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The Post-Flood Ark Dispersal and Early Pleistocene: Exegetical and Geological Notes on Genesis 8:13–22

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Abstract

This multidisciplinary research paper examines Genesis, Chapter 8:13–22 which is the immediate post-Flood phase of the global Genesis Deluge. In a companion paper, I previously performed an exegetical and geological analysis of Genesis, Chapter 8:1–12 which documented the receding phase of the global Flood which was responsible for depositing the Tejas Megasequence (Paleogene and Neogene of the geological column). The receding phase of the Flood described in Genesis 8:1–12 encompassed 135 days of highly significant Earth-shaping activity and is responsible for producing approximately a third of the total volume of the fossil-bearing portion of the geological column (Phanerozoic). The Tejas deposits are also responsible for the burying of numerous amounts of mammals, angiosperms, and many other plants and creatures living at higher pre-Flood elevations that are not found in lower (pre-Tejas) layers of the rock record. In this present analysis of Genesis 8:13–22, I exegete the Hebrew text showing that the earth surrounding the Ark landing site in the Middle East was completely dry by Genesis 8:14, and likely all the continents, which allowed for the disembarking of Noah, his family, and the animals off the Ark as noted in the following verses. Significantly, the Middle East is dominated by Tejas deposits of marine origin which were deposited in the receding phase of the Flood and according to the completed action of the verbal forms in the Hebrew text, was decidedly dry enough at the time of disembarkment and also for subsequent human development of the land of Shinar and the building of the tower of Babel.

Key Words: Genesis Flood, Pleistocene, Ice Age, post-Flood, N-Q Flood Boundary, Hebrew exegesis, Genesis, Chapter 8

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Introduction

The global Flood was forewarned of and preliminarily prepared for in Genesis, Chapter 6. In Genesis, Chapter 7, the Flood initiates with the bursting of the fountains of the great deep on day 1 with the Floodwaters progressively rising until they reached the Ark on day 40 (Johnson and Clarey, 2021). The first 40 days of the Flood were largely responsible for the sedimentary deposition of marine ecosystems and involved the initial megasequences of the Sauk (Cambrian, Lower Ordovician), Tippecanoe (Mid-Upper Ordovician, Silurian), and Kaskaskia (Devonian, Mississippian, and Pennsylvanian). At about day 40, we not only get the floating of the Ark, but the initial burial of tropical coastal land ecosystems which initiate the global sedimentation of progressively higher and more inland environments in the Absaroka and Zuni Megasequences (Clarey, 2020a). Continental separation of the pre-Flood Pangea megacontinent begins to accelerate about the middle of the Absaroka Megasequence (beginning of Triassic) and then continues through the Zuni (late-Jurassic and Cretaceous) (Clarey, 2020a). The Flood peaks at the end of Genesis 7 with the high-water mark being about day 150 where all the highest hills were covered with at least 15 cubits of water (about 22.5–30 feet) represented by the top of the Zuni Megasequence corresponding to just above the top of the Cretaceous System (Johnson and Clarey, 2021).

While the majority of the initiation and progression of the global Flood occurs within Genesis 7, it should be noted that one of the most critical parts of the global Flood occurs during Genesis 8:1–12 which I discussed in a previous paper (Tomkins, 2023). This would be called the receding phase in which huge amounts of Floodwater runoff occurred globally off the newly separated continents. This action was facilitated by the rapid uplift of mountain ranges such as those which occurred during the formation of the Rocky Mountains in North America and the Andes in South America. In fact, the receding phase of the global Flood is so important, that the most recent stratigraphic analysis of six continents indicates that 32.5% (personal communication, Timothy L. Clarey) of the total global volume of the fossil-bearing geological column (Phanerozoic) is composed of Flood runoff deposits known as the Tejas Megasequence (Clarey and Werner, 2023). It is noteworthy that the final receding phase of the Flood being represented in Tertiary rocks was acknowledged at the beginning of the Modern Creation-Science Movement in the epic book by Henry M. Morris and John C. Whitcomb (1961, p. 287), *The Genesis Flood*, in which they state: "In general, the record of the entire Tertiary [including Neogene] and early Quaternary…can be reasonably interpreted as preserving the record of the last phases of the Flood, including both the final deposits and geomorphic phenomena related to the [orogenic] rising of the lands and sinking of the [oceanic] basins that terminated the inundation."

