

Chapter 2:

Did Noah's Flood Really Happen?

Van Wingerden, M.S. & Daniel A. Biddle, Ph.D.



Why is this Chapter Important?

Because the Bible is very specific about Noah's Flood—including the approximate date, the people involved, the nature of the Flood, and the complete worldwide obliteration of all land-dwelling animals—there are only two logical positions to have on the topic: (1) it happened as described in the Bible, or (2) it didn't happen at all. There are no “middle choices.” What are the implications for each of these two positions?

If it happened as described in the Bible, we can extract certain lessons that can even apply to our lives today. These include: (1) there is a God who hates sin and judged the entire world for it, (2) the Bible is inspired by God (because the event was foretold and required supernatural power to complete), and (3) God gave the world a massive “do-over” opportunity. There are more, but these are some of the basics that have substantial implications in our lives today. If it didn't happen as described in the Bible, these truths are on unstable ground and the billions of fossils around the world are in need of some other explanation. In this Chapter, we

hope to share with the reader some of the key evidence that we have found regarding Noah's Flood that have led us to the first choice: It really happened as described by the Bible.

Overview

Geology text books, especially at the college level, describe many advancing and retreating oceans occurring over millions of years that deposited the sedimentary rocks found on the North American continent. Tens of thousands of feet of sediment are deposited on the continent along with millions of fossils found in the layers. The rock layers found in Grand Canyon of Arizona are given as evidence for the many advancing and retreating oceans. The fossils found in these layers are also used to show the many changing environments taking place during the millions of years while animals were evolving.

This Chapter will refute this conventional theory and present an alternate explanation: the worldwide, catastrophic Flood that happened in the time of Noah. The data, sedimentary structures and fossils, found in the rocks will show that the rock layers deposited in the Grand Canyon and the North American continent did not take millions of years. When you read this chapter, ask yourself what makes more sense while thinking what the truth is.

There is plenty of evidence from various sources in support of a worldwide flood in the past. The scientific evidence actually shows that some kind of flood was destructive and utterly catastrophic. It rearranged the entire Earth's surface. Much of the geography or landscape we see today is a result of that flood. It deposited most of the fossils and sediments we observe today. The flood also involved slamming landmasses that shoved great mountains upward. All over the world we can see evidence of this in common roadside geology (see Figure 1 as an example).



Figure 1. Example of Landmasses that “Buckled”
During Noah’s Flood

The flood we know from science matched *Noah’s Flood*, and was a worldwide, catastrophic event that will never occur again.²² It completely wiped out all living land animals except those on board Noah’s Ark. There is much observable evidence for Noah’s Flood in the rock record, historical accounts, and the Bible. In this chapter, we will investigate some of these.

The Fossil Record

Most people are fascinated with fossils; especially big fossils like dinosaurs, or small ones like birds, reptiles and fish that are well preserved and not broken apart. But many people are unaware that finding a whole fossil intact with all its bones in place is rare. Many fossils are found in what scientists call fossil graveyards. These fossil graveyards contain a mixture of many different kinds of fossils that have been *transported by large volumes of water* (see Figure 2).



Figure 2. Fossil Graveyard Example

The bones are typically fragments that have been broken apart during the transportation process as enormous mounds of mud and sediment were shifted during the Flood. By studying some of these fossil graveyards, we can gather clues that will demonstrate that the Flood was in fact catastrophic and worldwide, as stated in Genesis 7:20–23:

The waters rose and covered the mountains to a depth of more than fifteen cubits [at least 22 feet]. *Every living thing* that moved on land perished—birds, livestock, wild animals, *all the creatures* that swarm over the earth, and *all mankind*. *Everything* on dry land that had the breath of life in its nostrils died. *Every living thing* on the face of the earth was wiped out; people and animals and the creatures that move along the ground and the birds were wiped from the earth. *Only Noah was left*, and those with him in the ark. (emphasis added)

If this passage in Genesis is true, we would expect to find *billions of dead things buried in rock layers laid down by water all over the Earth.*²³ And this is exactly what we find! In fact, such evidence exists *all over the world*. Next, we will discuss several example locations where mass Flood graves have been found.

