Developing scientific knowledge, technology, public outreach and capacity building to guide and motivate management actions to preserve marine biodiversity, enhance resilience to a variety of stressors, sustain critical ecosystem functions and services, and energise future sustainability.

Creating safe, resilient and sustainable marine ecosystems is a global objective requiring innovative and coordinated solutions. The University of Bologna addresses the multidisciplinary challenges needed to limit human impacts on marine species and habitats, maintain vital ecosystem services, and promote sustainable natural resource use and human wellbeing.
Research at the University of Bologna covers a wide range of issues:

- Monitoring/modelling the marine environmental status, and developing risk and vulnerability indicators to quantify the effects of human impacts and comply with the achievement of the “Good Environmental state” as from the EU Marine Strategy Framework Directory
- Predicting the adaptation potential of marine socio-ecological systems
- Identifying the ecological and socio-economic mechanisms enhancing the resilience of natural systems to multiple stressors and the provision of ecosystem services
- Designing conservation and restoration strategies, nature-based solutions, and ecosystem-based management
- Tools, include field/lab experiments, genetic and demographic data, environmental metabarcoding, analyses of microbiome interactions, GIS, modelling of coupled physical biogeochemical ocean dynamics, ecosystem services evaluation, marine citizen science and participatory approaches

**HIGHLIGHTS**


**Analysis of fishery stock depletion & evolutionary potential erosion:** H2020 STOCKMED - Stock units: identification of distinct biological units for different fish & shellfish species and among different GFCM-GSA; EU JRC Tender MEDBLUESGEN - Mediterranean blue shark genetics: population genetic study on Mediterranean blue shark for stock identification and conservation.

**Impacts of marine hazards & pollutants, including microplastics, gas and oil:** JPI PLASTOX - Direct and indirect ecotoxicological impacts of microplastics on marine organisms. BURNIMPACT - BurnImpact mesocosm experiment in the frame of AQUACOSM scheme. MARES - Doctoral programme in marine ecosystem health and conservation.

**Monitoring, conservation & restoration of marine biodiversity:** JPI SEAMoBB - Solutions for sEmi-Automated Monitoring of Benthic Biodiversity. FP7 - ITN MMMPA - Training Network for Monitoring Mediterranean Marine Protected Areas. WACOMA - Erasmus Mundus Joint Master Degree Water and Coastal Management.

**Assessing the state of southern European seas with respect to MSFD and GES:** FP7 PERSEUS - Policy oriented marine research in the Southern Europens Seas; MEECE - Marine Ecosystem Evolution in a Changing Environment.