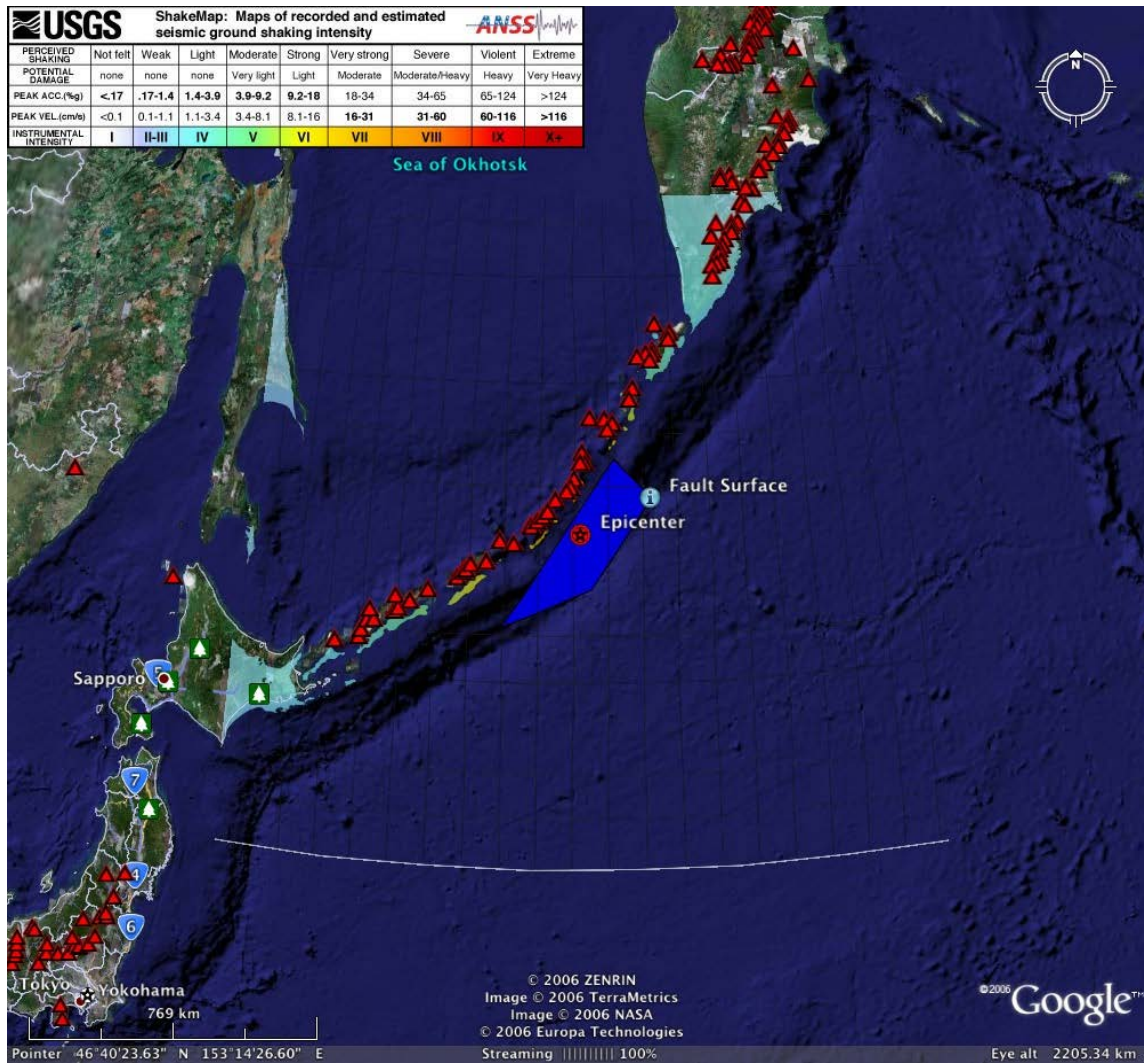


Crescent City Suffers Damage from November 15, 2006 Kuril Island Earthquake and Tsunami

A 'Great' (M = 8.3) earthquake occurred in the Kuril Islands north of Hokkaido on Wednesday, November 15th at 3:14 AM PST. At this location, the Pacific plate is subducting beneath the Okhotsk plate at the Kuril Trench with a velocity of about 90 mm/year. The November 15th mainshock occurred at a shallow depth within about 80 km of the trench axis



ShakeMap of November 15th earthquake (overlaid onto Google Earth).

The November 15 earthquake was the largest earthquake to have occurred in the central Kuril Islands since the early 20th century. The central Kuril Islands commonly experiences one or more shocks of magnitude 6 or greater in a decade (similar to California).

