Knowledge to Lead

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United Nations Institute for Training and Research

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Advanced training on Earth Observation (EO) and Geospatial Information Technology (GIT) Applications for Climate Resilience (Fiji)

Satellite Analysis and Applied Research

Type:	Course
Location:	Suva, Fiji & Web Based
Date:	21 Sep 2020 to 25 Sep 2020
Duration of event:	5 Days
Programme Area:	Climate Change, Satellite Imagery and Analysis
Specific Target Audience:	No
Website:	https://common-sensing.cern.ch/training/training-session/advanced-eo-and-git/cs-...
Price:	No Fee
Event Focal Point Email:	aline.roldan@unitar.org

BACKGROUND

Pacific Island Countries are on the front line of climate change and natural hazards. These countries combine high exposure to frequent and damaging natural hazards with low capacity to manage the resulting risks. According to the World Bank, since 1950 extreme events have affected approximately 9.2 million people in the Pacific region. The CommonSensing (CS) project led by UNITAR-UNOSAT, was created with the aim to improve resilience to climate change, including disaster risk reduction, and to contribute to sustainable development in three Commonwealth Pacific island countries: Fiji, the Solomon Islands and Vanuatu. The project aims at developing satellite-based information services that will directly match challenges and needs to support the three nations in their goals to strengthen capacity to access climate finance and report on climate funds; strengthen national and regional climate action policy; and reduce the impact and improved risk management of natural disasters and food security.

In November 2019, UNITAR-UNOSAT delivered the first training session as part of the capacity building activities of the CS project. This introductory session focused on building up the knowledge on Earth Observation and Geospatial Information Technology by introducing participants to the basic concepts and terminology related to GIS and Remote Sensing. Concepts included identification, search, collection and organization of geospatial data/information, basic concepts of GIT and EO application for Disaster Risk Reduction (DRR) and Climate Change Resilience.

As a continuation, this training session will focus on Advanced Earth Observation topics and Geospatial Information Technology applications for climate resilience.

LEARNING OBJECTIVES

At the end of this course participants should be able to:

- Recall the basic concepts of Geographic Information System and Remote Sensing
- Apply digital image processing techniques for Land Use Land Cover (LULC) mapping from very high-resolution satellite image
- Assess the landcover change using time-series satellite images
- Develop population exposure analysis for tropical cyclones wind hazard
- Assess building damage from tropical cyclone using very high-resolution satellite images
- Develop web-based products to convey clear and concise decision support information
- Design priority case studies in GIT applications for Climate Resilience

CONTENT AND STRUCTURE

The course will start with recalling the basics concepts of GIS and Remote Sensing learned from the first training session. The following sessions will also provide them with theoretical understanding of advanced remote sensing and Land Use/Land Cover (LULC) mapping and perform change detection. The participants will then utilise learn to conduct building damage assessment and population exposure analysis for tropical cyclones. Towards the end of the session the participants will be introduced to online applications and will plan and execute a case study.

METHODOLOGY

This is a full-time, blended learning course with lectures and GIS lab exercises using GIS datasets and real case scenarios (60% lab exercises, 40% lectures and discussions). This course is divided into 7 modules. Each module is structured into 2 to 4 sessions of 1.5 hour each. The average workload is likely to be around 30 hours. The course is designed in a way to have a balanced approach between theoretical and practical teaching methods consisting in PowerPoint presentations, games, live demos, videos, interactive sessions, and GIS lab exercises. At the end of the course, UNITAR-UNOSAT will set up a community of practice platform to maximize the learning experience of participants and to provide all required technical backstopping and assistance to training participants during and after the training.

TARGETED AUDIENCE

The course is designed to accommodate participants with prior basic knowledge in GIS and Remote Sensing from a variety of backgrounds and professional experiences. It is recommended that respective agencies select participants who have already attended the first training session “Introductory Training on Earth Observation (EO) and Geospatial Information Technology (GIT) Applications for Climate Resilience” held on 4-8 November 2019.

ADDITIONAL INFORMATION

Software: GIS lab exercises will be ESRI-based with access to internet.

Class Size: The number of participants is limited to 20-30 (max.) to ensure quality support provided by UNOSAT’s instructors.

Certificate: Students need a minimum of 75% of attendance to receive the CommonSensing certificate of participation from UNITAR on successful completion of the course.

Source URL