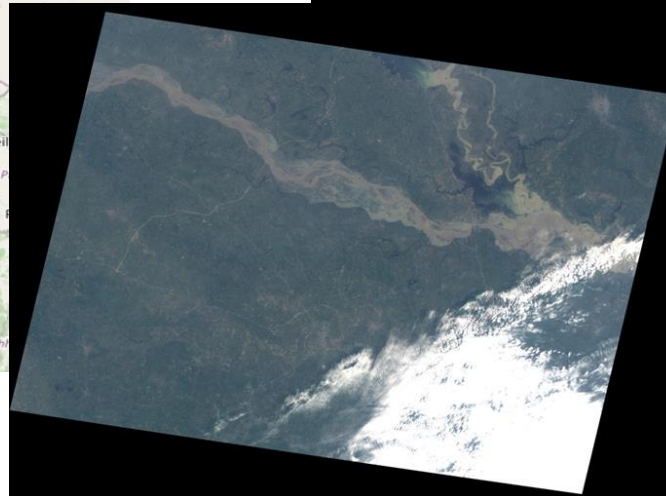
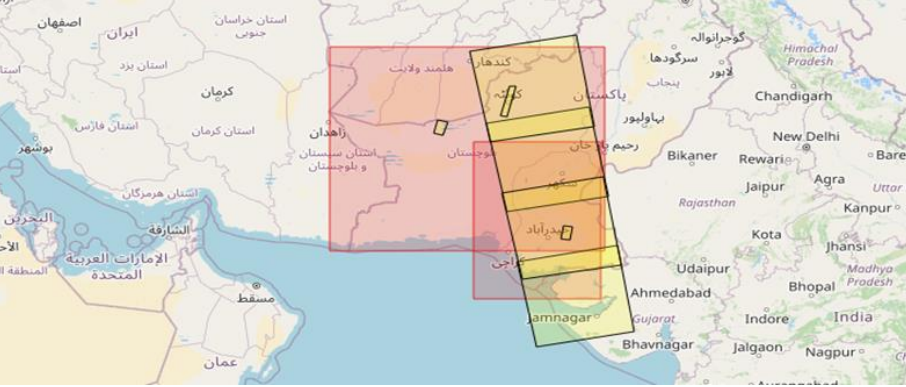
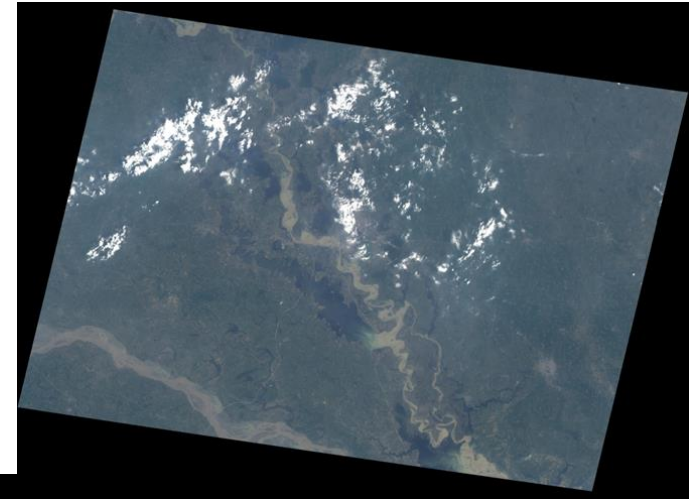
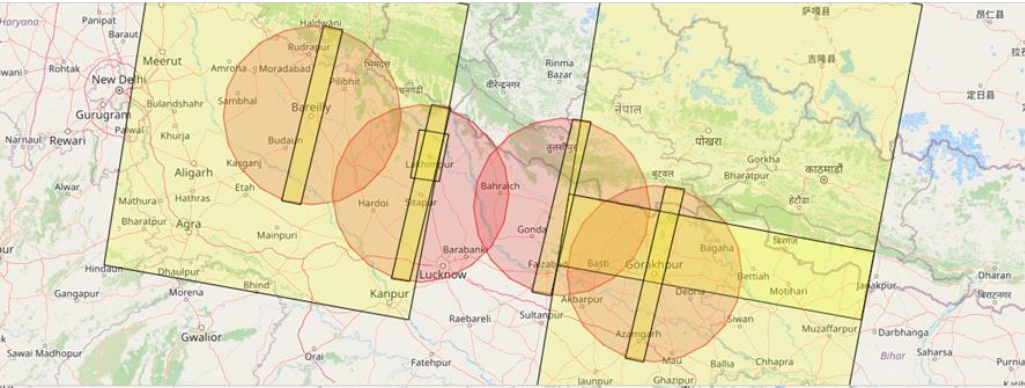


