



The Abdus Salam
International Centre for Theoretical Physics



Workshop and Conference on Biogeochemical Impacts of Climate and Land-Use Changes on Marine Ecosystems



2 - 10 November 2009
Miramare - Trieste, Italy

The Abdus Salam International Centre for Theoretical Physics (ICTP) is organizing a Workshop and Conference on "Biogeochemical Impacts of Climate and Land-Use Changes on Marine Ecosystems" to be held at ICTP, Trieste, Italy, from 2 to 10 November 2009.

Greenhouse gases emission from human activities are projected to cause global climate change during the 21st century, creating novel challenges for coastal and marine ecosystems. This workshop, followed by a two-day conference, is centered on current understanding of the interplay of physical and chemical factors in controlling biological production in coastal tropical waters and the impacts of climate change.

In this activity we will address the following topics:

1. Climate change is likely to alter patterns of wind and water circulation in the ocean environment, modifying patterns of upwelling and downwelling and therefore the availability of nutrients. Ocean temperature increase will likely influence both the nature and rates of biological activity and alter ecological processes such as productivity and species interactions. Evidence of this can be already found in the marine ecosystems in the tropical and equatorial West Pacific.
2. Changes in precipitation will modify the water balance of coastal ecosystems. Increases or decreases in precipitation and runoff may respectively increase the risk of coastal flooding or drought. The Bay of Bengal provides a particularly dramatic example of the potential impact of the first process, while the Mississippi river has been strongly affected by the second in the last two decades.
3. Coastal ecosystems such as wetlands, estuaries, and coral reefs are particularly vulnerable. These ecosystems are among the most biologically diverse and productive environments in the world and are located at the interface between the terrestrial and marine environments. They are therefore exposed to a wide variety of human stressors. Many tropical systems are likely to undergo alteration because of their proximity to nations with large and growing populations. Specific examples include the Mississippi delta, the South China Sea, and the Amazon and Congo basins.

The workshop will provide graduate and postgraduate students with current knowledge of the mechanisms by which climate and land-use changes may modify coastal marine ecosystems.

The workshop schedule will consist of three lectures, 1.5 hours each, two in the morning and one in the early afternoon. During the workshop (first week) in the afternoons participants will also be trained to use coupled ocean-biological models for coastal applications (specifically ROMS with its 4 different choices of ecosystem models of different complexity). Students will be encouraged to present their work in 15 minutes presentations to be held in the afternoon.

PARTICIPATION

Scientists and students from all countries that are members of the United Nations, UNESCO or IAEA may attend the Workshop. As it will be conducted in English, participants should have an adequate working knowledge of this language. Although the main purpose of the Centre is to help research workers from developing countries, through a programme of training activities within a framework of international cooperation, a limited number of students and post-doctoral scientists from developed countries are also welcome to attend. As a rule, travel and subsistence expenses of the participants should be borne by the home institution. Every effort should be made by candidates to secure support for their fare (or at least half-fare). However, limited funds are available for some participants, who are nationals of, and working in, a developing country. Such support is available only for those who attend the entire activity. There is no registration fee.

HOW TO APPLY

The application form can be accessed at the activity website: <http://agenda.ictp.it/smr.php?2066>
Once in the website, comprehensive instructions will guide you step-by-step, on how to fill out and submit the application form.

Secretariat:

Telephone: +39-040-2240-9932 Fax: +39-040-2240-7932 E-mail: smr2066@ictp.it
Workshop's web page: <http://agenda.ictp.it/smr.php?2066> ICTP Home Page: <http://www.ictp.it/>



Directors:

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Local Organizer:

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Invited Speakers:

D. Capone

USC, U.S.A.

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Georgia Tech, U.S.A.

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M. Voss

IOW, DE

DEADLINE

for requesting participation:

31 August 2009