

## **Part I**

### **Why Post-Flood Catastrophism?**

Young-earth creationists believe in a global Flood, just like the Bible states in Genesis 6 to 9 and elsewhere. There is abundant evidence for the Flood. But yet the earth sciences are very complicated with much that is still unknown. As a result, creationists with different backgrounds and knowledge have come to different conclusions about some of the details of the Flood. One of those details is the location of the Flood/post-Flood boundary and the amount of post-Flood catastrophism. The upper Flood boundary is a key component for a Flood model and it is important that we resolve this issue.

## Chapter 1

### What Is Post-Flood Catastrophism?

If you have followed the creation/evolution issue for even a short time, especially if you have examined Flood geology<sup>1</sup>, you are probably familiar with the theory of post-Flood catastrophism (the ideas of catastrophism and secular idea of uniformitarianism are further developed in the in-depth section at the end of the chapter). It hypothesizes that for several hundred years after the Flood there were continental and regional catastrophes caused by instabilities in the Earth's crust and upper mantle. We do not see catastrophes of this scope happening today and there are no written records of any catastrophe this extensive taking place in the past. (Of course there are records of a global flood in hundreds of cultures. This, parenthetically, provides further anthropological evidence for the Genesis Flood.<sup>2</sup>) So an era of extreme post-Flood catastrophism must be relegated to the first several hundred years after the Flood, before there were written records, if it occurred at all.



*Figure 1.1. Creation science possesses the big picture of the Flood, as represented by the outside edges of a puzzle.*

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<sup>1</sup> I will use the term Flood geology or Flood geologists to designate those creationists who are actively working on some aspect of the geology of biblical earth history. I think this term is more understandable to the layman since it has been in use for awhile. Other terms could be used such as creation geology or creationist earth science.

<sup>2</sup> Conolly, R. and Grigg, R., 2000. Flood! *Creation* 23(1):26–30.

Flood geologists all agree, there would have been instabilities in the earth leading to catastrophes after the Flood but they disagree on the extent and severity of the catastrophes. No one disputes minor catastrophes, such as volcanic eruptions, large earthquakes, landslides, hurricanes, and tsunamis, took place after the Flood. But if they were much larger than they are today, then how much larger were they? Were they too large to fit after the Flood? Since we are not able use observations, the viability of post-Flood catastrophism depends upon the placement of the Flood/post-Flood boundary. This would determine how much of the rock record is Flood or post-Flood. This book is written to give reasoned evidence of its most likely placement.



Figure 1.2. Creation scientists sometimes put together the details of the Flood, represented by the inside pieces of the puzzle.

### **The Flood/Post-Flood Boundary**

The Flood/Post-Flood boundary is where we can place a line saying the rocks below this line were deposited during the Flood and those above were deposited afterwards, as Carl Froede recently wrote for a particular spot in Georgia in the *Creation Research Society Quarterly*.<sup>3</sup> The deposits above the line would be laid down by either normal processes we see today or by a period of massive post-Flood catastrophism that lasted

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<sup>3</sup> Froede, Jr., C.R., 2011. Documenting the sedimentary and stratigraphic transition between the Middle/Upper Flood Event divisions and the Lower/Middle Ice Age divisions in and surrounding Providence Canyon State Park, Steward County, Georgia U.S.A.). *Creation Research Society Quarterly* 48(1):14-19.

several hundred years following the Flood, if post-Flood catastrophism were true. Below the line, the geological events inferred from the deposits would have been caused during Flood catastrophism, probably late in the Flood. So, the issue boils down to what geologic activity happened *late* in the Flood and what *after* the Flood, and what criteria can we use to make this determination?



*Figure 1.3. Sometimes we place details in the wrong location, represented by the fish placed in the wrong spot and upside down.*

### **The Nature of Flood Geology**

Flood geology has only a few dozen researchers. Because the earth sciences are so complicated, there are many ideas and controversies on the details of the Flood. Some of us are trying to advance biblical earth history, especially the Genesis Flood, by attempting to develop a sophisticated Flood model—one that can explain most of the geological and geophysical data while staying true to Scripture. We all have different education and expertise and as a result see issues differently, which is one reason why we have a difference of opinion on the amount of catastrophism that occurred after the Flood. It seems like the proverbial six blind men analyzing the elephant and coming to different conclusions on what kind of animal is the elephant.

