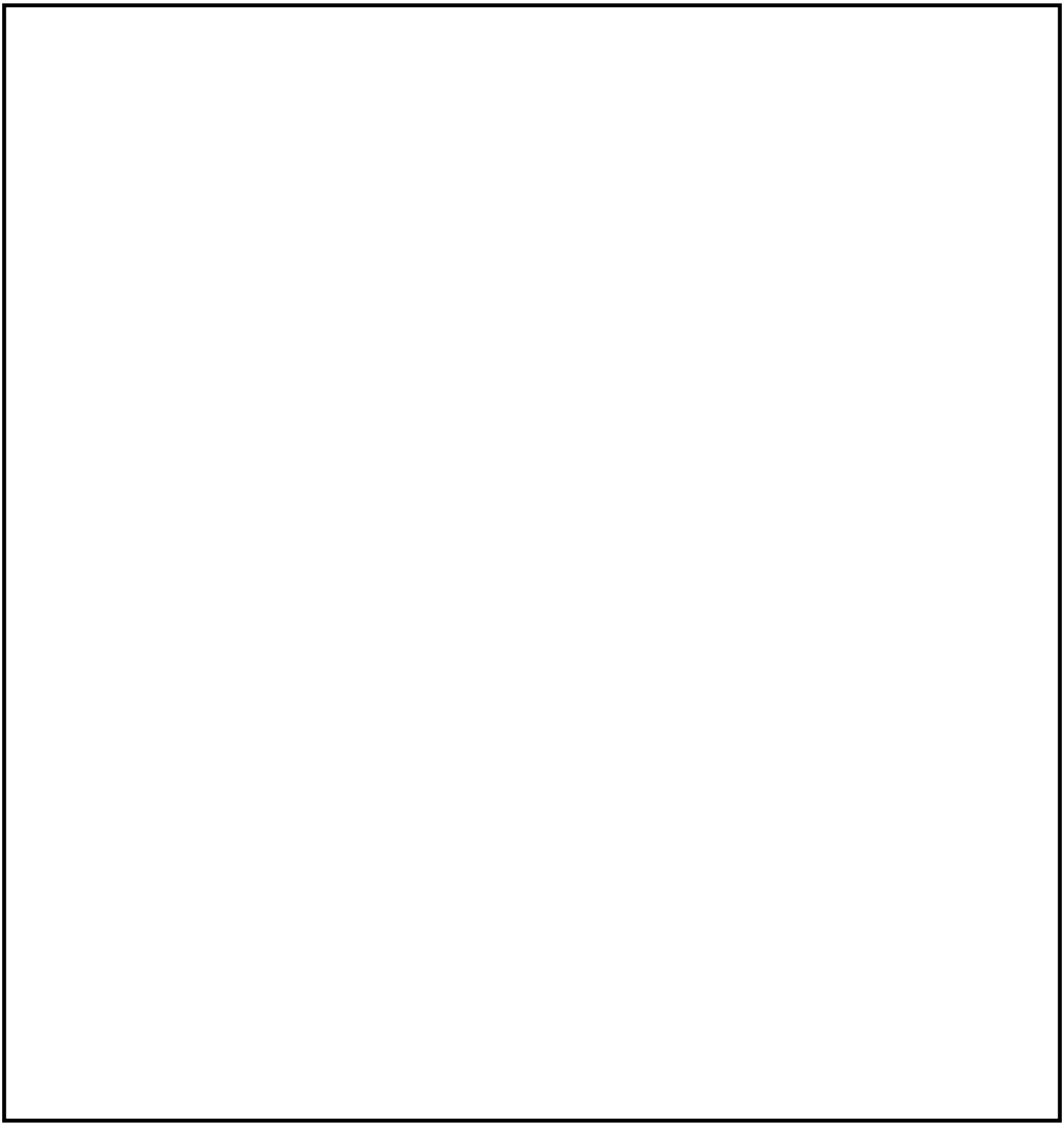
Cascade Mountain Range

Expert Group

Landscape

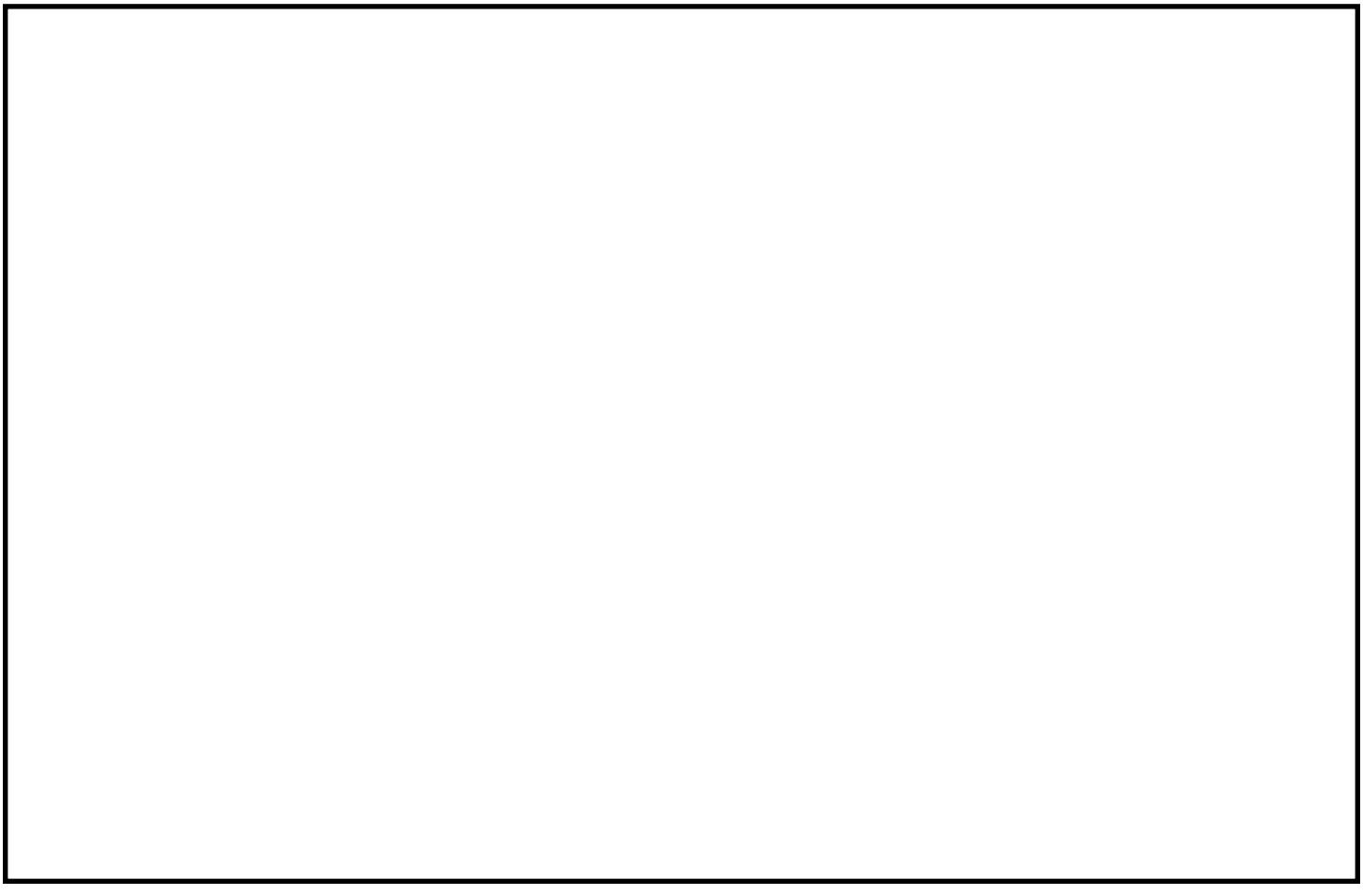
One region in Oregon is the Cascade Range. A mountain is a large landform that stretches above the surrounding land. The sides of mountains are sloped and can be steep.



Geological Event

What's at fault for mountains? Primarily, plate tectonics are the culprits. The North American Plate and the Juan de Fuca Plate meet in Oregon. When these two plates meet, it causes a considerable amount of friction. As the pressure builds, land gets pushed around, and in this case, the oceanic plate went under the continental plate. The uplift made the Cascade Range.

A few millions years later, glaciers carved out the canyons and steep faces into the landforms, frequently leaving only the hard granite behind.



