Noah's Flood – The Bible, the Science & the Controversy

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Part 3 - Catastrophic Plate Tectonics

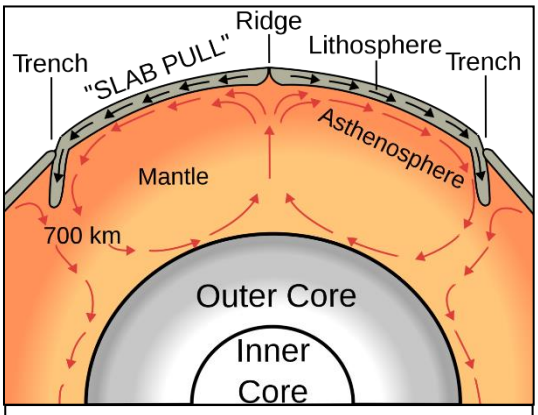
Recap

In this four-part series of articles, we are looking at three of today's well-known scientific theories for the global flood – the Vapor Canopy Theory (VCT), the Hydroplate Theory (HPT), and the Catastrophic Plate Tectonics (CPT) Theory – and comparing them with scientific evidence and the Bible. Part 1 summarized some of the key flood passages in the Bible and briefly discussed the VCT, including reasons why almost all creation scientists no longer view it as a viable flood explanation. In Part 2, we summarized the Hydroplate Theory (HPT), a flood explanation that is consistent with the biblical record; relies on the application of God's laws of science without invoking extra-biblical miracles to solve scientific problems; and provides powerful explanatory and predictive capability. Here in Part 3, we will briefly examine another currently prominent explanation for the global flood, the Catastrophic Plate Tectonics (CPT) theory.

A heartfelt thanks to Dr. John Baumgardner, CPT's primary author, and ICR geologist and CPT advocate Dr. Tim Clarey for their explanations of the current version of the CPT theory and for reviewing the pre-publication draft of this article.

Plate Tectonic Theory

Catastrophic Plate Tectonics (CPT) is similar to uniformitarian Plate Tectonics (PT), the dominant theory of today's secular geologists.[1] PT seeks to describe the observed motion of the earth's relatively thin and rigid outer-most surface, referred to as the lithosphere. The lithosphere is viewed as comprising multiple tectonic plates, which move relative to each other atop the underlying rock (the mantle) at about the same rate that your fingernail grows. In school, many of us learned (and some schools still teach) that this movement is in response to conveyor belt-like circulation in the mantle below. Today, however, geologists believe that mantle convection is secondary to "slab pull" (refer to diagram). In other words, the main force responsible for moving the plates is the weight of the slabs that fall downward into the mantle.



en.wikipedia.org/wiki/Subduction

As the plates descend, magma (melted rock inside the earth) rises up through faults (cracks in the crust) at the Mid-Ocean Ridge (MOR) and solidifies to form new ocean floor, which then moves horizontally in opposite

[1] Uniformitarianism is the belief that the natural processes at work in our world have always occurred in the same way as we observe today. Secular science, including geology, is built on the uniformitarian paradigm. Uniformitarianism originally held that these processes have occurred at the same *rate*, as well in the same *way*. In light of evidence, however, the principle of uniformitarianism now acknowledges that past processes, even if the same as today, may have operated at different rates and with different intensities than those of the present. This revised belief is sometimes referred to as "actualism."

directions away from the ridge. This hypothesized formation of new oceanic lithosphere is called seafloor spreading.

If new ocean lithosphere is being formed and the earth's size stays the same, old ocean lithosphere must dive back into the earth somewhere else, a process referred to as subduction. Paraphrasing one geologist with whom I spoke, "*The ocean floors come and the ocean floors go – this is the bottom line of plate tectonics*." Most subduction today is said to occur at the Pacific Ocean trenches, generating the earthquakes and volcanic activity associated with the Pacific Ocean's "Ring of Fire."

