

Grand Canyon power point

1. Title

**When was the Grand Canyon formed? 4,360 years ago during Noah's flood?
Or during millions of years by natural geologic processes?**

2. Grand Canyon book

Many of my illustrations are going to come from this book. This book shows scientifically why the Grand Canyon cannot be formed by Noah's flood and why the earth cannot be 6,000 years old. I am going to give you evidence for both of these conclusions.

3. Grand Canyon

This is a map view of the Grand Canyon. Its length is about 277 miles, has a depth of nearly a mile, and is more than 18 miles wide at its widest point. The north rim is over 8,000 feet elevation. The south rim is about 7,000 feet elevation.

4. Noah's flood time line

Noah's flood started when the flood gates of the sky opened and the fountains of the deep burst open. I will say more about the fountains of the deep later. It rained 40 days and 40 nights. The Earth flooded for 150 days. Noah's ark rested on mountains of Ararat - not Mt. Ararat.

The Earth began to dry out, but **note** that the only drying-out occurs at the end of the flood - not during the flood. The flood lasted one year.

5. Garden of Eden

Genesis describes 4 rivers: Euphrates, Tigris, Pishon, and Gihon that drains into the Garden of Eden. Note that there are 30,000 feet of fossil-bearing sedimentary rocks that according to young-earth creationists were deposited by Noah's flood. On that basis, the Garden of Eden, according to them, was here and not here.

6. Grand Canyon and Grand Staircase

Note the Kaibab arch. Elevation on either side is around 5,000 feet, but in the arch it is above 8,000 feet. North from the Grand Canyon is a series of cliffs in the Grand Staircase. Vermillion Cliffs, Chocolate, White, and Pink Cliffs. Bryce Canyon is at the higher elevation. Zion National Park is here.

7. Grand Canyon Noah's flood time line

Note Precambrian rocks at the bottom on which deposits of Noah's flood are on top. Noah's flood was thought to happen around **4,360** years ago. Note that Noah's flood deposits are Paleozoic and deposited early in the 150 days of flooding. The higher layers were deposited in the Mesozoic from day 151 to the end of the flooding. Note positions of the Redwall limestone, the Supai group, the Coconino sandstone, and flat top on the Kaibab limestone. The next image is just to the right showing the late-flood deposits.

8. Grand Staircase Noah's flood time line

Here is the flat top of the Kaibab limestone, Zion Canyon, and Bryce Canyon. The late-flood deposits are believed to extend over this area but to be washed out by a catastrophic flood of water from lakes left-over after the flood.

9. Zion and Bryce Canyons

Zion Canyon consists of sandstone, 140 to 375 feet thick, with giant cross-bedded desert sand dunes. Bryce Canyon is composed of pink and white fresh-water limestone.

10. Dune cross-bedding Zion Canyon

Here is an example of dune cross-bedding in Zion Canyon. In deserts, wind piles sand up in dunes, blowing sand up one side of a dune where it spills down the slope on the lee side. The result is cross-bedding. How can large desert dunes possibly form in flood waters in the late part of the one year of flooding? Moreover, less than one year is not enough time for wind to blow and pile up that much sand.

11. Conventional geology time line

Note the 13,000-foot-thick sedimentary rock layers in the Precambrian basement which young earth creationists tend to ignore. Was there another ancient flood not mentioned in the Bible that deposited these sediments? Note –the ages are expressed in millions of years. I am not going to describe how these great ages are determined.

12. Grand Canyon deposition and erosion

The Grand Staircase and Grand Canyon sedimentary rocks are all deposited during Noah's Flood and the Grand Staircase rocks are removed over the canyon. Here is Zion Canyon.

13. Left-over water from Noah's flood

Three large lakes were thought to be left-over after the flood, and the water in them is said to break loose from dams and rush over the top of the Kaibab limestone and remove the upper layers and then carve the canyon. In other places, large lakes, such as glacial Lake Missoula in the state of Washington, that broke loose through dams, produce different kinds of erosion and deposits from those in the Grand Canyon area.

