



The European Marine Observing Network and the development of an Integrated European Ocean Observing System. An EuroGOOS perspective

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The ocean benefits many sectors of society, being the biggest reservoir of heat, water, carbon and oxygen and playing a fundamental role regulating the earth's climate. We rely on the oceans for food, transport, energy and recreation. Therefore, a sustained marine observation network is crucial to further our understanding of the oceanic environment and to supply scientific data to meet society's need.

Marine data and observations in Europe, collected primarily by state governmental agencies, is offered via five Regional Operational Oceanographic Systems (ROOS) within the context of EuroGOOS (<http://www.eurogos.eu>), an International Non-Profit Association of national governmental agencies and research organizations (40 members from 19 member states) committed to European-scale operational oceanography within the context of the Intergovernmental Global Ocean Observing System (GOOS). Strong cooperation within these regions, enabling the involvement of additional partners and countries, forms the basis of EuroGOOS work. Ocean data collected from different type of sensors (e.g. moored buoys, tide gauges, Ferrybox systems, High Frequency radars, gliders and profiling floats) is accessible to scientist and other end users through data portals and initiatives such as the European Marine Observations and Data Network (EMODnet) (www.emodnet.eu) and the Copernicus Marine Service Copernicus (www.copernicus.eu).

Although a relatively mature European ocean observing capability already exists and its well-coordinated at European level, some gaps have been identified, for example the demand for ecosystem products and services, or the case that biogeochemical observations are still relatively sparse particularly in coastal and shelf seas. Assessing gaps based on the capacity of the observing system to answer key societal challenges e.g. site suitability for aquaculture and ocean energy, oil spill response and contextual oceanographic products for fisheries and ecosystems is still required. In this respect, an important effort is being carried out at European level aiming to stablish and consolidate an Integrated and sustained European Ocean Observing System (EOOS). In this paper we present the emerging vision for EOOS with a review of the existing observing networks on which it will be based.