Knowing your risk before disaster hits could save your life. Explore the online tool at tsunami.alaska.edu to determine whether your house, workplace, or school is in the inundation/flood zone.

The 1964 magnitude 9.2 earthquake changed Homer’s landscape: the Homer Spit dropped almost 6 feet due to subsidence from the earthquake combined with ground compaction from shaking. Afterwards, buildings and structures on the spit flooded during high tides. The earthquake caused a combination of tsunamis generated by the earthquake itself and by local underwater landslides.

Tsunami researchers use cutting-edge science to examine historical tsunamis and earthquakes, along with geologic records from prehistoric tsunamis, then generate possible worst-case scenarios. This information is visualized in maps showing potential flood zones to help communities create emergency plans.

In Alaska, tsunamis can strike within minutes of an earthquake. Tsunami awareness and safety are crucial to anyone who lives, works, or travels along Alaska’s coast. Earthquakes frequently rumble coastal Alaska. Just offshore, the Pacific Ocean plate scrapes under the continental plate of mainland Alaska, causing much of this activity. Many places along Alaska’s rugged coast are poised for landslides above or below the ocean’s surface. A major earthquake or landslide near the coast could generate a tsunami.

If the ground shakes for more than 20 seconds and it is difficult to stand, and/or the tsunami siren is heard, anyone within the tsunami hazard zone should move to higher ground or a tsunami shelter (see map). Pay attention to unusual sounds and sights when on or near the ocean. Tsunami impacts are greatest near ocean beaches, low-lying coastal areas, and waterways such as harbors and estuaries. Always avoid these areas during tsunamis. A tsunami can be a series of waves that may last for hours, so wait for local authorities to announce when these areas are safe. In addition to wave action, tsunamis can stir up currents that threaten harbors, facilities, and boats.
Tsunami hazard zone

Probable locations of unstable sediment buildup that could cause underwater landslides

Evacuation line designated by the City of Homer

Assembly area and tsunami shelter designated by the City of Homer

Airport
Hospital
City Office
School
Fire Services

1964: About 4 hours after the earthquake, tsunami waves from the rupture reached a maximum-water height of approximately 20 feet.

1964: Within 5-10 minutes after the earthquake, local underwater slumping and landslides caused tsunami 4 feet high that destroyed the small boat harbor and caused an area west of the Salty Dawg Saloon to collapse 10 feet.

Tsunami-generating landslide hazards exist at the mouth of Wosnesenski River across Kachemak Bay

Tsunami-generating landslide hazards exist at the mouth of Grewingk River across Kachemak Bay

1964: The entire Homer Spit subsided by almost 6 feet.

There have been several tsunami evacuations in recent years, but fortunately no tsunami damage. Evacuation decisions need to be made quickly, often before tsunami size is known. Any evacuation, even one that in hindsight may be deemed unnecessary, provides a real-life opportunity to practice and improve community response to tsunamis.