The need for marine FAIR data

The past few decades have seen a marked acceleration in the number of marine and coastal observations, both by using in situ measurements or remote sensing.

For example, high-frequency monitoring of physical-chemical parameters has become an essential tool to assess the natural and human-influenced evolutions of coastal waters, and the societal or management implications. The number and variety of acquisitions require now efficient tools to make available of the research community such large amounts-of-data.

In addition, observations made on Earth System and related results must also be accessible to a large public, from scientists towards the citizens. This has been stated by several European directives about environmental data such as the Inspire Directive, the Water Framework Directive, the Habitat Directive and the Marine Framework Strategy Directive.

In that context, application of FAIR principles on Earth observation data is of high priority.

The French initiative

Launched in December 2017, ODATIS (Ocean Data Information and Services) has the ambition to become the unique entry point to access all the French Ocean observation data for the benefit of knowledge and society.

ODATIS objectives are to promote and facilitate the use of Ocean observations in order to contribute to the understanding of the ocean functioning and its interactions with the other components of the Earth.

The ODATIS roadmap is:
- to offer a global view on both in-situ and satellite observations and their derived products;
- to facilitate access, through an single portal, to fully described and qualified databases, in agreement with the current scientific standards;
- to ensure the long-time preservation of datasets;
- to cross the space, time and discipline frontiers by ensuring the interoperability of datasets;
- to promote combined uses of data from different nature (in-situ/satellite) or origin (operational networks/scientific experiments);
- to enable the extraction of information from the databases by proposing exploration, extraction and analysis tools, as well as computing facilities.

Organisation of ODATIS

ODATIS has an executive committee, an executive office and a scientific advisory board.

ODATIS is based on a network of distributed Data and Services Centres (DSC) operated by French research organizations (CNRS, CNES, Ifremer, RDI, Shom and Federation of the Marine Universities). At present, there are 9 DCS, 2 dedicated to satellite data, the others to in situ data.

Data catalogue

The catalogue managed by ODATIS includes the variables of all the marine disciplines (physic, chemistry, biology…) whatever the technique used (satellites, in-situ observatories, field cruises, analyses in lab).

The catalogue offers different data access tools: a search service with selection filters, a data description service (Preview or Complete), a visualization service, and the possibility to download data directly or via the local partner portals.

Consortium of Scientific Expertise (CSE)

The ODATIS Ocean cluster relies on Consortia of Scientific Expertise (CSE) to promote and enhance innovative treatment methods and products for spatial, airborne or in-situ observation of the ocean and its interfaces (atmosphere, coastline and seabed).

Launched in spring 2019, the objectives of the CSE Dissolved Oxygen, the first ODATIS CSE, is to federate scientific actors at the national level interested in dissolved oxygen and to develop an open access database of dissolved oxygen concentrations acquired by the entire French community, whatever the approach used: BGC-Argo, profiling float, anchorage, experimental data, water-sediment interface. This work is a contribution to the international effort led by the IOC-UNESCO GO2NE and IOCCP network.