Chilean Desert

There are at least 75 fossilized whales in the Chilean desert. One must ask: “How did they get there?” Even more amazing, the graveyard is located on top of a hill close to one half mile (a little less than a kilometer) from the Pacific Ocean. The whales “have been found in a roadside strip the length of two football fields—about 262 yards long and 22 yards wide.”²⁴ Twenty of the whales were even found perfectly intact. Most scientists agree that the whales died at the same time, and for the same reason. But how did they die? A catastrophic flood such as Noah’s Flood can certainly provide a possible explanation. Since they were deposited atop many miles of sedimentary rock layers that the Flood likely formed, this Chilean fossil graveyard might represent a pod of whales that got cut off from waters flowing off the newly rising South American continent probably during the latter months of the year-long Flood event.

Thousands of Buried Centrosaurs in Hilda, Canada

At least 14 dinosaur “bonebeds” rest in a region in Canada called Hilda. They contain thousands of buried Centrosaurs *found in the same stratigraphic column* (a term used in geology to describe the vertical location of rocks in a particular area). The authors who completed the most extensive study of the area described the sediment in which these dinosaurs are buried as “mudstone rich in organic matter deposited on

the tract of land separating two ancient rivers.”²⁵ They also concluded that each of the 14 bonebeds were actually parts of a single, massive “mega-bonebed” that occupied 2.3 square kilometers! Stop and think about this for a minute. How did thousands of dinosaurs—of the same species—get herded up and simultaneously buried in mud? These authors even concluded that the massive bonebed was formed when a herd of Centrosaurs *drowned during a flood*. These bonebeds are also found with aquatic vertebrates such as fish, turtles, and crocodiles, showing that water was definitely involved in their transport and burial. In addition, almost no teeth marks indicated any scavenging after these animals died (probably because most of them died at the same time!).

Massive Dinosaur Graveyard Found in China

An online article on Discovery.com describes the dinosaur graveyard in China as the largest in the world, writing, “Researchers say they can’t understand why so many animals gathered in what is today the city of Zhucheng to die.” Thousands of dinosaur bones have been found stacked on top of each other in “incredible density” right before they “suddenly vanished from the face of the Earth.”²⁶ Most of the bones are found within a single 980-foot-long ravine in the Chinese countryside, about 415 miles southeast of Beijing. Clearly, processes were going on in the past so violent that we can only imagine them.

10,000+ Duck-billed Dinosaurs Buried Alive in Montana

In his article titled, “The Extinction of the Dinosaurs,” Creation researcher Michael J. Oard describes some of the numerous dinosaur graveyards that are found all over the world.²⁷ He believes this is solid evidence of Noah’s

worldwide Flood. Oard reported that one of the largest bonebeds in the world is located in north-central Montana:

Based on outcrops, an extrapolated estimate was made for 10,000 duckbill dinosaurs entombed in a thin layer measuring 2 km east-west and 0.5 km north-south. The bones are disarticulated and disassociated, and are orientated east-west. However, a few bones were standing upright, indicating some type of debris flow. Moreover, there are no young juveniles or babies in this bone-bed, and the bones are all from one species of dinosaur.

Two other scientists, Horner and Gorman, also described the bonebed: “How could any mud slide, no matter how catastrophic, have the force to take a two- or three-ton animal that had just died and smash it around so much that its femur—still embedded in the flesh of its thigh—split lengthwise?”²⁸ Oard concluded that a cataclysmic event is the best explanation for the arrangement of the bones.

Karoo Basin in South Africa

One of the most remarkable fossil graveyards is found in South Africa in a location known as the Karoo Basin. It was once estimated to contain 800 billion fossil remains. That number was shown to be an overestimation, but the fossils may still be in the billions.²⁹ Regardless, the fossil bed covers an area over 200,000 square miles, making it one of the largest fossil deposits on Earth.³⁰ The fossil debris contains many species of plants, insects, fish, reptiles and amphibians. Quite a mixture—everything stirred together as some catastrophic soup! The rock layers containing these fossils were most likely deposited towards the end of the Flood in the same kind of rock layers containing the petrified

logs that make up the famous Painted Desert Formation of the Southwestern United States.

