

How Was the Grand Canyon Formed?

Origin of the Grand Canyon

Every year, vast multitudes visit the Grand Canyon. The grandness of this chasm invokes wonder and awe in all who behold it. It stretches for over 270 miles through the Colorado Plateau. The multi-colored layers of the canyon walls are visible from great distances as one's eyes move from the winding river bed to the flat plateaus.

From an early age, every American child learns about this great national landmark. In science textbooks, the Grand Canyon is used as "Exhibit A" for evolution: uniformity and billions of years' change. Evolutionists believe it originated by way of gradualism. The layers of the canyon were laid down one particle at a time over billions of years. A river began to run through the area eroding part of it away. The whole area of the canyon slowly uplifted over 70 million years while the river continued to slowly cut through the rock layers to form the Grand Canyon.

At first, the theory of gradualism is hard to believe when you consider that the Colorado River is cut over a mile into the earth and at some places the canyon is miles and miles wide. The source of the river is found about twelve thousand feet up in the Rocky Mountains of western Colorado. The elevation of the head of the Grand Canyon is about 3000 feet. The surrounding rim of the Canyon is 8000 feet high. Normally, a water takes that course of least resistance and by no means does it flow up hill when there is a lower elevation in which it can flow. How can a river travel almost a mile up hill for 70 million years and carve out a canyon one particle at a time? The truth is: it cannot!

If the Grand Canyon was created by gradual erosion over millions of years, where is all the river sediment? We are talking about 70 million years of sediment. Before the Glen Canyon Dam was erected on the Colorado River it would carry an average of a half a million tons of sediment per day. When you do the math for that kind of erosion rate, the river should have eroded a layer more than five miles thick off the entire drainage area. So, where did all the sediment go?

On the other hand, if the Grand Canyon was not formed by uplift and gradual river erosion over 70 million years, just how did it form? There is another theory. It is far older than the evolutionary theory of gradualism. It is the theory called catastrophism. According to this theory, the Grand Canyon was formed by a massive amount of water moving across this area over a much shorter period of time and carving out the canyon within a matter of years or decades and not millions of years. This view is actually contained in the legends of the Havasupai Indians, who live today in villages within Grand Canyon. The Havasupai claim, according to the traditions that have handed down from generation to generation that the Canyon was formed just after the entire world was covered by a great flood. This global flood story is just one of 270 such stories found around the globe.

The theory of catastrophism is also supported in the Bible. In Genesis 6 - 9, we learn of a world-wide flood in Noah's day. It completely covered the earth, even every mountain. First, the rains fell and the floods raged for 40 days and nights. Next, the waters were upon the earth for a year and ten days before they receded enough for Noah and his family to leave the ark. The flood waters

would have laid down various layers of sediment. Before these layers hardened into rock the receding flood waters would have quickly carved out the Grand Canyon. Perhaps, this is the sort of thing the psalmist is describing so poetically in Psalm 104:6-10:

You covered it with the deep as with a garment;
 The waters stood above the mountains.
At Your rebuke they fled;
 At the voice of Your thunder they fled away.
They went up over the mountains;
 They went down into the valleys,
 To the place which You founded for them.
You have set a boundary that they may not pass over,
 That they may not return to cover the earth.
He sends the springs into the valleys,
 Which flow among the hills.

Catastrophism is more than just a theory; it is an observable scientific fact. Unlike evolution's theory of gradualism, you do not have to wait around 70 million years to see an example of catastrophic events forming large canyons. Near Lumpkin, Georgia, two hundred years ago, the land was flat. Erosion became a problem after farmers removed the trees. After heavy rainfalls gullies began to form. Every time it rained, the erosion became worse. By the 1940s, buildings and towns in the area had to be moved. Today, a canyon covering over 1100 acres has been formed. Providence Canyon is a scenic area referred to as "Georgia's Little Grand Canyon." It comprises sixteen fingers up to a mile long, and the distance from the rim to the floor is nearly 150 feet in some places. Yet, it did not take 70 million years to form. Instead, the canyon was formed in less than 200 years.

Out in the northwest of this country is another area of deeply gorged canyons in what is called the Scablands of eastern Washington. Geologists used to think that this 15,000-square mile area was formed by gradual erosion over millions of years. However, a geologist by the name of J. Harlen Bretz presented a paper to the Geological Society of America suggesting that they were eroded catastrophically, not gradually. At first, the idea was rejected. Then thirty years later, J. T. Pardee found more evidence which clearly supported Bretz view. Now it is accepted by geology that a post-Ice Age glacial dam created a huge lake called Missoula in what is now Montana. When the ice dam broke, 500 cubic miles of water drained across eastern Washington creating canyons in its wake. After fifty years, one of geology's highest honors, the Penrose Medal, was awarded to Bertz.

