

The Coconino Sandstone, Noah's Flood, and Other Sandstones in Conflict with Flood Geology

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Introduction

Two articles describe the scientific origin of the Permian Coconino Sandstone in the Grand Canyon. These are:

- (1) Flood Geology and Conventional Geology Face Off over the Coconino Sandstone.

[file:///C:/Users/Owner/Documents/Helble%20\(2024\)%20-%20Flood%20Geology%20and%20Conventional%20Geology%20Face%20Off%20over%20the%20Coconino%20Sandstone%20\(Unformatted\)%20\(1\).pdf](file:///C:/Users/Owner/Documents/Helble%20(2024)%20-%20Flood%20Geology%20and%20Conventional%20Geology%20Face%20Off%20over%20the%20Coconino%20Sandstone%20(Unformatted)%20(1).pdf)

- (2) Origin of Horseshoe Bend, Arizona, and the Navajo and Coconino Sandstones, Grand Canyon – Flood Geology Disproved MEMO (csun.edu) [Nr62Horseshoe.pdf](#) ([csun.edu](#))

Both of these articles provide multiple examples of scientific evidence that the belief by the young-Earth creationists (YECs) that the Coconino Sandstone was deposited by Noah's flood waters is incorrect. This sandstone is shown as a bright white formation in the walls of the Grand Candon that is below the darker Toroweap formation overlain by the Kaibab Limestone at the top of the Grand Canyon rim and underlain by the Hermit Shale and red sandstone and shale layers of the Pennsylvanian Supai group (**Figure 1**)

