

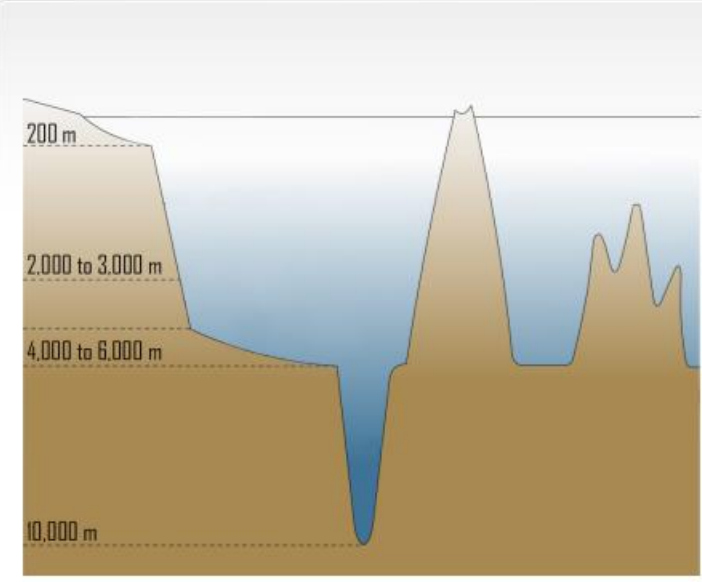
Module 12: Oceanography

Topic 4 Content: Seafloor Features Notes

Introduction

Seafloor Features

Introduction



The ocean floor contains all of the same features that are found on the continents. Some of these features are covered by sediment. The ocean floor contains deep trenches, tall mountains, and volcanoes. In this activity, use the arrows in the lower right corner to investigate the features of the ocean floor.

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Continental Shelf

Seafloor Features

Continental Shelf

The transitional area between the continents and the bottom of the ocean is called the continental margin. It is divided into three sections: the continental shelf, the continental slope, and the continental rise. The continental shelf is the broad, flat, shallow region that extends from the coast into the water. The width of the shelf can vary. The continental shelf is very wide on the East Coast of the United States as compared to the West Coast.

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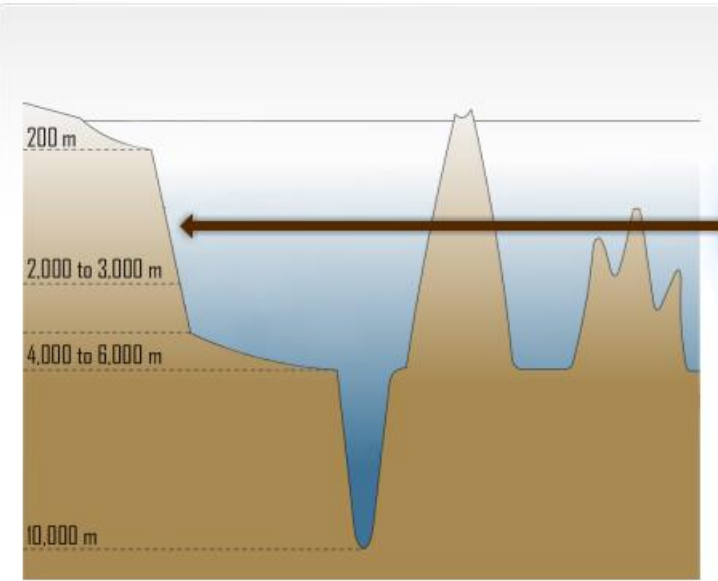
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Continental Slope