Redwall Limestone in the Grand Canyon

Another remarkable fossil graveyard bed and mass kill is located in a seven foot layer of what was once lime mud now hardened within the Redwall Limestone. The layer contains perhaps billions of cigar-shaped (orthocone) nautiloids.³¹ Nautiloids are extinct today, but those with coiled shells resembled the chambered nautilus, a squid-like animal inside a shell. This single extensive bed covers an area of 11,583 square miles, about the size of the state of Maryland, and extends from the Grand Canyon in Arizona all the way to Las Vegas, Nevada, and overlaps into southern Utah. During the Flood, a widespread underwater mud flow wiped out these ocean-dwelling swimmers and deposited the mass kill towards the western edge of North America. Even today, underwater avalanches can cause fast-flowing wedges of muddy debris that cut through the ocean floor, but we have never observed them at the size of Maryland! Because of the slender conical shape of the nautiloid, they act like wind vanes. When the nautiloids exit the tumbling debris flow, some of the shells align with the direction of the current (i.e., the retreating Flood waters). A geologist can use this data to calculate direction of the torrential debris flow.

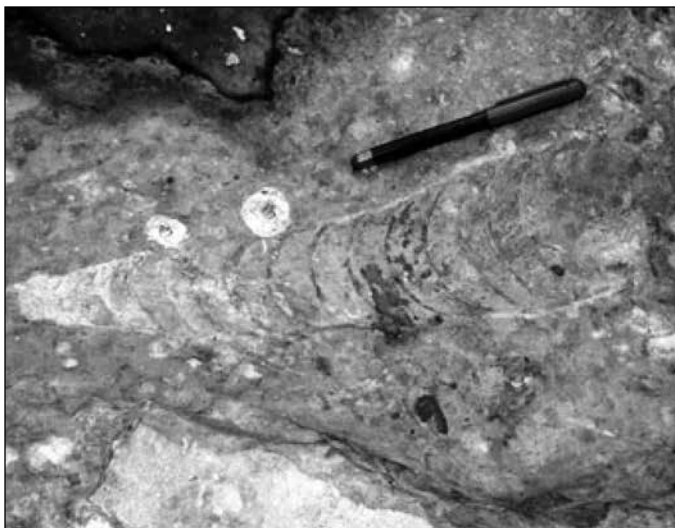


Figure 3. Nautiloid Indicating Flow Direction

Burgess Shale in the Canadian Rockies

The Burgess Shale in the Canadian Rockies at an elevation of 6,700 feet contains a remarkable collection of ancient fossilized life. Not only are the hard body parts such as bones, teeth, and shells preserved, but soft body tissue such as muscles, gills, and digestive systems are also fossilized (many “with soft parts intact, often with food still in their guts”³²—making it obvious that they were immediately buried). It is rare to find soft body parts fossilized. It is important to understand that an animal or plant becomes a fossil only if it is buried rapidly. Scavengers would eat the animal if it were not completely buried immediately after it dies.

Another researcher remarks with the same findings: “The Burgess Shale is, therefore, an enormous fossil graveyard, produced by countless animals living on the sea floor being catastrophically swept away in landslide-generated turbidity currents, and then buried almost instantly in the resultant

massive turbidite layers, to be exquisitely preserved and fossilized.”³³

Ordovician Soom Shale in South Africa

This massive fossil area is 30 feet thick, spans hundreds of miles, and contains thousands of exceptionally-preserved fossils.³⁴ The eurypterids even show “walking appendages that are normally lost to early decay after death” and “some of the fibrous muscular masses that operated these appendages.”³⁵ Snelling continues: “The evidence is clearly consistent with catastrophic burial of countless thousands of these organisms over thousands of square kilometers, which implies that the shale itself had to be catastrophically deposited and covered under more sediments before burrowing organisms could destroy the laminations.”³⁶

Other Major Fossil Deposits

Still not convinced? Need more proof? The world contains many other fossil graveyards that include numerous types of animal and plant life. Ambitious readers are encouraged to explore these other fossil grounds, including:

- Green River Formation of Wyoming (alligators, fish, birds, turtles, clams, insects, a horse, lizards, lemur-like primates, squirrel-like mammals, ferns, and palm leaves).
- Montceau-les-Mines, France (hundreds of thousands of marine creatures were buried with amphibians, spiders, scorpions, millipedes, insects, and reptiles).³⁷
- Mazon Creek area near Chicago (more than 400 species represented by over 100,000 fossils).
- Devonian Thunder Bay Limestone formation in Michigan (spans hundreds of miles and is over 12

feet thick in many places. Includes millions of fossils buried in the Flood).