Optical satellite data from FORMOSAT-5

Pyroclastic flow

4.3 Thaichote (THEOS-1) Support from October 2021 to October 2022 by GISTDA

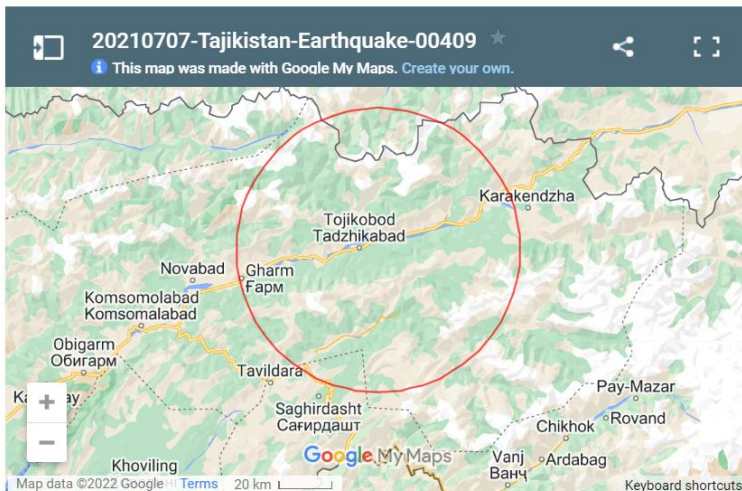
- ✓ 38 emergency observation requested from 14 countries
- ✓ GISTDA provide more than 500 imagery (value 65,000 USD)
- ✓ 5 most disaster: flood, landslide, volcano, earthquake, ice hazard



5. Establishment of the Standard Operating Procedures (SOPs)

- ✓ SOPs for making Emergency Observation Requests (EORs) to Sentinel Asia were established in below regions:
 - Central Asia and Caucasus (In December 2021)
 - Pacific Islands (In February 2022)
- ✓ For prompt EORs to Sentinel Asia, Central Asian Institute of Applied Geosciences (CAIAG) and Pacific Community (SPC) are to play hub roles in making EORs through close communication with local Disaster Management Organizations
Ex. CAIAG made EOR for Tajikistan Earthquake in July 2021

Emergency Obs. Request Information



Disaster Type: Earthquake

Country: Tajikistan

Occurrence Date (UTC): 7 July, 2021

SA activation Date(UTC): 14 July, 2021

Requester: Central Asian Institute of Applied Geosciences (CAIAG)

Escalation to the International Charter: No

GLIDE Number:

