



## **Climatology of sensitivities of severe weather over the Western Mediterranean. First results**

**V. Homar** (1), C. Ramis (1) and A. Jansà(2)

(1) Departament de Física. Meteorology Group. Universitat de les Illes Balears.  
[victor.homar@uib.es] (2) Instituto Nacional de Meteorología. Centro territorial en Illes Balears

During recent years, great interest has grown within the operational weather community on the adaptable component of observational networks. Decisions regarding where to deploy new observations of special interest under threatening weather, or regarding permanent changes in observational strategies need support from sensitivity studies that determine areas where the presence of observations would optimally improve the skill of numerical predictions. Within the context of the MEDEX project (<http://medex.inm.uib.es>), the sensitivities of a collection of episodes of severe weather in the Mediterranean have been obtained using the MM5 Adjoint Modeling system. The temporal evolution, as well as the intensity of the sensitivities is investigated. The presence of common features among the sensitivity fields of the considered cases is explored. In addition, we focus our attention on the dependence of the sensitivity fields on the selection of the response function used to characterize the phenomena.

First results reveal a tendency of the sensitivity field to point towards gradients of precursor upper-level troughs and baroclinic boundaries of temperature and humidity at low levels, if present in the selected episodes, as main contributors to the prediction of details of threatening weather episodes in the Western Mediterranean. Further preliminary results of this study will be presented in the talk.