



GEOSPATIAL DATA & TECHNOLOGY - INNOVATIONS & APPLICATIONS

30 March 2022 (Wednesday)
13:30 - 16:00 (Bangkok time)



Expert Talks



Live Discussions



Join Zoom

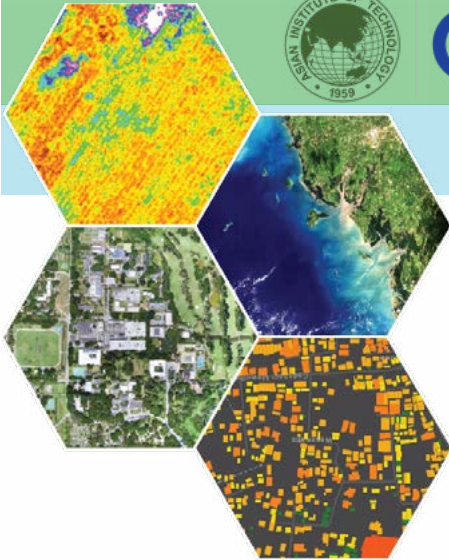
Hybrid Sessions from
AIT Entrepreneurship Center



GIC

GEOINFORMATICS CENTER

April 2022 NEWSLETTER



(In This Issue)

- AIT Tech Talk #5 with GIC and Partners Pg 1
- Reconstruction Monitoring Training Course for Palu Pg 2
- Sentinel Asia Activations: Jan - Mar 2022 Pg 2
- UNEP Forum on Plastic-free Rivers in Asia Pg 3

AIT Tech Talk with GIC and Partners

The 5th AIT Tech Talk, titled *Geospatial Data and Technology - Innovations and Applications*, was held virtually on March 30, 2022.

The team from GIC was joined by representatives from the United Nations Environment Program, United Nations Food and Agriculture Organization - Regional Office for Asia and the Pacific, and the International Institute for Geo-Information Science and Earth Observation - University of Twente (ITC Netherlands). GIC organized the Tech Talk with these long-term partners to focus on recent applications of geospatial technology for disaster management, agriculture, environment, and capacity building.

Highlights of applications in these fields that were explored during the Tech Talk included

an overview of GIC's disaster management activities, including reconstruction monitoring in Palu, Indonesia, following the devastating 2018 earthquake; Multi-Hazard risk assessment with the RiskChanges platform; Geospatial data for Agro-Ecological Zoning; Geospatial applications for weather index insurance; Plastic pollution monitoring in the Asia-Pacific Region; and GIC's capacity building activities for applications of geospatial data and technology.

The AIT TechTalks series is an initiative to highlight the expertise of AIT in various emerging technologies and developments. TechTalks are open for all individuals interested in attending. For information on upcoming AIT TechTalks visit the AIT Enterprises Alliance at: <http://www.aea.ait.ac.th/>

Reconstruction Monitoring Training Course for Palu

GIC organized a training on remote sensing for monitoring building and infrastructure stability in Indonesia from February 14-17, 2022.

This training course is the fourth in a series of six online training courses on applications of Remote Sensing and Geospatial Technology for Reconstruction Monitoring.

Dr. Manzul Kumar Hazarika, Director of the AIT Geoinformatics Center, joined Dr. Rakhmat Arief, National Research and Innovation Agency (BRIN), to inaugurate the training course. GIC led hands-on technical sessions for building stability monitoring.

ITC Netherlands also gave an overview of an ongoing collaboration with the Indonesian government for a landslide early warning system for eastern Java. Other contributions included an update on project progress and applications of remote sensing for conducting environmental impact assessments.

Numerous organizations from the Indonesian government participated in the training event, including the National Research and

Innovation Agency (BRIN), the Ministry of Energy and Mineral Resources (ESDM), the Ministry of Public Works and Housing (PUPR), the Ministry of National Development Planning (BAPPENAS), the Geospatial Information Agency (BIG), and the Meteorology, Climatology, and Geophysical Agency (BMKG).

This training course was organized under an Asian Development Bank (ADB) funded project to assist with Indonesia's rebuilding effort in the wake of the devastating 2018 Sulawesi earthquake.



Reconstruction Monitoring In Palu, Indonesia



Asian Development Bank



Sentinel Asia Activations: Jan - Mar 2022

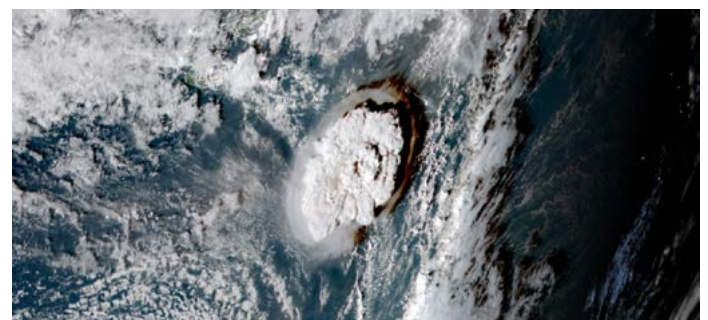
GIC is the regional data processing hub of the Sentinel Asia program for emergency mapping after a disaster in the Asian region. It is also regularly contributing to the International Charter for Space and Major Disasters as the Project Manager to coordinate emergency mapping efforts of catastrophic disasters in the region. Under both the initiatives (Sentinel Asia and International Charter), GIC receives satellite images acquired through the emergency observations and creates value-added products (VAP) in order to help the disaster affected countries in their emergency response and recovery efforts.

