



CALIFORNIA EARTHQUAKE PREDICTION EVALUATION COUNCIL (CEPEC)

MEMORANDUM

TO: Director, Governor's Office of Emergency Services
FROM: California Earthquake Prediction Evaluation Council (CEPEC)
DATE: September 27, 2016
RE: The Salton Sea Earthquake Swarm of September 2016

Statement from the California Earthquake Prediction Evaluation Council

At the request of the California Office of Emergency Management, the California Earthquake Prediction Evaluation Council (CEPEC) met by teleconference at 08:30 hrs (PDT) today, September 27, 2016. The purpose of the teleconference was to discuss and evaluate a sequence of small earthquakes (~150+) that are clustered about 10 kilometers southwest of Bombay Beach, Salton Sea area.

The cluster is just west of the projected southern extension of the San Andreas Fault and commenced at 04:03 hrs on September 26, 2016. The majority of the magnitudes have been less than 2.0; however, at 07:30 hrs on September 26, 2016 a M4.3 earthquake occurred, followed by a second M4.3 at 20:23 hrs and a M4.1 at 20:36 hrs. The cluster is located in the southern California geological spreading zone on a small "bookend" fault striking nearly perpendicular to the San Andreas Fault. This cluster is just south of an apparently similar cluster that occurred in March 2009 on an adjacent, subparallel bookend fault.

The close proximity to the San Andreas Fault increases the concern that these earthquakes could trigger a large earthquake (M7.0+) on the San Andreas itself. A major earthquake on this southern portion of the San Andreas Fault has not occurred in over 300 years, so the probability of a large earthquake is thought by some seismologists to be higher than on portions of the fault that have ruptured more recently (e.g. in 1857 and 1906).

CEPEC believes that stresses associated with this earthquake swarm may increase the probability of a major earthquake on the San Andreas Fault to values between 0.03 percent and 1.0 percent for a M7.0 or larger earthquake occurring over the next week (to

09:00 hrs PDT, Tuesday, October 4, 2016). This probability range is based on several models developed for assessing aftershock/foreshock probabilities within California.

CEPEC recommends that local emergency services be advised of the potential for further earthquake activity and that the citizens of the affected regions should maintain a prudent level of earthquake preparedness.

Submitted by:

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