

# 10<sup>th</sup> Joint Project Team Meeting for Sentinel Asia STEP-3 (JPTM2025)

## Summary

10-12 February 2026



**The 10<sup>th</sup> JPTM consisted of four sessions including UAE Special Session and twelve training workshops; 21 presentations were made during the three-day meeting.**

**The training workshops offered opportunities to learn about the studies by Sentinel Asia members.**



# Group Photo

In total, 67 Participants, from 36 Organizations.



## Day 1 (10 February 2026)

### Opening Ceremony

Attendees participated in the opening ceremony of the 10<sup>th</sup> JPTM (JPTM2025), with Mr. Adnan Al Rais, Assistant Director General, Space Operations and Exploration Sector, MBRSC, and Ms. Shiho Taguchi, Acting Executive Secretary of Sentinel Asia, a co-chair of JPTM2025 gave the welcome remarks.

Mr. Adnan Al Rais welcomed the participants at the meeting and highlighted the importance of Sentinel Asia activities for disasters management in addition to meaningful framework as international cooperation, commenting that Sentinel Asia represents coordination and solidarity.

Ms. Taguchi appreciated MBRSC to co-host of JPTM2025, and the first JPTM in the Western Asia. She mentioned that devastating disasters have been increased in the Asia-Pacific region. She encouraged the participants to share their experience, good practices and new technology during JPTM2025.

Dr. Saeed Al Mansoori, Director, Remote Sensing Department, MBRSC, as another co-chair of JPTM2025, introduced the agenda of the meeting and the agenda was adopted.

Day1

Day2

Day3

## Session 1: Overview

### *Recent Activities of Sentinel Asia*

### *Report of the Steering Committee and APRSAF-31*

- Mr. Goro Takei, Deputy Executive Secretariat of Sentinel Asia reported the Sentinel Asia activities since 2024. He shared that the total member organization became 127 by 2025 and showed some examples of EORs (highlighting the work of DPNs and DANs supporting data provision), training events held by Sentinel Asia, and Sentinel Asia's participation to the disaster-related meetings/events such as Geospatial Week held in April 2025 in Dubai, Webinar organized on ESGRS in May 2025, trainings in south pacific, Nepal, Indonesia, participation at UNDRR Global Platform (GP2025), webinar by IWMI in September 2025, and other trainings.
- He reported that APRSAF-31 hosted by PhilSA was held in Cebu, the Philippine, in November 2025. During Satellite Application and Societal benefit WG (SAWG), Sentinel Asia members reported their activities. He shared that Sentinel Asia was mentioned many times at the plenary sessions.
- He also reported the Steering Committee (SC) activities. There are 14 organizations of SC members as of Feb 2025. Currently, ISRO and TASA serve as the co-chairs of the SC. The latest SC face-to-face meeting was held co-organized by Yamaguchi University in Bali, Indonesia and he shared some discussions made during SC.

Day1

Day2

Day3

## Session 2: New membership

### *Presentation by new members*

- *Use of Satellite information for Water Resources Management*

*(Dr. Morimasa Tsuda, Japan Water Agency, Japan)*

*Dr. Tsuda introduced the overview and activities of JWA including application of satellite technologies in dam construction projects. With GNSS, rockfill dam deformation was monitored even during heavy snow. He also introduced Network of Asian River Basin Organization (NARBO), which offered training and workshops.*

- *NDRRMA and Its Role in Disaster Risk Reduction and Management in Nepal*

*(Mr. Bal Deep Sharma, National Disaster Risk Reduction and Management Authority, Nepal)*

*Mr. Sharma shared its organization, role and responsibility of NDRRMA, and some recent disasters in Nepal including flood and GLOF.*

- *Toyama University of International Studies*

*(Dr. Shiro Ochi, Toyama University of International Studies, Japan)*

*Dr. Ochi shared some of the Value-Added Products provided by TUINS through Sentinel Asia including a 3D model, which support users to understand the affected areas.*

## Session 2: New membership

### *Presentation by new members*

- *Eskisehir Technical University, Institute of Earth and Space Sciences, New Member of Sentinel Asia*  
(Dr. Onur Kaplan, Eskisehir Technical University, Institute of Earth and Space Sciences, Türkiye)  
Dr. Kaplan shared its university and introduced a project of building damage detection following earthquakes using satellites collaborating Sentinel Asia.  
He also shared the VAPs analyzed on Google Earth Engine.
- *National Earth Remote Sensing System Kazakhstan*  
(Mr. Altair Tleubergenov, JSC National Company Kazakhstan Gharysh, Kazakhstan)  
Mr. Tleubergenov introduced KGS's satellites and future projects such as joint constellation with other countries. He also shared the upcoming event "Space Days Kazakhstan 2026".
- *Organizational Changes of Sentinel Asia members*  
(Ms. Yuki Tanaka, Sentinel Asia Secretariat, Japan)  
Ms. Tanaka informed that MARD and MONRE integrated into MAE in Vietnam, and MAE's continuous support as Data Analysis Node.