PT is the currently accepted secular paradigm for geological processes, past and present, and is largely taught as fact in our schools and universities, despite known problems with the theory. A few of these problems are briefly discussed later in this article. [2]

By definition, the uniformitarian framework of plate tectonics denies the occurrence of a past cataclysm such as a global flood, which could have rapidly created prominent features on Earth such as the MOR, ocean trenches, sedimentary layers averaging one mile in thickness on the continents, and the fossil record. Instead, PT maintains that these features are the products of millions and billions of years of tectonic movement.

CPT Overview

In contrast to uniformitarian plate tectonics, advocates of Catastrophic Plate Tectonics (CPT) maintain that, although the basic processes of secular Plate Tectonic Theory, namely, seafloor spreading and subduction, are valid and can be observed today, these processes have not operated at near present rates over millions and billions of years. Instead, they assert that a vast amount of plate motion occurred during a tectonic upheaval only a few thousands of years ago as part of the Genesis Flood.

Geologist Dr. Steve Austin and five other creation scientists proposed a preliminary model of CPT more than 20 years ago.[3] Their paper built on prior publications of geophysicist Dr. John Baumgardner, who is widely-acknowledged as CPT's primary author.

Dr. Baumgardner earned his Ph.D. in Geophysics and Space Physics at the University of California, Los Angeles (UCLA). As part of his thesis project, he created a 3D computer modelling program called *Terra*, to study the convection (circulation) in the mantles of earth-like planets. During his distinguished career at Los Alamos National Laboratory, he applied *Terra* to investigate the physics of catastrophic plate tectonics. In

WHAT IS THE MID-OCEAN RIDGE?

The globe-encircling Mid-Ocean Ridge (MOR) system is earth's longest chain of mountains, most of which lies in deep oceans.

The MOR wraps around the globe for more than 40,000 miles like the seam of a baseball. The average depth to the crest (top) of the ridge is 8,200 ft, but it rises above sea-level in Iceland and is more than 13,000 deep in the Cayman Trough.

That segment of the MOR that lies approximately midway between the eastern coasts of the US and South America and the western coasts of Europe and Africa is referred to as the Mid-Atlantic Ridge.

[2] Known problems with Plate Tectonic Theory (and the data upon which it relies) are documented in secular publications including "New Concepts in Global Tectonics" (1992) by Chatterjee and Hutton and "Tectonic Globaloney" (2004) and "Tectonic Globaloney: Closing Arguments" (2012) by N. Christian Smoot.

[3] Austin, S.A., J.R. Baumgardner, R.D. Humphreys, A.A. Snelling, L. Vardiman, and K.P. Wise. "Catastrophic Plate Tectonics: A Global Flood Model of Earth History." *Third International Conference on Creationism*, Technical symposium sessions, Creation Science Fellowship, Pittsburgh, PA. 1994. Online at www.icr.org/article/catastrophic-platetectonics-flood-model

1997, an article in *US News and World Report* described him as "the world's pre-eminent expert in the design of computer models for geophysical convection."[4]

"[Baumgardner] *retired from Los Alamos in 2004 and joined the Institute for Creation Research in 2005 where he helped develop a state-of-the-art computer program (named Mendel's Accountant) for modeling the* [biological] *processes of mutation and natural selection. In 2008, he joined Logos Research Associates, a collaborative network of Christian research scientists whose focus is origins and earth history issues from a biblical perspective*."[5]

Dr. Baumgardner's web site, globalflood.org, includes a list of his major publications on CPT and related creation issues.

Observational Evidence Supporting CPT

CPT proponents cite the relatively younger age of the oceanic crust as key observational evidence supporting their theory. More than 45 years of deep ocean drilling activity since the 1960's has produced detailed information about the makeup of the basalt that lies beneath the sediments that cover the ocean bottom. CPT proponents claim that radiometric dating of core samples of these basalts demonstrate that the age of all basaltic ocean crust on earth is less than the age of the fossil-bearing sediments on the continents, which supports their explanation.[6] (This assumes there is no other explanation for a "young" ocean floor. As we have seen in Part 2, the HPT explains this and many other physical features of our earth – and solar system.)

