

# God Floods Earth, yet Preserves Ark-Borne Humans and Animals: Exegetical and Geological Notes on Genesis Chapter 7

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## Abstract

This multidisciplinary research paper examines Genesis Chapter 7, which reports a critical timeframe during the global Flood. This study includes a verse-by-verse expository commentary on the original Hebrew text, in conjunction with integrating geological insights, gleaned from a newly compiled multi-continental database of stratigraphic columns. The analytical result is a data-based Genesis Flood model that connects the sedimentary rock record to historical highlights in Genesis Chapter 7's Flood narrative, with special attention to Flood Days 1, 40, and 150. We conclude that the Flood initiated on Day 1 with the bursting of the fountains of the great deep. The Flood-water continued to rise thereafter until it reached the Ark on Day 40, causing it to float freely. Between days 40 and 150, the water progressively rose until it reached its zenith, covering the highest hills by 15 cubits, where Chapter 7 ends.

**Key Words:** Zuni megasequence, Absaroka megasequence, Flood, Stratigraphic, Flood Day 1, Flood Day 40, Flood Day 150, Fountains of the great deep, Male-female unit, Windows of the heavens, Increased, Prevailed

## Introduction

Genesis Chapter 7 continues the preparation—by God and His servant, Noah—for the global Flood, followed by the Flood overwhelming the planet with its highwater climax. The Flood's catastrophic cataclysm was forewarned of (and preliminarily prepared for) in Chapter 6. The Flood's continuance

(from highwater climax at Day 150, followed by drainage) and aftermath are reported as narrative history (i.e., not “Hebrew poetry”) in Chapters 8 and 9 of Genesis, chronicling God's role—during the year-plus timeframe of the global Flood—as the divine Owner and Judge of Earth and of all its inhabitants (Johnson, 2011a; Johnson,

2019a). Because Genesis Chapter 7 is chronology-sensitive narrative prose, its literary structure frequently includes serial sentences, featuring *waw* consecutive-prefixed verbs (Johnson, 2011a; Johnson, 2019a).

Genesis 7 also gives us insight into the water levels and flooding of the continents at key moments in the Flood, such as Flood Days 1, 40, and 150. Other scholars have made attempts to merge the sedimentary rock record with data from the Biblical text (Whitcomb and Morris, 1961; Coffin, 1983; Brand, 1997;

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Barrick and Sigler, 2003; Barrick, 2008; Snelling, 2009; Walker, 2011; and Boyd and Snelling, 2014). Unfortunately, many of these earlier attempts relied heavily on secular geological data sets and/or were limited in scope and geographic range. In contrast, this study integrates the details found in the text of Genesis Chapter 7 with a multi-continental data set of stratigraphic columns that are relatively unrestricted by secular biases. Our petroleum-industry-based geological data come from over 1500 compiled stratigraphic columns across three continents, showing the actual rocks in place at each location (Clarey, 2020). Accordingly, we connected key dates (Days 1, 40, and 150) in the Flood account directly to the progression of the rising waters.

The chronological importance of Flood Day 150, and what it reveals about the pre-Flood calendar (Cooper, 2009), is also briefly highlighted hereinbelow.

## Exegetical Observations and Geological Commentary

### Genesis 7:1

Contextually, this verse begins with the *waw*-consecutive-prefixed verb “and He [i.e., the LORD] said” (*vayyōmer*), to show this is the continuation of God’s speaking activity (which began in Genesis 6:13) of telling Noah how to prepare for the soon-coming Flood, which includes a specific set of instructions on Ark construction and animals to be boarded therein. YHWH spoke unto Noah, telling Noah to “go!” (qal imperative singular masculine of *bô*), “you-yourself and your house[hold]” (*’atāh wekāl-bētekā*), unto “the Ark” (*ha-tēbāh*).

But why did God single out Noah (and his family) for this unique assignment?

God tells why: “because” (*kī*) Noah is singularly “seen” by God (literally “before My face”) as “righteous” (*šadiq*)

within Noah’s generation (*ba-dôr ha-zeh* = “in this generation”). Regarding how God saw Noah, YHWH uses *rā’itti*, the qal perfect 1<sup>st</sup> person form of the verb *rā’āh* (“to see”), to indicate that God’s observations of Noah were/are a completed action. (Grammatically speaking, any exceptions to this generalization needs to be specifically justified—with the “burden of proof” borne by whoever alleges the generalization as not being applicable to a specific passage.) Because, theologically speaking, we know that God is omnisciently foreknowing, God’s action of observing Noah’s life is truly a “perfect” action (*pardon the pun*). When addressing Noah (in 7:1b), the 2<sup>nd</sup> person singular *’attāh* (“you-yourself”) is used by YHWH, indicating that the “you” [KJV “thou”] refers to Noah individually, as opposed to using a plural for Noah’s family.

### Genesis 7:2

Noah is instructed to “take unto yourself” (*tiqāh-lekā*), i.e., onto the Ark, from “every” clean animal, “seven-seven, male and his female” (*šibe’āhh—šibe’āh ’iš we’istō*), i.e., seven pairs of each such animal category (Fruchtenbaum, 2009, p. 167). Noah is further instructed to take, from the animal which is not clean, “two, male and his female” (*šenayīm ’iš we’istō*). If Genesis 7:2 said “two-**two**, male and his female” (which it does not say), that would more clearly indicate 2 pairs of every kind of unclean animal—however, the dual noun “two” is used only once, so the word “two” may mean the “**pair**”—with “pair” being composed of one male and his female, as the term “two” appears to be used earlier in Genesis 6:19–20 (Fruchtenbaum, 2009, p. 167).

However, it might alternatively be that here the number “two” means **two pairs** of each unclean animal “kind,” since one complete “animal” unit (if “animal” is defined by a created breedable “kind”) might be properly defined collectively (as a **male-female unit**,

as with mankind in Genesis 1:27). In other words, to have a true “unit” of mankind you must have both man and woman, to equal one mankind couple. The possibility of two pairs per kind is (arguably) supported, later, by Genesis 7:9 (“two-two”).

The animal categories are breedable “kinds,” according to how animal categories are defined earlier in Genesis (e.g., 1:11; 1:12 [2x]; 1:21; 1:24 [2x]; 1:25 [3x]; 6:20 [3x] with 6:19), buttressed by God’s purpose for such animals boarding the Ark—to preserve life during the Flood, so animal kinds can repopulate Earth after the Flood (6:19–20).

### Genesis 7:3

Noah is further instructed on the birds, who are treated differently, since they are to board the Ark at the rate of seven pairs per kind, regardless of whether they are “clean” or “unclean.” Specifically, Noah is to take birds (“from the fowl of the heavens”) “seven-seven, male and female” (*šibe’āh—šibe’āh zākār ûneqēbāh*), i.e., seven pairs of each bird “kind” category (Fruchtenbaum, 2009, p. 167). This phrase is similar to how seven pairs of “clean” non-fowl animals were described in 7:2, except the respective nouns used for the phrase “male and his female” differ. As in 6:19–20, God repeats mention of His providential purpose of preservation—“to continue living seed [*zera*] upon the face of all the earth”—which matches God’s original mandate that life-forms be fruitful and multiply in their respective parts of the Earth. Perhaps that difference emphasizes a distinction between bird couples and non-bird animal pairs, or maybe that is a “distinction without a difference.”

### Genesis 7:4

Noah is told God’s deadline, “seven days” (literally “unto days yet seven”)—then the punishing Floodwaters will hit the Earth, because then God will “cause raining” (here “rain” is a hiphil participle verb form of *māṭar*) to pound down

upon the Earth, non-stop, for 40 days and 40 nights (literally “40 of day, and 40 of night”), as it soon did (see Genesis 7:12). The result of this rainfall will be unprecedented and huge destruction: “and I will blot out” (God’s coming action, which will have continuing aspects to it, is represented by *ûmâhîti*, the *waw*-consecutive-prefixed *qal* perfect 1<sup>st</sup> person singular form of *mâhâh*) “every life-form” (*yaqûm* = that which grows up, from root verb *qûm*). The doomed creatures of “the ground” (*ha’adâmâh*) will be blanketed and blotted out by the soon-coming rained-down waters of the prophesied Flood.