The receding final phase of the Flood not only has strong significance for explaining the vast amount of sediments in the Tejas, but it also affects the critical paradigm of where the end of the Flood exists in the rock record. The location of the Flood/post-Flood boundary has been hotly debated in creationist circles for the past several decades (Holt, 1996; Oard, 2004, 2010a, 2010b, 2011; Ross, 2012; Oard, 2013a, 2013b; Clarey, 2017, 2018; Clarey and Werner, 2019b; Clarey, 2020a, 2020b).

A proper determination of the post-Flood boundary is actually a critical issue to understand because it has direct connections to explaining the enormity of global Tejas strata along with massive amounts of Cenozoic animal and plant fossils, including extensive and thick Cenozoic coal seams (Clarey et al., 2021; Tomkins, 2021d; Tomkins and Clarey, 2021). In addition, a proper post-Flood model also has direct impact on key events such as human and animal dispersal from the Ark and the necessity of land bridges associated with the post-Flood Ice Age (Tomkins, 2021a).

Related to this whole debate are Biblical text issues regarding how quickly Noah and the animals left the Ark and dispersed post-Flood. The problem for early post-Flood boundary advocates who propose an end of Flood deposition at the top of the Cretaceous is the glaring fact that the entire Middle East, including regions immediately surrounding possible Ark landing sites around Mount Ararat, is covered in Tejas marine strata. In fact, many of these strata are of obvious marine deposition being composed of carbonate rocks (limestone) and salt deposits (Clarey and Werner, 2019a). While the most obvious explanation would be the acceptance of a late Flood boundary near the Neogene-Quaternary (known as the N-Q boundary), others are developing unlikely explanations to maintain their early post-Flood boundary models.

One such proposition is the unpublished claim by early Flood/post-Flood (K-Pg) boundary advocates that much of the post-Flood Middle East remained flooded and impassible to human dispersal (and presumably most animals too) for about 200 years after the Ark landed (personal communication, Timothy L. Clarey). The basic idea is that Noah, his family, and the Ark-borne animals remained in the mountains of Ararat for about 200 years while the waters continued to drain from Syria, Iraq, and Turkey. Then, presumably, once the region dried out enough to allow travel, Noah and his sons and their descendants traveled from the east to the Plain of Shinar and built Babel. While William Barrick has not committed to proposing any boundary for the post-Flood in the rock record to the knowledge of this author, he did propose the idea of a partially wet post-Flood world that seems to be the basis

for this idea. In 2008 Barrick speculates (p. 275), "In essence, the Flood itself had ended when the surface of the ground was free of water on the 315th day. However, that does not mean that the waters had receded to pre-Flood levels. The water level may have remained significantly elevated for decades or even centuries."

But does the Hebrew text of the Genesis 8 narrative which covers this subject support the contention that after the Ark landed, the Middle East was still too wet to travel or does it indicate that it was dry enough to disperse according to God's commandment given directly to Noah in Genesis 8:15–17?: "Then God spoke to Noah, saying, 'Go out of the ark, you and your wife, and your sons and your sons' wives with you. Bring out with you every living thing of all flesh that is with you: birds and cattle and every creeping thing that creeps on the earth, so that they may abound on the earth, and be fruitful and multiply on the earth.'" While the clear directive given by God to Noah would seem evidence enough to answer this question, I have exegeted Genesis, Chapter 8:13–22, which not only counters this errant idea, but also better explains how it fits in with the immediate post-Flood Ice Age.

Exegetical Methods

Hebrew text analyses were facilitated by Accordance Bible Software (version 14) with the following packages: *Biblia Hebraica* with Westminster Morphology, Hebrew Masoretic Text with *Andersen-Forbes Morphology and Syntax Database*, and the *Hebrew and Aramaic Lexicon of the Old Testament* (*HALOT*). Owen's *Analytical Key to the Old Testament* (Volume 1, Genesis to Joshua) was also consulted (Owens, 1991) along with a variety of Hebrew reference grammars as cited in the text. The Hebrew transliterations in the following text are performed in SBL Academic format. English translation, unless otherwise noted, will be in the King James Version.

