

**METHOD OF PREPARATION**

National tsunami modeling was performed for the County of Sonoma (CA) using the process described in California Emergency Management Agency (CalEMA) and University of Southern California, Tsunami Research Center (USC). The analysis was performed using the MOST program (CalEMA, 1996) and the University of Southern California (USC) Tsunami Research Center (Titov and Gonzalez, 1997; Titov and Synolakis, 1998). The analysis covered a 75 to 90-meter inundation grid using 35 sources that were considered capable of producing a significant tsunami. The sources included both local and distant events, with a focus on subduction zone events that are known to have a high potential for generating tsunamis in the area. The results were validated using historical data and the models were supplemented with additional data from other sources that were considered relevant.

**MAP EXPLANATION**

This map was created by the University of Southern California Tsunami Research Center funded through the California Emergency Management Agency (CalEMA) by the National Tsunami Hazard Mitigation Program. The tsunami modeling process utilized the MOST (Method of Splitting Tsunamis) computational program (CalEMA), which allows for the simulation of tsunami propagation and inundation for a wide range of earthquake sources. The modeling was performed for the Sonoma County coastline with a focus on the Arch Rock Quadrangle/Duncan Mills Quadrangle.

**PURPOSE OF THIS MAP**

This tsunami inundation map is prepared to assist states and counties in identifying their tsunami hazard to form realistic, valid emergency planning maps. The map is provided for free to local governments and public agencies, and it is available to anyone who needs it. The map was derived from the results of the tsunami modeling process and is intended to represent the maximum considered tsunami runup and inundation area for a given event.

**MAP BASE**

The map was created using a 1:24,000 scale Quadrangle Map Series (originally 1:24,000 scale). Tsunami inundation line and area of inundation data were produced using the National Oceanic and Atmospheric Agency Center for Tsunami Research (MOST model) as well as other sources. The map is not intended to be used for navigation or to represent the tsunami hazard in any legal or technical sense. The map is provided for assistance in emergency planning and is not intended to be a complete tsunami hazard assessment.

**DISCLAIMER**

This map does not represent inundation from a single scenario event. It was created by splitting (MOST): NOAA Technical Memorandum ERL PMEL – 112, 11 p. The accuracy of the inundation line shown on these maps is subject to limitations in the models of tsunami generation and propagation phenomena as expressed in the current understanding of tsunami generation and propagation. The tsunami inundation line was determined by using digital imagery and terrain data on a GIS platform with consideration given to historic inundation information (Lander, et al., 1993). In order to enhance the result from the 75- to 90-meter inundation grid data, a method known as “arrested runup” was applied. This method is based on the assumption that tsunamis will not cross the Pacific Ocean “Ring of Fire.”

**Tsunami Inundation Map for Emergency Planning**

**STATE OF CALIFORNIA ~ COUNTY OF SONOMA**

**ARCHED ROCK QUADRANGLE**

**DUNCAN MILLS QUADRANGLE**

**February 15, 2009**

**Source**

Table 1: Tsunami sources modeled for the Sonoma County coastline.

<table>
<thead>
<tr>
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</tr>
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<tbody>
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<td></td>
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<tr>
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</tbody>
</table>

**Perimeters**


**DISCLAIMER**

This map and its accompanying data are intended only as a tool for emergency planning and should not be used for navigation or as a complete tsunami hazard assessment.

**STATE OF CALIFORNIA ~ COUNTY OF SONOMA**

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