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# The HyMeX database

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The HYdrological cycle in the Mediterranean Experiment (HyMeX) international project aims at a better understanding and quantification of the hydrological cycle and related processes in the Mediterranean, with emphasis on high-impact weather events, inter-annual to decadal variability of the Mediterranean coupled system, and associated trends in the context of global change. The project includes long term monitoring of environmental parameters between 2010 and 2020, intensive field campaigns in 2012 and 2013, use of satellite data, modelling studies, as well as post event field surveys and value-added products processing.

The HyMeX data management system has been designed and developed in the context of the Mediterranean Integrated STudies at Regional And Local Scales program (MISTRALS) data portal. The MISTRALS data portal is a distributed system, that enables users to access datasets produced by all the projects (HyMeX, ChArMEx, MerMEx...) and stored in different data centres.

The HyMeX database relies on a strong collaboration between OMP and IPSL data centers. Field data, which are 1D time series, maps, pictures or questionnaires, are managed by OMP team while gridded data (satellite products, model outputs, radar data...) are managed by IPSL team. All the data are accessible at the following address: http://mistrals.sedoo.fr/HyMeX.

The HyMeX database contains a wide variety of datasets:
- 190 hydrological, meteorological, ocean and soil in situ datasets.
- 40 radar datasets.
- 20 satellite products.
- 60 atmosphere, ocean and land surface model outputs from operational (re-)analysis or forecasts and from research simulations.
- 5 post event survey datasets.
Many in situ datasets have been inserted in a relational database, in order to enable more accurate data selection and download of different datasets in a shared format. Radar datasets have been homogenized and converted in NetCDF format.

The database website offers different tools:
- A registration procedure which enables any scientist to accept the data policy and apply for a user database account.
- A data catalogue that complies with the INSPIRE European Directive, the ISO19115 norm and the GCMD thesaurus.
- Metadata forms to document observations or products that will be provided to the database.
- A search tool to browse the catalogue using thematic, geographic and/or temporal criteria.
- A shopping-cart web interface to order data files.
- A web interface to select and access to homogenized datasets.
At present, the HyMeX database website counts about 460 registered users and processes more than 100 data requests every month.

Another web site has been designed in order to meet the operational needs for the HyMeX 2012 and 2013 campaigns: http://sop.hymex.org. This day-to-day charts and report display website offers a convenient way to browse meteorological conditions and data during the campaign periods.