

# Post-ShakeAlert® Message Summary

## Earthquake:

Advanced National Seismic System (ANSS):  
 M 4.5 - 171.3 km (106.5 mi) W of Fortuna  
 ANSS location: Not available at report time  
 ANSS depth: Not available at report time  
 ANSS origin (Local): Not available at report time  
 ANSS origin (UTC): Not available at report time  
 ShakeAlert origin (UTC): 2021-12-21 17:25:05.2  
 ShakeAlert Event ID: ew1640107501

## ShakeAlert Messages Issued (after origin time):

Initial: Not available  
 Peak magnitude: Not available  
 Final: Not available

## ShakeAlert System Magnitude Estimates:

Initial: M 4.5  
 Peak: M 4.5  
 Final: M 4.5

## ShakeAlert System Location Accuracy:

Initial: Not available at report time  
 Peak M: Not available at report time  
 Final: Not available at report time

## Wireless Emergency Alert:

Magnitude below threshold for WEA system.  
 WEA alerts are distributed to the MMI 4+ area if ShakeAlert Peak M>=5.0

## Number of Stations Reporting:

0 within 10 km of epicenter  
 0 within 100 km of epicenter  
 9 used in final ShakeAlert Message

## Nearby Cities:

City	Distance	Time*	MMI**
Fortuna	171 km (106 mi)	~48 sec	<2
Eureka	181 km (112 mi)	~51 sec	<2
Fort Bragg	199 km (124 mi)	~56 sec	<2
San Francisco	398 km (247 mi)	~112 sec	<2

Radius shaken before message release: Not available

## Footnotes:

- \* Time -- Time between message release and arrival of the S-wave at the location.
- \*\* MMI -- Modified Mercalli Intensity: a scale to measure ground shaking severity.
- \*\*\* For earthquakes deeper than ~15 km, the ShakeAlert Message may be sent before peak shaking reaches the surface.

## Disclaimer:

This information is provisional and 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.

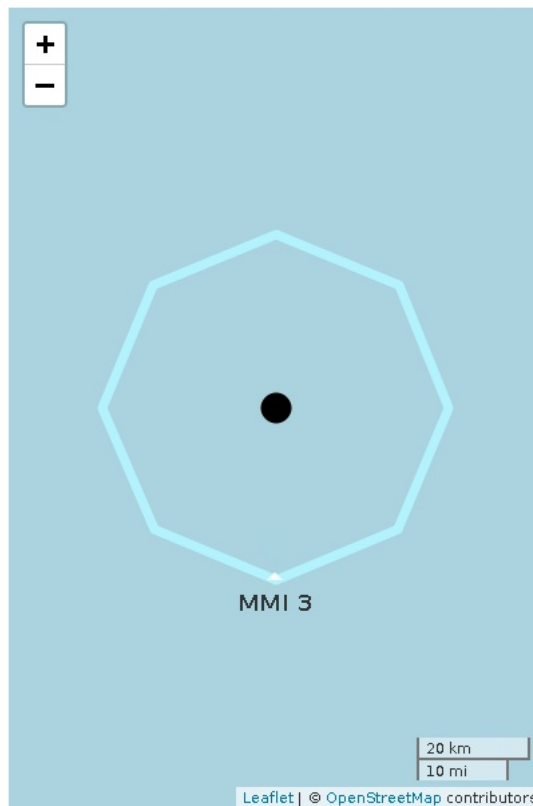


Figure 1. ShakeAlert initial earthquake location (black dot). ANSS earthquake epicenter not available. Polygon approximates outer range for felt ground motion. If shown, red circle is front of peak shaking when the message was released\*\*\*. Shaking takes 10 s to expand from circle to circle.

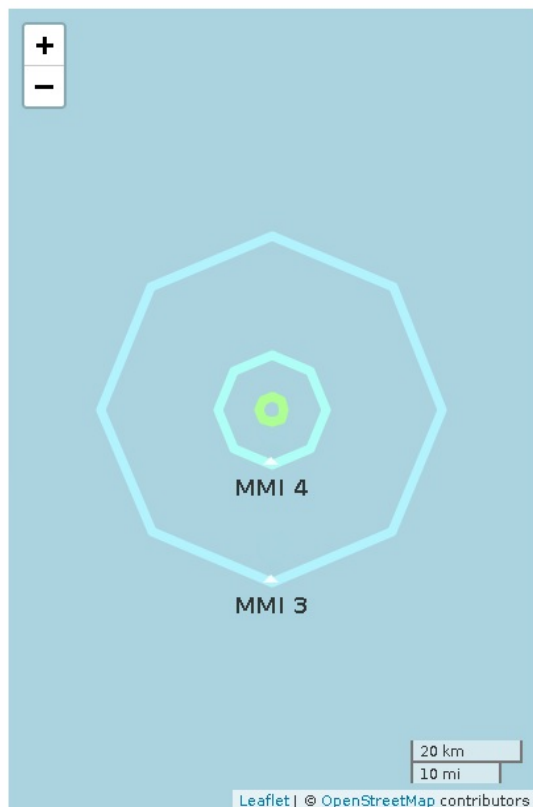


Figure 2. Polygons show shaking intensity contours for the peak magnitude estimate. Shaking of MMI 3 or less is often not felt. ANSS earthquake epicenter not available.