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## **A probability translation table for GeoNet communications in New Zealand**

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During volcanic eruptions, a number of critical challenges arise in emergency management and public decision-making, often dependent upon probabilistic forecasts issued by the scientific community. Psychological research into the understanding of different phrasings of probability has identified that the framing, directionality and probabilistic format can influence people's understanding, affecting their action choices. In addition, this research has shown that verbal and linguistic probabilities (including phrases such as unlikely, likely, certain, and uncertain, with modifiers such as virtually, very, exceptionally, and extremely) are understood differently across individuals. Thus the term 'likely' could be interpreted as anything from 51% to 83%. To address this, the leading international best practice by the Intergovernmental Panel on Climate Change (IPCC) and the World Meteorological Organization (WMO), is to adopt probability translation tables to improve the communication of verbal likelihoods and numerical probabilities. Probability translation tables provide a link between numerical probabilities and verbal (or qualitative) descriptors of those probabilities, as they are perceived by the general population. Based on this best practice, the GeoNet monitoring programme at GNS Science in New Zealand has adopted a probability translation table, modified to account for recent research into the most suitable translation values. The table is used to effectively communicate likelihoods of hazardous events (such as volcanic eruptions, aftershocks, landslides, and tsunamis) with stakeholders and the public, allowing for consistency across communications by GNS Science. We will present the motivation and background behind this probability translation table, and the process by which this table was developed. We will also present answers to some frequently asked questions about these tables, present the current GeoNet table, and present examples of its use in communication products.