

SUMMARY: Uplifting of the surface, which could have happened in a few days, was most likely the dominant cause of the Grand Canyon. Therefore, the erosion rate of the Grand Canyon does not teach an ancient age for the earth.

The **Grand Canyon is an icon for proof** of an ancient age of the earth. “ For more than a thousand miles of its course, the Colorado has **cut a deep gorge** – the Grand Canyon” (1), “The Colorado River – **canyon-carving centerpiece of the southwest**” (2), and “Grand Canyon, **immense gorge cut by the Colorado River** into the high plateaus of northwestern Arizona” (3).

The following is from the Encyclopedia Britannica: “The **cutting of the mile-deep Grand Canyon by the Colorado River** is an event of relatively recent geologic history that began not more than six million years ago, when the river began following its present course. The Colorado River's rapid velocity and large volume and the great amounts of mud, sand, and gravel it carries swiftly downstream account for the incredible cutting capacity of the river. Prior to the building of the Glen Canyon Dam, the sediments carried by the Colorado River were measured at an average of 500,000 tons per day. **Conditions favorable to vigorous erosion were brought about by the uplift of the region**, which steepened the river's path and allowed deep entrenchment. The depth of the Grand Canyon is due to the cutting action of the river, but its **great width is explained by rain, wind, temperature, and chemical erosion**, helped by the rapid wear of soft rocks, all of which steadily widened it. Amazingly, **the canyon was cut by a reverse process**, for the river remained in place and cut through the rocks as the land moved slowly upward against it. Only thus can be explained the canyon's east-to-west course across a south-facing slope and the presence of plateaus that stand across the river's course without having deflected it.

The Grand Canyon is described as being created between 4 (2) and 10 (3) million years ago due to the erosive effects of the Colorado River. Depth of the canyon varies, but is as deep as 1 mile. If we divide the 1 mile by an average of 5 million years we get 5280 feet / 5,000,000 years or 1.056 feet per thousand years. For simplicity 1 foot in one thousand years.

For purpose of this discussion, we would like to suggest to you that teaching that the Grand Canyon is proof of the age of the earth is invalid at even a casual observation, much less scientific inquiry. When allegedly scientific personnel promote the idea that the Grand Canyon is proof of an ancient earth, they are providing a “believer's proof”. By “believer's proof” we mean that one is inclined to uncritically teach one thing or not correct a misunderstanding on a subject because it supports something that they actually do believe in, i.e. the ancient age of the earth and the corresponding evolutionary developments.

IF GOD?

GRAND CANYON AS PROOF OF THE AGE OF THE EARTH



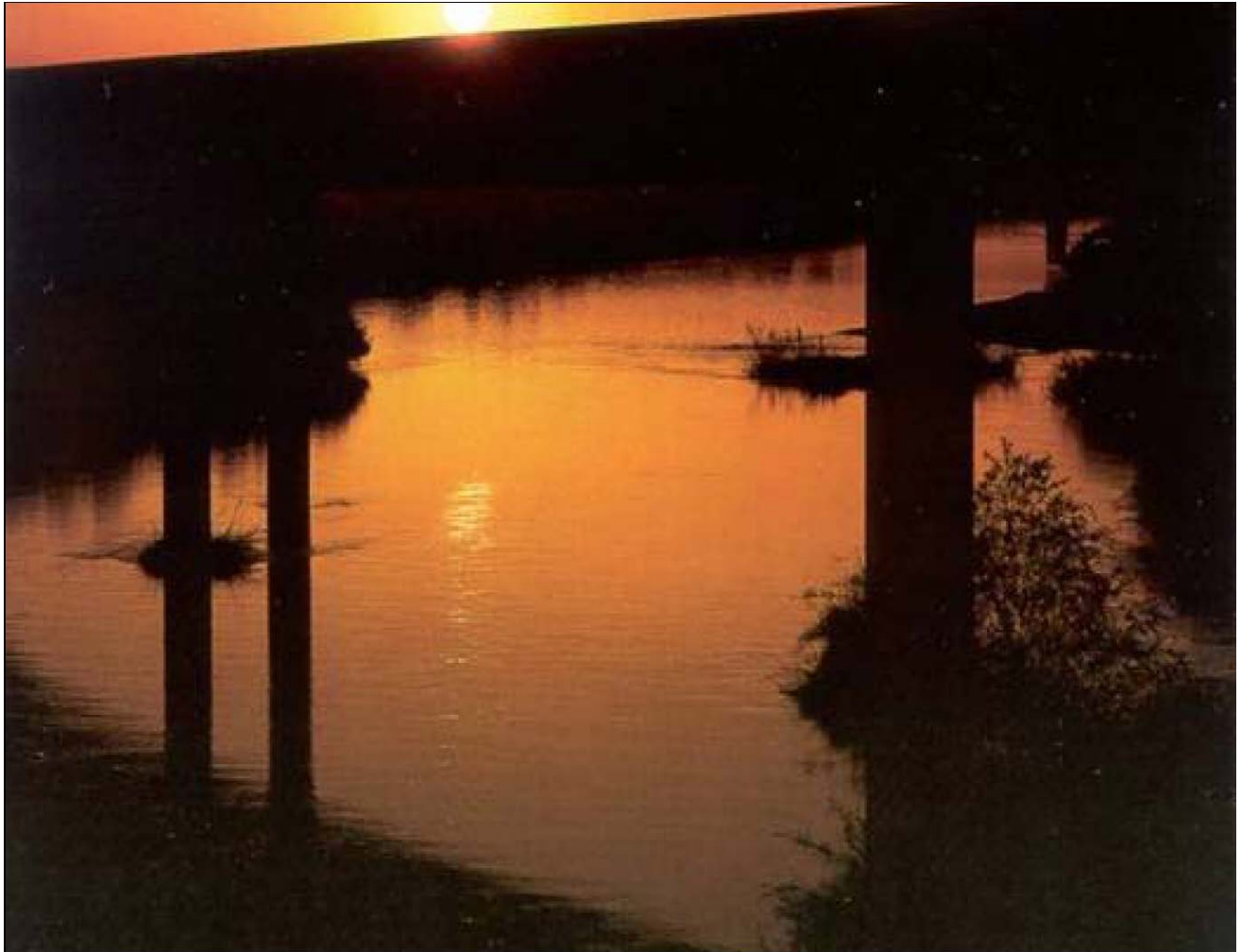
The following picture illustrates the grandeur and majesty of the Grand Canyon. It is easy to understand why such a deep cut into so much rock could be taken to indicate a lot of erosion.



