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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 ICARE, IPSL and OMP data centers and has been set up in the framework of the Mediterranean Integrated Studies at Regional And Locals Scales (MISTRALS) program data portal. ChArMEx data, either produced or used by the project, are documented and accessible through the database website: http://mistrals.sedoo.fr/ChArMEx.

The website offers the usual but user-friendly functionalities: data catalog, user registration procedure, search tool to select and access data... The metadata (data description) are standardized, and comply with international standards (ISO 19115-19139; INSPIRE European Directive; Global Change Master Directory Thesaurus). A Digital Object Identifier (DOI) assignement procedure allows to automatically register the datasets, in order to make them easier to access, cite, reuse and verify.

At present, the ChArMEx database contains about 120 datasets, including more than 80 in situ datasets (2012, 2013 and 2014 summer campaigns, background monitoring station of Ersa...), 25 model output sets (dust model intercomparison, MEDCORDEX scenarios...), 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 selection and download of different datasets in a shared format. Many dedicated satellite products (SEVIRI, TRIMM, PARASOL...) are processed and will soon be accessible through the database website.

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

Every scientist is invited to visit the ChArMEx websites, to register and to request data. Feel free to contact charmex-database@sedoo.fr for any question.