



Are we all on the same page?
Communicating volcanic hazard and risk through maps

Jan Marie Lindsay, School of Environment, University of Auckland, New Zealand

Volcanic hazard maps are visual, spatial depictions of the areas that could be potentially impacted by volcanic phenomena. If they are developed, communicated, and used appropriately, hazard maps can represent a common reference point for discussion and mitigation of volcanic risk, as they put all parties quite literally "on the same page" of hazard information. If they are NOT developed, communicated, and used appropriately, hazard maps can end up in the decision-maker's bottom drawer, quite literally in the "too hard basket". There is a large diversity in volcanic hazard maps around the world, in part because there are no clear conventions or guidelines in the volcanology community for developing hazard maps. Although most maps show similar types of content, such as hazard footprints or zones, they vary greatly in input data, communication style, appearance, scale and visual design. This diversity stems from a range of factors, including differences in map purpose, the methodology used, the level of understanding of past eruptive history, the prevailing scientific and cartographic practice at the time, the status of volcanic activity, and the local agency standards or policy requirements in place. There is also a wide range in the use and effectiveness of volcanic hazard maps. Why are some maps embraced by communities and decision makers, and others relegated to the bottom drawer?

In this presentation, I will discuss the array of factors that need to be considered in a volcanic hazard assessment as well as some of the approaches and models that can be employed to assess hazard. I will show how volcanic hazard data can be integrated into volcanic hazard maps, present some examples of the rich diversity of maps from around the world, and give some examples of where hazard maps were not used as expected and speculate why. I will explain how some hazard footprints from maps can be used to calculate impacts on society, and in some exceptional cases, the likelihood of those impacts (otherwise known as 'risk'). I will summarise some of the key considerations for developing hazard maps that have emerged from a recent international effort to share and collate hazard map experiences from around the globe. I will conclude by suggesting that there is no "one size fits all" approach to volcanic hazard mapping. Instead, there are some key things that should be considered by map makers to increase the chances that their maps are understood, useful, useable, and actually used.

