unitar
United Nations Institute for Training and Research

Unitar Online Catalogue

Introduction to Geospatial Information Technology for Disaster Risk Reduction/Management (DRR/M)

Satellite Analysis and Applied Research

Type:	Course
Location:	Kigali, Rwanda
Date:	16 Dec 2019 to 20 Dec 2019
Duration of event:	5 Days
Programme Area:	Satellite Imagery and Analysis
Specific Target Audience:	No
Website:	http://www.unitar.org
Price:	No Fee
Event Focal Point Email:	luca.DELLORO@unitar.org
Event Focal Point Contact Number:	

BACKGROUND

In recent years, a drop in poverty, child-mortality, and near-universal primary school enrolment, has accompanied Rwanda's strong economic growth. Rising temperatures and variable rainfall may threaten these positive trends in the rural, landlocked, and densely populated country, which are likely to affect rain-fed agriculture, hydropower production, malaria transmission rates, and nature-based tourism.

On the steep slopes that dominate much of the country, floods, landslides, and soil erosion are already damaging agriculture, infrastructure, and services. Heavy rains in 2012, for example, led to extensive flooding in the northern and western provinces that caused extensive damage and affected about 11,000 people. In 2016, floods and landslides blocked roads, destroyed bridges, and damaged 1,425 homes in Gakenke district.

Geospatial Information Technology (GIT), now being also called an "enabling technology" due to the benefit it offers across different application domains, can be a very useful tool to support the whole disaster risk management cycle (Prevention/Mitigation, Preparedness, Response and Recovery/Reconstruction) as well as the operational planning and decision making of coherent disaster risk reduction (DRR) activities at both national and local scales. Quantifying level risk of expected future losses is a key step in any disaster risk reduction program. In addition, the outputs and scenarios generated from risk assessments contribute to inform overall risk reduction policies and planning. Risk assessment can be performed by applying geospatial methodologies that allow to quantify risk and identify the locations in need of risk reduction measures. The role of GIT does not stop there; in the immediate aftermath of a disaster, satellite based rapid response analysis enables the emergency response agencies to respond in a better and coordinated way.

Technology in its various forms, including Geospatial Information Technology (GIT), continues to redefine and revolutionize the way we all live and work. Harnessing innovation and technology to advance gender equality and women's empowerment is critical throughout the 2030 Agenda for Sustainable Development. The link between technology and women's rights is clearly reflected in SDG 5 on gender equality and the empowerment of women, which includes a specific target on utilizing technology to realize women's and girls' empowerment. In addition, according to UNISDR, women are still too often absent from the development of disaster risk reduction strategies and decision-making processes. The Sendai Framework underline women's participation is critical to effectively managing disaster risk and designing, resourcing and implementing gender-sensitive disaster risk reduction policies, plans and programmes.

EVENT OBJECTIVES

To increase women's participation and representation in all levels of DRR operational planning and decision-making UNITAR-UNOSAT is offering a 50/50 gender-focused training on "GIT applications for DRR". The overall aim of this one-week course is to provide selected women and men participants with introductory concepts of geospatial information technology and methodologies to support DRR/M related activities.

LEARNING OBJECTIVES

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

Define and describe the basic concepts and terminology related to Geospatial Information Technology (GIT)
Apply basic methods and functionalities of GIS software to manage and analyse spatial data
Identify, search, collect, organize geospatial data/information
Apply GIS methodologies and tools for DRR/M applications
Explain the advantages and limitations of using geospatial information in DRR/M
Undertake the process to create desktop thematic maps to support operational planning and decision making

CONTENT AND STRUCTURE

The course will provide selected participants with a theoretical understanding of basic principles of GIS and Remote Sensing (RS), how to search from web sources relevant datasets and to collect spatial data using geospatial tools such as GPSs, smartphones and basic skills for spatial analysis. Participants will also be challenged to solve DRR/M problems by developing/applying geospatial methodologies.

METHODOLOGY

1-week training:

This is a full-time, face-to-face course with lectures and GIS lab exercises using GIS datasets and real case scenarios (60% lab exercises, 40% lectures and discussions). This course is divided into 5 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 course will be designed in a way to have a balanced approach between theoretical and practical teaching methods consisting in PowerPoint presentations, live demos, videos, interactive sessions and GIS lab exercises. A dedicated learning management platform will be set it up by UNOSAT to maximize the learning experience of participants and to provide all required technical backstopping during and after the training.

TARGETED AUDIENCE

Women working in DRR related ministries

ADDITIONAL INFORMATION

Trainers Bio Data

Dr. Romy Schlögel is a Geo Information Trainer as individual contractor with UNITAR supporting the Disaster Risk Reduction/Management and Climate resilience section of the Division for Satellite Analysis and Applied Research (UNOSAT) in African countries.

