

Improving flood risk management through risk communication strategies

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A suitable level of social perception about flood risk and awareness of Civil Protection Plans are critical to minimize disasters and damages due to flash floods. In order to improve risk perception, awareness and, as a result, the effectiveness of Civil Protection Plans, it is often required the implementation of communication plans. This research proposes a guide recommendation framework to enhance local population preparedness, prevention and response when a flash flood occurs. The research setting was a village (Navaluenga) located in Central Spain with 2,027 inhabitants. It is crossed by the Alberche river and Chorreron stream (both tributaries of the Tagus river), which are prone to flash floods. In a first phase, we assessed citizens' flash-flood risk perception and level of awareness regarding some key variables of the Civil Protection Plan. To this end, a questionnaire survey was designed and 254 adults, a sample representing roughly 12% of the population census, were interviewed. Responses were analysed, comparing awareness regarding preparedness and response actions with those previously defined in the Civil Protection Plan. In addition, we carried out a latent class cluster analysis aimed at identifying the different groups present among the respondents. Next, a risk communication plan was designed and implemented. It aimed to improve the understanding of flood risk among local people; and it comprises briefings, quiz-answers, contests of stories and flood images and intergenerational workshops. Finally, participants in the first phase were reached again and a new survey was performed. The results derived from these second questionnaires were statistically treated using the same approach of the first phase. Additionally, a t-test for paired samples and Pearson Chi-Square test was implemented in order to detect possible improvements in the perception and awareness. Preliminary results indicate that in Navaluenga there is a low social perception of flood risk and a low level of awareness regarding the Civil Protection Plan. In the social context of the Iberian Peninsula, where climate change models indicate an increase in extreme weather events and, consequently, high exposure and vulnerability to flash floods, the implementation of appropriately designed communication strategies is critical to improve the resilience of urban areas in order to cope with this risk.