

## Chapter 3

# Resuscitating Geomorphology with the Genesis Flood

Almost every scientist today would either laugh or scoff at the idea of inserting the Genesis Flood into a modern scientific discipline. For over two centuries, the idea of such a synthesis has been roundly rejected. The only mention of the Flood in textbooks was the obligatory sneer at “ancient superstitions.”

But why? What specifically is wrong with proposing an alternate hypothesis in a discipline that most objective observers would say has failed to explain the objects of its study? The problem is that the reaction is not intellectual, it is visceral—a result of centuries of indoctrination into an anti-Christian perspective.

The single most important thing to understand is that the contrast between the two positions is not between “science and religion” as was claimed by the apologists for the Enlightenment for many years, but is between competing worldviews. That argument exists on a level quite different than geomorphology. Sticking to geomorphology, let us simply say that I propose that a global scale flood several millennia ago is responsible for most landforms. If the subject evokes a visceral reaction, then think of it as a generic flood rather than the one described in Genesis. As long as the evaluation remains focused on landforms, then the religious controversy can be set aside for religious discussions, but I will refer to that global flood as the Genesis Flood or simply the Flood.

I am convinced that such a flood, specifically the movement of the waters off the continents during the latter half of the Flood, can provide reasonable answers to the mysteries of geomorphology. How can such a flood be reconciled to geomorphology, or to geology and paleontology for that matter? In part, the answer to that question revolves around the geological timescale.<sup>1</sup> Secular geologists and some Christians accept both the relative ordering of the geological ages and the billions of years of time that go with them. There is a range of opinion within the community of creation earth scientists. Some believe that the geological column, absent the 4.6-billion year time scale, is an adequate description of earth history from the Creation to after the Flood.<sup>2</sup> Other scientists argue that since the geological column is based on the paradigms of uniformitarianism and deep time that it cannot serve as a global template for the past.<sup>3</sup> The relationship of the column to the Flood remains an unsettled point of contention among creationists.<sup>4</sup>

In local areas, geologists can see orderly arrangements of rocks and fossils, indicating order in their deposition. It is likely that such order could exist on a large scale—regional to nearly continental. However, order in the rocks does not necessarily reflect age, and the

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<sup>1</sup> See the in-depth section at the end of chapter 5 for a fuller description of the geological column.

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

<sup>3</sup> Reed, J.K. *Rocks aren't Clocks* (in press).

<sup>4</sup> Reed, J.K. and M.J. Oard (editors), 2006. *The Geological Column: Perspectives within Diluvial Geology*, Creation Research Society Books, Chino Valley, AZ.

same order (based on time) must be true *everywhere* on Earth for the column to be true in the sense that it is used by geologists. These ordered arrangements of rocks and fossils are very incomplete relative to the geological column, even in the rare areas where most of the subdivisions are present.<sup>5</sup> For this reason, the global column requires pieces to be “assembled” from many different places. The “complete” column is therefore an intellectual construct, not something observed in nature. No geologist can demonstrate the physical reality of the entire column.

Local examples are always consistent with the column, but that is because the column was the original template by which the rocks were originally ordered. Sometimes, the actual order of rocks and fossils does not match the proposed column, but these exceptions are always explained by subsidiary theories. I view the geological column as a general sequence in relation to the eras, such as going upward, the Precambrian, Paleozoic, Mesozoic, and Cenozoic, but there are many problems with finer divisions.<sup>6,7,8</sup>

I have a better way to view the Flood in relation to geology, fossils, and geomorphology. It is to see the investigation of the past as history and to go to the most reliable historical document in the world—the Bible. This bypasses the arguments about the geological column too. The method is to identify the key events of the Flood from the historical narrative, and to infer geological and geomorphological processes and their relative timing. This allows us to directly examine the data from the *actual mechanism of formation*—the Genesis Flood.

