




ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

CLIMATE: DYNAMICS, CHANGE, IMPACT

The changing climate dynamics affects and impacts the marine ecosystem and the socio-economical activities related to blue growth.



The research of the University of Bologna related to climate-ocean dynamics, interactions, impact on ecosystems and on blue-growth related socio-economical structures, spans a wide range of interdisciplinary topics as:

- Data analysis of the ocean-atmosphere interactions. Hindcast (Copernicus re-analyses) and scenario modeling of ocean dynamics under changing climate and anthropogenic pressure to understand general trends
- Data analysis of climate/marine physical, biogeochemical, biological data relevant to ecosystem management and sustainable exploitation of the marine resources
- Defining and projecting interactions (from the molecular to the community level) between local anthropogenic and global climatic stressors (pH and temperature) in coastal ecosystems
- Projecting changes of intertidal sandy shore ecosystem due to the predicted sea level change
- Hindcast/predictions of the past/future climate dynamics and climate change impact on ecosystems and exploitable marine resources (fisheries to recreational activities)
- Effects of climate changes on aquaculture systems
- Tools development for risk assessment, conservation practices, environmental planning and emergencies management
- Analysis of sea level change impact on coastal geomorphology

HIGHLIGHTS

Observing the changing ocean through observational systems and modeling:

H2020: [SeaDataCloud](#) - Further developing the pan-European infrastructure for marine and ocean data management; [ATLANTOS](#) - Atlantic Ocean Observing system; [ODYSSEA](#) - Operating a network of integrated observatory systems in the Mediterranean sea.

Interreg Italy-Croatia: [ADRIACLIM](#) - Climate change information, monitoring and management tools for adaptation strategies in Adriatic coastal areas.

Impact of changing climate and anthropogenic pressure on the marine environment:

FP7: [MEECE](#) - Marine Ecosystem Evolution in a Changing Environment; [PERSEUS](#) - Policy-oriented marine Environmental Research in the Southern European Seas.

Corals and global warming:

FP7: ERC - IDEAS Project [CoralWarm](#) - Corals and global warming: The Mediterranean versus the Red Sea.

Sustainable coastal ocean management:

[OceanGov](#) COST Actions Ocean Governance for Sustainability – Challenges, Options and the Role of Science.

Innovative technologies for sustainable use of Mediterranean Sea fishery and biological resources: International PhD program [FishMed-PhD](#).