- Carboniferous Francis Creek Shale in Illinois (fossil graveyard containing specimens representing more than 400 species).
- The Triassic Mont San Giorgio Basin in Italy and Switzerland (“Over 300 feet deep and about four miles in diameter, containing thousands of well-preserved fossils of fish and reptiles, including fossilized fish containing embryos inside their abdomens, and a fossilized *Tanystropheus*, a 4.5-meter giraffe-necked saurian, which also contains the remains of unborn young”³⁸).
- Triassic Cow Brand Formation in Virginia (contains a mixture of fossilized terrestrial, freshwater, and marine plants, insects, and reptiles that were buried together in a massive graveyard).³⁹
- The Cretaceous Santana Formation in Brazil (thousands of marine and land fossils, including sharks, crocodiles, and pterosaurs).
- Siwalki Hills north of Delhi, India (ranges 2,000 to 3,000 feet high and includes thousands of fossils).
- The Morrison Formation (one million square miles in 13 U.S. states and three Canadian provinces, including dinosaur bones fossilized together with fish, turtles, crocodiles, and mammals).
- Geiseltal in Germany (contains “a complete mixture of plants and insects from all climatic zones and all recognized regions of the geography of plants or animals”⁴⁰).

Not too many fossils are being formed today. Only a worldwide catastrophic flood could produce the many fossil-bearing sediments and fossil graveyards we observe around the world today. Much of this evidence—particularly

the fossils of the smaller, more delicate animals and soft tissue—stands in great contrast to Darwin’s assertion that “No organism wholly soft can be preserved.”⁴¹ The only way to preserve countless millions of intricate fossils all over the world is to bury them quickly in mud and sediment! Even clams, which open after they die, are found around the world in fossil graveyards in the closed position, indicating they were buried rapidly.⁴²

Coal Deposits

Evolutionists claim that coal deposits have been formed over millions of years. If this is true, David Cloud asks this compelling question: “How can they sometimes contain perfectly-preserved fossils, including two-ton dinosaurs, which would have to have been covered almost instantly? For example, in 1878, miners working in the Mons coalfield in Belgium discovered 39 iguanodon dinosaur skeletons, many of them complete, at a depth of 322 meters. They were 10 meters long and weighed two tons each. ‘For their bodies to be rapidly buried would require rates of deposition thousands or even millions of times greater than the average 0.2 millimeters per year proposed by uniformitarians.’”⁴³

During my college days, I had the opportunity to study several coal mines in western Kentucky. I was surprised to find evidence showing their rapid accumulation. This contradicts the swamp model which states it takes tens of millions of years of slow accumulation and burial of plant material before it will turn to coal. Between the layers of coal deposits we found layers of sandstone, limestone and clays, all containing marine fossils and plant material. Sedimentary structures in these layers indicated they were deposited in fast-moving waters. One coal bed was even cut or channeled by a deposit of sandstone.



Figure 4. Sandstone Channel Cutting Coal Beds
in Western Kentucky

Because these coal beds associate with the upper and lower strata (a layer of sedimentary rock or soil), they were also deposited rapidly during a catastrophic event. This challenges the slow and gradual swamp model. Not only that, coal deposits do not have the deep-penetrating roots that swamp and peat soils have. The Flood formed coal beds as water action sorted plant debris.

Polystrate Fossils

In many coal and sediment deposits, fossilized trees are found standing in an upright position. These are called polystrate fossils because they are encased within and cross several layers of sedimentary rock.



Figure 5. Polystrate Fossil Tree⁴⁴

If the sandstone or clay was deposited very slowly, the trees would rot and not be preserved. The sediments had to rapidly bury the trees in order for them to stay upright and fossilize. Other kinds of fossils are buried and encased or extend into multiple layers of sediment. Dr John Morris notes, “I’ve seen hundreds of individual fossils whose body width exceeds the width of the banded layers in which they are encased.”⁴⁵ It would be impossible for a dead fish or animal to stay in an upright position and be perfectly fossilized, with all parts intact, if the sediments accumulated slowly.