Analysis of these core samples reveals other valuable information: plankton shells in the sediment cores provide a vertical fossil history, and the orientation of grains in magnetic minerals are interpreted as a record of the orientation of the earth's magnetic field over time.

CPT advocates also interpret prominent physical aspects of the present ocean floors as indicators that massive plate tectonics activity *did* occur in the earth's past and that this activity produced the present-day basaltic ocean crust. They cite the fracture zones associated with offsets in the mid-ocean ridge system; evidence of extreme heat flow along the axis of the mid-ocean ridge system and decreasing heat flow as one moves away from that axis; the lack of sediment along the axis of the mid-ocean ridge system and its increasing thickness with distance away from that axis; and linear chains of oceanic volcanoes. (As we have seen in Part 2, the HPT interprets the physical evidence differently.)

Computer Simulations of CPT

Dr. Baumgardner has applied computer simulation to address questions about CPT that observations of the earth's surface features, and even seismic studies of the earth's interior, do not answer. For example, he applied his 3D *Terra* program to approximate the way rock inside the earth might move during an episode of rapid tectonic motions. He states, "*By applying a trial-and-error approach to discover what initial conditions might yield a reasonable set of surface plate motions, I have been able to generate some plausible plate motion histories beginning from a single supercontinent*."

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[4] Burr, Chandler. "The Geophysics of God: A scientist embraces plate tectonics—and Noah's flood." U.S. News & World Report, June 16, 1997. Online at: web.archive.org/web/20121023040454/http://www.usnews.com/usnews/culture/articles/970616/archive_007221_print.htm

[5] "John Baumgardner, Ph.D. Biography." Creation Ministries International. http://creation.com/john-baumgardner

[6] CPT proponents maintain that radiometric ages are not absolute, but they *are* valid for relative comparison purposes. For example, material with a radiometric age date of 20 million years is not really 20 million years old, but it *is* younger than material with an age date of 100 million years

Baumgardner has also explored what might have initiated the flood cataclysm using computer simulation.[7,8,9] His published results typically assume, as a starting condition, a zone of cold rock in the upper mantle at depths between 60 and 240 miles. "*Temperature within this zone in most models is about 400°C* (752° F) *cooler than the surrounding rock, which typically has a temperature of about 2000°C* (3,632° F). *This zone of cold rock lies mostly around the boundary of a large pre-Flood supercontinent. Such a feature inside the earth must date back to God's original creation of the earth when He declared on Day 3, 'Let the waters below the heavens be gathered into one place, and let the dry land appear*.'"

Why would this zone of cold rock surrounded by much hotter upper mantle not begin to sink immediately after creation due to its higher density? According to Baumgardner, "*There are reasons why this cold rock may have been initially stable. I suspect, however, that after the Fall* [of Genesis 3]*, this cold rock began slowly to sink and for some 1,650 years was moving toward the point of dramatic instability. The fateful moment of runaway of this cold rock inside the earth occurred after Noah, his family, and the animals were safely aboard the ark. In this scenario, no additional triggering event is required*."[10] He cites the results of other computer simulations to show that "*runaway instability lowers rock strength by many orders of magnitude throughout the mantle and results in plate speeds at the earth's surface of several miles per hour*."[11,12,13]

However, Baumgardner stresses that it is *observational evidence* – not his computer simulations – that comprises the logical basis for CPT. Nonetheless, those with whom I spoke cite his computer simulations as primary support for CPT's flood explanation.

