

2018 M7.1 Anchorage, Alaska, Earthquake:

Points to Ponder

Proximity matters

- ✦ The Anchorage earthquake occurred 7 miles north of Anchorage and caused extensive damage, while the 2002 M7.9 Denali earthquake, which occurred about 170 miles north of Anchorage, caused no damage in the area.
- ✦ Nearby earthquakes cause more damage because distance adds a buffer between the earthquake and people, lessening the potential impact of the shaking.

Earthquake-resilient construction saves lives

- ✦ The population affected by the Anchorage earthquake generally reside in structures built in accordance with seismic building codes or using construction techniques that are resistant to earthquake shaking, and no lives were lost.
- ✦ Compare this to the February 6, 2016, magnitude 6.4 Taiwan earthquake, where poor construction techniques and the lack of enforced seismic building codes led to the collapse of an apartment building that killed 115 people.
- ✦ Codes are designed to protect life safety in a single earthquake. After withstanding a large event, buildings may not be safe for a subsequent earthquake and must be inspected and repaired.

Infrastructure is more vulnerable to earthquake damage

- ✦ Construction codes for roads and embankments are not as successful as building codes for structures. Roads, railroads, and embankments suffered extensive damage; many were made impassible.

Earthquake preparedness training is effective

- ✦ Students followed training and implemented the immediate safety action of *Drop, Cover, and Hold On!*

It is difficult to stop dissemination of erroneous information

- ✦ The number and intensity of aftershocks provoked rumors that an aftershock as big as the main shock was coming at a specific time. To counter the rumors, the State Seismologist, NOAA, and USGS provided additional statements to the public to help them better understand what to expect.

About the Earthquake

Date and Time: November 30, 2018, 8:29:29 am

Location: N 61.346°, W 149.955° (7 miles north of Anchorage at 29 miles depth)

Area of Effect: Strong to very strong shaking felt from northern Kenai Peninsula to Matanuska-Susitna Valley; light to moderate shaking felt throughout southcentral and interior Alaska. Initial earthquake followed 6 minutes later by M5.7 aftershock.

Fatalities: 0

Damage: Power outages and gas leaks; damage to roads, railroads, and buildings; and closures of schools, businesses, and government offices throughout Anchorage bowl and Mat-Su Valley.

Tsunami: Tsunami warnings were sent within minutes of the earthquake. No tsunami waves reported.



Lateral spreading disrupted Vine Road near Wasilla. Many failures of engineered materials occurred on or adjacent to water-saturated lowlands. (Photo credit: U.S. Geological Survey)