Advanced Training on the Use of Geospatial Information Technology for Drought Risk Management

Satellite Analysis and Applied Research

**Type:** Course

**Location:** Phnom Penh, Cambodia

**Date:** 2 Apr 2018 to 6 Apr 2018

**Duration of event:** 5 Days

**Programme Area:** Satellite Imagery and Analysis

**Specific Target Audience:** No

**Website:** https://unitar.org/unosat/

**Price:** No Fee

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**BACKGROUND**

Countries in Southeast Asia such as Cambodia continues to experience frequent drought events. These disasters have led to severe economic and livelihood losses, which in turn greatly influences food insecurity. Therefore, monitoring and understanding the consequences of drought to prepare, plan and mitigate its impacts is of paramount importance. Geographic information systems (GIS) combined with Remote Sensing (RS) has proved to be a very useful tool for drought risk management process that starts from monitoring to mitigation and response.

UNOSAT together with ESCAP is providing technical support to the Government of Cambodia as part of its capacity building initiative under the Regional Drought Mechanism to build the capacity of government stakeholders to understand the use of GIS and Remote Sensing technology as well as earth observation data for drought monitoring and early warning. A number of tools are being customized to support evidence-based decision making in Cambodia, including DroughtWatch System, being developed and customized for Cambodia by the Institute of Remote Sensing and Digital Earth (RADI) of the Chinese Academy of Sciences and the DataCube being developed by the Geoscience Australia.

**EVENT OBJECTIVES**

This advanced training course is a follow-up activity to the last “Introductory Training on the use of Geospatial Information Technology for Drought Risk Management” held in Phnom Penh in November 2017.
LEARNING OBJECTIVES

- Recall basic concepts and terminology related to Geospatial Information Technology (GIT) - UNOSAT
- Perform Landcover classification and Landcover change detection - UNOSAT
- Utilize SERVIR drought monitoring system for obtaining early warning information - ADPC
- Recall remote sensing indices for drought monitoring - GISTDA & ESCAP
- Apply DroughtWatch system for drought monitoring - RADI
- Recall the application Satellite Data for Land and Water Management and application of Source Model - eWater

CONTENT AND STRUCTURE

The course is focused on providing insight into various geospatial tools and techniques available for drought risk monitoring and management. In the first two days of the training, the participants will be familiarized with advanced image processing techniques using QGIS and ArcGIS software's followed by hands-on exercises to continue during the remaining days. On the third day, the participants will be familiarized with the DroughtWatch System and the DataCube during the first half of the session. The hands-on exercises will continue from the second half of the session till the close of fourth day. On the final day of the training participants present their case studies based on the hands-on exercises during the first half of the day. The training course will be closed with a short competency quiz to measure outcomes of the learning event.

METHODOLOGY

This is a full-time, face-to-face course with lectures and hands-on exercises using local datasets and real case scenarios (70% lab exercises, 30% lectures and discussions). This course is divided into modules (see course outline). Each module is structured into sessions of 1.5 hour each. The average workload of the entire course is likely to be around 15 hours.

The whole course is designed in a way to have a balanced approach between theoretical and practical methodologies, which will enable the participants to gain maximum knowledge on the subject. It will be taught in lecture/discussion formats illustrated with Power Point presentations, live demos, videos, maps, diagrams, field visits, interactive sessions and content on web sites.

TARGETED AUDIENCE

The participating team from Cambodia will be comprised of selected members of key Government line ministries with the aim to improve the cross-sectoral exchange, learning and joint knowledge production. It is recommended that participants taking the course have a working knowledge of English including basic awareness about GIS and Remote Sensing applications.

ADDITIONAL INFORMATION

This course is offered jointly by resource persons from ESCAP, UNOSAT, GISTDA, Institute of Remote Sensing and Digital Earth (RADI) from China, Geoscience Australia and eWater.