



Summer School

23-28 July 2012 in Ankara, Turkey

ClimECO₃

A View Towards Integrated Earth System Models Human-nature Interactions in the Marine World

IMBER focuses on the interactions and linkages between biogeochemical cycles and food webs with a view towards improving predictive capability for marine ecosystems. It is now apparent that the human dimension is an important component of marine ecosystems. Inclusion of the human aspects into marine ecosystem research is only beginning and considerable development is still required to allow meaningful interfacing of food web, biogeochemical and socio-economic systems. The inclusion of human impacts in Earth System models will allow the development of more accurate scenarios under future climate change.

Participants

This is an interdisciplinary summer school. We welcome applications from both natural and social scientists working on topics related to oceans and climate change who are interested in the challenge of crossing the barriers between disciplines.

Programme

The programme will focus on the interface between marine ecosystem biogeochemistry, physical drivers, food webs and socio-economic systems; with lectures on modelling all of these system processes, as well as model coupling and Earth System models. To help understanding there will be daily "hands-on" sessions with example models that can be usefully explored in the time available.

Conveners

Jacopo Baggio (UEA, UK)
Laurent Bopp (LSCE, France)
Elizabeth Fulton (CSIRO, Australia)
Hezi Gildor (The Hebrew University, Israel)
Eileen Hofmann (Old Dominion University, USA)
Markus Jochum (NCAR, USA)
Raghu Murtugudde (University of Maryland, USA)
Baris Salihoglu (Middle East Technical University, Turkey)
Michael St John (DTU, Denmark)
Rashid Sumaila (University of British Columbia, Canada)
Ingrid Van Putten (CSIRO, Australia)

Registration fees

Students €250, others €350
Free registration for EURO-BASIN early career scientists
Limited funding is available



Overview of Earth System and socio-economic models

Integrated Earth System models
Physical-biological-chemical interactions in the Earth System
Earth System models and feedbacks
Global/regional socio-economic models
Coupling the realms



Modelling low trophic level processes and human interactions

Earth, life and sustainability
The microbial web and plankton
Benthic invertebrates and human impacts
Human interactions with biogeochemical cycles



Modelling high trophic level processes and human interactions

Modelling vertebrates - population dynamics vs Individual-Based Models
Simple fisheries models
Overview of Ecopath and Ecosim models



Putting people into Earth System models

Human sectors of interest for Earth System models
Representing fisheries using predictive fleet dynamics models
The basics of economics
Policy analysis using tools like Ecosim
Ecospace models - making a spatial model
Ecospace models - exploring spatial management and fleet dynamics



Modelling approaches for marine populations and social networks

Representing synthetic populations and social networks
Overview of impact models and agent-based approaches
Hybrid models and model coupling

Apply before 1st March 2012

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PICES