Putting together a respectable Flood model is similar to solving any other problem of history using the science of the present. We use the forensic method, similar to a lawyer or detective gathering clues in the present, to solve questions about the past. Some creationists work toward an overarching mechanism of the Flood. Others are working on

particular geological aspects of the Flood, like the formation of “evaporites” during the Flood, how coal is formed, and enumerable other aspects of geology and paleontology. Some work on immediate post-Flood effects, like the Ice Age.<sup>4</sup>



*Figure 1.4. With time, hopefully details originally placed wrong will be put in their proper place in the Flood model, as represented by the puzzle at a future time.*

### **The Status of a Sophisticated Flood Model**

Developing a sophisticated Flood model is similar to putting the pieces of a puzzle together. Young earth creationists have the broad outline of the events in earth history,<sup>5,6,7</sup> as briefly discussed in the next section. In other words we have the border of the puzzle in place (Figure 1.1). We are just beginning to fill it in with the details of the Flood. But this has been and will continue to be a slow process of trial and error. Sometimes we accurately put several puzzle pieces together (Figure 1.2), but other times we put them in the wrong spot (Figure 1.3) and need to reevaluate it or hope we will

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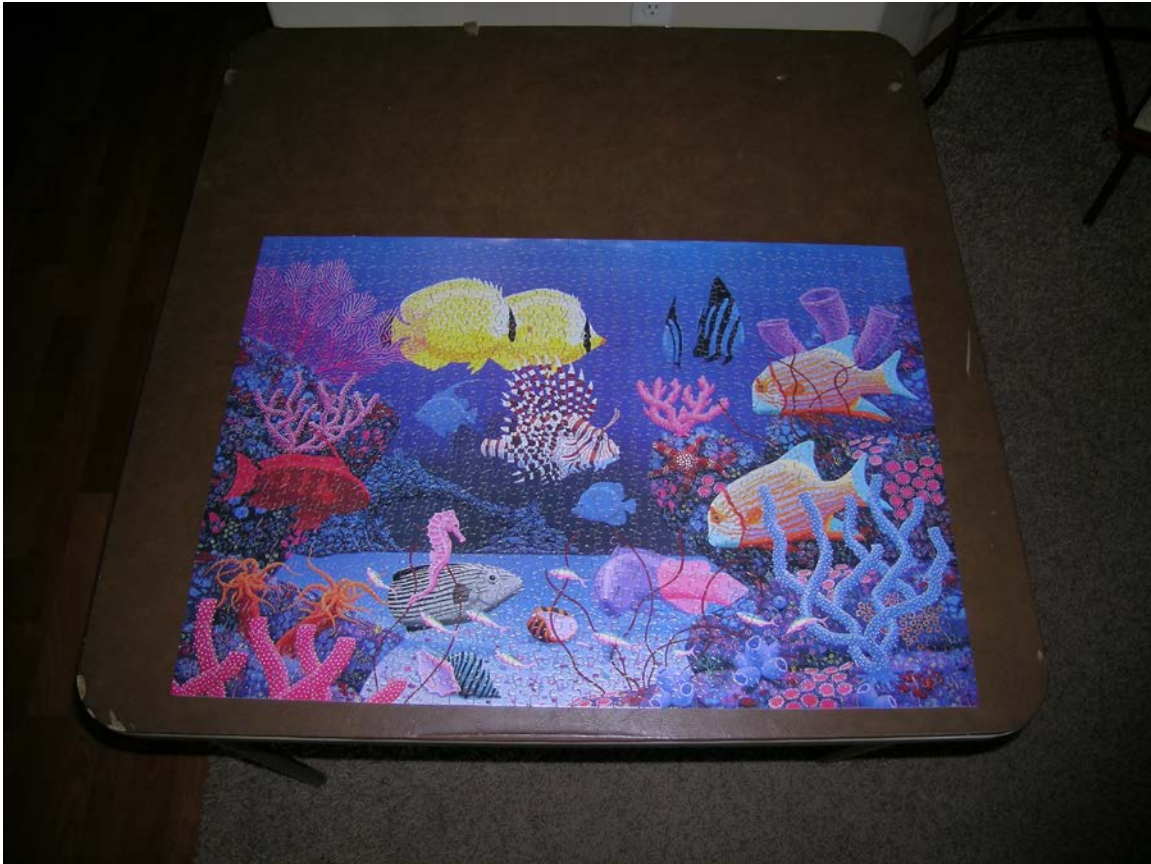
<sup>4</sup> Oard, M.J., 2004. *Frozen In Time: The Woolly Mammoth, the Ice Age, and the Biblical Key to Their Secrets*, Master Books, Green Forest, AR.

