

## Tsunami or “Harbor Wave”

- A Japanese word with two characters:

tsu meaning “harbor”

&

nami meaning “wave”



## acceptable names

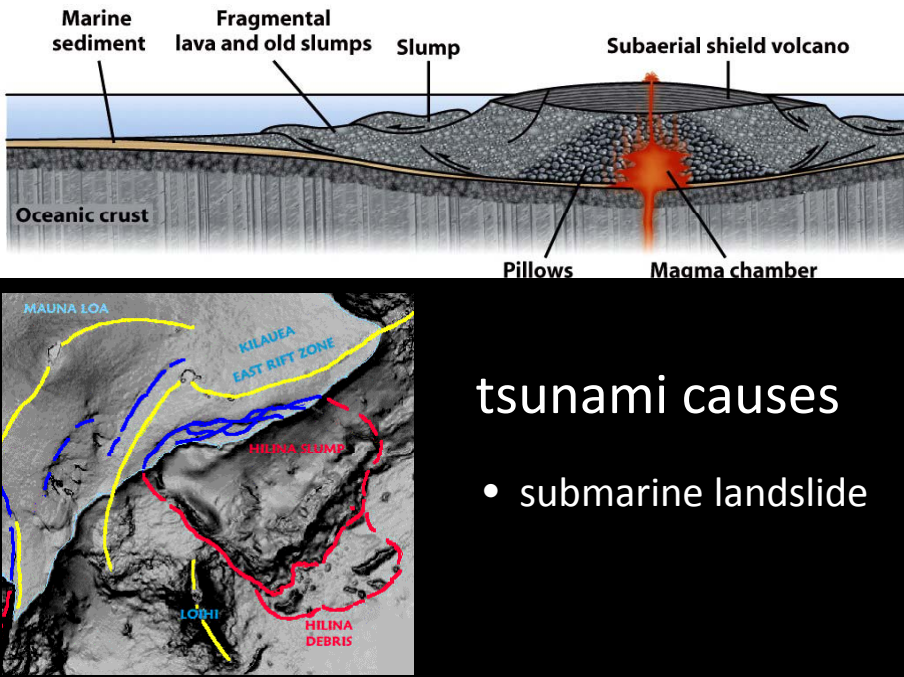
- tsunami
- harbor wave (not scientific but ok)
- seismic sea waves

- ~~tidal waves~~



## tsunami causes

- seismic event in crust under the ocean or a large lake



The diagram shows a cross-section of a subaerial shield volcano. On the left, there is a layer of marine sediment. To its right is a zone of fragmental lava and old slumps, which is part of a larger slump. The volcano itself is a shield volcano with a central vent. Below the vent is a magma chamber, and the surrounding area contains pillow lava. The entire structure sits on the oceanic crust.

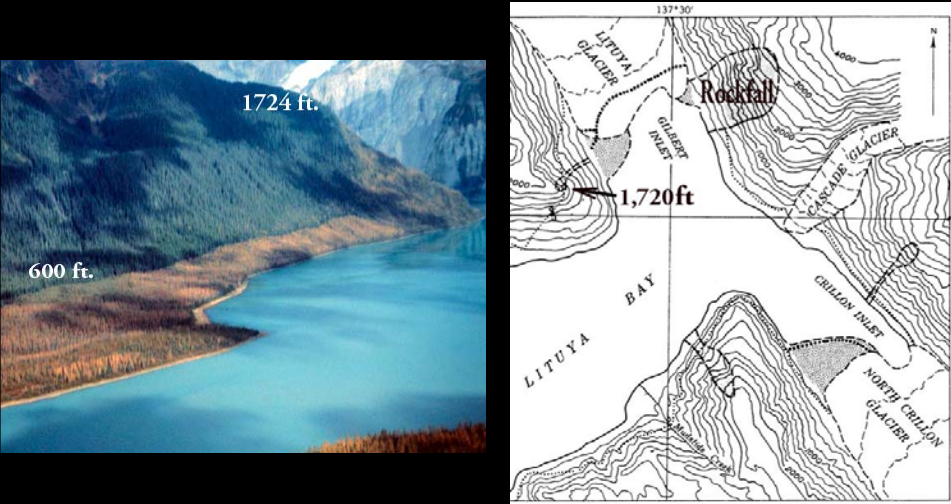
The topographic map shows the Hawaiian Islands with several features highlighted: MAUNA LOA, KILAUEA EAST RIFT ZONE, HILINA SLUMP, LOHI, and HILINA DEBRIS.

