GEOINFORMATICS CENTER
NEWSLETTER
January 2025

A Warm Welcome for 2025

The Geoinformatics Center of the Asian Institute of Technology wishes you a blessed and happy new year 2025. We start a fresh page of our lives with joyous and cheerful spirits. GIC has been acknowledged as the leading research consultancy in the geospatial field, with frequent geospatial products that aim to help with everyday issues

In this issue

Highlighted Events

Knowledge Sharing

Technical Meetings

Geospatial Product

Trainings for Plastic Flow Mekong Project

The GIC team organized training and workshop on **Plastic Leakage Mapping and Monitoring Plastic Litter using AI-CCTV**, in four Mekong countries- **Cambodia** (7-10 October 2024), **Laos** (4-8 November 2024), **Vietnam** (11-14 November 2024) and **Thailand** (20 November 2024).

Dr. Kittiphon Boonma presenting about project in Laos

Group photo for Cambodia workshop

The workshops were conducted in collaboration with local partners from four different countries. The aim was to disseminate knowledge to local team on **utilization of AI-enabled CCTV** systems and geospatial tools, including **Citizen Science and a Survey Mobile App,** to monitor plastic leakage and manage waste more efficiently and effectively.

Ms. Ushnish Tuladhar presenting on pLitter at Vietnam

Group photo for Thailand workshop

The two-day workshop included various sessions: Day one participants were introduced to the project, received an overview of the pLitter solution, and attended a technical presentation covering software and hardware aspects Day two focused on addressing plastic leakage, conducting ground surveys via a mobile app, and included a demonstration. In Laos, participants also visited a site where AI-CCTV cameras had been installed.

Structured Learning Visit at Korea

Ms. Ushnish Tuladhar, Research Associate at GIC was invited to attend the "Structured Learning Visit on Exploring Best Practices for Water Resources Management in Korea" by the Korea-Mekong Water Center (KOMEC) from November 24 to 30, 2024.

The training aimed to explore Korea's best practices in water resources management and provide opportunities for partner PIAs to identify potential collaborations with Korean institutions.

Ms. Ushnish Tuladhar (second left) from GIC at KOMEC's learning visit in Korea

Flood Hazard and Risk Assessment Training

GIC team with participants from Bhutan

A two-week training program at the Geoinformatics Center, AIT, took place from December 2 to 13, 2024, for participants from the **National Center for Hydrology and Meteorology (NCHM), Bhutan**. It focused on using earth observation data for disaster risk mapping related to floods and GLOF events.

The training aimed to provide practical skills in assessing hazards and risks through remote sensing techniques, advanced hydrological modeling, and GIS applications. This initiative is expected to improve disaster preparedness and emergency response, enhancing community resilience in Bhutan.

Ms. Salsabila (left) from GIC assisting participant during the training

University of Surrey Delegates visited GIC

GIC Director, Dr. Manzul Hazarika presenting about the center

A delegation from the University of Surrey, UK visited the center and future opportunities for collaborations for using satellite imageries in various sectors was discussed.

UN GEONOW 2024, 9th JPTM 2024 and 24th Steering Committee Meeting

Group photo for UN GEONOW 2024

GIC participated in the UN GEONOW conference, organized by the UN-GGIM-AP Secretariat in collaboration with UNESCAP and UN-GGKIC, from October 21 to 23, 2024 in China.