Seafloor Features

Continental Slope



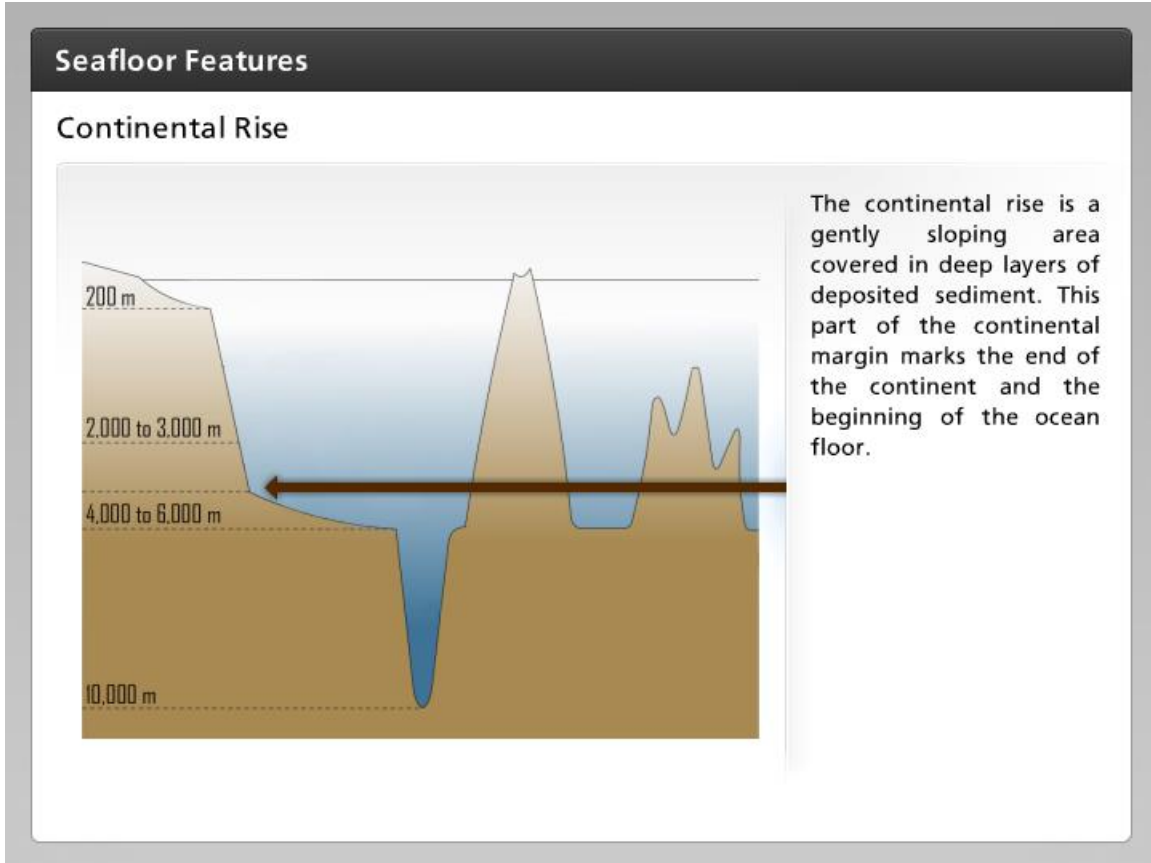
The continental slope is the gradual end to the continent. This slope is part of the continental margin. Its slope is an estimated 4 to 25 degrees. The West Coast of the United States has a steeper slope when compared to the East Coast. The continental slope can contain very large, deep, and extremely steep features called submarine canyons.

