![UNITAR - United Nations Institute for Training and Research]

Unitar Online Catalogue

Technical Course, Operational Flood Forecasting System (Guyana)

United Nations Satellite Centre UNOSAT

Type:	Course
Location:	Web Based
Date:	18 Jan 2021 to 2 Feb 2021
Duration of event:	12 Days
Programme Area:	Environment, Local Development, Satellite Imagery and Analysis
Specific Target Audience:	No
Website:	http://www.unitar.org/unosat
Price:	No Fee
Event Focal Point Email:	adam.ali@unitar.org
Partnership:	UNDP Guyana, CIMA Research Foundation

BACKGROUND

In the period 2018-2020, UNITAR-UNOSAT in collaboration with CIMA Foundation, under the "Strengthening Women's Disaster Management Capacities in Guyana and Dominica" project is implementing nation-wide forecasting and early warning system for extreme flood event (GFEWS). Along with the technical set-up of the flood-forecasting platform, capacity development activities will be also implemented to enhance technical skills and knowledge about flood risk of the key stakeholders.

Due to travel restrictions during the period of the pandemic in 2020, the training will be delivered remotely.

EVENT OBJECTIVES

The technical course focuses on the operational use of the hydrologic/hydraulic models and flood forecasting chain implemented at HYDROMET's office in Guyana.

LEARNING OBJECTIVES

At the end of the Technical Course, participants should be able to:

- Demonstrate an understanding of basic concepts and terminology related to operational hydrology for

Early Warning,
- Prepare and analyse timeseries and geospatial data needed for hydrological modelling,
- Set configurations, perform a hydrological simulation and interpret results on a case study example,
- Set configurations, perform a hydraulic simulation and interpret results on a case study example,
- Access the Dewetra CIMH platform and interpret flood forecasts provided by the operational GFEWS flood forecasting chain.

CONTENT AND STRUCTURE

The course will provide Hydromet technical officers with the knowledge and skills to use, interpret and maintain the operational flood forecasting chain (FloodPROOFS) and related models (Continuum, Hydra-2D) implemented within the GFEWS. Concepts and terminology related to operational hydrology, early warning and modelling procedures will be shared during the training. Through hands-on sessions, participants will learn how to visualise and interpret Guyana NFEWS results. Participants will also enhance their capacities using hydrological and hydraulics model. Exercises will be based mainly on the Continuum hydrological and Hydra-2D hydraulic models (open-source), implemented in the Guyana NFEWS. An introduction to GIS software for hydrological analyses will be also given. The course is organised in 6 modules (each one with a live webinar component and a self-paced one) with specific learning outcomes.

METHODOLOGY

To provide participants with flexibility in terms of attendance, the online course will be delivered through a period of 3 weeks. During this period participants will have the opportunity to take 6 modules together with an initial and a final assessment.

The course will be conducted using a blended learning model, mixing webinar session with asynchronous learning and a dedicated platform. Each module will require 2 days to be completed, with the following structure:

Day 1 morning (Guyana time), 2 hours live webinar session
Day 1 afternoon and entire Day 2, self-paced classes, exercises and self-study

Live webinar sessions will last 2 hours, from 9.30 to 11.30 AM Guyana time, and will be dedicated to:

a theorical introduction to Module contents,
an overview on practical exercises,
a discussion on precedent Module results and questions.

Therefore, participants will be requested to attend, every two days, an opening module webinar session while the rest of the module will be self-paced. Webinar sessions will be recorded to be accessible by participants. The content material will be available online for the participant to access when best suits their schedule. Moreover, the participants will be able to download all needed material and presentations. Furthermore, a remote assistance through email will be provided by CIMA during self-paced sessions.

The entire course together with the final assessment should be completed within this block of three weeks. The estimated total workload including online material and self-paced practice would be approximately 24 hours.

For each module deliverables and the estimated workload are defined in the table below. Note, the stated workload does not include time needed for additional material and supplementary exercises (to be done on a voluntary base). Supplementary material and exercise will require around 4 additional hours.

TARGETED AUDIENCE

The course is designed for technical officers from Hydromet who are going to work closely with operational flood

forecasting platform and issue the early warnings for extreme flood events. Previous knowledge of hydrology and hydraulics concepts is required.

ADDITIONAL INFORMATION

Exercises will be based on the CONTINUUM model (CIMA), HYDRA-2D model (CIMA), GRASS-GIS and Q-GIS. A virtual machine with required open-source software will be provided by CIMA to all participants, through the e-learning platform and a dedicated USB drive.

[Source URL](#)