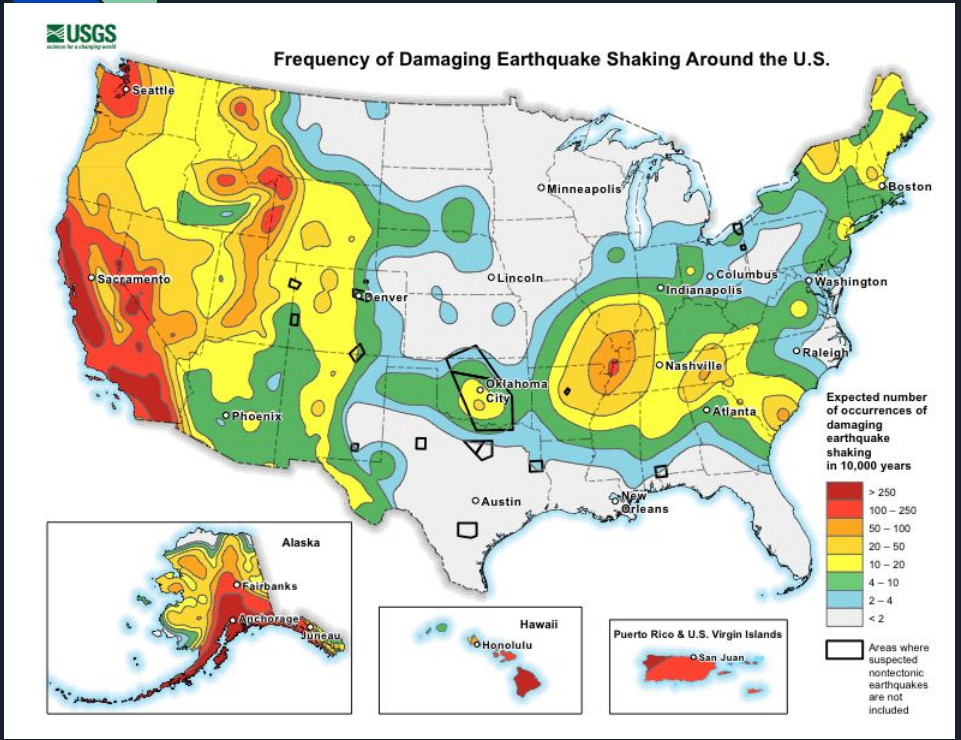
Earthquakes and their Frequency

Within the United States

Frequency throughout the United States



As you can see, a majority of the stronger earthquakes that happen in the United States are mostly in the western coast or within our lasted added pieces (such as Alaska, Hawaii, & Puerto Rico.)

Who is most affected?

- Earthquakes in themselves have not killed anyone.
- Poor structural planning of buildings and secondary effects are what have killed people during earthquakes.
- Buildings tumbling. Gas lines breaking.
- Humans and house pets are at the biggest risk during earthquake.
- Animals and ecosystems are harmed during the secondary effects of earthquakes.

Primary effect of earthquakes

- Ground shaking, making it difficult for anyone or anything to continue standing.
- Ground rupture, which is the visible layer of the surface level damage over a fault line during an - earthquake.
- Landslides can cause mud to go downhill resulting in it taking down anything in its path (infrastructure, animals, humans, roads.)

(Image of the Marina district in SF, from a landslide by U.S. Geological Survey)

Secondary effects of an earthquake

- Fires, occur when ground shaking resulting in gas pipes breaking and creating fires.
- Tsunamis, underwater earthquakes cause tectonic plates to collide resulting waves being pushed fast enough to tsunamis.
- Liquification, the aftershock of earthquakes resulting in buildings falling from being built on unstable grounds.

Fire earlier this year in southern California created by earthquake.

Defense against earthquakes.

Earthquakes can not be prevented, just like any natural disaster. Though these practices have been in place to help prevent major damage.

- Building structures with proper material and planning.
- Placing homes on land with stable ground.
- Basic education for young students on what they should do during an earthquake.

This is what a building without proper structure or remodeling will look like if not prepared.

What else can we do?

- Have government incentive policy to build and rebuild structures to be earthquake proof.
- Replace outdated buildings or remodel them with the Japanese technology to ensure they maintain standing.
- Regardless of all these costs, it is extremely expensive to fix the damage created.

Properly built structures will bend but not snap and break.

Personal opinion

Earthquakes are definitely always on the back of the mind as a Californian for obvious reasons.

- I want to see a higher percentage of my taxes going into fixing buildings that are most likely to collapse.
- Starting with bridges.
- I want to feel like it will not be the end of the world before the big one hits.

Resources

“Earthquakes - Revision 3 - GCSE Geography - BBC Bitesize.” *BBC News*, BBC, www.bbc.co.uk/bitesize/guides/ztp2k7h/revision/3.

Effects of Earthquakes, topex.ucsd.edu/es10/es10.1997/lectures/lecture20/secs.with.pics/node10.html.

Fuller, Thomas, et al. “Buildings Can Be Designed to Withstand Earthquakes. Why Doesn't the U.S. Build More of Them?” *The New York Times*, The New York Times, 4 June 2019, www.nytimes.com/interactive/2019/06/03/us/earthquake-preparedness-usa-japan.html.