Dr. Tas Walker from Creation Ministries International of Australia, has developed a table of events for the Flood which is based on Scripture,<sup>9</sup> and is similar to the general model of the Flood developed by John Whitcomb and Henry Morris in *The Genesis Flood*.<sup>10</sup> Carl Froede<sup>11</sup> also developed a classification system for the Flood that is similar to Walker’s classification. These authors view the rocks and fossils from the point of view of the creation and Flood and not from evolution, uniformitarian, deep time assumptions. The data of geology is generally the same, it is the worldview that is different (Figure 3.1). For simplicity, I will use Walker’s scheme in the following discussions.

### **The Biblical Geological Model**

Walker’s classification includes criteria for defining his stages and phases (Figure 3.2). For instance, dinosaur eggs and tracks made by live dinosaurs in Flood sediments

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<sup>5</sup> Woodmorappe, J., 1999. *The Mythology of Modern Dating Methods: Why million/billion-year results are not credible*, Institute for Creation Research, Dallas, TX.

<sup>6</sup> Oard, M.J., 2006. The geological column is a general Flood order with many exceptions. In, Reed, J.K. and M.J. Oard (editors), *The Geological Column: Perspectives within Diluvial Geology*, Creation Research Society Books, Chino Valley, AZ, pp. 99–121.

<sup>7</sup> Oard, M.J., 2010. Is the geological column a global sequence? *Journal of Creation* 24(1):56–64.

<sup>8</sup> Oard, M.J., 2010. The geological column is a general Flood order with many exceptions. *Journal of Creation* 24(2):78–82.

<sup>9</sup> Walker, T., 1994. A Biblical geological model. In, Walsh, R.E. (editor), *Proceedings of the Third International Conference on Creationism*, technical symposium sessions, Creation Science Fellowship, Pittsburgh, PA, pp. 581–592.

<sup>10</sup> Whitcomb, Jr., J.C. and H.M. Morris, 1961. *The Genesis Flood*, Baker Book House, Grand Rapids, MI.

<sup>11</sup> Froede Jr., C.R., 1995. A proposal for a creationist geological timescale. *Creation Research Society Quarterly* 32:90–94.

would indicate that we are looking at sediments deposited during the first half of the Flood, called the *Inundatory Stage*. This is based on the biblical narrative's noting that all air-breathing land animals were dead before the Floodwater had covered all the land by Day 150.<sup>12,13</sup>



Figure 3.1. Interpretations of the data depend upon a person's worldview (courtesy of CMI).

Genesis 6-9 describes a global Flood that lasted 371 days. A flood is an event in which water rises above its normal levels and then retreats back to those levels. This would be true on any scale. Therefore, in the biblical Flood, we would expect a *Flooding Stage*, which corresponds to Walker's *Inundatory Stage* or the 21 weeks of *prevailing* in the Whitcomb-Morris model. This stage is logically followed by the *Retreating Stage*, or the *Recessive Stage* in Walker's model, which corresponds with the 31 weeks of *assuaging* in the Whitcomb-Morris model. All of the geomorphology discussed in this book will focus on this second stage of the Flood.

<sup>12</sup> Oard, M.J., 2002. Newly discovered dinosaur megatracksites support Flood model. *Journal of Creation* 16(3):5-7.

<sup>13</sup> Oard, M.J., 2006. It's plain to see: flat land surfaces are strong evidence for the Genesis Flood. *Creation Ex Nihilo* 28(2):34-37.

