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Delivering hazard information: from misunderstandings to mayhem

Christopher Kilburn (1), Carmen Solana (2), Sabina Michnowicz (1,3), and Stephen Edwards (1)

(1) Aon Benfield UCL Hazard Centre, University College London, London, UK (c.kilburn@ucl.ac.uk), (2) School of Earth and Environmental Science, University of Portsmouth, UK, (3) Institute of Hazard, Risk & Resilience, Dept of Earth Sciences, Durham University, UK

Misunderstandings between monitoring specialists, decision makers and the public can transform a volcanic emergency into a disaster. They are especially likely to occur during unrest at long-quiescent volcanoes, where few, if any, of the key groups may have experience of such behaviour. The potential for misunderstanding strongly depends on the quality of scientific information and the manner in which it is delivered. The same factors determine the nature of a misunderstanding, which, in turn, affects the perception and response of vulnerable communities. As we illustrate with selected case studies, four classes of response can be recognised: realistic, overconfident, confused and sceptical. A response is realistic when good information has been delivered effectively and, as a result, has been well understood. Overconfidence occurs when a recipient overestimates how well they have understood the information supplied. Overestimation may not be immediately evident, so that the provider erroneously believes that the information has been understood and no further action is necessary. Confused and sceptical responses occur when the information delivered is insufficient or ambiguous. In the first case, the impact of poor information is compounded by a poor understanding; in the second, the information is recognised as being inadequate and so engenders a lack of trust. The realistic response represents an ideal outcome for hazard-mitigation procedures and is often implicitly anticipated when the procedures are being developed. In practice, however, one of the other responses usually prevails. Crucial improvements will follow when account is taken explicitly of the full range of potential response and will require raising awareness among key groups of the needs and limitations of each other.