The satellite-based products coupled with the available GIS data (such as OpenStreetMap) and other local data from the respective countries are being integrated to help the national government agencies in their emergency response and recovery efforts. Initial value-added products are made available for local agencies within 24 hours of the activation, while

further products are provided as additional satellite data becomes available.

GIC-AIT has created a wide range of value-added products for Sentinel Asia as well as the International Charter for disasters covering floods, volcano eruptions, earthquakes, landslides, cyclones, glacial lake outburst floods, and oil spills.

From January - March 2022, GIC-AIT responded to 3 activations for tsunami (Tonga), flood (Thailand), and oil spill (Thailand) for the Sentinel Asia Program.



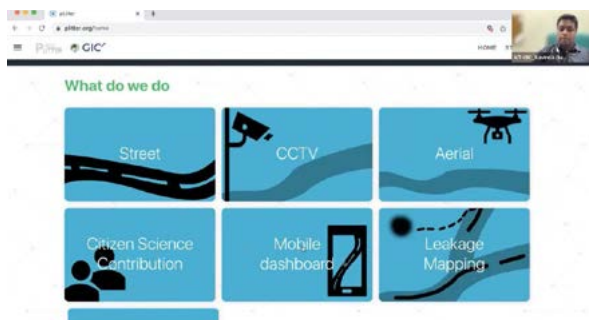
Volcano and tsunami hit Tonga in Jan 2022

UNEP Forum on Plastic-free Rivers in Asia

GIC presented its accomplishments in fighting marine plastic litter at the United Nations Environment Program's (UNEP) Forum on Plastic-Free Rivers in Asia from 8-10 March 2022.

The three-day virtual event, which was part of the UNEP CounterMEASURE II project, offered the latest plastic pollution research for waterways in the Asia-Pacific Region.

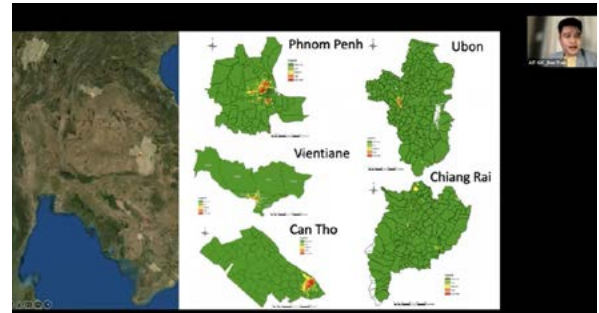
During the Frontier Technologies and Citizen Science for Plastic Pollution Management session, Dr. Kavinda Gunasekara and Sriram Reddy from GIC presented an overview of the center's activities under Phase II of the UNEP CounterMEASURE Project. The focus of the presentation was *pLitter*, an online platform that uses machine learning to identify plastic litter in waterways. The platform also visualizes data captured through GIC's multi-medium approach, including CCTVs, vehicle-mounted cameras, drones, and smart devices.



pLitter portal overview - plitter.org

Dr. Dan Tran and Dr. Kavinda Gunasekara from GIC delivered an overview of a GIS & remote sensing approach to modeling plastic in the Lower Mekong River Basin (LMRB) in a session titled Mapping Plastic Pollution Along Rivers. The presentation highlighted the macroplastic surveys conducted in the LMRB through partnerships between AIT and universities in the

region. Over a 10-month period, the collective identified 3,000 plastic litter hotspots. Further GIS analysis led to the production of a plastic leakage map for select cities in the LMRB.



Plastic litter accumulation at select sites in LMRB

Other sessions that made up the rest of the Forum included Evidence-Based Policies on Plastics, Plastics as a Threat to Migratory Species, Plastic Pollution Data Management for Insightful and Informed Decision Making, and Voices for Action and Solutions.

CounterMeasure is a joint initiative between the United Nations Environment Program (UNEP) and the Japanese Government that aims to identify sources of plastic pollution in Asian river basins. For more information, visit the CounterMEASURE Forum on Plastic-Free Rivers in Asia website at: <http://forum2022.countermeasure.asia/index.html>



Forum on Plastic Free Rivers in Asia



Geoinformatics Center
14.08247° N, 100.6132° E

FIND US

www.geoinfo.ait.ac.th

www.facebook.com/gicait

www.twitter.com/gicait

CONTACT

geoinfo@ait.ac.th

+66-2-524-5580