Note the grand size of the canyon and the relatively tiny river at the bottom. It is interesting that someone could say with a straight face that the tiny river cut the Grand Canyon.

CREDIBILITY OF EROSION AS A CAUSE:

The Colorado River, upstream and downstream of the Grand Canyon, is just a river. The following photograph shows the Colorado River in Yuma, Arizona downstream of the Grand Canyon.



If the depth of the Colorado River at this location is 15 feet, then the 1 foot per thousand years would indicate that the earth was 15 thousand years old.

The question then is whether it is logical to believe that the earth was 5 million years old and that there is another reason for the Colorado River being so shallow at Yuma, Arizona, if it is reasonable to believe that the earth is 15 thousand years old and that there is another explanation for the Grand Canyon, or if the erosion of the Grand Canyon offers no actual proof regarding the age of the earth beyond a few thousand years.

If the same water flowed thru the Grand Canyon and in the Colorado River at Yuma, Arizona, we can offer no explanation as to why the water did massive erosion in the Grand Canyon and minimal erosion in the Colorado River. The lack of similar erosion upstream and downstream of the Grand Canyon simply make erosion not a viable explanation in the Grand Canyon.

UPLIFT AS AN EXPLANATION FOR THE GRAND CANYON

There is at least one explanation for the Grand Canyon other than erosion by the Colorado River. A large canyon can be formed by an uplifting of the earth due to pressure similar to a volcano, but instead of venting lava to the surface, it simply pushes the surface up and causes it to split. Imagine an uplift with a 10,000 foot deep crack opening up, and the rubble of the separating surface falling into the crack. You can have a large canyon in a few minutes, hours or days. It would not take thousands or millions of years.

PROOFS OF AN UPLIFT CAUSING THE GRAND CANYON

1. OBVIOUS UPLIFTING

It is commonly understood that the north rim of the Grand Canyon is 1200 feet higher than the south rim. When it is understood that major uplifting happened in past times in the area to achieve this height distance, it is an easy step to believe that the canyon was formed by uplifting and splitting of the earth.

2. WIDTH OF THE CANYON

If the canyon were formed predominantly by erosion of water, the canyon would be a narrow slot into the terrain. There would be some sloughing off of the sides to maybe a 45° angle on each side, but not necessarily. Much of the formation is in tall straight sided towers indicating the formations had the structural integrity to withstand vertical faces. In fact, the canyon is as much as 18 miles wide (4). If the water in the Colorado River was 15 feet deep and 100 feet wide and were spread over an 18 mile wide area, it would be $(15 \times 100) / (18 \times 5280) \times 12 = 3/16$ of an inch deep. Not only would water 3/16" deep not erode the Grand Canyon, it would evaporate rather than flow. It is simply incredulous that someone would say that the Colorado River would erode a canyon 18 miles wide.

3. WHY IT'S GRAND

The Grand Canyon is called the "Grand" Canyon because it is unusual. The Colorado River is not the only river that ever ran. If running rivers formed great canyons such as this, we would see a great canyon on every river, for the full length of the river. This simple observation that it is unusual is a proof that it is not formed by the common erosive process which happen in every river.

4. ELEVATION

Upstream of the Grand Canyon on the Colorado River, the elevation of the city of Page, Arizona is 4,000 feet. The elevation of the South Rim of the Grand Canyon is 6,000 feet, and the elevation of the North Rim of the Grand Canyon is 7,200 feet. If we take the lower side, it means that the Colorado River had to run uphill a minimum of 2,000 feet while it was carving the Canyon.

The Encyclopedia Britannica article suggested that the whole area was slowly uplifted while the river cut the canyon. It borders on the incredible that a technical writer would suggest that an uplift occurred with a shearing action such that one side raised 1,200 feet more than the other side, but that the gap in the middle was caused solely by erosion. The far more logical conclusion was that the uplifting occurred in a relatively short time with river primarily flowing thru the gap rather than causing the gap.

Certainly, some part of the Grand Canyon was caused by erosion. There was surely some erosion of rocks or removal of rubble from the massive plate movements which resulted in the North Rim being 1200 feet higher than the South Rim. However, for a technical person to imply that the entire canyon is the result of erosion is naive or hypocritical.

- (1) Encyclopedia Britannica CD 1994-1999, Article on Colorado River, first paragraph
- (2) America by Rivers, Tim Palmer, Island Press, 1996, p. 200
- (3) Encyclopedia Britannica CD 1994-1999, Article on Grand Canyon, first paragraph
- (3) Geology of California's Imperial Valley, a monograph by Eugene Singer, <http://www.aloha.net/~esinger/chap13.htm>, page 8