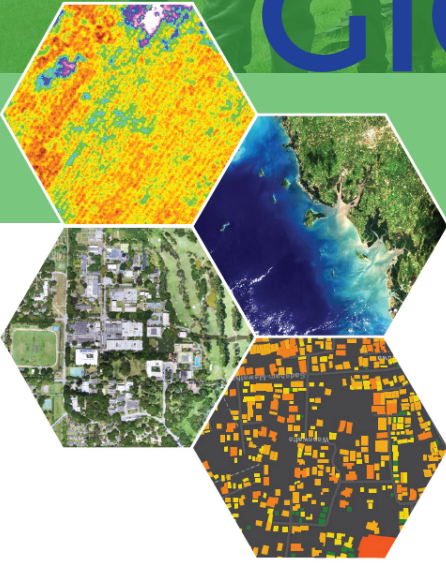




Participants from the Advanced Technologies for Flood Management Training during a field visit.



# QUARTER 1 NEWSLETTER



## Welcome

The GeoInformatics Center is proud to present its quarterly newsletter for the first quarter of 2018. We've had a busy few months with training courses, workshops and new drone developments. Please have a look to find out about the latest happenings at GIC.

## Glacier Mapping Training Course

Three officers from the Bhutan National Center for Hydrology and Meteorology attended a two week training course at GIC in early February. The course focused on the fundamentals of remote sensing and its application for glacier detection. A number of image classification techniques were explored to develop the participants' background and capability for extracting glaciers from their surrounding environment. The participants will use the skills they acquired at GIC to perform an annual national glacier inventory for the Kingdom of Bhutan.

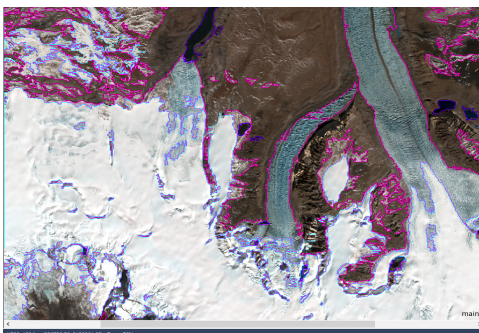


Image classification of glaciers during training course (Feb. 2018)

## Vietnam Mobile Application Workshop

Members from GIC led a mobile application workshop with support from PUM at the Department of Planning and Investment (DPI) of Thua Thien Hue province in Vietnam. The three day workshop, which took place from March 12-14, 2018, had participants learn how to operate the DRM Survey mobile application and carry out field operations. There were a total of 17 participants from organizations including DPI Vietnam, ADB Philippines, Haskoning DHV Vietnam, and the University of Tokyo. After the workshop, participants completed a local field survey collecting building and socioeconomic data for the remainder of the month.



# Vietnam Asian Disaster Reduction Center Workshop

A two-day workshop on the coordination improvement of Sentinel Asia for emergency mapping support, sharing, and communication was held at the Vietnam Academy of Science and Technology's Space Technology Institute (STI). The workshop, which lasted from March 19-20, 2018, was jointly organized by the STI, Asian Institute of Technology (AIT), and Asian Disaster Reduction Center (ADRC), with the financial support from the Japan Aerospace Exploration Agency (JAXA). Thirty participants from the national and international agencies attended the workshop including the STI, VAST, National Remote Sensing Department (NRSD), Disaster Management Policy and Technology Center (DMPTC), National Center for Hydro-meteorological Forecasting (NCHMF), Vietnam Ocean Data and Information Center (VODIC), Asia Air Survey Japan, JAXA, ADRC, and AIT.



ADRC Workshop in Vietnam (Mar. 2018)



ADRC Workshop in Vietnam (Mar. 2018)

## Sentinel Asia Coordination Workshop / Training Course

AIT, ADRC, and GISTDA collaborated to organize a pair of Sentinel Asia events in late February with financial support from JAXA. The first event was a workshop on the coordination improvement of Sentinel Asia for emergency mapping support, sharing, and communication. The workshop was held at the Wayupak Convention Center, Government Complex, Changwattana, Nonthaburi, Thailand on February 22nd, 2018.

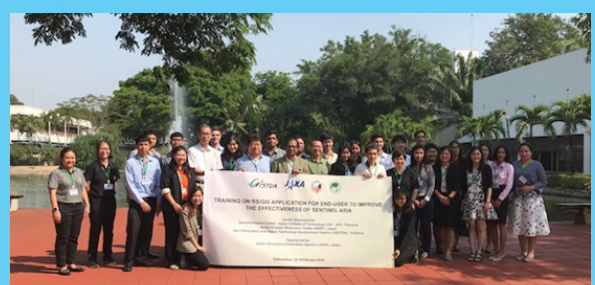


Sentinel Asia Workshop on Coordination Improvement (Feb. 2018)

The second event was a three-day training program on RS/GIS applications for end-users to improve the effectiveness of Sentinel Asia. The training course took place at the AIT Conference Center in Pathum Thani, Thailand from February 28-30, 2018.

