

Theologians Need to Hear from Christian Geologists About Noah's Flood



Ken Wolgemuth, PhD
Gregory S Bennett
Gregg Davidson, PhD

wolgemuth2@aol.com
bennettgreg@yahoo.com
davidson@olemiss.edu

Lecture given to the
Evangelical Theological Society
New Orleans, Louisiana
November 18, 2009

Introduction

When God challenged Job and his friends in chapters 38 thru 41, he began with the familiar question, "Where were you when I laid the earth's foundation? Tell me, if you understand." (Job 38:4) As Christian geologists, we know full well that we were not there to observe His creative acts directly, but we do have the privilege of applying God-given tools to peer back in time to catch glimpses of His workmanship.

Perhaps we share a kindred spirit with theologians studying God's Word when we study God's Creation. Though we do not place what is revealed in creation at the same level of authority as what is revealed in Scripture, we nonetheless feel privileged to study what God has created, the rocks and natural systems that God preserves, that He provides for, and that He governs under his sovereign will.

When scientists speak on subjects at the intersection of nature and Scripture, many will be suspicious that science will be given precedence over the Bible. It is thus prudent for us to state here that we affirm the authority and inspiration of Scripture, and believe in the deity of Christ, in original sin and the need for the atoning blood of Jesus, in the existence of miraculous events, and in the genuine history of Biblical narratives. We further concur with King David in Psalm 19 in two respects. First, we echo David's declaration that God's creation speaks of His glory, leading us to believe that what nature reveals should be consistent with His character. Second, we follow David's lead in recognizing our own fallibility, and each of us prays from our knees, "May the words of my mouth and the meditation of my heart be pleasing in your sight, O LORD, my Rock and my Redeemer."

We believe that Noah's Flood was a real event in history, in time and space. It was a miracle of God to bring about the destruction of every man, woman, and child on the earth except for those on the ark. God could have brought about the Flood using natural forces, or He could have generated the waters supernaturally. For this particular question, we may never know which, and the answer has little impact on our faith. But what of questions regarding the extent of the Flood, or whether we expect to find evidence of the Flood when we study the earth's rocks and sediments? These are questions that do impact our faith, because they touch on issues related to how we interpret and honor Scripture.

To simply say that "all that the Bible touches upon is true" is irresponsible, for by this mantra, we would all be *geocentrists*, insisting that the earth is the center of the solar system. Indeed, Scripture tells us repeatedly that the earth is fixed upon its foundations (Ps 93:1, 104:5) and the sun rises and falls (Ecc 1:5, Ps 19:6). Within the context of the historical narratives (which we are not accustomed to interpreting in any figurative manner) we read "By the time Lot reached Zoar, the sun had risen over the land" (Gen 19:23) or "...There you must sacrifice the Passover in the evening, when the sun goes down..." (Deut 16:6).

We are not suggesting here that these historical narratives are not true. Rather, we are noting that God often chose to inspire His writers to record observations from their own perspective, without concern for some future scientific perspective. While the sun clearly does not rise and set as described scientifically, a rising and setting sun is consistent with the common human experience and both perspectives may be considered literal ones. Note also that while we have allowed science to alter our understanding of what Scripture may say about routine, natural processes, there has been *no change* in our understanding of the central message of any Scripture. We still understand, for example, that the Passover sacrifice was to be completed at the end of the day.

So what is the issue regarding Noah's Flood? As alluded to above, the modern debate centers around two questions. Was it truly global in extent, and can the Flood account for the earth's complex geologic record? To address the first, it is worth being reminded of the apostle Paul's letter to the church in Rome, where he makes a statement that "your faith is being proclaimed throughout the whole world" (Rom 1:8). Entire people groups existed at this time in China, Australia, and North and South America who knew nothing of the church in Rome. Though using wording that literally means the entire world population, Paul is clearly referring to the world known to him and his readers at the time. Paul speaks literally from his experience. Allowing for the possibility that Noah's Flood encompassed all of humanity without necessarily covering the entire planet is thus consistent with how other passages in Scripture are interpreted by Christians who believe the Bible is authoritative and trustworthy.

Having said this, the extent of the Flood is not our primary concern. Our primary interest in this paper is the second question, the widely promulgated notion that the Flood can account for the earth's complex geology, and that all genuine Christians must accept this viewpoint. *Flood Geology* derives from a belief that Genesis teaches that the world is very young – less than 10,000 years. To explain the vast thicknesses and incredible complexity of the earth's sedimentary deposits within a short history, it is argued that the Flood must have been both global and violent. *Flood Geology* is thus synonymous with belief in a young earth. It is our conviction that this position is unreasonable from both a biblical and scientific perspective. In this paper, we are principally addressing what God's creation reveals about the Flood. For a full development of the scriptural arguments (which we acknowledge are the most important) against a young earth, we refer readers to G.R. Davidson's book *When Faith and Science Collide – A Biblical Approach to Evaluating Evolution and the Age of the Earth* (2009).

We divide our concerns below into pastoral and apologetic sections. The scientific evidence is presented in the apologetic section.

Pastoral Considerations

While theologians and pastors educated in our seminaries are generally knowledgeable about whether the solar system is heliocentric (sun-centered) or geocentric (earth-centered), they receive little or no training about geology. We have observed that pastors often invite organizations into their churches that present pseudo-science during weekend seminars. Theologians, pastors, and the people in the pews lack the scientific training to sift what is true from what is false, so that when these invited groups mishandle scientific information, it is not detected and confronted.

The consequences of teaching pseudo-science are far worse than mere ignorance. Young people raised under such instruction often face a crisis of faith when confronted with the

real evidence in college or later in life, and reject Christ in the mistaken notion that they must choose between sound science and Christian faith. It is this tragedy we wish to avert. A few brief examples are worth describing.