One such example is the “Kamikaze” ichthyosaur described by Tas Walker and Carl Wieland.⁴⁶ This ichthyosaur (an extinct dolphin-like marine reptile) was found “buried in a vertical, nose-down position at 90 degrees to the rock layers.” Walker and Wieland continue: “Unlike most

fossils, the head was preserved in three dimensions, and had not been flattened by the weight of sediment above it...The skull was enclosed vertically within three geological layers, which have been dated according to long-age beliefs, by reference to the fossils they contain. Curiously, the layers span an 'age' of about one million years, and that presents something of a problem for long-age geologists."

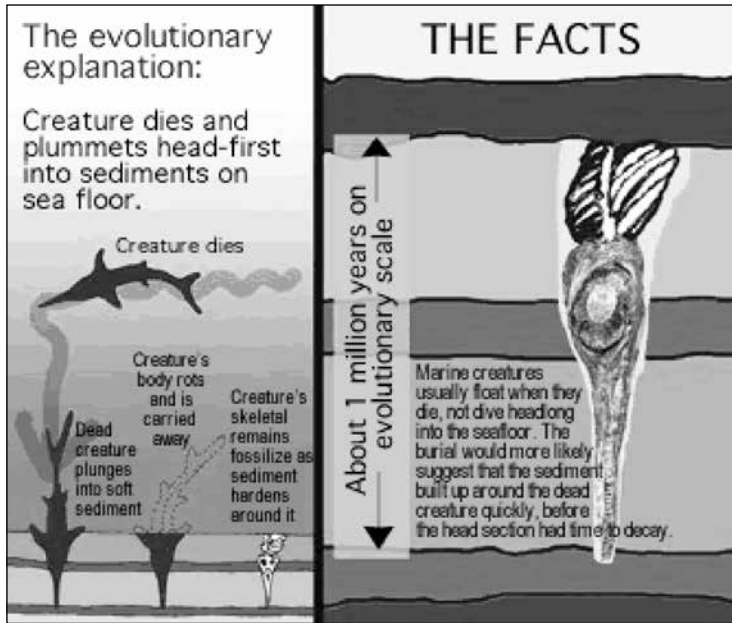


Figure 6. Ichthyosaur Head Spanning Three Layers (supposedly deposited over one million years)⁴⁷

You don't have to be a fossil expert to see the problems with this situation. Just how can a complete ichthyosaur head be buried in a vertical position *slowly* over a million years? It is much more likely that this animal was killed and buried rapidly during Noah's Flood, and that all these layers formed at nearly the same time. There have also been several fossils recovered that were *in the process of giving birth*.⁴⁸

The Earth's Sedimentary Rocks

The most common type of rock found on the Earth's surface is sedimentary rock deposited by water. We learn in the study of earth science that sedimentary rocks are made of broken pieces of preexisting rock. The clasts or pieces range from very small, such as those in mud, to large cobbles and even house-sized boulders. "Strata" is a term applied to layers of all types of sedimentary rocks. Many people don't realize that the sediments or strata were laid down and spread out over vast amounts of land surface. Some cover nearly the entire continent of North America. These are called blanket sandstones. Also the Earth's strata occur in six thick packages called megasequences. Each megasequence shares the same kind of material, clast patterns, and fossils which enables scientists to trace the sequence for long distances.

The Tapeats Sandstone is one of the lowest blanket sandstones. It was deposited at the start of the Flood in areas of North America. Evidence within the Tapeats strata, such as ripple beds and well-developed cross-beds, is consistent with rapid deposition. Cross-beds and ripples form when water currents are fast and strong.



**Figure 7. Well Developed Cross-beds in Sandstone
Indicates Rapidly Moving Waters**

Additionally, large boulders are found at the base of the Tapeats Sandstone. This also shows that currents were strong and violent, ripping up and pulverizing the underlying bed rocks.

Another layer named the Redwall Limestone is found in the Grand Canyon and extends under other local names across America as far as Tennessee and Pennsylvania. The same kinds of sediments and fossils are even found across the Atlantic Ocean in England. Geologist Andrew Snelling states, “Every continent contains layers of sedimentary rocks that span vast areas. Many of these layers can even be traced across continents.”⁴⁹ Only a world-covering flood could deposit such vast amounts of sediment as a single layer!

