

Session G

Comparative study of climate impact on coastal and continental shelf ecosystems in the ICES area: assessment and management

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Whereas the impact of climate variability and change has been intensely studied in single marine systems or on single species/species groups across several systems, a comparison of climatic influences on coastal and continental ecosystems in the Atlantic realm has not been carried out so far. There is empirical evidence that gradual increases in temperature and associated physical factors can be amplified in coastal communities, such that biotic variables may be early indicators of climate change. Some implications for managing coastal resources are that existing fisheries may become unsustainable while new fisheries arise for species with shifting distributions. Biological reference points may need to be revised in response to changes in productivity and carrying capacity; a precautionary approach may be required to cope with rapid and unanticipated changes; and new management approaches may be needed to address the temporal scale at which climate changes occur. As marine ecosystems are not amenable to experimental investigations with respect to climate impact, the comparative method is the best way to enhance our knowledge on the reaction of ecosystems and the populations embedded in them. Contributions are encouraged to address climate-induced changes in a comparative manner with respect to ecosystem structure and function, species distributions, and phenology. Examples of integrated ecosystem assessments are sought. What are the implications for coastal management? How can existing management frameworks be adapted in response to non-stationary ecosystem dynamics?

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