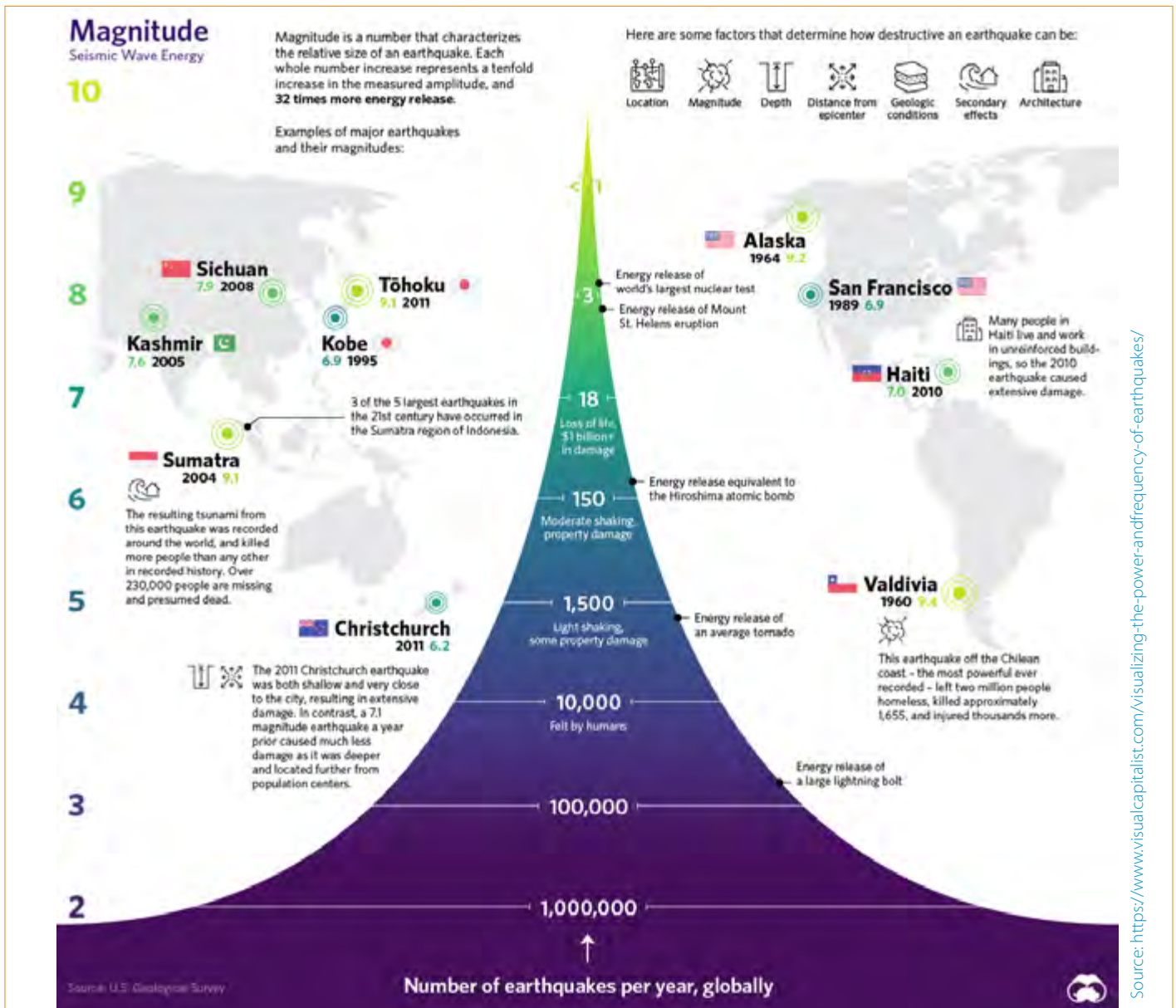


## SNAPSHOT 4: Earthquakes

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Earthquakes occur because the crust of the Earth is made up of several plates. The boundaries of these plates create faults. Earthquakes describe both the mechanism that causes a sudden stress release along plate boundaries and ground shaking. They occur when stress builds up along a tectonic fault. This stress causes the two surfaces of the fault, which had previously been stuck together due to friction, to suddenly move, or slide, releasing energy in the form of seismic waves

Diagram: Earthquake magnitude



### Magnitude and intensity

Magnitude is a number most commonly associated with the Richter scale, describing the size of an Earthquake on a scale from 0 to 10. Each increase by one on the scale represents a tenfold increase in the amplitude. Another way to measure the size of an earthquake is by how much energy it releases. The amount of energy radiated by an earthquake is a measure of the potential for damage to man-made structures.

**Intensity** describes the severity of an earthquake with a qualitative evaluation of its effects on the Earth's surface and on the built environment. An earthquake may have a high magnitude but if a city or landscape experiences little damage, it can be said that the intensity is low. **The Modified Mercalli Intensity Scale** measures this intensity.