Genesis 8:13–22 Is Historical Narrative

Like Genesis 1 and many other parts of the Old Testament, Genesis 8:13–22 is Hebrew narrative giving historical truth, not poetry or mytho-history (Johnson, 2011; Drake, 2020; Tomkins, 2021b). This fact is distinctly defined by the Hebrew grammar where the majority of the verbal forms occur in what is known as a *waw-consecutive* in which the verb is prefixed by the letter *waw* and the verb itself is in the imperfect tense. This *waw* + imperfect tense grammatical construct effectively changes the normal imperfect tense (uncompleted action) into a perfect tense (completed action), hence the less-used term *waw-conversive*. While some Old Testament scholars question the regularity of this verbal rule, Pratico and Van Pelt (2019, p. 181) state, "Though the terminology 'past tense narrative sequence' is not commonly used, the term is descriptive of how the Imperfect with Waw Consecutive functions in narrative." Thus, these verbal forms consecutively and repeatedly describe completed historical events in the obvious historical narrative of Genesis 8. Since most of the verbal forms in Genesis 8:13–22 are *waw*-consecutives, I will try not to redundantly repeat this grammatical rule in the following exegesis. If a verbal construct is of a different form and conveys a significant and insightful meaning, I will take note of that. The style and format of Hebrew exegesis employed in this paper will be the same as that which I have used previously (Tomkins, 2022, 2023).

Genesis 8:13

"***And it came to pass in the six hundredth and first year, in the first month, the first day of the month, the waters were dried up from off the earth: and Noah removed the covering of the ark, and looked, and, behold, the face of the ground was dry.***"

In the previous paper I discuss Noah's initial use of a raven (Gen. 8:7) and then several outings of a dove—each a week apart (Gen. 8:8–12) with the last bird mission involving the dove failing to return to the Ark (Gen. 8:12) (Tomkins, 2023). In this continuing scenario in verse 13, Noah had previously sent the dove out for the last time on the 285th day of the Flood. While this seemed to indicate that the land was sufficiently dry and vegetation had been established to support bird life, Noah waited another 29 days to remove the Ark's covering (possibly a part of the roof). At this point it had been 314 days since the Flood began and Noah actually then beheld the dry ground for himself.

This last part of the verse "and [Noah] looked" (*wayyar'*) followed by "and behold" (*wəhinnēh*) is interesting and has produced several helpful opinions by grammarians for this verse in particular. In an instance like this in which a *hinnēh* (behold) clause occurs after a verb (to look) is "without anticipation" of the object noun and "he saw and behold" = "he saw that" + "the surface of the earth had been dried up" which is a similar construction as occurs in Genesis 3:6 where Eve "saw that the tree was beautiful" (Joüon and Muraoka, 1991). Another Hebrew reference grammar expands on this idea in which this type of construction is said to be typically involved in a situation in which the observer is involved in a change of scene when they are "confronted with a new situation that is surprising to them" (van der Merwe et al., 2017). This linguistic construct known as *mirativity* is a means for indicating surprise on the part of the speaker (van der Merwe et al., 2017). Obviously, Noah was surprised and probably thoroughly elated to see this de-

velopment after his long and traumatic 314-day ordeal in the Ark.

However, Noah must have also noted that while the ground was dry, the landscape was still not amenable to departure from the Ark. In fact, the last clause "*ḥārəḇû pənê hāʾăḏāmāh*" indicates that the "faces" (*pənê*) of the ground (*hāʾăḏāmāh*) were dry. Here we have Noah's subjective observation of what had been previously stated in the first part of the verse; "the waters were dried up from off the earth" (*ḥārəḇû hammayim mēʿal-hāʾāreṣ*), but it still leaves room for the whole earth to be fully dry for Ark disembarking which we eventually get to in the following verse. Nevertheless, the key grammatical point to make is that both forms of the verb *ḥāraḇ* (to dry) are in the qal perfect indicating a completed historical action. So at this point in the narrative, there was no longer a layer of water over the ground, but the soil was likely still too wet. Barrick in his helpful chronological summary of the Flood had noted that at this point it had been 90 days since the mountain tops had appeared and that the surface of the ground at this point was free of excess water (Barrick, 2008).

Cassuto notes regarding the timing given in verse 8:13 where it says, "in the first month, the first day of the month": "Precisely at the commencement of the year, on the anniversary of Creation, the world resumed again the form that God had given it when first it came into being" (Cassuto, 1964). While Cassuto, a Jewish Old Testament scholar and rabbi, was intriguing in claiming the significance of the date aligning with the annual anniversary of Creation, the world was hardly the same form as it was in the beginning at Creation. In fact, it was radically different as the apostle Peter notes: "Whereby the world that then was, being overflowed with water, perished" (2 Pet. 3:6). Cassuto actually clarifies what he was getting at in his exegesis of the following verse (v. 14) which I shall note shortly.