14. Grand Canyon flat top

Here is a view of the flat top on the Kaibab limestone. The Precambrian basement rocks are seen in the bottom of the canyon, left side. Note the rock layers resistant to erosion form cliffs: the Redwall limestone, Supai Group, Coconino sandstone, Kaibab limestone, while the softer shales and siltstones form gentle or nearly flat slopes. A stair-step pattern results.

15. Erosion possibilities

In the Flood geology model, the sediments deposited in one year should not have had time to harden and would have been saturated with water. The rushing flood waters would erode into the softer clay, and the overlying sands and limey sediments should have easily slumped. In the conventional model, after millions of years the layers became hardened into rock, and the eroded canyon became stair-stepped.

16. Kaibab plateau

Note that the Colorado River cuts through the Kaibab Arch. Rivers do not flow uphill so we need to explain what happened. Note the position of the Little Colorado River and barbed tributaries. Tributaries normally point downstream. Thus, the Little Colorado River used to go out to the north. Note - they are hooked. Now the water from the tributaries turn around, and this water goes out in the Colorado River to the south through the Grand Canyon. How did this happen?

17. Stream capture

One possibility is stream capture. Streams work headward by erosion. The intersection captures the river and reverses the drainage.

18. Redwall limestone caves

Here you can see numerous caves in the Redwall limestone. Another possibility is that underground drainage through caves whose roofs collapsed in sink holes could have resulted in the stream capture – as seen in the next image.

19. Karst capture

Terrain that has caves and sink holes in it is called karst topography. Carol Hill has looked at many of the caves along the Grand Canyon and dated the stalactites and stalagmites, using their uranium contents, and the dates are 5 to 6 million years – not **4,360** years.

One additional point that I can make here is that the barbed or hooked tributaries of the Little Colorado River could not have possibly been created by the rush of Noah's flood waters.

20. Environments for sedimentary rocks

These are the many different environments in which sedimentary rocks are formed. Almost all are found in the sedimentary rocks in the Grand Canyon and the Grand Staircase. You can get fresh water limestone in Bryce Canyon and marine limestone in the Redwall and Kaibab formations. A basal conglomerate occurs on top of the Precambrian basement rocks. I am going to talk about desert areas where salts are deposited from evaporating water and where sand dunes are formed.

21. Devil's Golf Course in Death Valley

In basins where water accumulates in desert areas and evaporates, salt deposits form. Here is an example in the Devil's Golf Course in Death Valley. In Utah, north of the Grand Canyon, the Colorado River cuts through the Paradox Formation containing 200-foot-thick salt layers. This formation is the same age as the Supai Group in the Grand Canyon. On every continent there are similar salt formations some of which are more than 3,000 feet thick and are all of different geologic ages. All were formed by drying and evaporation of water in both early- and late-flood times. Drying during Noah's flood to produce salt deposits does not make scientific sense.

22. Mud cracks in soft mud along Little Colorado River

All the thick salt deposits are associated with shales (former muds) with mud cracks, indicating drying or hot evaporating conditions. How can such formations formed under drying conditions be deposited in the midst of layers being deposited in flood waters. The Bible only reports one period of drying at the end of the flood – not multiple periods of drying.

23. Fossil mud cracks in Tapeats sandstone

Here is an example of some fossil mud cracks in the supposed early-flood Tapeats sandstone near the Precambrian crystalline basement rocks. How can drying occur in this formation early in Noah's flood when it is raining 40 days and 40 nights?

24. Rain drop prints

In other places you can find casts of fossil rain drop prints. When a large drop of rain hits soft mud, it creates a round depression with a raised splash-rim. This image shows the underside of depressions of rain drops with splash-rims projecting down in the mud. Such rain drop prints **cannot** be found in sedimentary rocks being formed and deposited under water.

25. Coconino dune cross-bedding

The Coconino sandstone also has dune cross-bedding. As I said before about cross-bedding in the Zion rocks, sand dunes in deserts should not have been formed in early-flood deposits.

26. Coconino sandstone tracks

Some young-earth creationists claim that the dune cross-bedding in the Coconino sandstone was formed under water. But very common in the Coconino sandstone are fossil foot prints of 4-footed vertebrates, walking up a dune face. Here is a pair of trails. And such would not be produced if the sand was under water.

