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ARTICLE

The Defeat of Flood Geology by Flood Geology

The ironic demonstration that there is no trace of the Genesis Flood in the geologic record

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Introduction

According to the young-earth creationist (YEC) paradigm, the narratives recorded in the biblical book of Genesis are accurate historical records of actual events. Within that paradigm, the Flood of Noah is considered to have happened as described in chapters 7 and 8 of Genesis. According to the narrative, the rain of the Flood began in the second month of Noah's 600th year. The rain lasted 40 days, at the end of which the water level was more than 6 meters above the height of the highest mountains. All humans and non-aquatic animals perished, except those that were on the Ark with Noah. The earth remained flooded for 150 days, but by the end of that period the waters had receded enough for the Ark to rest on the "mountains of Ararat" (not a single Mt Ararat, as is commonly but incorrectly assumed). About two and a half months after the Ark came to rest, the waters had receded enough to expose the tops of mountains. By the end of the second month of Noah's 601st year, "the earth was completely dry" (Genesis 8:14, New International Version). The account therefore describes a flooding event in which water rose for 40 days and receded for the rest of a single year, during which recession the planet was completely submerged for 150 days.

In 1961 Whitcomb and Morris published *The Genesis Flood*. The authors presented the hypothesis that the Flood was responsible for the deposition of all Phanerozoic sedimentary strata stratigraphically below the Quaternary. They also questioned the validity of the stratigraphic principles upon which the geologic column—the sequence of time divisions to which geological deposits are assigned—is based (see Figure 1). Their publication was not the first to espouse these views but its popularity precipitated a deluge of Flood-related research by young-earth creationists in an attempt to find support for the book's conclusions. Ironically, that outpouring of research has ultimately led to the falsification of most of the book's geological interpretations.

