



Gravitazz Institute

For disaster reduction and emergency management

Training Outline:

Meteorological and Hydrological Forecasting for Informed Decision-Making

We often know in advance what the meteorological and hydrological forecast say. However, what does this often coded information mean for us as lay practitioners in Disaster preparedness and response? When we get information on rainfall, it should be able to tell us also how the amount of rainfall can affect our crops, our safety and other livelihoods. It will discuss how climate and hydrology information services have been integrated into decision-making at local, national and regional scales and in a range of different sectors, including agriculture, health, forestry, fisheries, transport, tourism, water resources management and energy in contribution to disaster risk reduction. The objective of this module is to enable meteorologists and hydrologists to translate very technical knowledge into information that can be used for DRR practitioners for preparedness and response purposes.

Target Audience: This training is meant for practitioners, decision and policy makers working in disaster risk management, climate change adaptation specifically in the hydrology-meteorology field. This includes individuals working with government institutions, NGOs the UN, intergovernmental bodies and the private sector. Students and young professionals who would like to increase their knowledge in the field are also welcome.

Duration: 3 days

Language: English

PLEASE NOTE:

This course can be customized for your institution upon request.

About this Course

This course will focus on contributions of the hydrometeorological science community to reducing disaster losses through the provision of climate and hydrological services. In this module, the importance of climate and hydrological services as part of the climate adaptation agenda is recognized. The course will discuss how scientific advances have motivated a shift towards the provision of user oriented hydrometeorological services in Africa. This course will articulate how to make use of meteorological, hydrological and climate services in risk reduction, early warning, and early action and to inform decisions, improve prevention, preparedness, response and recovery. It will discuss how climate and hydrology information services have been integrated into decision-making at local, national and regional scales and in a range of different sectors, including agriculture, health, forestry, fisheries, transport, tourism, water resources management and energy in contribution to disaster reduction. The course will also discuss the essential partnership between the climate and hydrological services and other technical services and sectoral implementing partners involved in early warning systems such as the ocean and, health services as well as space agencies.

Expected Outcomes

The objective of this module is to strengthen the understanding of available climate and hydrology information, sources, frequency of production, and application of science-based climate prediction and services in order to provide participants with a unique opportunity to reduce vulnerabilities to extreme weather and climate events through integrated climate and hydrology information services.

Proposed Content

NOTE: *This content is subject to change and can be customized for your institution upon request.*

Session 1: Introduction

- Socio-economic impact of hydrometeorological hazards (global weather events and their impacts, Africa regional weather events and their impacts)
- Why hydrometeorological information services are important in Africa.
- The link between hydrometeorological information services with ocean and health services as well as space agencies.

Session 2: Hydromet Forecasting

- What is hydrometeorological forecasting?
- Climate and hydrological information services
- The Role of National Meteorological and Hydrological Services (NMHSS) in Forecasting and Early Warning
 - Weather, climate and hydrological services (short, medium and extended ranges)
 - Sources of hydrometeorological information
 - Climate and hydrologic data and information use as the background for weather prediction: long range or seasonal prediction and climate change modeling;

Session 3

- Hydrometeorological and climate services for disaster risk management and planning

- World Meteorological Services and its role in disaster risk reduction (DRR)
- Use of climate information for decision making in disaster risk reduction
 - Continuum and time frames for decision making (services, decisions and decision making) for emergency preparedness, sectoral planning and disaster risk reduction
- Using Seasonal Climate Forecasts to Guide Disaster Management
 - Use of historical data and forward looking modeling and forecasting about environmental conditions;
 - Use of regional climate outlook forum for DRR planning in key sectors (health, agriculture, tourism, energy etc.)
 - Observing, detecting and developing hazard forecasts and warnings;
 - Assessing the potential risks and integrating risk information in the warning messages
 - Emergency preparedness and response to warnings
 - Coordination
 - Comprehensive end-to-end service delivery

Session 4: Integrated climate risk management

- Concept of climate risk and climate risk assessment
- Concept of integrated risk management (the multi-hazard approach)
- Application on climate risk assessment in development (land zoning, infrastructure development, water resources development and agricultural planning)

Session 5

- Bridging the gap between climate scientists and disaster risk reduction experts.
 - Current challenges in access, interpretation and use of hydrometeorological information;
- Good practices in use of hydrometeorological information services
 - ensuring political commitment and dedicated investments;
 - integration into key sector plans and budgets;
 - legislation, policies plans and strategies that define roles and responsibilities of various authorities and agencies;
 - multi-hazard early warning systems and knowledge products and guidelines
- How to factor uncertainty into adaptation decision-making
 - Adaptive Management
 - Scenario Planning
 - Robust or Resilient Strategies

Session 6: Disaster risk financing and risk transfer

- Risk Climate services as a pre-requisite of disaster risk financing and financial risk transfer e.g. weather-indexed insurance.

Session 7: Communication and dissemination mechanisms

- Expanding the coverage of forecasting and warning information (collective responsibility)
- mobile phones
- media (TV, newspapers, radio)
- public display screens
- Radio internet (RANET)

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- Websites
- Loudspeakers, particularly in rural areas
- Local traditional systems (drums, horns, gatherings, etc.)
- Setting up rural meteorological information service platforms in growth points and townships?

Session 8: Practical Sessions/Site visit

Training fee

The **course fee of \$800 per participant** covers the course tuition, training materials, two break refreshments, lunch, and study visits. A **discount of \$150** will be applied should an organization decide to cover venue and catering costs for the 3 days of the training.

All participants will additionally cater for their travel expenses, accommodation, visa application, insurance, and other personal expenses. Accommodation and shuttle services can be arranged upon request. Gravitazz will also provide invitation letters for the trainings should it be necessary.

Payment Information

Payment should be transferred to Gravitazz Institute bank account (See details below) 15 days before commencement of training. Please send proof of payment to info@gravitazzcontinental.com

Account Holder: GRAVITAZZ CONSULTING PTY LTD

Bank: FIRST NATIONAL BANK (FNB)

Account Number: 62598532862

Branch Name: GREENSTONE

Branch Code: 201510

* **Swift Code** (for international payments): FIRZAJJ