

Smoky Mountain Bible Institute

Geology 101 Introduction

Welcome back, class. We hope you have enjoyed your trip through the Biology Wing of the Institute. Please get settled in and take hold of your pick point rock hammer and hand lens so that we can begin our study here in the Geology Wing of the Institute. The study of geology is a broad and interesting field full of rock samples and other hard evidence of a young earth.

First, let's define geology. This is the field of science that studies the solid Earth, the rocks it is made of, and the processes by which the rocks we have today came into existence. Geology can give us insight into the history of the Earth, as it provides the primary evidence for plate tectonics and the history of life (found in fossils and even foot prints). Geology is used to locate mineral resources and to provide safety by giving warnings for earthquakes and volcanic activity. This is a major academic discipline and is also a hobby for those who enjoy collecting rocks and fossils.

Geology dates back at least to ancient Greece when Theophrastus (372-287 BC) wrote the work *Peri Lithon (On Stones)*. While study in this field has a long history, what we consider modern geology probably did not start until the 1600's when a number of individuals from a number of countries formalized the field of study. Much of 19th-century geology revolved around the question of the Earth's age. Estimates varied from a few 100,000 to billions of years. By the early 20th century, radiometric dating was used to determine the Earth's age to be 2 billion years and in recent decades, that estimate was changed to 4.5 billion. These estimates are of course flawed by assumptions which I addressed back in the Biology Wing see "Biology 104 to 107". The most recent advances have led to the development of the theory of plate tectonics in the 1960's.

We all have the same rock evidence to examine, and there are good scientific methods on both sides of the old earth/young earth discussion, even though the old-earthers claim our position is not science at all. So who is closed-minded? Those who are willing to dialog on the subject, or those who dismiss the opposition without even looking at the evidence? We all evaluate the evidence with preconceived notions, and if you hold old-earth preconceived notions, you will draw old earth conclusions.

I will not be able in this summary format to do justice to the vast field of geology. I will however be able to present a rational observation of the world's geological composition that is in keeping with young earth biblical worldview. We do not have to check our brain at the door to do this. The purpose of any field of study is to explore, identify, or classify the evidence in order to understand what is possible for us to understand as fallible human beings. That all being said, let's put our foot in the big pool that is molten geology.

There are two very different approaches to the study of geology: uniformitarianism, the older of the two disciplines which was the dominant view until recent decades; and catastrophism, which has been coming in to favor in recent decades. **Uniformitarianism** is the assumption that the same natural laws and processes that operate in the universe now, have always operated in the universe in the past, and apply everywhere in the universe. This position is very conducive to the old earth position that developed during its peak of acceptance. In recent decades however, the view of Catastrophism has been coming into vogue. Uniformitarianism is still the dominate view. **Catastrophism** is the theory that the Earth has been affected in the past by sudden, short-lived, violent events, possibly worldwide in scope. It is less burdened by timelines and in many cases does a better job of analyzing the rock evidence.

So in the coming lessons, we will examine the rock evidence and see how in many ways it really is a clear reflection of the biblical record. Get ready for some field trips to impact craters, volcanoes, mountains and valleys as we explore flood evidence, water and wind erosion, glaciations, plate tectonics, canyons, fossils and rock formations of every kind and composition.