



The ChArMEx database

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The Chemistry-Aerosol Mediterranean Experiment (ChArMEx, <http://charmex.lsce.ipsl.fr/>) aims at a scientific assessment of the present and future state of the atmospheric environment in the Mediterranean Basin, and of its impacts on the regional climate, air quality, and marine biogeochemistry. The project includes long term monitoring of environmental parameters, intensive field campaigns, use of satellite data and modelling studies.

Therefore ChArMEx scientists produce and need to access a wide diversity of data. In this context, the objective of the database task is to organize data management, distribution system and services, such as facilitating the exchange of information and stimulating the collaboration between researchers within the ChArMEx community, and beyond.

The database relies on a strong collaboration between OMP and ICARE data centres and has been set up in the framework of the Mediterranean Integrated Studies at Regional And Locals Scales (MISTRALS) program data portal. All the data produced by or of interest for the ChArMEx community will be documented in the data catalogue and accessible through the database website: <http://mistrals.sedoo.fr/ChArMEx>.

At present, the ChArMEx database contains about 75 datasets, including 50 in situ datasets (2012 and 2013 campaigns, Ersa background monitoring station), 25 model outputs (dust model intercomparison, MED-CORDEX scenarios), and a high resolution emission inventory over the Mediterranean. 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.

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 metadata international standards (ISO 19115-19139; INSPIRE European Directive; Global Change Master Directory 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 in situ data files.
- A web interface to select and access to homogenized datasets.

Interoperability between the two data centres is being set up using the OPeNDAP protocol. The data portal will soon propose a user-friendly access to satellite products managed by the ICARE data centre (SEVIRI, TRIMM, PARASOL...).

In order to meet the operational needs of the airborne and ground based observational teams during the ChArMEx 2012 and 2013 campaigns, a day-to-day chart and report display website has been developed too: <http://choc.sedoo.org>. It offers a convenient way to browse weather conditions and chemical composition during the campaign periods.