

**Creation Science Exposed –
Stratigraphy and the Young Earth Global
Flood Model – Part Three**



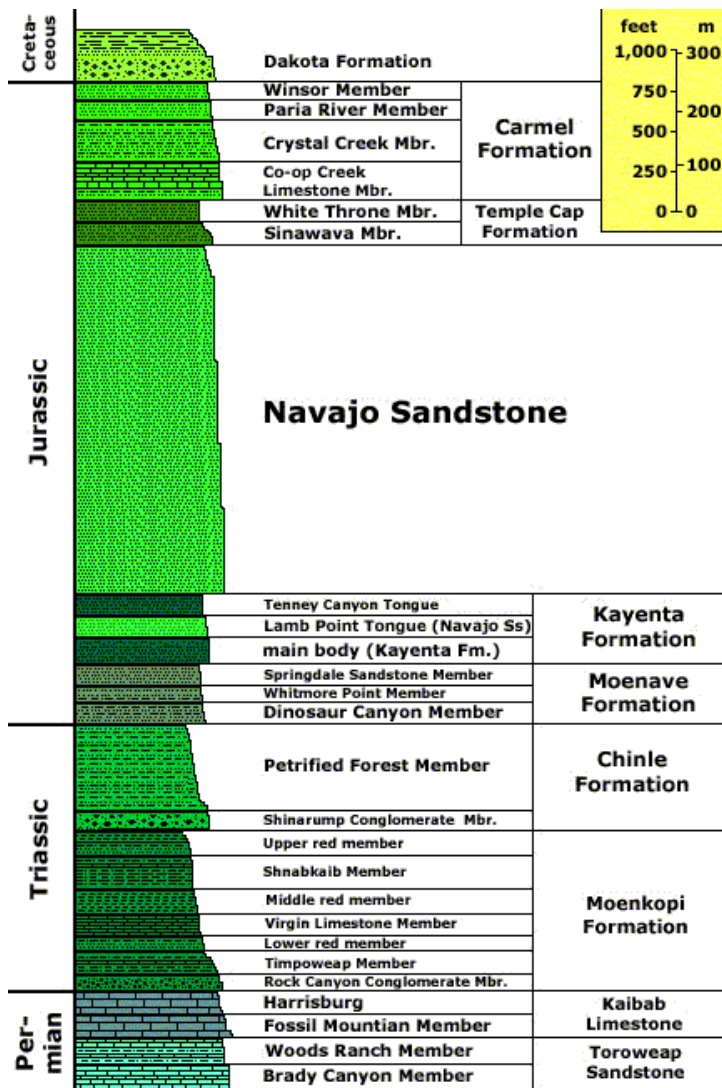
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When we go further up the geologic column from the rock layers of the Grand Canyon, we have even stronger evidence against the young earth creation science flood model. First, I'll provide a listing of the next rock layers stratigraphically above the Grand Canyon. You may be saying, "But there are no rocks above the Grand Canyon." An explanation is in order first.

In the area of the Grand Canyon, there used to be two more rock layers, which are now eroded away from the Canyon area. However, these rock layers still exist away from the canyon. If you will recall, the topmost rock layer at the canyon is the Kaibab Limestone. As you travel away from the canyon, you will come across a layer of rock on top of the Kaibab. This rock layer is the Moenkopi. A little further, and you come across the Chinle. These layers are now eroded away from the Grand Canyon, but since they exist a short distance away, and on top of the Kaibab, we know they were deposited after the Kaibab. If you continue away from the Grand Canyon, you will come across layer after layer, several thousand more feet of sediment, all of which is younger in age than the Grand Canyon rocks. Therefore, these layers are said to be stratigraphically above the Grand Canyon rocks.

Sometimes rock layers hundreds of feet thick may be in one location, but not in others. To simplify our discussion, we will move from the Grand Canyon to the geology of Zion National Park. The rock layers at Zion are as indicated in the graphic, and comprise about 6,000 feet of deposition.



Graphic courtesy of the US. Geological Survey

Discussion

The lowermost formations, the Toroweap and Kaibab, are the two top-most layers at the Grand Canyon. Their presence at Zion National Park provides a reference point for our continued progress up the stratigraphic column.