# THE BIBLICAL GEOLOGIC MODEL

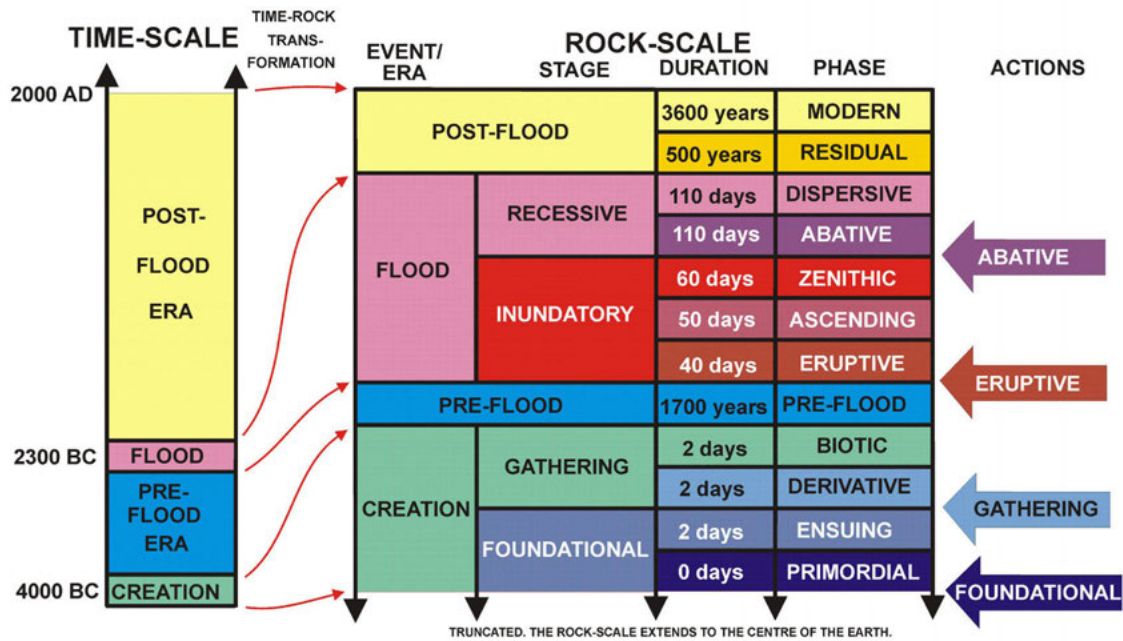


Figure 3.2. Tas Walker's biblical geological model for biblical earth history (courtesy of Tas Walker, <http://biblicalgeology.net/>).

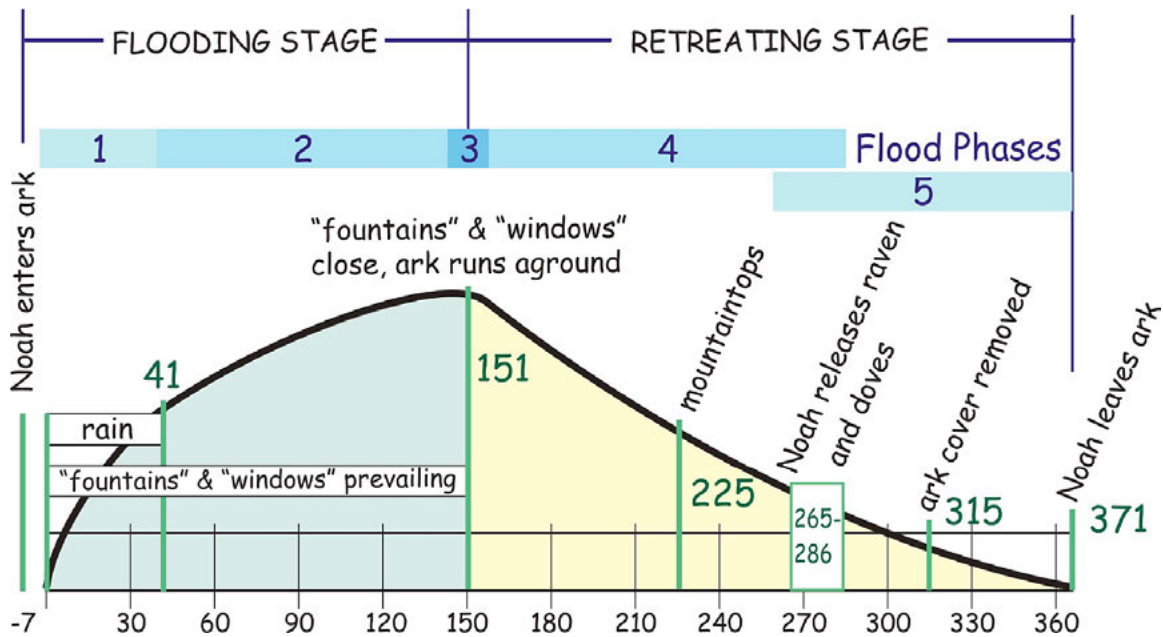


Figure 3.3. Graph of the timing of the Flooding and Retreating Stages with Walker's five phases (drawn by John Reed).