### Genesis 7:5

This verse resembles Genesis 6:22, where Moses reports that Noah did as God commanded. Both verses use forms of the verb *šâwâh* (“to command,” “to decree”) to refer to God’s commandments; likewise, both verses use forms of the verb *âsâh* (“to do,” “to work”) to refer to Noah doing as instructed. As a matter of exegetical context, one immediate question is whether the actions that God commanded in Chapter 6, which Noah did (as summarized in 6:22), are identical to the actions that YHWH commanded in Chapter 7, which Noah did (as summarized in 7:5). The timeframe context, for Noah’s actions reported in Chapter 6 actions, seems to begin when Noah is 500 years old (compare Genesis 5:32 with Genesis 6:10), and we learn (from Genesis 7:6) that God sent the Flood when Noah was 600 years old. Thus, Noah had 100 years to prepare the Ark according to God’s architectural-outline instructions (which dominate Chapter 6), and Chapter 6 only alludes to animals boarding the Ark by “pairs” (6:19–20)—no mention is made in Chapter 6 of “clean” animals to board the Ark “seven-seven, male and his female” (*šibe’âhh—šibe’âh ’iš we’îštô*), i.e., seven pairs of each “clean” animal kind, as specified in Genesis 7:2.

Likewise, no mention is made in Chapter 6 of bird kinds to board the Ark “seven-seven, male and female” (*šibe’âh—šibe’âh zâkâr ûneqēbâh*), i.e., seven pairs of each bird “kind,” as specified in Genesis 7:3. That difference in specification may indicate that Noah did not need the animal details until the Ark itself was well under construction—since Noah appears to have had 100 years for this building project. So, perhaps decades later—as the diluvian doomsday loomed near—God provided greater specificity to Noah, about boarding animals (and thus those details are reported in Chapter 7). If so, Noah’s faithful obedience reported in Chapter 6 (at 6:22) may focus mostly on Ark construction, whereas Noah’s faithful obedience reported in Chapter 7 (at 7:5) may focus more on Noah’s oversight of the selected animals and boarding process, to achieve the biodiversity formula that God chose.

Another possibility should be considered: God may have originally set aside room in the Ark to preserve a minimum of land-dependent animal kinds, with much more of the Ark’s room preliminarily reserved for humans—many more than just eight. Noah preached to his generation (2<sup>nd</sup> Peter 2:5; Hebrews 11:7), during the 100 years before the Flood, but none responded with enough belief to board Noah’s Ark, except Noah’s own family members (2<sup>nd</sup> Peter 2:5), so whatever Ark space *that could have housed more humans*—by the dozens or scores or hundreds—would be “wasted” (unoccupied) during the Flood, unless God later modified His earlier command to Noah, regarding animal pairs, to increase *sevenfold* the pairs of clean beast kinds and also the bird kind pairs. It does seem that the timeframe for God’s specific instructions to Noah (that included some animal pairs to board by sevens), as reported in Chapter 7 (at 7:4), were given very near to “curtain-time,” i.e., seven days (*leyamîm ’ôd šibe’âh* = “for days yet seven”) before the Flood was to

hit the earth. If so, it might be that it was then obvious (after a century of Noah’s preaching) that no more humans would board, so God allocated that extra space to rescue more animal pairs.

### Genesis 7:6

This verse (7:6) reports when the global Flood began—it struck the Earth when Noah was 600 years old, which is 100 years after Noah became the father of Shem, Ham, and Japheth (see *wayyôled*, the *waw*-consecutive-prefixed *hiphîl* imperfect form of *yâlad* in Genesis 5:32, denoting the begetting of Noah’s sons as occurring when Noah was 500 years old).

If the perspicuity of Scripture is assumed, which it should be, Genesis 5:32 indicates that all three sons were begotten when Noah was 500 years old, i.e., they were born as triplets. (Multiple births are very important in Scripture, as twins Jacob and Esau illustrate; it also appears that Cain and Abel were twins.) Some have been misled by the KJV translation of Genesis 10:21, which says “Japheth the elder”—but the noun translated “elder” is *gâdôl* (meaning “great” in size or importance, similar to how the “tower” [*migdâl*] of Babel was not “ancient” in age, rather it was quantitatively tall [“great”] in size), not *zâqēn* (meaning “old” or “older” in age). Noah’s three sons are always mentioned in birth order—Shem, Ham, and Japheth (Young, 1874, p. 698)—so Japheth is technically the youngest of the three sons, not “elder” (Johnson, 2002, pp. 8–10). The relevance of this chronology detail is to show that some have confused chronology details that Moses provided, in Genesis, such as those details that Moses provided within Genesis Chapter 7.

The word *hammabbûl* (i.e., *ha + mabbûl*) is routinely translated “the flood” in English translations (e.g., 13x in KJV), perhaps being etymologically related to *mabbû’* (translated “fountain” or “spring”), with the New Testament Greek equivalent being κατακλυσμός

(see Matthew 24:38–39; Luke 17:27; 2<sup>nd</sup> Peter 2:5). In Genesis the Hebrew noun *mabbûl* (“flood”) always refers to the worldwide Flood (see Genesis 6:17; 7:6–7; 6:10; 6:17; 9:11; 9:15; 9:28; 10:1; 10:32; 11:10), and the only other usage of *mabbûl* is in Psalm 29:10, which likewise appears to refer to the global Flood of Noah’s generation (Wigram, 1874, p. 660).

### Genesis 7:7

When the Flood violently hit Earth, as noted in 7:6, Noah summarily “went” (*wayyâbô* = *waw*-consecutive-prefixed *qal* imperfect 3<sup>rd</sup> person singular form of *bô*) unto the Ark (*ha-tēbâh*), plus his sons (and + *bânâyw*), and his wife (and + *’ištô*), and the wives of his sons (and + *nešê-bânâyw*), away from the presence of the accumulating Floodwaters (*mê hammabûl* = “waters of the flood”). This was a completed action by Noah and his household—they were literally leaving behind the soon-to-perish antediluvian world (which previously was the only world that they knew), as God commenced to destroy it (2<sup>nd</sup> Peter 3:6).

### Genesis 7:8

The animals boarding the Ark are described in this verse (7:8), continuing into the next, “from” the “clean” beast (singular noun used as collective representing the group), and “from” the unclean beast (singular noun used as collective representing the group), and “from” the fowl (singular noun used as collective representing the group), plus “each which is creeping upon ground” (*kôl ’ašer rômēš ’al ha-’adâmâh*). Animal kinds were preserved by representative male-plus-female survivor pairs, selected “from” the entire group of every air-breathing terrestrial animal “kind,” so that each such kind could reproduce after the Flood (see Genesis 6:19–20).

### Genesis 7:9

The animal pairs boarded “two-two” (*šenayîm šenayîm*) ... “male and female”

(*zâqâr ûnqēbâh*), either meaning “pair [after] pair” (of different animal kinds) or meaning “[by] two pairs” (if unclean animal kinds were represented by two pairs of survivors, as opposed to only one pair), just as God had “commanded” (*šiwwâh* = *piel* perfect 3<sup>rd</sup> person masculine singular form of *šawâh*) Noah. (See analysis of “pairs,” hereinabove, in the earlier discussion of Genesis 7:2–3.) This boarding of animals by pairs, with some animal “kinds” being boarded as seven pairs, is relevant to both reproductive biology and biodiversity studies.

### Genesis 7:10

As foretold in Genesis 7:4, after “seven of days” (*šibe’at hayyâmîm*) the Floodwaters (*mê hammabûl* = “waters of the Flood”) were upon (*’al*) the Earth (*hâ-âreš*). As Genesis 7:20 indicates, this would be global. The word “days” (*yâmîm* = plural of *yôm*) is the same word for “days” that Moses used previously in Genesis (1:14; 3:14; 3:17; etc.), as well as later, when alluding to the events of Creation Week (see Exodus 20:11)—i.e., these are ordinary (solar) “days” as we know them. Throughout Genesis, Moses is careful to say “day” when referring to a single/notable day, and to say “days” when a timeframe involves more than one literal (i.e., solar) day. Likewise, the Lord Jesus referred to the “days” (not “day”) of Noah and of Lot (Matthew 24:37; Luke 17:26–28)—unlike the sloppy phrase “back in the day [sic]” that we all-too-often hear nowadays.