With the trauma of enduring the destruction of the world in a global Flood and Noah and his family being the sole survivors, Noah was obviously being extremely cautious not to do anything that might in the least conflict with God's purpose. However, he now felt that the present situation warranted the removal of the Ark's roof, here called "covering," *miksēh* from *kāsāh*, "to cover." After the covering was removed, Noah discerned with surprise and probably much delight that, as noted above, the surface of the ground was dry. In fact, the object noun construction "the surface (faces) of the ground" (*pənê hāʾăḏāmāh*) is clarified by the preceding verb in the qal perfect third plural (*ḥārəḇû*) to be dry.

Genesis 8:14

"And in the second month, on the seven and twentieth day of the month, was the earth dried."

At this point, Noah, his family, and the Ark's creatures have been inside the Ark for a little over a year at 371 days, and another 57 days have passed since Noah removed the covering from off the Ark and actually observed the dryness of the face of the ground. Noah is still being extremely cautious and awaiting the command of God to leave the Ark. And quite significantly, the earth is now fully dry enough for disembarking the Ark and its living contents disbursing throughout the Earth.

In all likelihood, these 57 additional days of waiting on the Ark had a definite practical purpose. It allowed vegetation time to germinate and grow on the previously dried-out surface. Rain after the Flood would have probably displaced the saltier Floodwater deeper into the subsurface and out of the top soil layers—allowing plants to grow and mature quickly after the Flood. This new growth provided food for the disembarked animals to feed on as they exited. If the land wasn't already dry for 57 days, it is unlikely there would have been any significant vegetation growth, and thus, the only food for the animals would have been on the Ark. So, getting off the Ark would have been futile if the land hadn't already been completely dry for nearly two months.

The dryness factor is emphasized by the clause *yāḇəšāh hāʾāreṣ* and the verb to dry (*yābēš*) is again used here as it was in the previous verse in the qal perfect denoting a completed historical event with "the earth" (*hāʾāreṣ*) as the object as opposed to "the ground" (*hāʾăḏāmāh*) in the previous verse—indicating a more global scope. Bandstra notes concerning this last clause in Genesis 8:14 that "So-called stative verbs, such as this one [*yābēš*], indicate the state of the subject [the earth]" (Bandstra, 2008). And in this verse, the proper level of dryness needed for the colonization of the newly reworked earth has been achieved. All speculation that somehow Noah, his family and the Ark's creatures somehow remained holed up in the mountains of Ararat for 200 years to wait for the earth to dry are utterly negated by a clear and normal reading of the Hebrew text.

Interestingly, Cassuto once again finds a parallel with the original Creation Week and helpfully notes that at this point in verse 14, "it was necessary to wait until the earth was *dried out* [*yāḇəšāh*] and returned to the state befitting the name it had received at the time of creation, when it was said (Gen. 1:9b): let the DRY LAND [*yabbāšāh*] *appear*" (Cassuto, 1964). Thus, just as the earth was properly dry in Genesis 1:9 for the continuation of the Creation Week in bringing forth vegetation on the Earth and living creatures, so also is the earth now fully and properly dry for the post-Flood restoration of plant life, animal life, and human life.

Genesis 8:15–17

"And God spake unto Noah, saying, Go forth of the ark, thou,

and thy wife, and thy sons, and thy sons' wives with thee. Bring forth with thee every living thing that is with thee, of all flesh, both of fowl, and of cattle, and of every creeping thing that creepeth upon the earth; that they may breed abundantly in the earth, and be fruitful, and multiply upon the earth."