Figure 3.3 presents a graph estimating relative sea level at various stages of the Flood. It notes two stages and five phases, with the water reaching its zenith by Day 150.<sup>14</sup> Some creationists think the Flood peaked in 40 days<sup>15</sup> or possibly between Day 40 and Day 150. In contrast to those who believe the Flood peaked at Day 40, I believe there is compelling Scriptural evidence that the Ark did not float until Day 40 and hence the Flood could not have peaked on Day 40.<sup>16,17</sup>

Furthermore, we learn that the Ark grounded on the “mountains of Ararat” on Day 150. This was after the Bible states in Genesis 7:24 that the water prevailed upon the Earth one hundred and fifty days. It was at the end of 150 days that the mechanisms of the Flood described in Scripture as the “fountains of the great deep” and the “windows of heaven” likely were *shut*:

Also the fountains of the deep and the floodgates of the sky were closed, and the rain from the sky was restrained; and the water receded steadily from the earth, and at the end of one hundred and fifty days the water decreased (Genesis 8:2, 3 NASB).

This historical marker of maximum Flood stage provides the basis for geological inference. It means that there followed 221 days of receding water. This would have initiated a period during which significant erosion, deposition, and the formation of landforms would have occurred.

The plot of relative sea level in Figure 3.3 is only a rough estimate. If we could see a real plot in detail, it would likely show hundreds of oscillations of sea level caused by at least five mechanisms,<sup>18</sup> such as tides, tsunamis, local and distant vertical crustal movements, and the dynamics of fast water currents on shallow submerged areas of large extent.<sup>19</sup> A hypothesis for dinosaur eggs and tracks early in the Flood on briefly exposed diluvial sediments (BEDS) during a relative sea level fall has been developed elsewhere.<sup>18,20,21,22,23</sup>

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<sup>14</sup> Oard, M.J., 2011. *Dinosaur Challenges and Mysteries: How the Genesis Flood Makes Sense of Dinosaur Evidence Including Tracks, Nests, Eggs, and Scavenged Bones*. Creation Book Publishers, Powder Springs, GA, pp. 163–166.

<sup>15</sup> Hunter, M.J., 2000. Scriptural constraints on the variation of water level during the Genesis Flood. *Journal of Creation* 14(2):91–94.

<sup>16</sup> Barrick, W.D. and R. Sigler, 2003. Hebrew and geologic analyses of the chronology and parallelism of the Flood: implications for interpretation for the geologic record. In, Ivey, Jr., R. L. (editor), *The Fifth International Conference on Creationism*, technical symposium sessions, Creation Science Fellowship, Pittsburgh, PA, pp. 397–408.

<sup>17</sup> Barrick, W.D., 2008. Noah’s flood and its geological implications. In, Mortenson, T. and T.H. Ury (editors), *Coming to Grips with Genesis: Biblical Authority and the Age of the Earth*, Master Books, Green Forest, AR, pp. 251–281.

<sup>18</sup> Oard, Ref. 14, pp. 1–176.

<sup>19</sup> Barnette, D.W. and J.R. Baumgardner, 1994. Patterns of ocean circulation over the continents during Noah’s Flood. In, Walsh, R.E. (editor), *Proceedings of The Third International Conference on Creationism*, technical symposium sessions, Creation Science Fellowship, Pittsburgh, PA, pp. 77–86.

<sup>20</sup> Oard, M.J., 1995. Polar dinosaurs and the Genesis Flood. *Creation Research Society Quarterly* 32:47–56.

<sup>21</sup> Oard, M.J., 2002. Newly discovered dinosaur megatracksites support Flood model. *Journal of Creation* 16(3):5–7.

<sup>22</sup> Oard, M. J., 2003. Could dinosaurs make tracks and lay eggs early in the Flood? *Creation Research Society Quarterly* 40(2):119–123.

<sup>23</sup> Oard, M.J., 2009. Dinosaur tracks, eggs, and bonebeds. In, Oard, M.J. and J.K. Reed (editors), *Rock Solid Answers: The Biblical Truth Behind 14 Geological Questions*, Master Books, Green Forest, AR, and Creation Research Society Books, Chino Valley, AZ, pp. 245–258.