<sup>5</sup> Snelling, A.A., 2007. Geological evidences for the Genesis Flood: part 1 an overview. *Answers* 2(4):81–83.

<sup>6</sup> Snelling, A.A., 2009. *Earth’s Catastrophic Past: Geology, Creation & the Flood*, volume 1 and 2, Institute for Creation Research, Dallas, TX.

<sup>7</sup> Oard, M.J., 2004. *Flood by Design: Receding Water Shapes the Earth’s Surface*, Master Books, Green Forest, AR.

solve it at a future time (Figure 1.4). Hopefully time and work will complete the puzzle (Figure 1.5). It is my goal that this book helps move us toward completing some of the puzzle and be a step toward developing a comprehensive Flood model.



*Figure 1.5. The completed puzzle represents a time in the distant future when a sophisticated Flood model has been developed.*

I have been working on developing a Flood model, off and on, for about 25 years. I have found inductive reasoning<sup>8</sup> useful toward this end. The process includes taking one small step at a time and making sure each step is accurate before moving on. That is why I have worked on other aspects of Flood geology with the ultimate goal in mind of developing a sophisticated Flood model. I have found it helpful to work backwards chronologically within biblical earth history beginning with the Ice Age started by the Genesis Flood<sup>9,10</sup> This provided important clues to the previous event, the late runoff of the Flood which led to studying geomorphology, the study of the surface of the earth,<sup>7</sup> I realized that this subfield of geology is a gold mine for Flood geology. Geomorphology provided more clues to the early Flood, which led to a better understanding of a Flood

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<sup>8</sup> Inductive reasoning is the type of reasoning that starts with particular facts or individual cases to a general conclusion, as opposed to deductive reasoning that is the reversed.

<sup>9</sup> Oard, M.J., 1990. *An Ice Age Caused by the Genesis Flood*, Institute for Creation Research, Dallas, TX.

<sup>10</sup> Oard, M.J., 2004. *Frozen In Time: The Woolly Mammoth, the Ice Age, and the Biblical Key to Their Secrets*, Master Books, Green Forest, AR.

mechanism. It is my hope to pull all of this together with the purpose of developing a preliminary Flood model.

The first major step I have taken is writing a comprehensive, three volume ebook on geomorphology that provides abundant evidence for late Flood runoff.<sup>11</sup> The next step is answering the important question of where the Flood ended and the post-Flood period began. That is the subject of this ebook. I am convinced it will move us closer to developing a comprehensive Flood model. An updated, much expanded book on the Ice Age is planned for the immediate future.



Figure 1.6. The Tapeats Sandstone where the Little Colorado River enters Grand Canyon.

### **The Principle of Multiple Working Hypotheses**

The particular problem investigated in this ebook is determining the amount of post-Flood catastrophism. There are a number of hypotheses about the location of the Flood/post-Flood boundary in the rocks of the Earth. Multiple hypotheses are the way research should precede when much is unknown and new discoveries are reported almost daily.<sup>12</sup> Old results constantly are revised and even shown to be wrong with newer data. It is good to have different ideas when the data are meager, like in earth science. The problem of a lack of data and poor interpretations is especially a problem in the so-called

<sup>11</sup> Oard, M.J., *Earth's Surface Shaped by Genesis Flood Runoff*.  
[www.michael.oards.net/GenesisFloodRunoff.htm](http://www.michael.oards.net/GenesisFloodRunoff.htm).

<sup>12</sup> Chamberlin, T.C., Historical essay—The method of multiple working hypotheses, by T. C. Chamberlin with an introduction by D.C. Raup, *Journal of Geology* 103:349–354, 1994.

historical sciences, such as geology and paleontology. In the culture, the interpretations of the past are dominated by one point of view that does not allow different points of view. This culture interpretation is dominated by the principles of the Enlightenment with their dogmas of naturalism (nature is all that exists; there is no supernatural) and uniformitarianism. Keeping this in mind we are in a healthy state in Flood geology with multiple ideas, but we must proceed carefully, making sure each step is accurate or reasonable. Because of the lack of data, we must be careful not to jump to conclusions too fast. We must wait for future research and in some cases we will not have enough data to have an answer to a certain problem.