Throughout the Genesis account of Noah, he was portrayed as a man who walked with God and obeyed Him and did not rely on his own reasoning. He built the Ark when he was told to, entered it when instructed, and now he receives the divine command to leave the Ark despite having already tested the earth's dryness (using the raven and doves) and observing the dry ground himself after removing the Ark covering. This speaking of God to Noah (*waydabbēr ʾĕlōhîm ʾel-nōaḥ lēʾmōr*) is ascribed to Elohim and not Yahweh as in Genesis 1 with the parallel of not only the departure of Noah and his family in view, but the repopulation of the Earth's land animals as well from the Ark's creatures. The verb *yāṣāʾ* for "Go forth" (*TWOT* 893; "go out, come out, go forth" (Harris et al., 1980)) is in the qal imperative as a direct command from Elohim which is further qualified by "from the ark" (*min-hattēḇāh*). Noah is not only commanded to come out of the Ark but his family with him and all of the Ark-borne creatures as well. Since the ground was now fully dry, God's command for Noah and every other living thing to get out of the Ark is clear.

And God not only commanded Noah to bring forth the Ark's creatures, but God makes another statement "that they may breed abundantly in the earth, and be fruitful, and multiply upon the earth." This statement by God is a reiteration of the original creation mandate of Genesis 1:26–28 and God instructs Noah to bring out the animals so that they might "breed abundantly" (*šāraṣ*), "be fruitful" (*pārāh*), and "increase" (*rābāh*) on the earth. This instruction is also reminiscent of God's blessing upon the initial animal kinds in creation (Gen. 1:22), where God blessed them in similar language to be "fruitful" (*pārāh*) and "increase" (*rābāh*).

This command concerning the Ark's creatures involves two key points worth noting. First, the innate capacity of creatures to dynamically adapt to a broad range of environmental conditions, is a marvelous testimony to the handiwork of an omnipotent Creator in engineering robust biological systems. Second, God's command given to creatures to reproduce and be fruitful also necessarily implies His superintending providence to bring the global biological colonization of the post-Flood world to pass. Elohim's purposes and decrees will not be thwarted.

But from a geological and geographic perspective, this Divine narrative further negates the errant idea that somehow the Middle East was too wet and Noah and the Ark contents had to stay put for another several hundred years for things to dry out. In fact, as I will discuss later, the geologic and climatic conditions in the immediate post-Flood era were providentially orchestrated to allow for the global dispersal of animals and humans through the development of intercontinental land bridges formed during the post-Flood Ice Age.

Genesis 8:18–19

"And Noah went forth, and his sons, and his wife, and his sons' wives with him: Every beast, every creeping thing, and every fowl, and whatsoever creepeth upon the earth, after their kinds, went forth out of the ark."

In response to God's command, Noah obediently went forth along with his sons, and his wife, and his sons' wives. The use of *yāṣāʾ* (to go) here stands in stylistic symmetry as the story of exiting the Ark began with God's command in verse 16 "go forth" and then the verb *yāṣāʾ* was used again by itself twice in verses 17 and 18; "bring forth" and "went forth," respectively (Cassuto, 1964). In other words, the obedient conclusion here in verse 18 corresponds to the opening words.

The creatures from the Ark were also brought forth; every beast (*kol-haḥayyāh*), every creeping thing (*kol-hāremeś*), and all flying creatures (*wəḵol-hāʿôp̱*), and all of the creeping things that creep upon the earth (*kōl rômēś ʿal-hāʾāreṣ*). It is reasonable to assume that this was done in a very orderly and progressive manner. Leupold states, "all creatures are not simply to be liberated to trot forth from the ark in wild confusion, which confusion might have resulted in the death of the weaker creatures" (Leupold, 1942).

Another interesting point is that the KJV says that the various types of animals went out by their "kinds" which would imply the Hebrew word (*mîyn*) as was used in Genesis 1 and was also used in Genesis 7:14 describing the animal contents of the Ark; "They, and every beast after his kind (*mîyn*), and all the cattle after their kind (*mîyn*), and every creeping thing that creepeth upon the earth after his kind (*mîyn*), and every fowl after his kind (*mîyn*)." However, the actual phrase in Genesis 8:18 is according to their "families" (*mišp̱āḥāh*). Mathews notes, "Although this reminds us of the creation refrain 'after its kind' (*mîn*), the different Hebrew word in v. 19 for 'kind' (*mišpāḥa*) points ahead rather than to the past" (Mathews, 1996). In other words, the use of the word "families" implies the reproductive fruitfulness of each kind of creature as it goes forth into the earth filling ecological niches for which it has the internal programming to diversify and adapt.

Genesis 8:20–21

"And Noah builded an altar unto the LORD; and took of every clean beast, and of every clean fowl, and offered burnt offerings on the altar. And the LORD smelled a sweet savour; and the LORD said in his heart, I will not again curse the ground any more for man's sake; for the imagination of man's heart is evil from his youth; neither will I again smite any more every thing living, as I have done."