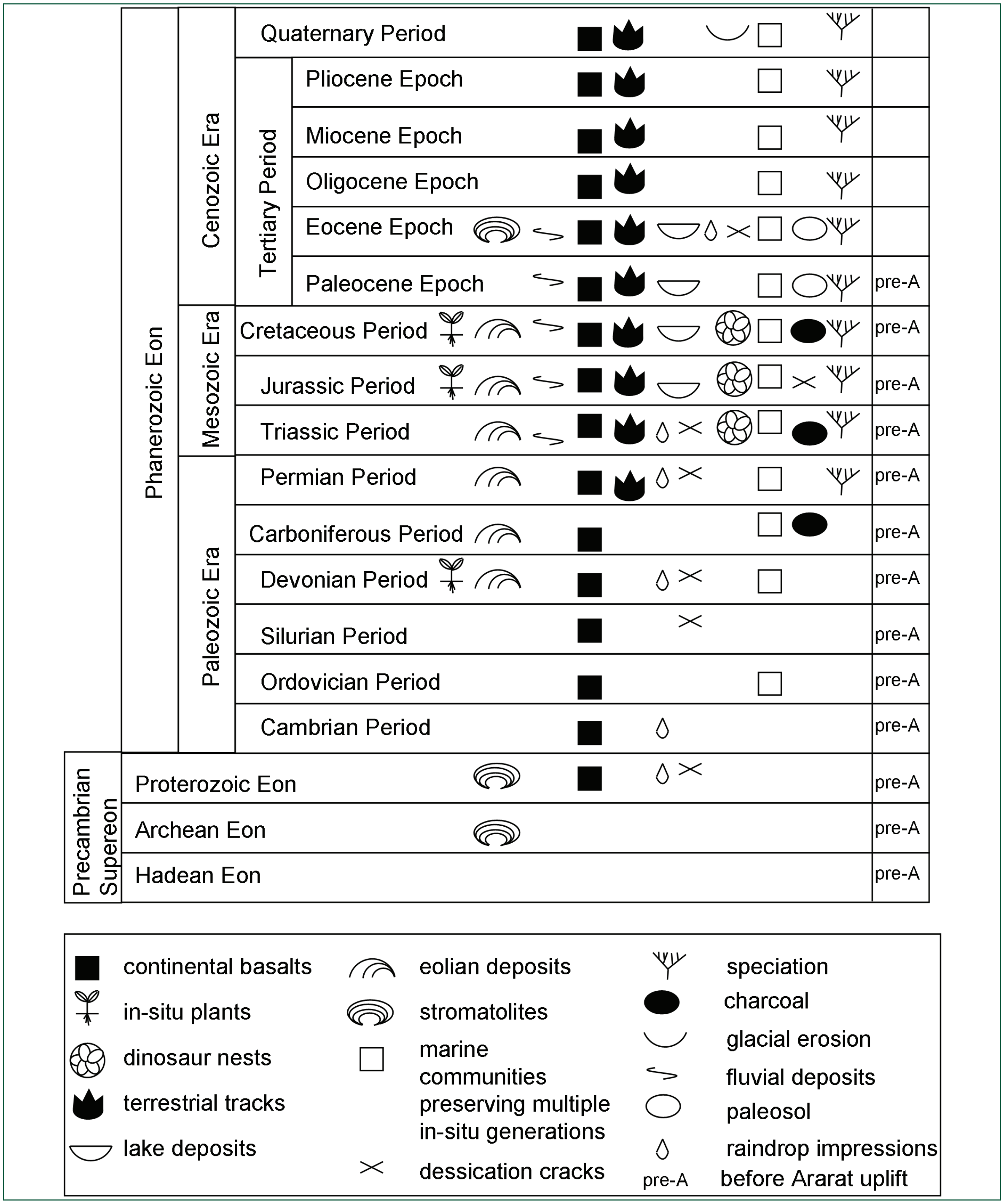

FIGURE 1. *Stratigraphic distribution of sedimentologic and other geologic features that Flood geologists have identified as evidence that particular strata cannot have been deposited during a time when the entire planet was under water (middle column) and distribution of strata that predate the existence of the Ararat mountain chain (right column). Note that data collected by Flood geologists show that a period of worldwide submergence cannot have spanned the entirety of any period of the Phanerozoic Eon, nor any epoch of the Tertiary Period.*

The body of work exemplified in that maelstrom of research, in which researchers have attempted to reconcile geological data with the Genesis Flood story, has come to be called Flood Geology. Through its history Flood Geology has had four main foci:

(1) the attempt to connect any bit of geological evidence of ancient catastrophe or high-energy water activity to the Flood or its potential causes or effects (for example, Akridge 1998; Sigler and Wingerden 1998; Oard and others 2007),

(2) descriptions of hypotheses of geological causes of the Flood, often ad hoc and with little or no supporting physical evidence (for example, Woodmorappe 1998; Brown 2003; Samec 2008),

(3) attempts to reconcile the biblical description of the Flood with contradictory physical evidence such as appearances of long passages of time (for example, extreme thicknesses of strata, beds of invertebrate exoskeletons representing multiple *in situ* generations, and so on) or subaerial deposition in the geologic record (for example, Oard 2006; Matthews 2009), and

(4) attempts to locate or narrow down the pre-Flood/Flood boundary or Flood/post-Flood boundary in the geologic record (for example, Scheven 1990; Oard 2007; Whitmore and Garner 2008).

By the 1990s, after much fieldwork and theoretical study, most Flood geologists had conceded that mainstream stratigraphic principles are valid and had accepted the sequence of time periods in the geologic column, although most continue to maintain that those time periods together total little more than 6000 years (for example, Robinson 1996; Tyler and Coffin 2006; Whitmore and Garner 2008). A few holdouts continue to doubt the validity of the geologic column and maintain that “Mesozoic” and “Cenozoic” strata were deposited simultaneously (for example, Woodmorappe 1990; Oard 2001; Reed and others 2006; Matthews 2009), but they are now the exception rather than the rule.

The post-1980s recognition among most Flood geologists of the validity of the geologic column and the stratigraphic principles upon which it is based led to a plethora of studies in the 1990s and beyond that fall into the fourth category above. Such studies are of particular interest here. The fact that alleged Flood deposits are stratigraphically scattered between deposits indicating subaerial exposure or long periods of calm has not been lost on the Flood geologists who have performed such studies. As a result, the long-cherished hypothesis that most Phanerozoic strata are Flood deposits (Whitcomb and Morris 1961) is questioned by many of today’s Flood geologists, and debate rages as to which portions of the geologic column represent the Flood year.

There is general consensus that the beginning of the Flood is recorded in Precambrian strata (for example, Robinson 1998b; Wingerden 2003; Wise and Snelling 2005; Tyler 2006), but that is where consensus ends. As early as 1982 Morton gave several reasons to consider all Phanerozoic strata post-Flood, and a few subsequent Flood geologists eventually expressed agreement (for example, Robinson 1998b; Tyler 2006). However, that view is not popular among Flood geologists. Some have expressed agreement that Cenozoic—and according to some, Mesozoic—strata are post-Flood but maintain that most of the Paleozoic Era represents the Flood year (for example, Garner 1996a, b; Garton 1996; Robinson 1996;

Whitmore and Garner 2008). Others continue to espouse the view that most Phanerozoic strata are Flood deposits (for example, Holt 1996; Oard 1996, 2006, 2007; Matthews 2009).

