

Launching international project AtlantECO:

A microbiome-based study of climate change, adaptation & resilience to predict the future of Atlantic marine ecosystem services

In September 2020, 36 organisations from 13 different countries launched **AtlantECO**, an ambitious research project funded by the European Union to explore the Atlantic Ocean from pole to pole. The project will map new and existing knowledge about the microscopic organisms that inhabit rivers, coastal waters, the open ocean, marine sediments and the atmosphere, as well as those found on plastic litter. These “microbiomes” support life on Earth and provide ecosystem services to society. Inspired by medical research that combines next generation genetic, imaging and environmental approaches, **AtlantECO** will develop diagnostic tools and metrics to assess and predict changes in the health of the Atlantic Ocean.

Fieldwork will be conducted on board several national oceanographic vessels and sailing boats designed for science. Stopovers will be organised with local communities and stakeholders around the Atlantic basin, engaging in outreach, citizen science and awareness campaigns, delivering a wide-scale capacity building programme for professionals, students and youth.

AtlantECO will determine how marine regions and their ecosystems are connected along and across the Atlantic Ocean by developing models that account for dynamic processes such as large river plumes and ocean circulation. Coupled with future climate scenarios, these models will help predict species migration, the ability of the ocean to capture and store atmospheric carbon dioxide, the transport of pollutants and hazards such as plastics and nutrients, and the balance between ecosystem health and human activities.

This huge scientific effort implements the Belem Statement, co-signed in July 2017 by the European Union, Brazil and South Africa, with the aim of filling knowledge gaps between the widely studied North Atlantic and the under-studied South Atlantic regions. Five case studies co-developed with local stakeholders around the Atlantic basin will demonstrate the value of **AtlantECO**'s results for the blue economy and society, addressing, for example, the early detection of harmful threats in aquaculture sites, the impact of mining off the coast of southern African microbiomes and the health of coastal ecosystems, the impacts of climate change on fisheries value chains, and the response of microbiomes to offshore drilling and fossil fuel extraction off the coast of Brazil.

For more information, please visit: www.atlanteco.eu

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*The **AtlantECO** project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 862923. This output reflects only the author's view and the European Union cannot be held responsible for any use that may be made of the information contained therein.*