CPT proposes that once runaway subduction was underway, frictional heat generated by this movement melted rock inside the earth. This magma, along with some moisture from deep in the earth, rose through cracks (rift zones) in the ocean floor. As it came in contact with seawater, boiling began, giving rise to supersonic steam jets that traveled through the ocean layer. Then, as Baumgardner explains:

> "*As these steam jets rip upward through the overlying layer of ocean water, they entrain vast quantities of liquid water and carry this water into the stratosphere to fall back to the earth as heavy rain.*[14] *As the rapidly subducting oceanic plates alternately stick and then slip as they interact with the adjacent overriding plates, that process generates giant tsunamis. These giant tsunamis initially emplace more water onto the continental surface than can drain away by gravity and consequently flood the continental surface to depths of several thousand feet. The tsunamis also erode the continents' crystalline bedrock by thousands of feet in many areas. The rapidly moving turbulent water transports*

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[7] Baumgardner, J. R., "3-D finite element simulation of the global tectonic changes accompanying Noah's Flood," *Proceedings of the Second International Conference on Creationism, Volume II*, R. E. Walsh and C. L Brooks, eds., Creation Science Fellowship, Inc., Pittsburgh, PA, 1990, 35-46. Online at: icr.org/article/article/simulation-noahs-flood

[8] Baumgardner, J. R., "Computer Modeling of the Large-Scale Tectonics Associated with the Genesis Flood," *Proceedings of the Third International Conference on Creationism, Technical Symposium Sessions*, R. E. Walsh, ed., Creation Science Fellowship, Inc., Pittsburgh, PA, 1994, 49-62. Online at: icr.org/article/article/tectonics-flood-model

[9] Baumgardner, J. R., "Catastrophic plate tectonics: the physics behind the Genesis Flood," *Proceedings of the Fifth International Conference on Creationism*, R. L. Ivey, Jr., Editor, Creation Science Fellowship, Pittsburgh, PA, 2003, 113-126. Online at: icr.org/article/article/catastrophic-plate-tectonics-flood

[10] Horstemeyer, M. F. and J.R. Baumgardner, "What initiated the Flood cataclysm?" *Proceedings of the Fifth International Conference on Creationism*, R. L. Ivey, Jr., editor, Creation Science Fellowship, Pittsburgh, PA, 2003, 155-164.

[11] Baumgardner, J. R., "Runaway Subduction as the Driving Mechanism for the Genesis Flood," *Proceedings of the Third International Conference on Creationism, Technical Symposium Sessions*, R. E. Walsh, ed., Creation Science Fellowship, Inc., Pittsburgh, PA, 1994, 63-75. Online at: http://www.icr.org/article/runaway-subduction-genesis-flood

[12] Baumgardner, 2003, *op. cit.*

[13] Sherburn, J. A., J. R. Baumgardner, and M. F Horstemeyer, "New material model reveals inherent tendency in mantle minerals for runaway mantle dynamics," in *Proceedings of the Seventh International Conference on Creationism*, M. Horstemeyer, editor, Creation Science Fellowship, Inc., Pittsburgh, PA, 2013.

[14] Baumgardner, 2003, *op. cit.*

the sediment and distributes it across the continents. When the temperature differences driving the runaway subduction are exhausted, the plate speeds fall, the steam jets cease, the tsunami frequency and amplitudes decline toward zero, and the water that had covered the continents drains back into the ocean basins. [15] *By the conclusion of the cataclysm, the super-continent Pangea was torn apart into the continents we know today.*"

CPT and the Major Creation Science Organizations

CPT is popular among some creationists today and is the flood theory currently advocated by ICR and AiG. CMI's Dr. Tas Walker told me that their researchers hold a variety of views and that CMI's official position is to hold everything lightly except the Word of God. However, CMI's excellent video production, "Evolution's Achilles Heels" describes the flood with a CPT-as-fact scenario. Despite its popularity, however, some leading creationists object to CPT for reasons including its incompatibility with features of the fossil record.[16]

CRS does not advocate any flood theory at present. One representative stated, "*I don't consider myself an opponent of any particular flood model. I consider myself skeptical of any and all of them. Because I don't think we have enough information to go to that level. A lot of things are completely unknown… There is almost an unwillingness to consider the impact of the direct work of God in doing that. Is it something that is amenable to scientific exploration?*" Another CRS representative stated more succinctly that, in effect, since we cannot ever know with certainty the extent to which God may have supernaturally intervened in the flood event, why bother with "those grand" flood theories? This position seems peculiar for an organization named for and dedicated to creation and flood research.

