1964 Great Alaska Earthquake
fact sheet

50th Anniversary

THE EARTHQUAKE:

March 27, 1964 at 5:36 p.m. AKST

Magnitude 9.2

Lasted 5 minutes

Ruptured Prince William Sound to Kodiak (360 miles)

This earthquake helped confirm the theory of plate tectonics

Second largest earthquake in recorded history

No larger earthquake has occurred in the world since

TSUNAMIS:

Tsunamis were generated by shifting sea floor

Waves arrived within minutes and continued for hours

Many tsunamis exceeded 20 feet in height

Tsunami reached California in 4 hours

Twelve-foot waves reached Hawaii in 5 hours

LOCAL TSUNAMIS:

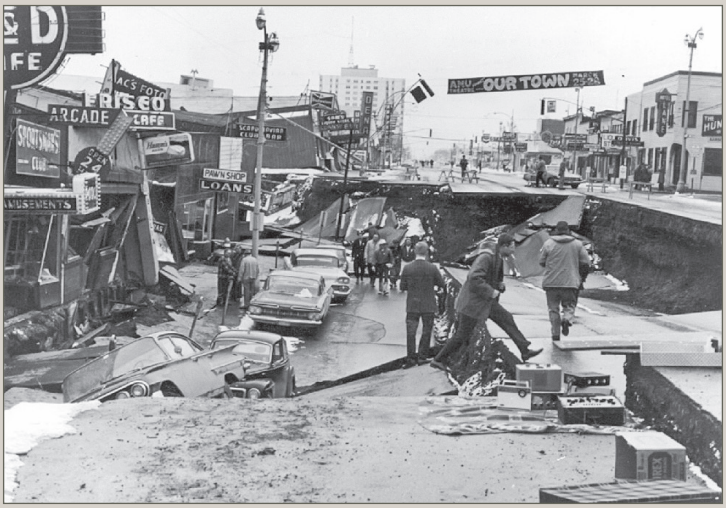
Local tsunamis caused the majority of deaths

Seward, Whittier, Valdez, Chenega and other communities hit by local tsunamis

These occurred while the earthquake was still shaking

Local tsunamis are triggered by submarine landslides close to shore

Landslides can still be mapped on the seafloor



U.S. Army photo

NOAA photo

At top, Fourth Avenue in Anchorage after the earthquake. Above, tsunami damage in Kodiak. The tsunamis were responsible for most of the 131 deaths.

EARTHQUAKE FACTS:

- 4 out of 5 earthquakes in the US occur in Alaska
- A magnitude 8+ earthquake can happen any day in Alaska
- Alaska has 30,000 earthquakes per year
- Alaska averages a magnitude 5 earthquake each week

The historic earthquake's impact in Alaska:

THEN:

131 people died as a result of the earthquake

90% of the fatalities were due to tsunamis

Casualties would have been far higher at night, if school was in session, or at high tide

Anchorage damage was largely due to weak soil

Turnagain Heights lost 200 acres and 75 homes when the bluff collapsed

Permanent subsidence created the "ghost forests" seen in Turnagain and Knik arms

There were just two earthquake recording stations in Alaska in 1964

The earthquake was felt far and wide: it swayed the Space Needle in Seattle and sloshed water out of pools in New Jersey

SINCE:

Anchorage adopted strong building codes

Valdez was rebuilt 4 miles away on sturdier ground

Seward repurposed parts of its waterfront

State has a seismic monitoring program, strongest near the rail belt and southcentral

Many communities have tsunami inundation studies, evacuation routes and safe zones

Frequent drills prepare people for future earthquakes

Legislature established the Alaska Earthquake Center for 24/7 earthquake monitoring (1987, AS 14.40.075)

Legislature established the Alaska Seismic Hazards Safety Commission (2002, AS 44.37.067)

FUTURE NEEDS:

Extend earthquake monitoring to western and northern Alaska

Identify hazards by mapping earthquake locations

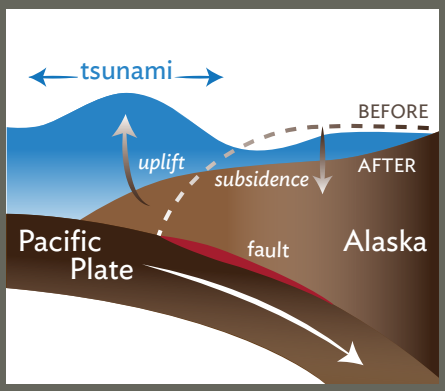
Improve monitoring for large-scale infrastructure projects; dams, mines, and oilfields

Identify specific tsunami hazards for all threatened communities

Promote earthquake-resilient construction standards

SCIENCE FACT:

The Pacific plate pushes north at a rate of 2 inches per year, causing Alaska to buckle under the strain. The 1964 earthquake released hundreds of years of this strain. As the land unbuckled, it generated a tsunami by uplifting and tilting the seafloor.



The **Alaska Earthquake Center** is dedicated to reducing the impacts of earthquakes, tsunamis and volcanic eruptions occurring in Alaska. We provide timely and definitive earthquake information to the public, emergency managers, scientists and engineers. This information is derived from the network of seismic monitoring stations we operate across the state. Our charge comes from the Alaska Legislature and the stakeholders we support with data, products and outreach. The Earthquake Center is the Alaska partner to the Advanced National Seismic System.

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