### Genesis 7:11

The recording of the exact date of the Flood’s beginning (literally, “in year six-of-hundred of the life of Noah, in month the second, in seventeen of day unto the month, in that day”), as given in 7:11, emphasizes how this account of the global Flood is narrative history (Johnson, 2011a) capable of being calendared in “real time”—the Genesis Flood account is obviously not some sort of “Hebrew poetry” that can be treated

allegorically or as some kind of mythical folk-tale.

In fact, the calendar information in Genesis—starting with this verse (i.e., Genesis 7:11)—suggests that Earth’s lunar and solar periodicities were slightly different before the Flood. This has been succinctly analyzed by the late Dr. Bill Cooper (ICR’s highly esteemed Master Faculty, who also served the Creation Science Movement of Great Britain), whose analysis is now quoted (for the convenience of CRSQ readers):

The moon orbits the earth every 29.5 days or so, and the year is (roughly) 365.25 days in length. It is an untidy arrangement that makes alignment of the lunar and solar calendars virtually impossible. [Even when we try, the arrangement is never perfect. The lunar month divides into the solar year roughly 12.4 times (being about, but never exactly, 11 days short of the present solar year.) It doesn’t get any better when we compare solar and lunar time with sidereal time, in which the fixed stars appear to go round the earth not once every 24 hours like the sun, but every 23 hours 56 minutes and 4 seconds, a slippage of nearly 4 minutes a day!] How much simpler it would have been had God, at the creation, decreed that the year should be 360 days and the lunar month 30 days in length. Evidence shows that God so ordained it at the beginning. The lunar year consisted of 12 months of 30 days’ duration, equaling exactly the solar year of 360 days. Only after the Flood did the two calendars drop out of line with each other, necessitating numerous calendar reforms which even today have not resolved the problem.

But how can one possibly know that the pre-Flood year consisted of 12 equal months of 30 days?

Today’s lunar calendar doesn’t consist of 12 equal months. Nor does the solar calendar. Today’s

lunar months are alternately 29 and 30 days, making the lunar year one of just 354 days, 11 days (or more) short of the present solar year. Is there evidence that the pre-Flood lunar calendar did not contain this aberration? The evidence is found in the book of Genesis. The writer notes two specific calendar events: the exact day on which the fountains of the deep were broken up and the windows of heaven were opened (Genesis 7:11), and the exact day on which the waters abated (Genesis 8:3–4). The importance of this information is this: The Flood began on the 17th day of the 2nd month (Genesis 7:11), and was over by the 17th day of the 7th month (Genesis 8:4). That makes 5 months of 30 days duration each, which Genesis stresses by adding the day-count of 150. Five months in the “modern” (actually ancient) Jewish calendar would have been either of 147 or 148 days’ duration, depending on whether the 5-month period began on a 29-day or a 30-day month.

The fact that Genesis uses here a *pre*-intercalationary calendar is a most important indication of its antiquity. Had Genesis been written during or after the Jewish exile in Babylon or Persia (6th–5th centuries BC), as modernists claim, it would have used the intercalationary calendar of Babylon and Persia, which, like the Jewish calendar, would certainly not have measured five months as 150 days. Besides, the post-exilic Jews always named the months after the Babylonian fashion and would have used those names in any “edited” account. Genesis doesn’t. It merely numbers the months in accordance with *pre*-Babylonian usage. Illustrated above [*photograph in original article*] is an Assyrian lunar calendar (which names the months) from

circa 1800 BC. It still works, but measures the post-Flood lunar year as 354 days. The Flood account in Genesis pre-dates its manufacture. In other words, this part of Genesis was written before the effects of the Flood—the sudden slippage between lunar and solar time and so on—began to be observed and measured. [“With the fountains of the great deep relocating a huge volume of liquid, moving continents, possible asteroid bombardment, etc., shifting the location of much mass, the length of the day, the length of the year, and the tilt of the axis could have all changed.” Morris, John D. 2005. In the Early Earth, Were All the Months Exactly Thirty Days Long? *Acts & Facts*, 34(12).] Thus, the calendar portrayed in its first chapters is a further evidence of the antiquity of Genesis.

This analysis (Cooper, 2009, quoted above) is further detailed with archaeological data within Chapter 9 of Dr. Cooper’s classic, *The Authenticity of the Book of Genesis* (Cooper, 2011), at pages 64–68. So, Earth’s chronometry was cataclysmically changed!

This cataclysmic change, which soon convulsed Earth globally, began with catastrophic volcanism. Arnold Fruchtenbaum translated the volcanic action (in Genesis 7:11) as follows: “On the same day were all the fountains of the great deep broken up” (Fruchtenbaum, 2009, p. 169).

What follows is a description of how the worldwide Flood initially erupted and then increased flooding: (a) starting with “great deep”-sourced floodwaters being “burst/ruptured” out (*nibqe’û* = *niphal* perfect 3<sup>rd</sup> person plural form of the verb *bâqa’*), meaning “to burst”—like an egg hatching, in Isaiah 34:15, or like a bottle-like vessel breaking apart, in Job 32:19, or like the miraculous earth-splitting reported in Numbers 16:31 (Wigram, 1874, pp. 264–265; Barrick, 2008, pp. 261–262, especially footnote

62)—followed by the “windows of the heavens” being “opened” (*nipâtâhû* is the *niphal* perfect 3<sup>rd</sup> person plural form of the verb *pâtah*, meaning “to open”). Thus, the worldwide Flood began with two unprecedented and powerful actions (both of which are reported by **perfect** verbs, denoting event-like actions that were soon completed), with both of those actions providing floodwaters that would eventually cover the globe: (a) “all the fountains/wellsprings of great-deep” were “burst” by God; and (b) “windows of the heavens” were “opened” by God, so waters came geysering and gushing up from below—“great deep” places (perhaps from below the oceans and/or far below the Earth’s land surfaces)—as well as from the atmosphere, due to “windows” in the sky being “opened.” Since these two disruptive geological/meteorological activities are linked as causing the Flood’s beginning, it is noteworthy that volcanic aerosols can help to trigger atmospheric precipitation, such as rainfall (Hebert, 2020).

Exactly what the “fountains” entailed is unclear from a geologic standpoint. Here, we agree with Austin et al. (1994), who also believed that the bursting of the “fountains of the great deep” were the initiation of the tectonic plates. Today’s volcanoes (including sub-oceanic volcanoes and ocean ridges) produce a tremendous amount of gases, like water and carbon dioxide, along with molten lava. It seems likely that the “fountains of the great deep” produced a lot of water/steam as they changed into a melt. There would have been a lot of pressure released as the magma rose upward in the Earth, but exactly how high this water/steam shot up into the atmosphere is unclear (Austin et al., 1994). One thing is clear, a tremendous volume of water still appears to be trapped in mantle minerals like wadsleyite and ringwoodite, which can produce vast amounts of water when they melt. In fact, amazingly, recent discoveries indicate that the mantle

transition zone (410–660 km deep) still contains as much trapped water as do the oceans (Fei et al., 2017)!

The initiation of vast rifts both on land and beneath the oceans (the fountains) may be the primary geological event that occurred during the first 10 or so days of the Flood (Clarey, 2020). Earth is unique in our solar system, appearing to be the only planet that has tectonic plates. As far as we know, Earth is the only planet in the universe to possess such features.

There is a lot of geological evidence for the simultaneous development of multiple rift zones across the globe, including several along the edges of North America and possibly the Midcontinent Rift in the continental interior (Reed, 2000; Clarey, 2020, pp. 182–186). These elongate rifts may be the “fountains” as described in Genesis 7:11.

Several discoveries have suggested that conditions were vastly different at this time, just prior to the deposition of the Sauk Megasequence (Cambrian through Lower Ordovician System rocks) (Figure 1).