A friend (who wishes to remain anonymous) attended conservative churches his entire life – churches that openly push and teach a young-earth position. He has been a teacher and a leader in his local church. He is a strongly logical, thinking person who wants to know God's truth. He told us recently that he is thinking about giving up on Christianity and becoming an agnostic. Why? As he became more knowledgeable about the scientific evidence regarding the age of the earth, he found increasingly that facts presented by young-earth organizations had been misrepresented. He no longer knows who to believe or who to rely on. He feels that he has believed lies his whole life.

Glenn R. Morton tells his story in an article in *Perspectives on Science and Christian Faith*.¹ Morton was a young-earth creationist until he became a geophysicist for a major oil company. As he worked directly with geologic data, he found absolutely no scientific support for a young earth in the rock record. He was successfully finding oil and gas using classical geological evidence that flew in the face of what he had learned in his church upbringing. In his testimony he said, "Being through with creationism, I was almost through with Christianity. I was thoroughly indoctrinated to believe that if the earth was not young and the flood not global, then the Bible was false. I was on the very verge of becoming an atheist." In his journey he read Alan Hayward's book *Creation and Evolution*.² After reading what Morton calls a "wonderful 'Days of Proclamation' view" he rejected his young earth/ global flood indoctrination and retained his faith in Jesus Christ.

Joshua Zorn followed young-earth creationism as a young man and repented of it later. In 1997 he was helping plant churches in the former Soviet Union and wrote of the difficulty in reaching non-believers because of the influence of young-earth literature and teaching, "As I write this paper, I see YECS [Young Earth Creation Science] literature becoming more and more widely distributed in the growing churches in my corner of the former Soviet Union. We are sowing the seeds of a major crisis which will make the job of world evangelism even harder than it is already."³

We are very, very concerned about the evangelical and pastoral affects of linking belief in a young-earth and a global flood to the authority of Scripture and faith in God and His Word. Our concern is a pastoral one. It is also an apologetic one.

Apologetic Considerations

Because the Bible and nature share the same author, we fully expect that they will tell a consistent story. Where we find apparent inconsistencies, we believe they are just that – apparent. Further study will reveal that either we did not understand the scientific data sufficiently, or that our understanding of Scripture was not as intended. For those who insist that it must always be the scientific understanding that must yield, recall the 17th-century

¹ Glenn R. Morton, *The Transformation of a Young-Earth Creationist*. Perspectives on Science and Christian Faith, 2000, 52:81-83.

² Alan Hayward, *Creation and Evolution: Rethinking the Evidence from Science and the Bible*. Bethany House Publishers, 1985.

³ Joshua Zorn, *The Testimony of a Formerly Young Earth Missionary*. American Scientific Affiliation, 1997, <http://www.asa3.org/ASA/resources/zorn.html>. Accessed 14-Nov-2009.

debate over the relationship between the sun and the earth. The Church at large has allowed scientific evidence to weed out an inaccurate interpretation of Scripture that insisted the Bible was instructive about the motion of the planets. Modern young-earth advocates are among those who have accepted this.

We are once again living in a time where there is rank disagreement within the Church over whether it is appropriate to allow the study of God's natural creation to instruct us about the best interpretation of Scripture – in this case, those Scriptures thought to address the age of the earth. The tie-in with Noah's Flood traces its origins back to the publication in 1961 of *The Genesis Flood: The Biblical Record and Its Scientific Implications* by John Whitcomb and Henry Morris.⁴ *The Genesis Flood* claimed that one must choose between science and Scripture:

“The Bible-believing Christian thus faces a serious dilemma. When many thousands of trained geologists, most of them sincere and honest in their conviction of the correctness of their interpretation of the geological data, present an almost unanimous verdict against the Biblical accounts of creation and the Flood, he must of course feel very reluctant to oppose such a tremendous array of scholarship and authority...”

“The decision then must be faced: either the Biblical record of the Flood is false and must be rejected or else the system of historical geology which has seemed to discredit it is wrong and must be changed. The latter alternative would seem to be the only one which a Biblically and scientifically instructed Christian could honestly take, regardless of the ‘deluge’ of scholarly wrath and ridicule that taking such a position brings upon him.

“But this position need not mean at all that the actual observed data of geology are to be rejected. It is not the facts of geology, but only certain interpretations of those facts, that are at variance with Scripture. These interpretations involve the principle of uniformity and evolution as a framework for the historical evaluation of the geological data.”⁵

It must be noted that we fully believe the Biblical accounts of Creation and the Flood, but we do not understand them in the same way that Whitcomb and Morris demand here. In writing their book, Whitcomb and Morris created a Biblical dilemma that was unnecessary, but nevertheless they stated it in no uncertain terms. They used a classic debate technique creating a “false dilemma” and in doing so set the terms of the modern Creation vs. Evolution debate. Their approach was significant because it gave only two choices – that of either accepting the correctness of a classic interpretation of geology or that of accepting the correctness of the Bible. It is easy to understand why many have rejected what geology has discovered about God's creation. After all, what Christian wants to disagree with God's Word, and who would not want to be honest?

Because evangelical Christians have feared evolution as being at war with the teachings of the Bible, this dilemma fed on those fears and created a fear that acceptance of classical

⁴ John C. Whitcomb and Morris, Henry M., *The Genesis Flood: The Biblical Record and Its Scientific Implications*, The Presbyterian and Reformed Publishing Company, 1961.

⁵ *The Genesis Flood*, p. 117-118.

geologic information may lead to belief in evolution itself. As a result many reject sound scientific information presented by geological studies.