Several Flood geologists have presented geologically sound reasons why strata assigned to specific parts of the geologic column cannot have been deposited during the Flood year or at least during the part of it when the entire planet was under water, hereafter called the PWS (period of worldwide submergence). In fact, compilation of such studies shows that together Flood geologists have eliminated the entire geologic column as having any record of a PWS. Here, I review the evidence against a PWS record that has been presented by the Flood geologists themselves.

Subaerial deposits

Deposits that are demonstrably subaerial (that is, deposited on exposed ground, not under water) obviously cannot have been deposited during a PWS. The PWS, if it existed, has to have occurred before the deposition of the earliest subaerial deposit, after the deposition of the last one, or between the deposition of two such deposits. Flood geologists have accepted that many such deposits are subaerial and that therefore the corresponding portions of the geologic column cannot record a PWS.

Several Flood geologists have noted that desiccation (drying out) cracks indicate extreme shallowness or exposure to air and have cited their presence in certain strata as evidence that those strata were not deposited during a PWS. Rupke (1966) noted the presence of desiccation cracks in the Triassic Muschelkalk deposits of the Netherlands. Lammerts (1966) noted their presence in the Proterozoic Altyn Limestone of Montana. Morton (1982) noted their presence in Silurian limestone. Scheven (1990) noted that desiccation cracks are present in Devonian “Old Red” and Permian “New Red” deposits of Europe. Tyler (1994) noted the presence of desiccation cracks in Middle Jurassic deposits of England. Whitmore and Garner (2008) cited the Green River Formation (Eocene) as an example of a formation that contains desiccation cracks.

Oard (1993), an advocate of the hypothesis that most of the Phanerozoic column represents the Flood year, has expressed doubt that the identification of desiccation cracks in the geologic record is correct, noting that similar features can occur underwater. However, other Flood geologists have noted that many of the deposits identified above as having desiccation cracks also exhibit impressions of raindrops, which can be made *only* on exposed surfaces. Even within the paradigm of Flood Geology the association of raindrop impressions with cracks is diagnostic of true desiccation cracks and can be used to eliminate similar crack types from consideration (Whitmore 2009). Rupke (1966) noted the presence of raindrop impressions in Cambrian strata, the Upper Devonian of Belgium, and the Triassic Muschelkalk. Lammerts (1966) noted their presence in the Proterozoic Altyn Limestone. Scheven (1990) noted that raindrop impressions are present in Europe’s Devonian “Old Red” and Permian “New Red” deposits. Even Oard noted the presence of raindrop impressions in the Eocene Green River Formation (Oard 2006).

Basalt, a type of volcanic rock, can be deposited subaerially or under water. Unlike basalts that are deposited under water, continental basalts (basalts that are deposited subaerially) exhibit laterally widespread flow, columnar jointing, and a lack of pillow structures. Nevins (1971, 1974) noted that continental basalts are present in a number of Cenozoic formations in North America including the Eocene Clarno Formation, the Oligocene John Day Formation, the Miocene Columbia River Group, and the Pliocene and Pleistocene Mesa basalt. Garner (1996a) noted that such basalt flows are present at the Paleozoic–Mesozoic boundary and are stratigraphically and geographically widespread through Mesozoic and Cenozoic strata. He also noted that continental basalt flows are present in Proterozoic and Cambrian strata.

Holt (1996) includes a figure showing the stratigraphic distribution of continental volcanic deposits. According to the figure, continental volcanic deposits occurred during all Phanerozoic periods, including each Tertiary epoch. This information precludes the PWS from having spanned more than one Phanerozoic period or Tertiary epoch. Although Holt (1996) nevertheless insisted that the entire pre-Quaternary, Phanerozoic rock record represents the Flood year, his own figure eliminates the span of any Phanerozoic period or Tertiary epoch as having been deposited entirely during the PWS.

Land plants cannot germinate and grow in place while under a meter of water. Accordingly, several examples of *in situ* fossil land plants have been cited by Flood geologists as evidence that given strata do not represent the PWS. Morton (1982) noted the presence of small plants preserved upright where they grew, in the Devonian Rhynie Chert. Tyler (1994) noted that *in situ* plant roots are present in several stratigraphic levels within the Middle Jurassic of England. Robinson (1996) specifically mentioned six such Middle Jurassic stratigraphic levels and also noted the presence of *in situ* root beds in Upper Cretaceous deposits in western Europe.

