

## **Geophysical Observational Systems for Science and Hazard Reduction**

Richard ALLEN<sup>#+</sup>

*UC Berkeley, United States*

*#Corresponding author: rallen@berkeley.edu +Presenter*

Subduction zones are high hazard environments resulting from the complex multi-scale tectonic processes that form them. They provide an ideal environment to study the driving forces of plate tectonics and the coupling of the physical and chemical processes of earthquakes and volcanism. At the same time, the significant population living above subduction zones faces a serious hazard that is often poorly understood and poorly articulated resulting in only limited efforts to increase resilience to the threat. Geophysical (and geochemical) observation systems can serve a dual purpose of providing key observational datasets to better understand the fundamental processes that map into long-term hazard and risk, while also providing short-term hazard mitigation strategies such as warnings of earthquakes, tsunamis and eruptions. The coupled efforts to understand the science and deliver hazard reduction strategies are only enhanced through international cooperation and coordination.