



Some learnings from post-event field investigations after the June 2013 floods in the Pyrenees region in France.

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In June 2013 catastrophic floods occurred in south of France in the Pyrenees mountainous area. These floods were due to the combination of a high initial discharge due to snowmelt with a significant rainfall event (up to 200mm rainfall), which effects may have been enhanced by an increase of snowmelt. Although the dynamics of this flood are not really similar, some of its features clearly remind what may be observed in the case of flash floods: significant contribution of relatively small watersheds, high solid transport, very limited information on the reality of flood magnitudes due to the small size of catchments contributing to the flood and the destruction of a significant part of the gauging network.

This contribution presents the results of a post event field survey conducted in July 2013 in order to document this flood in terms of intensities of hydrologic reactions. The methods used are those described in Gaume et al. [2008, 2009], with a specific focus on the exploitation of videos from weatnesses. The dataset builded includes 31 peak discharge estimates, illustrating the relatively limited intensity of hydrologic reactions if compared to flash floods, but also providing some interesting complements for the consolidation of the methodology used for post-event field investigations:

- several opportunities of comparison of the peak discharge estimates obtained from post event field investigations and from the gauging network, showing an overall good coherence
- possibility of very significant flow velocities (up to 6 m/s-2) in the specific context observed here (slopes reaching up to 5%).
- possibility to get information on flow surface velocities fields from videos provided by weatnesses.
- significant influence of space-time rainfall distribution on the features of the flood, stressing the importance of a detailed information on the contribution of the sub-catchments.

Gaume E., Borga M., 2008. Post flood field investigations after major flash floods: proposal of a methodology and illustrations. *J. Flood Risk Manag.*, doi:10.1111/j.1753-318X.2008.00023.x.

Gaume E., et al. 2009. A compilation of data on European flash floods. *Journal of Hydrology*. 367, 70-78, doi:10.1016/j.jhydrol.2008.12.028.