Biblical and Technical Objections to CPT

Where did the water come from?

CPT critics point out that the theory does not harmonize very well with Genesis' straightforward, cause-and-effect, chronological account of the flood:

1. First, the "bursting forth of the great deep" that initiated the flood (Genesis 7:11, 12; Job 38:8-11; Psalm 18:15; Proverbs 3:20)
2. Then torrential 40 days of rainfall (Genesis 7:12)
3. Then waters continued to "prevail upon the earth" for another 110 days, eventually flooding the entire earth to a height of 22 feet above the mountains (Genesis 7:17-20, 24).

When I asked CPT proponents these questions during my interviews, I received a variety of vague answers.

Baumgardner maintains that the CPT scenario – the sudden splitting apart of the mid-ocean ridge with magma coming into direct contact with ocean water to form a curtain of supersonic steam jets – "*certainly seems to do justice to the Biblical text that all the fountains of the great deep burst open [or were cleaved apart]*." As previously described, he asserts that these steam jets entrained a large volume of liquid water that subsequently would have fallen back to earth as torrential rain.

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[15] Baumgardner, J., "Numerical Modeling of the Large-Scale Erosion, Sediment Transport, and Deposition Processes of the Genesis Flood," *Answers Research Journal*, February 24, 2016. Available online at answersingenesis.org/geology/sedimentation/numerical-modeling-large-scale-erosion-sediment-transport-and-deposition-processes-genesis-flood/

[16] "Froede, Jr., Carl R., A. Jerry Akridge, and John K. Reed. "Phanerozoic Animal Tracks: A Challenge for Catastrophic Plate Tectonics." *Creation Research Society Quarterly 51*, 2014, 96-103.

ICR's creation geologist and CPT proponent Dr. Tim Clarey believes that the pre-flood oceans provided most of the floodwaters. He stated to me, "*The water for flooding the continents is mostly from the original oceans. The CPT and PT model argues that the newly created ocean lithosphere is hotter, less dense and rises upward. This shallower seabed pushes the ocean water onto the continents.* [Dr. Andrew] *Snelling has calculated this can raise seal level 1.6 km, adding to the flooding of the continents. As the newly formed ocean lithosphere cooled, it began to sink, helping to draw off the water after day 150 of the Flood and back into the ocean basins where it began*."

Clarey suggests that water from deep in the earth that emerged from rifts also contributed to some degree as well. "*I don't think CPT has a problem with the water coming from rifts all over the earth at the start of the flood. The water geysers came from water trapped in the minerals of the upper mantle… There was enough* [water] *in the mineral lattices.*"

In other words, the floodwaters were made up of water in the pre-flood oceans plus water trapped in the mineral lattices of the upper mantle that was somehow released during the event.

Both explanations for the source of the floodwaters seem to raise serious technical questions. For example, lithospheric cooling could not occur this rapidly (within the span of a single year) without a miracle. Also, while some research seems to suggest the presence of water in the mantle, it is the hydroxide ion (OH^-), not free water (H_2O), found locked within the microscopic lattices of some mantle minerals. One *Nature* article states, "*A hydrous transition zone may have a key role in terrestrial magmatism and plate tectonics, yet despite experimental demonstration of the water-bearing capacity of these phases, geophysical probes such as electrical conductivity have provided conflicting results, and the issue of whether the transition zone contains abundant water remains highly controversial*."[17] Further, by what mechanism could hydroxide ions locked within the crystal lattices of minerals deep in the mantle be released and then find and combine with hydrogen ions (H+) to become the Bible's fountains of the great deep?

