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Failure to alert? Exploring perceptions of ShakeAlert during the 2019 Ridgecrest Earthquake SequenceShow affiliations

Sara Mcbride[1], Robert de Groot[2], Tao Ruan[3], Qin Lv[4], and Qingkai Kong[5]
[1]U.S. Geological Survey, United States of America (skmcbride@usgs.gov)
[2]U.S. Geological Survey, United States of America (skmcbride@usgs.gov)
[3]University of Colorado- Boulder
[4]University of Colorado- Boulder
[5]University of California - Berkeley

On July 4, 2019, a M6.4 earthquake struck Ridgecrest, California. The next evening, on July 5, an even larger M7.1 rattled the region. The ShakeAlert Earthquake Early Warning System for the West Coast of the United States detected and issued ShakeAlert Messages for both earthquakes to pilot users of the system. Several ShakeAlert technical partners, including the Caltech UserDisplay demonstration console, also delivered alerts to their users. However, the Los Angeles City application (app), powered by ShakeAlert, developed and being tested by the City of Los Angeles did not deliver ShakeAlerts to approximately 700,000 test users in Los Angeles County. This is because the alerting threshold of the estimated shaking (above Modified Mercalli Intensity (MMI) IV, potentially damaging shaking) was not met for either event in Los Angeles County. While the minimum magnitude threshold of M5.0 for both earthquakes was met, the shaking estimated by the ShakeAlert system indicated that no part of Los Angeles County would experience levels of shaking that would be damaging. Although the ShakeAlert System performed as designed—in both the Ridgecrest area as well as in Los Angeles—various media outlets and initial feedback from LA City app users suggest that the public perceived that the system did not work.

This presentation offers an analysis of media and social media data related to the perceived performance of the ShakeAlert System during the Ridgecrest earthquake sequence. Specially, we focus on a comparison between media depictions and social media activity in the two geographic regions that did and did not receive a ShakeAlert message, Kern County and Los Angeles, respectively. This represents in many ways a natural experiment, and it is important to learn from these early perceptions of this emergent system.