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Continental Rise

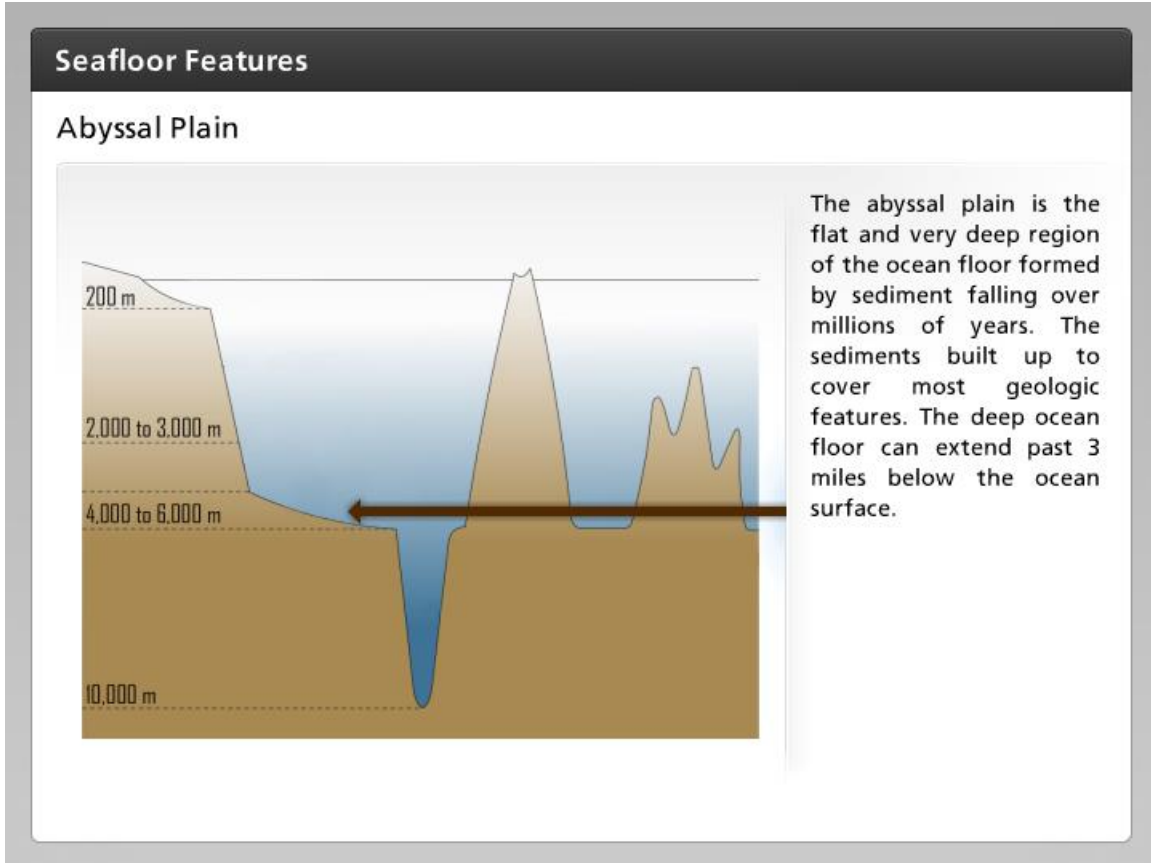


The continental rise is a gently sloping area covered in deep layers of deposited sediment. This part of the continental margin marks the end of the continent and the beginning of the ocean floor.

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Abyssal Plain



The abyssal plain is the flat and very deep region of the ocean floor formed by sediment falling over millions of years. The sediments built up to cover most geologic features. The deep ocean floor can extend past 3 miles below the ocean surface.

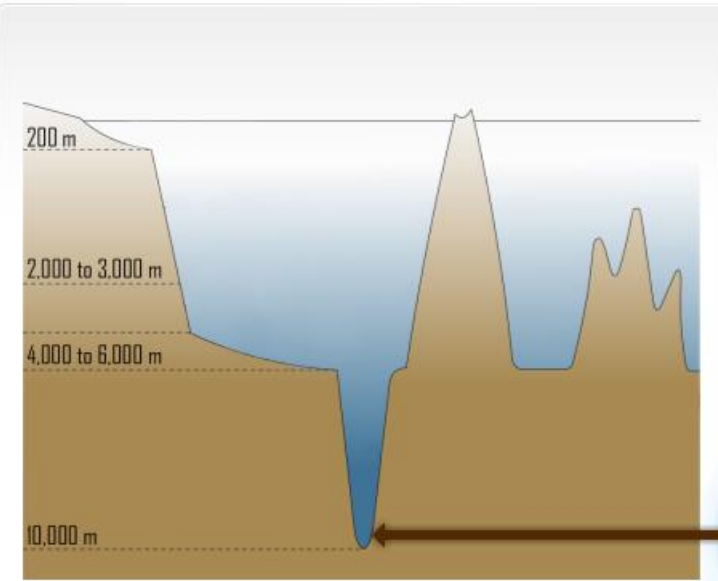
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Trench

Seafloor Features

Trench



A trench is a very deep v-shaped depression in the oceanic crust. Trenches form along convergent plate boundaries when one plate is forced under another creating a subduction zone. The deepest trench is located off of the coast of Japan and named the Mariana Trench. This trench extends 11,034 meters, or almost 7 miles, below the surface of the ocean.