Mr.Syams Nashrrullah presenting at JPTM 2024

Mr. Syams Nashrrullah from GIC attended the JPTM 2024 held in Quezon City, Philippines and led a training workshop on "**Synthetic Aperture Radar (SAR) Data Analysis for Flood Detection and Mapping**."
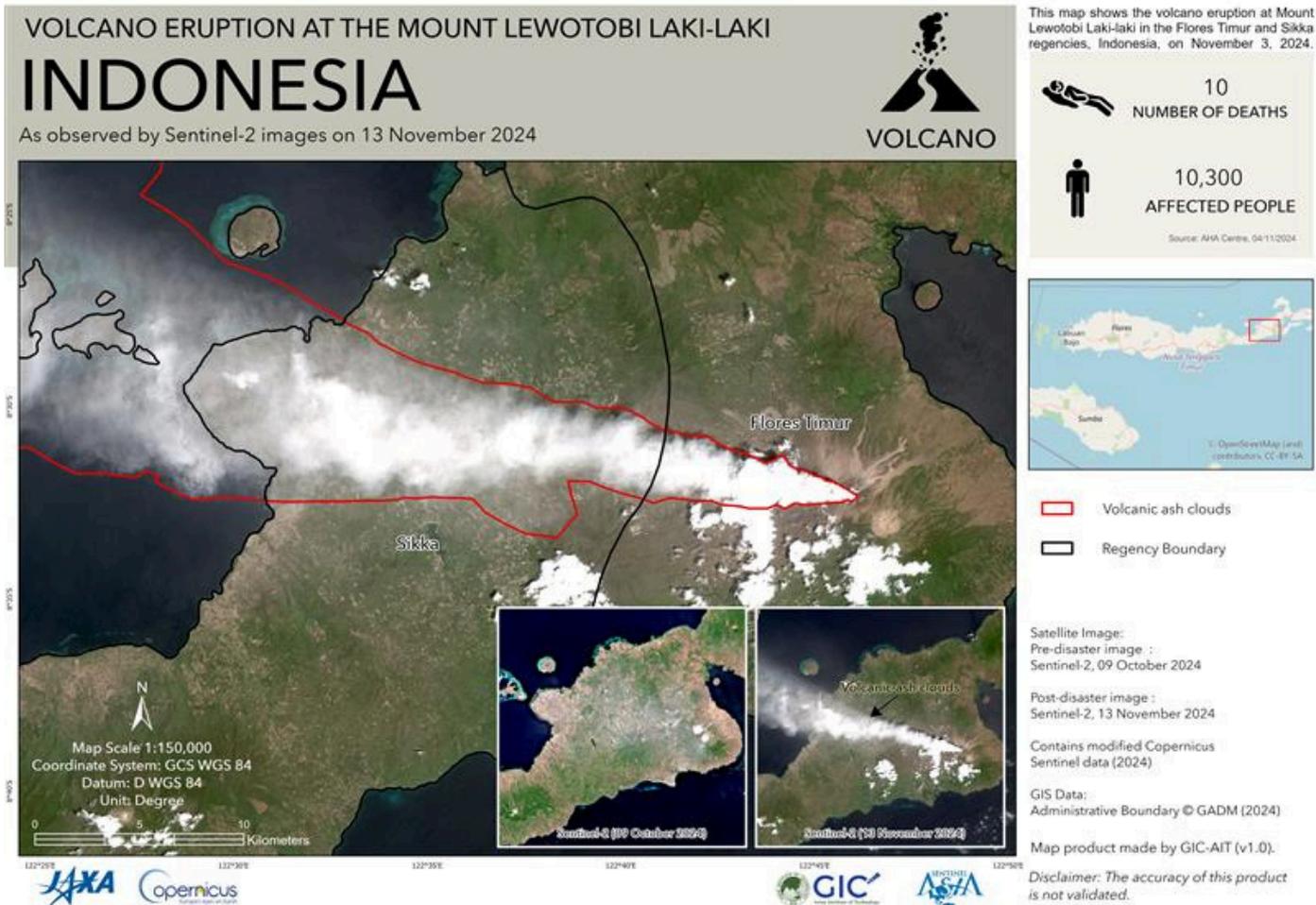

Group photo for 24th SC meeting for Sentinel Asia

Dr. Manzul Kumar Hazarika, Director of the Geoinformatics Center and Co-Chair of the Steering Committee, was invited for the 24th annial Steering Committe meeting for Sentinel Asia on December 12-13, 2024 at Sri Lanka. During his speech, he highlighted the importance of Sentinel Asia in view of the increasing incidence of disasters in Asia.