Regardless, both scenarios describe something quite different than the plain Genesis narrative. For Bible-believers, this is a huge problem with CPT.

Subduction – How does it start?

CPT also shares significant technical problems that are inherent in secular plate tectonic theory. Both PT and CPT assume that Earth's crust was initially intact. So to create tectonic plates, you must first crack the crust like an eggshell all over the globe and then "unstick" them from the underlying mantle so that they can freely move. No mean feat! Neither PT nor CPT theory proposes a mechanism by which this could occur.

Then, once you have cracked the crust, you *must* initiate subduction. PT/CPT advocates admit that there is no known mechanism to cause a 30-to-60-mile thick slab of earth's upper crust to begin sinking into the solid mantle and then under its adjacent 30-to-60 mile thick slab.

One CPT proponent with whom I spoke admitted, "*Even secular scientists don't know how subduction begins*." In fact, secular scientists admit: "*The initiation of subduction remains one of the unresolved challenges of plate tectonics*."[18] And "*In spite of its importance, it is unclear how subduction is initiated*."[19]

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[17] Pearson, D. G., F. E. Brenker, F. Nestola, J. Mcneill, L. Nasdala, M. T. Hutchison, S. Matveev, K. Mather, G. Silversmit, S. Schmitz, B. Vekemans, and L. Vincze. "Hydrous Mantle Transition Zone Indicated by Ringwoodite Included within Diamond." *Nature* 507, no. 7491 (2014): 221-24.

[18] Klaus, Regenauer-Lieb et al., "The Initiation of Subduction: Criticality by Addition of Water?" *Science*, 294, 19 October 2001, 578.

[19] Robert J. Stern, "Subduction Initiation: Spontaneous and Induced," *Earth and Planetary Science Letters*, 226, 2004, 275.

Baumgardner responds, "*On the issue of subduction initiation, mantle plumes have been proposed by many* [secular scientists] *as an adequate mechanism*." *He also states, "The issue of 'subduction initiation' in these publications has to do with how subduction began early in earth history when the mantle presumably was much hotter than it is today and the lithosphere much thinner. That question is drastically different from how subduction takes place today*." Nonetheless, for subduction to occur today, it had to *begin* sometime in the past.

How does subduction begin in the CPT scenario? As previously described, Baumgardner's CPT model now assumes as a starting point, a zone of rock that is about 750° F colder than the surrounding hot mantle. Despite its higher density, this cold, heavy rock lies unperturbed atop the less dense mantle until at some point and triggered by an unknown cause, the cold rock begins slowly sinking. About 1,650 years after Creation, it suddenly and rapidly plunges, triggering a cataclysmic, runaway subduction event and the ensuing global flood.

Not explained is why the zone of cold rock did not begin to sink immediately after its creation. Picture a marble "floating" (not sinking) in a glass of water.) Further, the cold, dense rock would have warmed over the centuries as it absorbed heat from the surrounding hot rock, becoming less dense and thus more stable over time. So why does this rock suddenly and catastrophically dive down at a much later time, when it was more stable than when first created?

Continuing Subduction

Once you somehow are able to initiate subduction, you must explain how the plates continue to move. The mechanism has been debated over the years. By analyzing the forces involved, Dr. Brown demonstrates why subduction cannot occur by either pushing or pulling forces.[20]

Despite, the physics, ICR's geologist, Dr. Tim Clarey, asserts that seismic tomography proves unequivocally that subduction *does* occur. This would be true if there were only one way of interpreting the seismic data. But there almost always is more than one way of looking at data, and this is certainly true in this case. Brown offers an alternate interpretation.[21]

The Heat Problem

Other technical problems that arise from the CPT scenario include the vast heat produced by rapid plate movements and the millions of years it would take to cool afterwards. Baumgardner acknowledged this "heat problem" in his very first paper on CPT, published 30 years ago.[22] At that time, he concluded that God must have miraculously intervened to remove the waste heat. He stated to me that nothing has changed relative to this issue since then.

