

## **CLIVAR/IMBER Task Force**

### Background

The goal of the IGBP-sponsored oceans project Integrated Marine Biogeochemistry and Ecosystem Research (IMBER) is to investigate the sensitivity of marine biogeochemical cycles and ecosystems to global change, on time scales ranging from years to decades. In addition they wish to provide a comprehensive understanding of, and accurate predictive capacity for, ocean responses to accelerating global change and the consequent effects on the Earth System and human society. To achieve this it is critical to understand processes generating climate variability both in the atmosphere and the oceans. Important issues include the air-sea fluxes and the exchanges of heat, momentum and CO<sub>2</sub>, also large-scale atmospheric forcing and the coherent variability represented by atmospheric indices such as the southern Oscillation Index (SOI), the Pacific Decadal Oscillation (PDO), or the North Atlantic Oscillation (NAO), or oceanic indices such as the Atlantic Multidecadal Oscillation (AMO). Predictions of future changes in the atmospheric forcing and the ocean's response, as well as the uncertainty in these predictions, are required to test hypothesis concerning impact on the environment. It is important for the impacts community to be able to communicate to the climate community what their requirements are, both in terms of the past climate and the future. Equally important is for the climate community to understand what is required to determine potential impacts, to explain what and may happen and why, and also what cannot be achieved. One example of such cooperation is the involvement of the CLIVAR Indian Ocean Panel in IMBER's regional program, Sustained Indian Ocean Biogeochemistry and Ecosystem Research (SIBER). Another is the interaction between scientists on both sides in the development of the Southern Ocean Observing System (SOOS) plan.

### Terms of Reference

The aim of the CLIVAR/IMBER Task Force is to develop two-way communicate and collaboration between the climate community (CLIVAR) and the community studying the impacts of climate change (IMBER). To achieve this goal the Task Force will:

- a. Put together a list of meetings and workshop where joint participation would be useful and circulate it to the CLIVAR SSG and IMBER SSC to encourage members to consider attending;
- b. Plan and organize a joint session between CLIVAR and IMBER
- c. Meet together during the joint Annual meetings to:
  - Discuss an action plan that will include joint meetings, workshops and activities during the coming year or 2
  - Finalize the membership list of the Task Force.

### Membership

The membership should be relative small with equally representation between CLIVAR and IMBER, with potentially 1-2 other participants from outside these communities if interested.

*Potential Members:*

Juergen Alheit (Germany; former chair of GLOBEC's Small Pelagic fish And Climate Change, SPACC)  
Wenju Cai (Australia; CLIVAR Pacific Panel)  
Ken Drinkwater (Norway; IMBER SSC and Ecosystem Studies of Sub-Arctic Seas (ESSAS) and CLIVAR SSG)  
Jean Pierre Gattuso (France; IMBER Carbon Cycling)  
Keith Haines (UK; CLIVAR Global Synthesis and Observations Panel, GSOP)  
Raleigh Hood (USA; IMBER, SIBER)  
Oliver Maury (France; IMBER, Climate Impact on Oceanic Top Predators, CLITOP)  
Eugene Murphy (UK; Integrating Climate and Ecosystem Dynamics, ICED)  
Kevin Speer (USA; CLIVAR Southern Oceans Panel)  
Dongxiao Wang (China; CLIVAR SSG)  
Weidong Yu (China; CLIVAR Pacific Panel)

(Note that at this stage none of the suggested IMBER members have been approached).

### Duration

The duration of the Task Force will be for 3 years (to 2015). At this time the Task Force, in conjunction with the CLIVAR SSG and the IMBER SSC, will assess its effectiveness and need. Based on this assessment the Task Force will recommend whether it should continue or disband.