27. Dinosaur foot prints Vermillion Cliffs

You do not find any dinosaur foot prints in the Grand Canyon rocks but some are found on the Vermillion Cliffs. If dinosaurs were living at the same time as humans, as some young-earth creationists claim, why are dinosaur foot prints only found in Mesozoic rocks? And shouldn't the heavy bones of the dead dinosaurs settle in the flood waters into the lower sedimentary rocks?

28. Dinosaur nest of eggs

In some places you can find colonies of nests containing dinosaur eggs. It is illogical to think that dinosaurs would have time to build nests and lay their eggs in the midst of running away from a flood.

29. Plate tectonics

Modern geology has discovered the existence of plate tectonics. This shows how the earth's continental crust is moving apart in the mid-Atlantic ocean from a spreading center. A similar spreading center also occurs in the Pacific Ocean.

30. Plate tectonics rotating cells

In this model of rotating cells in the mantle during plate tectonics, hot magma rises in spreading centers and erupts to produce basalt lava. That fresh lava hardens and is transported away as new lava emerges behind it. In the oceans there are many kinds of tiny organisms that live near the ocean surface which die and are deposited as oozes. They include diatoms, coccoliths, and radiolarians. As these organisms die they fall on top of the lava. Fresh lava has no dead organisms on it, but because the lava surface moves away from the spreading center, the falling dead organisms pile up and accumulate. The thickness of oozes, for example, progressively increases from zero at the spreading center to as much as 4,590 feet thick at the farthest distance away. The oozes accumulate at the rate of 0.2 to 2.4 inches per year.

31. Dead and live radiolarians

Radiolarians are marine one-celled creatures that have intricate silica skeletons, like glass lanterns, that enclose chloroplasts for photosynthesis. They float in the water near the ocean surface to receive energy from sunlight. There are over 4,000 different species that have an evolutionary sequence. All early- and late-flood radiolarian formations have different radiolarian fossils. How can rushing flood waters sort out different species of such tiny fossils to be consistently at specific levels in formations of different ages? Shouldn't rushing water create a chaotic mix of fossils?

Japanese scientists have studied how fast dead radiolarians will settle in the water. Because of friction with the glass lanterns, it takes 2 to 56 weeks to fall 15,000 feet to the ocean floor. Because of the slow rates in which radiolarians die and accumulate on the ocean floor, to make layers of radiolarians 4,590 feet thick in the modern ocean as well as in thick layers in early- and late-flood deposits – the accumulation cannot happen in less than the 52 weeks of the one-year Noah's-flood-event and in the time since this event in modern oceans. It would take millions of years. Therefore, the Earth cannot be 6,000 years in age.

32. White Cliffs of Dover

I mentioned coccoliths as one of the oceanic oozes. Trillions upon trillions of these organisms occur in supposed late-flood Cretaceous chalk in the White Cliffs of Dover in England. The formation is as much as 350 feet thick.

33. Coccoliths

Coccoliths are a kind of floating marine algae that have plant cells coating a shell of calcium carbonate. It would be impossible for all these organisms to be present in the ocean at the same time during Noah's flood. First of all, there could not be enough dissolved calcium locally in the water to produce that many carbonate shells in less than one year. Moreover, that many organisms in the water at the same time would block the sunlight for photosynthesis except for those living near the ocean's surface. Therefore, they could not all be alive at some brief time during the one year of the flood. To produce all those coccoliths would require hundreds of thousands of years, if not millions. Therefore, they give evidence that the formation seen in the White Cliffs of Dover was not produced during Noah's flood.

34. Spores and pollen

Another reason why the sedimentary rocks in the Grand Canyon and the Grand Staircase cannot have been deposited during Noah's flood is the presence of spores and pollen. These tiny reproductive structures come from different kinds of plant species. For example, spores are produced by fungi, algae, moss, and ferns. Pollen is produced by pines, flowering plants, and grasses. How could rushing water in Noah's flood sort these tiny structures from each other and have pollen from pines only in layers higher in the Grand Staircase layers and none in the early-flood layers? Rushing water in a tsunami should mix the spores and pollen grains, and that is not the case.

Incidentally, the movie Jurassic Park shows dinosaurs rushing through meadows of grass. Grass never existed in the Mesozoic era when the dinosaurs were living.

