

EuroGOOS International conference 2021

Conference theme :

1. In-situ and remote sensing observations: towards a European Ocean Observing System (EOOS) in the framework of the UN Ocean Decade:

- Coordination of ocean observing capacities at regional and global scale

Stéphane Bertin¹, Xavier Bertin²

¹Institut Universitaire Européen de la Mer (IUEM), Univ. Brest, Laboratoire Géosciences Océan - UMR 6538, Technopôle Brest-Iroise, Rue Dumont d'Urville, F-29280 Plouzané, France

²UMR 7266 Littoral, Environment and Societies, CNRS-Univ. La Rochelle, 17000 La Rochelle, France

DYNALIT: a research and observation service monitoring coastal morphodynamics in metropolitan and overseas France

Introduction

The coastal zone is one of the most dynamic environments on Earth. It is also home of a growing population, and while we increasingly recognise the natural services provided by the coast, accelerating sea-level rise and anthropogenic pressure put this environment at threat. Coastal observations at representative sites and time scales are needed to better understand processes at play and hence to help with planning and managing our future coastlines.

In this poster presentation, we present DYNALIT, a research-based observatory on coastal morphodynamics. Created in 2014 from existing and new monitoring programs, recognised 'Service National d'Observation' by CNRS-INSU and member of Research Infrastructure ILICO, the observatory integrates over 30 sites in metropolitan and overseas France.

Methods

The observatory spans different coastal systems: beaches, cliffs and estuary mouths, located across five oceanic facades. Variables measured include topography through repeated surveys (frequency is monthly to annual) using GNSS and remote-sensing techniques such as LiDAR and photogrammetry. The sediment load represented by turbidity is measured at estuary sites.

Results and conclusion

The dataset as it continues to be updated can be accessed at: <http://www.dynalit.fr/>. It incorporates historical data as well as continuous monitoring from the 2000s, resulting in over 1000 beach profiles, 500 topographic point clouds and DEMs, orthophotos as well as bathymetric DEMs georeferenced to legal reference systems and accompanied by INSPIRE-compliant metadata. Future developments will accelerate the integration of tide and wave parameters derived from in-situ measurements and modelling, alongside new satellite-based products for the coast, to further our coastal ocean understanding and integrated management.