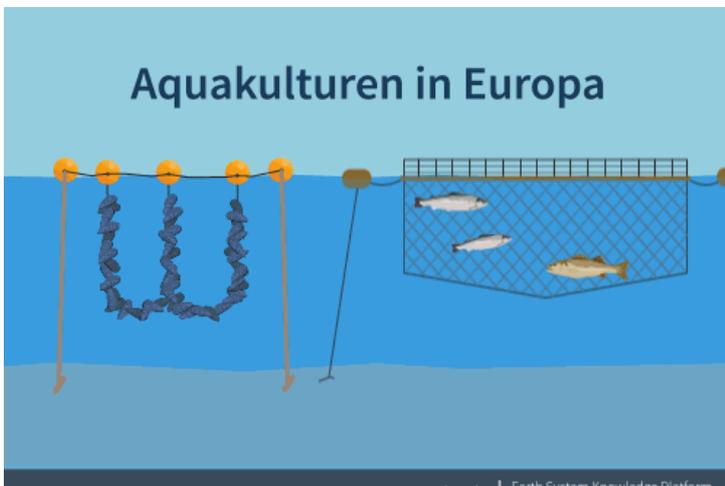


Climate change & biodiversity

Risks and Opportunities for Locale Stakeholders of the North Sea

Anthropogenic activities, like air and water pollution, fisheries, tourism and exploitation of resources (oil, gas, sand etc.) have induced changes in marine ecosystems of expanding dimensions. One apparent global effect induced in particular by climate change is the shift in species range in marine flora and fauna influencing local biodiversity, population structures, food webs and the coexistence of many ecological and economical relevant species.

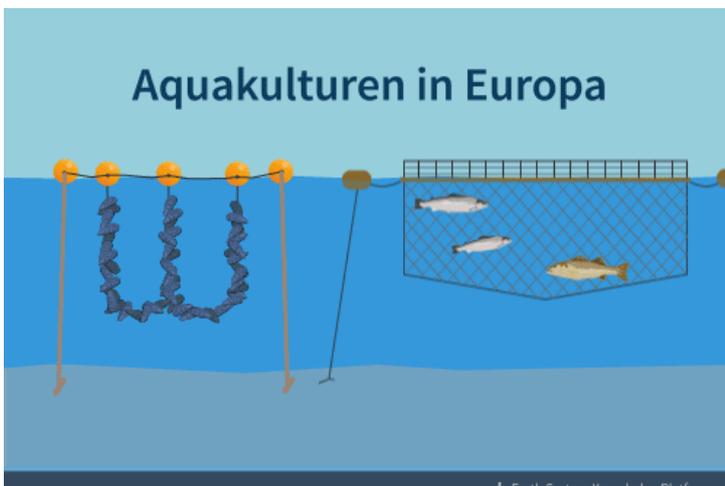
Some marine ecosystems are less affected, while other marine regions are suffering vastly from those changes. Species native to the North Sea (Blue mussel and cod) are migrating to colder and slower warming regions in the higher latitudes, whereas those species are exhibited to increasing ecological pressure through increasing sea temperatures and competition by Lusitanian species (Mediterranean mussel and European sea bass) immigration from lower latitudes at the southern border of their distribution range.



Gewinner und Verlierer Arten unter dem Einfluss des Klimawandels (Photo: Alfred-Wegener-Institut)

Simultaneously our society exploits the North Sea to a growing extent and profits especially in fisheries and tourism industry from the ecosystems services provided by high marine biodiversity.

In two workshops with stakeholders from fishery, aquaculture, fish processing industry, regulators, NGOs and research, we discussed the impacts of climate change on the environment, politics and society. Furthermore we discussed future measures for the adaptation to these changes and about science communication.



Einfluss des Klimawandels auf die Miesmuschel Aquakultur (Photo: Alfred-Wegener-Institut)

Project Fact Sheet

Project name Biodiversity & Climate Change: Impacts on local Stakeholder on the North Sea Coast

Project duration 18 months

Project level national

Stakeholders Research, Fisheries, Supply Chain, Aquaculture, Regulators, NGOs, local government

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Links

ESKP.de Article

[Risiken und Chancen für lokale Akteure in der Nordsee](#)

[Miese Zeiten für die Miesmuschel](#)

Interactive Survey

[Humans and the North Sea under a changing climate](#)

Downloads

[Brochure about Impacts of Climate Change on the North Sea](#)

Science-Gif: Winners and Losers in the Aquaculture Sector

Science-Gif: Impacts of Climate Change on Blue Mussel Aquaculture

One result is that in the future extreme weather events, such as the increasing frequency and intensity of storms and storm surges, will greatly impact fishery, aquaculture and the coastal population. In order to adapt to the changing biodiversity, catch quotas for the fishery need to be quickly adjusted to the availability of relevant species. Furthermore, scientists see the ecosystems' functional diversity threatened. In the future, the communication between research and society needs to be promoted to increase the awareness for the changes. At the same time, social and ecological dimensions need to be integrated in research.

Based on these results, we developed the brochure "People and the North Sea under changing climate". We want to inform interested people, visitors and residents of the North Sea coast, fishermen and many more about climate change and its impacts on the North Sea.