



## **Genoa 2014 flash flood event: from precipitation observations to flood mapping**

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On the 9th of October, the city of Genoa, the capital of the Liguria Region, located at the meridional edge of the local Appennines range was gutted by an extreme rainfall event with up to 300 millimeters of rain in 5 hours. Only three years ago an anomalous intense rainstorm ripped through the Liguria Region and inflicted serious damage at the city of Genoa. The raingauge stations, in the center of the event, registered up to 450 millimetres of rain in 5 hours (7 km from the coast over a 300 m hill), a third of the average annual rainfall, with a peak of 150 mm in one hour. Six people were killed.

With this work we analyze the Genoa 2014 Flash Flood in terms of precipitation observations by radar and rain-gauges, in terms of hydrological response of the Bisagno river using the Continuum hydrological model, and in terms of urban flooding in the city center using a 2D hydraulic model.

Our aim is twofold: from one side we want to present the event through the observational data and through the simulations available, and on the other side we want to discuss the steps we can do in managing such events in a densely populated area.