Plate Tectonics

ONLINE: Characterizing Plate Boundaries (adapted)

Objectives

1. By the end of this lab, you should be able to describe the characteristics of different plate boundaries. You will also get practice observing and classifying data.

Activities

You have access to the following four global datasets (maps), each representing a different geoscience specialty. The Scientific Specialties are:

A. **Seismology**

B. **Volcanology**

C. **Geography**

D. **Geochronology (age of the seafloor)**

Task 1. Take time to look at each of these maps and understand precisely what they are showing. Then, spend some time looking at the actual data presented on the map. What you look for will vary depending on your specialty. **For the point data** (volcanoes and earthquakes) you are looking for distribution patterns. **For surface data** you are looking for where the surface is high and where it is low. **For the geochronology dataset**, assume that all continents are much older than the seafloor, like hundreds of millions of years older.

Task 2 . Now focus your attention on the plate boundaries. **Use this map** and compare the locations of the plate boundaries with each of the scientific specialty datasets above. Identify the nature of the data near the plate boundaries. Is it high or low, symmetric or asymmetric, missing or not missing, dense or not dense, varying along the boundary or constant along the boundary, and etc.

Task 3. Now, take a look at the **three boundaries highlighted in yellow, blue, and red on this map.** Observe and document the patterns that you see at each boundary *using only the geoscience specialty map data*. Try to turn off the part of your brain that knows something (a lot?) about plate tectonics already. This is about observing. For this, you should use **this Powerpoint** document with zoomed in maps of the target boundaries to record your observations.

Task 4. Also on the Powerpoint, and based only on the datasets provided and what you have learned about plate boundaries in lecture or in your reading, make a well-supported argument for the type of plate boundary for each of the boundaries 1, 2, and 3.

What to turn in

Save and upload your Powerpoint here.