

Topics (T)
Interactive Presentations (IP)

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EARTH OBSERVING MISSIONS AND SYSTEMS TO ADDRESS CLIMATE CHANGE AND ITS
IMPACTS

Abstract

The United Nations Satellite Centre (UNOSAT), which is part of the United Nations Institute for Training and Research (UNITAR), is mandated to provide satellite analysis and capacity development in the use of geospatial information technologies to UN funds, sister agencies, and Member States at their request. For the past 20 years, UNOSAT has been delivering space derived products such as GIS-ready data, maps, and reports, which has been possible thanks to funding from donors such as Norway – including the Norwegian Agency for Development Cooperation (NORAD) and the Norwegian Ministry of Foreign Affairs (NMFA).

Through the latest iteration of the NORAD-funded project, UNOSAT is supporting partner countries in the Pacific adapt to climate change through the provision of integrated geospatial solutions. In Fiji, UNOSAT has created an interactive web mapping tool, which utilizes elevation data to illustrate potential sea-level rise and how it may impact infrastructure. Through these solutions, decision-makers can have improved evidence-based data, which can support in identifying areas for coastal mitigation activities. This web app can be found in the following link: <https://unosat-geodrr.cern.ch/Climate/SeaLevelRise/>

Correspondingly, within the NORAD project, UNOSAT is working with the Global Risk Assessment Framework (GRAF) initiative in Fiji to facilitate voluntary relocation of coastal communities at risk of inundation. This innovative activity utilizes space data for climate action on the ground and reveals the social and cultural dimensions of environmental change. While satellite and drone imagery provide an overview of the hazards of climate change to the built environment, the field data collected by UNOSAT, in an adaptation survey of affected villages, has shown the human impact of climate change. Anecdotes from villagers of their ancestral land, in conjunction with satellite-derived information, allow for a human-rights based approach to climate adaptation and relocation.

Further evidence that climate change is already a reality can be witnessed by the unprecedented flooding event in Pakistan in August 2022. Funded by NMFA, UNOSAT's Emergency Mapping service was activated and delivered 35 products, from preliminary flood assessments to satellite-derived flood evolutions. UNOSAT has been active in providing satellite and geospatial products in the ever-increasing number of climate emergencies and has been able to continue to provide this assistance thanks to donor support.

In this regard, UNOSAT would welcome the opportunity to participate and present at the GLOC 2023 conference to share our experience in the event's theme, "Space for Climate Action".