## Latest Research Activities

- *IWMI Digital Twin and applications in Disaster Risk Management*  
(Prof. Ian Overton, IWMI, Sri Lanka)

Prof. Overton shared the experience of Cyclone Ditwah in Sri Lanka last November and rapid mappings for humanitarian responses were used by Disaster Management Centre. He emphasized the importance of satellite data and drone imageries for disaster mitigation phase.

He also introduced latest systems such as AWARE platform, AI chatbot for drought management, digital twin representing 3D river basin in Africa, and IWMI water copilot for seasonal flood forecast

- *Calibration and Harmonization for Multi-Satellite Utilization*  
(Prof. Masahiko Nagai, Yamaguchi University, Japan)

Prof. Nagai introduced the importance of using variety of satellite data, and emphasized the importance of calibration and data harmonization to provide more accurate Value-Added Products

Day1

Day2

Day3

# Special Session "From Pixels to Preparedness: Satellite Imagery and AI for Disaster Risk Management in the UAE"

Moderator: Ms. Khadeejah Al Dhanhani, Vice President of UAESA Youth Council, UAESA

Panelists:

- Dr. Yuliya Tarabalka, Vice President - Geospatial Solutions, Space42
- Eng. Omran Al Hammadi, Senior Manager, Business and Solutions Development Section, MBRSC
- Dr. Khaled Al Arfati, Director, Geospatial Data Division, Federal Geographic Information Center (FGIC)
- Eng. Sultan Al Zeidi, Senior Space Projects Development Engineer, UAE Space Agency
- Ms. Mozah Al Zeyoudi, National Emergency Crisis and Disasters Management Authority(NECDMA)
- Prof. Rami Al-Ruzouq, Chair, Civil and Environmental Engineering - University of Sharjah

Each panelists shared the strength of the satellite imagery and AI in disaster management from different expertise as well as some challenges we face and need to tackle with.



## Special Session "From Pixels to Preparedness: Satellite Imagery and AI for Disaster Risk Management in the UAE"

- *Dr. Yuliya Tarabalka, Vice President - Geospatial Solutions, Space42*
  - She highlighted how AI accelerates disaster response by integrating multi-source data into comprehensive information systems. She also stressed the importance of highly accurate pre-disaster geospatial data, including 3D mapping.
  - Addressing AI reliability, she referenced the 2024 severe flood in UAE, noting that while optical imagery was limited by cloud cover, SAR data proved essential though complex to interpret. She explained that AI has become significantly more trustworthy over the past 25 years, provided proper validation protocols are in place.
  - She also emphasized the need for strong data integration systems to fully leverage valuable geospatial data and generate deeper insights for decision-makers.
- *Eng. Omran Al Hammadi, Senior Manager, Business and Solutions Development Section, MBRSC*
  - He outlined MBRSC's satellite acquisition process and introduced its latest 25 cm resolution satellite. He noted that MBRSC provides not only satellite data but also value-added products through in-house analytical tools.
  - He identified key challenges in disaster management, including lack of standardization among agencies, inconsistent archival data formats, large data volumes causing network constraints, and the need to shorten data delivery timelines (e.g., for Sentinel Asia).

Day1

Day2

Day3

## Special Session "From Pixels to Preparedness: Satellite Imagery and AI for Disaster Risk Management in the UAE"

- *Dr. Khaled Al Arfati, Director, Geospatial Data Division, Federal Geographic Information Center (FGIC)*
  - He emphasized the importance of following the international geospatial standards and encouraged local entities to adopt standardized data practices.
  - He also underscored the importance of governance, scientific evidence-based decision-making, and strong data security measures—such as access control and data integrity—to ensure reliable and efficient AI-supported operations.
- *Ms. Mozah Al Zeyoudi, National Emergency Crisis and Disasters Management Authority (NECDMA)*
  - She explained how satellite imagery and AI-driven analysis support early warning systems, informed decision-making, and timely disaster response. She noted that AI helps translate satellite data into actionable insights for decision-makers, enabling faster action.
  - She also stressed the importance of data sharing and seamless collaboration among authorities to build a sustainable national space ecosystem.