She holds a MSc Geology from the University of Liege (Belgium) and 10 years' practicing use of GIS and Earth Observation in slope processes monitoring and natural hazards assessment. Previously she was a research fellow studying climate change impacts on mountainous hazards with satellite imagery hosted by the European Space Agency (ESA Climate Office, ECSAT) in Harwell, UK. Prior to joining ESA, she was a senior research and manager of international projects related to natural hazards at the Earth Observation Institute of the Eurac Research in Bolzano, Italy.

Before that Italian experience, she was hired by CNRS as an Early Stage Researcher at the University of Strasbourg (IPGS/EOST), where she enrolled in the FP7 Marie Curie ITN focused on Changing Hydro-meteorological Risks. She completed her PhD in Earth Sciences and Geomorphology on "Quantitative landslide hazard assessment with remote sensing observations and statistical modelling".

Ms. Rispha Gicheha is a Geo Information Trainer and a Liaison officer with UNITAR Operational Satellite Applications Programme (UNOSAT) in Nairobi, Kenya. She holds a masters in GIS and Remote Sensing with more than 10 years' working experience in the field of Geo Information. Her role in UNOSAT is to prepare and coordinate training workshops and she is the focal person in Nairobi office. Prior to joining UNOSAT, she worked with UN OCHA as an information management officer where she coordinated humanitarian partners during response to disasters, she also prepared information products i.e 3W maps, Humanitarian dashboards, Humanitarian snapshots and coordinated Information Management working group meetings. She also worked with FAO SWALIM as a Remote sensing officer where she did monitoring of infrastructure using remote sensing and did crop yield assessment for early warning and food security.

Geospatial Information Technology (GIT) in Fragile Contexts

Satellite Analysis and Applied Research

Type:	Course
Location:	Web Based
Date:	Free and Open Event
Duration of event:	2 Days
Programme Area:	Satellite Imagery and Analysis
Specific Target Audience:	No
Website:	https://unitar.org/sustainable-development-goals/satellite-analysis-and-applied-...
Price:	No Fee
Event Focal Point Email:	Mathieu.DOMINGO@unitar.org
Event Focal Point Contact Number:	

BACKGROUND

This e-learning course was created as part of the Earth Observation for Sustainable Development: Fragility, Conflict and Security project funded by the European Space Agency and aims to give a short but practical introduction to Geospatial Infomation Technology (GIT) in states affected by fragility, with a focus on remote sensing.

NOTE- How to access the course:

Once you register for the course, you can access the online course here: https://learnatunitar.org/course/view.php?id=408

*For any technical assistance related to this course, please contact **Ms. Sumeera Kamil (sumeera.kamil@unitar.org)**

CONTENT AND STRUCTURE

The e-learning course is structured into 4 modules:

1. Introduction to GIT in Fragile Contexts
2. What Can Satellites See?
3. GIS analysis for Fragile States
4. How To Use Our Online Platform (E04SDFCV)

METHODOLOGY

This self-paced course promotes an interactive approach through lessons and multimedia material, stimulating critical thinking. It provides a lot of flexibility, since you will be able to complete the course at your own pace and timeframe.

Each interactive module is accompanied by a quiz.

To receive a Certificate of Completion one needs to achieve a minimum grade of 80% on each quiz.

ADDITIONAL INFORMATION

Technical Requirements: The course is delivered through UNITAR's Virtual Learning Environment and participants will require a reliable internet connection throughout its duration.

Africa and Japan - The current situation of these relationship

Prosperity

Type:	Public Lecture
Location:	Hiroshima, Japan
Date:	22 Feb 2020
Duration of event:	1 Days
Programme Area:	Satellite Imagery and Analysis

Specific Target Audience:	No
Website:	https://www.unitar.org/hiroshima/ja/home
Price:	No Fee
Event Focal Point Email:	Yuko.BABA@unitar.org
Event Focal Point Contact Number:	0825112424

EVENT OBJECTIVES

Featuring the current situation of the relationship between Africa and Japan and prospects for the future.

We are inviting Ambassador Oshima, Chairman of The Africa Society of Japan, Former Ambassador Extraordinary and Plenipotentiary, Permanent Representative of Japan to the United Nations.

