CORSiCA Atmospheric Observatory in the frame of the MISTRALS special, enhanced and long-term observation periods


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CORSiCA (Corsican Observatory for Research and Studies on Climate and Atmosphere - ocean environment - Centre d’Observation Régional pour la Surveillance du Climat et de l’environnement Atmosphérique et océanographique en Méditerranée occidentale) is a scientific platform dedicated to the observation of the physics and chemistry of the atmosphere. It is located in the western Mediterranean basin, on the island of Corsica. This location allows the site being exposed to air mass of various origins. It can also act as a sentinel for continental France and for Italy or, at a larger scale, for countries further east by measuring weather phenomena or air quality.
The platform has been in operation since 2007. It combines several measuring sites on Corsica for atmospheric chemistry (gases and aerosols), dynamics, microphysics, and atmospheric electrical activity.

The observatory has a twofold mission: firstly, to serve as a permanent structure for observing the atmosphere particularly suited to the climate change studies, and secondly, to provide a platform for measurement campaigns.

From 2012 to 2014, Corsica has hosted more than one hundred researchers involved in measurement campaigns, mainly HyMeX (Hydrological Mediterranean Experiment; http://www.hymex.org/) and ChArMEx (the Chemistry-Aerosol MEditerranean Experiment; http://charmex.lsce.ipsl.fr/) Special Observation Periods.

CORSiCA has funded a dozen advanced instruments installed on multiple sites in Corsica, their operation and maintenance, and a technical local in the Cap Corse.

The present communication will review the measurements carried out in the framework of the Special Observation Periods, Enhanced Observation Period and Long-term Observation Period of the MISTRALS meta-program - and will give examples of studies benefiting from these data. Then, we will present projects for future activities.

CORSiCA is carried by the University of Toulouse and organized around a consortium with five partners (University of Corsica, University of Clermont-Ferrand, University of Dunkerque, CEA Saclay, Mines Douai). Qualitair Corse and Météo-France are also involved in the project.

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Web site: http://www.obs-mip.fr/corsica
Data base: http://mistrals.sedoo.fr/CORSiCA/
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Figure 1 : Main sites of the CORSiCA atmospheric platform: Aléria, Bastia (Montesoro), Biguglia, Bilia (Foce), Calcatoggio, Calvi (Revellata), Castiria (Pinerole), Corscia (Pinerole), Corte, Ersa, Ghisonaccia, La Porta, Linguizzetta (Bravone), Ortiporio (Compoli), Piana, Pianottoli-Caldarello, Pioggia, Quercitello (Stoppianova), Rogliano (Macinaggio), Rusio, San Giuliano, Soveria (Pinerole), Tavera, Venaco, Ventiseri (BA126), Vergio, Zicavo (Coscione), Zonza (Pinarellu).
Figure 2: Location of the 12 Lightning Mapping Array stations of the SAETTA network
Figure 3: The Cap Corse site