## Special Session: From Pixels to Preparedness: Satellite Imagery and AI for Disaster Risk Management in the UAE

- *Eng. Sultan Al Zeidi, Senior Space Projects Development Engineer, UAE Space Agency*
  - He emphasized that national impact depends on delivering decision-ready information in time to act, noting that through the UAE Space Data Center (GIQ)/Public-Private Partnership they have achieved image delivery within two hours to enable rapid AI-driven disaster insights.
  - He highlighted that data-sharing partnerships are a force multiplier, citing cooperation through the International Space Charter & Major Disasters as an example of expanding coverage and coordinated response using shared satellite resources.
  - He noted that new satellite missions should be mission-driven and integrated with downstream analytics platforms, including automated SAR processing, to deliver actionable intelligence for operational users.
- *Prof. Rami Al-Ruzouq, Chair, Civil and Environmental Engineering - University of Sharjah*
  - He discussed key challenges, including limited human resource capacity, insufficient R&D, data integration issues, lack of validation and ground-truth data, and limited disaster experience for AI training.
  - While models and software using satellite data exist for preparedness, he stressed that validation, skilled personnels, continuous assessment, and system refinement are critical.
  - He further advocated for high-resolution monitoring systems, greater SAR investment, and a nationwide digital twin of the UAE to support urban planning and future change detection.

The session concluded that satellite imagery and AI significantly strengthen early warning systems, enabling earlier decisions and more effective disaster preparedness and response.

Day1

Day2

Day3

## Session 3: User's Session (continued)

### *Presentation on good practices of Sentinel Asia or expectations of Sentinel Asia*

- *2025 GLOF and Landslide Events in the Kyrgyz Republic: Validation Results and Good Practices (Mr. Ulan Abdybachaev, CAIAG, Kyrgyz)*

Dr. Ulan introduced some activations including pictures, videos, and In Situ measurements and shared the results of validations compared to the satellite data. He also shared good practices and comments gathered from related disaster management and university members.

- *Beyond Mapping: Integrating Sentinel Asia Data with Global Exposure Datasets for Flood Impact Assessment (Mr. Imran Khan, Institute of Water Modelling (IWM), Bangladesh: online)*

He began why flood mapping alone is not enough by emphasizing information the users and responders need such as the population and the number of affected people. He introduced overlaying the population and building footprints with the flood extent to give more useful information for screening and recovery.

- *Rapid Flood Mapping for Emergency Response: Insights from the 2024 Bangladesh and Nepal Floods (Mr. Kabir Uddin, International Centre for Integrated Mountain Development (ICIMOD), Nepal: online)*

Mr. Uddin reviewed the flood events in South Asia occurred in 2024 and shared why rapid flood mapping using satellites are important through international collaboration.

### Session 3: User's Session (continued)

#### *Presentation on good practices of Sentinel Asia or expectations of Sentinel Asia*

- *Extreme Rainfall in the UAE: Flood Impacts of the April 2024 Storm*  
*(Eng. Naseeb Albakri and Eng. Leena Elneel Research Assistant, MBRSC Lab, UAE)*  
Eng. Albakri and Eng. Elneel introduced impacts of the heavy rain in 2024 and analysis of this event. The result of the analysis will be used for policy making
- *Response operation using satellite data and lessons learned for earthquake in Türkiye*  
*(Ms. Seher Turan, AFAD, Türkiye)*  
Ms. Turan introduced the response to the earthquake in February 2023 in Türkiye, with introduction of functions of AFAD. She also introduced “AYDES”, a disaster response system used in Türkiye, which is also used for pre- and post-disaster phase. For the earthquake, satellite data was provided by Sentinel Asia, the International Disasters Charter, Copernicus EMS, and others.
- *Utilizing satellite imagery data and supporting products from the Sentinel Asia system in monitoring and recovery efforts following major floods in Vietnam in 2025*  
*(Mr. Vu Huu Liem, MAE, Vietnam)*  
Mr. Liem shared organizational merger and some satellite-based information including those provided through Sentinel Asia in a timely manner, and result of field survey.

## Day 2 (11 February 2026)

### Session 3: User's Session

#### *Presentation on good practices of Sentinel Asia or expectations of Sentinel Asia*

- *Operationalizing satellite data for humanitarian response*  
*(Mr. Michael Manalili, WFP)*

Mr. Manalili shared the WFP's response to disasters and emphasized how time was critical and satellite information offered important roles both in pre- and post-disasters, especially after several weeks to evaluate the effectiveness of the assistance. He also shared both optical and SAR satellite information were useful for making a relocation plan in a safe location. He also introduced their situation of AI use in their humanitarian operations, commenting the need of use of AI and other technologies.