Since geomorphology is the study of landforms and the Earth's surface, I will focus on the time during the Flood when rising continents and sinking ocean basins caused the large-scale drainage of water into the oceans. It was during this time that the rapid runoff eroded many of the landforms and created the bathymetry (the depth) and shape of the ocean basins.

### The Two Phases of the Retreating Stage

Walker identifies the second and last stage as the *Recessive Stage* with two phases, the *Abative* and *Dispersive*. This terminology seems too technical, and so I will call them the *Retreating Stage* that includes the *Sheet Flow Phase* and the subsequent *Channelized Flow Phase* (Figure 3.4). As we will see, this two phase retreat of large-scale flooding can explain many geomorphological mysteries. During the *Sheet Flow Phase*, water would move in wide currents across the mostly flooded Earth. These currents might range up to a thousand miles wide because the entire planet was still mostly flooded at this time. There were few mountain ranges or plateaus to block and break up the flow. Current size and velocity would depend on global flow patterns in the temporary global ocean.

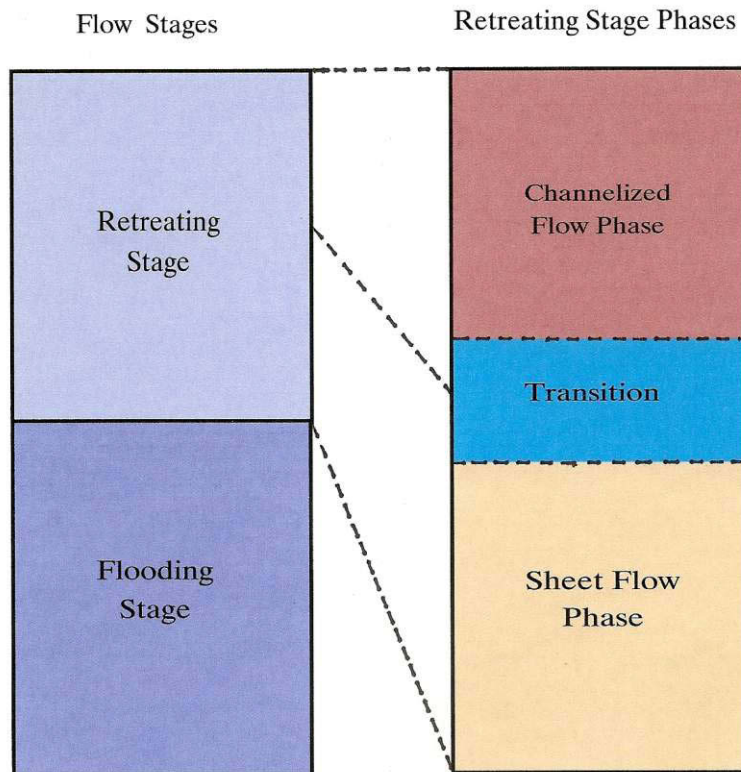


Figure 3.4. Walker's two stages of the Flood (left) with the two phases of the Retreating Stage (right). (Stages and phases renamed and drawn by Mrs. Melanie Richard).

The historical narrative gives us another clue about the duration of this system. Although the location of the Ark was not representative of the entire planet, it does provide the only clue we have. It states that other mountain tops began to appear a little more than 70 days into the Retreating Stage. As sea level continued to drop relative to the continents, rising mountains and plateaus would increasingly deflect and disrupt the sheet flow. Water would have flowed around these obstacles, eventually moving in large channels rather than sheets. During this Channelized Flow Phase, the channels would continuously diminish in size and volume. Channels that might have started off a hundred miles wide would shrink to a much smaller size as more land was exposed.

Another important consideration is that the timing of these phases was relative to the location of the Ark. The nature of sheet and channelized flow would depend on the elevation of the underlying land surface. Thus both sheet and channel flow could have been ongoing, depending on the location. For example, as the Rocky Mountains rose, channelized flow would mark that area, even though sheets of water still covered what would become the Gulf Coast. Figure 3.5 illustrates the transition from the Sheet Flow Phase to the Channelized Flow Phase.

