

CO-CONVENORS' RECOMMENDATIONS AND SUMMARIES

Climate change and other environmental changes

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- Mercedes Bustamante, International Geosphere-Biosphere Programme (IGBP)
- Karen O'Brien, Professor Department of Sociology and Human Geography, University of Oslo, Norway
- Carlos Nobre, National Secretary, Secretariat of Policies and Programs in Research and Development, Ministry of Science, Technology and Innovation, Brazil
- Carolina Vera, Director, Centro de Inv. del Mar y la Atmosfera (CIMA)/UBA/FCEN-CONICET, Argentina
- Luis Valdés, Chief of Section for Ocean Science, Intergovernmental Oceanographic Commission (IOC)
- Roberto Schaeffer, Federal University of Rio de Janeiro, Brazil, Working Group III on Mitigation IPCC
- Diana Liverman, Co-Director, Institute of the Environment, University of Arizona, US

Earth System Science

- Societies are demanding that policymakers take proactive positions towards respecting the **sustainable use and management of natural resources** and mitigate the impacts of global warming. In the next 10 years, social pressure will encourage policymakers to reach agreements regarding limits on carbon emissions and **set up planetary boundaries** for other anthropogenic impacts.
- The global change research community should build the required scientific capacity to design, help develop, and advocate for sustained global observations of the climate system, and to use observation and Earth/climate system models to provide the best science-based climate information for decision makers.
- To ensure relevance and enhance the use of climate information, scientists and decision makers should work together to co-design and co-generate the required information and knowledge. This requires a transdisciplinary approach to challenges and opportunities in Earth/climate system science.
- **Global warming** is a fact confirmed by scientific evidence and it will be, it is being, the central environmental concern of our times. More and new research has to be done to fully understand and evaluate the impacts of climate change in the World's Oceans and to monitor the effects of Ocean warming and acidification.
- There is a lack of data in the southern hemisphere. It is crucial and necessary to obtain **data with a better spatial and temporal resolution** as a step to take the pulse of the oceans at a planetary scale; oceans should be kept under permanent review.

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Mitigation

- Act now, putting a premium on policy strategies that are both robust over many criteria and able to respond to unexpected events
 - Do not close any doors upfront by not investing in a broad range of technological developments.
 - Technology alone will not solve the climate problem. Changing patterns of consumption is key as well.

Adaptation

- Climate adaptation is an imperative and without it many other actions will be undermined.
- It has relevance to all major groups and countries.
- Funding and capacity is inadequate to the challenge.
- Adaptation must be at the core of sustainable development and provide multiple benefits.