



## Introductory Training on Earth Observation (EO) and Geospatial Information Technology (GIT) Applications for Climate Resilience

Satellite Analysis and Applied Research

ID: Course  
 Location: Suva, Fiji  
 Dates: 4 11 2019 - 8 11 2019  
 Duration: 5 days  
 Topic: Satellite Imagery and Analysis  
 Language: English  
 URL: <http://www.unitar.org>  
 Status: Open  
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Course Description

This course is designed to provide participants with a comprehensive understanding of satellite-based Earth Observation (EO) and Geospatial Information Technology (GIT) applications for climate resilience. The course covers the fundamentals of satellite remote sensing, data processing, and analysis, and how these technologies can be used to monitor and assess climate change impacts and natural hazards.

Key Objectives

Key Objectives: Understand the principles of satellite remote sensing; Analyze satellite imagery and data; Apply EO and GIT tools to assess climate change impacts and natural hazards; Develop strategies for climate resilience and disaster risk reduction.

### Target Audience

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 project led by UNITAR-UNOSAT aims to improve resilience to climate change, including disaster risk reduction, and contribute to sustainable development in three Commonwealth Pacific island countries: Fiji, the Solomon Islands and Vanuatu. The CommonSensing project supports the IPP's priorities to deliver a sustainable social and economic benefit to emerging and developing economies, in alignment with the UN Sustainable Development Goals. 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.

Capacity development is a one of the key pillars of the CommonSensing (CS) project. Along with the Earth Observation (EO)-based tools, the CS project tends to implement capacity building activities to improve access to climate finance and to enhance the capacities of national stakeholders in Fiji, Vanuatu and Solomon Islands to process and understand

geospatial and climate information for operational planning and decision making. Technical training being one of the priority needs, the CS project tends to design training sessions to boost the skills needed to improve job performance of professionals. Therefore, as part of the proposed training activity, UNITAR's Operational Satellite Applications Programme (UNOSAT) is conducting a one-week introductory training programme on the use of Earth Observation (EO) data and Geospatial Information Technology (GIT) applications for Climate Resilience in Fiji, Solomon Islands and Vanuatu.

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The aim of this course is to provide participants with the introductory knowledge on Geographic Information System (GIS) and Remote Sensing (RS), their concepts, methodologies on risk assessment and satellite based mapping and its applications towards achieving disaster and climate resilience. The CS project realises the need for strengthening organisational integration and an enabling environment in order to focus on demonstrating the best practices on improving individual-level capacity by mainstreaming knowledge and reinforcing capacities. The consulted specialised departments from key ministries in Fiji have mentioned their need to build institutional capacity in utilising satellite data in one of their priority needs under specific thematic areas such as DRR, food security, climate information and climate finance. Therefore, this training would be attuned to demonstrate country-specific needs in line with the outcomes from the scoping mission.

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The course will focus on providing participants with a theoretical understanding of the basic principles of GIS and Remote Sensing (RS), how to collect data using geospatial tools such as GPS, smartphones and the basic skills needed for spatial analysis. Participants will also be given challenges to solve DRR related problems by developing decision support tools.

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This is full-time, face-to-face course with lectures and lab exercises using GIS databases and real case scenarios (60% lab exercises, 40% lectures and discussions). The course will be divided into five modules and each module will be structured into four sessions of 1.5 hours each. The average workload per week is likely to be around 25-30 hours.

The course is designed in a way to have a balanced approach between theoretical and practical teaching methods consisting of PowerPoint presentations, live demos, videos, interactive sessions and GIS lab exercises. Towards the end of course, UNITAR-UNOSAT will set up the community of practice platform to maximize the learning experience of the participants and to provide all required technical backstopping and assistance to training participants during and after the training.

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The participants from Fiji will be comprised of members of key Government line ministries, other stakeholders and students from academic institutions with the aim to improve the cross-sectoral exchange, learning and joint knowledge production.

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