The Moenkopi Formation

This 230 million year old formation contains mudstones, limestones, sandstones, shales, and siltstones, and gypsum. This formation reaches thicknesses of 1,800 feet, and is comprised thousands of these alternating layers, clearly indicating a shallow, fluctuating shoreline. It is unclear how young earth creationists would fit it in their model, given the clear evidence in the middle of the flood of thousands of advances and retreats of the shoreline. It provides clear testimony against the young earth flood model.

Chinle Formation

This interesting rock layer contains shale, gypsum, limestone, sandstone, and many important minerals such as iron, magnesium, and uranium ore. There are also layers of volcanic ash, and petrified wood and fossils are plentiful (this is the formation at the Petrified Forest National Park). It is about 550 feet thick. The gypsum formed from lagoon deposits. Given the worldwide flood model of young earth creation science, there should be no lagoons. Again, we have many alternating layers of sand, silt, and limestone, providing proof of an advancing and retreating shoreline, which again is inexplicable within the context of the young earth flood model.

Moenave Formation

Early Jurassic uplift was accompanied by deposition of the Moenave Formation. The oldest beds of this formation belong to the reddish, slope-forming thin beds of siltstone interbedded with mudstone and fine sandstone of its Dinosaur Canyon Member, 140 to 375 feet thick (43 to 114 m), which was probably laid down in streams, ponds and large lakes (evidence for this is in cross-bedding of the sediments and large numbers of fish fossils).

Pale reddish-brown and 75 to 150 feet thick (23 to 46 m), the cliff-forming Springdale Sandstone is the upper member of the Moenave. It was deposited in swifter, larger, and more voluminous streams than the older Dinosaur Canyon Member. Fossils of large sturgeon-like freshwater fish have been found in the beds of the Springdale Sandstone. The next member in the Moenave Formation is the thin-bedded Whitmore Point, which is made of mudstone and shale. The lower red cliffs seen from the Zion Human History Museum (until 2000 the Zion Canyon Visitor Center) are good, easy to see examples of this formation.¹

You may have noticed key words, such as streams, ponds, and large lakes, all features that should not be present on a globe full of water. Again we have interbedded siltstone, mudstone, and sandstone, indications of fluctuations in shoreline. It clearly does not fit the young earth model.

Kayenta Formation

At 200 to 600 feet thick (60 to 180 m), the Kayenta Formation's sand and silt were laid down in early Jurassic time in slower-moving, intermittent streambeds in a semiarid to tropical environment. Fossilized dinosaur footprints from sauropods have been found up the Left Fork of North Creek in this formation. Today the Kayenta is a red and mauve rocky slope-former made of sandstone, shale, and siltstone that can be seen throughout Zion Canyon.¹

Here we have clear evidence of streambeds, which contradicts the young earth model. Of the greatest interest here, however, is the first trace of dinosaurs (tracks). We are now about 8,000 feet up the stratigraphic column from where the flood started (the rocks at the bottom of the Grand Canyon, and we suddenly have sauropod dinosaurs walking around...in the middle of Noah's Flood! More on this later when we discuss the Morrison Formation.

Navajo Sandstone

Approximately 190 to 136 million years ago in the Jurassic the Colorado Plateau area's climate increasingly became arid until 150,000 square miles (388,000 km²) of western North America became a huge desert, not unlike the modern Sahara. For perhaps 10 million years sometime around 175 million years ago sand dunes accumulated, reaching their greatest thickness in the Zion Canyon area; about 2200 feet (670 meters) at the Temple of Sinawava in Zion Canyon.

Most of the sand, made of 98% translucent, rounded-grain quartz, was transported from coastal sand dunes to the west (what is now central Nevada). Today the Navajo Sandstone is a geographically widespread pale tan to red cliff and monolith former with very obvious sand dune cross-bedding patterns. Typically the lower part of this remarkably homogeneous formation is reddish from iron oxide that percolated from the overlying iron-rich Temple Cap formation while the upper part of the formation is a pale tan to nearly white color. The other component of the Navajo's weak cement matrix is calcium carbonate, but the resulting sandstone is friable (crumbles easily) and very porous. Cross-bedding is especially evident in the eastern part of the park where Jurassic wind directions changed often. The crosshatched appearance of Checkerboard Mesa is a good example.¹

The Navajo is one of my favorite sandstones. Since it is desert in origin, and their could not possibly be a wind-blown desert in the middle of Noah's Flood, it provides solid evidence against the young earth global flood model.

