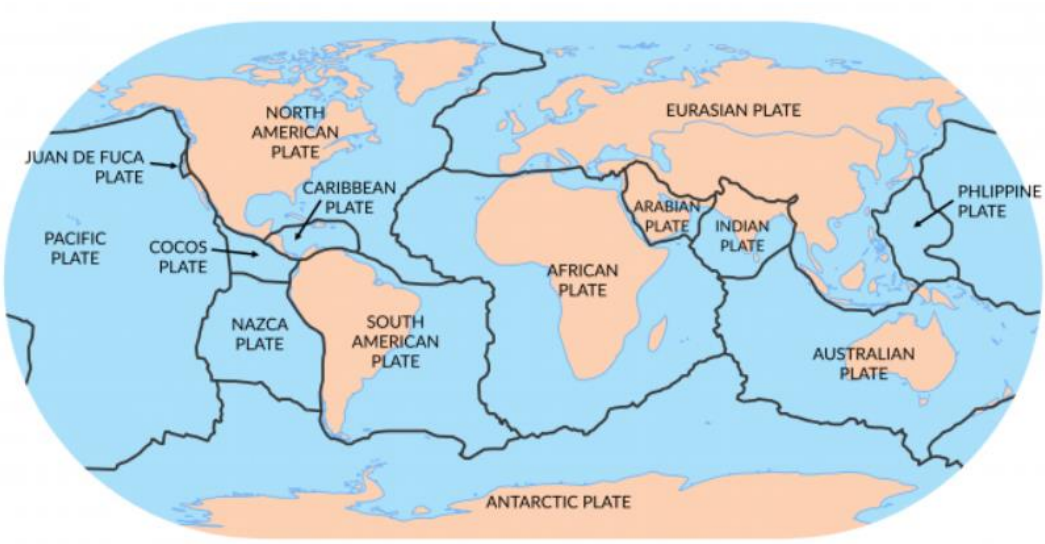
Planet Earth's Tectonic Plates – A Fact File

Earthquakes and volcanoes are generally always found at plate boundaries (where one tectonic plate meets another tectonic plate). Tectonic plates are like giant rafts made from solid rock that slowly move around. The black lines show where they are. They move due to the changes in heat from the mantle, the level below. The mantle is much hotter than the crust and its rock is molten. At the boundaries between plates, molten magma is able to force its way to the surface and escape as lava, the beginnings of a volcano.



Earth has 7 major **plate tectonic boundaries** and 10 or so minor ones.

Plate tectonics have deceptively slow movement. Just centimeters each year. But they're never idle.

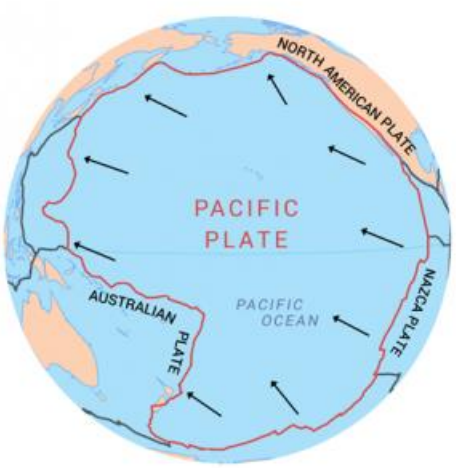
Like seams of a baseball, tectonic plate boundaries wrap around the Earth.

Earth's tectonic plate boundaries are unusual because they can consist of **continent and ocean crust**.

Here are the 7 major tectonic plates of the world in a bit more detail.

1 Pacific Plate

Pacific major plate is the largest which underlies the Pacific Ocean. Specifically, it stretches all the way along the west coast of North America to the east coast of Japan and Indonesia.



This plate forms most of the **Pacific Ring of Fire** which has some of the most violent and catastrophic earthquakes and volcanoes on the planet.

And smack dab in the middle are the islands that make up Hawaii. The interior hot spot within the **Pacific Plate** is responsible for the volcanic activity that occurs at the Hawaiian Islands.

2 North American Plate

The North American major plate not only contains the continent of North America but also part of the Atlantic Ocean.

This plate extends all the way over the North pole and even contains Siberia and the northern island of Japan. It also includes Greenland, Cuba and the Bahamas.

The interior of the **North American plate** contains a giant granitic craton. It's believed that the North American (Laurentian) craton is 4 billion years old.

3 Eurasian Plate

The Eurasian major plate consists of most of Europe, Russia and parts of Asia. This plate is sandwiched between the North American and African Plate on the north and west sides.

The west side has a divergent boundary with the North American plate. The south side of the **Eurasian plate** neighbors the Arabian, Indian and Sunda plates.

It straddles along Iceland where it tears the country in two separate pieces at a rate of 2.5 cm per year. On average, the Eurasian plate moves about one-quarter to half an inch per year.

---

4 African Plate

The **African plate** contains the whole continent of Africa as well as the surrounding oceanic crust of the Atlantic Ocean. Oddly, it looks like a larger boundary of the African continent, itself.

The Somali Plate is positioned along the East African Rift zone. This developing rift zone is gradually separating the east part of the continent.

The west side of the African major plate diverge with the North American plate. These divergent plate boundaries forms the **mid-oceanic ridges** or rift valley.

---

5 Antarctic Plate

The **Antarctic plate** holds the entire continent of Antarctica including its surround oceanic crust. This plate is surrounded by parts of the African, Australian, Pacific and South American plates.

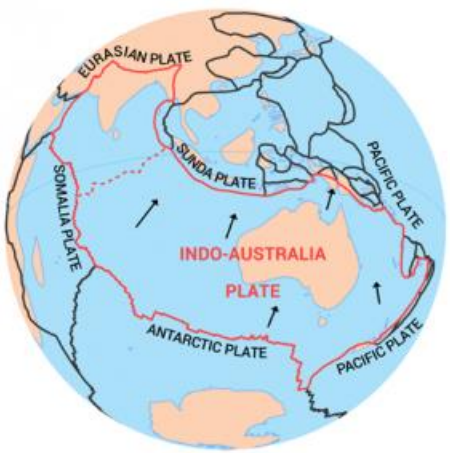
Antarctica was once grouped as part of the supercontinent Gondwana with Australia and India. But about 100 million years ago, Antarctica broke apart to its current location at the south pole.

It's estimated that the Antarctica major plate moves about 1 cm per year.

---

6 Indo-Australia Plate

The Indo-Australia plate is a major plate combining the Australian and Indian Plate. But they are widely considered to be two separate plates.



The **Indo-Australia plate** stretches from Australia to India. It also includes the oceanic crust from the Indian Ocean. The north-east side of the Australian plate converges with the Pacific Plate.

Australia, India and Antarctica were once connected as the supercontinent Gondwana. As part of the **supercontinental cycle**, India drifted apart moving northwards.

---

7 South American Plate

The **South American plate** is a major plate that includes the continent of South America and a large portion of ocean from the Atlantic Ocean.

At the west side of South America, it experiences devastating earthquakes due to the **convergent plate tectonic boundaries**.

But the eastern edge lies in the Atlantic Ocean at a divergent plate boundary. Alongside the African Plate, these two plate boundaries pull apart from each other creating some of the youngest oceanic crust on the planet.

The brown sections show the plates, white arrows show the movment.