

## 10<sup>th</sup> HyMeX Workshop

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### **Title:**

Overview of some heavy precipitation events in 2015 and 2016 on Corsica

### **Type:**

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### **Abstract:**

Despite recent improvements in operational forecasting, numerical models still have difficulties in capturing with precision the intensity and average distribution of heavy rainfall at small scales. These difficulties are particularly present over the strongly orographic zones (where the flows are complex) as well as over maritime areas (where the upstream observations are scarce). In Corsica, both of these difficulties are present. It is situated close to the Gulf of Genoa, which is the zone the most prone to cyclogenesis in the western Mediterranean. It is regularly affected by violent winds, intense precipitation, strong waves which erode the coastlines, droughts and forest fires.

Corsica was one of the Atmospheric Sites of the HyMeX 2012 SOP1 campaign. Our objective was to study the precipitating events in an environment characterised by insularity and an important orographic zone at the centre of the north-western Mediterranean basin. The state of the local and large-scale environment and the impact of turbulence and microphysical processes are elements whose effect upon heavy precipitation is still not well understood. In September and October 2012, three high precipitation events have affected Corsica and have been studied in details (see Scheffknecht et al., this conference).

The Corsica site is still active through the CORSiCA atmospheric observatory (<http://corsica.obs-mip.fr/>) (see Lambert et al., this conference) in the frame of the HyMeX Long Observation Period, mainly in support to HyMeX ST-Lightning activities through the SAETTA network (see Coquillat et al. this conference) and in preparation for the EXAEDRE campaign (see Defer et al. this conference).

This study presents an overview of some heavy precipitation events that have affected Corsica in 2015 and 2016. We will look at numerical simulations using the research model Meso-NH. They will be used to examine the different ingredients which lead to intense rainfall events and the capacity of the Meso-NH model to reproduce these events with respect to the collected observations, including atmospheric electrical observations given by the SAETTA network.

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