United Nations Institute for Training and Research

Unitar Online Catalogue

Geospatial Technologies for Flood and Drought Management in East Africa

Type:	Course
Location:	Nairobi, Kenya
Date:	19 Sep 2016 to 30 Sep 2016
Duration:	10 Days
Thematic Area:	Satellite Imagery and Analysis
Website:	http://www.unitar.org/unosat
Price:	$0.00
Event Focal Point Email:	unosat@unitar.org
Contact Number:	0041 22 767 4020
Partnership:	IGAD-ICPAC

BACKGROUND

In the past decade, countries in East Africa have experienced several flood and drought related disasters. These events have led to severe economic and livelihood loss, which in turn greatly influenced food insecurity and civilian conflicts in the region. It is of high importance to understand and continuously monitor these hazards. Geographic information systems (GIS) combined with the prowess of Remote Sensing (RS) has proved to be a very useful tool for the whole

disaster management cycle, starting from the preparedness phase, mitigation to response, recovery and reconstruction.

Effective disaster management and response demand rapid utilization of information and data from many sources. Geospatial information and the ability for data visualization are critical during pre and post-disaster management and response. However, the ability to seamlessly integrate and distribute digital data into spatially explicit forms for situation / rapid assessment during and after a disaster as well as identifying the associated risks before the disaster, still remains to be a challenge. This course will focus on utilizing geospatial technologies to meet this challenge, especially in the context of flood and drought management in the Greater Horn of Africa.

EVENT OBJECTIVES

The aim of the course is to provide participants with GIS and Remote Sensing (RS) methodologies (risk assessment and satellite based mapping) related to flood and drought management in East Africa.

LEARNING OBJECTIVES

At the end of the course students should be able to:

- Define basic concepts and terminologies related to geospatial technology;
- Apply basic methods and functionalities for GIS and Remote Sensing analysis and mapping;
- Identify, access, search, collect, organize and analyse geospatial data relevant to flood and drought management;
- Apply relevant GIS methodologies and tools for flood and drought management
- Explain the advantages and limitations of using geospatial information technology for flood and drought management.

CONTENT AND STRUCTURE

The course is focused on providing insight into various tools available in GIS for DRR, especially in relation to flood and drought management. On the first three days of the training, participants will get familiar with ESRI ArcGIS software while

on the fourth day, they will be introduced to field data collection tools using smart phone applications. Towards the end of the first week, participants will be introduced to the disaster management cycle. In the second week, participants will be introduced to applications of geospatial technologies for DRR (with case studies for flood and drought). Towards the last days of the second week, participants will work with map layouts and individual assignments.

METHODOLOGY

This is a full-time, face-to-face course with lectures and GIS lab exercises using local datasets and real case scenarios (60% lab exercises, 40% lectures and discussions). This course is divided into 10 modules. Each module is structured into 4 sessions of 1.5 hour each. The average workload per week is likely to be around 25-30 hours.

The whole course is designed in a way to have a balanced approach between theoretical and practical methodologies, which will enable the students 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. The final case-study will be designed to give a near real-time scenario for the students to have confidence in handling similar situations in the near future.

The course is divided into 10 Modules offered over a two weeks period. Each module is structured into 4 sessions of 1.5 hour each. The average workload per week is likely to be around 25-30 hours.

TARGETED AUDIENCE

Flood or drought disaster management professionals working in governmental organizations who wish to strengthen their practical skills in applications of geospatial technologies for DRR. It is recommended that participants taking the course have a working knowledge of English and a basic knowledge on GIS and Remote Sensing technologies.

Recommended pre-requisite are:

- Basic GIS skills. Prior to the training, participants are highly recommended to attend a 4 hours long course “Getting Started with GIS” offered by ESRI. The

course can be accessed through the following link - http://training.esri.com/gateway/index.cfm?fa=catalog.webCourseDetail&c...
- Work includes tasks related to flood and drought management, or more generally disaster management;
- Work includes use of geospatial technologies on a daily basis (alternatively, the person is planning to use GIT daily).

ADDITIONAL INFORMATION

Language:

English

Software:

GIS lab exercises will be based on ESRI ArcGIS editor 10.4 with extensions (spatial analyst) and internet access.

Class Size:

The number of participants is limited to 25.

UNITAR Certificate:

Participants will be given a UN Certificate from the United Nations Institute for Training and Research (UNITAR) on successful completion of the course.

Course Coordination:

Rohini S. Swaminathan, UNITAR-UNOSAT (Rohini.SWAMINATHAN [at] unitar.org (Rohini[dot]SWAMINATHAN[at]unitar[dot]org))