- *Multiscale Satellite Analysis of the 2025 Sumatra Floods: A Report on Sentinel Asia Training and Multi-Party Collaboration*  
*(Dr. Yenni Vetrina, BRIN, Indonesia)*

Dr. Vetrina shared a multi-source satellite data workflow for impact assessment for 2025 Sumatra floods combining SAR flood map and high-resolution optical data with challenges to respond to this large-scale disaster. She introduced "SPECTRA", BRIN's satellite-based disaster management platform to integrate the several analysis result into one platform.

She also shared feedbacks from the training offered by Sentinel Asia with proposal for future training.

### Session 3: User's Session

#### *Presentation on good practices of Sentinel Asia or expectations of Sentinel Asia*

- *Value of Satellite Data from Sentinel Asia in Supporting Disaster Response Activities in the Philippines (Mr. Julius Morales Judan, PhilSA, the Philippines)*  
Mr. Judan shared activation workflows by disaster types and some good practices using satellite data such as earthquake in Cebu, typhoon Wipha, and oil spill.  
He also shared a microsatellite Diwata-2 and an operational Multispectral Unit for Land Assessment (MULA) satellite planned for launch in the end of year.
- *Application of Geo-informatics and Hydrological Modeling for Generating Emergency Response Information: A Case Study of Hat Yai, Thailand (Ms. Thitawadee Suvachananonda, GISTDA, Thailand)*  
Ms. Suvachananonda introduced “GI for ALL” monitoring water related risks for short and long term.
- She also shared a case study of flood in Hat Yai, Thailand which generated predicted water depth using hydrological models.

## Training Workshop I: How to activate Sentinel Asia and escalate to the International Disaster Charter

- *Trend of past requests and steps to make smooth EORs*  
*(Dr. Makoto Ikeda, Asian Disaster Reduction Center, Japan)*

Dr. Ikeda shared that there were 51 activations in 2025 and three good practices in 2024. He conducted a quick demonstration how to activate Sentinel Asia through OPTEMIS and kindly encouraged participants to fill in the EOR form with the contact information, news source, and clear and narrow Area of Interests (AOI) for smooth activation. He also asked requestors to use the message box on OPTEMIS for supplemental information about the EOR such as the priorities of AOIs.

## Training Workshop II: Data Analysis Method on Flood

- *Flood Mapping Using SAR Satellite Data in QGIS*  
*(Dr. Surya Deb Chakraborty, MBRSC, UAE)*

Dr. Chakraborty conducted hands-on training on data analysis using QGIS software, stressing the importance of response to flood incidents. His demonstration used the data of Sentinel-1 satellite, which can be freely used and widely used by various disaster management players. He explained about the SAR and the analysis workflow, followed by the hands-on training. The participants at the JPTM practiced hands-on training on the processing SAR data under the guidance by Dr. Surya.

Day1

Day2

Day3

## Training Workshop III&IV: Data Analysis Method on Flood

- *Urban Flood Mapping Using SAR and Validation Insights from Recent Floods in Southern Thailand*  
(Mr. Syams Nashrullah Suprijatna, AIT, Thailand)

Mr. Suprijatna shared risks of urban flooding has been increasing and explained some SAR characteristics in urban floods. He also introduced some variety mapping approaches including RGB composite, thresholding, and deep learning. He also introduced a field survey in Songkhla, Thailand by encouraging participants to share and contribute ground-based observations to strengthen future flood mappings.

- *Optimization of demographic and spatial data to calculate population exposure using Google Earth Engine*  
(Mr. Udhi Catur Nugroho, BRIN, Indonesia)

Mr. Nugroho shared the method to calculate population exposure due to flood using Google Earth Engine and introduced OpenBuildingMap Global Footprints.

## Training Workshop V: Latest Tools/Systems at preparedness phase

- *Overview of AWARE Platform*  
(Dr. Giriraj Amanath, IWMI, Sri Lanka)

Dr. Amanath introduced the overview of AWARE platform, consisting of four pillars; saving lives, stakeholders engagement, concrete actions, and early warning systems. And he gave a demonstration how to see some indicators on AWARE platform such as river discharge flow.

## Training Workshop VI&VII: Demonstration of rainfall monitoring systems

- *Precipitation monitoring by GSMaP and introduction of GSMaP Local Integration tool with gauges (G-LINT)*  
(Dr. Nao Yoshida, JAXA, Japan)

Dr. Yoshida introduced a variety of GSMaP and its algorithm. She shared some use cases showing how GSMaP supported by providing data where the areas without ground-based observations. She also introduced G-LINT, allowing GSMaP precipitation data to be adjusted and more accurate than original GSMaP data and asked for future collaboration of G-LINT to the participants once it is ready.

