Unitar Online Catalogue

Introduction to Earth Observation (EO) and Geospatial Information Technology (GIT) Applications for Climate resilience and Disaster Risk Reduction (Gambia)

卫星分析和应用研究

种类 ：	Course
位置 ：	Banjul, Gambia (Republic of The)
日期 ：	26 10月 2020 to 30 10月 2020
期限 ：	5 Days
项目领域 ：	Satellite Imagery and Analysis
网址 ：	https://www.unitar.org/maps
价格 ：	US$0.00
活动协调人 email:	adam.ali@unitar.org
合伙 ：	The UN Technology Bank for Least Developed Countries

背景信息

The Gambia’s small economy relies primarily on tourism, rain-dependent agriculture, and remittances[1]. With three-quarters of the country’s population depending on its agriculture and livelihoods, the government has invested over recent years on the primary sector that provides 20.4% of the Gross Domestic

Product[2]. Geographically bounded by Senegal and 60km North Atlantic Ocean front, it has a Sudano-Sahelian climate characterised by a short rainy season[3] that when combined to the rising temperatures and variable rainfall, increases the country's vulnerability to climate-related hazards such as floods, heat waves and droughts. This may not only threaten the country's management of natural resources but also its rising economy.

Drought and flood are the most prevalent natural hazards. Drought affecting the highest recorded number of people in the country, with a severe drought event in 2011/2012 that left over 520,000 affected people. This event also known as the Sahel crisis affected 19 districts, which, in turn, led to severe food insecurity and further worsened by increasing unpredictable weather patterns and land degradation that threatened livelihoods of vulnerable populations. In 2012, just right after the Sahel crisis, heavy rainfall was experienced resulting in heavy floods that destroyed agricultural assets, livestock, facilities, and infrastructures. These events recorded over 40,000 affected people, with 70% of them having also been affected by drought in the previous year[4].

Given the potential severity of future climate change impacts in The Gambia, there is an imperative demand to assess the country's vulnerability, exposure, and coping mechanisms. Geospatial Information Technology (GIT), 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.

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UNITAR-UNOSAT and UN Technology Bank are offering a 1-week introductory technical training course in the use of Geo-Spatial Information Technology to

support operational planning and decision making for Disaster Risk Reduction and Climate Resilience.

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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 and Climate-related hazards applications
- Explain the advantages and limitations of using geospatial information in DRR and Climate Resilience applications
- Undertake the process to create desktop thematic maps to support operational planning and decision making for improved DRR and Climate Resilience

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The course will provide selected participants with a theoretical understanding of basic principles of GIS and Remote Sensing (RS), how to search relevant open-source datasets and basic skills for spatial analysis. Participants will also be challenged to solve DRR problems by developing/applying geospatial methodologies.

The course includes lectures and GIS lab exercises using GIS datasets and real case scenarios (60% lab exercises, 40% lectures and discussions).

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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.

Final assignment

By the end of the 1-week training course, participants will be assigned a GIS mini-project to be completed within 2 weeks after the end of the course. This individual or collective GIS mini-project will allow participants to practice acquires technical skills and to develop GIS applications relevant to their professional work. Participants will be encouraged to use their own datasets (if available at their home institutions) for the assigned mini-project UNOSAT experts will also provide training participants with required technical backstopping and assistance throughout the 2 weeks after the submission of the final assignment.

As soon as training participants will be selected, a training needs assessment (online survey) may be carried out by the UNOSAT team to better define training needs amongst selected participants. These results will help to tailor and develop training content material according to identified needs.

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The course is designed to accommodate participants from different line ministries involved in DRR/DRM activities with basic or no previous GIS experience. We strongly recommend gender-balanced participation in this training.

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Class Size:

The number of participants is limited to 15-20 (max.) to ensure quality support provided by UNOSAT’s instructors and keep social distances.

UNITAR Certificate:

Students will be given a UN certificate from UNITAR on successful completion of the course.