



## Climate Change and Future Marine Ecosystem Services and Biodiversity



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## Our goals

FutureMARES is an EU-funded research project examining the relationships between climate change, marine biodiversity and ecosystem services.

We will develop strategies to work with and enhance nature to help coastal societies and businesses to survive and thrive. These strategies are called nature-based solutions (NBS).

### Our main goals are:

- 1 Understand the relationships between the ecology of marine habitats and the ecosystem services they provide.
- 2 Predict future climate change impacts and determine which marine regions will be most affected.
- 3 Research how human communities living with the sea are affected by the changes in marine ecosystems.
- 4 Investigate how nature-based solutions can help us adapt to climate change, and calculate the economic costs and benefits of implementing them locally.


## The north-east Atlantic

This region represents one of the busiest and most complicated sea shelves on the planet. Threats to the region include invasive species brought from international shipping, overfishing and spatial planning.

FutureMARES examines shellfish and eelgrass restoration; conservation of shellfish, mussels and other benthic communities; and ecosystem-based fisheries & shellfish aquaculture.

### FutureMARES in the north-east Atlantic

- 1 NBS1 - Effective Restoration
- 2 NBS2 - Effective Conservation
- 3 NIH - Nature-inclusive Harvesting

 Socio-economic Climate Risk Assessments

 Planned field work







### Restoring habitat-forming species that can act as 'climate rescuers'

Habitats such as seagrasses, mangroves, and shellfish reefs form natural coastal protection. This helps to protect against increased storminess, sea level rise and flood risks resulting from climate change.



### Conservation strategies that consider how climate change will affect habitat suitability

Conservation strategies are at their most effective when they consider the impacts that climate change will have for flora & fauna habitats.



### Sustainably harvesting seafood from fisheries and aquaculture

Ecosystem management and a multi-species approach can help adapt to shifts in species' productivity, distribution and interactions. For example, growing and catching seafood lower in the food web will be more sustainable in the long term.

## Regional project partners in the North Sea

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