35. Redwall limestone

Now let's take another look at the Redwall limestone. This formation in the Grand Canyon ranges from 500 to 800 feet thick and contains numerous layers of jumbled marine fossils such as corals, brachiopods, clams, snails, and crinoids.

36. Jumbled crinoid fossils

Here is an example of some jumbled crinoid fossils in the Redwall limestone, supposedly jumbled because of the rush of water in tsunamis produced during Noah's flood.

37. Crinoid sea lily

Crinoids are marine animals that grow on an anchored stem, perhaps a foot high, with waving tentacles to gather food. Numerous reasons indicate that the Redwall limestone could not have been deposited in a rush during a tsunami produced during Noah's flood. For example, to create that many fossils in 500 to 800 feet of limestone would require crinoid sea lilies to be living on the ocean floor a foot apart over the entire world during the early part of the 150 days of flooding. Moreover, there would have to be prepared a vast reservoir of calcium carbonate ready to be transported by the flood waters to make the limestone. These requirements seem highly unlikely.

38. Silurian limestone

Moreover, there is ample evidence that all limestone formations deposited in the supposed early flood times were NOT laid down during a rush of flood waters. Here is quarry in Iowa to obtain building stone in a supposedly early-flood limestone.

39. **Silurian limestone thicknesses**

Here is another quarry in the same limestone. You can see that the limestone layers have variable thickness – some thin and some thick. This formation extends for hundreds of square miles in Illinois, Iowa, and Wisconsin. What is remarkable is that each individual layer remains the same thickness across this whole area. By making measurements of thicknesses in many quarries, a stratigraphic template can be made showing bed-thickness sequences over the formation's entire thickness. For example: The thicknesses might be 8 inches, followed by 14, 22, 23, 12, 35, 16, etc. And that same constant sequence of thicknesses would be found everywhere. I could go to a 6-foot outcrop of limestone in a pasture in Iowa, measure the thicknesses of the layers, look at the stratigraphic template, and know exactly at what level I was in the formation. The regional dip of the layers was only 5 degrees, almost horizontal.

I was working for the U.S. Geological Survey with another geologist, mapping this formation, and we had to use surveying instruments to plot the attitudes of these layers because we could not see with our eyes small changes in the 5 degree dip. If we found a local change in dip as much as 15 degrees, we would recommend drilling to a possible zinc ore body because likely this change indicated that the limestone below that place had been dissolved by introduced ore-bearing fluids to cause collapse of the limestone layer and create openings for zinc minerals. At any rate, this formation must have formed in very quiet water by chemical precipitation of calcium carbonate and could not have been deposited by Noah's catastrophic flood of rushing water. The fossils in this formation are not jumbled.

40. Dating of Colorado River terraces

When the Colorado River eroded down into the sedimentary rocks, it deposited river terraces on the sides of its canyon walls. How old these terraces are can be measured by using two different methods. The first method uses grains of the mineral apatite that were eroded and transported to the river terraces. Apatite commonly contains uranium. Uranium is radioactive and decays and emits alpha particles that damage the lattice of the apatite crystals, leaving trails of damage. Where temperatures of the river terraces were below 70 degrees C, these trails are preserved and can be counted. By knowing the decay rate of uranium, the age of a river terrace can be determined.

A second method uses cosmic rays that come in from outer space and put energy into oxygen isotopes and stores this energy in beryllium isotopes. Such beryllium isotopes are light sensitive, but as long as they are hidden from sunlight, this energy is not released. Drilling into the river terrace sand is used to obtain core samples, and these samples are sealed to prevent light from reaching them. The samples are then brought to an unlighted laboratory where the stored energy can be released from a core sample in a flash of light that can be measured, and the amount released gives an age.

This image of terraces in the Grand Canyon shows the ages that were determined by these two different methods. One method shows the oldest age (350,000 years) is at the top of the canyon and the youngest (38,000 years) is near the bottom where the latest river terrace was formed. Note - the ages are consistent for the two different methods but are different because the samples were collected from different places in the river terraces. Note – the ages are much older than 6,000 years.