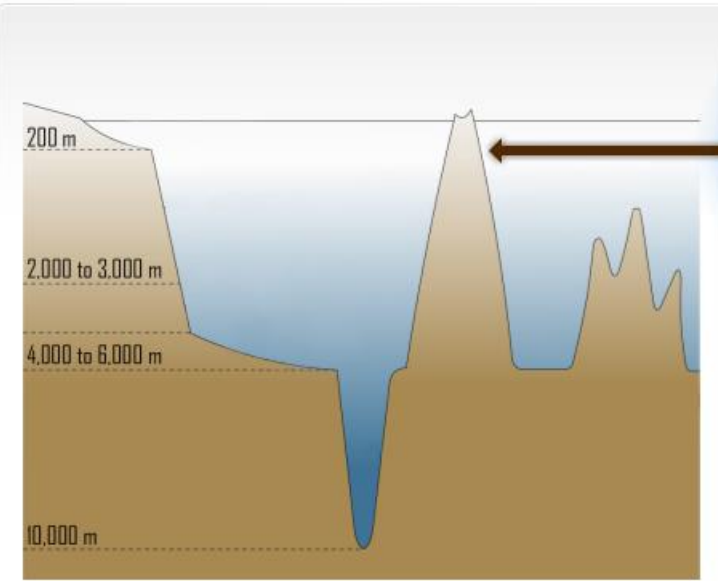
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Volcanic Island

Seafloor Features

Volcanic Island



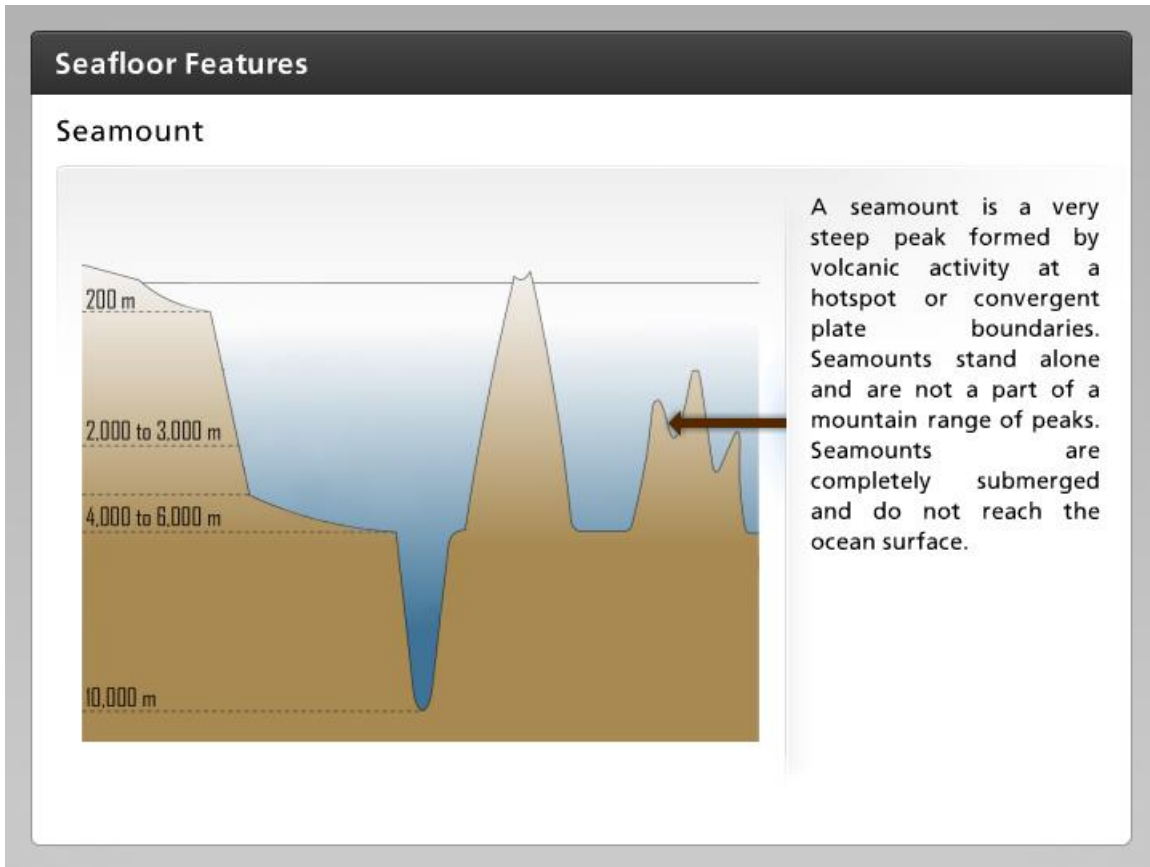
A volcanic island forms when a seamount reaches above the ocean surface. Sometimes, a chain of islands can form from seamounts as tectonic plates move slowly over a hotspot, as in the case of the Hawaiian Islands.

