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Creation Research Society Scientists Contribute to a Local Creation Conference

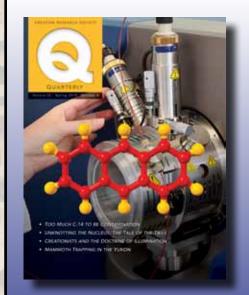
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by Eugene Chaffin, PhD

The "Bulwarks and Frontiers Conference" was held October 30 to November 1, 2019, at Calvary University, Kansas City, Missouri. Five of the nine speakers are Creation Research Society members, and three of these are current board members. The conference was organized by Dr. Steven Boyd, Research Professor of Old Testament and Semitic Languages at Calvary University and member of the former RATE (Radioisotopes and the Age of the Earth) project. The RATE project was a nine-year effort jointly sponsored by the Institute for Creation Research and the Creation Research Society.

In addition to Dr. Boyd, conference speakers included Drs. John Baumgardner, Liberty University; Rob Carter*, Creation Ministries International (USA); Arthur Chadwick, Southwestern Adventist University; Eugene Chaffin*, retired Physics Professor; Christopher Cone, President of Calvary University and Research Professor of Bible and Theology; Danny Faulkner*, Answers in Genesis; Andrew Snelling, Answers in Genesis; and Todd C. Wood, Core Academy of Science. Speakers were invited to address the topics of 1) questions about the creation model about which Biblical creationists are certain (Bulwarks), 2) questions about the creation model

about which there are some doubts, and 3) questions (Frontiers) about which we need more than speculative answers. Each speaker was given an hour to present his topic, followed by approximately fifteen minutes for questions. In all discussions, Dr. Boyd gave the sense and meaning of the original language as it related to how we should view the answers to our questions. Videos of the presentations are available at Calvary. edu/conference. * Current CRS board members. The Creation Research Society has several qualified scientists who are available for speaking engagements for your group or church. To inquire about scheduling a speaker, please contact us at 928-636-1153, or by email at speakers@creationresearch.org.



What's New in the Q?

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Math Matters

Basketballs, Planets, and Sea Urchins

by Don DeYoung, PhD

Nature displays geometric shapes including spheres, rings and pyramids. These appear, for example, in molecular structures and mineral crystals. All show the beauty, order and symmetries of Creation. An additional shape is the oblate spheroid or ellipsoid, resembling a



Sea Urchin

slightly flattened basketball. An old-fashioned doorknob has an ellipsoid shape along with sea urchin skeleton shells, and also lentils.

An ellipsoid is generated by rotating a two-dimension ellipse about its minor or shorter axis. A simple, elegant math formula, not needed here, determines the rounded oblateness or flatness, ranging from a spherical to a thin pancake.

The earth itself is an oblate spheroid rather than a perfect sphere. Our planet's rotation results in slightly flattened poles. The figure shows that the distance from the earth's center to the poles is slightly

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6,357 km (3950 mi)



Earth drawing with center-pole and center-equator distances

less than the equator distance, not drawn to scale. Because a person's weight is determined by the distance to the earth's center, one weighs a bit less at the equator than at the poles, amounting to a few ounces, due to the earth's shape.

A second factor affecting our weight is the centripetal force required for circular motion. You may recall the temporary weightless feeling at the top of a Ferris wheel or rollercoaster. At this moment, a small portion of your weight is applied to this centripetal or "center seeking" force from the circular ride.

Due to the earth's rotation, centripetal force is not required at the earth's poles and is greatest at the equator, again amounting to a few ounces. Taken together, the earth's shape and motion reduce a person's weight at the equator by about 0.5 percent as compared to the poles. A person weighing 200 pounds at the poles weighs 195 pounds at the equator. Additional, smaller weight factors include the shape of the continents, elevation and the sun-moon positions.

The bottom line: For temporary, minor weight loss, one could visit the equator regions of the earth. Whether or not we fully understand oblate spheroids and centripetal force, Colossians 1:17 assures us that the Creator holds all things together. He remains in control of all creation details, large and small.