The Bible states that at the beginning of the Flood, “... all the fountains of the great deep burst open ...” (Genesis 7:11). Geologists have found deposits of large boulders and megabreccia beds—composed of very large angular fragments of rock laid down in a mud flow—that outcrop on the edges of most continents. The Kingston Peak Formation located in the Mojave Desert of California is a leading example of this type of deposit. These megabreccia beds are also found in Utah and Idaho, and extend into Canada as well. They show where the edge of the North American continent probably was at the start of the Flood.



Figure 8. Megabreccia

These deposits were most likely laid down at the start of the Flood when the ancient continent broke apart.

Mountain Building

Many people I run into know that fossil deposits are found in the highest mountains on Earth. They consider, “How could fossils that once lived on the ocean floor be found in the world’s tallest mountains?” Most elevated mountains of the world contain strata with marine and plant fossils. For example, whale fossils are found high in the Andes Mountains with other marine fossils such as clams and giant oysters.⁵⁰ The peak of Mount Everest contains fossil ammonites.



Figure 9. The Pyramidal Summit of Mt. Everest is Composed of Fossil Bearing Limestones

Other examples of fossils at high elevation include the Burgess Shale mentioned above, and the Matterhorn, which sits at 14,690 feet in the Swiss Alps. It is composed of sedimentary layers which contain marine fossils such as clams, oysters, and fish! Much of the sedimentary layers in these mountains are folded, tilted, and “cracked” (faulted) due to the tectonic forces that raised them. If these mountain ranges are tens of millions of years old then they shouldn’t be as elevated. They should be worn down as hills or eroded away completely based on the current rate of erosion. In fact, subsequent research has verified what John Morris wrote in *The Young Earth: The Real History of the Earth, Past, Present, and Future* about how modern erosion rates would have erased all continents in 50 million years or so, since erosion occurs faster than uplift.

I’ve talked to many people who don’t understand that most mountains were formed very recently in so-called geologic time. Geologic time is referred to as “deep time,” and it starts at about 4.5 billion years ago. Of course, even

as a geologist I am unconvinced of deep time, instead preferring the biblical time scale. If we searched the internet or textbooks for “mountain building” we would find that, on average, the tallest mountains started uplifting around 60 million years ago. So, assuming for argument the conventional age of the Earth as 4.5 billion years old and accepting geologic “deep time,” let’s compare geologic time to a twenty-four hour day. The 60 million year-old mountain building events would only take about the last eighteen minutes of a twenty-four hour day to appear. So, mountain building is a recent geologic event within the evolutionary time frame.

Now some scientists think, based on the fossils, that today’s highest mountains are a lot younger than the 60 million years stated above.⁵¹ Pliocene fossils, deposited about 5 million years ago using the conventional geologic time frame, are found in the Himalayas and Andes Mountains. So, compared to the twenty-four hour day above, these mountains appeared in the last two minutes of the day!

Bristlecone Pines

Consider the Bristlecone Pines, believed to be some of the oldest living organisms on the Earth. These hardy, twisted pines grow in arid regions of Western North America at altitudes between 5,600 and 11,200 feet. Researchers can estimate the ages of these trees by counting the “growth rings,” which typically grow at a rate of one per year, but can grow more than one ring during wet years. One such Bristlecone Pine, called the “Methuselah” pine (named after the biblical character Methuselah, who lived to be 969 years old⁵²), has an estimated age of 4,845 years. Just this year, an even older tree was found with an estimated age of 5,063.⁵³



Figure 10. Bristlecone Pines on the tops of White Mountains, California

Is this just a coincidence that these trees are found on high elevated mountains? Or, could the Bristlecone pines have rooted at the end of the Flood on dry land and then have been uplifted during the mountain building process at that time? The fact that the Earth's oldest trees are found on the mountain tops fits well with recent mountain building episodes towards the end of the catastrophic Flood of Noah. The truth is that it makes more sense that the mountains rose *rapidly* at the end of the Flood—after the many ocean-dwelling animals were buried and fossilized (mostly clams) and seeds were sprouted. As mentioned earlier, given the current rate of mountain uplift and erosion, uplift had to be faster than erosion or the mountains would be worn away.