Rock Formation Evidence

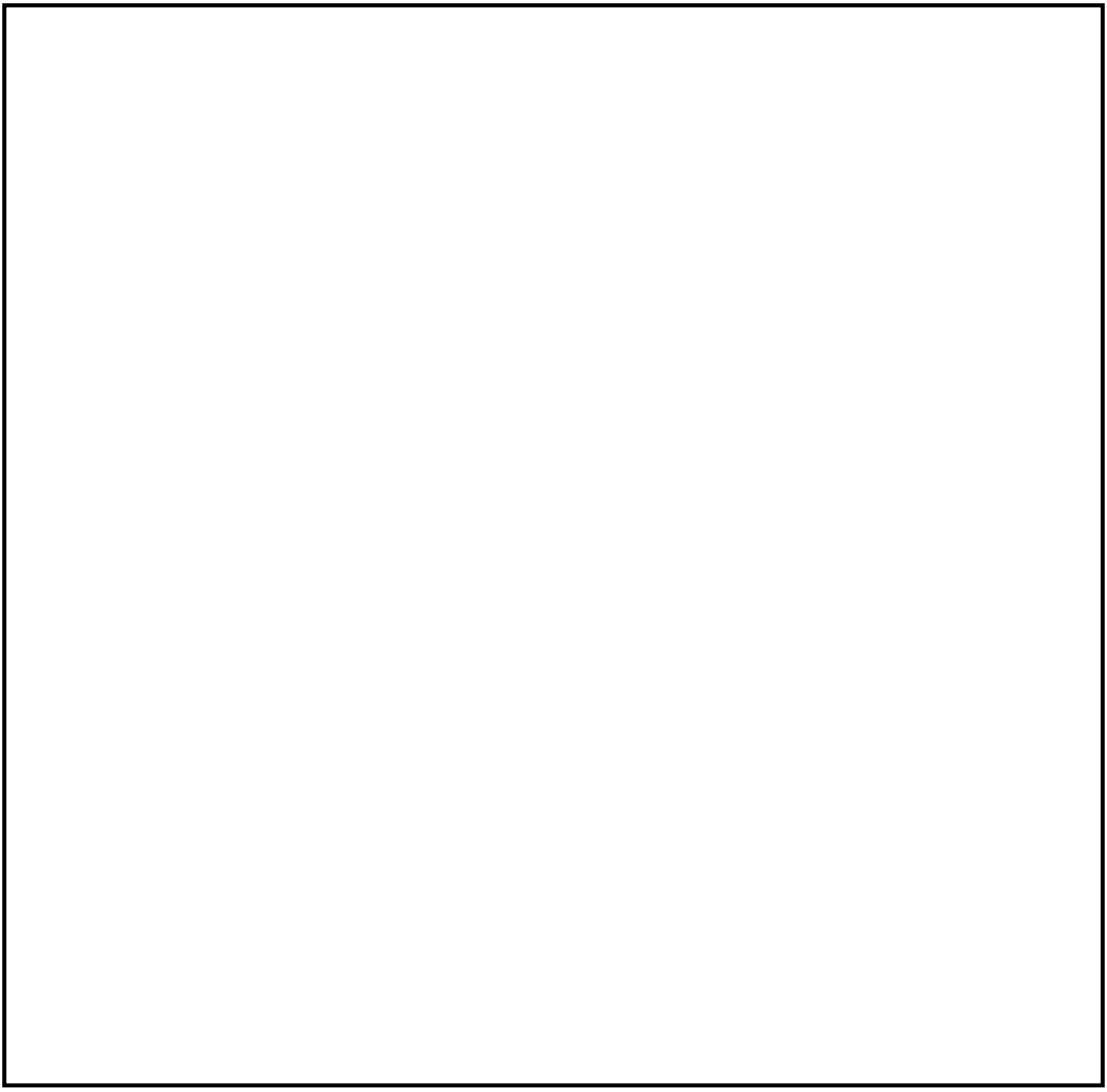
Since we do not live to be millions of years old, it could be challenging to determine how various geographic features were formed. The best approach for a geologist is to observe the rocks in the area. The rock formations on and under the land provide considerable evidence of events millions of years ago.

Geologists can look at the layers of the mountainside to see which types of rock have formed. One type of rock formed in this region is granite. Granite is thick, very hard, and has a grainy texture. Granite is an igneous rock that is formed by cooling magma underground. This means there was a strong likelihood of volcanic activity in Oregon.

Another type of rock formed is sedimentary rock. Sedimentary rocks are formed as a result of Earth's deposited materials. Each layer that is deposited provides evidence of events during that layer's time period. It becomes a type of time capsule for us to learn from later.