More recently, Mount St. Helens erupted in Washington state. On the north side of the mountain, a deep canyon a thousand feet wide and 140 feet deep was formed in just nine hours on March 19, 1982. A small stream now runs the length of this canyon. Yet, there is probably not a single scientist alive that would or could argue that the canyon was formed by the erosion by that stream over the course of millions of years.

No, the Grand Canyon was not the result of 70 million years of gradual erosion by the Colorado River. Instead, God sent a catastrophic flood, and when the waters receded, they carved out the canyon through the freshly laid layers of sediment.

Job's words can give us a mental picture of what may have happened. "But as a mountain falls and crumbles away, and as a rock is moved from its place; As water wears away stones, and

as torrents wash away the soil of the earth; so You destroy the hope of man” (Job 14:18,19). And so, He destroys their hope in evolution.

Age of the Grand Canyon

The age of the earth is the cornerstone of evolutionary thought. Without millions and millions and billions and billions of years there would not be enough time for the gradual changes to take place. The evolutionists’ view is that a little bit of water eroded the Canyon over a long period of time through hard rock.

Creationists believe that the canyon was created by the catastrophic events associated with a global flood. The creationists’ view is that a whole lot of water over a relatively short amount of time cut the Canyon through layers laid down by the Flood. The canyon’s features of deep gorges surrounded by level plateaus which rim the canyon suggest that formation took place via rapid erosion.

The time needed for the creation of the Grand Canyon is a major issue. Evolutionists use radiometric dating methods to prove the age of the Grand Canyon. This method involves the dating of rocks by the radioactive decay of certain minerals. The best rocks to use in this dating method are volcanic in origin. The Grand Canyon has Cardenas basalt near the top of the canyon. Using the rubidium-strontium method, the rock layer is dated at 1.3 billion years. In contrast, the volcanic rock layer at the bottom of the canyon is only a billion years old. Readily you see the problem with the rock layer on the bottom being formed 300 million years after the top layer. Scientists then used the potassium-argon radioactive dating method to come up with only 516 million years. However, you still have the problem of the older rock layer being on top of the much younger rock layer. Other various radioisotope dating methods have proven to be of even less help in finding any accurate date. The uranium-lead method dates the top rock at 1,249 million years while the samarium-neodymium method produced a date of 1,374 millions years. Surely these methods are unreliable in fixing a date for the Grand Canyon rock layers.

There are two very distinct layers of rock running through the Grand Canyon. The Tapeats sandstone is dated at about 500 million years while the Hakatai Shale which it rests upon is 1.5 billion years old. The color of one stone is light; the other is dark colored. They are separated by a very distinct line. Even though they were formed a billion years apart, there is no distinguishable layer separating the two layers. Where is all the material for the missing billion years? Scientists refer to this problem as “The Great Unconformity.”

Perhaps the worldwide flood of Noah’s day can help settle the dilemma of “The Great Unconformity.” During the flood, the sand particles and shale were mixed up in the flood waters. In the course of the years the waters receded. The particles were settling on the bottom, thus creating layers of sediment. The shale settled in a layer on the bottom first, and then the sand particles settled on top of it to create a layer of sandstone. Then as the water rushed to the ocean, it quickly cut the gorges out of the soft layers of sediment. The layers of sediment were formed months apart, and not a billion years.

Further evidence of a great flood creating the Grand Canyon is the presence of cross-bedding. This feature is found in the sandstone and even limestone layers of the canyon. These were produced by high velocity water currents which created waves of sand over thirty feet in height. Cross-bedding has been identified as a sign of swift sediment transport on a vast scale by fast

currents in deep water.

Other evidence supporting the creation of the canyon by a great flood is the folding of rock layers. When earthquakes happen today, hard rock does not fold it cracks. Yet, the Grand Canyon rock layers are smoothly folded without any evidence of cracking or breaking. This indicates the rock was folded before it hardened.

The line of separation between the light colored Coconio Sandstone and the dark-colored Hermit Shale runs for miles. It is as if the edge of a knife can be placed between them. They lay cleanly on top of each other with no evidence of erosion in between. If they were laid down millions of years apart where is the evidence of millions of years of erosion? Added to this, where is the erosion on the plateau. The Colorado Plateau is said to have uplifted some 70 million years ago. However, these plateaus are flat plains which have hardly been touched by millions of years of erosion. These examples of a lack of erosion help to disprove the theory of gradualism

So what is the big deal if the Grand Canyon is millions and millions of years old? The Bible says the world was created in six days and the world was “recreated” after a global flood. If the Bible doesn’t really mean “in six days” and does not tell the truth about the Flood, then maybe it doesn’t really mean “be faithful till death and I will give you a crown of life” (Rev. 2:10).