*Figure 1.7. The Flathead Sandstone upon granite of the upper continental crust in the Shoshone water gap, just west of Cody, Wyoming.*

However, it is not so good if one idea dominates in the face of so many unknowns and without much evidence. The geologist, T. C. Chamberlin wrote on the principle of multiple working hypotheses over a century ago. He describes the man who strongly advocates his idea, called the “ruling hypothesis,” as being married to his model. Ruling hypotheses retard advancement because practitioners usually force fit all observations into the model, whether they fit or not, and do not let the observations speak for themselves. Ruling hypotheses also have the effect of causing many other scientists to think that the ruling model explains all, when it does not. Those that follow the ruling



hypothesis usually are guilty of the reinforcement syndrome,<sup>13,14</sup> the tendency to reinforce concepts within a ruling hypothesis.

The purpose of this book is to reduce the number of hypotheses on the location of the Flood/post-Flood boundary down to one with abundant evidence. But other creation scientists will have to be the judge of whether I have succeeded or not.



Figure 1.8. Worm burrows in the green Bright Angel Shale above the Tapeats Sandstone in Grand Canyon.

### **The Big Picture Supports the Genesis Flood**

Some Christian geologists think there is no evidence for the global Genesis Flood—that we do not even have one piece of the puzzle edge. For instance, Dr. Davis Young, retired professor of geology at Calvin College stated: “...there is no geological evidence to confirm the idea of a universal deluge.”<sup>15</sup> Dr. Young has deeply imbibed secular geology which was developed as a result of the Enlightenment. Secular geology arbitrarily rejected the Flood without evidence and attempted to elevate human reason as the sole arbitrator of knowledge of the past (see in-depth section at the end of the

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<sup>13</sup> Oard, M.J., 1997. *Ancient Ice Ages or Gigantic Submarine Landslides?* Creation Research Society Books, Chino Valley, AZ, pp. 9–17.

<sup>14</sup> Oard, M.J., 2013. The reinforcement syndrome ubiquitous in the earth sciences. *Journal of Creation* 27(3):13–16.

<sup>15</sup> Young, D.A., *The Biblical Flood: A Case Study of the Church’s Response to Extrabiblical Evidence*, William b. Eerdmans Publishing Company, Grand Rapids, MI, p. ix, 1995.

chapter). Young appears to have read very few young-earth creationists materials and to have only superficially read the articles or books that he sites as references.<sup>16</sup>

But let it be known that there is abundant evidence for the global Genesis Flood in the key fields of geology and paleontology. This is big picture support for the global Flood; we really do have the edges of the puzzle (Figure 1.1). The different models of the Flood involve the placement of the inside puzzle pieces.



*Figure 1.9. Worm burrows in the green shale above the Flathead Sandstone in the Dearborn Canyon along the Rocky Mountain Front west of Great Falls, Montana.*

### **Some Sedimentary Layers cover Huge Areas**

Sedimentary rocks and their fossils are key pieces of data that have been used to determine whether there was a global flood or whether the rocks were laid down slowly over millions of years. When the features of sedimentary rocks are closely examined we discover that the big picture points to the Genesis Flood.