We want to change the terms of the debate, and we want to provide encouragement to those who want to trust both their Bible and what they learn from classical geology. Thus, our concern from both a pastoral and an apologetic standpoint is that evangelical Christians are debating an unnecessary question rather than seeking perspectives that grow faith in Jesus Christ and looking for answers as to how God rules His created universe.

So what does God's creation reveal about the Flood? Before directly addressing this question, note that we are not parting ways from Flood Geology advocates regarding natural vs supernatural mechanisms. The underlying assumption throughout all Flood Geology arguments is that *natural mechanisms* occurring during and after the Flood can account for the majority of the sedimentary rocks that we find on the earth. It is this assumption that is the basis for claiming that scientific studies can be undertaken to find support for a global, catastrophic flood. The question is not whether the Flood was miraculously generated or not, but whether the geologic record preserved in the earth's rocks and sediments are a reflection of the Flood, or of a more complex and ancient history.

If a global flood occurred where water spread over the earth's surface with an energy on the same order of magnitude as natural floods, the result would have been a blanket of sediment draped over the low lying regions of the continents. The thickness of these flood deposits could easily have reached several tens of feet over large tracts of land, with thicker deposits in deeper depressions. Most of this would have been rapidly eroded away in the years following the Flood, leaving only fragmented traces of the original event. It is thus acknowledged by us that the Flood could have been global without leaving unequivocal evidence behind. But could a tremendously violent flood account for the myriad layers of the earth's rocks and sediments, as well as most fossils? Flood Geology advocates would have us believe there is evidence on both sides of this question that must be weighed. Our observation is that honestly presented evidence leaves nothing left to debate. Deposition of all the earth's layers by a single flood is not only implausible, but utterly impossible unless God temporarily suspended His natural laws in order to establish layers and fossil beds that would subsequently communicate a story vastly different than what actually happened.

For this paper, we have chosen four areas of geologic study. For the sake of brevity, three are described without great detail, but offered as an imperfect way of emphasizing that there are many different lines of evidence against Flood Geology.⁶

Salt

There are many places around the earth with layers of salt, some thousands of feet in thickness. Just off the coast of New Orleans (the location of the 2009 ETS meeting), thick salt deposits sit beneath thousands of feet of sediment (Fig. 1). These deposits lie within the layers that are said to have been deposited by the Flood.⁷

We understand how salt beds form. At locations such as the Bonneville Salt Flats of Utah, or at the Dead Sea at the border of Israel and Jordan, salt is actively forming. In all cases,

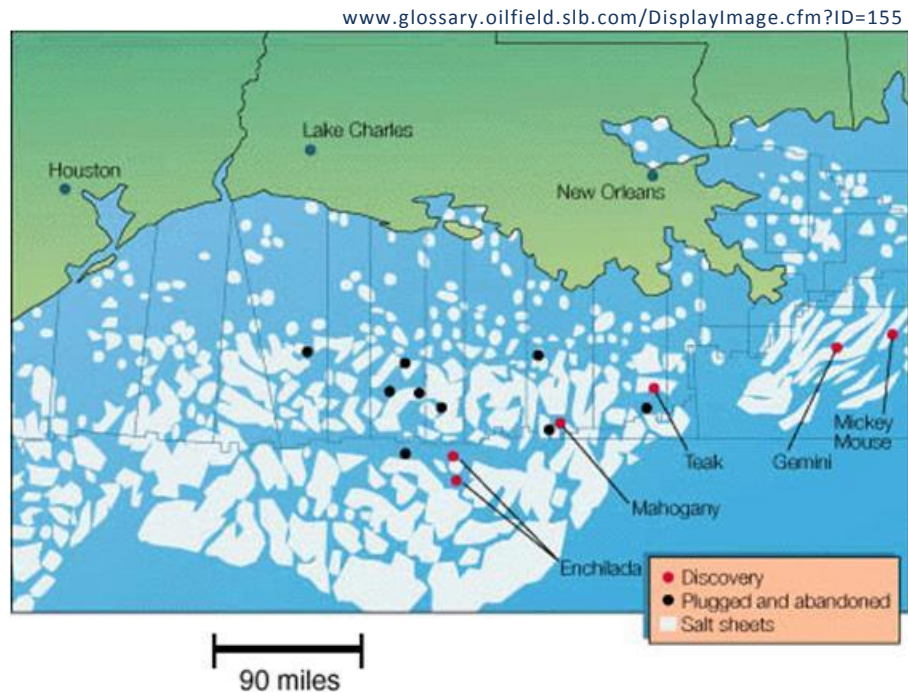
⁶ Our presentation in New Orleans at the 2009 ETS meeting included a list with over 50 evidences. If you want a copy of that list, please email the first author.

⁷ If you want to see various examples of salt in the subsurface, please email the first author.

salt forms when water is intensely evaporated. In the processes, the concentration of dissolved ions increases until the water cannot hold the salt in solution anymore, and mineral salt begins to form. If any unknown processes produced salt without evaporation, it would quickly dissolve back into the water again, just as the salt from your saltshaker rapidly dissolves when added to water or food.

Figure 1. Salt deposits in the Gulf of Mexico are lying beneath thousands of feet of sediment. Here and in other sedimentary basins some of these salt deposits are thousands of feet in thickness.

(If you want to see various examples of salt in the subsurface, please email the first author.)



One might argue that the waters from the Flood could have evaporated to leave behind the salt deposits we see today, but there is a serious problem. The thousands of feet of sediment on top of the salt is also said to be from the Flood, meaning the flood waters cannot have evaporated to produce the salt and still be present and violent enough to transport thousands of feet of sediment to the same location. In other words, a single flood cannot be called upon to explain both the salt and the overlying sediment. For those who wish to argue that natural processes could have been vastly different during the Flood, there are at least two replies. First, under such a scenario, there is no point in Flood Geology studies any more than in normal studies, for nothing could be gained by the study of unknowable processes. A more important question, however, would be to ask why would God alter natural processes just to make Flood sediments look older than they actually are? What would the purpose be? We will address this again more explicitly later in this paper.