Fossil Evidence & the Geological Charts

Over and over and over again, evolutionists brainwash us into believing that the layers of the earth were laid down gradually over billions of years. They argue that within the rocks are the proof for the theory of evolution. The evidence, they say, is in the form of millions of fossil remains of plants and animals. The various layers of earth are said to tell the history of evolution from the mammoths to the age of dinosaurs and then the plants and sea creatures. Yet, how does this prove the age of the earth? We are told, for example, if a layer contains trilobites it is about 450 million years old. How do they know that trilobites are 450 million years old? Science responds: because they were found in this layer of rock that is 450 million years old. Is this not arguing in circles? Some scientists would concur. Cambridge University’s geologist R. R. Rastall wrote in *Encyclopaedia Britannica* (1956, vol. 10, p. 158); “...geologists are arguing in a circle. The succession of organisms has been determined by the study of their remains imbedded in the rocks, and the relative ages of the rocks are determined by the remains of organisms they contain” (Derek Ager, “Fossil Frustrations,” *New Scientist*, vol. 100, no. 1383 (Nov. 10, 1983), p. 425).

As many times as you see the geologic chart used in science textbooks, papers, and in documentaries, you would think that these twelve layers of stone showing a complete progression of evolution in the fossil record can be found throughout the whole world. The fact is, it does not exist anywhere but in those books. The Grand Canyon itself does not contain all twelve layers of rock in the geologic chart. Furthermore, you would not expect to find trilobite fossils in the same strata of rock containing dinosaurs of the Jurassic period. However, the fossil record is more mixed up than evolutionists would like you to believe. In fact, the highest stratum in the Grand Canyon is the Kaibab Limestone. Here you will find fossils for the sea. There are fossilized sea lillies which are normally found in at least 200 feet of water. According to the geologic time charts, plants did not appear on land until 100 million years after the trilobites became extinct in the Cambrian era. However, throughout the world scientists have uncovered and identified at least sixty species of woody plants found in strata of the Cambrian era. Even in the Precambrian rock at the Grand

Canyon, geologists have discovered spores of plants related to pine trees.

If the Grand Canyon layers of stone do not support the geologic chart of evolution, what do their fossil remains represent? Perhaps, they are proof of the great flood which quickly laid down sediment trapping the masses of dead animal and plants to form fossils. Within the thick layer of Redwall limestone in the Grand Canyon is a six-foot layer of nautiloid fossils at its base. Nautiloids were sea creatures that closely resembled a squid. They grew from 18 to 72 inches in length. The average of one fossil per square yard is found for miles. The mass kill of the entire population is implied as catastrophic floods buried the nautiloids. One fourth of these fossils are found in an upright position which further supports the idea that they were buried alive very rapidly.

Do the layers of the Grand Canyon represent a journey through evolutionary time? Traveling down the trails into the Canyon takes you from the period of mammoths to the time of dinosaurs, and as you reach the bottom, you pass through the time of trilobites in the sea. At least that is what evolutionists would like you to believe. Perhaps, it is not a journey through time, but instead represents the rapid burial of various creatures based upon their habitat. Naturally, sea life would be found at the bottom and land animals at the top.

When Joshua led the children of Israel into the promised land across the flooded Jordan River, God told him to gather twelve stones. These stones were used to build a monument. The purpose of this monument was to remind the Israelites of the great deliverance of God who brought them from Egypt to the land He had promised. Generation after generation would look at these stones and ask their parents and grandparents, "What do these stones mean to you?" (Josh. 4:6). This would serve as a spontaneous teaching moment to remind them how God had miraculously stopped the flood waters of the Jordan and allowed their ancestors to cross on dry ground.

Today, millions have stood at the rim of the Grand Canyon and asked themselves, "What do these stones mean?" To the evolutionist, they demonstrate the great passage of hundreds of millions of years. To the creationist, it stands as a monument that God once sent a worldwide flood to destroy the wicked, and at the same time, saved their ancestors on a dry and safe ark.

Once when the Pharisees demanded that Jesus rebuke His disciples for praising Him, He said, "I tell you that if these should keep silent, the stones would immediately cry out" (Luke 19:40). Today, we may remain silent concerning the great works of God our Creator, but the stones of the Grand Canyon still cry out a memorial to the Great Flood.

– Daniel R. Vess