41. Rate of erosion of the Grand Canyon

By plotting the ages of river terraces and the slope to the depth in which the river terraces are found, the rate of erosion in the canyon can be calculated. At this place near Lee's Ferry, it is 350 meters of eroded rock per million years.

42. Bull's eye of erosion

By studying rates of erosion in different places along the Colorado River, a local area was found that formed a bull's eye of rapid erosion. Here is Lee's Ferry where the rate of erosion is 350 meters per million years. In the center of the bull's eye, so much rock was eroded away that the underlying rocks rose in buoyant fashion, like how an ice berg floating in water rises as its top melts away. Therefore, the Colorado River had to rapidly erode through the underlying rising rock in order to keep flowing down the canyon.

43. Precambrian time in the geologic column

So far, I have made no mention of the Precambrian rocks that underlie the Paleozoic supposed early-flood rocks in the Grand Canyon. But if conventional geology is correct, this is ignoring nearly 90 percent of the Earth's history – 541 million years ago at the base of the Paleozoic era back to 4,600 million years ago when the Earth was first formed. Young-earth creationists say all rocks that occur in the Precambrian were created on Day 3 of the Genesis Week.

44. Precambrian basement rocks in the Grand Canyon

On the basis of laboratory studies, all the different Precambrian igneous rocks observed in the Grand Canyon seem to be logically formed in millions of years and not in a short time of one day. For example, the liquid magma that formed the large Zoraster granite mass must have been injected into the rocks at temperatures in excess of 800°C, and the liquid magma that formed the diabase igneous sill must have been injected into the Bass Dolomite between the Hakatai Shale and the basal conglomerate layer at temperatures in excess of 1200°C.

Because of the study of rates of cooling of magmatic igneous rocks in laboratory experiments on rocks of the same chemical compositions, these molten rocks must have cooled very slowly, and because rocks are very poor in conducting heat, for masses of igneous rocks as large as are in the Grand Canyon and which probably once were at great depth (as much as 5 miles below the Earth's surface), millions of years of cooling could be required before crystals could start to form. Certainly, they could not have crystallized by natural processes as quickly as in one day (Day Three of the Genesis Week). Therefore, young-earth creationists must rely on supernatural processes which defy any scientific knowledge that I have.

If the Bible was meant to be a true history of the origin of how all rocks were created in the Earth, as recorded in Genesis 1, then I think God should have inspired the writers of Genesis to tell more about the earth's ancient history.

45. Precambrian rocks in North America

There is a lot of history that has been not told in the Bible. This image shows the many different provinces of Precambrian rocks in North America with different ages. The Precambrian rocks in the Grand Canyon basement are in the Yavapai Mazatzal Province of 1600 to 1800 million-year-old rocks. I have studied rocks in the Grenville Province that are 1000 to 1400 million years old. I describe this study in the next section.

46. **Split Rock Pond Anticline**

Between 1959 and 1972, I studied some 1400 million-year-old Precambrian rocks in New Jersey in the Dover Magnetite Iron Ore District. Magnetite is magnetic and is an iron oxide that is found in rocks formed at high pressures and temperatures. The Precambrian rocks were in folded igneous and metamorphic rocks of the Split Rock Pond isoclinal anticline. Imagine a flexible telephone book about 1 inch thick and that you can bend the book in the middle so that the two halves of the book are bent around so that the pages on one side are aligned parallel to the pages in the other half. This is the shape of an isoclinal anticline. The end of the fold is called the nose of the fold, and the two parallel sides are called limbs of the fold. Now imagine that this folded anticline is tilted steeply and eroded off so that the rocks can be exposed from the nose to distances far down the limbs. The size of the fold is 1 mile wide, and outcrops could be seen for 4 miles along the limbs.

I collected 912 samples from eight different amphibolite layers interlayered with gneiss and marble in the nose of the fold progressively down the limbs for 4 miles. An amphibolite was once a basalt volcanic lava flow, but at high temperatures and pressures its crystals change into new minerals that are stable under these conditions, and the basalt becomes an amphibolite. I made thin sections of all 912 samples.

In the Dover Magnetite District there are over 100 iron mines, and all iron in each of these mines has been mined out. No iron mines occur in the nose of the fold, but the mine ore zones occurred more frequently as distances of the ore zones increased away from the nose of the fold. The purpose of my study was to find out how the magnetite was formed and concentrated in ore zones.