Significantly, Noah's first recorded act after disembarking from the Ark is to build an altar to the LORD (Yahweh) in verse 20. On the altar (*mizḇēaḥ*) he built, he presents whole-burnt offerings, using some of the clean animals and birds. There are different views on the nature of this offering. One view is from the Jewish perspective of Cassuto who proposed that these offerings of Noah were not sacrifices of atonement because "there was no need for atonement, since suffering and death [of the Flood] purge away human iniquities" (Cassuto, 1964). Cassuto thus concludes that these sacrifices were solely an act of thanksgiving to Yahweh for delivering Noah and his family from the terrible year-long judgment of the global Flood.

The second and considerably more popular evangelical view is that while this offering does in fact express gratitude for God's deliverance, it is also an act of atonement (ESV Study Bible, 2008). The reasoning is that this is a normal aspect of burnt offerings and is accompanied by the mention of a pleasing aroma (citing Lev. 1:3–17) as an anthropomorphic description of the Lord's pleasure. Proponents of this view also note that the "Hebrew term for 'pleasing,' *nikhoakh*, conveys the idea of rest and tranquility" and "is related to the name 'Noah' (Heb. *Noakh*)" [*nōaḥ*] (*ESV Study Bible*, 2008). The main idea of this view being that the "burnt offering soothes God's anger at human sin" (*ESV Study Bible*, 2008). Roland McCune helpfully notes, "the idea of a sacrifice being a 'soothing aroma' appears to the thought of producing a calming or placating effect (Gen 8:21; the phrase is used 43 times in the Old Testament)" (McCune, 2009). Furthermore, we also have the early post-Flood example of the patriarch Job making burnt offerings for the sins of his children (Job 1:5). In this respect, Noah's offering was also a sacrifice on behalf of post-Flood humanity as well as an act of thanksgiving. Just as Job mediated for his family in the early post-Flood world, Noah was acting in a role of priest for the totality of the new post-Flood world. And because Noah had a strong and faithful devotion to God, for "he walked with God" (Gen. 6:9; 7:1; 8:1; Heb. 11:7), his sacrifice pleased the Lord.

We also see God's grace at work in accepting Noah's sacrifice and establishing a new basis for His relationship with the world in the following statement, "and the LORD said in his heart, I will not again curse the ground any more for man's sake." The verb used here for curse (*qālal*) is different from the verb *'ārar* (to curse) that was used in the original Adamic curse on creation in Genesis 3:17 ("*cursed* is the ground for thy sake"). Some have incorrectly argued here in Genesis 8:21 that God lifted or alleviated the original Adamic curse against the ground (*'ăḏāmāh*) after the global Flood. Because of the connection between Genesis 8:21c and Genesis 6:5b regarding an acknowledgement of the evil inclination of man's heart, we get the final clause of 8:21 ("neither will I again smite any more every thing living, as I have done"). This second statement substitutes the verb to smite (*nākāh*) for curse (*qālal*) and is preceded by the expression "I will not add again" (*wəlō'-'ōsiṗ 'ôḏ*) translated "neither will I again." Here Michael Grisanti in *NIDOTTE* helpfully notes that this, "demonstrates that God promises not to judge humankind through a universal catastrophe as he had with Noah's Flood" and "God will never again curse the אֲדָמָה [*'ăḏāmāh*] because of an אָדָם [*'āḏam*]" (VanGemeren, 1997).

Genesis 8:22

"While the earth remaineth, seedtime and harvest, and cold and heat, and summer and winter, and day and night shall not cease."

The previous assurance that the Earth would no longer be destroyed by a global deluge is further elaborated upon here. The sentence starts with the idiomatic phrase "still while all the days of the earth" (*'ōḏ kol-yəmê hā'āreṣ*) translated as "while the earth remaineth" indicating that the remainder of the present post-Flood Earth will continue in a seasonal cycle until its final fiery destruction and the new heavens and the new Earth take its place (2 Pet. 3:10; Rev. 21:1). This emphasis on cyclic continuity is elaborated by "seed [seedtime] and harvest" (*zera' wəqāṣîr*), "cold and heat" (*wəqōr wāḥōm*), "summer and winter" (*wəqayiṣ wāḥōreṗ*), and "day and night" (*wəyôm wālaylāh*). All of these seasonal cyclic descriptors are followed up by the negation of the verb *šāḇaṯ* (*lō' yišbōtû*). This application of the negative particle *lō'* before the imperfect form of the verb is a special use that implies an absolute or permanent prohibition (Pratico and Van Pelt, 2019). An example of this is the "you shall not" for each of the ten commandments in Exodus 20:4–17.