German scientists found evidence suggesting the Earth’s mantle was up to 300 degrees Fahrenheit (about 150 degrees Celsius) *hotter* during the initial, formative stages of the Atlantic Ocean—when the continents began to violently pull apart to create it—compared to today (Brandl et al., 2013). These scientists studied the composition of oceanic crust using deep-sea drilling core samples and found a systematic change in chemistry from the edge of the continents to that of the middle of the ocean. Shifts in chemistry were linked to changes in the temperature of the underlying mantle that generated the oceanic crust. These findings suggest that the initiation of the great Flood may have begun with an anomalously high-temperature mantle beneath the pre-Flood crust. As the tectonic plates rifted apart, molten mantle filled the ever-widening gap, making new ocean

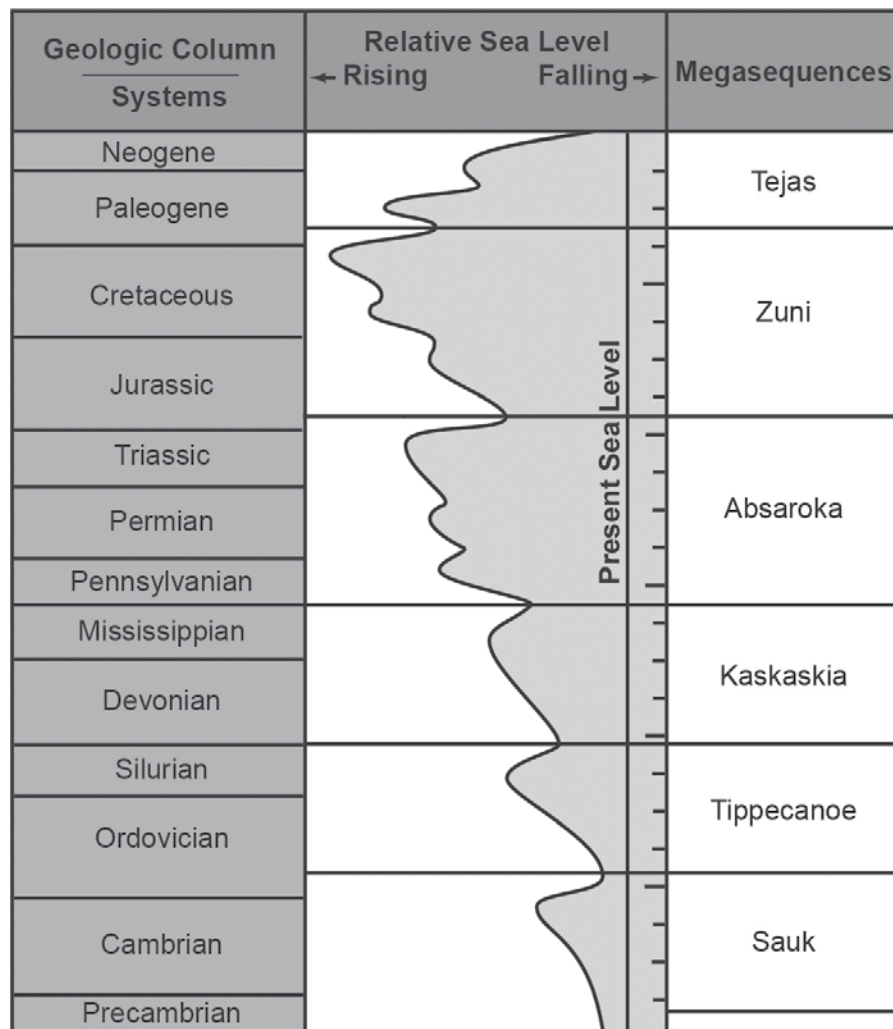


Figure 1. Diagrammatic global sea level curve showing the megasequences and geologic systems (Clarey, 2020, p. 474).

crust and supporting the concept of catastrophic plate tectonics.

The German scientists also noted that the average ocean ridge today resides at a depth of 2.9 km (1.8 miles) below sea level. In contrast, they calculated that the ridges above the hotter mantle in the past would have only been about 1 km (0.6 miles) below sea level—well over a mile higher (Brandl et al., 2013). What effect would this have had? Shallower ridges from higher heat flow would have raised global sea

levels, at least partially accounting for the inundation of the continents during the Flood event. Later, as the mantle progressively cooled, the ocean ridges would have sunk, dramatically dropping sea level and draining the water off the continents to end the Flood.

Two recent discoveries may provide important validations of the “fountains of the great deep” that started the deluge (Brune et al., 2017; Paulsen et al., 2017). A spike in volcanic activity and the rapid release of massive amounts of

carbon dioxide seems to have occurred just prior to the deposition of Cambrian rock layers (Paulsen et al., 2017).

Cambrian rocks are considered by many creation geologists to represent the first extensive Flood deposits (Whitcomb and Morris, 1961; Coffin, 1983; Austin et al., 1994; Brand, 1997; Snelling, 2009). Cambrian sediments are the bottom-most layer in the Sauk Megasequence and contain fossils of the so-called Cambrian Explosion—the first sediments with prolific numbers of hard-shelled organisms (Clarey, 2015a). However, in some limited locations, the beginning of the Flood rock record may have begun a bit lower in the rock record, in what is called the Neoproterozoic (Austin and Wise, 1994; Snelling, 2009) and possibly as far back as the end of the Mesoproterozoic (Reed, 2000; Clarey, 2020, pp. 182–186). Paulsen et al. (2017) concluded there is strong evidence of a massive outpouring of carbon dioxide and associated volcanic activity just prior to the deposition of the Sauk Megasequence in a system called the Ediacaran. The Ediacaran is what secular scientists call the latest Precambrian (latest Neoproterozoic).

The Bible offers a clear explanation for this newly identified spike (in volcanic activity and the rapid release of massive amounts of carbon dioxide): **volcanism**, i.e., sub-oceanic volcanoes denoted in Genesis 7:11 (*ma'yenōth tehōm rabâh* = “fountains of the great deep”) and in Genesis 8:2 (*ma'yenōth tehōm rabâh* = “fountains of the deep”) [I could not find *rabâh* or *rab* (“great”) in Genesis 8:2]. The breaking up of the fountains of the great deep may be a description of the great rifting that took place at the ocean-floor ridges, along the continental margins and even within the continents. Today, we merely see the remnants of this activity in the ridges of our modern oceans. No longer are they spewing out tremendous volumes of molten lava and massive amounts of

CO<sub>2</sub>. The Flood was a one-time event like no other.

### Genesis 7:12

The initial downpour of rainfall, that continued relentlessly, was “40 days and 40 nights”—this is historical narrative, so the quantification is literally true as history.

The fact that the number 40 is used repeatedly, in Scripture, for timeframes of *testing* (e.g., 40 years of wandering in the wilderness after the Exodus, as well as the Lord Jesus Christ being tested in the wilderness for 40 days, etc.), does **not** negate the historical facts as reported. Examples include the initial non-stop downpour of rain at the Flood’s beginning (Genesis 7:4; 7:12; 7:17; 8:6), Moses’ time on Mount Sinai (Exodus 24:18 & 34:28), Israel’s wilderness wanderings after the Exodus (Numbers 14:33; Deuteronomy 2:7; Amos 2:10; Acts 7:42), the Lord Jesus Christ being tested in the wilderness (Matthew 4:2; Mark 1:13; Luke 4:2); and the Lord Jesus Christ testing Jews, with the witness of “infallible proofs,” by appearing to them after His resurrection (Acts 1:3). Rather, that topical consistency (i.e., of the number 40 being associated with “testing” or “trials”) illustrates how God **controls** the flow of Providential history, sometimes emphasizing the topic of testing by delineating the timeframe by some count involving the number 40.

The first 40 days of the Flood likely included the start of plate motion as the originally-created cold and dense oceanic lithosphere began to subduct into the newly formed rifts. This subduction process may have begun as early as Days 10–20 of the Flood year (Clarey, 2020, pp. 194–215).

We interpret the pre-Flood world as looking something like the supercontinent Pangaea with a narrow, 300–500 km wide, pre-Atlantic Ocean between North America and Europe and Africa (Clarey and Werner, 2018; Clarey and Werner, 2020; Clarey, 2020). This is

supported by the discovery of shallow P and S wave anomalies beneath the Appalachian Mountains that indicate only about 300 km of subduction occurred during destruction of this pre-Atlantic Ocean (Schmandt and Lin, 2014), providing a limit to its width. A modified Pangaea-like supercontinent has the most observable geological evidence to support it, including the fit of the continents, and significantly reduces the amount of plate motion required by not having to transform Rodinia into Pangaea, as has been suggested by Snelling (2009). Recently, Clarey and Werner (2020) showed that the fit of Precambrian salt deposits across the Middle East, Pakistan, and India—based upon available geological data—best fit this Pangaea-like configuration, completely contradicting a Rodinia-like interpretation/model of the pre-Flood world.