It turned out that in the nose, the amphibolites contained iron- and magnesium-bearing silicate minerals that were relatively iron-rich. In the folding process, each layer in the fold had to slide past each other in order to compensate for the squeezing of the layers into the isoclinal arrangement. (You can observe such sliding if you fold a telephone book and look at the movements of the pages.) This sliding at high pressure deformed and broke the minerals, creating fractures

through which hydrous fluids could move. These fluids at high temperatures progressively removed the iron from the silicate minerals and caused the residual minerals to become progressively more magnesium rich. The iron that was removed from the crystals was deposited as magnetite to form the iron ore concentrations.

I do not believe that all these processes that occurred in this isoclinal anticline happened in just one day - Day Three of the Genesis Week. I find no reason to suggest that the Creator had to act supernaturally in order to produce the iron ore concentrations. In fact, all that I observed could be explained by physical laws (laws also made by the Creator), operating under natural conditions that must have taken place over millions of years and not nearly instantaneously.

The writers of the Bible books did not know that they should mention in the area now called New Jersey – the ancient volcanic eruptions of basalt, the deposition of sedimentary rocks following each of these eruptions, and the formation of limestone in former oceans containing ancient, one-celled, organic life. They did not tell the history of these rocks, being eventually buried 10 miles down in the crust. They did not describe the conversion of these basalt flows into amphibolite, the change of the sedimentary rocks into banded biotite gneiss, and the altering of the limestone into marble. They did not reveal that the carbon in the organic life in this former limestone was converted into shiny gray graphite flakes. There are lots of interesting events that went on during the Earth's ancient history which are never mentioned in the Bible.

47. **Garden of Eden**

Now I am ready to look again at the Garden of Eden. Here is something that you probably have not considered. If the average thickness of sedimentary rocks in the Earth's continents is about 5,900 feet and if just one percent of that thickness represents fossils of marine and land animals that were alive during the one year in which Noah's flood moved over the globe to kill these animals -- and some limestones are composed of nearly 100 percent fossils -- those living animals would form a layer 59 feet thick that would cover the continents. Where would Noah have found space to live with so many animals piled on top of him for 59 feet, and where would there be enough food to feed all of them prior to the flooding?

When you also realize that perhaps only 1 in 10,000 land animals are preserved as fossils, Noah would have had to live in really crowded conditions prior to the flood, particularly if many of those unpreserved fossilized animals were huge dinosaurs. Therefore, in addition to all the other evidence that I have given you indicating that Noah's flood did not create the sedimentary rocks in the Grand Canyon and Grand Staircase or cause the Colorado River to erode into them, a global flood is absolutely absurd.

Because these 30,000 feet of fossil-bearing sedimentary rocks were NOT deposited during a global Noah's flood, the Garden of Eden must be here.

The city of Bagdad is located here between the Euphrates and Tigris Rivers and is just 100 feet above sea level. Just north of Bagdad the gradient of the two rivers is 70 feet per mile. At Bagdad, the gradient of the rivers is about one foot per mile. In other words, the rivers are flowing near Bagdad over nearly a flat surface. These two rivers drain from Bagdad to the Gulf of Eden across a distance of 425 miles. At a distance of 174 miles below Bagdad, the gradient is 0.4 foot per mile. And from there, another 250 miles to the Gulf, the gradient is just tiny fractions of a foot, almost completely flat. The water barely flows downhill. It is logical to see why water deeply piled up on flat land would take about a half year before this area would drain so that Noah could get out of his ark on dry land.

48. Noah's flood location

I think there was a huge flood during biblical times. Because of the very low gradients of the Euphrates and Tigris Rivers, water piled up during a lengthy heavy rain storm, just like what happened recently in Baton Rouge, Louisiana, only more so. The villages, where the Hebrew people and Noah and his family lived, were on 5 to 10 mile-wide natural levees that normally were 15 feet above the adjacent river-channel levels, but surrounding these villages was a flood plain that mostly was a swamp on flat land extending for more than 200 miles. Water in Noah's flood just overflowed the banks of the rivers and spread across the flood plains, perhaps 30 feet deep or more. All the surrounding low-lying hills were soon under water from Bagdad to the Gulf. Noah in his boat could only see water everywhere. Because of the curvature of the earth, (the horizon drops 8 feet per mile), the distant mountains would be below his line of sight. If the word "ertz" in the Bible is translated, not as the "whole world", but as land, as it probably was meant to say, all the highest land or mountains that Noah could see was submerged, and that was the whole world to Noah.