### **Similarities to Flash Floods**

In a flash flood, water rises rapidly. That rapid rise is the main difference between a river flood and a flash flood. After the initial rapid rise in a flash flood, the rise of the water slows. The flood finally peaks and then begins to abate. As the water subsides, more bars, rocks, and land become exposed, forcing the water more and more into confined channels.

There are several similarities between flash floods and the narrative of the Bible and its derivative phases (Figure 3.3). As the biblical Flood began, it rapidly inundated the lowlands, based on the abrupt and catastrophic initiation of its mechanisms. According to Genesis 7:11b (NASB) "...on the same day all the fountains of the great deep burst open, and the floodgates of the sky were opened." The violence of these two mechanisms was great, and together they caused 40 days and nights of global rain. At the end of that time, the global rain abated, although the water "prevailed" another 110 days, implying a continued, yet slower rise of the Floodwater until Day 150. The time between Day 40 and Day 150 would have been similar to the slow rise of a flash flood after its initial rush. Like flash floods, the great biblical Flood then began to subside, slowly at first with sheet flow gradually becoming channelized, the same as the decrease in a flash flood.



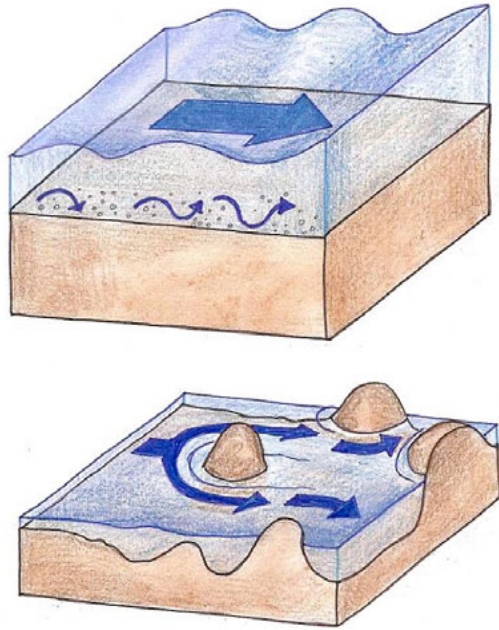


Figure 3.5. Transition from sheet flow to channelized flow during the Retreating Stage of the Flood (drawn by Mrs. Melanie Richard).

### The Floodwater Eroded and Shaped the Earth's Surface

The characteristic activity during the final 221 days of the biblical Flood would have been erosion. Moving water is an extremely powerful erosive agent, and the scale of the moving water was unprecedented during those months. Water seeks its own level and the mechanism causing the runoff during the Flood is described in Psalm 104:6-9, which will be explored in Part II. In summary, two key events are described; the rising of the mountains and the lowering of valleys. On a global scale, that would have included the elevation of continents and the sinking of ocean basins. These two actions would have created a tremendous impetus for water to flow off of continents and into ocean basins. In places where the uplift and sinking were over short distances, the rush of water would have been incredible.

This new motion would have resulted in large-scale erosion. The volume of water was very great and the velocity would have been high, especially where land was rising out of the water. Both soft sediment and hard rock would have experienced the erosive power of the water, because they covered much of the continents. Evidence shows that thousands of feet of sediments were eroded in some places, for instance erosion was up to 20,000 feet (6,100 m) in the Appalachians (see Chapter 8 and Appendix 4).

It is just not the fact of erosion on the continents that is important evidence for the Flood, but it is the *character* of the erosion. Because of the unique scale of the processes, the eroding waters (transporting sediments and rock along the bottom) would have formed features and landforms unlike those created by modern low-energy, smaller scale water flow. The inability of geomorphology to explain these features within the uniformitarian paradigm indicates the necessity of looking for another paradigm—that of a global flood. The amount and character of Flood erosion will be examined in Part III.