While we are given the seasonally cyclic nature of the ensuing post-Flood world, it stands in contrast to the previous world before the global cataclysm. However, the climatology of the pre-Flood world is largely a mystery. Based

on the longevity of humans as recorded in Genesis and the recent discoveries of apparent longevity of reptiles in the fossiliferous record of the Cretaceous (Sereno et al., 2001; Ricklefs, 2010), the environmental conditions appear to have been much more favorable to life. This may have been facilitated by higher levels of oxygen and perhaps even greater air pressure (Clarey, 2020a). Since God ordained the consumption of animals by humans after the Flood (Gen. 9:3), the greater pre-Flood longevity of animals and humans may have also been due in part to nutrition from plant kinds that were limited in extent or extinct after the Deluge.

Geological and Geographical Notes on the Post-Flood World

In a previous paper on Genesis 8:1–12, I explained how the final sedimentary rock layers were laid down in the receding phase of the global Flood as the newly separated continents and their mountain ranges were being uplifted and the sediment-laden waters poured off the continents (Tomkins, 2023). These last Flood layers formed what is known in the geologic column as the Paleogene and Neogene of the Cenozoic era and is also referred to as the Tejas Megasequence (Clarey, 2020a). The fossiliferous sediments of the Tejas are full of creatures that were apparently living at higher elevations in the pre-Flood world (Tomkins, 2021d).

Just above the Tejas are thin strata in various locations around the world that are called Pleistocene. While some of these deposits may actually be late-Flood rocks, the majority were likely formed after the Flood from the unique climatic conditions that occurred. In general, Pleistocene strata are typically composed of unsorted (random-size fragments) and unstratified (loose and not solidified) rocks and sediment as compared to the lower Flood layers of the geologic column that form distinct solid (lithified) strata (Tomkins, 2021c).

The Post-Flood Ice Age

One of the defining features of the Pleistocene is the global evidence of a post-Flood Ice Age (Tomkins, 2021c). Many of these geological deposits can still be observed in receding glaciers that are active around the world today. Continental glaciers, in particular, produce several distinctive geological features that we find in Pleistocene strata. One of these features is known as drumlins, which are low elongated hills containing the rock debris left behind by the glacier at its base. They are typically aligned with the direction of the flow of the ice. Another feature is known as end moraines, which contain what is called glacial till (loose rock) that forms at the end of the glacier where it is melting as fast as advancing and is often perpendicular to the glacial flow direction. Lateral moraines may even extend to the sides of the glacier or look like curved lobes, defining the path of the glacial advance. These, and other features like erratics (out-of-place rocks) from the Ice Age are found in lower latitudes than today's ice sheets and glaciers. These provide evidence that ice sheets in both the northern and southern hemispheres extended to lower latitudes than exist today and have since melted significantly.

While secular scientists have great difficulty explaining evidence of an Ice Age and have literally put forth dozens of speculative theories, a Biblical solution based on the global Flood fits the data closely. In this model, it is proposed that an outright Ice Age began shortly after the Flood (within 200 years) and may have only lasted for about 500 years (Hebert, 2021). The mechanism for the Ice Age event has been aptly applied as a four-point model using the acronym HEAT: 1) **H**ot oceans during the Genesis Flood were produced by the production of an entirely new seafloor of hot, molten material from the Earth's interior during the Flood and hot waters from "the fountains of the great deep" (Genesis 7:11). The hotter ocean water would have kept the coastal regions free of ice by creating a warmer micro-climate for animal and human dispersal along the edges of the continents and the exposed land bridges, 2) **E**vaporation into the atmosphere from the warm oceans would have increased levels of atmospheric moisture, allowing for high levels of snowfall over the cooler mid-to-high-latitude regions, 3) **A**erosols (airborne particulates) filling the atmosphere from the enormous amounts of subduction zone volcanic activity that occurred at the end of the Flood (Clarey, 2019) and post-Flood that would have resulted in blocking significant solar radiation—creating a cool climate for snow and ice to accumulate and, 4) **T**ime (500 years) would have been involved in this overall process of extended post-Flood volcanic activity that continued as the Earth was equilibrating from the massive amount of plate tectonics that had occurred during the Flood (Baumgardner, 2003).