Morton (1982) cited hatched dinosaur eggs from the Cretaceous of Montana as evidence that the area could not have been under water at the time of deposition. Garner (1996b) and Robinson (1996, 1998a) noted that strata containing *in situ* nests with dinosaur eggs are known from Upper Triassic, Lower Jurassic, Upper Jurassic, and Upper Cretaceous strata. Such strata must have been deposited subaerially, because dinosaurs would not have made nests or laid eggs underwater. As Robinson (1998a) further noted, at least one Upper Cretaceous dinosaur nesting site in Europe is overlain by an *in situ* fossil root bed, indicating that plants germinated and grew after the nesting site had been buried. This cannot have taken place during worldwide submergence. Robinson (1996) also cited a Triassic insect nest as an example of a nest that cannot have been made underwater.

Northrup (1986) noted that there is geographically widespread evidence of subaerial erosion by glaciers during the Pleistocene. He therefore argued that the Pleistocene Epoch must be post-Flood. There is wide agreement among Flood geologists that the Pleistocene glaciations were post-Flood, but most do not explicitly mention glacial erosion as evidence of subaerial exposure. The existence of pre-Quaternary glaciation is doubted by most Flood geologists. Several have presented alternate explanations, usually involving underwater deposition, to explain pre-Quaternary deposits that mainstream geologists consider glacial (for example, Oard 1994, 2009a; Sigler and Wingerden 1998; Wingerden 2003).

Williams and Howe (1993), Williams and others (1993), and Holroyd (1996) described large amounts of fusain (fossil charcoal) from Upper Cretaceous deposits in western North America. Williams and Howe (1993) also noted the presence of fusain in the Triassic Chinle Formation. All these authors further noted that charcoal is created by fire, which cannot occur under water. Holroyd (1998) noted that fusain is also known from the Pennsylvanian (late Carboniferous) of Kentucky.

Eolian sandstones are remnants of ancient dunes deposited subaerially by wind. Robinson (1996, 1998a) noted that Upper Cretaceous dinosaur fossils from Mongolia are often entombed in eolian sandstones, indicating that they perished in terrestrial sandstorms and were not underwater. He and Northrup (1990) also noted that eolian red beds are present in Devonian, Carboniferous, and Permian strata and all through the Mesozoic. The PWS can therefore not have spanned any of those time periods.

Whitmore and Garner (2008) noted that soils form on land and that paleosol (fossil soil) therefore indicates subaerial deposition. They cited paleosols in the Green River Formation and the Paleocene Fort Union Formation as evidence that those formations cannot be Flood deposits. Flood geologists generally doubt that pre-Tertiary "paleosols" are correctly identified, and Klevberg and others (2009) list several reasons that the identification of paleosols is problematic.

Northrup (1990), Garton (1996) and Robinson (1996, 1998a) argued that trackway evidence eliminates the entire Mesozoic and Cenozoic portions of the geologic column as having PWS strata. They noted that tracks of terrestrial reptiles and mammals are absent in pre-Permian strata, whereas they are present in Permian strata and are stratigraphically and geographically widespread through Mesozoic and Cenozoic strata. Scheven (1990) also noted the presence of vertebrate tracks in the Permian. Such tracks are produced by live, air-breathing, terrestrial animals and cannot therefore be produced during a PWS. In addition, Robinson (1996a) and Garner and others (2003) cited the presence of over 160 successive track-bearing horizons in a Chinese Cretaceous locality and of over 300 successive track-bearing horizons in a series of Cretaceous strata in Korea as examples of evidence that is difficult to reconcile with deposition during the Flood year. Because track-bearing strata are stratigraphically and geographically widespread through the Mesozoic and Cenozoic, Garton (1996) and Robinson (1996, 1998a) argued that any Flood strata must be pre-Mesozoic.

Flood geologists who claim that the entire Paleozoic and Mesozoic represent the Flood year simultaneously acknowledge that subaerial deposits are present at many stratigraphic levels therein. There is broad agreement among such researchers that sediments bearing dinosaur nests, eggs, and tracks were deposited subaerially but that this occurred during the early stages of the Flood before the entire globe had been covered in water (for example, Holt 1996; Oard 1996, 2009b; McIntosh and others 2000). Such researchers explain the existence of multiple track-bearing strata between multiple water-deposited strata by hypothesizing that tectonic activity raised and lowered the land and/or sea level in various areas several times during the first 40 days of the Flood. According to this hypothesis, during the first 40 days of the Flood a given area of land might experience several cycles of exposure and track-making followed by submergence and deposition of water-borne sediment (McIntosh and others 2000; Woodmorappe and Oard 2003; Oard 2009b).