One must also ask the question: “Why are there no trees alive today that significantly exceed typical Flood date estimates (around 2350 B.C.)?” This is especially convincing given that several tree species have the ability to live longer than 6,000 years, but no such trees are found! In addition to

the Bristlecone Pines discussed above, the giant sequoias in California can also live longer, but the oldest living sequoias can only be traced back about 3,200 years.⁵⁴ The answer is that these trees began their lives after the Flood.

Landscapes Formed by Catastrophic Processes

When the Flood waters drained from the Earth, many landscapes were formed that can't be explained by isolated local floods or slower processes supposedly occurring over thousands and even millions of years. These landscapes are referred to as erosional remnants or left-overs. They are not forming today. The list is long so we will discuss only some of the more obvious surface features. There are many elevated areas around the world that have very conspicuous flat-topped surfaces. The Colorado Plateau, for example, is made of several plateaus that range in elevation between 5,000 feet to 11,000 feet above sea level and covers an area of 130,000 square miles.



Figure 11. Western Edge of the Colorado Plateau East of Las Vegas, Nevada (notice penneplained surfaces on the plateau)

Most people are familiar with the plateaus, mesas, and buttes found in such places as Grand Canyon and Canyonlands National Park. Large volumes of receding Flood waters washed away thousands of feet of sediment, leaving relatively flat-lying surfaces forming these plateaus, mesas and buttes.



Figure 12. Canyonlands in Eastern Utah

These flat surfaces are called peneplains or planation surfaces and are only formed by strong currents of water spread over large areas. Peneplains are found worldwide and are not forming today.⁵⁵ The Beartooth Mountains of Montana and western Wyoming contain a remarkable peneplained surface at the summit that rises 12,000 feet above sea level.



Figure 13. Beartooth Mountains

These flat-topped surfaces are best explained by large-scale sheet erosion due to the retreating Flood waters that occurred as mountains were building.

In western North America, the many dry lake basins were filled with water and formed a network of connected lakes in the recent past. Ancient Lake Manley filled the Death Valley basin and connected with lakes found in the Mojave Desert to the south. The Great Salt Lake in Utah which covers an area of 1,700 square miles and average depth of sixteen feet looks large, but is actually much smaller than the lake that once occupied that territory. If ancient Lake Bonneville was around today it would have swallowed the Great Salt Lake and surrounding areas. Lake Bonneville was eleven times larger than Great Salt Lake and one thousand feet deep. The shorelines of the ancient lake are found 984 feet above the present lake level.



Figure 14. Great Salt Lake with Wasatch Mountains in the Background (when Lake Bonneville was around the lake level was about 1000 feet higher as recorded in the shore lines in the mountains)

What happened to the lake's water? Apparently, the natural dam that once held Lake Bonneville broke. It must have been terrible to witness the ancient catastrophe, as the lake discharged its huge volume of water towards the north, running over southeastern Idaho through the Snake River basin and out to the Pacific Ocean. It left an array of carved canyons in its wake.

Most river beds today are considered underfit because the current river or stream is too small to have eroded the valley in which it flows. Wide river channels or river valleys attest to the large amounts of water the river carried in the past. If we looked at the Snake River valley we would see that the current river does not fit the valley. The valley was formed rapidly by the catastrophic release of ancient Lake Bonneville. Many areas in Utah and Nevada show that large volumes of water drained from the land in the past. The Virgin River in Utah starts near Zion National Park, follows the Virgin River Gorge, and empties into Lake

Mead, Nevada. This is what we see in the modern landscape on Earth: evidence that in the past large volumes of water drained from the land. A world-encompassing flood could have filled ancient large lakes that later drained, producing the erosional remnant landscapes we see in western North America and worldwide.

Noah's Ark

If there was a worldwide Flood, then all life on Earth would have been blotted out. But today the planet teems with millions of plants and animals. Where did they come from? The Bible states that Noah built an Ark, Genesis 6:15. On board were his wife, his three sons with their wives, as well as animals of every kind. Some question the size of this boat, how many animals were on the boat, and how the animals repopulated Earth after the waters drained. These are good questions when asked by someone who genuinely wants answers. Let us answer each in turn.

