



People-flood interaction: victims throughout four Mediterranean countries (France, Italy, Spain, and Greece) in 34 years

Olga Petrucci (1), Luigi Aceto (1), Laurent Boissier (2), Vassiliki Kotroni (3), Maria Carmen Llasat (4), Montserrat Llasat-Botija (5), Joan Rosselló (3), Katerina Papagiannaki (1), A. Aurora Pasqua (2), and Freddy Vinet ()

(1) CNR-IRPI National Research Council – Research Institute for Geo-Hydrological Protection, Cosenza, Rende, Italy (o.petrucci@irpi.cnr.it), (2) Université de Montpellier, Département de géographie, UMR GRED “gouvernance, risques, environnement, développement”. Montpellier, France, (3) Institute of Environmental Research and Sustainable Development, National Observatory of Athens, Greece, (4) University of Barcelona, Department of Applied Physics, Barcelona, Spain, (5) Grup de Climatologia, Hidrologia, Riscs i Territori, Universitat Illes Balears, Palma de Mallorca, Spain

Floods and flash floods are widespread phenomena in Mediterranean countries, where they cause severe damage and pose a threat to the people. The aim of this work is to highlight similarities and differences, if any, among circumstances and people behavior in four Mediterranean countries frequently affected by fatal floods: France, Italy, Spain, and Greece. In order to do this, we collected and organized detailed information on victims caused by floods throughout the period 1981-2015. The database is made of different sections allowing:

- a) Event identification, in terms of time of occurrence and place where fatalities occurred,
- b) People identification, in terms of gender, age, and often even the name and surname of victims,
- c) People-event interaction, characterizing the circumstances in which fatalities occurred, including dangerous behaviors,
- d) External features that could have had some influence on the occurrence of fatalities, as the presence/absence of alert systems and prevention measures.

We used the collected information to investigate the event dynamics that led to the loss of lives and we identified the most dangerous event circumstances.

The aim is to understand how and why people are involved in these events, and the most dangerous conditions, places, activities and dynamics of people-event interaction. The results can improve the understanding of the impacts that floods pose to people and can increase risk awareness among administrators and citizens. The outcomes can also be used to understand and highlight similarities and differences, if existing, in the behaviors of people in the four analyzed countries, in order to strength the strategies aiming to save people and warn about risky behaviors.

We think our study can improve the understanding on the impacts that geo-hydrological hazards pose to the population of analyzed places, and on their consequences, and we believe it could be an important step for increasing knowing and awareness among administrators and citizens.