CERES

CommBeBiz
Bioeconomy to Business

Scientists fish for answers to climate change

The warming of the seas is already influencing Europe`s fish and shellfish resources

The Challenge

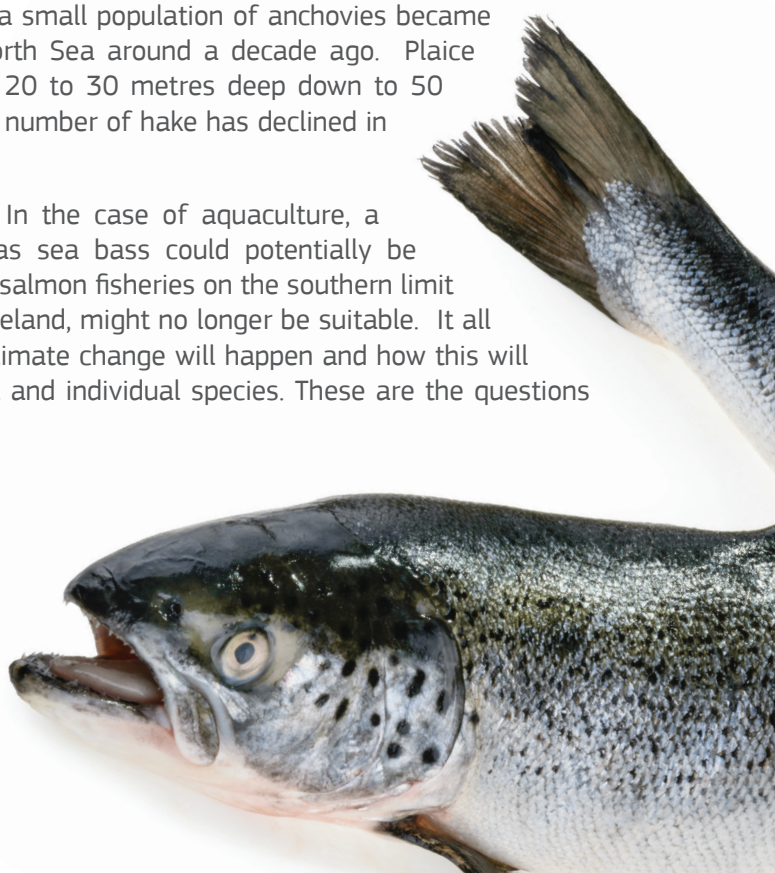
There is a need to know what effect climate change will have on different species. This is essential because fishermen have limits on how much target species they can catch; climate change could reshuffle the deck, taking away some species and bringing in new ones. Policy makers need a set of predictions to set limits or open up new fisheries. Similarly, fish farmers need to know if some species are going to become viable, but also if certain disease might move into their area. A major challenge is that it requires predictions about climate change, the marine environment and species.

CERES

Our story

The ripples of climate change are being felt at sea. Where different fish are found is changing due to warming waters, with some species moving north. Species are turning up in new areas or their numbers waxing or waning. For instance, a small population of anchovies became more plentiful in the North Sea around a decade ago. Plaice have gone from waters 20 to 30 metres deep down to 50 metres. Meanwhile, the number of hake has declined in the Mediterranean.

It is not just fisheries. In the case of aquaculture, a southern species such as sea bass could potentially be farmed further north. Or salmon fisheries on the southern limit of their range, close to Ireland, might no longer be suitable. It all depends on how much climate change will happen and how this will impact conditions at sea and individual species. These are the questions CERES will address.



CERES

The solution

Physical, biological and economical models will predict how future climate will change conditions in marine and inland waters, and thus influence species of fish and shellfish and the industries that rely on them. Close cooperation with industry will ensure advice fits the needs of Europe's fisheries and aquaculture sectors. The results will feed into policy making at an EU level to help set catch allocations and develop fish farm regulations suited to a changing climate.

What's it for?

- *For indicating which species will be the winners and losers of climate change in different places*
- *To predict what climate-driven changes will mean for fish yields for different species*
- *To help answer where important stocks will move to, and which existing or emerging species will be most profitable in future*
- *To show what the likely shifts are in fishing fleets given predicted changes to fish distribution caused by climate change*
- *Early warnings of harmful algal blooms, jellyfish outbreaks and fish diseases*
- *To inform aquaculture about likely changes in suitability of farmed species*
- *Assist with the transboundary management of fish such as mackerel, which cross back and forth between EU and Icelandic and Norwegian waters*

By Anthony King, commbebiz.eu

Contact us

Coordinator: Myron Peck, Hamburg University –UHAM, Center for Earth System Research and Sustainability; Institute of Hydrobiology and Fisheries Science (IHF)
e-mail: *myron.peck@uni-hamburg.de*
Website: *www.ceresproject.eu*

The CERES project has received funding under the HORIZON2020 programme, grant agreement nr.678193.