PROJECT: Evaluating the Real-World Impacts of Earthquake Early Warning in the US

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Project Summary:
This project will engage an undergraduate student in applied earthquake hazards science focused on the ShakeAlert, the Earthquake Early Warning system for the U.S West Coast. The student will work with practitioners at two institutions to explore how the public and technical engagement component of operational warning system translates into public benefit, and how that benefit can be measured, evaluated, and improved.

Rather than being hypothesis-driven, the project will utilize qualitative data collection and analysis methods to thematically explore engagement with ShakeAlert's technical partners. The student will gain experience working with survey datasets, evaluation metrics, stakeholder perspectives, and communication products - including fact sheets, scientific graphics, and social media products - that sit at the intersection of geophysics, social science, and public safety. The student will gain experience in speaking with technical and general audiences, and presenting complex scientific information clearly and precisely.

Role and probable activities for a student researcher in this project:
The student will be responsible for contributing to the development of data collection instruments, analyzing data about ShakeAlert impacts, and packaging that analysis in clear and meaningful ways for a variety of audiences. Depending on the interests and skills of the student, objectives may include:

1. Working with survey results and public data to quantitatively assess the total impact of ShakeAlert implementations.
2. Analyzing qualitative survey results to evaluate the needs of ShakeAlert technical partners.
3. Developing map-based visualizations to explore alert performance or usage patterns, relying on GIS tools or StoryMaps.
4. Assisting with the design or evaluation of outreach or engagement activities tied to ShakeAlert.
5. Contributing to internal or public-facing products (such as fact sheets, web pages, graphics, videos, social media, or other communication products).
6. Crafting and delivering public presentations to community groups or technical teams.
7. Conducting site visits with prospective technical partners to help them determine whether and how ShakeAlert technical partnership would work for them.

Much of this can be performed remotely, although public engagement at the host institutions or within the student's own community will add to the experience.

Preferred Skills
There are no specific technical skills required for this project. However, the student must be willing to work with and learn from a wide variety of stakeholders and represent a publicly funded and publicly facing warning system. The ideal candidate will be interested in the intersection of geophysical science and social science, and/or in science communication. Preferred skills and interests may include:

1. Strong writing and editing
2. GIS skills
3. Comfort with public speaking
4. Interests in social science, emergency management, and/or seismology