Why Geology Matters

How Should Flood Geologists View the Strata?

by Michael J. Oard, MS, and John K. Reed, PhD

Contrary to popular belief, it is the interpretation of the rock strata, not the facts, that drives secular earth history. This story is advanced by the assumptions of uniformitarianism, deep time, and evolution. There are two problems with this approach: (1) the history is contrary to, and destructive of, the biblical worldview; and (2) the rocks are often contrary to the secular narrative (Oard,

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We know that most of the strata was deposited during some stage of Noah's Flood. The fossils, particularly, are the record of mass death. There was no death in the world until Adam sinned (Romans 5:12; Romans 8:18–23; Genesis 1:30), and so it makes sense that these organisms were buried later than the Fall. Genesis 6–9 records this event and this is the foundation of Flood geology.

But like any investigation of the unobserved past, questions still linger of how best to interpret strata and fossils. What other assumptions can be made? Should we use the geological column, with its change in fossils over time? Will the Flood signature look the same everywhere on earth, enabling detailed time correlation? Or should we look at the Flood from the point of view of the biblical mechanism, using a global flash flood as an analogy?

The Biblical Geological Model

We suggest the latter point of view. That is because the geologic column has been influenced by the poison of uniformitarianism, deep time, and evolution. That is affirmed by its past and present advocates. The column was used as the means by which the Flood was eliminated from earth's past. Even that strategy was admitted by secularists like Lyell. Furthermore, we find it suspicious that once the general structure of the column was assembled in England and parts of Europe that later exploration of the rest of the earth only served to "confirm" the core and the framework. However, other Flood geologists are less concerned about the validity of the global geologic column. They only question its overtly evolutionary interpretation.

Using the Bible as the starting point results in a biblical geological model, which was worked out by Dr. Tas Walker (1994) of Creation Ministries International in Australia. It follows closely with the concepts developed by Drs. John Whitcomb and Henry Morris (1961) in their book, *The Genesis Flood*. Carl Froede (1995) also independently developed a classification system similar to Walker's.

The flash flood model approach

Flash floods differ from river floods in that the initial flooding shows a rapid rise. This initial rise then slows until the peak of the flash flood is reached. As it wanes, it also goes through two phases. First, the near-peak flow moves in wide currents. If a river channel, the channel is completely filled by moving water with few obstacles emergent. Second, as the water subsides, it narrows back into smaller and smaller channels, until flow is again normal. After the initial rapid rise, a flash flood acts the same as a river flood.

A flash flood model applied to Noah's Flood

Agreeing with Dr. Walker, we propose two general stages of rising and falling water (Figure 1). We will call the rise the *Flooding Stage* and the fall the *Retreating Stage*. We next go to the Bible for more details and divide Noah's Flood up into 5 phases, based on a flash flood (Figure 1).

The biblical mechanisms are vague, and difficult to translate into physical

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mechanisms. They include two key phrases: "...on that day all the fountains of the great deep burst forth, and the windows of the heavens were opened" (Genesis 7:11 ESV). The result was rain for 40 days and nights (Genesis 7:12 ESV). The global nature and rapid accomplishment of the flooding speak to the violence and power of these mechanisms, which translated into a rapid rise of water, especially with 40 days and nights of rain running off the land. Since the first 40 days seem to be the most violent, the greatest observed intensity of the physical mechanisms probably occurred in those 40 days, which Walker calls the Eruptive Phase or Phase 1 (Figure 1).

In any flood, water will rise more slowly to a peak. A major problem for Flood geologists is modeling interactions between rainfall, marine incursion, and land movements, and how they would have affected tectonism, hydraulic flow, and sedimentation in any given part of the land's surface. The Bible offers some clues, probably from Noah's vantage point. The two triggers apparently continued until Day 150, though at lesser violence. The most common interpretation of Genesis 6 to 9 is that the Flood peaked at Day 150 (Boyd and Snelling, 2014). We can then reasonably assume a gradual rise between Day 41 and Day 150 until the peak of the Flood at Day 150. This is Phase 2, or the Ascending Phase (Figure 1). The peak of the Flood would be Phase 3, a short period of time around Day 150.