The Bible gives us the dimensions of the Ark: 300 x 50 x 30 cubits. In ancient times, a cubit was measured by the length from a man's elbow to the tip of his fingers. Using the long or royal cubit definition, this translates to Ark dimensions of about 510 x 85 x 51 feet. Using a more conservative cubit of about 17.5 inches, the Ark would have been approximately 437.5 x 72.92 x 43.75 feet. This translates to a total volume of about 1,396,000 cubic feet. The inside dimensions of a 40-foot school bus gives about 2,080 cubic feet of space. Therefore, 671 school buses without their wheels and axels could fit inside of Noah's Ark. If each bus carried 50 students, then 33,550 kids could easily fit in the Ark. Wow! And there would even be enough room left over for food and other supplies. The Ark had plenty of room!



Figure 15. Life-size Replica of Noah's Ark (Built by John Huibers in Dordrecht, Netherlands)



Figure 16. Life-size Replica of Noah's Ark (Notice the giraffe on the front of the ship!)

Another interesting fact about the Ark is that God knew *exactly what He was doing* when He gave Noah the specific dimensions for building the Ark. In fact, in 1993, Dr. Seon Won Hong⁵⁶ conducted a scientific study to investigate the

seaworthiness of the Ark at the renowned ship research center KRISO (now called MOERI) in South Korea.⁵⁷ After evaluating the seaworthiness of over 10 various ship dimensions, the study showed that the Ark dimensions given in the Bible were ideal for handling everything a highly turbulent sea could throw at it. In fact, this study showed that the Ark could handle 100-foot waves.

An earlier study conducted in the 17th Century by Peter Jansen of Holland showed that the length-to-width ratio of the Ark (about 6-to-1) was ideal for such a massive, non-powered sea vessel (some oil tankers are 7-to-1). He also demonstrated using replica models of the Ark that it was almost impossible to capsize.⁵⁸

How Many Animals Were aboard the Ark?

Noah only took air-breathing, land-dwelling, animals with nostrils onto the Ark. Some marine creatures like fish and amphibians could survive the Flood. Some seeds would sprout and root various plants and trees, and Genesis 6:21 tells us that Noah brought plants and seeds onto the Ark as well. How many animals were there? There are many estimates as to this number. First, it is important to understand that not every species (under most current definitions of this term) had to be on the Ark—only pairs of each animal *kind*. Equating “kind” with the standard “genus” names overestimates the number at 8,000 kinds.⁵⁹ A basic kind of animal for example would be a dog or cat. There are many different kinds of dogs today but Noah only had to take two dogs, a male and a female (e.g., wolves, coyotes, and domestic dogs can inter-breed and represent the same “kind”).

Taking two of each “kind” means that no more than 16,000 animals had to be on the Ark to reproduce the animal life we see today. What about those few animals that grew

to great sizes, like sauropod dinosaurs? Rather than bringing large animals that may have passed their reproductive primes, it is likely that Noah brought younger adolescent animals on the Ark. All the animals, a large measure of which were probably bird kinds, averaged about the size of a sheep.⁶⁰ Reflecting on our school bus comparison, a lot of small animals could fit on the Ark with room to spare.

After the Flood, dry land appeared⁶¹ and the animals left the Ark to repopulate the Earth. The climate and geographical conditions must have changed drastically. So, the basic kinds of animals would have to adapt to different environments. This is what scientists see today. The same kind of animal can adapt to a different environment by changing certain characteristics. For example, some birds can change the size and shape of their beak in order to eat certain nuts or insects. The bird hasn't changed into a different kind of animal such as a reptile, and it hasn't even generated a non-bird body feature. It is still a bird with a different size and shape beak. This process has generated from the original "kinds" that left the Ark—the many different animal and plant varieties we see today.

The drastic climate changes that occurred after the Flood also led to humans living shorter lives,⁶² the ice age,⁶³ and many of the dinosaurs that survived the Flood via the Ark to go extinct faster than many other animals (e.g., due to the scarce food supply and increased competition for habitat).⁶⁴

Conclusion

Only a catastrophic, worldwide flood could deposit thousands of feet of sedimentary rock layers that almost covered whole continents. Within these sediments, billions of dead animals were buried and fossilized, just as we would expect from the Bible's Flood account. Late Flood upheavals lifted some of these sedimentary rocks with their fossils to the

highest peaks in the world for all to see. Continents, fossils, and mountains are what we would expect to see if there really was a worldwide Flood as described in Genesis.

Endnotes



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