Ice Age Land Bridges

Research in megasequence stratigraphy and Flood-based plate tectonics and subduction has shown how the pre-Flood Earth had originally been composed of essentially one large megacontinent called Pangaea that split apart into the global continental configuration of the seven continents we see today (Clarey and Werner, 2018; Clarey, 2020a). Not only is this massive level of tectonic activity and new seafloor production important in explaining the HEAT model of the Ice Age, but it also directly relates to the ability of humans and animals to repopulate the Earth after the Flood.

When the present geographical separation of continents by oceans is observed, it is difficult to explain how the various kinds of animals on the Ark could have dispersed around the Earth. However, when we take into account

the post-Flood Ice Age, the problem readily disappears. The Ice Age would have created land bridges all around the world by exposing dry land as large proportions of the world's water would have been trapped as ice. In fact, the massive amount of water stored in ice sheets would have fortuitously lowered sea levels by 200 to 280 feet below today's level (Clarey, 2016; Tomkins, 2021c). The resulting land bridges would have made excellent pathways and migration routes for animals and humans to simply walk to the major continents.

One such interesting trail of evidence that serves as a good example of the land-bridge paradigm has to do with the presence of kangaroos in Australia. How is it that kangaroos only live in Australia, and how did they get there? In a recent discovery, kangaroo cave paintings have been documented in India, yet no kangaroos are known to currently live in India (Thomas and Clarey, 2021). However, India lies in the middle of the path across lower Asia leading from the landing site of Noah's Ark to Australia. Furthermore, there exists a submerged former land bridge connecting Asia to Australia that would have allowed the kangaroos to migrate. The reason that we typically only find certain types of animals on the various continents is because of this selective migration that occurred post-Flood for 500 years and was then brought to an end as the land bridges got covered with ocean as the vast amounts of frozen water bound up in the Ice Age melted.

The Mysterious Wooly Mammoth

Another defining feature of the post-Flood Pleistocene seems to be the evidence of large body-size (to conserve heat) and more hair as insulation, especially in creatures with the innate programming to live in the cold climates at higher latitudes. An excellent example of this is the wooly mammoth which was essentially a type of elephant that expressed the traits needed to live in cold climates, having a very large body-size compared to other types of elephants and a thick coat of hair. There is evidence that large herds of mammoths roamed the northern plains of Siberia and North America and that they were hunted by post-Flood humans for their meat and valuable hides.

Even today, we see large mammals living in the extreme cold of the north, such as walruses and polar bears. Like the mammoth among the created elephant kind, polar bears are the largest of the bear kind. This evidence of scaling is an innate adaptive mechanism built into creatures by their Creator. It is common to see larger variants of a created kind in cold climates while smaller variants of the same kind inhabit warmer environments at lower latitudes. And of course, one trait of creatures that have self-adjusted to warm environments is that they usually have less hair.

Summary and Conclusion

The Hebrew text of the Genesis narrative in 8:13–22 does not support the contention that the Middle East and parts of the Earth were too wet to allow dispersal from the Ark landing site. In fact, the repetitively utilized completed action of the Hebrew verb "to be dry" (*ḥāraḇ*) along with the context indicates that the earth was dry enough to disperse according to God's commandment given directly to Noah in Genesis 8:15–17; "Then God spoke to Noah, saying, 'Go out of the ark, you and your wife, and your sons and your sons' wives with you. Bring out with you every living thing of all flesh that is with you: birds and cattle and every creeping thing that creeps on the earth, so that they may abound on the earth, and be fruitful and multiply on the earth.'"

The majority of the Pleistocene sedimentary layers are from post-Flood glacial and associated climatic activity during the roughly 500-year period of the Ice Age and are directly connected to the mechanisms surrounding the Flood. In fact, the Ice Age brought about by the tectonic activity of the Flood providentially lowered global sea-levels and provided the phenomena of temporary intercontinental land bridges so that the Earth could be repopulated by animals and humans after the Flood. Only the activity and conditions generated by the global Flood can explain the Ice Age, which was a key part of God's plan in the judgment and subsequent restoration associated with the global Flood.

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