After the peak, Noah's Flood would have followed the typical sequence, first flowing in wide currents and second by channelized currents across the earth. The wide currents of this fourth, or *Sheet Flood Phase*, may have been 1,000 km wide and 5 km deep. Then as land emerged, and more mountains and plateaus became exposed above the flood-

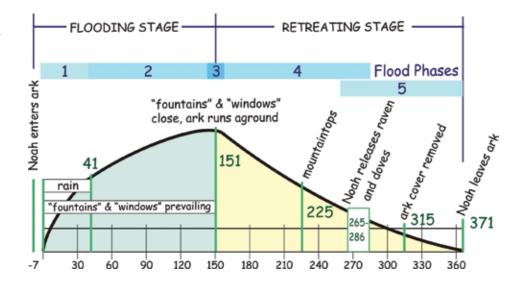


Figure 1. Graph of relative sea level for the two stages and five phases in Walker's model.

water, the currents would become narrower and run in channels. This fifth and final phase is the *Channelized Flow Phase*. We see these last two phases expressed in landform style over much of the earth, commonly Phase 5 *superimposed* on Phase 4. Note too that the elevation and topography would cause these phases not to be time-synchronous in a fine sense from one place to another. For example, in the rising Rocky Mountains, Phase 4 would be finished long before the Gulf of Mexico coastline.

Key Classification Criteria

How are these theoretical phases identified in the field? Walker (1994) defined key classification criteria. We will discuss two: (1) dinosaur tracks, eggs, and scavenged bonebeds and (2) tremendous surface erosion.

Tracks, eggs, and scavenged bonebeds imply much of the Mesozoic is from the Flooding Stage

Tracks and eggs have been found by the millions on bedding surfaces in sedi-

mentary rocks. Many dinosaur bonebeds have also been scavenged by carnivorous dinosaurs, as shown by teeth marks on bones and shed teeth—shed when their teeth broke off against a bone and the rest of the carcass is not found in the bonebed. Dinosaur footprints and egg fossils are dated exclusively as Mesozoic, which would mean that this strata where these features are found is part of the Flooding Stage, since these dinosaur fossils could only be formed by living dinosaurs.

We can perhaps narrow the formation of these fossils down to between Day 40 and Day 120 of the Flood year. Before Day 40, there likely would have been too much rain for trackway preservation. At the Flood maximum of Day 150, the greatest amount of sediment likely occurred on the continents before the erosion or the Recessive Stage. All trackmakers would have been already dead by Day 150. We chose Day 120 because most dinosaur fossil sites seem to have been deeply eroded; evidence often indicates that hundreds of meters of sediment (and fossils) were removed. Again, this is site specific and must be investigated in the field. This

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means that much sediment still accumulated *after* the trace fossils were made and before they were exposed by later erosion. Therefore, many of the dinosaur trace fossils would likely have formed well before the peak of the Flood. This implies that the dinosaur fossils and trace fossils were likely deposited before Day 120.

Enormous continental erosion during the Retreating Stage of the Flood

The continents have experienced significant, large-scale erosion. It can be approximated by several methods, such as the amount of erosion in an uplifted dome (an anticline) or mountain front and even from the rank of coal. One can use trigonometry to estimate the erosion from the center of a dome. At the San Rafael Swell (an uplifted dome) in the northwest Colorado Plateau area, Oard and Klevberg (2008) calculated that between 4,200 and 5,100 m of strata had been removed, including the Green River Formation (Figure 2). This is congruent with the average erosion amount uniformitarian scientists have estimated for the

whole Colorado Plateau of somewhere between 2,500 to 5,000 m (Schmidt, 1989). The amount of erosion of the central Appalachians, based not only on the coal rank, but also the volume of (presumably derivative) sediments along the continental margin, agreed with the uniformitarian estimate of 6,000 m of erosion (Oard, 2011). No wonder the Appalachians look "old" compared to the Rocky Mountains—the Appalachians experienced much more erosion.

Uniformitarian scientists have found it difficult to explain the nature of this erosion, although it fits well with the Retreating Stage of the Flood. One translation of Psalm 104:8 tells us that mountains rose and valleys sank, which is likely the correct translation according to William Barrick (2018). This suggests significant differential vertical movement of the crust (Oard, 2008, 2013) that would have helped the floodwaters to drain, first to local low points, and eventually into the new ocean basins. The available potential energy was vast, resulting in flow off the continents in vast, erosive sheets, likely reaching velocities of over 100 mph at times. The Whopper Sand in the deep Gulf of Mexico has been interpreted as evidence of this high-energy erosion off the continents (Clarey, 2017). During the

sheet flow phase, many large areas of strata would have been eroded and deposited on the continental margins, forming the continental shelf, slope, and rise.