The first consequence of sudden plate movement would have been the generation of massive numbers of tsunami-like waves. Geologically, this coincided with the onset of the deposition of the Sauk Megasequence as the tsunami-like waves moved across the shallow seas on the continental crust (Clarey, 2020, pp. 143–145). The waves spread blanket sands across the shallow seas on the edges of the continents. Many shallow marine organisms were inundated, creating the Cambrian Explosion as layers of sand, mud and lime were spread across vast regions of North America and the other continents also.

Although several previous researchers have suggested that the Flood rose, flooded the whole Earth, and/or reached a peak about Day 40 or shortly thereafter (Whitcomb and Morris, 1961; Barrick and Sigler, 2003; Snelling, 2009; Dickens and Snelling, 2015), we strongly disagree. We especially disagree with the interpretation that all vertebrate fossils were somehow dissolved by acidic waters released by the bursting of the fountains of the great deep as proposed by Dickens and Snelling (2015). If this were correct,



there should be prolific deposits of partially dissolved vertebrates globally. And acidic waters would have also destroyed the invertebrates. Instead, we observe prolific volumes of almost exclusively marine invertebrates in the earliest three megasequences and predominantly only marine vertebrates, especially fossils like fish (Figure 1). There are few, if any, partially dissolved fossils of any kind in these early megasequences as would be expected if the fountains of the great deep did in fact cause significant dissolution.

Clarey and Werner (2017) demonstrated quite conclusively that the early flooding was minimal across many continents, showing only limited areal extent during the Sauk Megasequence. The subsequent Tippecanoe and Kaskaskia Megasequences, likewise showed limited extent across the continents also (Clarey and Werner, 2017; Clarey, 2020).

The likelihood that erosion could have destroyed the true extent of the early megasequences is refuted by the overlapping and coincident extent of the early megasequences, especially across North Africa and South America (Clarey and Werner, 2017). Significant erosion of these early megasequences should have left more random patterns and little consistency (Clarey and Werner, 2017), contrary to what is observed.

Figure 1 shows the megasequences, the geologic systems, and a diagrammatic global sea level curve as interpreted by Clarey (2020, p. 474) from his global stratigraphic column research. Minimal flooding is reflected in the sea level curve in the earliest megasequences (Sauk and Tippecanoe). This curve is partially based on Table 1 and the extent and thickness maps as shown by Clarey (2020, pp. 470–471).

Possibly during Days 20–30 the tsunami-like waves of the Sauk Megasequence subsided and a new pulse of waves were generated from continued rapid plate motion, initiating the Tippe-

**Table 1. Surface area, sediment volume, and average thicknesses for North America, South America, and Africa for each of the six megasequences (Clarey, 2020, p. 473).**

Surface Area (km <sup>2</sup> )	North America	South America	Africa	Total
Sauk	12,157,200	1,448,100	8,989,300	22,594,600
Tippecanoe	10,250,400	4,270,600	9,167,200	23,688,200
Kaskaskia	11,035,000	4,392,600	7,417,500	22,845,100
Absaroka	11,540,300	6,169,000	17,859,900	35,569,200
Zuni	16,012,900	14,221,900	26,626,900	56,861,700
Tejas	14,827,400	15,815,200	24,375,100	55,017,700
Volume (km <sup>3</sup> )	North America	South America	Africa	Total
Sauk	3,347,690	1,017,910	6,070,490	10,436,090
Tippecanoe	4,273,080	1,834,940	6,114,910	12,222,930
Kaskaskia	5,482,040	3,154,390	3,725,900	12,362,330
Absaroka	6,312,620	6,073,710	21,075,040	33,461,370
Zuni	16,446,210	23,198,970	57,729,600	97,374,780
Tejas	17,758,530	32,908,080	28,855,530	79,522,140
Average Thickness (km)	North America	South America	Africa	Total
Sauk	0.275	0.703	0.675	0.462
Tippecanoe	0.417	0.430	0.667	0.516
Kaskaskia	0.497	0.718	0.502	0.541
Absaroka	0.547	0.985	1.180	0.941
Zuni	1.027	1.631	2.168	1.712
Tejas	1.198	2.081	1.184	1.445

canoe Megasequence and the deposition of the Middle Ordovician through Silurian strata (Clarey, 2020, pp. 216–233). This megasequence also buried millions of shallow marine organisms, reaching a slightly higher level, especially in South America, as new ocean lithosphere continued to form at the ridges. The Tippecanoe was also mostly confined to the pre-Flood shallow seas on the edges of the continents. It was during this time that the pre-Atlantic narrow ocean likely began to close as ocean lithosphere was subducted into the mantle, bringing Africa closer to North America (Clarey and Werner, 2018). The geologic record indicates the initial collision occurred along the northern boundary between those two continents.

Possibly during Days 30–40 the tsunami-like waves of the Tippecanoe

receded and another series of waves advanced across the continents depositing the Devonian and Mississippian rocks of the Kaskaskia Megasequence (Clarey, 2020, pp. 234–255). These deposits again covered primarily shallow seas, leaving a massive blanket-like limestone across a large portion of North America that included the Redwall Limestone in Grand Canyon.

The postulated pre-Flood narrow sea (300 km width) between North America and Africa and Europe was completely closed at this point in the Flood (Clarey, 2020). This caused deformation of earlier Flood sediments and created the Appalachian and Caledonian Mountains. Similarly, other early Flood mountains formed elsewhere, such as the Urals. The fossils buried in the sediments were much the same for



all three of the earliest megasequences. Shallow marine organisms continued to dominate the fauna.

Genesis 7:12 and Genesis 7:17 tell us about the initial 40 days of intense rain. Why are the initial 40 days described as predominantly rainfall? It is possible that up until Day 40 the Flood-waters still had not affected significant portions of the pre-Flood dry land (Clarey and Werner, 2017; Clarey, 2020).

The Sauk, Tippecanoe and Kaskaskia Megasequences contain nearly 100% marine fossils (Clarey, 2020, p. 243). Very few land animals, or plants for that matter, were trapped by these three megasequence cycles. Apparently, the intense rain was the major factor affecting the “dry” land portions of the continents up to this point in the Flood. Humans on the Ark, like Noah, who lived through the Flood would have known the first 40 days as a time of intense rainfall, without significant flooding of the dry land. The Bible suggests in Genesis 7:17 that it wasn’t until after these first 40 days that the Ark began to float, thereby verifying that the flooding of the land had commenced (Barrick and Sigler, 2003; Clarey, 2020, p. 246).

### Genesis 7:13

This verse (7:13) returns to action reported in 7:7. Again, emphasizing the literal historicity of this account, 7:13 reports that Noah, with his three sons (who this time are named: “Shem and Ham and Japheth”—listed in birth order, as always), plus Noah’s wife, plus the wives of Noah’s sons, all “entered” (here the verb *bô’* is a qal perfect, denoting a completed entry) the Ark.

### Genesis 7:14

Using the qualifying term “unto its kind” (*lemînâh*), 7:14 emphasizes God’s purpose for the Ark, besides preserving Noah’s family, is to preserve biogenetic (i.e., interbreedable) “kinds” of air-breathing terrestrial animals. See Genesis 6:19–20; the same preposition-

prefixed noun (*lemînâh*) is used in 6:20. Genesis 7:14–15 recounts activities reported in Genesis 7:8–9.

### Genesis 7:15

Recounting 7:9, the animal pairs boarded “two-two” (*šenayîm šenayîm*), either meaning “pair [after] pair” (of different animal kinds) or meaning “[by] two pairs” (if unclean animal kinds were represented by two pairs of survivors, as opposed to only one pair). This verse (7:15) emphasizes that the Ark-preserved land-based animals are animals that **must breathe air** (“from all flesh which [has] in it [the] breath of life”). Animals, not plants, are such “life”-forms.

