Plinius Conference Abstracts
Vol. 13, Plinius13-119, 2011
13th Plinius Conference on Mediterranean Storms

Climate change and extreme surface flooding: a case study based on the 26th September 2007 Venezia flood

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Pluvial flooding is a challenging hazard as it can be triggered by intense localised downpour rather than by large scale precipitation. This events might change substantially in the future climate, since the increased global temperature is associated with an increase in atmospheric humidity which might increase the intensity of precipitation. Extreme rainfall events are common in the Mediterranean region, especially in late summer and in early winter. In this paper we present the result of an analysis of the flood which affected the area around Venezia in September 2007.The return period for the event has been estimated to exceed 100 years
By looking at the Regional Climate Model outputs provided by the UK project UKCIP09 we assess what can be said in terms of flood of this size becoming more frequency or more intense in the future.Regional model output has been downscaled and used to drive for the JBA surface water model for events in the present and future climate.

The paper describe both the innovative methodology and the main
conclusion of the study.