As more mountains and plateaus become exposed above the floodwaters, the flow would become restricted to channels of decreasing size, eroding valleys and canyons, water gaps, and submarine canyons rapidly. This is the last phase of the Flood. Subsequent post-Flood drainage would naturally follow those newlycreated topographic lows.

Land forms all over the world support this two-phase erosion pattern. For example, around 3,000 m of strata was eroded from the area around Grand Canyon. This is well in line with the general estimate of erosion on the Colorado Plateau. All of this erosion was likely caused by sheet flow during the early Retreating Stage. Later, channelized flow probably eroded the deep valleys and canyons, including Grand Canyon (Oard, 2014a). Grand Canyon is simply a really long water gap, one of thousands in North America. It is the longest, but not the deepest. Hells Canyon, between Idaho and Oregon, reaches nearly 2,600 m deep on the Idaho side.

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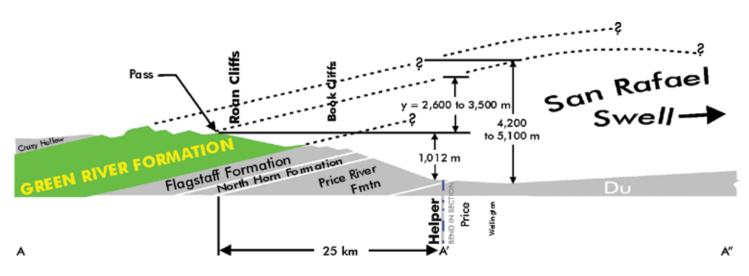


Figure 2. The eroded north limb of the San Rafael Swell on the northwest Colorado Plateau shows 4,200 to 5,100 m of erosion over Price, Utah (drawn by Peter Klevberg). The dashed lines with question marks represent the extrapolation of the sedimentary rock over the San Rafael Swell, assuming no change in thickness.

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Secular scientists also see this two-phase erosion pattern in the Grand Canyon area, calling it the *Great Denudation* for the widespread erosion and the *Great Erosion* for the more channelized erosion (Powell, 2005).

How Do Walker's Two Criteria Relate to the Geological Column?

Can we relate Walker's biblical geological model to the geological column? Recall, the Retreating Stage was a massive *erosional* event (Figure 3). Therefore, practically all the sedimentary rocks now on the continents would be from the Flooding Stage. This would include strata labeled "Cenozoic" with mammal fossils and even mammal tracks—despite its being near the "top" of the geological column. Practically all the continental strata identified as Paleozoic, Mesozoic, and Cenozoic are most likely from the Flooding Stage (Oard, 2014b).

On the other hand, the Cenozoic sediments of the continental margins, the dumping grounds for vast continental erosion, would date to the Retreating Stage. Sediments carried out into the deep ocean would be predominantly from both Retreating Stage and post-Flood, including the Ice Age, when great overturnings of the ocean would produce rapid sedimentation of microorganism skeletons on the ocean bottom (Oard, 1990).

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Research Matters

Summaries of Cutting-edge Research from Creation Research Society Quarterly

Compiled by Jean K. Lightner, DVM, MS

It is crucial for creation research to engage the current scientific literature and Scripture as we build the creation model in various scientific fields. CRS exists to support and publish such research. Only through high-quality research can we equip Christians with strong, sound apologetic arguments that demonstrate the robustness of the creation model in understanding the world around us.

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Research

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Untangling DNA in the Nucleus and Treating Cancer

The more we study living organisms, the more obvious it becomes that they were endowed with tremendous complexity. This truth not only points to the wisdom of their Creator, but also to his ongoing care and provision, since life as we know it would be impossible without this staggering complexity.

We are taught in school that DNA is used to code for proteins. It also codes for other critical molecules, such as various regulatory RNAs that are not made into proteins. DNA strands are loaded with information, and spend most of the time carefully wound tight to fit into the tiny space of the cell nucleus. However, it must be strategically unwound to allow the code to be read. When moving the DNA into the correct position to access the needed segment, twists and tangles inevitably form. The enzymes that help untangle DNA are known as topoisomerases [toh-poh-eye-**psalm***-mer-aces]. Without them, DNA would become so tangled it couldn't be read, and the cell would die.