Mount Lewotobi Volcanic Eruption in Indonesia
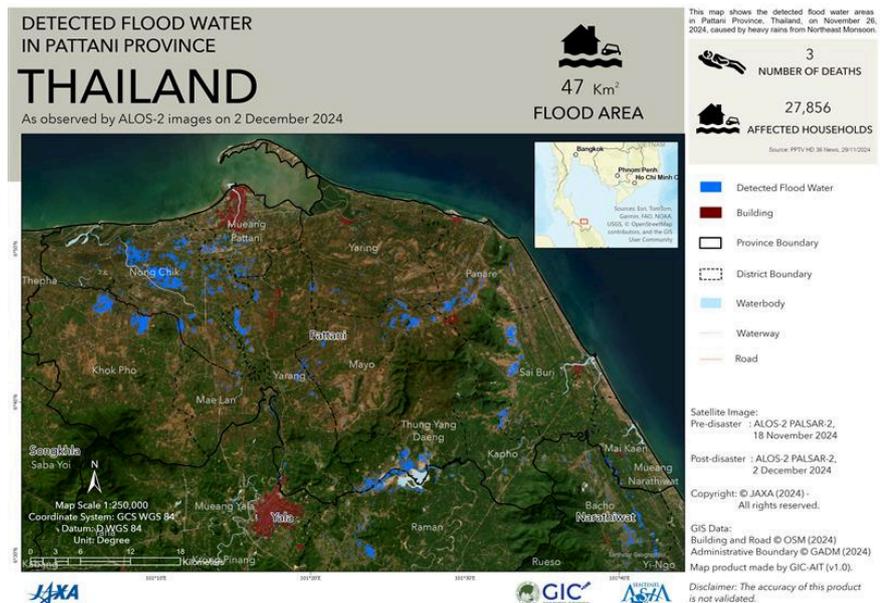
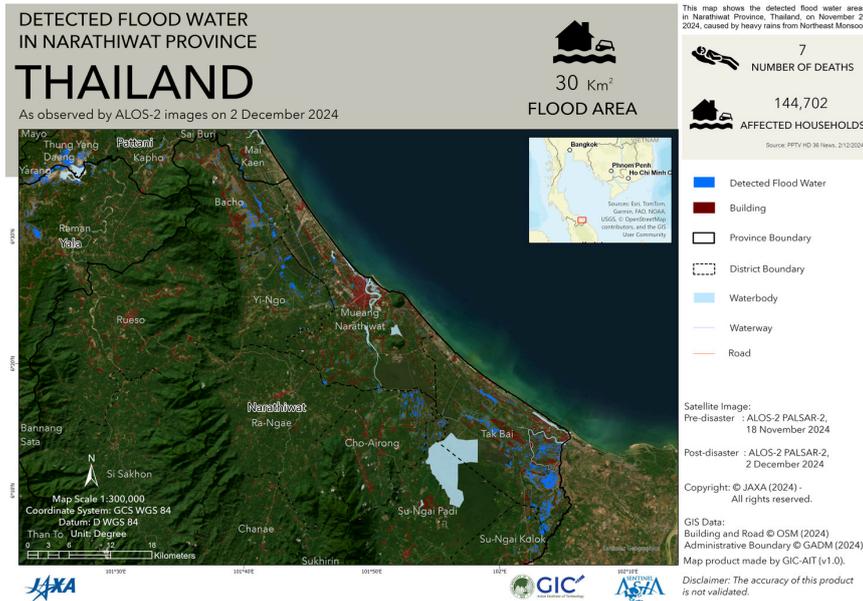## (Sentinel Asia Activation, 563)

Map of pre and post disaster at Mount Lewotobi Laki-Laki in Indonesia

Mount Lewotobi, one of the world's most active volcanoes in Flores, Indonesia erupted on 3 November, 2024, generating deadly pyroclastic flows, that darkened the landscape with ashfall, and lofted soaring ash plumes that disrupted air travel. According to the reports from the Indonesia's Volcanology and Geological Hazard Mitigation Center (PVMBG), plume heights of **1,200 meters (3,900 feet)** were recorded.

In this activation, GIC produced the map from the Sentinel-2 imagery, observing the eruption and affected areas on 13 November 2024 through emergency observations under the Sentinel Asia.

Flood by Northeast Monsoon in Southern Thailand

(Sentinel Asia Activation, 566)

Map of flooded areas in Narathiwat (top) and Pattani province (bottom) in Thailand

On November 26, 2024, heavy rainfall hit the southern provinces of Songkhla, Pattani, Yala, and Narathiwat, lasting for over a week. The persistent rainfall led to flooding disrupting economic activities and affected over **144,700 people** in Narathiwat and **27,856** in Pattani. The floods caused school closures, halted train services, and damaged highways, impacting **30 sq. km** of land in Narathiwat and **47 sq. km** in Pattani.

In this activation, GIC provided information about the flooded areas in Narathiwat and Pattani provinces based on observations made using ALOS-2 Synthetic Aperture Radar (SAR) detection acquired on 2 December 2024 through emergency observations under the Sentinel Asia.