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Orientation: Ocean observation and Global change
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Research Area: 1.10 Impact on biodiversity

PhD project: Long-term changes in seaweed communities of NW Iberia: results and tools for future studies

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Summary: In the last decades, there is growing evidence that many coastal systems are experiencing a series of environmental changes: an increase in sea surface temperature, acidification, changes in upwelling events, or stronger storm events. These changes are thought to be driven by the impact of man on climate, and add to perturbations caused by other, locally restricted activities (civil engineering projects, pollution, overfishing, and aquaculture). In this context, the coastal marine ecosystems of NW Iberia are characterized by a great biodiversity and abundance of seaweeds, some of them valuable as a commercially exploitable resource. However, our knowledge of current state of their conservation is limited. The general aim of this project is to reveal long-term changes in the intertidal seaweed communities of NW Iberia. To attain this objective, we will investigate the current distribution of several selected seaweed taxa in NW Iberia (mostly perennial, widespread, and locally abundant taxa; special attention will be paid to species with commercial value), and compare it with the patterns found at the same sites 15-30 years ago. Additionally, time-series data for several environmental variables (temperature, salinity, nutrients, chlorophyll concentration, wave activity) will be obtained from third-party entities (INTECMAR, Puertos del Estado, IEO) and they will be compared to the patterns observed in the seaweed community. The study will cover the entire Galician coastline but special emphasis will be place on areas surrounding recent civil engineering projects (large harbors) and land-based aquaculture facilities.