Grand Canyon: Order of Deposition

The Grand Canyon is made up of a sequence of layers that defies any reasonable attempt to explain by a single flood. The alternating layers of limestone, sandstone and shale each form in unique environments. If these deposits were formed at different times under various sea-level stages, it is quite simple to explain the different grain sizes and rock types as a function of depth and distance from the shore line. If explained with a single catastrophic flood that abided by God's natural laws of physics and chemistry, logic must be stretched to the breaking point.

As a very simple observation, consider instructions given in virtually every gardening book. A good soil will have a mix of sand, silt and clay. To determine the quality of your soil, you take a handful or two, put it in a clear container, add water and shake it up. When you stop shaking, the coarse grained material will settle out first resulting in a sequence of layers: sand on the bottom, then silt, then clay. You can readily see how much of each you have by the thickness of each layer.



Figure 2. Photo and cross-section of the Grand Canyon, Arizona.

Cross-section from Press and Siever, *Understanding Earth*, 1994, W.H. Freeman & Company.

This is informative of what we see in flood deposits. As moving flood waters slow down, finer and finer grained sediment settles out resulting in a “fining upward” sequence. If most of the Grand Canyon layers were laid down by the Flood, as we are told, then we should see the same thing – a “fining upward” sequence. Instead, we see a series of alternating layers of fine and coarse grained material, with smaller-scale alternating layers within the larger ones (Fig. 2). Increasing the violence of a flood does nothing to negate the standard order of deposition. Repeated surging of flood waters across the surface likewise offers little explanatory power, for we might expect successive layers of sand or gravel with each surge, but the finest material would still settle out last, very unlike what is observed in the Grand Canyon.

Fossil Sequence

If a massive flood were responsible for the fossil record, what would we expect to see? If the Flood were violent enough to rip chunks of rock up from the earth and move entire continents (standard Young Earth claims),⁸ then it should be obvious that life forms from every imaginable niche would be tumbled and mixed together (Fig. 3a). We should find mammoths mixed with triceratops, and pterodactyls mixed with sparrows. Ferns and meadow flowers should be found in the same deposits, along with trilobites and whales. Further, we should find all major life forms still living today, for Genesis 7:8-9 is clear in stating that all terrestrial animals were preserved on the ark.

⁸ Ken Ham, ed., *The New Answers Book*, v 1, Master Books, 2006, Ch 14.
<http://www.answersingenesis.org/articles/nab/catastrophic-plate-tectonics>. Accessed 17-Nov-2009.

What we actually observe is far different (Fig. 3b). There is an orderly sequence where trilobites only occur in older rocks, dinosaurs in later beds, mammoths in still later layers, and organisms like flowers and ferns mixed in more recent deposits, but only ferns with no flowers in older deposits. Some readers will recognize this as an example from the “geologic column,” and be tempted to discount it as a fabrication. For those thinking this way, consider what Henry Morris had to say in both editions of *Scientific Creationism*:

“Creationists do not question the general validity of the geologic column, however, at least as an indicator of the usual order of deposition of the fossils...”⁹

If we revisit the Grand Canyon for a moment, is it not striking that there is not a single dinosaur, mammoth or bird in the entire exposed sequence? Not one. To find these, you have to go to younger sediments found in deposits outside the canyon that have not been fully eroded away yet. How could such a lack of mixing be possible if the Flood was violent enough to move continents?

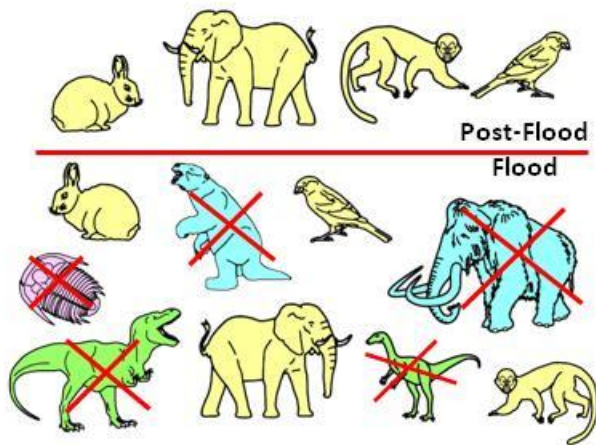


Figure 3a. Expected distribution of fossils for a catastrophic global flood. The X-marks indicate species that were allowed to go extinct in spite of initial preservation on the Ark.

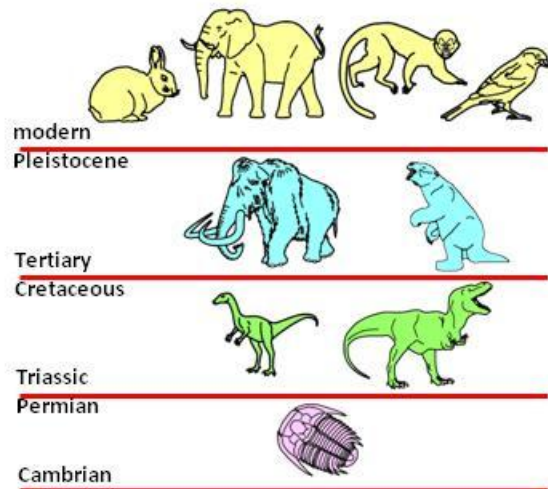


Figure 3b. Observed sequence of fossils.

Tree Rings and Varves

Most people know what a tree ring is. Summer growth produces a wide lighter colored ring, followed by a denser, darker colored ring in winter. The two rings together represent one year.