In the Spring 2019 issue of the *Creation Research Society Quarterly (CRSQ)*, Dr. Joe Deweese and Salvador Cordova take a closer look at the fascinating enzyme known as topoisomerase II. The information they uncovered certainly provides us with more reason to marvel at God's awesome design and care for us. It also has practical value in the medical field as drugs are sought to treat cancer. Since dividing cells (including rapidly-dividing cancer cells) need topoisomerase II, it is often the target of anti-cancer drugs. While these drugs can be effective, they are associated with some serious side effects. Deweese and Cordova (2019) investigate two forms of topoisomerase II, which are both found in human cells; one (α) appears to be used during cell division, and the second (β) untangles DNA during transcription. By characterizing the differences between the two, they lay a foundation for future anti-cancer drug development that aims to target the former while sparing the latter. This may help reduce undesirable side effects of chemotherapy.

> * Obviously, the "p" and "l" sounds are not heard, consistent with the typical English pronunciation of this word. It seems fitting to use this homophone, as understanding this enzyme provides ample reason to sing a psalm to our wise and compassionate Creator.

Deweese, J.E., and S. Cordova. 2019. Unknotting the nucleus: regulation and domain modularity of type II topoisomerases. *Creation Research Society Quarterly* 55:196–211.

Sound, Biblical Thinking

Several other articles appear in the Spring 2019 issue of the *CRSQ*. Drs. Vernon Cupps and Brian Thomas (2019) systematically dismantle a critique by the late R.E. Taylor and his colleagues that alleges Carbon 14 (C-14) cannot possibly be in organic material that is dated millions of years old by secular scientists. Though Taylor was an expert in radiocarbon dating, his criticism of creationist findings are shown to lack supporting data, ignore contrary data, assume what is to be proven, and/or use belittling in the place of solid arguments.

Lee Anderson (2019) explores a concept called "the doctrine of illumination" which some creationists have misused as an excuse to circumvent careful study of God's Word before reaching strong conclusions. In his discussion of pertinent Scriptural passages, Anderson leaves us with a solid warning against presumption, as well as an assurance that the Holy Spirit is at work to guide us, as believers, into all truth (including love and respect for one another; cf. John 16:13; 1 Peter 1:22; 1 John 1:5–10; 3:18–19; 2 John 2:4–6). This provides a critical foundation as we work together to build creation models.

Dr. Martin Johnson (2019) takes us on a fascinating exploration of Northern Tutchone (an indigenous people of the Yukon) oral history as it applies to mammoths. After exploring multiple lines of evidence, he makes a case for a more recent Ice Age than secular scientists propose, and that the mammoths themselves did not fully die out from North America until around 1000 years ago.

Anderson, L. 2019. The doctrine of illumination and the interpretation of Scripture: considerations for recent creationists. *CRSQ* 55:223–234.

Cupps, V.R. and B. Thomas. 2019. Deep time philosophy impacts radiocarbon measurements. *CRSQ* 55:212–222.

Johnson, M. 2019. Mammoth trapping in the Yukon: a review of Northern Tutchone oral history evidence supporting the survival of Woolly Mammoths in the Yukon Territory within the past 1000 years. *CRSQ* 55:235–245.

I will praise You, because I have been remarkably and wonderfully made. Your works are wonderful, and I know this very well. Psalm 139:14 (CSB)

Continued creation research is made possible by the generous gifts (time, money and prayer) of our many supporters. Thanks to all who have contributed!

Creation Matters

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Praise: We thank God for each of you who contributes through prayer, finances, and service as we seek to glorify God through understanding his Creation.

Prayer: Please continue to pray for the society. (1) *Creation Matters* and the *Creation Research Society Quarterly* heavily rely on unpaid volunteers who often have demanding schedules; we need God's help to keep up with this work. (2) Our ongoing research projects need continued financial and prayer support; we desire the Holy Spirit to lead us into all truth (John 16:13), even as it pertains to understanding His creation. (3) We long to expand our ability to support new research projects, which requires funding and healthy collaborations with researchers; please ask God to help develop those relationships so Christ-honoring research will thrive.

Thanks Again!



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