



Meteorological and hydrological context of extreme precipitation events in Romania during 2005

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The year 2005 was particularly exceptional in heavy precipitation triggering floods with major socio-economic damages in most of the Romanian territory. In this paper we analyze the large scale circulation patterns associated to heavy precipitation episodes recorded in April, July and September 2005 and, the hydrological consequences for different regions of the country. The complexity of factors giving rise to extreme precipitation is analyzed. As a large scale data we used the daily means of sea level pressure, geopotential heights at 500 hPa and precipitable water content from NCEP/NCAR reanalysis. Daily precipitation records at meteorological stations and river discharges at hydrological gauges are analyzed and compared with historical records to emphasize that precipitation events during 2005 were particularly exceptional in terms of their magnitude and consequences.