

Climate Impacts on Oceanic Top Predators

3<sup>rd</sup>

# CLIOTOP Symposium

San Sebastian, Spain, 14-18 September 2015

## Future of oceanic animals in a changing ocean

### Objectives

- Evaluate impacts of climate variability and change over seasonal to decadal time scales on pelagic species and dependent socio-economic and management systems.
- Identify risk assessment and evaluation tools that incorporate climate variability in order to improve sustainable resource management (conservation, fisheries, spatial planning, etc.).
- Identify sustainable pathways for coupled socio-ecological oceanic systems.
- Position CLIOTOP-science for the next 10 year phase as part of Future Earth, and build a collaborating community of scientists, managers, and policy-makers.



### Themes

1. Early life history of pelagic species – winners and losers in the future ocean.
2. Implications of potential distribution shifts in oceanic organisms for food security and species conservation.
3. Trophic pathways in open ocean ecosystems - changes in mid-trophic level community composition as a result of changes to physical, chemical and biological components of the marine environment.
4. Integrated modeling to project and explore future patterns, including evaluation of model complexity vs generality, evidence of important processes to include in models, and evaluation of model results.
5. Socio-economic aspects and management strategies – what are the key needs and resulting decisions and actions that should guide oceanic resource management under climate change.
6. Influence and role of biophysical and biogeochemical processes and feedbacks on top predators.
7. Biodiversity, conservation and adaptive management – future strategies for incorporating long term change.
8. Scenarios of large marine organisms and their fisheries in changing marine ecosystems.

**In all themes, submissions that take a comparative approach across taxa, regions, or temporal periods are encouraged.**

The general objective of CLIOTOP is to organise a large-scale worldwide comparative effort aimed at elucidating the key processes involved in the impact of both climate variability (at various scales) and fishing on the structure and function of open ocean pelagic ecosystems and their top predator species. The ultimate objective is the development of a reliable predictive capability for the dynamics of top predator populations and oceanic ecosystems that combines both fishing and climate (i.e. environmental) effects.

### Organizing committee

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### Scientific committee

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<http://www.imber.info/index.php/Science/Regional-Programmes/CLIOTOP>