The rain falling in the Zagros mountains in Iran would melt snow and add to the volume of the flood waters. Some of this extra water would soak into the ground and flow through caves and tunnels in limestone to emerge in Mesopotamia (now Iraq) as gushing springs. These springs would be the "fountains of the deep."

Thus, I am not against the biblical story, but I suggest that Noah's flood was quite local. If it had been global in extent, then the Egyptians and Assyrians living at this time would have also reported such a flood in their written records, and they did not. The Bible story was not written to give a scientific explanation of what happened but to give a meaningful theological message to the Hebrew people that God would never again destroy life and would care for them.

49. Colorado River boulders

Creationists argue that water from three large lakes eroded the Grand Canyon. It is not the volume of water that carved the canyon. It is the boulders that do it. At the bottom of the Grand Canyon, the Colorado River cuts through more than 100 feet of the Zoroaster granite. If this granite is observed during low river stage when boulders are exposed along the canyon floor on the granite and then observed again in low river stage following more than 6-9 months of erosion during flood stages, the amount of erosion of the granite by the tumbling boulders and rushing sand is only thousands of an inch. Therefore, it is highly unlikely that the rush of water breaking loose from three lakes left-over after Noah's flood could carve the Grand Canyon in just a few days. Millions of years are required to cut down 100 feet in the Zoroaster granite.

- 50.** Last statement. In the Bible Noah is said to have sent out a dove to see if the flood waters had subsided. And the dove is said to have returned with an olive branch twig with fresh leaves. Charles Munroe, who is here, performed an experiment by taking a potted living olive tree and placing it in his swimming pool for 3 months. At the end of the 3 months the olive tree was as "dead as a door nail" with branches that easily broke and snapped off. On that basis if Noah's flood had lasted six months and covered the whole world, all olive trees would have been killed and none would be alive to produce twigs with fresh leaves. Therefore, the flood must have been local, and olive trees growing 50 feet above sea level somewhere must have been living. Charles has also done experiments with grass submerged under water and planting seeds. If Charles will raise his hand, you can speak to him afterwards and find out about these experiments.

51. Grand Canyon book

At any rate, I barely touched on the evidence given in the Grand Canyon book that the sedimentary layers in the Grand Canyon and Grand Staircase have a natural geologic origin, created over millions of years, including discussions of their fossils, rock structures, how great ages are determined, and geologic history. The color scenery images are spectacular and beautiful. I recommend that you buy the book.

52. Final statement

I suspect that in this audience there are some young-earth creationists here who would object to what I have said on the basis that in Luke 17:27 Jesus supported a worldwide flood and that this flood destroyed all life. You might say: “How can I, claiming to be his disciple, go against his teachings in the Bible and be a follower of him?”

I simply point out that Jesus was speaking the truth. Let me repeat that with emphasis. Jesus was speaking the truth. During the time in which He lived the word “ertz” would have been translated as “land” and not the whole world. He would have understood that the flood was local, that the highest land that Noah could normally have seen, before the flood, was under water, and that this local area of Mesopotamia was the whole world to the Hebrew people.

I make the observation that translations of the Bible are not necessarily inspired and that humans, knowing modern science and writing translations of the Hebrew language into English, have created this problem for us. So, I acknowledge your possible objection and give reasons why we need to have a new understanding of what the Bible actually says. The Creator did not produce the rocks in the Grand Canyon to fool us. If we use the right glasses, we can see and read the rocks, and they tell us the truth. Both the Bible and science tell the truth,

Having clarified this issue, I hope that you can see that I support the Bible and that I am truly a disciple of Jesus, and we can set this issue aside now without further comment.

I suggest that young-earth creationists and old earth creationists all need to work together to offer the best reasons why our faith is worth following.

So now, what are your comments or questions about the science that I have given you?