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The MISTRALS programme data portal

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Mediterranean Integrated STudies at Regional And Local Scales (MISTRALS) is a decennial programme for systematic observations and research dedicated to the understanding of the Mediterranean Basin environmental process and its evolution under the planet global change. It is composed of eight multidisciplinary projects that cover all the components of the Earth system (atmosphere, ocean, continental surfaces, lithosphere...) and their interactions, all the disciplines (physics, chemistry, marine biogeochemistry, biology, geology, sociology...) and different time scales. For example Hydrological cycle in the Mediterranean eXperiment (HyMeX) aims at improving the predictability of rainfall extreme events, and assessing the social and economic vulnerability to extreme events and adaptation capacity. Paleo Mediterranean Experiment (PaleoMeX) is dedicated to the study of the interactions between climate, societies and civilizations of the Mediterranean world during the last 10000 years. Many long term monitoring research networks are associated with MISTRALS, such as Mediterranean Ocean Observing System on Environment (MOOSE), Centre d'Observation R  gionale pour la Surveillance du Climat et de l'environnement Atmosph  rique et o  c  nographique en M  diterran  e occidentale (CORSIKA) and the environmental observations from Mediterranean Eurocentre for Underwater Sciences and Technologies (MEUST-SE).

Therefore, the data generated or used by the different MISTRALS projects are very heterogeneous. They include in situ observations, satellite products, model outputs, social sciences surveys... Some datasets are automatically produced by operational networks, and others come from research instruments and analysis procedures. They correspond to different time scales (historical time series, observatories, campaigns...) and are managed by several data centres. They originate from many scientific communities, with different data sharing practices, specific expectations and using different file formats and data processing tools.

The MISTRALS data portal - <http://mistrals.sedoo.fr/> - has been designed and developed as a unified tool for sharing scientific data in spite of many sources of heterogeneity, and for fostering collaboration between research communities. The metadata (data description) are standardized and comply with international standards (ISO 19115-19139; INSPIRE European Directive; Global Change Master Directory Thesaurus). A search tool allows to browse the catalog by keyword or multicriteria selection (area, period, physical property...) and to access data. Data sets managed by different data centres (ICARE, IPSL, SEDOO, CORIOLIS) are available through interoperability protocols (OPeNDAP, xml requests...) or archive synchronisation. Every in situ data set is available in the native format, but the most commonly used data sets have been homogenized (property names, units, quality flags...) and inserted in a relational database, in order to enable accurate data selection, and download of different data sets in a shared format.

At present the MISTRALS data portal enables to access about 550 datasets. It counts more than 600 registered users and about 100 data requests every month. The number of available datasets is increasing daily, due to the provision of campaign datasets (2012, 2013, 2014) by several projects. Every scientist is invited to browse the catalog, complete the online registration form and use MISTRALS data. Feel free to contact mistrals-contact@sedoo.fr for any question.