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# HyMeX-SOP1, a field campaign dedicated to heavy precipitation and flash-flooding in Northwestern Mediterranean

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The Mediterranean region is frequently affected by heavy precipitation events associated with flash-floods,landslides and mudslides each year that cost several billions of dollars in damage and causing too often casualties.
Within the framework of the 10-year international HyMeX program dedicated to the hydrological cycle and related processes in the Mediterranean (http://www.hymex.org), a major field campaign has been dedicated to heavy precipitation and flash-floods from September to November 2012. The 2-month field campaign took place over the Northwestern Mediterranean Sea and its surrounding coastal regions in France, Italy and Spain. The observation strategy aimed at documenting four key components leading to heavy precipitation and flash-flooding in that region: (i) the marine atmospheric flow that transport moist and conditionaly unstable air towards the coasts; (ii) the Mediterranean Sea as a moisture and energy source; (iii) the dynamics and microphysics of the convective systems; (iv) the hydrological processes during flash-floods.
During the field campaign about twenty precipitation events were monitored, including mesoscale convective systems, Mediterranean cyclogenesis, shallow-convection orographic precipitation. Three aircraft performed about 250 flight hours for a survey of the upstream flow, the air-sea fluxes and the convective systems. About 850 additional radiosoundings were launched either from HyMeX sites or from operational RS sites in Europe, as well as about 20 boundary layer balloons were launched to monitor the low-level flow over the Mediterranean Sea and the ambient atmospheric conditions. Gliders, Argo floats, drifting buoys and ocean soundings from vessels monitored the Mediterranean Sea during the field campaign. Atmospheric and hydrological instruments such as radars, LIDARS, radiometers, wind profilers, lightning sensors, were deployed over 5 regions in France, Italy and Spain.
The presentation will present the general observation strategy and overview of the
Intensive Observation Periods (IOP), together with first highlights on some observations and events.