



Water and Climate Education Program (WACEP): Short Courses in Climate Risk Management and Water Resources Management

WHY STUDY CLIMATE AND WATER?

Water resources systems provide many services and, if managed correctly, they can contribute significantly to social well-being and economic growth. Today, however, sectoral practitioners and decision makers, such as water resource managers, urban planners, and disaster risk reduction specialists, are faced with the impacts of climate variability and, increasingly, climate change. These conditions often result in extreme or unexpected hydroclimatic events, such as drought, flood and storm surges, which can adversely affect or completely interrupt existing water systems. Severe social, economic, and ecological impacts may result when societies are unable to predict, adapt to, or respond to these conditions.

These concepts are especially important in the Caribbean, as most island states in the region possess limited water resources, relying on limited sources to meet domestic, tourism, agricultural, and industrial needs. Against a landscape that includes population pressure, urbanization, economic development, and a dramatic growth in tourism, pressures on water resources have increased significantly. In this context, Caribbean states are increasingly vulnerable to climatic variability; slight variations in annual precipitation have large impacts on the availability of water resources. To the extent that it will increase variability, climate change stands to exacerbate current challenges. Identifying effective strategies to manage climate- and water-related risk will thus be an important part of maintaining and achieving development gains within the region.

COURSE RATIONALE

The Water and Climate Education Program (WACEP) consists of four courses meant to provide participants with the knowledge and concepts necessary to manage water resources and risk related to climate change and variability. In doing so, the courses will improve local and regional capacity to manage climate-related risk in the water and associated sectors, and will provide participants with the technical expertise to mitigate existing water resource problems and develop sustainable water resource management programs.

WHO IS THIS PROGRAMME FOR?

This program is aimed at professionals (i.e., meteorologists, water managers, coastal managers, environmental planners, policymakers, etc.) and upper-level students - anyone who wishes to learn more about climate change and variability, and its role in affecting water resources management. The program is designed to give participants an integrated summary of both the climate system and the hydrologic cycle, with a focus on their interlocked relationship and importance in society. The programme is designed to contribute to continued professional development.

PROGRAMME OBJECTIVES

The primary objectives of this programme are to:

- build a basic understanding of climate change and variability
- introduce the hydrologic cycle and the related risks and challenges presented by climate variability and change
- introduce climatic and hydrologic prediction and uncertainty
- present the core principles of water sustainability explore the application of climate information to inform water resources management and planning
- build an understanding of the general issues related to water policy

The programme seeks to impart knowledge about climate change and variability, the subsequent impact on the water system, and the effects of that impact on society.



PROGRAMME STRUCTURE & CONTENT

- Course 1: Introduction to Water Sustainability and Climate
- Course 2: Climate Information and Predictions from Seasons to Decades
- Course 3: Climate Information for Improved Water Management
- Course 4: Water Planning and Policy for Climate Variability and Change

PROGRAMME REGULATIONS

The proposed allocation of course marks are as follows:

- participation in learning forums 20%
- exercises and quizzes 30%
- end of course assessment 50%

PROGRAMME DELIVERY AND SUPPORT

These courses will not confer any academic credit, but are developed to be the equivalent of a 2-credit UWI course. Each course will include a lecture series and an online supplement, which will consist of text and interactive material. A certificate will be issued upon successful completion of each course. A programme certificate will also be issued to individuals who successfully complete all four courses.

The delivery of the courses has been adapted to accommodate the schedules of working professionals by providing a remote live delivery of lectures and discussions, supplemented by self-guided online materials such as exercises and readings to be completed within a flexible timeframe. Professionals who are living in Barbados are encouraged to attend the lectures face to face on the UWI campus if possible.

WHEN WILL IT START?

- Course 1: 13-24 January 2014
- Course 2: 10-21 February 2014
- Course 3: June/July 2014
- Course 4: October 2014

ENTRY REQUIREMENTS

Although there are no prerequisites for this course, it is assumed that potential participants will have some background knowledge of physical science and mathematics, including statistics. It is recommended, though not required, that the four courses be taken sequentially. All participants must have some background (academic and/or professional) in either climate science and water management.

HOW TO APPLY

The Water and Climate Education Program (WACEP), presented jointly by Columbia University and UWI-CERMES, will invite and accept applications for the programme. Applicants are required to complete the registration form and must have an email account. Completed registration forms and inquiries about the courses should be emailed to wacep@iri.columbia.edu.

HOW MUCH WILL THIS PROGRAMME COST?

This course is free of charge.



WHY STUDY WITH COLUMBIA UNIVERSITY-UWI?

These courses represent the collaborative effort of the Caribbean the University of the West Indies' Centre for Resource Management and Environmental Studies (CERMES), the Caribbean Institute for Meteorology and Hydrology (CIMH), the University of Massachusetts, Amherst, and three institutes of Columbia University: the International Research Institute for Climate and Society (IRI), Columbia's Water Center (CWC), and the Center for New Media Teaching and Learning (CCNMTL). Together, this interdisciplinary consortium offers participants the opportunity to approach water resources management from a climate-smart perspective; water policy and risk management are not explored exclusively, but rather are considered alongside adaptation to climate variability and change.

The short courses are part the project "Building Capacity to Manage Water Resources and Climate Risk in the Caribbean," funded by the Department of State (DOS) through the United States Agency for International Development (USAID) and Higher Education for Development (HED) and The Energy and Climate Partnership of the Americas (ECPA).

