SEXTANT, A MARINE SPATIAL DATA INFRASTRUCTURE: IMPLEMENTATION OF OGC PROTOCOLS FOR THE DISSEMINATION OF MARINE DATA

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At national and European levels, in various projects, data products are developed to provide end-users and stakeholders with homogeneously qualified observation compilation or analysis.

Ifremer has developed a spatial data infrastructure for marine environment, called Sextant, in order to manage, share and retrieve these products for its partners and the general public. Thanks to the OGC and ISO standard and INSPIRE compliance, the infrastructure provides a unique framework to federate homogeneous descriptions and access to marine data products processed in various contexts, at national level or European level for DG research (SeaDataNet), DG Mare (EMODNET) and DG Growth (Copernicus MEMS).

The discovery service of Sextant is based on the metadata catalogue. The data description is normalized according to ISO 191XX series standards and Inspire recommendations. Access to the catalogue is provided by the standard OGC service, Catalogue Service for the Web (CSW 2.0.2).

Figure 1: SeaDataNet content catalogue

Data visualization and data downloading are available through standard OGC services, Web Map Services (WMS) and Web Feature Services (WFS). Several OGC services are provided within Sextant, according to marine themes, regions and projects. Depending on the file format, WMTS services are used for large images, such as hyperspectral images, or NcWMS services for gridded data, such as climatology models.

New functions are developped to improve the visualization, analyse and access to data, eg : data filtering, online spatial processing with WPS services and acces to sensor data with SOS services and SensorThings API.
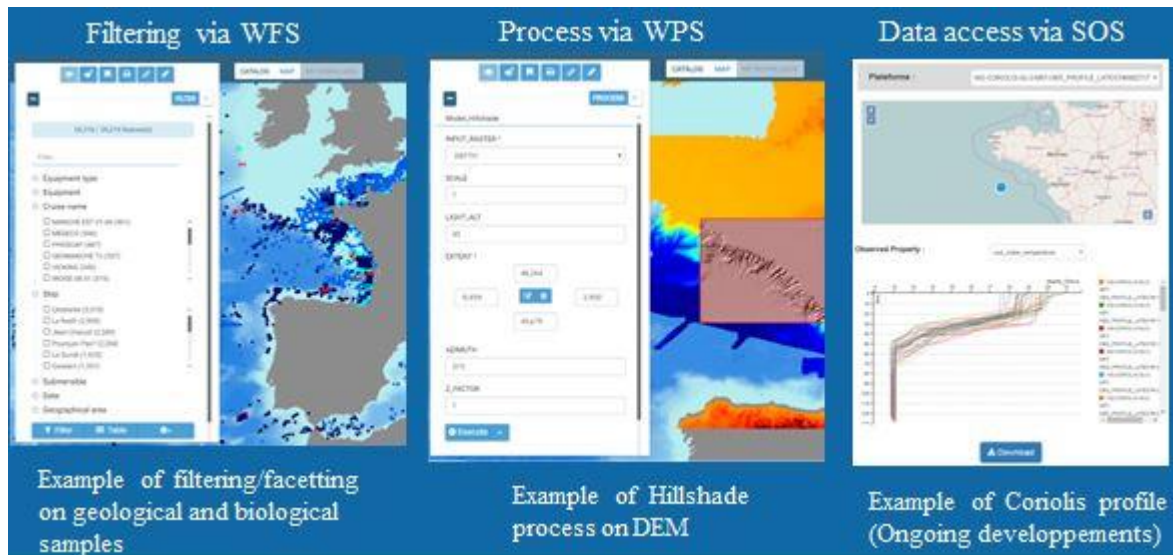

Figure 2: Data analysis