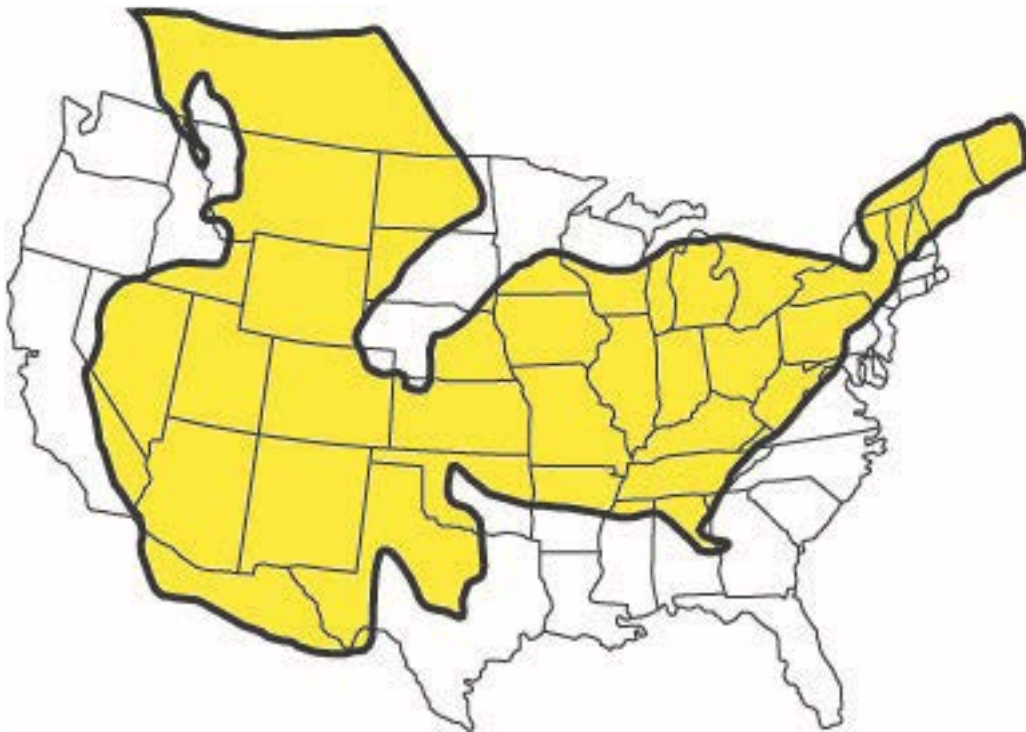
Sedimentary layers can be traced over large portions of a continent, just as expected in the Genesis Flood, but this is contrary to slow processes of erosion, transport, and deposition expected in the secular geology model. For instance, the Tapeats Sandstone (Figure 1.6), the bottom horizontal layer in the Grand Canyon often rests on igneous and

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<sup>16</sup> Oard, M.J., Poor scholarship and self deception: a review of *The Bible, Rocks and Time: Geological Evidence for the Age of the Earth* by Davis A. young and Ralph F. Stearley, *Journal of Creation* 23(2):47–52, 2009.

metamorphic rocks. It consists of coarse sandstone with quartz pebbles and is around 100 to 200 feet (30 to 60 m) thick. The same sandstone can be traced to at least Wyoming and Montana but is called the Flathead Sandstone.<sup>17</sup> It too lies above igneous and metamorphic rocks (Figure 1.7). There is a green shale with worm burrows above the Tapeats and Flathead Sandstones, respectively (Figures 1.8 and 1.9), followed upward by carbonates. According to Dr. Andrew Snelling, the Tapeats Sandstone can be followed mostly in the subsurface north into northeast Canada and east to the Valley and Ridge Province of the Appalachian Mountains (Figure 1.10).<sup>18</sup>

The long distance deposition of sandstone layers are a predicted outcome for a global Flood and contrary to the idea of slow processes of erosion, like in a local flood, and deposition in a flood plain or river delta.



*Figure 1.10. Map showing the distribution of the Tapeats sandstone and its equivalents across the United States and southern Canada (courtesy of Andrew Snelling).*

### **Little or No Erosion between and within Sedimentary Layers**

Within a vertical section of sedimentary rocks, there is little or no evidence of erosion between and within the layers, although secular geologists date the sequences over millions and sometimes hundreds of millions of years. The horizontal layers in the Grand Canyon supposedly represent 300 million years of deposition with little or no sign of erosion between or within the layers. Where is the evidence of the erosion that should have taken place over the hundreds of millions of years? Instead these layers provide evidence of rapid deposition, one upon another.

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<sup>17</sup> It is common practice to give a different name to the same formation when the formation crosses state lines.

<sup>18</sup> Snelling, Ref. 6, p. 1,082.