Since the Retreating Stage of the Flood had two phases, each phase would be expected to have formed features particular to that phase. Likewise, the order of the phases is significant; we should expect to find landforms created by the Channelized Flow Phase *superimposed* on top of those formed during the Sheet Flow Phase. Figure 3.6 shows the deposition of the Absaroka Volcanics, northern and eastern Yellowstone Park and vicinity, followed by planing during sheet flow and channelized erosion forming canyons.



The presence and order of these landforms provide powerful evidence for the reality of the Flood.<sup>24</sup> The characteristic landforms of the Sheet Flow Phase are large planation surfaces (see Volume II), and the characteristic landforms of the Channelized Flow Phase are canyons and valleys, wind and water gaps, pediments, and submarine canyons (see Volume III).

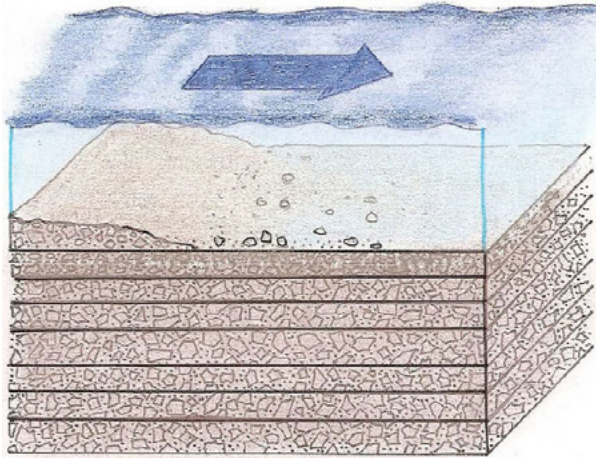


Figure 3.6. Schematic of sheet flow erosion that transforms into channelized flow erosion in the Absaroka Volcanics of north central Wyoming and south central Montana (drawn by Mrs. Melanie Richard).

Figure 3.6a. Deposition of the multiple volcanic landslides of Absaroka Volcanics, which is over 6,000 feet (1,830 m) thick and covers about 9,000 mi<sup>2</sup> (23,000 km<sup>2</sup>).

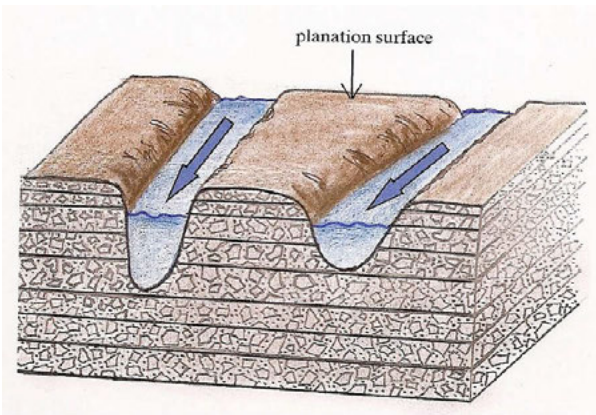


Figure 3.6b. Sheet deposition gave way to sheet erosion forming a planation surface, which transformed into channelized erosion.

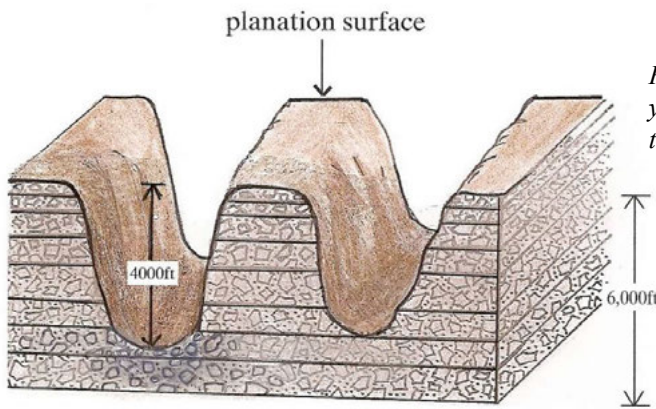


Figure 3.6c. Channelized erosion cuts canyons up to 4,000 feet (1,220 m) deep before the Floodwater finally drains.

<sup>24</sup> Oard, M.J., 2008. *Flood by Design: Receding Water Shapes the Earth's Surface*, Master Books, Green Forest, AR.