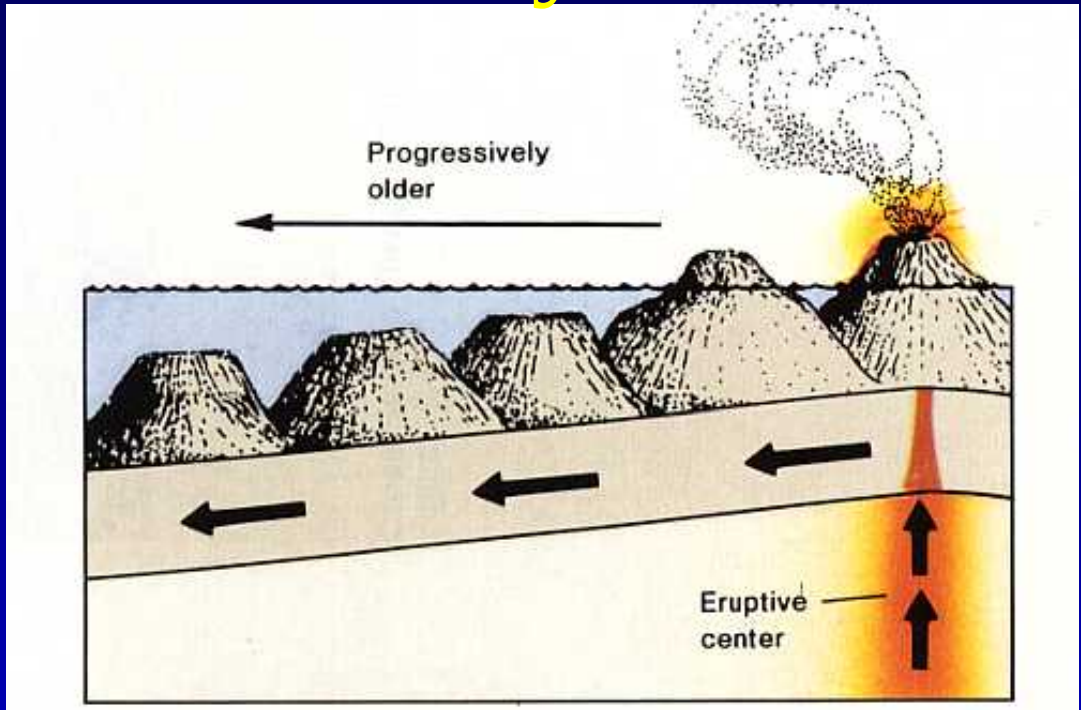
Ocean Terminology

Mrs. Culkin

Guyot



Sea Floor Moving Over a Mantle Plume

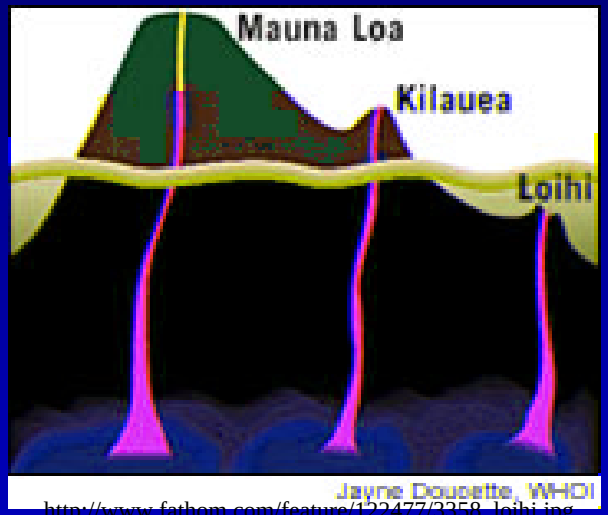
http://nsdl.sdsc.edu/projects/CapricornModule/guyot-formation.jpeg

- Guyots are submerged flat topped sea mounts. Most guyots started out as sea mounts that were visible above the ocean's surface. Over time, the ocean's wave action flattened the peaks until, eventually, the sea mounts became submerged.