Varves are sediment layers formed in lakes in certain environments. In northern latitudes where lakes freeze over, fine-grained material will settle out in winter, followed by coarser-grained material in spring as ice thaws and increased stream flow carries larger particles into the lake. Each winter-spring cycle produces a fine-coarse couplet called a varve (Fig. 4).

⁹ Henry Morris (ed), *Scientific Creationism*, 2nd edition, Master Books, Green Forrest, AZ, 1985, p 116.

In other places, varves may form from diatom blooms. At all times of the year, fine particulate matter settles out to the bottom, but during the spring, single-celled organisms with a solid shell rapidly reproduce near the surface of the lake. As they die, the shells rain out onto the lake floor and form a light-colored coating. Each winter-spring cycle produces a dark-light colored sediment couplet, or varve. In both examples, each varve represents one year.

Varves form in many lakes around the world. In one lake in Japan, Lake Suigetsu, a sediment core was collected in 1991 nearly 250 feet in length. The core contained an uninterrupted sequence of varves, with a total count in excess of 100,000. To the researchers, there was no reason to think that 100,000 varves was not representative of 100,000 years, but perhaps they were making unwarranted assumptions. What if in the distant past, multiple varves were deposited per year. More specifically, what if a massive flood with thousands of surges back and forth across the land laid down thousands of varves in a single year? Fortunately, we do not have to depend on assumptions, but can actually make measurements to determine if this happened. To do so, we will revisit tree rings for a moment.

We will employ tree rings and carbon-14, but not in the way readers may be accustomed to seeing. We will not use carbon-14 to determine an age at all. We will simply measure how much carbon-14 is currently found in each tree ring. Carbon-14 decays with time, so if each tree ring represents one year of growth, we should see a steady decline in the carbon-14 content of each successive ring. Figure 5 shows tree-ring carbon-14 data from living trees extending back 4,000 rings. The nearly straight line formed by the data means that it might be possible for a year here or there to have a missing or double ring, but overall, each ring represents one year at least back 4,000 years.

If additional confidence in this data is desired, it may be helpful to note that the amount of carbon-14 found in a timber from a tunnel in Jerusalem thought to have been built by Hezekiah is approximately the same as the amount found in tree ring number 2,700, which places its age where expected from Biblical records if each ring equals one year. Even better, consider the Dead Sea Scrolls – the book of Isaiah in particular. Isaiah 53 describes Christ in such detail, Bible critics have long argued that it must have been written after the time of Christ. The amount of carbon-14 in the Isaiah scrolls is equal to or less than the amount in tree ring number 2,100, meaning carbon-14 confirms its before-Christ historicity.¹⁰

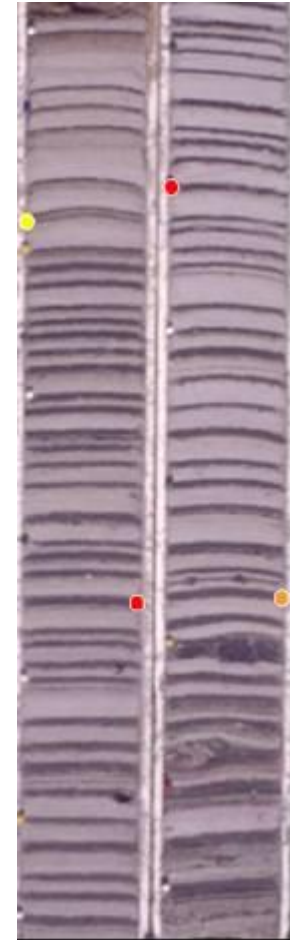


Figure 4. Example photo of sediment varves (two core sections shown). Each light and dark couplet represents one varve.

¹⁰ A. Frumkin, A. Shimron and J. Rosenbaum, *Radiometric dating of the Siloam Tunnel, Jerusalem*, *Nature*, 2003, 425:169-171. / G. Bonani, M. Broshi, I. Carmi, S. Ivy, J. Strugnell and W. Wölfli, *Radiocarbon dating of the Dead Sea Scrolls*, *Atiqot*, 1991, 20:27-32. / A.J.T. Jull, D.J. Donahue, M. Broshi and E. Tov, *Radiocarbon dating of scrolls and linen fragments from the Judean Desert*, *Radiocarbon*, 1995, 37:11-19.

