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# Evaluating the improvements of the BOLAM model of the ISPRA Sistema Idro-Meteo-Mare on the December 2008 flood event in Rome

M. Casaioli, B. Lastoria, S. Mariani, and M. Bussettini
ISPRA – Institute for Environmental Protection and Research, Rome, Italy

Abstract. The *Sistema Idro-Meteo-Mare* is an integrated meteo-marine forecasting chain for the Mediterranean basin. The recent update of the meteorological segment, based on the hydrostatic BOlogna Limited Area Model (BOLAM), gives the opportunity for a comparative verification study on a Mediterranean cyclone. The 10–12 December 2008 flood event in Rome has been chosen as case study. This disastrous event was claimed to be an extreme one by mass-media; however, its return time is shown here to be about 5 years. The Mediterranean cyclone responsible for the flood offers a tough case study in order to verify the model's ability in reproducing the evolution of meso-synoptic features in the Mediterranean environment. A qualitative comparison, employing satellite data and derived products, is performed. Results suggest that the upgraded model provides a more realistic representation of the cyclone warm sector – where the main rainfall peak took place – whereas the error in the cyclone trajectory and shape evolution is less affected by the BOLAM improvement.

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