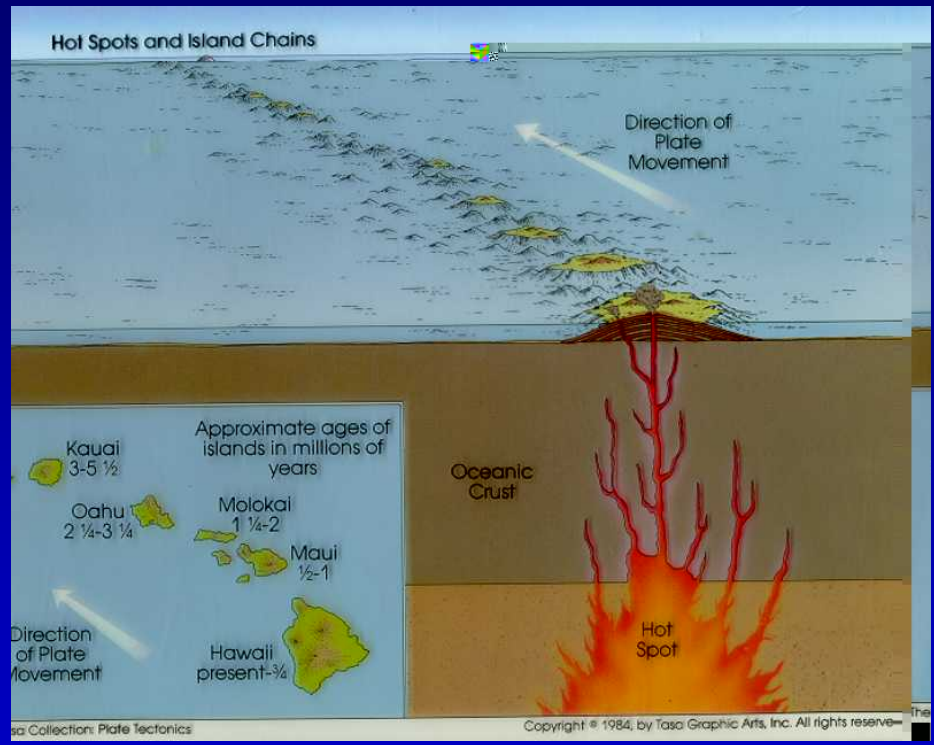
Sea Mount

- Sea mounts are individual volcanic mountains that rise 1,000 meters above the surrounding ocean floor. Some sea mounts rise above the ocean's surface to form islands.

Volcano



http://www.fathom.com/feature/122477/3358_loihi.jpg



http://blue.utb.edu/pauligj/physci1417/Lectures/Thermal_Plume.JPG

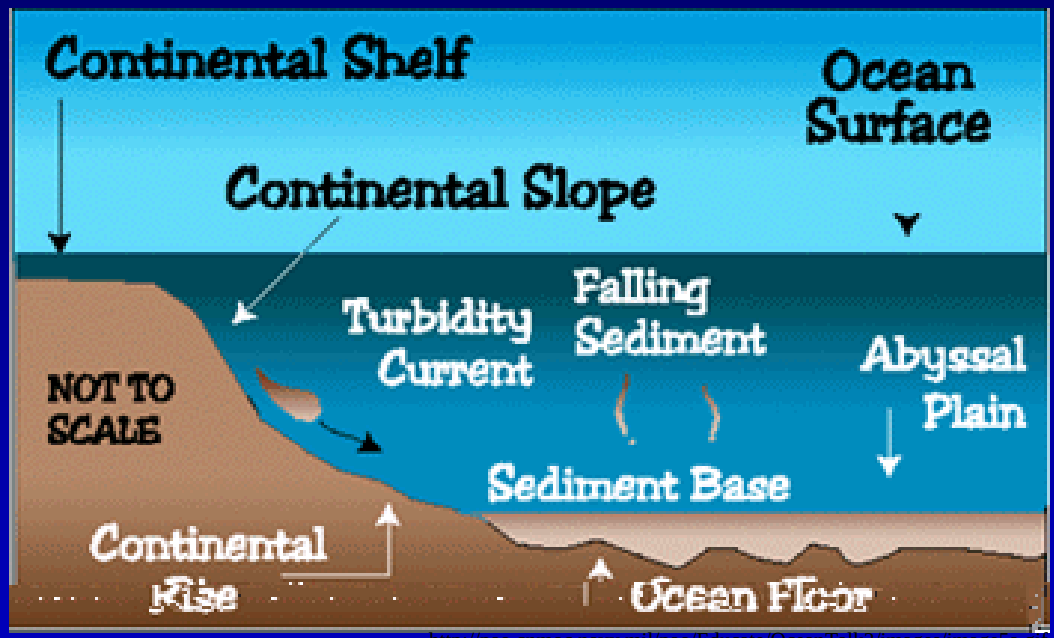
- A volcano is an opening in the earth's crust through which molten lava, ash, and gases are ejected, forming a mountain.