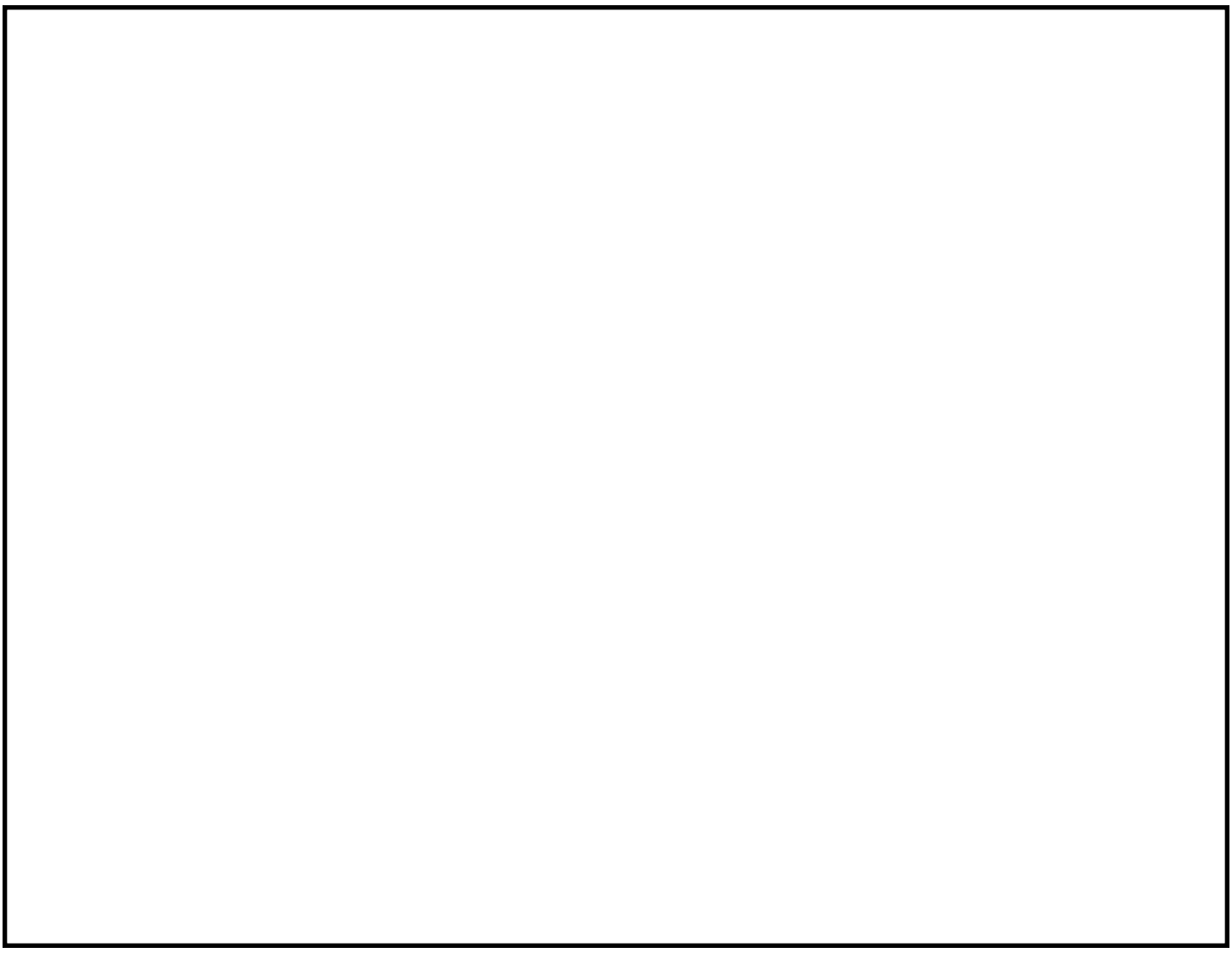
Changes over Time

Mountain ranges have changed over time. The change is caused by erosion. Erosion is the process of land, soil, or sand being removed from Earth's landforms by either water or wind. Snow and rain have helped erode these great mountains over time.



Large-Scale System Interactions

Scientists look at patterns in landforms and geology. Just by looking at a geographic map of the world, a pattern emerges. Most of the world's mountains are either at the edge of continents or in the middle. A ring of volcanoes, called the Ring of Fire, also encircles the Pacific Ocean. These are patterns that help predict future natural disasters. Although the disasters cannot be prevented, we can prepare for them and help minimize damage.



Biogeology

Mountains are a rugged place to live and navigate. The Cascade Range was historically difficult to cross on the Oregon Trail. Many travelers perished on their journeys over the mountains. The Great Northern Railroad built a tunnel through the Cascade Range that is 8 miles long.

Volcanoes are still present in Oregon, but earthquakes are the greater hazard in the state. Cities have strict construction requirements to retrofit buildings that will help them withstand minor earthquakes.