Relying on Computer Models

Many people are unaware that computer simulations are highly simplified approximations and will yield a variety of results depending upon the way you structure the computer program, data you choose to use, the data you choose to ignore, the assumptions you make, and the importance you assign to the model parameters. "*Run* Terra *one way, and you can watch Noah's flood take place before your eyes, mathematically calculated by a supercomputer. Run* Terra *another way, and you get the standard geological story of 4.6 billion years. The results obtained from the code are – as Baumgardner readily points out – dependent on the numbers fed into it*

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[20] Brown, Walter, "In the Beginning: Compelling Evidence for Creation and the Flood – Does Subduction Really Occur?" http://www.creationscience.com/onlinebook/TechnicalNotes22.html.
[21] Brown, op. cit., "Is this a Subducting Plate?" http://www.creationscience.com/onlinebook/Trenches5.html
[22] Baumgardner, J. R., "Numerical Simulation of the Large-Scale Tectonic Changes Accompanying the Flood," *Proceedings of the First International Conference on Creationism, Vol. 2,* Creation Science Fellowship, Pittsburgh, PA, 1986.

in the first place."[23] Or, in the words of one University of Wisconsin professor of industrial engineering, "*All* [computer] *models are bad.* Some *are useful*."

The key starting condition for Baumgardner's most recent analysis is a zone of cold rock encased in the surrounding hot mantle, which as we have seen, he derived through many trial and error cycles.[24] However, the analysis included other important assumptions that must be closely evaluated as well. Below are some questions about this paper that I posed to Dr. Baumgardner for which I have not yet received a reply:

- You appear to set aside sediments that are problematic for CPT by stating they were pre-flood. However, creationists have long maintained that continental sediments are the result of the global flood catastrophe, not millions and billions of years of erosion. And this introduces other problems – for example, how do creationists now address the long time period requirements for laying down these sediments under non-catastrophic processes?
- You state, "*In terms of erosional processes, we restrict our scope to the mechanism of cavitation, again for simplicity. We assume that contributions from other processes were small by comparison*." What "other processes" did you choose to ignore and how do you defend ignoring them? How do you know their contributions were small? As you know, the HPT also accounts for the aggressive assault of supercritical water (SCW) below the crust. The presence of underground SCW is well documented. What is your explanation for SCW, and how does it play into the CPT scenario?
- You state, "*In this model we neglect carbonates which in the actual rock record represent on the order of 30% of the total sediment volume*." What is your rationale for excluding a significant (30%!) of the volume of sediments? Why did you do so?
- *"The depth of the ocean basins today—and presumably also during the Flood—is about 4 km (2.5 mi)."* How do you know this is a valid assumption?
- Intuitively, it seems that under the scenario you describe, the continental edges should comprise a deep rim of heavy, larger sedimentary particles, with increasingly shallower layers of finer and finer sediments as one proceeds further inland. Even in turbulent flow, large heavy particle will settle out faster. Is this what we observe? What observational evidence can you cite in support of this scenario?
- What predictions can/have you made based uniquely upon CPT that have been validated by subsequent discoveries?

Baumgardner's CPT model is an example of starting with a desired end result (here, runaway subduction) and working backwards to determine the starting conditions and assumptions needed to produce it. This approach can be meaningful when the starting conditions and scenarios so derived can be validated by other means. This validation process is *especially* critical for results from computer simulations, which by their nature are simplified approximations. In this case, there is no way to validate the reasonableness of Baumgardner's initial conditions and assumptions since the computer model proposes to simulate an event that occurred in antiquity.