### Genesis 7:16

This verse (7:16) recounts activity reported in Genesis 7:9, repeating mention of Noah’s faithful obedience to what God (*’elôhîm*) had commanded (*šiwâh* is piel perfect 3<sup>rd</sup> person singular masculine form of the verb *šiwâh*, “to command”)—yet Genesis 7:16 adds the very important fact that YHWH Himself “shut in” Noah (*wayyisgôr* is the *waw*-consecutive-prefixed qal perfect 3<sup>rd</sup> person masculine singular form of the verb *sâgar*, meaning “to shut” or “to seal /keep closed”). This intensive verb indicates that it was God’s emphatic action, when He (completely) shut the Ark door, to protect Noah and all who embarked on the Ark with him. The Genesis Flood is obviously God’s sovereign operation. The verb *sâgar* is also used of God’s action in keeping a womb closed (1<sup>st</sup> Samuel 1:5–6). The same verb is also used, elsewhere, of doors and gates being shut (Genesis 19:6; Joshua 2:7; Nehemiah 6:10; Ezekiel 44:2), of overlaying an object with gold (1<sup>st</sup> Kings 6:20–21 & 10:21), of being shut up in prison (Isaiah 24:22), etc.

### Genesis 7:17

This verse (Genesis 7:17) reports how the Ark encountered enough Flood-waters, as the oceans surged and over-

whelmingly transgressed the shorelands, with an ever-rising water level: the Floodwaters “increased” (*wayyîrbû* = *waw*-consecutive-prefixed qal imperfect 3<sup>rd</sup> person masculine plural of *râbâh*), and they “bore up” (*wayyîšē’û* = *waw*-consecutive-prefixed qal imperfect 3<sup>rd</sup> person masculine plural of *nâšâ’*) the Ark, so that the Ark “arose” (*wattârâm* = *waw*-prefixed qal imperfect 3<sup>rd</sup> person feminine singular of *rûm*) “from above the earth” (*mē’al ha-’areš*). As the Flood-waters continually encroach into the continental landmasses, the Floodwater level rises all over the Earth—eventually to cover the entire globe and then some (i.e., with 15 cubits above even the highest montane summits).

Since Genesis 7:17 tells us that the Ark began to float after 40 days, we can assume that pre-Flood dry land began flooding at this point also. Runaway subduction and plate motion were (likely) now occurring on a global scale, especially around the Pacific Rim (Clarey, 2020).

Meanwhile, the entire pre-Flood ocean floor continued to be consumed and a new ocean surface was forming through the process of catastrophic plate tectonics (Austin et al., 1994). This hotter ocean floor rose and pushed the ocean water and the tsunami waves higher and higher (Clarey, 2020, pp. 256–281). The deposition of the Absaroka Megasequence marks a critical juncture in the Flood account when things went from bad to worse. These Upper Carboniferous through Lower Jurassic strata were possibly deposited during Days 40–90 of the Flood year (Figure 1). After the initial 40 days of intense rain and tsunamis crashing across the shallow seas on the edges of the continents, the seas begin to rise higher and flood some of the land, including lifting up the Ark.

By the earliest part of the Absaroka Megasequence cycle, the major continents of the world had completely formed the supercontinent Pangaea by

completely closing up the pre-Atlantic Ocean. This resulted in renewed deformation along the Appalachian Mountains (including many overthrusts) and the intense folding within the Hercynian mobile belt across Western Europe. These deformational events folded and faulted many of the earliest deposits of the Flood. Before this, the continents were in a slightly different pre-Flood supercontinent configuration, referred to as ‘modified’ Pangaea (Clarey, 2020, pp. 152–171).

Later in the Absaroka Megasequence cycle, subduction along the USA West Coast commenced and the various plates of the Pacific Ocean began their rapid development. The supercontinent of Pangaea was wrenched apart, beginning with rifting that separated North America from West Africa, creating the new seafloor of the North Atlantic Ocean.

The Absaroka Megasequence introduces a lot of “firsts” to the geologic record (Clarey, 2020, pp. 271–275). It is not just a coincidence that so much occurs at the same time at this point in the Flood. These events had a common cause. Sea level was pushed upward dramatically in the Absaroka as more ocean lithosphere formed, resulting in the first areas of dry land becoming inundated across the globe. This began to change everything in the rock record.

The first extensive coal beds are found at this level, formed by the destruction of lycopod forests fringing the land masses. These were the so-called Carboniferous coals. The Absaroka also saw the first and sudden appearance of massive numbers of terrestrial animal fossils. Amphibians show up near the base of the Absaroka, followed by reptiles in the layers above. Even dinosaurs and mammals make sudden appearances before the Absaroka is over (Triassic System). Most of these terrestrial fossils were mixed with marine fossils (Clarey, 2015b).

Large marine reptiles also make their first appearance in the Triassic System

of the Absaroka Megasequence. Ichthyosaurs were common fossils in the Lower Triassic and are found in rocks as high as the later Cretaceous System of the Zuni Megasequence.

Finally, the so-called Permian extinction occurs in the early portion of the Absaroka. This has been hailed by secular scientists as the largest ‘extinction’ of all geologic time, or at least exhibiting the most abrupt changes in fossil species. Many of the fossils found above and below this horizon are, in fact, vastly different.

However, most creation geologists explain ‘extinction events’ as the last occurrence of organisms in the Flood record. Specifically, we explain them as a result of rapid changes in water level that buried completely new types of organisms from new biozones. In this view, the so-called ‘extinctions’ are merely a record of abrupt disappearances of many organisms at the same spot in the fossil record. The Permian-Triassic event may correlate with the highest water level of the Absaroka, or possibly one of the highest water levels (Clarey, 2020, p. 273) (Figure 1).

### Genesis 7:18

As Chapter 7 continues Moses’ report, the Hebrew verbs continue to show the progress and power of the global Flood: the Floodwaters “prevailed” (*wayyigberû* = *waw*-consecutive-prefixed qal imperfect 3<sup>rd</sup> person masculine plural of *gâbar*). Also, the rising Floodwaters “increased greatly” (*wayyirbû* = *waw*-consecutive-prefixed qal imperfect 3<sup>rd</sup> person masculine plural of *râbâh*), qualified with extra emphasis by adverb *me’ôd*) upon the Earth, with water levels rising up so high that the Ark launched—i.e., floated—and began moving with the Floodwater currents (*wattêlek* = *waw*-consecutive-prefixed qal imperfect 3<sup>rd</sup> person feminine singular of *hâlak* = “walked,” “journeyed,” “traveled”) upon the surface (“face”) of the waters. The Floodwater increase is

occurring in stages, such that the “very-increased” Floodwater level (described by the *waw*-consecutive-“converted” qal imperfect verb, in 7:18) is deemed a completed action

### Genesis 7:19

In 7:19 the Earth’s flooding intensifies further: the waters “prevailed” (*gâbrû*) “mightily”—upgrading from “very much increased” to “very, very much increased” (qal perfect 3<sup>rd</sup> person masculine plural of *râbâh*, qualified with extra-extra emphasis by the doubled adverb *me’ôd-me’ôd*). As in the previous verse, the Floodwater increase is occurring in stages, such that the “very-increased” Floodwater level (denoted by the perfect action of *gâbrû*, in 7:19) is deemed a completed action.

This particular stage of inundation included covering the highest topographical height of the pre-Flood world, such that all the then-existing mountain/high-hill summits were passively covered with Floodwaters: “and were covered” (*wayekûssû* = *waw*-consecutive-prefixed pual imperfect 3<sup>rd</sup> person plural of verb *kâsâh* [“to cover”], indicating the action of covering was completed) “all of the high mountains” (*kôl he-hârîm ha-gebôhîm*) of the entire world (Wigram, 1874, pp. 607–608). No earthly mountain range is spared the universality of Genesis 7:19’s coverage—“all” of the mountaintops which were then “under all the heavens” (*taḥat kôl ha-šâmâyîm*) were covered with Floodwaters. This is a truly global Flood, not a regional or “local” flood. Moreover, the overall context of (and activities reported in) Genesis Chapters 6–9 likewise indicates a genuinely worldwide cataclysm, because if the punitive flooding was only “local” (or regional) there would have been no need for the Ark to house and preserve representative pairs of terrestrial animal kinds, because sufficient migrations could achieve biodiversity preservation during the 100 years between God’s initial warning and the Flood’s eruption.

