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# EO-BASED SERVICES FOR THE FISHERIES DOMAIN

**Abstract**

The Atlantic plays a key role in the strategy to face major societal challenges: Climate Change, Environmental Sustainability, and Energy and Food availability. Major circulation changes during the last thousands of years had a large impact on global climate and led to reorganizations of the planet's ecosystems; the enhanced warming of regions of the North Atlantic will also have major consequences for the marine ecosystems asking for better monitoring and follow-up. Pressures arising from human activities related to coastal urban expansion, fisheries and deep-sea mining need to be quantified and mitigated. Marine renewal energy systems will expand quickly to ensure long term decarbonisation and their operation needs to be supported with minimum harm to the natural systems. The ocean is and will remain critical for the future food supply of humanity.

Management of marine areas is thus a priority, and policy-makers often lack access to reliable constantly updated information regarding economic exploitation, illegal activities and environmental changes. Fisheries, in particular, are an extremely important aspect of maritime activities and have a significant impact (for better and for worse) on the Ocean's health and sustainability as well as on the economic development and food security of nations. In fact, both the World Bank and FAO have published reports on the importance of fisheries and the challenges faced by authorities and policymakers in this sector.

The Collaborative Laboratory (CoLAB) for the Atlantic (+ATLANTIC) intends to develop and deploy services (e.g. for vessel surveillance and monitoring, for estimation of fishing effort impact on fish stocks, to support route and navigation planning) to provide a data-driven response to issues related with the management of marine resources consumption (particularly in the fisheries domain) and environmental protection – which are often seen as opposed forces. The services will make use of Copernicus data integrated with other distributed data sources such as in-situ datasets, as well as AIS and other vessel tracking systems. +ATLANTIC plans to validate these services firstly on a region of the Portuguese EEZ or of its extended continental shelf, and then replicate the results to West African user communities – not only providing an additional form of validation but also hinting at possible acceptance by external markets.