

# ShakeAlert® Post-Alert Summary

## Earthquake:

M 3.6 - 17.3 km (10.7 mi) E of Cloverdale  
 ANSS origin (Local): 2020-12-30 20:22:03.4  
 ANSS origin (UTC): 2020-12-31 04:22:03.4  
 ShakeAlert alert (UTC): 2020-12-31 04:22:07.6  
 ANSS location: 38.839, -122.823  
 ANSS depth: 2.1 km (1.3 mi)  
 ShakeAlert Event ID: ew1609388522

## Time To Alert After Earthquake Start:

Initial alert after origin time: 4.2 sec  
 Final alert after origin time: 7.1 sec

## Magnitude Accuracy:

Initial ShakeAlert: M 4.1  
 Peak ShakeAlert: M 4.1  
 Final ShakeAlert: M 3.8  
 ANSS report: M 3.6

## Location Accuracy:

Initial alert: 5.6 km (3.5 mi) NE  
 Final alert: 0.5 km (0.3 mi) NW

## Number of Stations Reporting:

1 within 10 km of epicenter  
 35 within 100 km of epicenter  
 10 used in final ShakeAlert update

## Nearby Cities:

City	Distance	Warning*	MMI**
Cloverdale	17 km (11 mi)	~1 sec	2
Santa Rosa	45 km (28 mi)	~9 sec	<2
Ukiah	48 km (30 mi)	~9 sec	<2
Sacramento	119 km (74 mi)	~29 sec	<2

**Zone Shaken by S-wave Before Alert: 15 km (9 mi)**

## Footnotes:

- \* Warning -- Time between alert production and arrival of the S-wave at a chosen site.
- \*\* MMI -- Modified Mercalli Intensity: a scale to measure ground shaking.
- \*\*\* For earthquakes deeper than 15 km, the alert may be sent before peak shaking reaches the surface.

## Disclaimer:

This information is preliminary or provisional and is subject to revision. It is being provided to meet the need for timely best science. The information has not received final approval by the U.S. Geological Survey (USGS) and is provided on the condition that neither the USGS nor the U.S. Government shall be held liable for any damages resulting from the authorized or unauthorized use of the information.

To learn more about ShakeAlert®, visit [www.shakealert.org/FAQ](http://www.shakealert.org/FAQ)

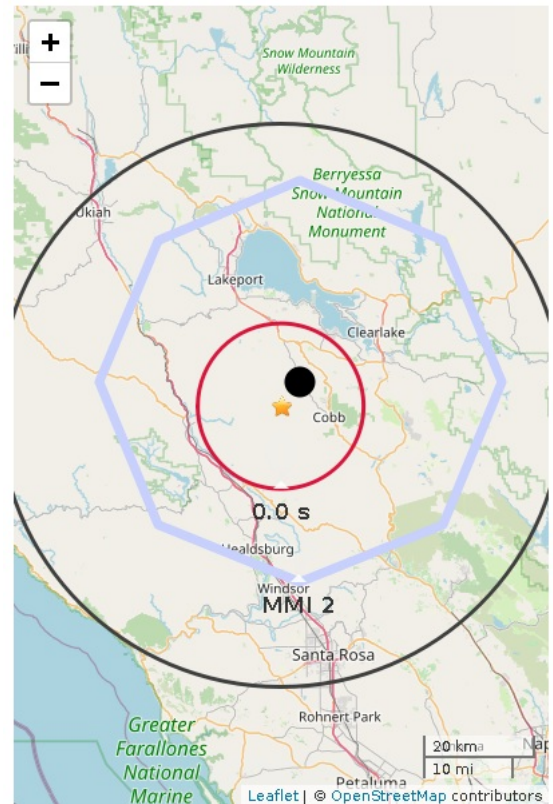


Figure 1. ShakeAlert initial earthquake location (black dot). Star is regional network epicenter. Polygon is the approximate outer range for felt ground motion. If shown\*\*\*, red circle is front of peak shaking when the alert was released. Shaking takes 10 s to expand from circle to circle.



Figure 2. Polygons show shaking intensity contours for the peak magnitude ShakeAlert. Shaking of intensity 3 or less is often not felt. Star shows the regional network epicenter.