

# Let Dry Ground Appear

by Jim Schicatano

*And God said, "Let the water under the sky be gathered to one place, and let dry ground appear." And it was so. God called the dry ground "land," and the gathered waters he called "seas." And God saw that it was good. (Gen. 1:9-10 NIV)*

*And God said, Let the waters under the heaven be gathered together unto one place, and let the dry land appear: and it was so. And God called the dry land Earth; and the gathering together of the waters called he Seas: and God saw that it was good. (Gen 1:9-10 KJV)*

Scientists estimate that the age of the Earth is about 4.5 billion years old. During its early formation, meteors, comets, and other debris pummeled the Earth for millions of years, creating a super-heated, impenetrable atmosphere and a boiling, molten surface. Eventually, the bombardment from space subsided and the Earth slowly began to cool.

As the Earth's atmosphere cooled, it unleashed torrential rains, which covered the smooth surface and formed a global ocean. It was also around this time (between 4 billion and 3.8 billion years ago) that tectonic plates began to form and the process of continent-building began.

Around four billion years ago, the continents were only about one-tenth of their size today.<sup>1</sup> The cornerstones of the continents – granitic rock called "cratons" – began to buoy out of the water at that time.<sup>2</sup> Cratons are the oldest remaining rocks on our planet.<sup>3</sup> While the sea-floor mostly consists of dark, heavy, basaltic rock, the land is composed of lighter, granitic rock, which tends to rise above sea-level like an object floating on water.<sup>4</sup>

Initially, the young Earth was too turbulent to support the horizontal process that we recognize as plate tectonics. The interior of the Earth was still very hot, and the process was more vertical and more violent. As more cratons formed, they were thrust violently upward and moved quickly and freely above the Earth's watery surface. The moving cratons often collided, merged, and formed large landmasses.

Eventually, the Earth's interior cooled and the craton's vertical movement subsided. It was then, some 2.5 billion years ago, that the horizontal, or sliding, process we understand as plate tectonics truly began, and the continents began to form.<sup>5</sup>

The continents rest on large plates of rock, which move very slowly around the Earth's surface. Areas where the plates collide are generally regions of volatility. The western coasts of North America and South America are located at the edges of such plates, and are often areas of violent earthquakes. The subcontinent of India rests on its own tectonic plate. It was once part of the African continent but moved independently across the Indian Ocean. When it collided with Asia, it forced the land upward, and produced the world's highest mountains, the Himalayas.

Tectonic plate movement is a relatively recent addition to the annals of science. Alfred Wegener, a German meteorologist, was the first to propose the theory in 1915.<sup>6</sup> The process of plate tectonics (and continental drift) was not understood until the middle of the twentieth century. Even today, many questions about the process remain unanswered. However, there is now enough evidence to support the theory that science accepts it as fact.

The Bible clearly states that the continents emerged from the sea. This revelation is neither anticipated nor intuitive – certainly, the author of Genesis could not be expected to know this. Yet, the Biblical assertion correlates closely with the scientific facts.