STRATEGIES AND METHODOLOGIES FOR THE CHARACTERIZATION OF THE MARINE ENVIRONMENT

Innovations and Benefits - Strategies and methodologies for observing the interactions between physical, geological, chemical and biological processes at sea. New low-cost technologies for monitoring hydrological parameters (physical data, nutrients and phytoplankton) with transmission of geo-referenced data in real time also from moving boats (XBT, ferrybox). Development of wireless sensor networks in combination with energy harvesting technologies. Prototypes in plastic (PLA/ABS), using an entry-level 3D printer, to support marine monitoring. In situ monitoring of biota and experimentation in the aquarium on marine organisms (taxonomy, genetics, physiology and ecology) also in response to climate change. Underwater techniques (operator, ROV, etc.) for benthos monitoring. Use of natural radioactivity as tracer of oceanographic processes and sedimentation rates. Information systems for the storage, standardization and distribution of marine data.

Uses -
- Strategic management of the territory in collaboration with local entities operating in the coastal environment
- Sustainability and environmental enhancement for the tourism sector
- Support to decision making for the management of Marine Protected Areas
- In situ data for validating weather-marine forecasting models
- Implementation of oceanographic instrumentation
- Chronological survey of pollutant inputs present in sediments
- Investigations on toxic algal blooms
- Supply of data in support of works at sea

Past and present activities - Projects:
RITMARE/RIMA/LTER Network - Long-term multidisciplinary ecosystem monitoring of the coastal area of the Eastern Ligurian Sea
PERSEUS - policy-oriented research for the southern European seas
SEADATANET2 pan-European infrastructure for access to marine data
ODIP2 coordination action for the harmonization of marine data and metadata standards and for their management.

Characteristics: CUSTOM
Thanks to its flexibility, the service can be adjusted to different needs and contexts