



MARITIME FORUM

"Climate Change and related issues in coastal and marine areas: from science to policy" (4.5)

Event date:

20/05/2010 - 14:30 to 18:30

Decisions on how best to adapt to climate change must be based on solid scientific analysis. Research is needed to understand and predict past and future climate change and related issues impacts thus enabling vulnerable communities to cope with them efficiently. This workshop is an opportunity for stakeholders to come together and provide ideas and knowledge about the issue of climate change impacts and related issues and guidelines on the kind of adaptation action that must be taken to increase the resilience of Europe's seas and coasts.

PROGRAMME

Thursday 20, 14:30-18:30

Room: Sala 2 (Laboral)

14:30-16:30 Session 1: Science Results on the impacts of climate change in coastal and marine areas

CHAIR: Nieves Roqueñí, Sustainability and Climate Change Office Director, Government of the Principality of Asturias

Trine Christiansen, European Environment Agency (Signals on climate change on European oceans and coasts)

Iñigo Losada, Director, Environmental Hydraulic Institute, University of Cantabria, Spain (Climate Change Impacts on coastal areas)

Dan Laffoley, Vice-Chair, International Union for Conservation of Nature (IUCN) World Commission on Protected Areas (Climate change a threat for biodiversity)

Carol Turley, Microbial Ecologist, Plymouth Marine Laboratory, United Kingdom (Ocean Acidification: the Other CO₂ Problem)

Katrin Rehdanz, Professor of environmental and resource economics, Kiel Institute for the World Economy, Germany (Ocean Acidification: Potential Socio-economic Impacts)

1. Three key messages

- Research efforts are required to reduce uncertainties concerning climate change and ocean acidification impacts
- Understanding and communicating the impacts of climate change is a priority to inform effective strategies for mitigation and adaptation
- Ocean acidification has implications for policy interventions to control climate change

1. Summary of the interventions from the panel (1-2 pages)

Ms Christiansen offered new findings and data about climate change impacts on the European seas and coasts and the trends have been observed from this data: changes in plankton and fish species distribution, water temperatures increase, pH decrease, sea level rise,... With this alarming observations and trends she points to the challenge for management of marine resources and the urgency for international cooperation.

Mr Losada presented the methodology developed by IH Cantabria for the assessment on the impact of climate change on coastal and low-lying areas. A full range of climate change drivers on coastal systems and the complexity of their potential effects were considered mostly focusing on the natural physical system and the built environment.

Methodologies like this developed by IH Cantabria are necessary to provide information and tools relevant to adaptation in coastal areas, especially for the selection and assessment of current, implemented and planned adaptation initiatives.

Mr Laffoley offered a review of the evidence that exists about the fact that oceans are warming and starting to acidify. This warming will have profound impacts on marine habitats and on species by altering their distribution, growth, and survival. Understanding such impacts and how confident we are about them is a priority to inform effective strategies for mitigating and adapting to such changes. He highlighted the importance of making an appropriate communication of the scientific results to help politicians, policy makers, advisors and stakeholders to understand how marine climate change impacts.

Ms Turley provided a comprehensive review of the effects of CO₂ emissions rise on ocean acidification as an added problem to climate change that has the same causes. She highlighted that oceans will become more acidic and the impact on ocean food webs, ecosystems and biogeochemical cycles and the goods and services they provide could be serious.

Ms Rehdanz presented the socio-economic impacts of ocean acidification because climate change is likely to change the buffer capacity of the ocean to remove anthropogenic CO₂ emissions, for this reason climate change mitigation is becoming more costly. Ocean acidification has implications for policy interventions to control climate change.

Both, Ms Turley and Ms Rehdanz, agreed on the need for further research to refine existing damages and impacts estimates of ocean acidification and whether adaptations could be possible. This research should involve a more integrated research among disciplines on a national and international basis.

