Bay Area Geophysical Society Seminar Series

Improving Timely Earthquake Early Warning Accuracy For Offshore Seismicity

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**In-person in Room 325 at McCone Hall
(UC Berkeley campus) and on Zoom**

Abstract:

Timely alerts sent through earthquake early warning (EEW) programs allow those alerted to take protective actions to mitigate their seismic risk. ShakeAlert, the EEW program focused on the west coast of the contiguous United States uses a set of algorithms including the point source algorithm, EPIC to determine the location, magnitude, and origin time of potential earthquakes. While many ShakeAlert solutions produce low-latency, low-error solutions for in-network seismicity, edge-of network, including offshore earthquakes are more difficult to constrain with the same time limitations.

In this presentation, I highlight a revised earthquake location algorithm being tested with the goal of limiting high-error offshore events by including information about the contemporary seismic record through a Bayesian framework. This has the result of greatly reducing high error and potentially false alarm causing events. I will show results highlighting the improvement in earthquake characterization using a test dataset of recent earthquakes originating offshore of Northern California. Improvements in the accuracy of offshore events not only improves alert quality related to earthquake early warning, but also may one day contribute to improved accuracy for tsunami early warning.

Presenter's Bio:

Dr. Amy Williamson is a Postdoctoral Researcher at the Berkeley Seismology Laboratory at UC Berkeley. Her research focuses on the real time detection and characterization of earthquakes for use in earthquake early warning. She is also interested in the rapid characterization of offshore earthquakes and their tsunamigenic potential using both on-land geodetic and offshore tide and pressure sensor information. Amy completed her PhD in Geophysics from the Georgia Institute of Technology in 2018 and informs her current research through her past experience as a duty scientist at the National Tsunami Warning Center.

Zoom meeting information:

Zoom ID:
Password: BAGS4ever