Rift valley

Rift valleys are valleys that run along the middle of a mid-ocean ridge, separating oceanic plates. Rift valleys are usually 25-50 kilometers wide and 1-2 kilometers below the surrounding ridges. Along the rift valleys, earthquakes and volcanic eruptions are common. New Earth crust is continuously being formed along these rifts.

There is often a rift valley in the area where volcanoes are. The mountains on either side of the rift valley are mirror images, getting older as you go away from the rift valley.

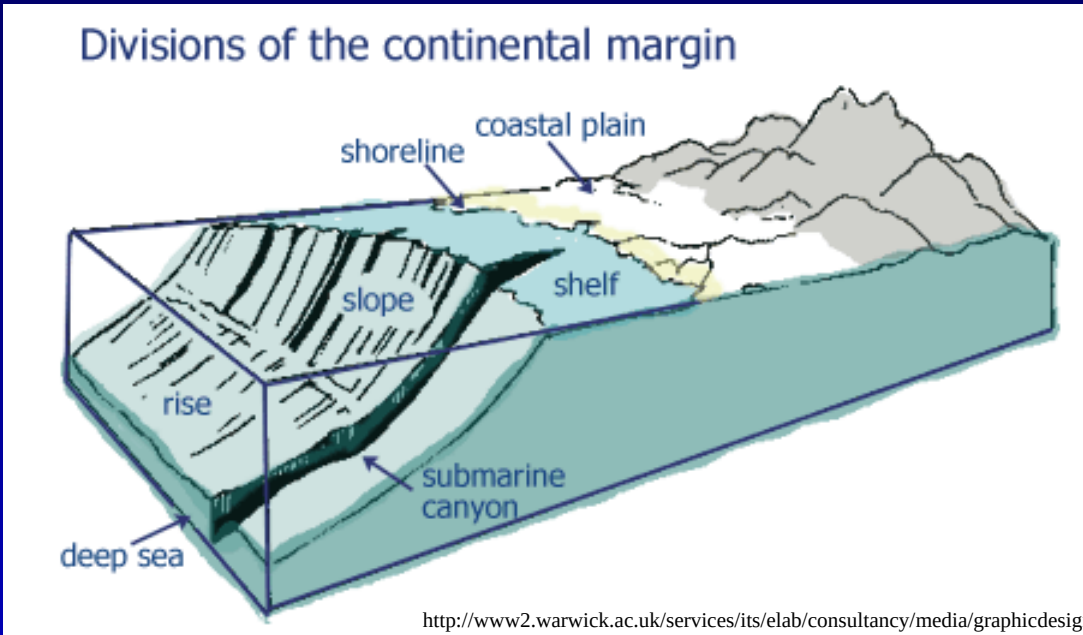
Abyssal plain



http://pao.cnmoc.navy.mil/pao/Educate/OceanTalk2/images/image5a.gif

- An abyssal plain is a flat ocean basin created where turbidity currents deposit sediments.

