



## Study of an intense rainfall episode in Corsica

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The Mediterranean basin is known to present one of the highest concentration of cyclones in the world. The Genoa region is the area where the concentration of cyclones is maximal. The continental topography around the Mediterranean Sea forces many cyclonic developments. Corsica is a mountain surrounded by the sea at the middle of the occidental Mediterranean basin. It is 2710 metres at its highest point. It has twenty other mountains of over two thousand metres and the average altitude is 568 m. Corsica has the highest mountains and the most rivers of any Mediterranean island.

On September 14 2006, a heavy rainfall episode reached the eastern part of the Island with accumulated precipitations higher than 400 mm which caused impressive material damages. This rainfall episode was quite well forecasted at large scale but neither the intensity nor the fine scale location of the prevision was good enough.

In this study, two initial and coupling fields set (ECMWF and ARPEGE analyses) are used to run the French Mesonh model to investigate the case study. Three interactively nested model domains are used. The finest domain is centred on Corsica; its horizontal mesh size is 2 km. If the increase of the simulation resolution and a better description of the synoptic environment of the situation allow a better forecast of the rainfall quantity, the localization seems related to the precision of the description of the craggy relief.

This work lies within the scope of the HyMEX (Hydrological cycle in the Mediterranean EXperiment) project.