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Ocean data management in OMP Data Service

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The Observatoire Midi-Pyrénées Data Service (SEDOO) is a development team, dedicated to environmental data management and dissemination application set up, in the framework of intensive field campaigns and long term observation networks. SEDOO developped some applications dealing with ocean data only, but also generic databases that enable to store and distribute multidisciplinary datasets.

SEDOO is in charge of the in situ data management and the data portal for international and multidisciplinary programmes as large as African Monsoon Multidisciplinary Analyses (AMMA) and Mediterranean Integrated STudies at Regional And Local Scales (MISTRALS). The AMMA and MISTRALS databases are distributed and the data portals enable to access datasets managed by other data centres (IPSL, CORIOLIS...) through interoperability protocols (OPeNDAP, xml requests...).

AMMA and MISTRALS metadata (data description) are standardized and comply with international standards (ISO 19115-19139; INSPIRE European Directive; Global Change Master Directory Thesaurus). Most of the AMMA and MISTRALS in situ ocean data sets are homogenized and inserted in a relational database, in order to enable accurate data selection and download of different data sets in a shared format. Data selection criteria are location, period, physical property name, physical property range... The data extraction procedure include format output selection among CSV, NetCDF, Nasa Ames...

The AMMA database - http://database.amma-international.org/ - contains field campaign observations in the Guinea Gulf (EGEE 2005-2007) and Atlantic Tropical Ocean (AEROSE-II 2006...), as well as long term monitoring data (PIRATA, ARGO...). Operational analysis (MERCATOR) and satellite products (TMI, SSMI...) are managed by IPSL data centre and can be accessed too. They have been projected over regular latitude-longitude grids and converted into the NetCDF format.

The MISTRALS data portal - http://mistrals.sedoo.fr/ - enables to access ocean datasets produced by the contributing programmes: Hydrological cycle in the Mediterranean eXperiment (HyMeX), Chemistry-Aerosol Mediterranean eXperiment (ChArMEx), Marine Mediterranean eXperiment (MERMeX)... The programmes include many field campaigns from 2011 to 2015, collecting general and specific properties. Long term monitoring networks, like Mediterranean Ocean Observing System on Environment (MOOSE) or Mediterranean Eurocentre for Underwater Sciences and Technologies (MEUST-SE), contribute to the MISTRALS data portal as well. Relevant model outputs and satellite products managed by external data centres (IPSL, ENEA...) can be accessed too.

SEDOO manages the SSS (Sea Surface Salinity) national observation service data: http://sss.sedoo.fr/. SSS aims at collecting, validating, archiving and distributing in situ SSS measurements derived from Voluntary Observing Ship programs. The SSS data user interface enables to built multicriteria data request and download relevant datasets.

SEDOO contributes to the SOLWARA project that aims at understanding the oceanic circulation in the Coral Sea and the Solomon Sea and their role in both the climate system and the oceanic chemistry. The research programme include in situ measurements, numerical modelling and compiled analyses of past data. The website http://thredds.sedoo.fr/solwara/ enables to access, visualize and download Solwara gridded data and model simulations, using Thredds associated services (OPEnDAP, NCSS and WMS).

In order to improve the application user-friendliness, SSS and SOLWARA web interfaces are JEE applications build with GWT Framework, and share many modules.