Answering the Critics

With respect to subduction, Baumgardner states, "*My own modeling and the papers I have published show, in my opinion convincingly, what drives plate motion and subduction. The science is there for anyone who cares*

[23] Burr, Chandler, *op. cit*.
[24] Baumgardner, J., "Numerical Modeling of the Large-Scale Erosion, Sediment Transport, and Deposition Processes of the Genesis Flood," *op. cit.*

to look into the matter." He also pointed to his published defense of CPT, a result of a panel review of various flood theories conducted between 2009 and 2011.[25]

Baumgardner addresses some of CPT's other technical problems by invoking what one creationist has referred to as "miracles of convenience."[26] Baumgardner writes, "*Finally, it seems evident that the Flood catastrophe cannot be understood or modeled in terms of time-invariant laws of nature. Intervention by God in the natural order during and after the catastrophe appears to be a logical necessity. Manifestations of the intervention appear to include an enhanced rate of nuclear decay during the event and a loss of thermal energy afterward*."[27]

Baumgardner states that CPT advocates acknowledge the validity of "miracles of convenience" criticism. However, he believes that relying on extra-biblical miracles to solve CPT's scientific problems is justified because "*both the physics and the observational support for CPT appear to cohere so well…*" Baumgardner cites 2 Peter 3:3-6 as support, stating, "*We understand this passage to indicate that scoffers in the last days, in rejecting the proposition that Jesus will return, will use the excuse that 'all continues just as it was from the beginning of creation.' CPT advocates interpret this excuse as an assertion of the idea of the uniformity of natural law and hence the absence of any miracles in the past history of the world….They note that Peter uses three prominent examples of God's miraculous intervention in the normal course of nature. The three examples are Creation and the Flood in the past and a renovation of the heavens and the earth by fire in the future.*" Baumgardner argues that anyone claiming that it is possible to understand the flood cataclysm without any intervention by God is "likely wrong" in light of this 2 Peter passage.

However, while this passage does not prove that God did *not* use miracles during the flood, neither does it state, much less imply or prove, that He *did*. In context, the passage is a warning to scoffers who mock the truth that Jesus *will* come again, and that He *will* judge the world.

Certainly God *has* performed miracles in the past – the Scriptures record them. However, creating ad hoc, extra-biblical miracles in order to solve scientific problems is not science. It is relying on what *Real Science Radio* co-host Bob Enyart refers to as "rescue devices."[28]

What does the Bible Say?

ICR Founder Henry Morris wrote, "*The Bible specifically attributes the Flood to the bursting of the fountains of the great deep and the pouring down of torrential rains from heaven. These two phenomena are sufficient in themselves ….to explain the Flood and all its effects without the necessity of resorting either to supernatural creative miracles or to providentially ordered extraterrestrial interferences of speculative nature. The breaking up (literally 'cleaving open') of the fountains of the great deep is mentioned first and so evidently was the initial action which triggered the rest. These conduits somehow all developed uncontrollable fractures on the same day. For such a remarkable worldwide phenomenon, there must have been a worldwide cause. The most likely cause would seem to have been a rapid buildup and surge of intense pressure throughout the underground system, and this in turn would presumably require a rapid rise in temperature throughout the system*."[29]

Somewhat ironically, this quote is a very good description of the HPT, which we examined in Part 2.

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[25] *The Flood Science Review*. In Jesus' Name Productions, 2011.
[26] *The Flood Science Review*. In Jesus' Name Productions, 2011, 1606. "'Miracles-of-convenience' are herein defined as exceptions to physical laws which are required to justify unworkable model parameters."
[27] Baumgardner, John R, "Numerical Simulation of the Large-Scale Tectonic Changes Accompanying the Flood," *op. cit.*
[28] *The Global Flood and the Hydroplate Theory*. Produced by Real Science R (rsr.org), 2014. DVD/Blue-Ray.
[29] Morris, Henry M. *The Genesis Record*, San Diego, California: Creation-Life Publishers, 1976, 196.

In the fourth and final part of this series, we will explore issues that have hindered creationists' progress in flood research.