Topics covered during the training included an introduction to the OPTEMIS mission planning tool, a QGIS hands-on tutorial, and a Synthetic Aperture RADAR flood mapping exercise.

The workshop and training course saw 22 and 37 participants, respectively, from a number of national agencies and universities including: GISTDA, DDPM, Royal Irrigation Department (RID), Department of Water Resources (DWR), Land Development Department (LDD), Royal Forest Department (RFD), Electricity Generating Authority of Thailand (EGAT), Hydro and Agro Informatics Institute (HAI), Meteorological Department (MET), Srinakarindwirot University, Stockholm Environmental Institute (SEI), Asian Disaster Preparedness Center (ADPC)/SERVIR-Mekong, Asia Air Survey Japan, JAXA, ADRC, and AIT.



SA Training Course on RS/GIS for End User Improvement (Feb. 2018)

# Training on Use of Advanced Technologies for Flood Management



Field Visit to the Smart Water Operation Center in Bangkok (Mar. 2018)

Near the end of March a group of engineering assistants from Sri Lanka's Irrigation Department attended a GIC training program on Advanced Technology for Flood Management. The event, which took place from March 26 - 30, 2018, was sponsored by the Climate Resilience Improvement Project (CRIP), an initiative of Sri Lanka's Ministry of Irrigation and Water Resources Management. Lessons on flood management strategies, GIS, and unmanned aerial vehicles were provided by officers from the Thai Royal Irrigation Department and GIC staff. The group then was able to apply these concepts into understanding how tools like remote sensing and UAV can benefit their work practices. During the training course the 25 participants also made field visits to notable flood management structures around central Thailand including the Royal Irrigation Department's Smart Water Operation Center, the Chao Phraya Dam in Chainat, and the Klong Lad Pho Flood Gate Project at Samut Prakarn.



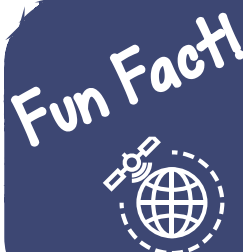
Training on Use of Advanced Technologies for Flood Management (Mar. 2018)

# United Nations Argentina GNSS Workshop

The Geoinformatics Center was represented at the United Nations/Argentina Workshop on the application of Global Navigation Satellite Systems (GNSS). The workshop was jointly organized by United Nations and Comisión Nacional de Actividades Espaciales (National Commission of space activities) of Argentina and took place on March 19-23, 2018. More than 40 participants with expertise in GNSS technology representing more than 15 countries participated in the event at Cordoba, Argentina. The workshop featured presentations on a variety of GNSS technology topics. A representative from GIC gave a presentation on the concept of a university network of GNSS base stations and an online data processing system. Three different working groups were present to discuss about reference frames, capacity building and the application of GNSS for SDI. We actively participated and shared our knowledge and experience on the development and strengthening of reference frames using GNSS in the Asia Region.



United Nations GNSS Workshop in Argentina (Mar. 2018)



Thailand currently has a GNSS CORS station network comprised of 80 stations. In two years time the network will increase to 220 stations.

# Malaysian Graduate Students visit GIC

A group of graduate students from the Universiti Teknologi in Mara, Malaysia spent 5 days visiting notable geospatial research centers in Thailand. The students -- who are majoring in Geographical Information Science with an emphasis in disaster management -- chose to include GIC in its itinerary based on its history of research efforts. During the visit GIC staff presented the Center's capabilities and research in disaster management and response.



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MARA



Presentation by GIC Director to UTM Students (Mar. 2018)



Universiti Teknologi Mara graduate student group (Mar. 2018)

## UAV Development at GeoInformatics Center



Successful test flight of FX-79 prototype UAV (Mar. 2018)

One of the GeoInformatics Center's areas of interest is building unmanned aerial vehicles in-house with off-the-shelf parts. The latest effort is the Zeta FX-79 Buffalo, a fixed wing platform that offers similar performance and data output to offerings from large commercial brands at less than half the cost. The FX-79 weighs 1.9 kg, has a wingspan of 2m, and can achieve a maximum flight time of one hour. In addition to a typical downward facing camera for photogrammetry work, the FX-79 features a forward-facing camera that provides the pilot with a first person view during flight.

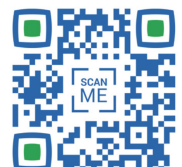
A feature that sets this FX-79 UAV apart from others is its custom parachute landing system. Typically, fixed wing UAV perform belly landings which require a generous landing area and exert stress on the airframe. The custom parachute landing system allows the FX-79 to land in tighter spaces and reduces wear-and-tear from landing. Other features include a return-to-home failsafe function and real-time monitoring via ground station. GIC celebrated its first successful flights with the FX-79 on March 13 of this year. Future plans include using the FX-79 for mapping and disaster response applications.



Hand-launching the FX-79 prototype UAV (Mar. 2018)

Want to find out more about our drone/ UAV activities?

Please visit our website at:  
<http://arcg.is/04Crgf>  
(or scan the QR code)



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