### tsunami causes

- submarine landslide

### tsunami causes: terrestrial landslides

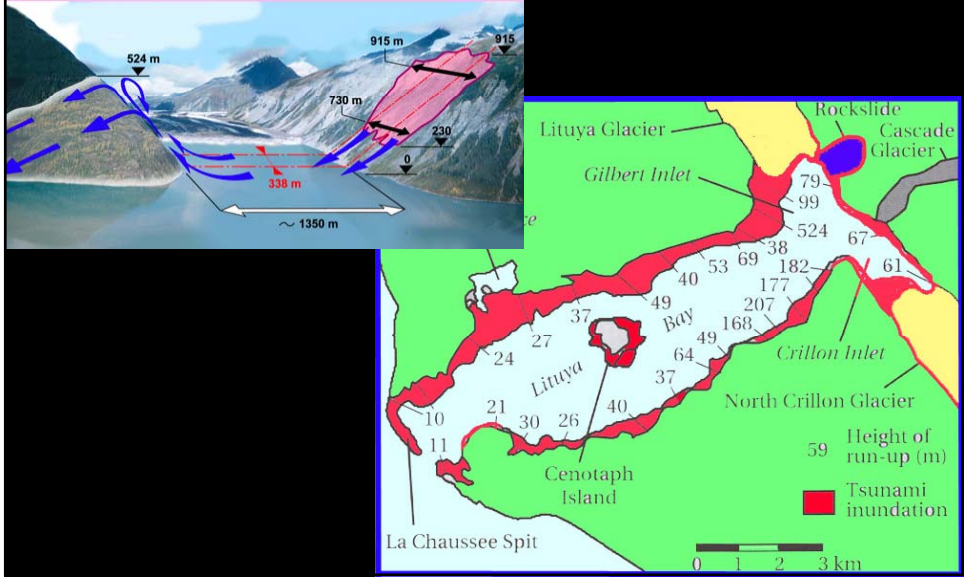
- Lituya Bay AK, 1958: run up heights = 500 m or 1700 ft; context: White Hall: 61 m (200 ft)



The photograph shows Lituya Bay with a large lake. A vertical scale indicates a height of 1724 ft. on the mountain and 600 ft. at the water level.

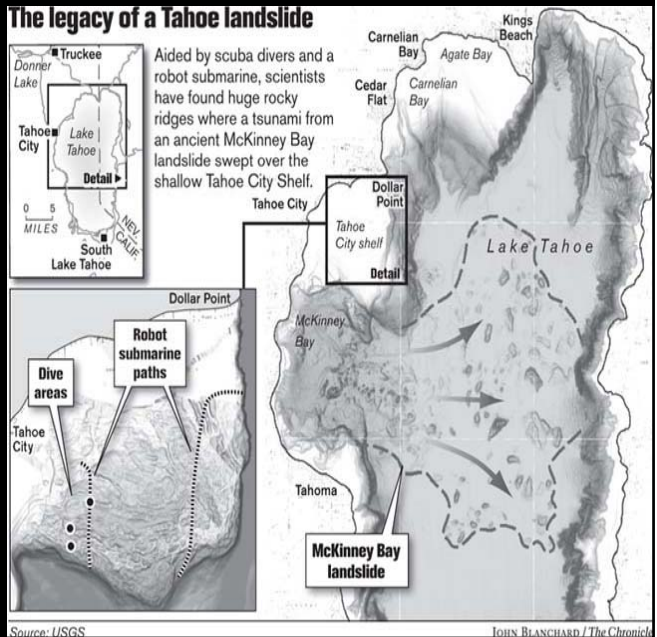
The topographic map shows the area around Lituya Bay, including Lituya Glacier, Gilbert Inlet, Cassin Glacier, Chillon Inlet, and North Chillon Glacier. A 'Rockfall' is marked on the map, and a scale of 1,720 ft. is shown.

# megatsunami: Lituya Bay AK, 1958



# tsunami causes: terrestrial landslides

- Lake Tahoe



## tsunami causes

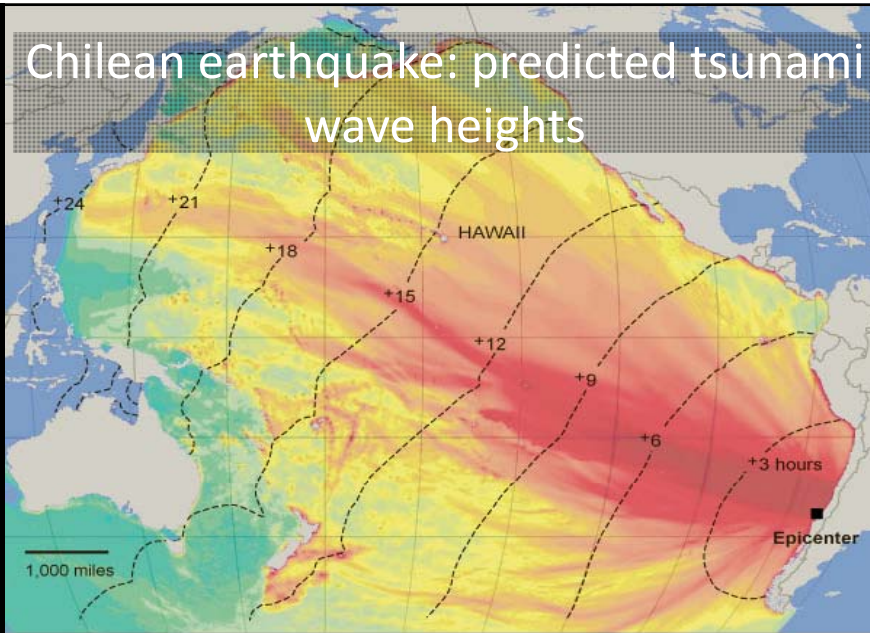
- meteorite impact



# tsunami damage in Chile (2/27/2010)



## Chilean earthquake: predicted tsunami wave heights



ESTIMATED TSUNAMI ARRIVAL TIMES  
Hours after the initial earthquake.

ESTIMATED TSUNAMI WAVE HEIGHT  
0 1 foot+