During the deposition of the Absaroka and the subsequent Zuni Megasequence, the entire ocean floor continued to be created anew (Clarey, 2020, pp. 268–270). Runaway subduction was now happening all over the globe on a massive scale.

As Pangaea (which would have been called “earth” or “the dry land” back then) began to further break apart, the Pacific Ocean plates began to subduct along the edges and simultaneously create the beginnings of an entirely new global seafloor at the ocean ridges. In fact, the oldest ocean crust in the world only goes back to the Absaroka Megasequence (Clarey, 2020). It is likely the creation of this new seafloor, led primarily by the activity in the Pacific region, that ultimately drove the water high enough to Flood the entire globe.

In Genesis 7:18–19, which continues to report the progress of the Flood, the Ark was now free-flowing and the geology also reflects this higher water level. The deposition of the vast Zuni Megasequence may have been deposited during Days 90–150 of the Flood year (Clarey, 2020, pp. 282–311). It was by far the most extensive and voluminous megasequence.

Most secular geologists—inexcusably—do not admit that the entire world was completely flooded (see 2<sup>nd</sup> Peter 3:1–7), at least not during the Phanerozoic Eon (Paleozoic, Mesozoic, and Cenozoic). But sedimentary rocks tell us a different story. Thus far, geologic and paleontological data have revealed Earth’s geologic history as including an ever-increasing global Flood event.

### Genesis 7:20

This verse (7:20) adds detail to the overwhelming Floodwater coverage reported in 7:19, because not only were the highest mountaintops (of the pre-Flood world) covered with Floodwaters, the highest mountaintops were covered by at least fifteen cubits (literally, “15 of cubit”) deep in Floodwaters. To add

emphasis, Moses repeats that the Floodwaters “prevailed” (*gâbrû* = qal perfect 3<sup>rd</sup> person plural of *gâbar*, indicating the action of **prevailing** was completed), and “the mountains” (*he-hârîm*) were passively “covered” (*wayekûssû* = waw-consecutive-prefixed *pual* imperfect 3<sup>rd</sup> person plural of verb *kâsâh*, indicating the action of **covering** was completed).

Did the Zuni Megasequence completely flood all of the continents by Day 150? I believe the geologic evidence is there to answer, yes! Do we see Zuni deposits everywhere today? The answer to that question is, no. However, the Bible tells us that the highest water level rose only 15 cubits over (i.e., above) the highest mountains. Fifteen cubits is about 6.9–9.1 m (22.5–30 feet), depending on the length of a cubit. (Because a “cubit” is defined as the length of a man’s forearm, if Noah’s forearm was longer than 18 inches, his standard “cubit” would be longer than 18 inches.) So, with only 7.6 m (25 feet) of water column we shouldn’t expect to find a lot of sediment covering the pre-Flood uplands. We think post-Flood erosion removed a lot of these thinner deposits, and left vast areas with little or no Zuni. However, there are still some erosional remnants, which we call a “bathtub ring,” indicating there was more extensive, and likely global coverage, of all continents at this point as described in the Bible (Clarey, 2020, pp. 283–295).

The Zuni may have been deposited from about Day 90 of the Flood to Day 150 of the Flood. The exact timing of when the Absaroka ended and the Zuni began is rather subjective. The Bible gives us no clues of any changes between Day 40 and Day 150 other than the water was prevailing higher and higher. However, the sedimentary record indicates that the end of the Zuni Megasequence (end Cretaceous/earliest Paleogene) was the highest point of the Flood, which we believe was at or near Day 150 (Clarey, 2020, p. 308) (Table 1). However, some earlier researchers have

disagreed, instead claiming the Flood reached a peak on Day 40 (Whitcomb and Morris, 1961) or reached a peak soon after Day 40 and stayed high or slightly higher until Day 150 (Barrick and Sigler, 2003; Barrick, 2008). Like us, Austin et al. (1994), Coffin (1983), Snelling (2009), and Walker (2011) all interpret the highest water point as Day 150 of the Flood. From Table 1, it is quite evident that the Zuni records the highest sea level of all the megasequences and was most likely reached on Day 150 (Snelling, 2009; Clarey, 2020). It is not a coincidence that the Zuni exhibits the maximum surface area coverage, the highest volume and the greatest average thickness across the continents (Table 1, Figure 1). The Zuni was the culmination of a fairly continuous rise in global sea level that began in the Sauk. By this point in the Flood, Pangaea had completely separated. The massive runaway subduction that began in the Absaroka continued unimpeded.

### Genesis 7:21

This verse (7:21) reports the fatal consequences to air-breathing terrestrial creatures, as a result of the “over-the-tops” global inundation: death. However, the usual verb for dying, *mût* (“to die”), is not here used, although it is used in Genesis 7:22. Rather, 7:21 begins with a form of the verb *gâwa’* (“to be/become a body,” often in a context of death, i.e., being/becoming a corpse, as an etymologically related noun, *gaw*, illustrates in Isaiah 50:6 & 51:23). At this stage of the Flood, with all of its unimaginable mega-tsunami-blasted devastation, rotting human corpses (as well as terrestrial animal corpses) would be floating in ocean-waters, many serving as food for carnivorous marine animals, as well as detritivores and planktonic decomposers. The global death toll covers all humans (except Noah’s Ark-borne family) and terrestrial animals: birds, domesticated and wild beasts of the fields, creatures that swarm on land, and mankind.

Fossils from the Zuni Megasequence include most of the dinosaur graveyards across the American West and other locations globally. The majority of these layers also contain prolific numbers of marine organisms (Clarey, 2020, pp. 301–304). Such strata, indicating a mixing of land and marine environments, is ubiquitous for both the Absaroka and Zuni Megasequences globally (Clarey, 2015b).

### Genesis 7:22

This verse (7:22) continues the death toll—of ocean-floating corpses—reported in 7:21, with emphasis that Floodwater-drowning doomed these once-breathing creatures, this time using (as the final word in the sentence) the usual verb for dying, *mût* (*mētû* = qal perfect 3<sup>rd</sup> person plural of *mût*, indicating that the death occurrences were completed actions). Literally translated, 7:22 says: “Everything which [had] breathing-wind-of-life (*nišmat rūâh hayyîm*) in his/her/its nostrils (*be’apâyw*), from all which [was] on dry-land, died.” Most humans were likely still alive for much of the Zuni Megasequence (Clarey, 2020). But by the end, they had all perished. In between these moments, humanity must have experienced horrendous conditions.

Massive earthquakes would have been ongoing. Rain was still falling. The advancing tsunami waves would have been pushing tremendous amounts of debris and destroying everything in their paths. Trees, sediment and dead animals would have all been mixed together in the powerful and destructive forces of the advancing waves of Floodwaters. After the Flood, as Earth’s wild weather settled down, so that ecosystems stabilized and rebounded, it would take a while for forests of well-populated (and well-rooted) trees to return (Johnson, 2019b; 2020).

Adding to the geologic chaos were massive volcanic eruptions, spewing tremendous volumes of ash and debris,

choking the air and making it difficult to breathe. These ash-rich volcanic eruptions were caused by the massive amounts of runaway subduction that was occurring during the deposition of the Absaroka and Zuni Megasequences.

As the Zuni progressed and the time drew closer to Day 150, the tsunami-like waves would reached progressively higher and higher as more seafloor was created, pushing up water levels even further. This would have forced the remaining animals and humans to rapidly migrate toward the highest elevations.

The last vestiges of dry land would have been getting smaller each day with each tsunami wave. This is the point—in the rock record—where the fossil remains of 10,000 *Maiasaura* (duck-billed dinosaurs) are found all buried together (Clarey, 2020, pp. 307–308). These animals, and many just like them, were stampeding to avoid the advancing Floodwaters. Humans, then well-known for their violence, were also likely fiercely competing for the last remnants of dry land. It was a life-or-death situation for every air-breathing animal and human. Violence against one another was likely rationalized by the desperate desire to survive another day of the ever-increasing cataclysmic conditions. But each day, the waves just kept rising higher, with no relief.