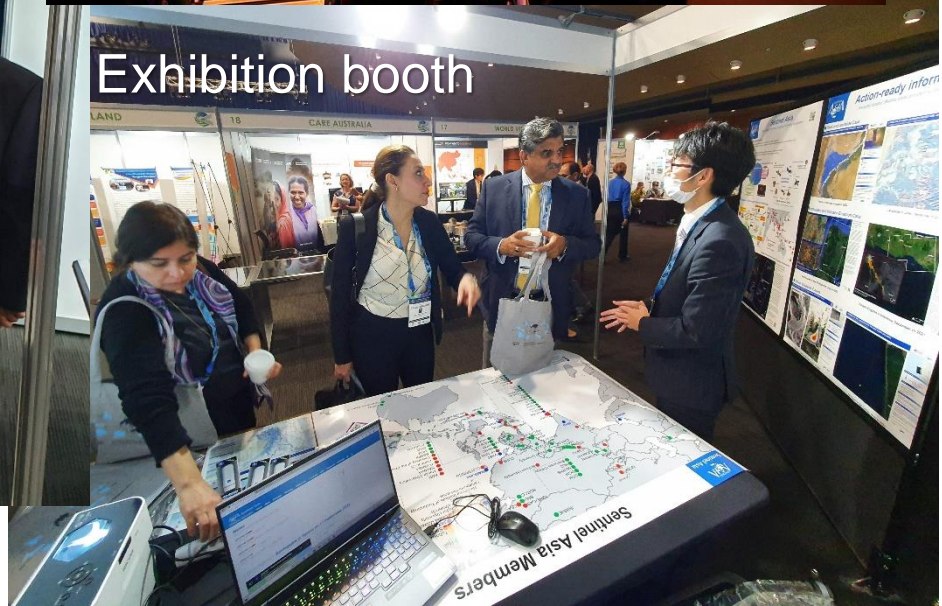
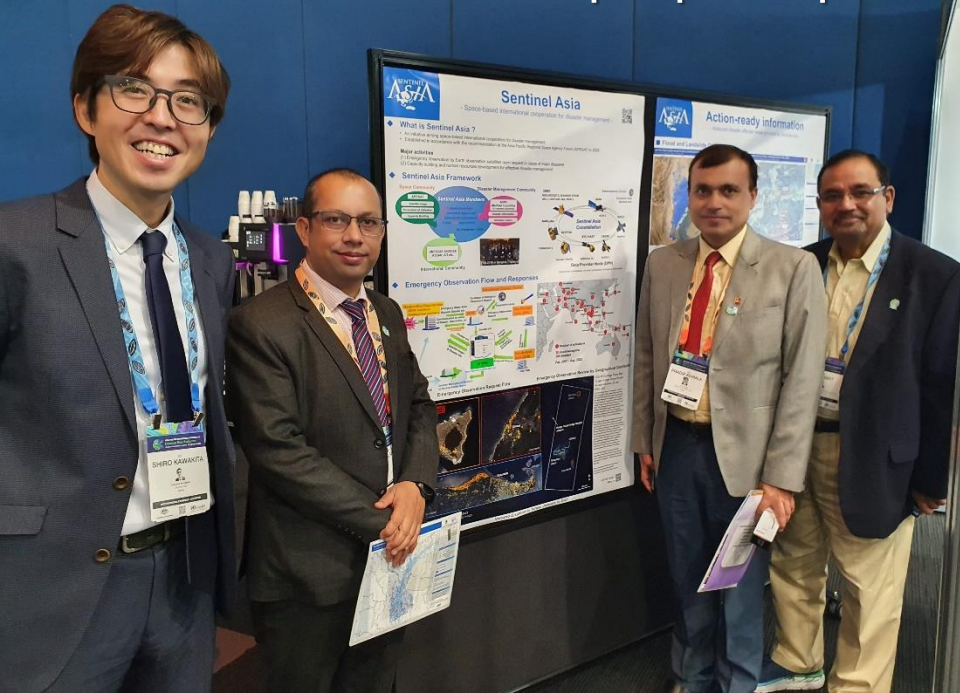
6. Asia-Pacific Ministerial Conference On Disaster Risk Reduction

- ✓ Promoted Sentinel Asia's activities at the exhibition 19 to 22 September 2022 in Brisbane, Australia
- ✓ More than 100 participants visited Sentinel Asia booth per day



Opening Ceremony

Exhibition booth with Nepal participants



Exhibition booth

7. Face-to-Face Steering Committee 10-11 Oct 2022 in AIT, Thailand

- ✓ Composed of 29 dedicated experts from the Sentinel Asia community
- ✓ Mr. Tatiya Chuentragu, Deputy Executive Director, GISTDA welcomed as a new co-chair succeeding Dr. Lal Samarkoon
- ✓ The importance of feedback from end users and designing a road map to implement the Sentinel Asia Strategic Plan was acknowledged



8. Summary

- ✓ Sentinel Asia is an initiative aiming space-based international cooperation for disaster management in the Asia-Pacific region
- ✓ Sentinel Asia has responded over 400 emergency observation requests since 2007
- ✓ Sentinel Asia is expected to implement not only emergency observation but activities covering entire disaster management cycle including mitigation/preparedness and recovery phase after a disaster
- ✓ Several Sentinel Asia end users, including AHA Centre, JICA, UNWFP, actively share feedback and promote using Sentinel Asia disaster information.
- ✓ Steering committee of Sentinel Asia have discussed the importance of feedback from end users and designing a road map to implement the Sentinel Asia Strategic Plan