16:30-18:30 Session 2: Integrating adaptation to climate change into policies

CHAIR: Eddy Hartog, Head of Unit for Maritime Policy in the Atlantic, Arctic and Outermost Regions, Directorate General Maritime Policy and Fisheries, European Commission

Birgit Snoeren, Policy Officer, Directorate General Environment, European Commission (EU Policy framework for climate change adaptation in marine and coastal areas)

Stefan Aarninkhof, Programme manager, Ecoshape I Building with Nature (Developing coastal areas by

"building with nature")

Olivier Le Pape, Pôle Halieutique Agrocampus Ouest, Centre de Rennes (Increasing resilience of fisheries to climate change)

Cassandra De Young, Fishery Policy Analyst, Fisheries and Aquaculture Economics and Policy Division, Fisheries and Aquaculture Department, FAO (Fisheries in a changing climate)

1. Three key messages

- Climate Change will aggregate pressures and impacts already affecting oceans and seas.
- Climate change concerns need to be mainstreamed into all relevant marine and coastal policies, including fisheries.
- Cross-sectoral approaches are to be applied when tackling climate change issues in the marine and coastal environments. These should be based on ecosystem based approach and adaptive and sustainable long-term management plans.

1. Summary of the interventions from the panel (1-2 pages)

Ms. Snoeren provided a comprehensive review of the EU policies on climate change and marine and coastal issues, making particular emphasis on the general framework for adaptation at EU level set up by the 2009 White Paper on adaptation. Other EU initiatives of relevance for climate change adaptation were also signalled such as the Marine Strategy Framework Directive, the Common Fisheries Policy or Integrated Coastal Zone Management. In this context, the European Commission intends to produce "Guidelines on adaptation to climate change in coastal and marine areas". Such guidelines will be mainly built upon the results of the "Ourcoast" project.

Ms. Snoeren called for a cross-sectoral approach when tackling climate change issues in the marine and coastal environments. These approaches are to be based on multi-level governance systems aiming at hazard prevention, resilience enhancement and increased communication and information.

Mr. Aarninkhof presented the project "Building with Nature". This project aims at providing sustainable and innovative solutions for infrastructures, integrating and using the dynamics of the natural systems. The Dutch coast beach nourishment programme was shown as good example. In this case, Building with Nature, instead of nourishing the beaches every year to avoid erosion, suggests the establishment of a big sand reservoir (Pilot Sand Engine Defland) off the coast. The sand will be distributed along the coast according to natural processes during several years while combining defence, recreation and new natural spaces.

Mr. Le Pape offered several data and insights on how climate change is dramatically affecting fish stocks. Many marine variables, basic for fish species will be influenced by climate change, namely, temperature or primary production. These two elements will affect fish stocks provoking a lack of food supply or changes in recruitments and ultimately fish species distributions.

Mr. Le Pape pointed at sustainable long term management of fish stocks based on an ecosystems approach and adaptive and flexible fishing pressures as main solutions to adapt to the impacts that climate change is produce on fisheries.

Ms. De Young also tackled how climate change has effects and impacts on fisheries. Several actions have been identified as solutions to address these impacts, inter alia: implement ecosystem approaches to both fisheries and aquaculture policies; increase ecological, economic and social resilience; promote technological innovation of the sector; integrate adaptation planning and disasters prevention into the managing programmes; produce and implement codes of conduct for responsible fisheries. Similarly, other actions have been indentified to remove, reduce and avoid greenhouse gas emissions in the fishing sector.

FAO has already produced several studies and strategies on how better tackle climate change in the fishing sector. More info can be found on the FAO website.

1. Discussion: Key questions and messages from the floor, as well as responses given by the panellists.

Workshop participants raised the following issues during the questions and answers session following the main presentations by the speakers:

- What is the difference between the "good ecological status" set up as main target of the Water Framework Directive and the "good environmental status" aimed by the Marine Strategy Framework Directive?

The representative of European Commission-DG Environment explained that, being *sisters*, both Directives were produced within 8 years time lapse and that environmental targets have evolved very quickly widening their scope, including, as it is the case for the MSFD, human activities.

- It was requested the introduction on ocean acidification into the models used to assess the changes of fish distributions.

Panellists indicated that uncertainty remains on how acidification will affect primary production and therefore it can not be introduced yet in the models.

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