Connecting French coastal ecosystem monitoring databases to SeaDataNet infrastructure: SOMLIT and RESOMAR Networks

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The SOMLIT is the French Coastal Monitoring Network (http://somlit.epoc.u-bordeaux1.fr/fr/) of the CNRS and marine universities. The network aims at 1) studying multi-decadal changes of coastal systems and identifying climate and anthropic forcings and 2) disseminate data sets for scientific, educational and policy purposes. It gathers eleven teams of Marine Laboratories that carry out time series of sub-monthly resolution in order to understand seasonal variability and long-term changes in coastal systems. Twelve ecosystems distributed over the three main maritime facades of France are monitored since the late 90's. Surface water is sampled for Essential Ocean Variables, among which temperature, salinity, pH, dissolved oxygen, nutrients, SPM, chlorophyll a, particulate organic carbon and nitrogen (POC and PN, respectively), stable isotopes of POC and PN, and pico- and nano-plankton diversity and characteristics. The SOMLIT Network shares best practices among the involved teams and has developed quality check procedures and tools in order to ensure the homogeneity of the practices and the comparability of the results.

Linked to the SOMLIT, the RESOMAR (http://resomar.cnrs.fr/) is the French National Network of Marine Stations and Observatories. It is leaded by the CNRS in collaboration with other national institutions like IFREMER and the National Museum for Natural History. It aims at coordinating actions of national interest, promoting structuring research projects (on physics, biogeochemistry, biology and geology) and being a French interlocutor at the international level. The network was also given the task of establishing and operating two biological databases for benthic and pelagic components of coastal ecosystems.

At the national level, french observation networks are structured within the French Research Infrastructure for Coastal Ocean and Seashore ILICO, and they strive for European and international connection in order to better understand multi-decadal changes of coastal ocean systems. Within the European H2020 program SeaDataCloud, these coastal observing databases will be in a near future connected to the SeaDataNet portal. For the moment, SOMLIT Network uses a specific MySQL database with a PHP website. In order to achieve the interoperability between systems, metadata had to be added into the database schema. Then, a full mapping between parameters was required in order to allow the SeaDataCloud connection.

Location of the labs involved in the RESOMAR (black circles) and of the
sites monitored by the SOMLIT (red circles)