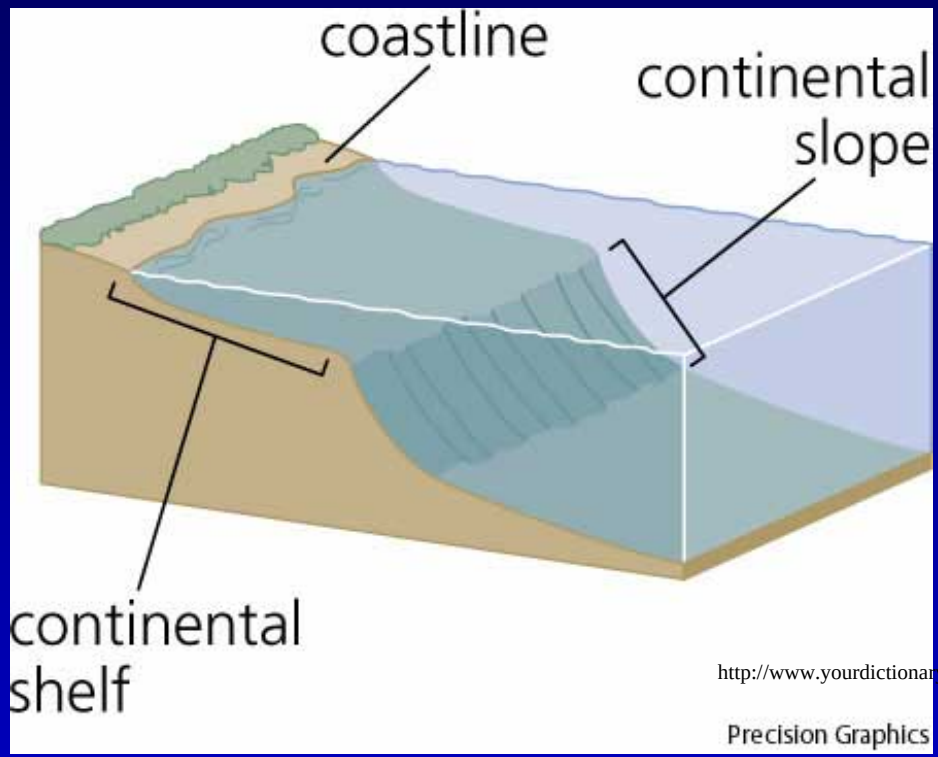
Continental Margin



http://www2.warwick.ac.uk/services/its/elab/consultancy/media/graphicdesign/interactive/divisionslarge.gif

- A continental margin is the underwater area, composed of the continental self, the continental slope, and the continental rise, where the continents begin to rise above the sea floor.