Geospatial Information Technology (GIT) for Operational Planning and Decision Making in Disaster Situations

Satellite Analysis and Applied Research

Type:	Course
Location:	Kampala, Uganda
Date:	2 Mar 2020 to 6 Mar 2020
Duration of event:	5 Days
Programme Area:	Satellite Imagery and Analysis
Specific Target Audience:	No
Website:	http://www.unitar.org/unosat
Price:	No Fee
Event Focal Point Email:	luca.delloro@unitar.org
Event Focal Point Contact Number:	+41 22 766 4137

BACKGROUND

The increasing number and intensity of natural disasters in the past few years have had severe consequences in terms of human lives that were impacted, but also in terms of structural damage and economic losses. In years to come, extreme events will no longer be exceptions. Uganda is regularly affected by multiple natural hazards, including droughts, earthquakes, floods, landslides, and volcanoes. Flooding, particularly in low-lying areas, presents the largest risk. Each year, floods impact nearly 50,000 people and over $62 million in gross domestic product. Climate change is likely to increase average temperatures in Uganda up to 1.5 degrees Centigrade by 2030 and 4.3 degrees Centigrade by 2080. Rainfall variability and rising temperatures are expected to lead to higher incidences of droughts, water scarcity but also extreme weather related events which will likely increase population exposure to hydro-

meteorological disasters such as heavy rainfall, floods and landslides (GFDRR 2017).

Geospatial information technology (GIT) including satellite imagery analysis and data visualization plays a vital role in understanding the geographic extent and severity of disaster events. Nevertheless, the ability of national and regional authorities as well as disaster management experts to seamlessly collect, integrate, analyse geospatial information in a comprehensible and easy to use format for remains a challenge that needs to be addressed with ad-hoc training and capacity development programmes.

EVENT OBJECTIVES

The overall aim of this GIS course is to provide training participants with concepts and terminology of Geo-spatial Information Technology (GIT) including ad-hoc geospatial methodologies based on selected real case scenarios from previous disaster events in Uganda to support emergency response and recovery planning operations.

LEARNING OBJECTIVES

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

-Define and describe basic concepts and terminology related to Geospatial Information Technology (GIT);
-Apply basic methods and functionalities of GIS software (ArcGIS) to manage and analyse spatial data;
-Explain the role of geo-information in the response / early recovery phase of a disaster;
-Identify suitable mechanisms for satellite imagery acquisition following major disaster events (e.g. International Space Charter);
-Identify, search, collect, organize and analyse geospatial related information relevant for disaster mapping;
-Apply basic GIS methodologies to perform impact analysis and preliminary damage assessment in the aftermath of a disaster event;
-Undertake the process to create thematic maps for evidence based decision making in emergency response and post disaster recovery.

CONTENT AND STRUCTURE

The course will develop basic GIS skills amongst selected participants so that they are able to collect, manage & analyse geospatial data using GIS software. Focus will be given to understand the concept of GIT (GIS&RS) and its main applications to support both emergency response and post disaster recovery planning following major disaster events. A central part of the course will also cover mechanisms to collect pre and post disaster satellite images including procedures to trigger the International Charter Space and Major Disasters. During GIS lab exercises, training participants will learn geospatial methodologies to perform impact analysis and damage assessment using datasets from past disaster events occurred in Uganda.

METHODOLOGY

This is a full-time, face-to-face course with lectures and GIS lab exercises using GIS datasets and real case scenarios (60% lab exercises, 40% lectures and discussions). This course is divided into 5 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 course is designed in a way to have a balanced approach between theoretical and practical teaching methods consisting in PowerPoint presentations, live demos, videos, interactive sessions and GIS lab exercises. A dedicated learning management platform will be set it up by UNOSAT to maximize the learning experience of participants and to provide all required technical backstopping during and after the training to complete the final group and individual GIS assignment.

TARGETED AUDIENCE

Expected target audience for this course are selected participants from Line Ministries with (preferably) a professional experience in the following fields: Disaster Risk Management, Disaster Risk Reduction and Humanitarian Response. It could be advantageous for participants to have a basic knowledge of GIS software and applications.

Participants are highly recommended to attend a 4 hours online course "Getting Started with GIS" Offered by ESRI at: http://training.esri.com/gateway/index.cfm?fa=catalog.webCourseDetail&courseid=2500 before this training.

ADDITIONAL INFORMATION

Participants will be given a UN certificate from UNITAR on successful completion of the final assignment to be submitted within 2 weeks after the end of the training course.

Introduction to Geospatial Information Technology Applications, Flood Forecasting and Early Warning Systems in West Africa

Satellite Analysis and Applied Research

Deadline: Closed

Type:	Course
Location:	Web Based
Date:	20 Apr 2020 to 8 May 2020
Duration of event:	3 Weeks
Programme Area:	Satellite Imagery and Analysis
Specific Target Audience:	No
Website:	https://unitar.org/sustainable-development-goals/satellite-analysis-and-applied-...
Price:	No Fee
Event Focal Point Email:	sumeera.kamil@unitar.org
Event Focal Point Contact Number:	

BACKGROUND

Operational Satellite Applications Programme (UNOSAT) of the United Nations Institute for training and Research (UNITAR), WASCAL, HKV, WRI & FUTA developed the e-learning courses for the ECOWAS member states in the context of the Building Disaster resilience in Sub Saharan Africa program, an initiative of the ACP Group of States, financed by the European Union and implemented by the World Bank.