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Seamount

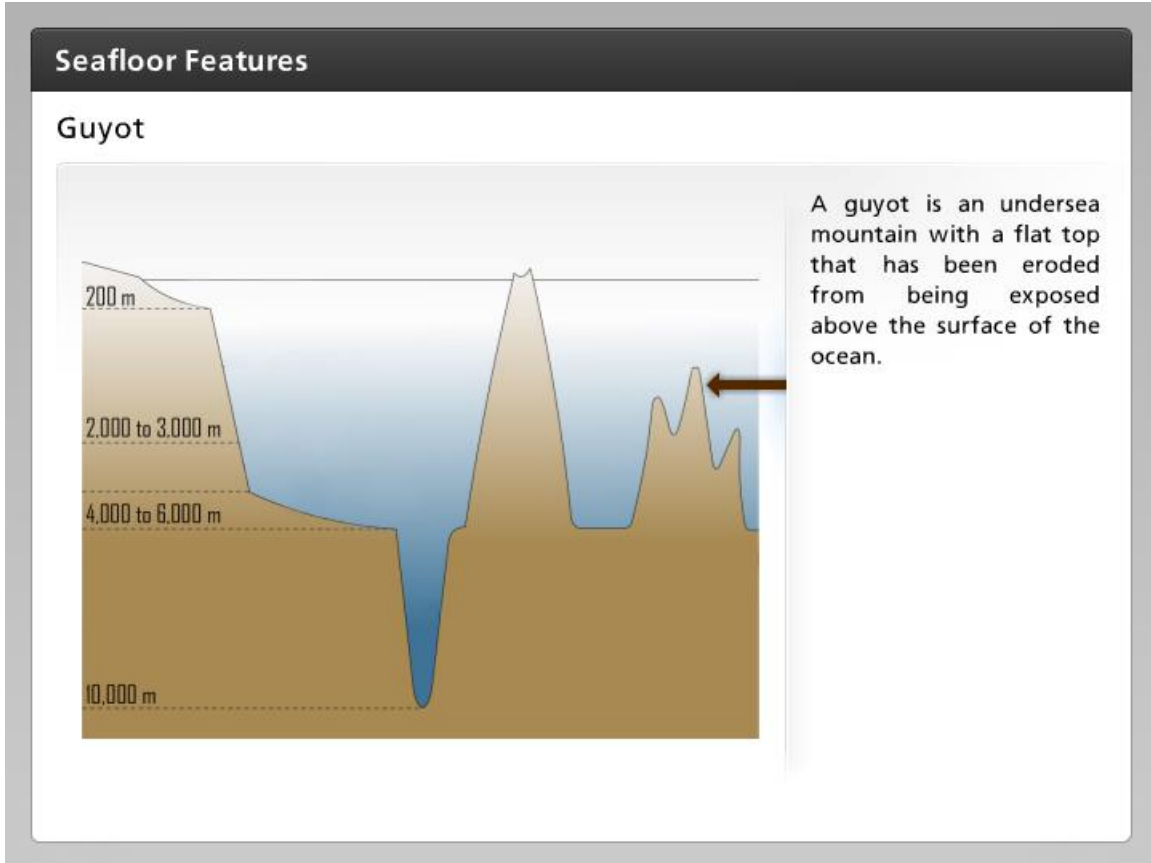


A seamount is a very steep peak formed by volcanic activity at a hotspot or convergent plate boundaries. Seamounts stand alone and are not a part of a mountain range of peaks. Seamounts are completely submerged and do not reach the ocean surface.

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Guyot



A guyot is an undersea mountain with a flat top that has been eroded from being exposed above the surface of the ocean.