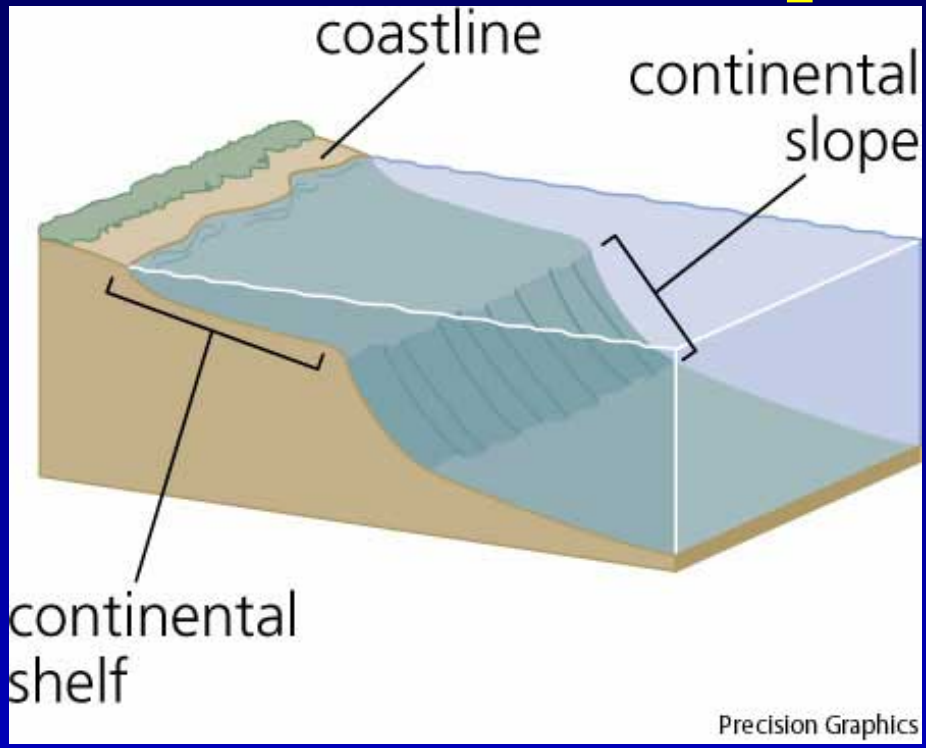
Continental Shelf



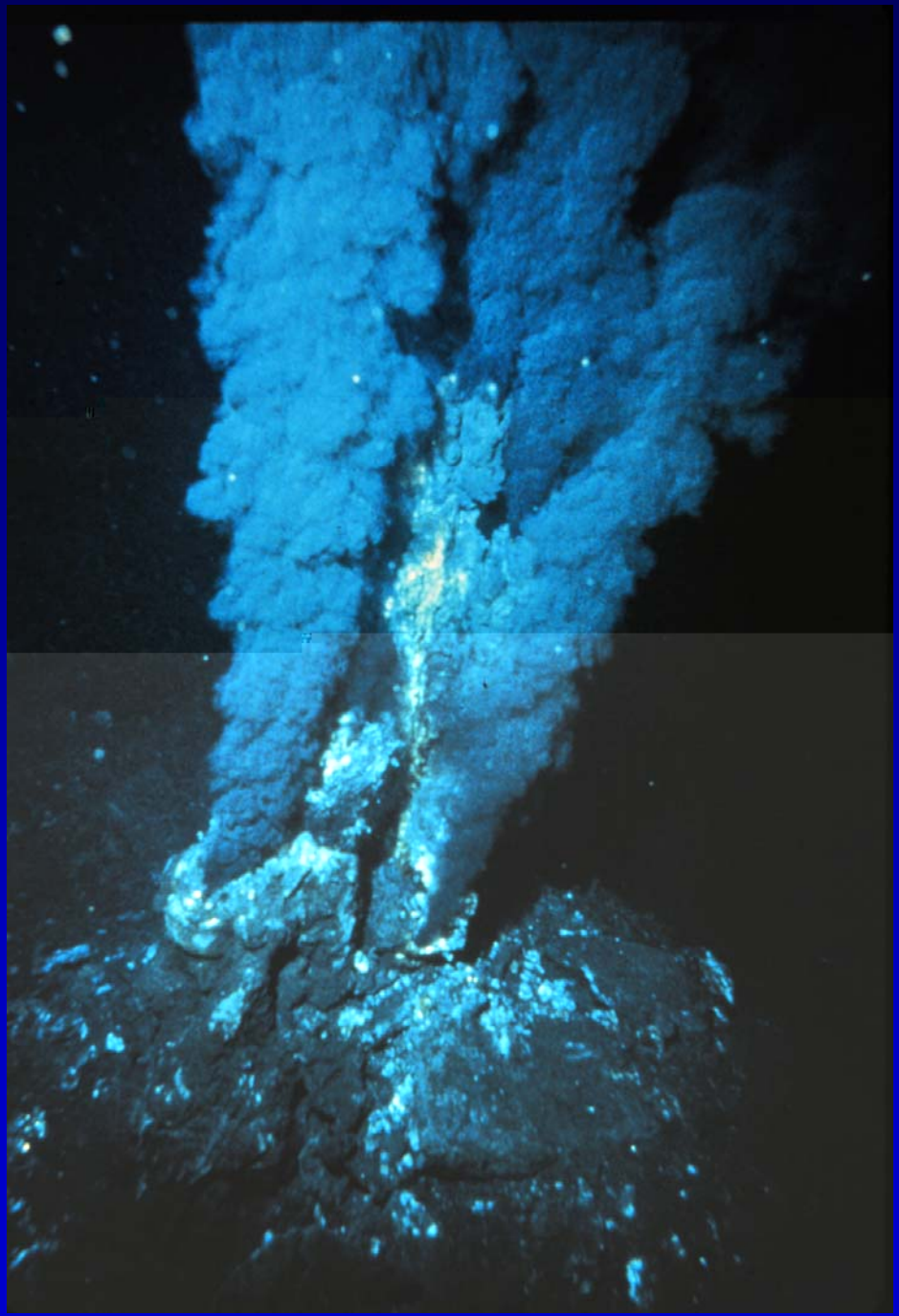
http://www.yourdictionary.com/images/ahd/jpg/A4cntshf.jpg

- A continental self is a gradual sloping section of the continental margin covered with shallow ocean water.

