



### Advanced training on the use of GIT for Environmental Monitoring (Drought Monitoring & Management) in Nigeria

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████ : 15 7 2024

- ██ : Course
- ██ : Abuja, Nigeria
- ██ : 22 7 2024 to 26 7 2024
- ██ : 5 Days
- ████ : Satellite Imagery and Analysis
- ██ : <https://unosat.org/>
- ██ : US\$0.00
- ████ email: wittawat.bunnasarn@unitar.org
- ██ : Norwegian Agency for Development Cooperation (NORAD), Federal Ministry of Environment of Nigeria (1422)

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The project “Strengthening Capacities in the Use of Geospatial Information for Improved Resilience in Asia-Pacific and Africa.” (2021-2024) intends to develop sustainable capacities and implement tailored geospatial solutions to improve policy and decision-making processes in Disaster Risk Reduction. With the

support of NORAD, UNOSAT partners with the governments to develop innovative capacity development solutions and geospatial services, leveraging technological advances and innovation for improved decision making in Disaster Risk Reduction, Climate Resilience, Environmental Preservation and Food Security in the eight target countries: Bangladesh, Bhutan, Fiji, Lao PDR, Nigeria, Solomon Islands, Uganda, and Vanuatu. The project's primary focus in Nigeria is the geospatial capacity development for environmental conservation and the nominated focal institution for implementation in Nigeria is the Federal Ministry of Environment.

In Nigeria, remote sensing technology has been applied to tasks such as monitoring environmental changes, analysing land use, and gathering data in fields like environment, agriculture, and disaster management. However, there is a pressing need to enhance capacities in the rapidly evolving role of remote sensing to enable more robust problem-solving and decision-making.



This training program has been carefully designed to introduce participants to modern remote sensing and provide practical examples of using cutting-edge analytics tools. These tools maximize the utilisation of satellite data for monitoring and managing drought. By developing these capabilities, Nigeria will be well-prepared to address emerging challenges and promote sustainable development.



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

- Recall the fundamental concepts and terminology associated with Remote Sensing.
- Identify globally accessible data sources for land monitoring and change detection analysis.
- Carry out remote sensing classification for land cover mapping and perform change detection.
- Perform drought risk mapping.
- Conduct drought monitoring using climate data.



The course introduces GIS and remote sensing for sustainable development, with a particular focus on drought monitoring. The training will commence with introductory modules on GIS and remote sensing, followed by an exploration of available data sources from the web. The final modules will demonstrate applications of GIS and remote sensing enabled by these tools and data, focusing specifically on drought in Nigeria.



This is a full-time, face-to-face course with lectures, lab exercises using satellite imagery and real case scenarios (60% lab exercises, 40% lectures and discussions), and collection of geospatial data from the web. This course is divided into 5 modules. The average workload is likely to be around 35 hours.

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



The course is designed to accommodate participants selected by the Federal Ministry of Environment with basic knowledge in GIS and remote sensing from a variety of backgrounds and professional experiences. It is recommended that respective departments should select participants who are willing to develop and apply the skills learnt from this capacity building exercise to their daily workflow to enhance project service delivery within the ministries.



Lab exercises will be performed using QGIS, Climate Engine, and other online tools and platforms.