

The Types of Plate Tectonics Essay

Introduction

Plate tectonics refers to movements on Earth's surface, that is, the lithosphere. This is a theory in science explaining such movements. The lithosphere is made up of large broken rock masses also referred as tectonic plates (Oreskes 424). These tectonic plates are suspended on molten layer of Earth's crust that comes immediately below the lithosphere; this layer is called asthenosphere.

Given that the asthenosphere is molten, these plates move on it with ease. The movement occurs at boundaries namely; transform boundaries, divergent and convergent boundaries (Oreskes 16). These three different boundaries give rise to the different forms of plate tectonics known today.

Types of Plate Tectonics

According to United States Geological Survey (USGS), there are three different types of plate movements; that is, divergent, convergent, and lateral plate slipping resulting from the three different plate boundaries that exist. Divergent plate movements occur when two oceanic plate move away from each other to form new oceanic crust at a zone of divergence. The zone of divergence results as the Earth's crust separates (Earth Science). The separation results from hot magma arising from the magma in the continental mantle. This magma has large pressure that causes the crust to crack and separate.

Convergent plate movements are the opposite of divergent and it occurs when two oceanic plates collide leading to loss of crust at a convergent point. Convergent movements involve collision between two plates and these two plates may be either continental or oceanic (USGS).

Convergent plate movements come after divergent plate movements because after the plates break up in the latter, they meet at another point and collide hence the subduction. On the other hand, lateral slipping occurs when two plates move in opposite direction slipping over each other at a transform boundary. The two plates eventually jerk apart due to pressure that mounts up in the mantle and this causes earthquakes (USGS).

The movement of these plates is facilitated by the fact that they float on the Earth's molten magma on the region called asthenosphere, which lies, below lithosphere. As aforementioned, lithosphere is the outermost Earth's crust that human beings can reach. Actually, lithosphere makes the tectonic plates (Rychert and Shearer 496). The molten magma heats up as the core of the Earth heats up which causes convectional currents within the molten magma. As the earth core cools, the molten magma cools and sinks and in the process, it pulls the plates attached to it hence the plate movement.

Earthquakes results from these plate tectonic movements along fault lines. Fault lines are cracks on lithosphere. As tectonic plates move, there is building up of pressure along the fault lines, and when this pressure exceeds the strength of lithosphere, earthquakes result to relieve the pressure mounting in the lithosphere. According to Rychert and Shearer, the lateral plate slipping form of movement is the one that causes many earthquakes around the world (498).