

Our Changing Continent

An introduction to plate tectonics.

A Free Electronic Field Trip (Grades 4-9)
April 2, 2003, Noon-1:00 PM ET.

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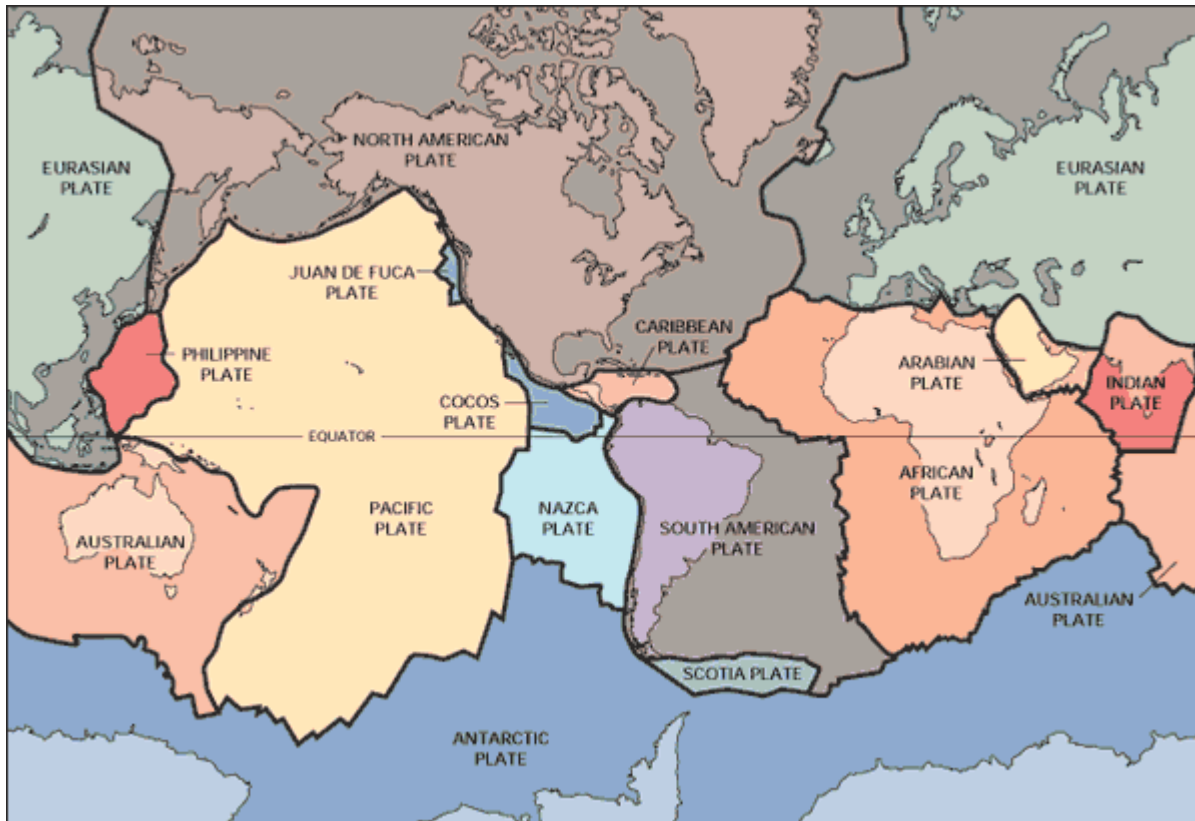
What Is a Tectonic Plate?

A *tectonic plate*, also called a *lithospheric plate*, is a massive, irregularly shaped slab of solid rock, generally composed of both continental and oceanic lithosphere. Plate size can vary tremendously, from a few hundred to thousands of kilometers across. The Pacific and Antarctic plates are among the largest. Plate thickness also varies, ranging from less than 15 km for young oceanic lithosphere to about 200 km or more for ancient continental lithosphere.

Tectonic plates probably developed very early in the Earth's 4.6 billion year history, and they have been drifting about on the surface ever since – like slowly moving bumper cars repeatedly clustering together and then separating.

Like many features on the Earth's surface, plates change over time. Those composed partly or entirely of oceanic lithosphere can sink under another plate, usually a lighter, mostly continental plate, and eventually disappear completely. This process is happening now off the coast of Oregon and Washington. The small Juan de Fuca Plate, a remnant of the formerly much larger oceanic Farallon Plate, will someday be entirely consumed as it continues to sink beneath the North American Plate.

The Earth's crust is broken into a dozen tectonic plates.



Presented in cooperation with the U.S. Geological Survey
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