

Interactive comment on “READY: a web-based geographical information system for enhanced flood resilience through raising awareness in citizens” by R. Albano et al.

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I want to thank you very much for your valuable comments.

If the paper on NHES were accepted, I plan to add a section called “Discussion,” in which I will address the issue that you highlighted.

Below is the proposed discussion

In this paper, I propose an experimental system called “READY.” It enables you to provide support to the general public and other safety stakeholders (for example, voluntary associations and civil protection organizations), in the prevention, mitigation and pre-
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paredness phase of a flood or landslide risk event.

During these phases, it is essential to provide citizens with access to information about hazards, vulnerability and exposure assessment, evacuation procedures, and increasing the capacity of individuals to develop means of protecting themselves, their families and their property. READY offers tremendous value owing to its ability to integrate information coming from several sources – all into one visual framework: satellite data, historical events, flood simulations etc.

All of this useful information has been brought together in this newly developed information system. It is dedicated to promote mitigation actions through its high degree of interactivity (I.e. through “geo-tools”), through its easily readable maps, through its ability to quickly explore alternative scenarios and historical events, and through its effective use of graphic symbol system.

It is uncontested that a social system, one that is active and informed, can increase the resilience of a territory by informing its approach to hazards and risk. Risk communication is therefore a key aspect of social capacity building, both in terms of augmenting people’s ability and motivation to act and encouraging participation at the community level (Hoppner et al., 2012).

Without a doubt, the most effective strategy for mitigating risk is to understand the risk. In order for this knowledge to be useful, there needs to be a level of in-depth analysis that is not easy to achieve through radio or television. Accordingly, READY could help to support this analysis requirement. Nevertheless, it is complicated and beyond the purpose of this study to access the impact on social response by using this tool. Research has tended to focus on understanding the effect of communication tools on public perception (e.g. Handmer, 1980; O’Sullivan et al., 2012, Bradford et al., 2012). The research suggests that providing preparedness advice helps to reinforce economic savings that are possible through the implementation of low-cost, reasonably simple, self-protection measures (O’Sullivan et al., 2012).

However, few have addressed the issue of how these tools ought to be disseminated, explained or marketed to the public in the first place. While risk managers and other types of experts are able to decode and interpret the content of these maps, ordinary citizens find this more challenging. Given that dissemination and communication may influence peoples' access to and understanding of the maps, this seems like a relevant consideration to investigate. This is a reasonable approach in light of research findings suggesting that the largest hurdle between knowledge production and knowledge utilization is "transmission" (Landry et al., 2001).

READY content and design aims to be adjusted to lay people's needs. The READY framework is able to present information that is relevant to the users location, enhancing the user's ability to adequately respond. It should also be noted that communication and participation literature increases stresses that a homogeneous "general public" does not exist and that different population groups may necessitate different communication strategies (see Hoppner et al., 2010, 2012).

While the nature of information published online tends to be less time and resource-intensive than "place-based" methods (e.g. public meetings and participatory exercises), it can be less effective in motivating personal action reducing peoples' focus on technical measures (Wachinger et al., 2012).

READY WebGIS should be supported by "place-based" methods to help ensure that information is received by as broad an audience as possible. Web-information sources, if they are not published, are not widely known, but they can become popular when visited. A two-way communication process is more likely to be effective in this regard since it gives the audience a change to voice concerns and give feedback. Therefore, an effective way to ensure the diffusion of the READY tool, as well as its utilization, is to collaborate with public safety and civil protection organizations.

On one hand, flood-risk agencies and civil protection associations ought to contribute to the development of self-help groups in communities at risk. This can be achieved by

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communicating with existing local groups, utilizing on-the-ground services and holding public events. On the other hand, READY is a suitable tool for building social capacity, both for the sake of encouraging self-protection, as well as stakeholder involvement in management decisions. READY is efficient in achieving rapid results for shared understandings of natural risk issues (Frigerio and van Westen, 2010; Le Cozannet et al., 2014). The interactive, dynamic and flexible nature of the technology, combined with the immediacy with which information is presented by the map and graphic symbols, can facilitate and increase the speed of knowledge acquisition. READY WebGIS can provide visual and symbolic information that is both easier to understand and adopt.

Citizens that are familiar with common ITC tools, such as Google maps, Openstreet maps or GPS navigation devices, have also shown forthwith confidence with this tool and have expressed interest in its future utilization. In turn, the people who have little confidence with the web or electronic devices will require a brief training to understand the utilization of the tool. Nevertheless, they expressed interest in understanding the risks associated with the places in which they live or work.

Finally, flood communication maps have been important to populations at risks. There has often been a general desire for more information about flood, some wanting situation-specific advice. There has also been a general desire for consistency and clarity between agencies involved in responding to flood risk. The process of transforming information into knowledge ought to be supported by an integrated and multi-dimensional communication system, where traditional and innovative communications methods coexist.

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