



Telling and measuring urban floods: event reconstruction by means of public-domain media

S. Macchia (1), E. Gallo (2), and P. Claps (3)

(1) Istituto Giovanni Arpino, Sommariva del Bosco, Italy (stefano.macchia@istruzione.it), (2) CINID, Consorzio Interuniversitario per l'Idrologia, Italy(enrico.gallo@gmail.com), (3) DIATI, Politecnico di Torino, C.so Duca degli Abruzzi 24, 10129 Torino, Italy(pierluigi.claps@polito.it)

In the last decade, the diffusion of mobile telephones and of low-cost digital cameras have changed the public approach to catastrophes. As regards floods, it has become widespread the availability of images and videos taken in urban areas. Searching into Youtube or Youreporter, for example, one can understand how often citizens are considering to report even scary events. Nowadays these amateur videos are often used in news world reports, which often increase or dampen the public perception of flood risk. More importantly, these amateur videos can play a crucial role in a didactic and technical representation of media flooding problems. The question so arise: why don't use the amateur videos for civil protection purposes?

This work shows a new way to use flood images and videos to obtain technical data and spread safety information. Specifically, we show how to determine the height and speed of water flow, which have been achieved in some places during Genoa flood - 4th November 2011 - For this event we have downloaded more than 50 videos from different websites, where the authors have provided information about the time of recording, the geographical coordinates and the height above ground of the point of recording. The support by Google tools, such as Google maps and StreetView[©] has allowed us to geographically locate the recording points, so to put together shots and slides necessary to put together a whole reconstruction of the event.

Future research will be in the direction of using these videos to generate a tool for the Google platforms, in order to address an easily achievable, yet accurate, information to the public, so to warn people on how to behave in front of imminent floods.