



How to make possible a socio-hydrometeorological definition of high-impact weather event?

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In the context of global changes, the occurrence of extreme weather events is likely to increase. The risk associated with such event will thus strongly depend on their impacts on society and goods. Social and natural scientist agree that integrated assessments of hazard and consequent impact are necessary to anticipate and mitigate risks. But how can we define a high-impact weather event?

This work proposes to examine several approaches for a quantified and objective definition of these events. Such approaches impose a better understanding of the interrelations between the hazards and their associated socio-economical impacts. They thus need to deal with multi-disciplinary observations to describe and to understand these links that are strongly associated with the affected populations and their capacity to cope and to anticipate the hazard.

This work is based on long-term observations and modeling of flash-flood events that take place in the Southeastern part of France. A first cross-analysis between the several international and national databases presents a large heterogeneity of the available multi-disciplinary data (i.e. data dealing with the hazard (duration; precipitation amount) and data dealing with the impacts (i.e. number of fatalities, damages, number of affected counties), making difficult such interdisciplinary studies.

We thus propose to guide the definition of these high-impact weather events by the resonance of the spatial and temporal scales associated with the hazard and the impacts. To do so, precipitation observations, as well as socio-economical (i.e. number of fatalities, damages, number of affected counties) and media (i.e. TV broadcast) data are used.