The earthquake produced a tsunami due to the rapid displacement of the ocean floor. The wave fanned out in all directions, moving with great speed across the ocean and slowing down (and increasing in height) as it reached different shores.

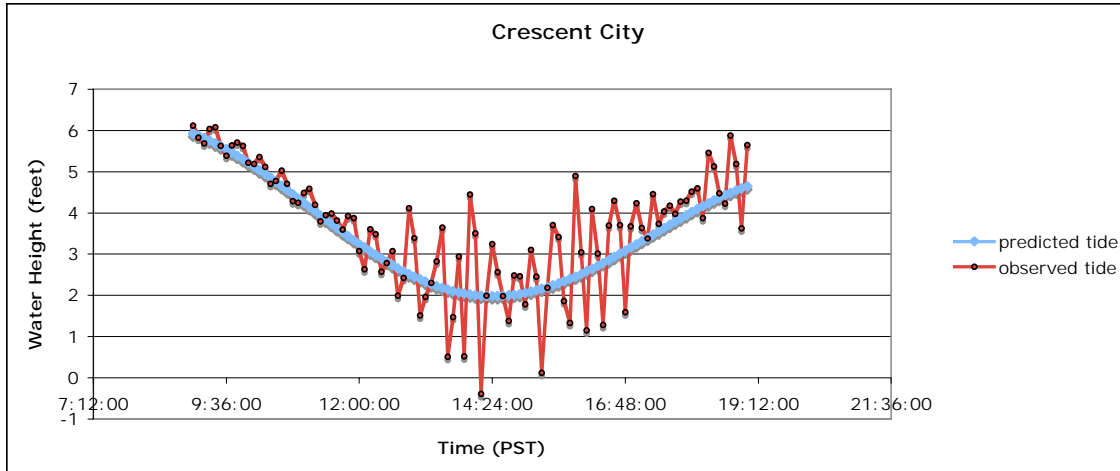
Measured wave heights (peak-to-trough) of the tsunami:

Japan 0.60 m at Tokachi, 0.40 m at Nemuro and 0.20 m at Kushiro (4-6 AM PST)

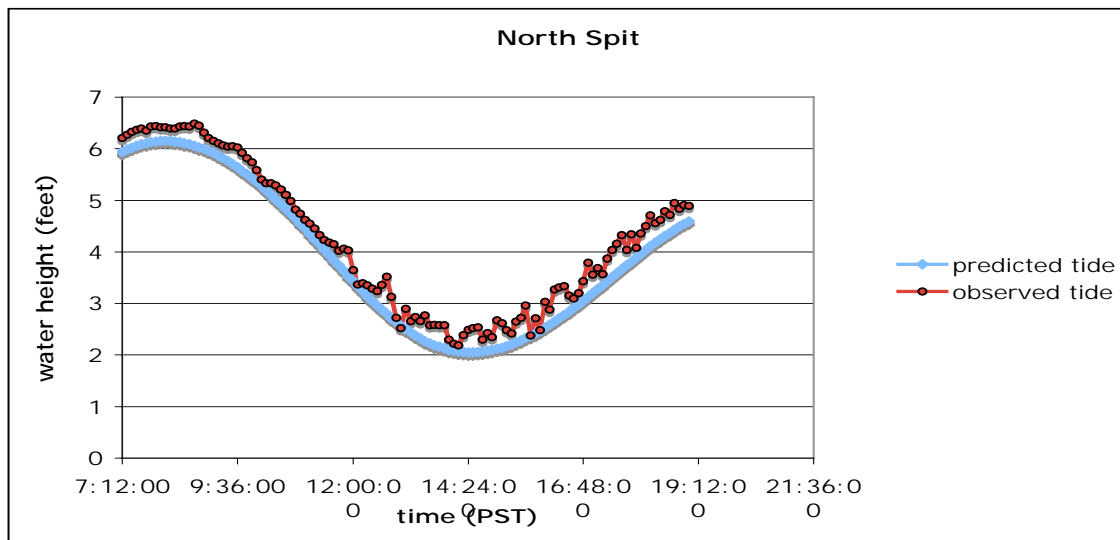
Hawaii 1.52 m at Kahului, 1.14 m at Haleiwa, and 0.99 m at Hilo (9-10 AM PST)

Alaska 0.20 m at Shemya Island and 0.08 m at Amchitka Island (9-10 AM PST)

California 2.0 m. at Port San Luis and 1.6 m in Crescent City (11AM-1PM PST)



Crescent City Tide Gauge November 15, 2006 (vertical scale in feet)



Five e-mails from the Tsunami Warning Center between 4 to 7 AM :