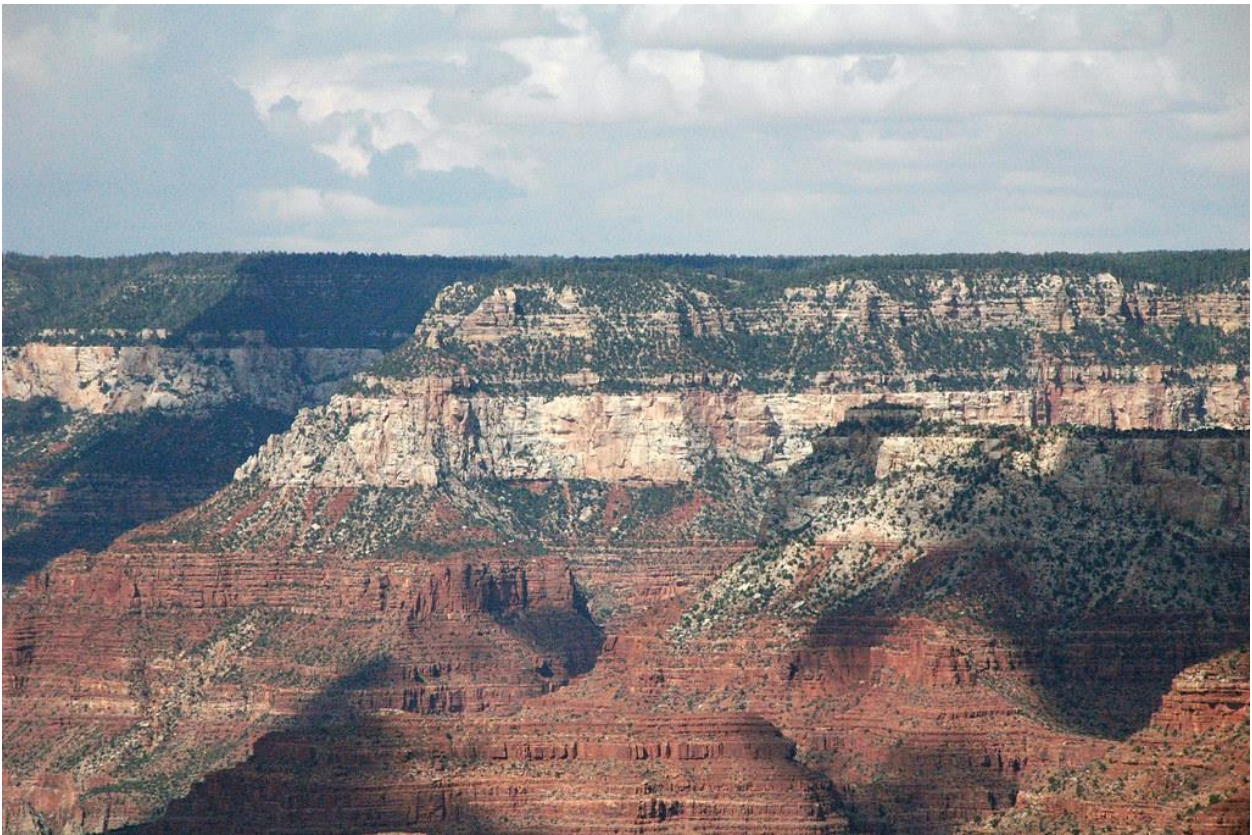


Figure 1. White Permian Sandstone formation in the Grand Canyon overlain by Toroweap and Kaibab formation and underlain by Hermit Shale and red sandstones and shales in the Supai Group.

The first article, written by Timothy Helble for publication in the journal **Perspectives on Science and Christian Faith**, provides

much scientific evidence that the Coconino Sandstone has an eolian desert origin whereas young-Earth creationists insist that it is water-deposited by Noah's flood. Scientific evidence presented by Helble include discussions of dune cross-bedding with dip angles more than 30 degrees typical of desert dunes, raindrop prints, grain shapes, occurrence of muscovite, footprints of amphibians on surfaces of dunes, sand injections into the Hermit Shale, location of the western interior desert, distribution of zircon ages, contorted layers, lateral facies changes, and sediment transport rates.

The second article, pages 12-13, shows images that the Coconino Sandstone upwind at distances of more than 100 miles away from the Grand Canyon are dark red (**Figure 2**).

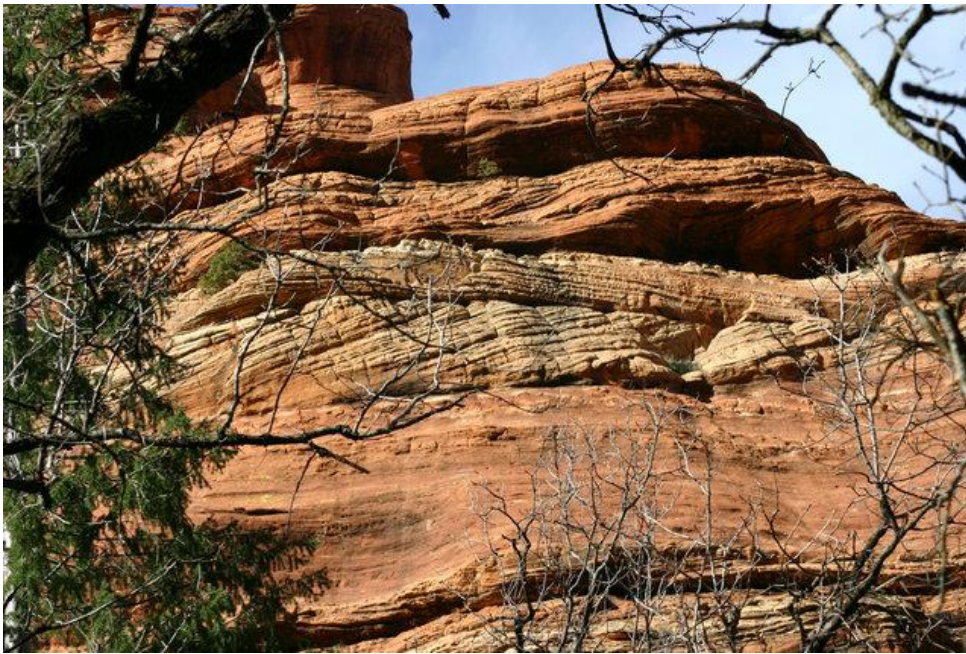


Figure 2. Red Coconino Sandstone near Sedona, Arizona, showing cross-bedding.

https://www.researchgate.net/publication/322294937_Climate_Change_through_Earth_History/figures?lo=1

At distances closer to the Grand Canyon, the Coconino Sandstone grades from red to white at the top (**Figure 3**).