In the southern and northern Grand Teton Mountains of northwest Wyoming, the same sedimentary layers as the bottom 2/3rds of the Grand Canyon were faulted and uplifted as the mountains rose. Higher level strata likely was eroded. The lack of erosion between the layers seen in the Teton Mountains was admitted by three secular geologists when viewing these sedimentary rocks:

The regularity and parallelism of the layers in well-exposed sections suggest that all these rocks were deposited in a single uninterrupted sequence.<sup>19</sup> However, these geologists do not accept this because of the dates of the fossils. Instead they say the layers have been deposited over two hundred million years with major gaps in sedimentation of as much as 80 million years with no explanation as to how this could have happened. A predetermined fossil sequence and a greatly exaggerated time scale developed during the Enlightenment guided their conclusion. This is despite the fact that erosion is so fast that all of North America can be flattened by present processes to sea level in 10 to 33 million years.<sup>20,21</sup>

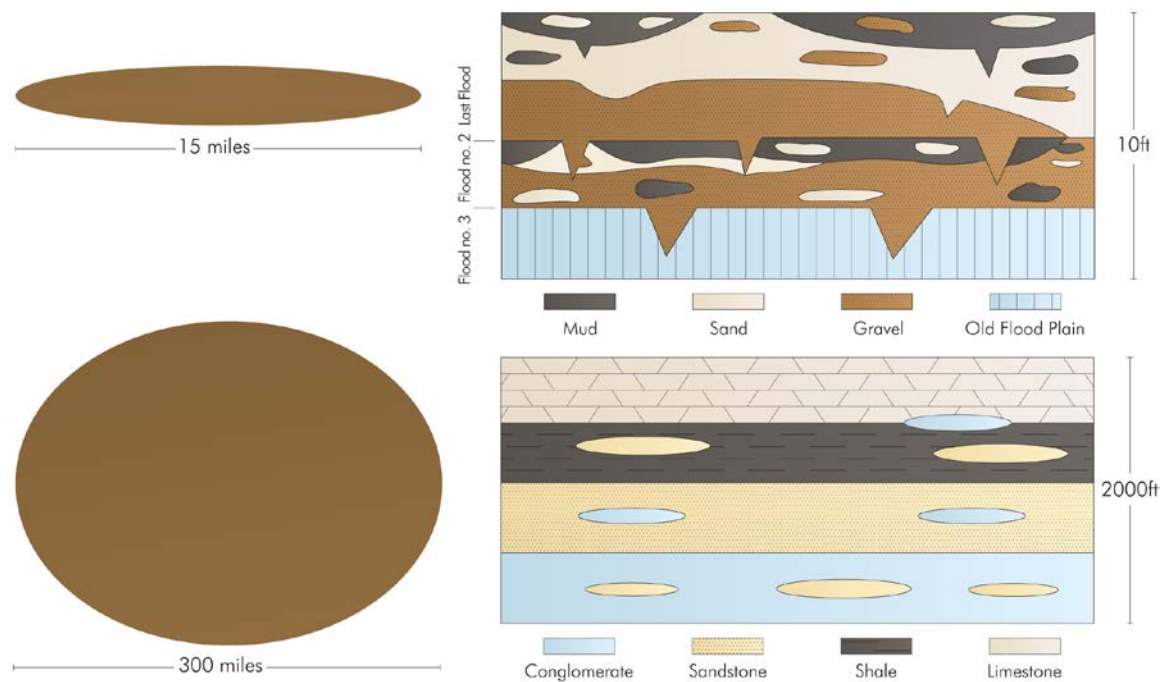


Figure 1.11. Schematic contrasting the scale and character of uniformitarian sedimentation in local floods (top) with that of the Genesis Flood (bottom). The left side is an aerial view, while the right side is a vertical cross section. Note the much larger aerial and vertical scale of flood deposition with little or no erosion at the contacts between types of sedimentary rock.

<sup>19</sup> Love, J.D., R.C. Reed, Jr., and K.L. Pierce, 2007. *Creation of the Teton landscape: A Geological Chronicle of Jackson Hole and the Teton Range*, Grand Teton Association, Moose, WY, p. 42.

<sup>20</sup> Roth, A.A., 1998. *Origins—Linking Science and Scripture*, Review and Herald Publishing, Hagerstown, MD, pp. 263–266.

<sup>21</sup> Schumm, S., 1963. Disparity between present rates of denudation and orogeny. *U. S. Geological Professional Paper 454*, Washington, D.C.

This lack of erosion between and within layers of sedimentary rock is the rule and not the exception across the Earth.<sup>22</sup> The laying down of layers over large areas in quick succession with little or no erosion is expected from the Genesis Flood and contrary to the idea of present processes acting for millions of years. Figure 1.11 contrasts the differences in sedimentation between slow present processes versus those of the Genesis Flood.