The aim of these e-courses is to introduce the basic concepts of flood forecasting practices and Early Warning Systems in ECOWAS region. Participants will go through selected case studies of operational Early

Warning Systems services and Geospatial Information Technology applications for Disaster Risk Reduction relevant to support operational decision making for enhanced flood management in ECOWAS region.

The course is designed to accommodate participants from a variety of backgrounds and early career technical staff from governmental institutions of ECOWAS member states working in disaster risk management sector and hydro-meteorological services. Registered participants should have an academic background and/or professional knowledge of hydromet numerical applications and basic knowledge in GIS and Remote Sensing Technology. The participation of women in this course is particularly encouraged.

CONTENT AND STRUCTURE

The e-learning course is structured into 3 modules:

Module 1: Disaster Risk Reduction and National/Regional policy frameworks in ECOWAS region (15 April – 22 April 2020)
• Session 1: Introduction to Disaster Risk Reduction
• Session 2: Introduction to DRR Polices, Practice, Research and Capacity Building in West Africa
• Session 3: Challenges in Disaster Risk Reduction Policies at Regional and National Levels
• Session 4: Trend in Transboundary Flood Incidences and Implications for National and Regional Policies

Module 2: Use of Geospatial Information Technology for Disaster Risk Reduction (22 April – 29 April 2020)
• Session 1: Introduction to Geospatial Information Tools for Disaster Risk Reduction
• Session 2: Flood Risk Mapping and Assessment using Geospatial Information Technology

Module 3: Hydrological Modelling Development of Flood Forecast and Early Warning (29 April – 6 May 2020)
• Session 1: Introduction to Flood Forecasting and Early Warning
• Session 2: FFEW Model Input Requirement and Data
• Session 3: Hydrological Modelling and Flood Forecasting
• Session 4: Early Warning Generation and Dissemination

METHODOLOGY

The language of the course is English and French. The course extends over a period of three weeks. The approximate estimated overall learning time for this e-learning course is 20 hours, whereas at least 6 hours per week should be spent on this course. It will be delivered via UNITAR's e-Learning platform, which allows the participant to establish a self-paced study program supported by various types of multimedia, required and recommended readings, discussion forums, assessment quizzes, and other useful study materials. Although the study program is self-paced, progress to subsequent modules is subject to participants' participation on previous modules. Finally, there will be a personal evaluation to measure the understanding of the topics within each module.

TARGETED AUDIENCE

Training is for all officials coming from ECOWAS member states

ADDITIONAL INFORMATION

Upon successful completion of the course, participants will receive a UNITAR certificate.

Introduction to Geospatial Information Technology Applications, Flood Forecasting and Early Warning Systems in West Africa

Satellite Analysis and Applied Research

Deadline: Closed

Type:	Course
Location:	Web Based
Date:	11 May 2020 to 30 Jun 2020
Duration of event:	2 Months
Programme Area:	Satellite Imagery and Analysis
Specific Target Audience:	No
Website:	https://unitar.org/sustainable-development-goals/satellite-analysis-and-applied-...
Price:	No Fee
Event Focal Point Email:	sumeera.kamil@unitar.org
Event Focal Point Contact Number:	

BACKGROUND

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CONTENT AND STRUCTURE

The e-learning course is structured into 3 modules:

Module 1: Disaster Risk Reduction and National/Regional policy frameworks in ECOWAS region

- Session 1: Introduction to Disaster Risk Reduction
- Session 2: Introduction to DRR Polices, Practice, Research and Capacity Building in West Africa
- Session 3: Challenges in Disaster Risk Reduction Policies at Regional and National Levels
- Session 4: Trend in Transboundary Flood Incidences and Implications for National and Regional Policies

Module 2: Use of Geospatial Information Technology for Disaster Risk Reduction
- Session 1: Introduction to Geospatial Information Tools for Disaster Risk Reduction
- Session 2: Flood Risk Mapping and Assessment using Geospatial Information Technology

Module 3: Hydrological Modelling Development of Flood Forecast and Early Warning
- Session 1: Introduction to Flood Forecasting and Early Warning
- Session 2: FFEW Model Input Requirement and Data
- Session 3: Hydrological Modelling and Flood Forecasting
- Session 4: Early Warning Generation and Dissemination

METHODOLOGY

The language of the course is English and French. The course would be made available to an audience as a self-paced course in duration of almost two months. The course would not follow a set schedule so participants can take modules at any time. Course materials will be made available for participants as soon as the course begins so they can complete assignments and exams at their own pace.

TARGETED AUDIENCE

Training is for all officials coming from ECOWAS member states.

ADDITIONAL INFORMATION

Upon successful completion of the course, participants will receive a UNITAR certificate.

Source URL