Figure 3. Permian Coconino Sandstone at top of image that has red layers in the lower part that grade to white at the top. In the lower part of image are the red Hermit Shale and the red sandstone and shale layers of the Pennsylvanian Supai Group.

This upward gradual change in the Coconino Sandstone from red to white strongly suggests an eolian origin for this sandstone on the basis that the red color represents black iron-bearing magnetite grains that have been oxidized to red hematite and that wind blowing both magnetite grains (density of 5) and quartz sand grains (density 2.65) would winnow out the heavier magnetite grains over long distances of travel and only the lighter quartz grains would be

transported downwind that create a white sandstone formation. In contrast, the water transported magnetite grains in the sandstones and shales of the Supai Group shown in **Figure 3** are NOT winnowed out so these formations still contain magnetite grains that through geologic time are converted to red hematite.

Contrasting Characteristics of supposed Noah's Flood Deposits

In the Grand Canyon in addition to the Coconino Sandstone that is alleged by the YECs to be deposited by Noah's flood is the Cambrian Tapeats Sandstone on top of the Great Unconformity and the higher-up sandstones in the Pennsylvanian Supai Group. But the sandstones in these formations contain stream cross-bedding with maximum dip angles of about 25 degrees (**Figures 2 and 3**).



Figure 2. Stream cross-bedding in the Tapeats Sandstone.

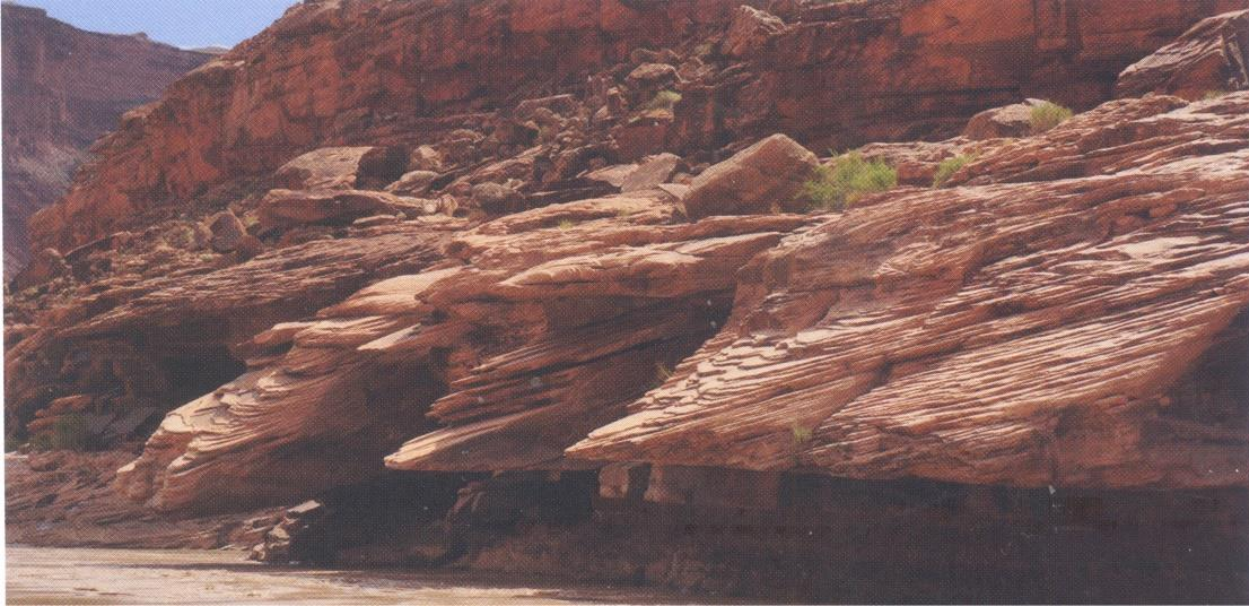


Figure 3. Stream cross-bedding in sandstones in the Supai Group.