- *Use case of GSMaP and GSMaP-IF for Flood Management*  
(Dr. Morimasa Tsuda, JWA, Japan)

Dr. Tsuda introduced some projects of GSMaP bias correction using a variety of algorithm.

## Training Workshop VIII&IX: Demonstration of flood monitoring/forecasting systems

- *Introduction of "Today's Earth": Global Hydrological Simulation System (Mr. Keisuke Yoshida, JAXA, Japan)*

Mr. Yoshida introduce Today's Earth (TE) a simulation system of global hydrology offering variety dataset such as precipitation and river discharge etc. He also introduced Flood Risk level on TE as one of the features, which will be applied on TE-Global. And he guided participants how to use TE as a hands-on.

- *Information System "Tasqyn" - Flood Forecasting in Kazakhstan (Ms. Gulnara Bissenalina, KGS, Kazakhstan)*

Ms. Bissenalina shared that Kazakhstan had suffered from 2024 spring flood, which was one of the largest disasters. She introduced "Kazhydromet" and some collaborative works with private companies to improve the digital relief and forecast models.

## Latest activities by UNOOSA

- *Achieved and Planned Activities supported by Japanese Government/Industries regarding GeoAI and Digital Twin (Mr. Jumpei Takami, UNOOSA, Vienna)*

Mr. Takami introduced activities and missions of UNOOSA and UN-SPIDER tackling issues caused by climate change. He shared some activities by UNOOSA on disasters in 2025, GeoAI best practices, and Digital Twin from satellite imagery.

Day1

Day2

Day3

## Day 3 (12 February 2026)

### Latest activities by IWMI

- *Progress on White Paper on the integration of STEP3 with EW4ALL and Sendai Framework (Dr. Giriraj Amanath, IWMI, Sri Lanka)*

Dr. Amanath introduced the concept of STEP-3, Sendai Framework and EW4ALL briefly and showcased some examples in the Philippines, Nepal and Vietnam. He also suggested the strategic road map to cover the full disaster management cycle by Sentinel Asia and concluded with mention on his whitepaper for Sentinel Asia strategy 2026-2030.

## Training Workshop X: Feedback on tailor-made trainings

- *Feedback on SAR data analysis method training held in Türkiye (Dr. Fatma Canaslan Çomut, AFAD, Türkiye)*

Dr. Çomut shared how several workshops held in Türkiye in close collaboration with ADRC, Yamaguchi University, and the Secretariat with the participants from various institutions including non-Sentinel Asia members. She also shared some projects both domestic and internationally using remote sensing and article published on *Nature*.

- *Review and Feedback on the Disaster Assessment Map Workshop in the Pacific (Ms. Natsumi Ueda, JAXA, Japan, and Ms. Ofa Mariwawa, NDRMO, Tonga)*

Ms. Ueda introduced the capacity building activities and tailor-made trainings offered by Sentinel Asia and focused on sharing a Fiji workshop in 2025 to help users understand how to read VAPs.

Ms. Mariwawa also shared the activities and challenges that Tonga and other Pacific countries face and requests to the future capacity buildings.

- *Feedback on GLOF monitoring training including the floods and GLOF events in Nepal, 2025 (Mr. Joshan Maharjan, DHM, Nepal)*

Mr. Mahrajan shared GLOF disasters occurred in Nepal and Sentinel Asia-DHM collaboration trainings to enhance the capacity to utilize satellite data for GLOF mapping.

Day1

Day2

Day3

## Training Workshop XI: Data Analysis method

- *EVAP Concept Overview and Workflow in QGIS*  
(Ms. Claire Hung, TASA)

Ms. Hung explained how to create Emergent Value-Added Products (EVAP) in QGIS and guide participants step by step using cases of wildfire in Uzbekistan as well as flash flood in Bangladesh. The participants practiced VAP generation under her guidance.

## Training Workshop XII: Data Analysis method

- *AI for Resilient Infrastructure: Vision Transformers in Earthquake Damage Mapping*  
(Ms. Amulya Sri Pulijala, ISRO, India)

Ms. Pulijala introduced the advantages of AI-enabled damage assessment maps comparing the manual assessment maps with explanations of CNNs and Vision Transformers. Lastly, all participants were guided by Ms. Pulijala to try generating an earthquake damage assessment map using pre-/post-optical satellite images using the coding step by step.