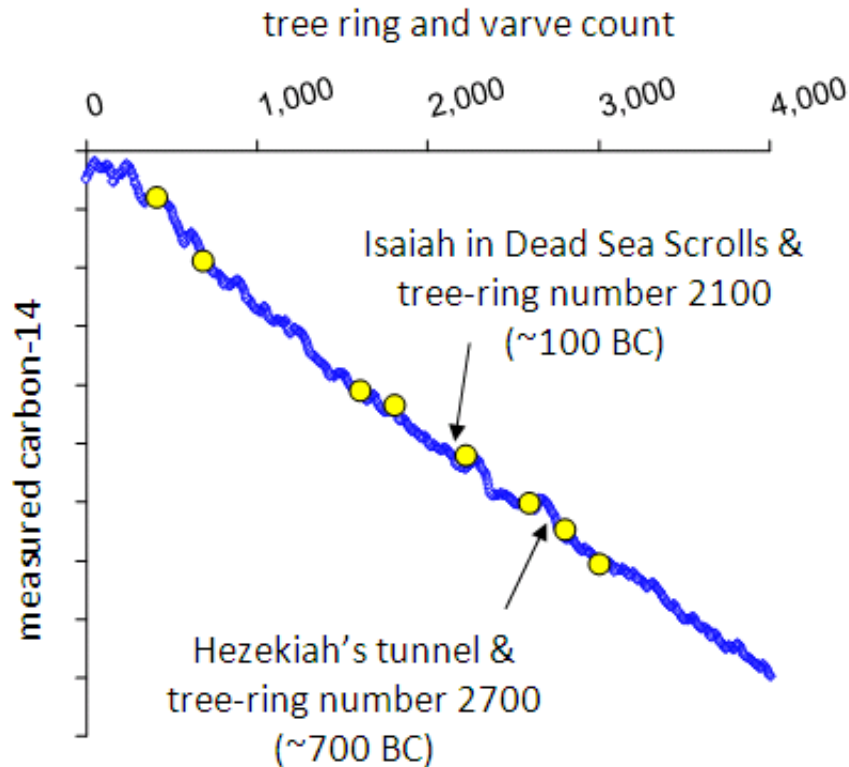


Figure 5. Measured carbon-14 and tree rings (solid line) and varves (open circles) back to 4,000 rings/varves. Varve data is from Lake Steel, Minnesota.¹¹ See text for discussion of Hezekiah's tunnel and the Dead Sea Scrolls.

Carbon-14 axis is the natural logarithm of the measured activity – each tick mark is 0.1 unit.

Carbon-14 has also been measured in organic material in varves. The carbon-14 record for varves in Lake Steel, Minnesota is shown as open circles in Figure 5. Note that they fall on top of the tree ring data, which means 4,000 varves must also equal 4,000 years.

Now we are ready to consider that at some time prior to 4,000 years ago a giant flood resulted in myriad varves laid down in a single year. There are a few possible results. The most logical would be that all these varves would have the same carbon-14 content because they were all laid down in the same year. This would yield the projected data shown in Figure 6a.

Alternately, perhaps the Flood caused the normal production of carbon-14 to be drastically altered. Figure 6 (b, c and d) show what the data would look like for different possible scenarios such as much higher than normal carbon-14 production, much lower, or wildly fluctuating.

Serious consideration of the actual data should be sobering for the committed Young-Earther. Figure 7 shows varve data from Lake Steel and Lake Suigetsu extended to the limit of carbon-14 detection. The high degree of linearity (straightness) of this data has two possible interpretations.

Option 1: 50,000 varves represents roughly 50,000 years, and the fact that the Suigetsu varves continue to about 100,000 means the earth's history also must extend to at least 100,000 years.

¹¹ Tree rings: P.J. Reimer et al., *INTCAL04 terrestrial radiocarbon age calibration, 0-26 cal kyr BP*. Radiocarbon, 2004, 46:1029-1058. / Varves: J. Tian, T.A. Brown, and F.S. Hu, *Comparison of varve and 14C chronologies from Steel Lake, Minnesota, USA*. The Holocene, 2005, 15:510-517.

Option 2: God started with a fast rate of carbon-14 decay and thousands of diatom blooms and die-offs each year, but then intentionally and precisely slowed down each *independent and unrelated* process in such a way as to make it falsely look as if the data confirms the accuracy of carbon-14 and varve counting as legitimate methods of determining age. This option should be unacceptable to all Christians, for it means God manipulated his creation so that a study of it would convincingly tell a story that was not in fact true.

