

Regional Resilience Planning Map

Providence Seaside Hospital, Seaside, Oregon

This resilience planning map shows the Providence Seaside Hospital and highlights critical facilities in its immediate surroundings. The map can be used for Cascadia earthquake and tsunami planning *before* the earthquake occurs and for other disaster planning purposes. Due to the hospital's proximity to the Cascadia fault, the hospital is in a high seismic hazard region and is expected to experience prolonged strong shaking. The hospital is in the Medium, Large, Extra Large, and Extra Extra Large (XXL) tsunami zones. The worst-case scenario is the XXL zone, which defines the tsunami evacuation zone.

For life safety purposes, all people located within the tsunami evacuation zone are urged to move quickly to high ground above the tsunami evacuation zone. In the worst-case scenario, the tsunami is expected to arrive at the hospital approximately 30 minutes starting from the onset of earthquake shaking. The lowest elevation of the main hospital is on the west side closest to the Pacific Ocean and is approximately 28 ft. The maximum tsunami flow depth is approximately 60 ft on the west side of the hospital and about 40 ft on the east side. The maximum tsunami runup elevation behind the hospital is approximately 85 ft.

In 2017, Seaside School District commissioned a site-specific tsunami analysis based on the DOGAMI-generated worst-case scenario (XXL) (Y. Joseph Zhang, Virginia Institute of Marine Science, College of William and Mary, Gloucester Point, Va., unpublished report to Seaside School District, Feb. 2017. Site specific simulation for Seaside, OR). Seaside School District granted DOGAMI permission to use data from the report for this map; the data are labeled on the map as the "landscape friction XXL line." This line is considered to be the most accurate worst-case tsunami scenario.

Providence Seaside should *not* evacuate from a "distant tsunami," which is generated from an earthquake far away from the Oregon coast, such as Alaska or Japan.

Ways to Increase Tsunami Safety:

- Relocate hospital outside tsunami hazard zone
- Improve emergency power system, including fuel supply, outside tsunami hazard zone
- Plan to access emergency water outside tsunami hazard zone
 - Ground water wells
 - Tanks
- Build new using the national model code on tsunami vertical evacuation structures
 - Addition
 - New building
 - Platform or berm
 - Protective wall system
- Create new tsunami evacuation route
- Improve existing tsunami evacuation route
- Other measures

More information at www.oregonology.org

Explanation of Symbols

Tsunamis generated by a Cascadia Subduction Zone earthquake can vary in size from SM, M, L, XL to XXL.

- Small Tsunami Hazard Zone (SM)
(Small tsunamis inundate the area defined by this zone.)
- Medium Tsunami Hazard Zone (M)
(This zone captures ~79% of local tsunamis.)
- Large Tsunami Hazard Zone (L)
(This zone captures ~95% of local tsunamis.)
- Extra Large Tsunami Hazard Zone (XL)
(This zone captures ~98% of local tsunamis.)
- Extra Extra Large Tsunami Hazard Zone (XXL)
(This zone captures 100% of local tsunamis.)

The tsunami evacuation zone is defined by the XXL zone. DOGAMI tsunami evacuation brochures are available at: www.oregonology.org

Source: DOGAMI Special Paper 43 (2011)

- Existing Tsunami Evacuation Route
- Landscape Friction XXL line (from unpublished data from Site Specific Simulation for Seaside, OR Report, dated Feb 2017)
- Possible Tsunami Evacuation Site
- Possible Site for Tsunami Vertical Evacuation Structure
- Community Point of Distribution

- Hospital
- Buildings of Interest
- Buildings
- Fuel - cardlock
- Fuel - above ground
- Fuel - underground



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March 2018