### **Fossils Support the Genesis Flood**

To add icing to the cake, these sedimentary layers have many billions of fossils, the remains of organisms that were buried during Noah's Flood. They do not show a steady progression of change from simple organisms to complex. Modern biology and paleontology have shown that every organism is complex, and that there are universal gaps in the fossil record. Once again, this is predicted by the Flood model and contrary to evolution.<sup>23</sup>

Most importantly, the fossils show rapid burial not millions of years of burial and fossilization. The very existence of such a huge number of fossils is evidence for quick burial and fossilization because fossilization is a very rare event today. At the present time, ground water is lacking in fossilizing chemicals. So how are present processes going to account for all the fossils?

Often, these fossils are found packed together in huge graveyards, once again indicative of a great catastrophe.

Marine invertebrates, most of which are mollusks, make up 95% of the fossils.<sup>24</sup> When a mollusk like a clam dies today, the muscles weaken and the shell opens in a matter of hours to days to weeks. The fact that worldwide, a large proportion of fossil mollusks are closed shells (Figure 1.12) indicates rapid global deposition—exactly what we would expect to happen during the Genesis Flood. This is far different from what slow processes over millions of years would accomplish.

### **Plan of the book**

It is the plan of this book to analyze post-Flood catastrophism and the location of the Flood/post-Flood boundary. I will make a case for the boundary being in the late Cenozoic, often in the very late Cenozoic. I will use dozens of distinguishing criteria and examples, to substantiate my belief there was no major post-Flood catastrophism except for the Ice Age. For the sake of discussion I will assume the order of the geological column (see Chapter 3 for an overview of the geological column). Since any scholarly work also needs to examine other hypotheses and appraise their merits and problems in hopefully an objective way as possible, I will attempt to do so as well.

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### **Catastrophism Versus Uniformitarianism (in-depth)**

The term *catastrophism* implies out-of-the-ordinary geological events. It invokes rapid action on a large scale. In the past 500 years or so, the term has generally been

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<sup>22</sup> Roth, A.A., 1988. Those gaps in the sedimentary layers. *Origins* 15:75–92.

<sup>23</sup> Gish, D.T., 1995. *Evolution: The Fossils Still Say No!* Institute for Creation Research, Dallas, TX.

<sup>24</sup> Morris, J.D. and Sherwin, F.J., 2010. *The Fossil Record: Understanding Nature's History of Life*, Institute for Creation Research, Dallas, TX, p. 41.

synonymous for the Genesis Flood. Catastrophism was the view believed by scholars for hundreds of years before the rise of the Enlightenment. The Enlightenment gave birth to the principle of uniformitarianism in the late 1700s and early 1800s.<sup>25,26</sup> Uniformitarianism is the belief that present or *uniform* processes over hundreds of millions of years have produced all the sedimentary rocks of the Earth. It simply means *the present is the key to the past*. Uniformitarianism was formalized by the writings of James Hutton<sup>27</sup> and Charles Lyell,<sup>28,29,30</sup> but was actually applied in geology in the mid to late 1700s well before the principle was formalized.<sup>31,32</sup>



Figure 1.12. Various closed-shelled mollusks (courtesy of Dennis Bokovoy).

<sup>25</sup> Reed, J. K. 2010. Untangling uniformitarianism. *Answers Research Journal* 3:37–59.

<sup>26</sup> Reed, J.K., 2011. Untangling uniformitarianism, level II: actualism in crisis. *Answers Research Journal* 4:203–215.

<sup>27</sup> Hutton, J., 1795. *Theory of the Earth; or an Investigation of the Laws Observable in the Composition, Dissolution, and Restoration of Land upon the Globe*, reprinted by Kessinger Publishing.

<sup>28</sup> Lyell, C., 1830. *Principles of Geology*, volume I, first edition, Reprinted by the University of Chicago Press, Chicago, IL

<sup>29</sup> Lyell, C., 1832. *Principles of Geology*, volume II, first edition, Reprinted by the University of Chicago Press, Chicago, IL

<sup>30</sup> Lyell, C., 1833. *Principles of Geology*, volume III, first edition, Reprinted by the University of Chicago Press, Chicago, IL

<sup>31</sup> Rudwick, M.J.S. 2005. *Bursting the Limits of Time: the Reconstruction of Geohistory in the Age of Revolution*. The University of Chicago Press, Chicago, IL.