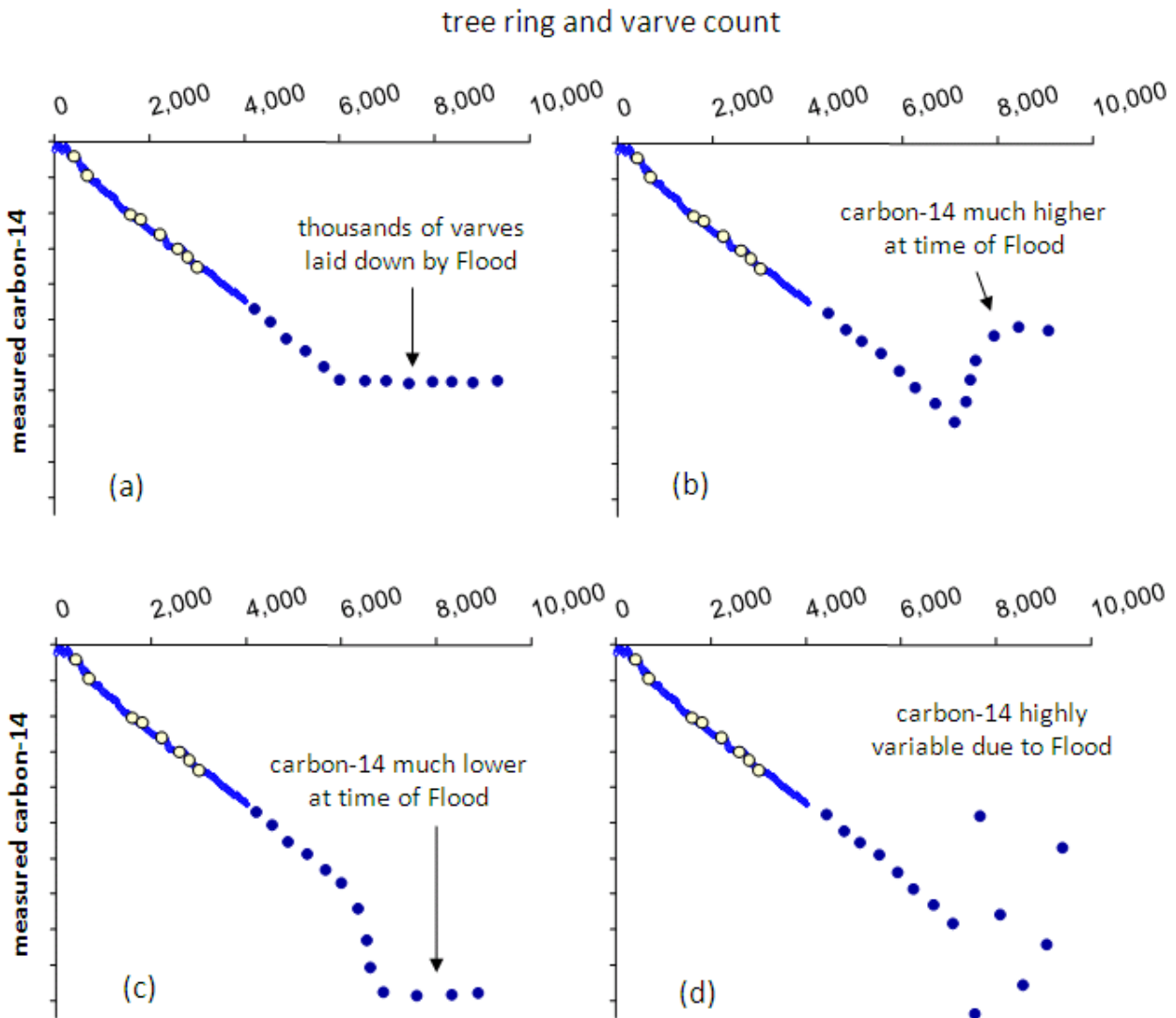


Figure 6. Data from Figure 5 with solid circles added to show what the data would look like beyond 4,000 varves for various scenarios: (a) thousands of varves laid down by Noah's Flood, (b) much higher carbon-14 levels in the environment prior to or at the time of the Flood, (c) much lower carbon-14 levels in the environment prior to or at the time of the Flood, and (d) highly variable carbon-14 in the environment caused by the Flood. (Carbon-14 axis is the natural logarithm of the measured activity – each tick mark is 0.1 unit.)

Wayne Grudem makes an insightful comment on the theological underpinnings of science in his book on *Systematic Theology*. "God's providence provides a basis for science: God has made and continues to sustain a universe that acts in predictable ways. If a scientific experiment gives a certain result today, then we can have confidence that (if all the factors are the same) it will give the same result tomorrow and a hundred years from tomorrow."¹² As geologists, we would extend this statement to address processes at work in the past as well as in the future. We have no reason to believe that God would have prevented the waters of the Flood (even if generated supernaturally) from interacting with the earth in ways consistent with the laws of physics and chemistry that He established and has maintained since the dawn of creation.

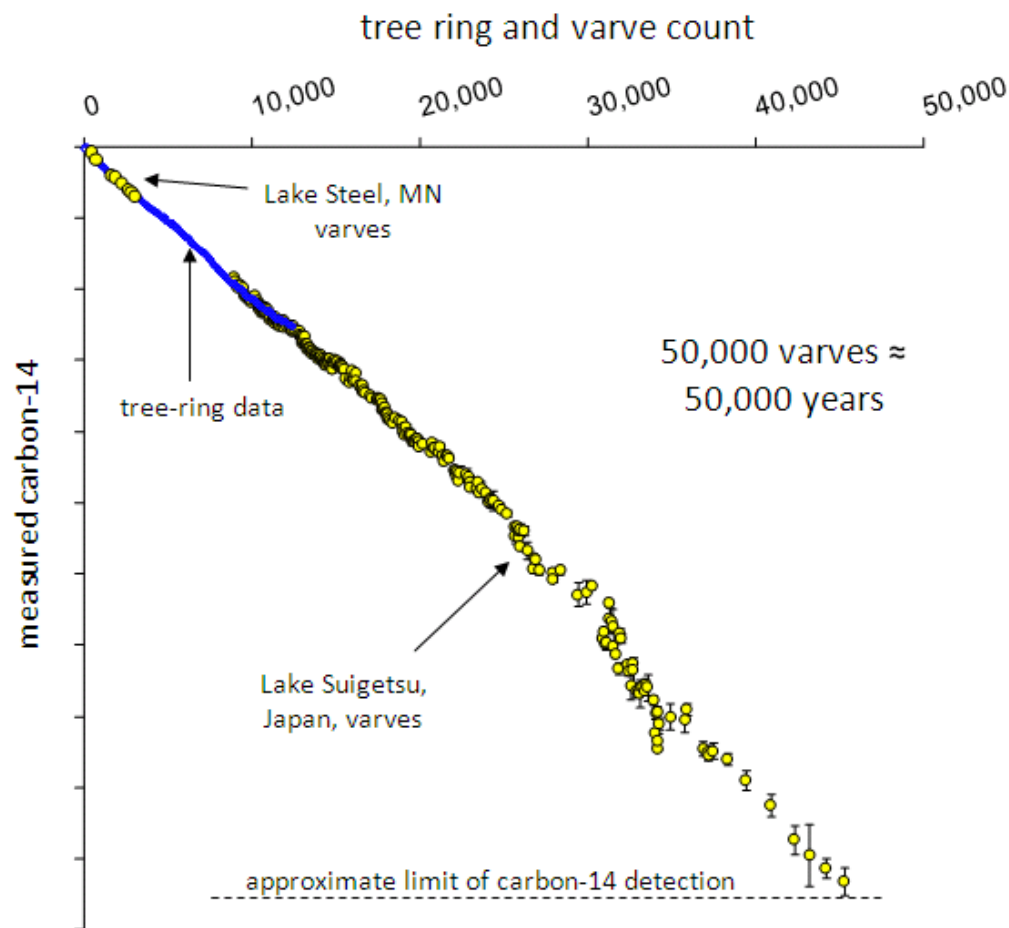


Figure 7. Tree ring (solid line) and varve (circles) number vs. measured carbon-14. Varves less than 5,000 are from Steel Lake, Minnesota; varves greater than 5,000 are from Lake Suigetsu, Japan.¹³

Carbon -14 axis is the natural logarithm of the measured activity – each tick mark is 0.5 units. Vertical bars represent the magnitude of uncertainty in the measured value.