### Genesis 7:23

Moses continues to report and emphasize the unprecedentedly devastating consequences of the global Flood, using the verb *mâhâh* (“blot out”) twice in 7:23.

The first usage of *mâhâh* is *wayyîmah* (a *waw*-consecutive-prefixed qal imperfect 3<sup>rd</sup> person masculine singular of *mâhâh*), indicating that God’s *direct* action of blotting out pre-Flood lives (of both mankind and beast, save those aboard the Ark) was a completed action.

The second usage of *mâhâh* is *wayyîmahû* (a *waw*-consecutive-prefixed *niphal* imperfect 3<sup>rd</sup> person masculine

plural of *mâhâh*), indicating that God’s actions, that resulted in blotted-out pre-Flood lives (of both mankind and beast, save those aboard the Ark), produced the completed fate (i.e., the fate of *being blotted-out*) for those doomed creatures.

The same categories of destroyed terrestrial lives are recounted, from mankind to beasts and creeping things and flying birds. What then remained, i.e., what was left/spared (*wayyîšâ’er* = *waw*-consecutive-prefixed *niphal* 3<sup>rd</sup> person masculine singular of *šâ’ar*) was only Noah’s household/menagerie, i.e., those surviving with him “in the Ark” (*ba-tēbâh*). The active action of *šâ’ar* is “to remain;” the passive action of *is* “to leave remaining,” “to let remain,” i.e., to leave as a remainder (Wigram, 1874, pp. 1222–1223).

At this point, the highest hills were likely stripped down to the barren crust by the fast-moving waves that went over the top of the highest hills (Clarey and Werner, 2018; Clarey, 2020, pp. 322–324). Any semblance of human activity or evidence of their pre-Flood civilization was blotted out as well.

These geographic areas are the so-called “shield” areas today, areas of exposed granitic crust, such as the Canadian Shield or the West African Shield. All air-breathing land animals and all humans not on the Ark were drowned by this point. Remnants of Zuni Megasequence sediments are found near Hudson Bay, Canada and in Michigan and Illinois, marking the high water point of the Flood in North America. We can also see remnants of Zuni across the other continents (Clarey, 2020, pp. 470–471).

### Genesis 7:24

The ocean-blanketed Earth remained covered with prevailing Floodwaters for 150 days. The verb “prevailed” (*wayyiberû*) is the *waw*-consecutive-prefixed qal imperfect 3<sup>rd</sup> person masculine plural form of *gâbar*, indicating completed action, i.e., this 150-days timeframe

completed the highwater stage. This was anything but a “tranquil flood” (Johnson, 2011b)!

### Concluding Comments

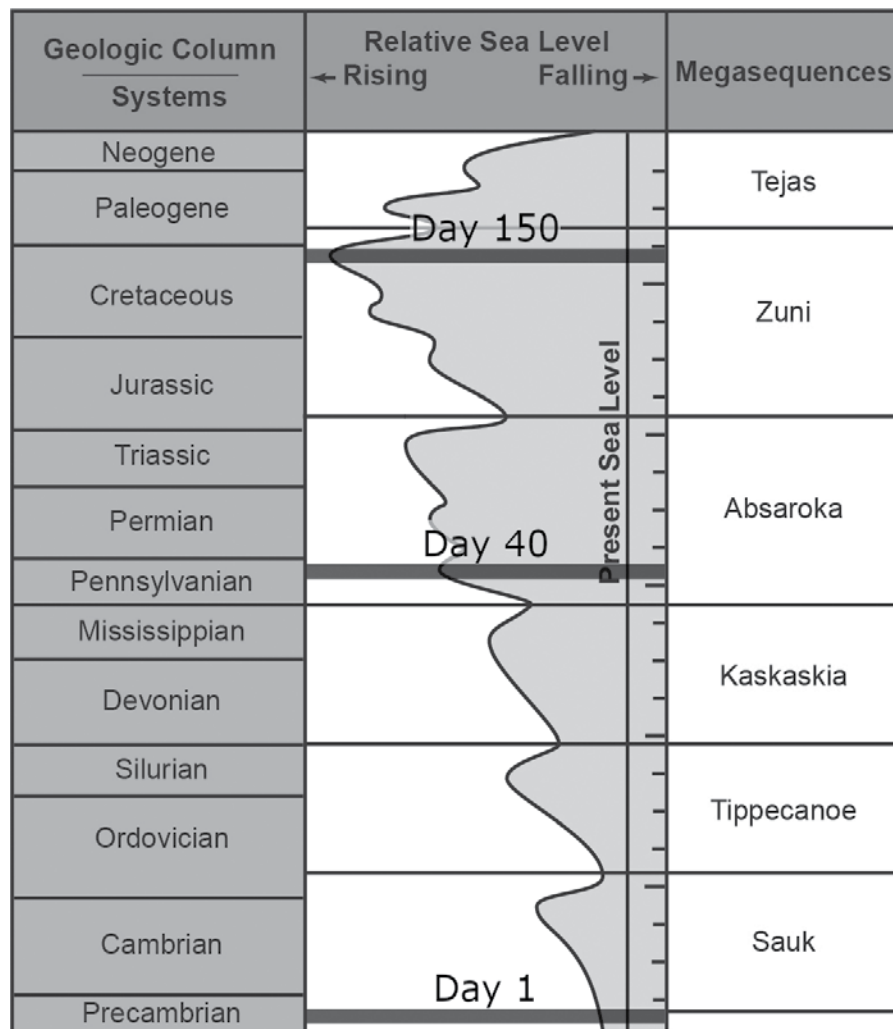
These exegetical observations and geologic commentary are presented here as preliminary “research notes,” to give CRSQ readers information and insights for Genesis Chapter 7. Recognizing the holiness of God’s Word, we have sincerely tried to hold true to the Biblical text in all our interpretations.

The geologic interpretations (analyzed above) were derived from over 1500 stratigraphic columns that were compiled across three continental regions, North America, South America, Africa and the Middle East (Clarey, 2020).

The bursting of the fountains of the great deep on Day 1 of the Flood is marked by prolific volcanic activity across the globe, including voluminous outpourings of lava in the Midcontinent Rift of North America. This is also the day that the tectonic plates most likely originated. Sediments associated with these early rift events are part of what has been called the pre-Sauk Megasequence (Clarey, 2020, pp. 172–193) (Figure 2).

Days 1–40 of the Flood are most likely the period when the three earliest megasequences were deposited (Sauk, Tippecanoe, Kaskaskia). As these layers contain almost exclusively marine fossils, it seems evident that the Floodwaters, although increasing in each megasequence, did not significantly impact the dry land portions of the continents until Day 40 (Figure 2).

The Biblical text tells us the Ark began to float on Day 40 so we assume that the dry land was now being inundated at this point. In support of this interpretation, the Absaroka Megasequence (beginning at the Upper Carboniferous level) shows a dramatic increase in both coverage and thickness across the continents (Table 1). And the Absaroka strata contain the first appearances of



**Figure 2.** Diagrammatic global sea level curve showing the megasequences and geologic systems with Days 1, 40, and 150 superimposed (Clarey, 2020, p. 474). Day 1 is the initiation of the Flood in the pre-Sauk (Late Precambrian). Day 40 is near the boundary of the Kaskaskia-Absaroka when the Ark became free-floating. Day 150 is interpreted as the sea level peak near the end of the Cretaceous System and near the end of the Zuni Megasequence.

prolific numbers of land plants and land animals, further supporting the inundation of major portions of pre-Flood land surfaces.

Somewhere after Day 40 and before Day 150, the Absaroka ended and the Zuni Megasequence began. The Zuni shows the maximum extent, maximum volume and maximum average thickness, supporting the conclusion that

this as the high point of the Flood, likely marking Day 150 of the Flood year (Table 1).

This is the first time a global stratigraphic data base has been amalgamated with an exegesis of Genesis Chapter 7 in detail. Our results show perfect agreement with the account of the Flood and provide key insights for Days 1, 40, and 150 of the Flood year (Figure 2).

What follows, in Genesis Chapter 8, is the Flood's cataclysmic back-and-forth drainage (Genesis 8:3) and its drainage-deposited aftermath (Morris and Johnson, 2012).

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