






Let's talk about sea level rise

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 Inspire Area – European Digital Ocean Pavilion

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Abstract

SEACLIM: Downscaling Regional Ocean Climate Predictions for Adaptation and Resilience

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The **SEACLIM project (European SEAs CLIMate impact prediction through regional models)** is a Horizon Europe-funded initiative aiming to deliver high-resolution, decadal-to-multidecadal predictions and projections of the marine environment in support of climate adaptation and coastal resilience. By downscaling the latest global climate simulations through coordinated regional modelling approaches, SEACLIM enhances the fidelity of ocean climate projections for European sea basins, including the NE Atlantic, North Sea, and Arctic Ocean.

SEACLIM will enhance our understanding of sea level changes along much of Europe's coastline by incorporating physical processes absent in global models and offering higher spatial resolution. This will provide more regional-to-local and tailored future projections and valuable insights for informed decision-making in sectors potentially affected by sea level rise, such as ports.

The project integrates physical, biogeochemical, and ecosystem processes into regional ocean models and will produce new ocean climate indicators to assess changes in circulation, sea level, waves, sea ice, and biogeochemistry. Four Climate Services Demonstrations, co-designed with end-users, will test real-world applications in ports, fisheries, aquaculture, and coastal management. Outputs will feed into the European Digital Twin of the Ocean and support a future Copernicus Marine Service line on regional ocean climate projections. Learn more at www.seaclim.eu.