¹² Wayne Grudem, *Systematic Theology: An Introduction to Biblical Doctrine*, Zondervan, Grand Rapids, MI, 1994, p. 317.

¹³ H. Kitagawa and J. van der Plicht, *Atmospheric radiocarbon calibration beyond 11,900 CAL BP from Lake Suigetsu laminated sediments*. *Radiocarbon*, 2000, 42:370-381. / H. Kitagawa and J. van der Plicht, *Atmospheric radiocarbon calibration to 45,000 yr B.P.: Late glacial fluctuations and cosmogenic isotope production*. *Science*, 1998, 279:1187-1190.

Conclusions

We argue with great conviction that Option 2 above does not reflect the God of King David who proclaimed that the heavens declare the glory of God (Psalm 19), nor of the Apostle Paul who stated that God's eternal character and divine nature are manifest in what He has created (Romans 1). If the creation speaks of a specific history, it is our belief that God's creation speaks truthfully and the history is real.

Where does this leave us? Many in the world marvel at the handiwork of God while denying the Creator. In response, the Church demands that to acknowledge the Creator, we must deny His workmanship. Can there be a more ineffectual witness? If after seeing the results of God's creation in Figure 7 we insist that the *obvious* meaning is not in fact true, we will drive people away from faith in Christ on a misplaced assumption that belief in Christ represents the abandonment of reason. Christ Himself is a sufficient stumbling block – we need not create any other!

We ask that evangelical theologians do everything in their power to develop an epistemology¹⁴ that separates a young-earth/global-flood exegesis of Scripture from faith in Jesus Christ, the Word of God and in the trust of the authority of Scripture. To combine one with the other runs the risk of doing great damage to pastoral and apologetic efforts to help people, especially young people, develop a long term relationship with Jesus Christ. We ask that if evangelical theologians think a global flood is required exegetically, they do not expect science to support it and they consider it one of the mysteries of Scripture – like other unexplainable miracles.

We ask that the terms of the creation debate be changed to allow honest consideration of evidence from God's natural creation. As stated by Carol Hill and Stephen Moshier, "If Earth's sedimentary rocks were not deposited in a universal flood, as demanded by flood geologists, should this undermine one's faith in the Bible as God's inspired word? No, because the Bible *never* claims that all sedimentary rock formed in Noah's Flood! Rather, it describes a pre-Flood world that is consistent with a modern landscape overlying sedimentary rock. In our opinion, despite their good intentions, Young Earth Creationists promote an erroneous and misleading interpretation of the geology of the Grand Canyon, if not of the entire planet Earth."¹⁵

For our part in serving our Lord Jesus and furthering understanding of his creation in an effort to educate future pastors and theologians, we are offering a half- or one-day creation workshop to seminaries and related institutions. This workshop provides an overview of current geologic understanding, and a Bible-honoring approach to evaluating Scripture and science anytime the two appear to conflict.

¹⁴ Epistemology is "the study or theory of the origin, nature, methods, and limits of knowledge." (Ref. *Webster's New World Dictionary of the American Language, College Ed.*, 1966).

¹⁵ Carol A. Hill and Moshier, Stephen O. *Flood Geology and the Grand Canyon: A Critique*. Perspectives on Science and Christian Faith, 2009, 61:99-115.

Bios

Dr. Ken Wolgemuth is an Adjunct Professor at the University of Tulsa and a Petroleum Consultant teaching short courses on petroleum geology and "Geology for the Non-Geologist". He has a BS in chemistry from Wheaton College in Illinois, and MS and PhD degrees in geochemistry from Columbia University in New York. He has over 30 years experience in the energy industry, and is passionate about communicating geology to non-scientists. Over the last 10 years, he has developed a keen interest in sharing the geology of God's Creation with Christians in churches and seminaries. He is active with Prison Fellowship's Angel Tree project and at Kirk of the Hills Church, an Evangelical Presbyterian Church. He lives in Tulsa, Oklahoma, with his wife, Helen. They have two children and one grandchild. Ken can be reached at: wolgemuth2@aol.com or at 918-852-3082.

Gregory S. Bennett has a BS in earth science and an MS in social science from Emporia State University in Kansas. He also has an MS in geology from the University of Kansas. Early in his career he taught fifth grade science and both middle school and high school earth science in Kansas and Nebraska. He also worked as a petroleum geologist for Exxon. He now works in the information technology industry providing consulting to universities throughout the US. Greg and his wife Michelle live in Tulsa, Oklahoma where they currently help lead a new church plant. They have three children in or just out of college. Greg has developed curricula and taught courses including Science and Christianity, Christ the Creator, Team Leadership for the International Literacy Training Institute, Westminster Shorter Catechism, Pilgrims Progress, and others. He can be reached at bennettgreg@yahoo.com or at 918-625-2588.

Dr. Gregg Davidson is a Professor in the Department of Geology and Geological Engineering at the University of Mississippi and conducts original research in geochemistry and hydrogeology, often employing radiometric dating methods to determine the age of groundwater and sediments. He earned his MS and PhD degrees from the University of Arizona, and his BS from Wheaton College in Illinois. He has been an active member and teacher in a PCA church since moving to Mississippi in 1996. In 2009 he published a book about his keen interest in integrating a lifetime of studying geology with his firm conviction about the infallibility of God's Word, "*When Faith & Science Collide – A Biblical Approach to Evaluating Evolution and the Age of the Earth.*" He lives in Oxford, Mississippi with his wife Kristi and their four children. Gregg can be reached at davidson@olemiss.edu or at 662-915-5824.