BULLETIN TSUNAMI MESSAGE NUMBER 5

NWS WEST COAST/ALASKA TSUNAMI WARNING CENTER PALMER AK 609 AM PST WED NOV 15 2006

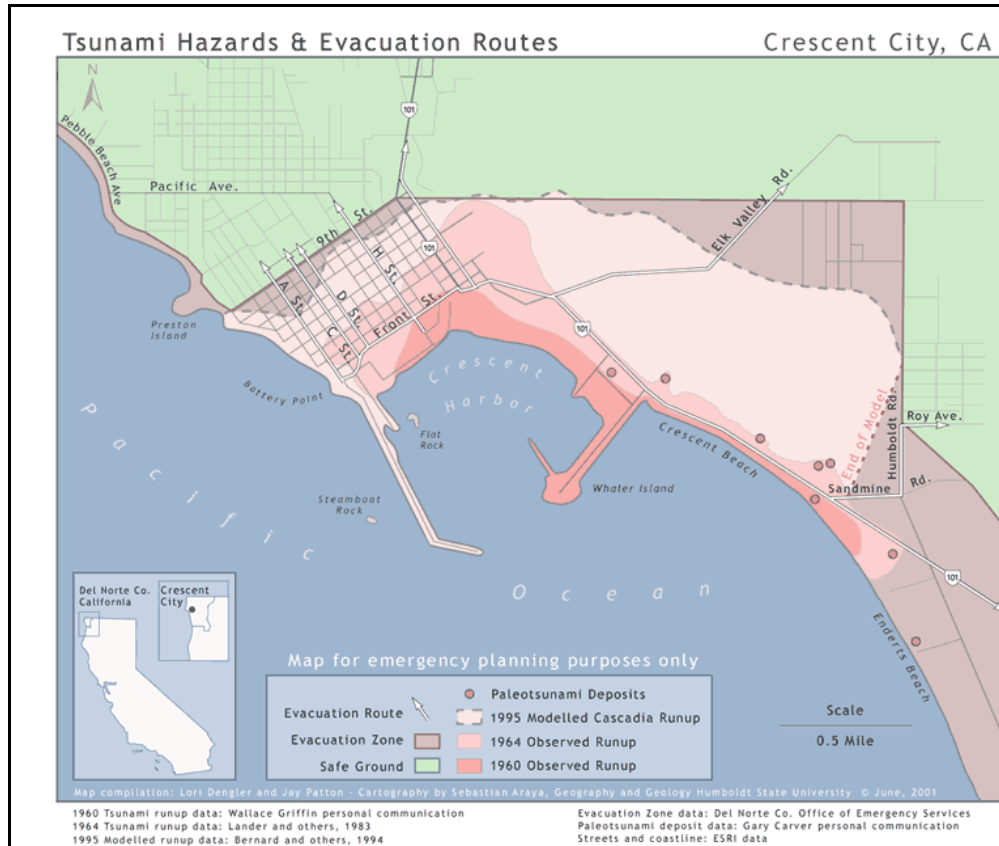
A TSUNAMI WARNING IS IN EFFECT WHICH INCLUDES THE ALASKA COASTAL AREAS FROM SAND POINT ALASKA TO ATTU ALASKA...

A TSUNAMI WATCH IS IN EFFECT FOR THE WASHINGTON BRITISH COLUMBIA & ALASKA COASTAL AREAS FROM CAPE FLATTERY WASHINGTON TO SAND POINT ALASKA

AT THIS TIME THE MESSAGE IS ADVISORY FOR CALIFORNIA OREGON & WASHINGTON.

A TSUNAMI HAS BEEN GENERATED WHICH COULD CAUSE DAMAGE TO THE WARNED AREA. THEREFORE PERSONS IN LOW-LYING COASTAL AREAS SHOULD BE ALERT TO INSTRUCTIONS FROM THEIR LOCAL EMERGENCY OFFICIALS. PERSONS ON THE BEACH SHOULD MOVE TO HIGHER GROUND IF IN A WARNED AREA.

In Crescent City, crews worked in the rain to stabilize damaged docks and secure boats knocked loose by the waves. In 1964, a tsunami killed 11 people making Crescent City the most tsunami vigilant city in California.



Crescent City Tsunami Evacuation Map.

Paul McAndrews, harbor facility manager in Crescent City, about 560km north of San Francisco, said waves over one meter high struck the town for about 20 minutes. “It was a tidal surge, about two or three feet of water, it kept coming and going for 20 minutes, it was very violent,” Mr McAndrews said. “We have a tremendous amount of damage, boats sitting on docks, two docks severely damaged.” It’s estimated that there is about \$700,000 in damage to Crescent City Harbor from the November 15, 2006 tsunami.





Photos of Damage to Crescent City Harbor.