



## **Regional characteristics and spatial patterns of extreme precipitation in Southern Italy**

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A data-base of hydrological disasters caused by meteorological anomalies and extreme precipitations within the Campania region (Southern Italy) during the last 50 years, has been set up to shed light on spatial patterns and regional characteristics of floods and on the processes that give rise to such patterns. Hydrological events have been selected from the VAPI project (Rossi e Villani, 1995) and the AVI project (Census of Italian areas prone to hydrogeological calamities, Gndci-CNR, 1989). To increase the number of significative gauging stations and to analyze data at an hourly temporal scale, a number of rainfall strips have been vectoralized. Rainfall strips are a plot of rainfall amount versus time and were used in the past to record rain gages data, when digital data logging systems were not yet in use. The extreme event are analized with reference to the space-time distribution of ground precipitation and to the dominant meteorological characteristics, when it is possible to identify particular anomalies. Extreme precipitation space-time distribution, for rainfall of different lags, is derived by an interpolation model which also give a measure of estimation accuracy. In this way it is possible to assign intensity, duration and areal extension characteristics to each of the examined events. The database classify hydrological disasters by space-time evolution and by damages produced.