



Heavy precipitation and flash floods during HYMEX: What observational strategy?

E. Richard (1), G. Delrieu (2), R. Romero (3), and A. Montarani (4)

(1) CNRS / Université de Toulouse, Laboratoire d'Aerologie, Toulouse, France (rice@aero.obs-mip.fr), (2) CNRS / Université de Grenoble, LTHE, Grenoble, France, (3) Universitat de les Illes Balears, Palma de Mallorca, Spain, (4) University of Bologna, Bologna, Italy

HyMEX (HYdrological cycle in the Mediterranean Experiment) is a major experimental program aiming at a better quantification and understanding of the hydrological cycle and related processes in the Mediterranean, with emphases put on high-impact weather events and regional impacts of the global change.

In terms of high-impact weather, heavy precipitation events (HPE) and flash-floods (FF) are relatively frequent over the Mediterranean region. The peculiar topography and geographical location of this area make it especially favorable to occurrence of intense events. The Mediterranean Sea acts as a vast heat and moisture reservoir from which convective and baroclinic atmospheric systems pump a part of their energy. The steep orography surrounding the Mediterranean Sea favors lifting of the low-level unstable air and initiation of condensation processes. Moreover, the morphology of the Mediterranean basin with numerous small and steep river catchments can turn the intense precipitation into severe devastating flash-floods and floods.

The presentation will focus on the observational strategy that will be deployed to address the issue of HPE and FF in the framework of HYMEX.