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Story Maps as valuable tools for flood risk management and communication: a case study in Calabria

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Storytelling is one of the most ancient form to transfer knowledge between individuals and generations; the technique of story mapping represents a novel mixed media approach, through the use of online mapping applications, that is gaining broad acceptance as a means of event analyses and flood risk communication, also in formal contexts. Complex dynamics and interactions occurring during extreme hydrological events, the intersection of social and natural conditions leading to disaster, are most easily visualized and understood if presented in the form of a narrative; moreover, available online platforms, that can be easily accessed through an internet connection, are very versatile and allow to combine authoritative maps with text, images and multimedia contents. In this perspective story maps can be very effectively implemented to exemplify, using a variety of media, both the spatial and the temporal evolution of the phenomenon to a broad audience and particularly to decision makers for achieving effective management.

StoryMAPJS is a free tool that has been used in this study: it allows to describe stories on the web highlighting the locations of spatially-related information in conjunction with audio, video, text, and interactive content. The story map creation is very intuitive for users. The format consists of a slide for each place in the story: setting the location can be performed as a text search for the name, address, or latitude and longitude. A sidebar on the left helps following the narrative, while the majority of the screen is taken up by a map, that may be panned and zoomed, related to or featuring the accompanying content enabling the insertion and presentation of different data in the most appropriate way.

The story map here presented focuses on the hydrological event occurred on 12 August 2015 that affected the area of Rossano and Corigliano municipalities, in Calabria (Italy): it traces all the development from meteorological inception, to a detailed analysis of the effects on the ground. A heavy rainfall event hit the northeast coastal areas causing powerful flash floods in several creeks, but fortunately did not produce victims: roads and buildings were flooded and the waters swept away cars and piled them up on the seafront; more than five hundred residents and tourists were displaced. The story map consists of 56 slides, 13 of which provide a general description of the flooded area, its hydrography and a summary of the information retrieved form the Civil Protection report; the remaining slides locate in sequential frames the critical points (leeve breaks, bridge or channel obstructions, etc.) and allow to have an overall picture of damages. The contents of the slides are distinguished by using different icons.

The story map on Rossano event may be accessed at the link below:

https://uploads.knightlab.com/storymapjs/c5af0cea1ea0038e878987945ced0e30/12-august-2015-rossano-cs/index.html.