



## **The 6-8 September 2010 flood over Southern France: observational and modeling analysis in the frame of HYMEX project**

K. Lagouvardos (1), V. Kotroni (1), E. Defer (2), A. Bennett (3), H. Betz (4), and O. Bousquet (5)

(1) National Observatory of Athens, Institute for Environmental Research, Penteli-Athens, Greece (lagouvar@meteo.noa.gr, +30 210 810 3236), (2) LERMA, CNRS, Paris, France, (3) UK Met. Office, Exeter, UK, (4) Nowcast GmbH, Munich, Germany, (5) Meteo-France, Toulouse, France

This presentation is devoted in the observational and modeling analysis of the most severe precipitation event that occurred over southeastern France in 2010. Indeed, during the period 6-8 September, important convective activity, accompanied by a large number of lightning and heavy precipitation occurred over the southeastern part of France. Raingauges in the area recorded more than 320 mm of accumulated rain within 48 hours.

In the frame of this presentation the event is analysed by using:

(a) all the available observations, namely rain gauge accumulations and operational radar reflectivity fields, space-based infrared/visible and microwave observations together with lightning measurements provided by three networks: ATDnet, LINET and ZEUS. These observations permitted to follow the evolution, both in space and time, of the convective activity over the study area..

(b) high resolution model simulations of the event, using MM5 model at 2-km resolution over southern France. The model results permitted to set the synoptic and mesoscale environment in which the convective activity was sustained. An attempt to assimilate lightning information during the first 12-15 hours of the model execution is also evaluated, through comparison against the control simulation and the available observations.