You may recall the Coconino Sandstone, from the Grand Canyon. It is another desert sandstone, one which young earth creationists have argued was deposited underwater. The main young earth Grand Canyon book, which is called *Grand Canyon: Monument to Catastrophe*, argues for this underwater deposition of the Coconino. On page 32 of this book, they claim it was deposited not in a dry, desert environment, but in a water environment. Figure 3.10 shows a plot of grain sizes for the Coconino, two modern water environments, and a "Desert Sand Dune." Through this plot, it is shown that the desert dune plots out to a straight line, whereas the Coconino, and the water environment sands, plot out as jagged, irregular lines. This is used as proof that the Coconino is not a desert sandstone.

The amazing thing is the source of the "Desert Sand Dune" grain size plots. The first paragraph in the right column, first sentence, gives the source as footnote number 44. If you turn to this footnote, the source of the desert sand grain size plot is "Stratigraphic Analysis of the Navajo Sandstone," published in the *Journal of Sedimentary Petrology*! That's right! The young earth creation scientists are using the desert-created Navajo Sandstone to argue against the Coconino as being desert in origin. In doing so, they admitted the Navajo was a desert-formed sandstone, which invalidates their flood model by itself.

Temple Cap Formation

In early mid-Jurassic time streams loaded with iron-oxide-rich mud flooded and partially leveled the sand dunes, creating the Temple Cap Formation. Thin beds of clay and silt mark the end of this formation as desert conditions briefly returned to the area. The most prominent outcrops of this formation make up the capstones of East Temple and West Temple in Zion Canyon. Rain dissolves some of the iron oxide and thus streaks

Zion's cliffs red (the red streak seen on the Alter of Sacrifice is a famous example). Temple Cap iron oxide is also the source of the red-orange color of much the lower half of the Navajo Formation.¹

Once again, we have terrestrial streams and desert sand dunes, clear evidence against Noah's Flood.

In case you may be thinking that the flood should be over now, and these were deposited after the flood...all the mammal fossils, and almost all the dinosaur fossils are located above this rock layer, thus negating this as the endpoint of the flood.

Carmel Formation

Warm, shallow sea started to advance into the region (transgress) 150 million years ago, finishing the job of flattening the sand dunes. Sedimentation beds one to four feet thick (30 to 120 cm) of limy ooze with some sand and fossils occurred from Mid to Late Triassic time. Some calcareous silt peculated down into the buried sand dunes (carrying red oxides with it) and eventually cemented them into the sandstone of the Navajo Formation. The limy ooze above would later lithify into the hard and compact limestone of the Carmel Formation, 200 to 300 feet thick (60 to 90 m), which is notably exposed on Horse Ranch Mountain in the Kolob Canyons section of the park and near Mt. Carmel Junction east of the park.¹

Unconformity

A gap in the geologic record, an unconformity, follows the Carmel Limestone. Other formations totaling 2,800 feet (850 m) thick may have been deposited in the region during Late Jurassic and Early Cretaceous only to be uplifted and entirely removed by erosion.¹

Dakota Formation

This formation consists of a basal conglomerate and fossil-rich sandstone and was laid down during the Cretaceous period. Although this is the top layer of rock at Zion National Park, the story does not end there. As you go north, other layers come into play, the most important one being the Morrison Formation, which is actually under (older) than the Dakota. This layer and others will be the subject of part 4 of this article.

Conclusion

In this section, we have witnessed many rock layers with clear evidence of repeatedly advancing and retreating shorelines, terrestrial streams, and even a desert formed sandstone. According to the young earth creation science model for the flood, we should have one big ball of water, with no landforms exposed. Clearly the young earth model cannot answer these problems.

¹ Geology of the Zion and Kolob Canyons Area, from Wikipedia, the free internet encyclopedia
http://en.wikipedia.org/wiki/Geology_of_the_Zion_and_Kolob_canyons_area