



A climatological analysis of the extremes in year 2006 over Italian catchments

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Due to large investments in last years, Italy has build up one of the densest hourly-reporting raingauge network and its data are presently archived and available. The density of this network varies between 1/50 km² e 1/200 km² having a mean of about 1/100 km², very similar to the horizontal resolution of currently operating limited area models. An objective procedure to identify the extreme events of precipitation has been applied to the all the raingauges measured all over Italy for the whole year 2006. This method allowed for the classification of 19 severe events triggered by the orographic lifting of humid air: 10 of them, occurred mainly during autumnal season, has been classified as long-lived (more than 12 hours) and spatially distributed (more than 50x50 km²), while the remainder, observed during summer, are found to have a shorter duration and a localized spatial extent. For each of aforementioned case studies, the observed raindepth distribution has been compared with the one forecast by COSMO-LAMI model runs issued two days before, the day before and the same day the event took place by performing spectral and statistical analysis. Hereafter, some results are presented.