<sup>32</sup> Rudwick, M.J.S. 2008. *Worlds before Adam: the Reconstruction of Geohistory in the Age of Reform*. The University of Chicago Press, Chicago, IL.

Uniformitarianism<sup>33</sup> quickly became the ruling assumption or paradigm in what are called the historical sciences. The revolution in thought that began with the Enlightenment succeeded not by force of argument but more by subterfuge, as even admitted by evolutionary apostle, the late Steven J. Gould.<sup>34</sup> Lyell stated in a letter written in 1830 to fellow uniformitarian geologist George P. Scrope:

I am sure you may get into Q.R. [*Quarterly Review*] that will free the science [of geology] from Moses, for if treated seriously, the [church] party are quite prepared for it. ... If we don't irritate, which I fear that we may (though mere history), we shall carry all with us (excerpts from Lyell, 1881, I:268-271, brackets added).<sup>35</sup>

In this rather obscure excerpt, Lyell admitted that his *main* purpose for promoting uniformitarianism was the overthrow of the Genesis Flood, as described by Moses in Genesis 6 to 9.

Lyell planned to overthrow the Flood in a subtle way so as not to cause opposition from the Christian Church. The Church in general was in a weakened state from the previous onslaught of old-earth ideas and the nebular hypothesis for the origin of the solar system.<sup>36</sup> Although Lyell succeeded, it does not mean uniformitarianism is true. Like the lawyer he was, instead Lyell won the rhetoric of the day.

Although there was mild resistance to Lyell's uniformitarianism by a number of courageous Scripture geologists,<sup>36</sup> catastrophism died in the minds of intellectuals. It has been considered dead for over 150 years. But because the defeat was *masterminded*<sup>37</sup> and *not* a result of scholarship,<sup>34</sup> many geological observations have accumulated over the years that do *not* fit into the uniformitarian mold. It was not until Whitcomb and Morris pulled some of these together and published *The Genesis Flood*<sup>38</sup> that many Christians started to wake up to the damage brought about by the Enlightenment and seriously reexamine the evidence found in geology and Scripture.

Christians, both scientists and laymen alike, have discovered that a large amount of data in the earth sciences is compatible with catastrophism. Even some secular geologists are recognizing that occasional huge catastrophes happened in earth history, like the Lake

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<sup>33</sup> I am aware that most mainstream scientists consider themselves "actualists" and not uniformitarians. Actualism is similar to uniformitarianism except that the former believe in a few large catastrophes sprinkled throughout earth history, such as meteorite impacts. They also admit that the present is not necessarily the key to the past, but that geology must always believe natural processes operated in the past. I believe this philosophical point of view can be used as an excuse when deductions from the rocks and fossils are contradicted by present processes. But since few people understand the distinction between actualism and uniformitarianism, I will continue using the term "uniformitarianism," especially since this latter doctrine was the philosophical principle used in geology to throw out the Flood.

<sup>34</sup> Gould, S.J. 1987. *Time's Arrow, Time's Cycle: Myth and Metaphor in the Discovery of Geological Time*. Harvard, University Press, Cambridge, MA.

<sup>35</sup> Mortenson, T., 2006. The historical development of the old-earth geological timescale, In: Reed, J.K. and Oard, M.J. (editors), *The Geological Column: Perspectives within Diluvial Geology*, Creation Research Society Books, Chino Valley, AZ, pp. 17–18.

<sup>36</sup> Mortenson, T., 2004. *The Great Turning Point: "The Church's Catastrophic Mistake in Geology—Before Darwin."* Master Books, Green Forest, AR.

<sup>37</sup> Mortenson, Ref. 35, pp. 16–18.

<sup>38</sup> Whitcomb, Jr., J. C. and Morris, H. M., 1961. *The Genesis Flood*, Baker Book House, Grand Rapids, MI.

Missoula flood<sup>39</sup> and meteorite impacts.<sup>40</sup> Since 1961, geological support for the Flood has steadily gained strength, researchers, and momentum as evidence accumulates for a global Flood. We are essentially modifying and refining the original Flood model presented by Whitcomb and Morris.

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<sup>39</sup> Oard, M.J., 2004. *The Missoula Flood Controversy and the Genesis Flood*. Creation Research Society Monograph No. 13, Chino Valley, AZ.

<sup>40</sup> Oard, M.J., 2012. An impact Flood submodel—dealing with issues. *Journal of Creation* 26(2):73–81.