Continental Slope



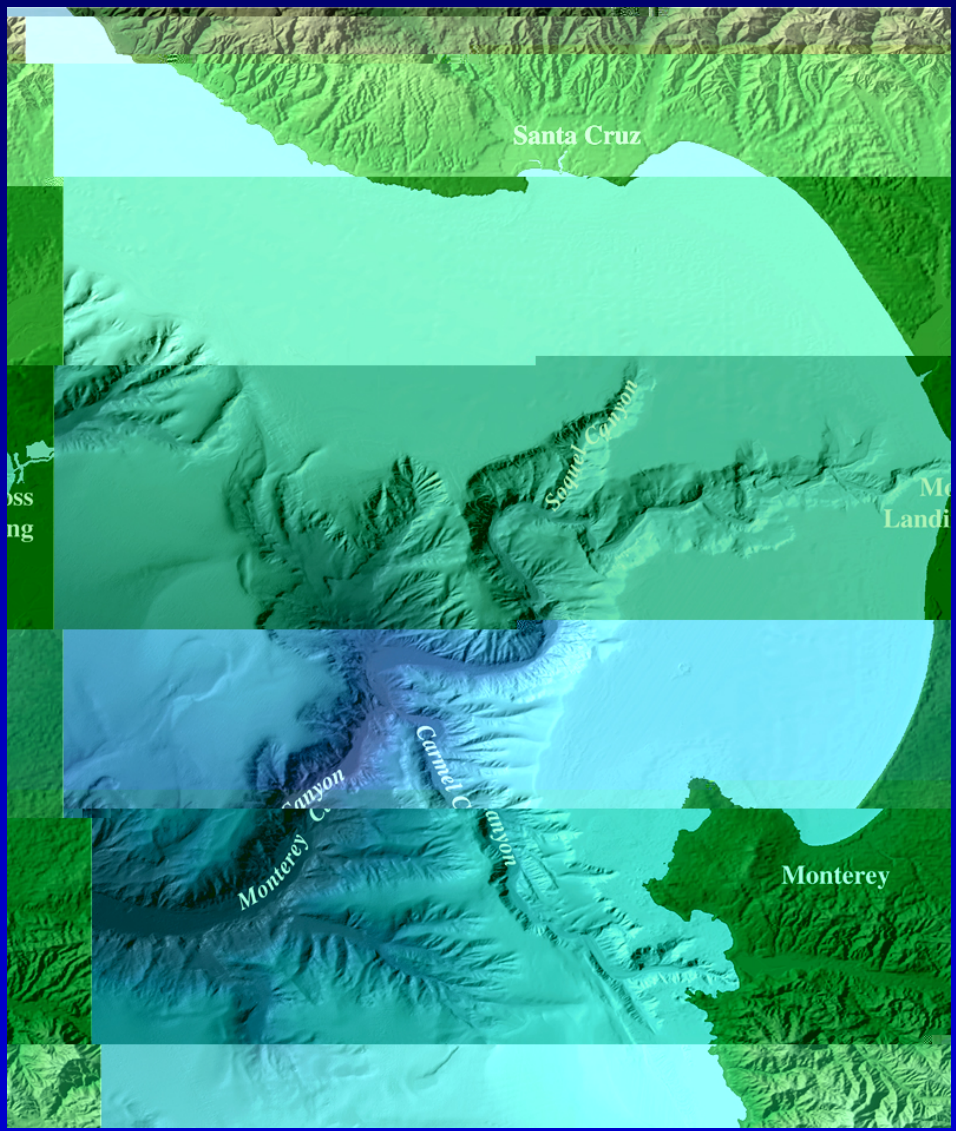
- A continental slope is a steeply sloping edge (a drop of 4-5 kilometers) of the continental margin. The continental slope serves as the boundary between the continental crust and the oceanic crust.



Mid-Ocean Ridges

- Mid-Ocean Ridges are underwater mountain ranges. They are formed when molten magma flows up to the ocean floor. In the water, the magma cools, hardens, and begins to pile up, forming the ridges.

Submarine Canyon



- A submarine canyon is a deep, underwater, V-shaped valley cut into the continental shelf and the continental slope. Some are extremely deep, like the Monterey Canyon, which reaches a depth of 2,000 meters – deeper than the Grand Canyon!

Trenches

- Trenches are deep, narrow crevices along the ocean floor formed when one crustal plate moves beneath another after collision. Most of the deep trenches are found along the edges of the ocean floor. The deepest known trench is Challenger Deep (11,000 meters deep) located along the Mariana Trench in the Pacific Ocean.