Sandstones deposited by supposed rushing waters of Noah's flood will not produce such stream cross-bedding. Moreover, in other sandstones of similar age in Texas, hemming bone cross-bedding that is produced by tidal currents which have dipping beds in overlying layers alternating with dips in opposite directions because of the in- and out-flow of tidal waters (**Figures 4 and 5**), and this kind of cross-bedding would not have been produced by Noah's rushing flood waters. See: [Tidal Clocks and Flood Geology Nr82Tidal.pdf \(csun.edu\)](#)



Figure 4. Hemming bone cross-bedding.

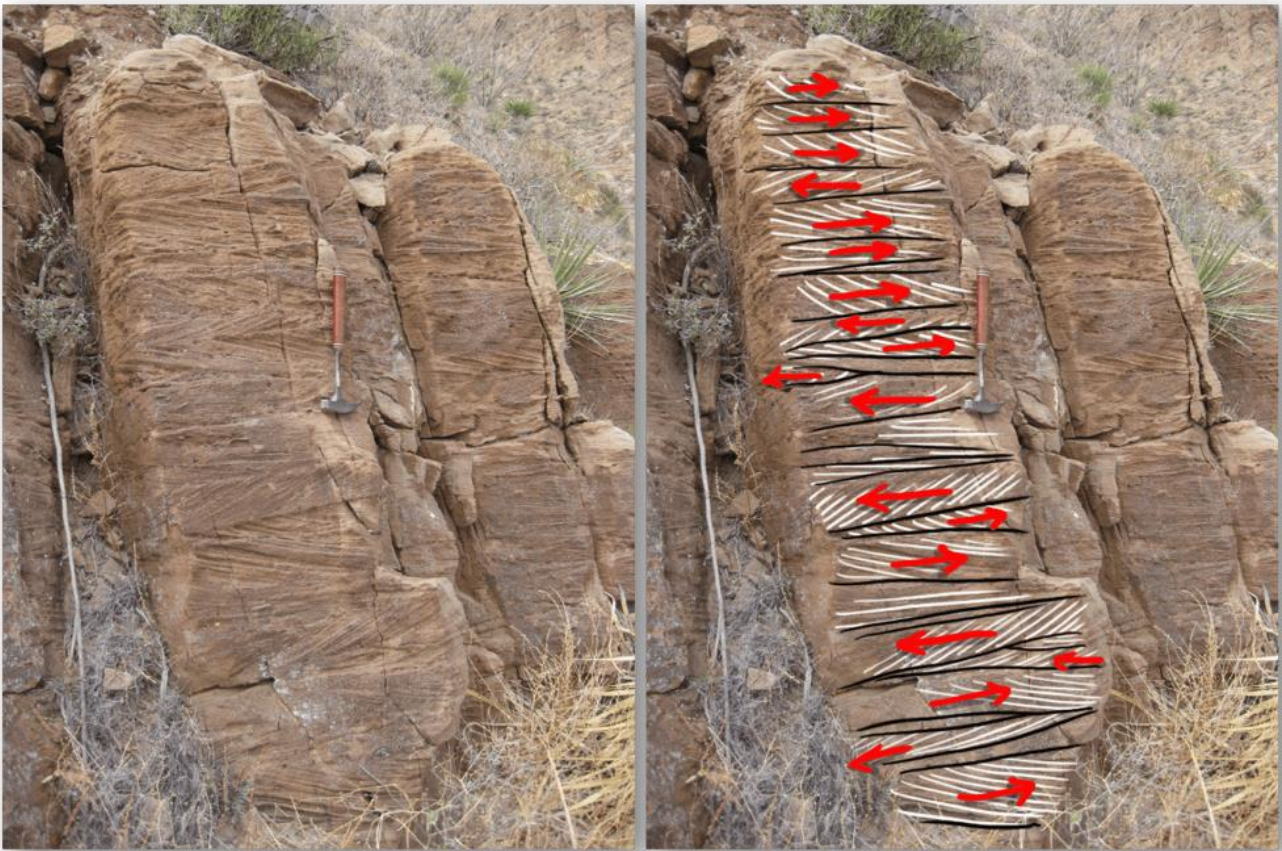


Figure 5. Hemming bone cross-bedding.

In reality the YECs cannot claim that the sand grains in the sandstones in the Grand Canyon were deposited by Noah's flood waters on the basis of what is shown in **Figure 6**.

Waves –circular motion

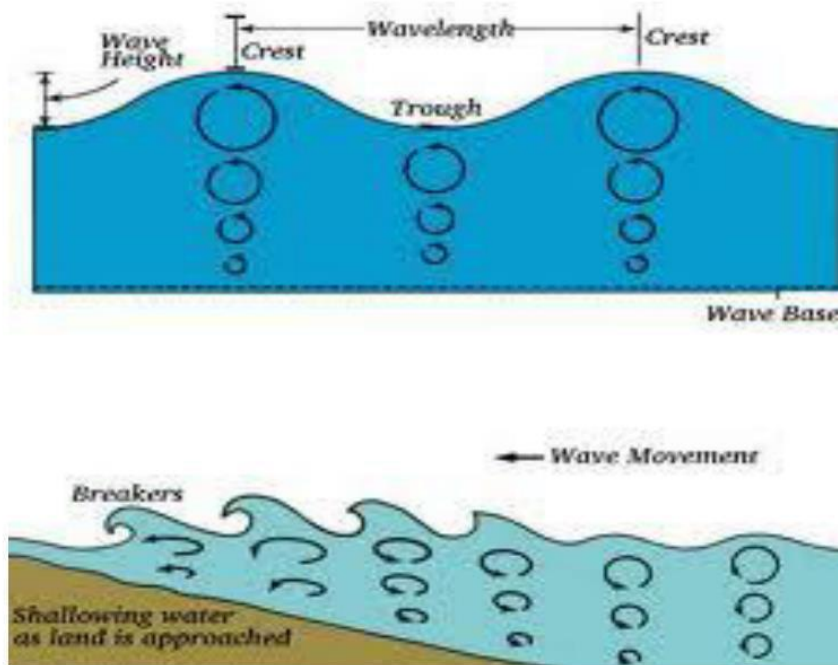


Figure 6. Circular motion of water molecules on ocean waves.

The motion of water molecules in any size of oceanic waves is circular, and the tiny circles at the bottom of the circular motion are incapable of eroding the bedrock on the ocean floor to produce detrital particles, then suspend them and transport them long distances laterally (say thousands of miles to the Grand Canyon). On that basis Noah's flood could only have been local in extent. See:

Yes, Noah's Flood May Have Happened, But Not Over the Whole Earth [Flood 2 \(csun.edu\)](#)

Fountains of the Great Deep and Noah's Flood
[Nr64Fountains.pdf \(csun.edu\)](#)

Additional articles with evidence that articles published by the YECs are incorrect are in a document labeled Resources at this link.
[Nr122Resources5.pdf \(csun.edu\)](#)

Timothy Helble has provided another document that gives 12 statements at the following link that give what the young-Earth creationists will say to attempt to make their science valid and his invalid that is helpful to read.

<https://www.evolvingcertainties.com/resources/introduction-to-main-points>