Other Flood geologists have pointed out several reasons that such hypotheses are unsatisfactory. First, myriad track-bearing sediments are present through the Mesozoic and Cenozoic, up to strata representing the present, as Garton (1996) and Robinson (1996, 1998a) noted. According to Robinson (1998a:59), this means that if these are Flood deposits, animals were "trying to escape the deluge right to the time Noah steps out of the Ark," which contradicts the Genesis account. Indeed, if all track-bearing stratigraphic levels were deposited during the early stages of the Flood, this pushes the stratigraphic level representing the PWS all the way up the geologic column and beyond it into the future! Second, such hypotheses cannot accommodate eolian deposits, charcoal, or the presence of *in situ* roots. No Flood geologist has explained away the charcoal and root problems, and the closest any has come to explaining away the eolian deposits is the puzzling objection by Oard (1996) that the terms "fluvial, lacustrine, and eolian are purely uniformitarian environmental interpretations that have little to do with a Flood paradigm." Third, as Lawrence (2003) noted, if all Phanerozoic strata were deposited in the first 150 days of the Flood, the enormous average daily sedimentation rate indicates such catastrophic conditions that all air-breathing organisms would have been destroyed much too quickly to have left such a vast and stratigraphically extensive ichnological record. Oard (2003) pointed out that Lawrence's estimated average daily sedimentation rate (100 m/day, based on an average continental thickness of 15 km accumulating in 150 days) is too high because the average Phanerozoic continental thickness is 1.5 km, not 15 km. However, even so, an average sedimentation rate of 10 m/day still indicates conditions catastrophic enough to validate Lawrence's point. Fourth, such hypotheses fail to explain why dinosaur tracks are found only in Mesozoic sediments and large mammal tracks are found only in Cenozoic sediments (Garton 1996). Fifth, as Robinson noted (1996), there is no post-Silurian stratigraphic level at which there is geological evidence that the entire globe was simultaneously under water.

Low-energy deposits and long passages of time

Tyler (1996) made a fourfold argument that Cretaceous chalk deposits must have taken longer than a single year to form. First, he noted that those deposits are full of hardgrounds. The process of sediment hardening, erosion, and encrustation that results in these hardground deposits requires weeks, months, or possibly even years to form. Second, Tyler noted that the alternation of soft-sediment faunas with hard-sediment faunas within the chalk deposits indicates "cyclical geological history involving numerous stationary surfaces". Third, he noted that the sequence of *Micraster* (a group of extinct sea urchins) fossils in the chalk shows speciation within the genus, which requires years to occur and therefore cannot have happened within the single Flood year. Fourth, there are over 100 bentonite beds in the Niobrara Chalk of North America, indicating over 100 periods of deposition during calm periods that are inconsistent with catastrophic Flood conditions. Woodmorappe (2006) and Matthews (2009) argued for the rapid formation of hardgrounds, claiming that burrows within them indicate that these sediments were soft at the time of deposition, and Matthews (2009) further expressed skepticism that the Cretaceous chalk deposits took longer than a year to form. However, neither author addressed the other indicators of long passages of time that Tyler (1996) noted: bentonite beds, *Micraster* speciation, and cyclical formation of multiple surfaces.

Robinson (1996, 1998a) listed several stratigraphic levels containing fossil communities that include multiple generations and therefore must have taken multiple years to grow. Examples include Ordovician and Middle Jurassic hardgrounds, a Lower Jurassic starfish bed, Upper Permian algal growths, Middle Triassic and Upper Cretaceous bivalve beds, and a Permian reef. Scheven (1990) cited examples of Triassic reefs that show evidence of several generations of clams. Brand (2007) noted that reefs over 100m thick are known from all post-Silurian periods.

Wise and Snelling (2005) noted that *in situ* stromatolites (sedimentary deposits formed by slow-growing beds of cyanobacteria) are abundant in the sediments of the Proterozoic Chuar Group in the Grand Canyon. Stromatolites form in low-energy, shallow marine environments, and the sedimentology of the Chuar Group sediments containing them is consistent with this. Those sediments therefore cannot have been deposited during the Flood year, as Wise and Snelling (2005) note. Wise (2003) also noted that the Crystal Spring and Beck Spring Formations in Death Valley, both Proterozoic, contain stromatolites. Dickens and Snelling (2008) noted that stromatolites are also present in other Proterozoic deposits and also in Precambrian deposits of late Archean age.

The Green River Formation is a series of Eocene strata in Wyoming, Colorado, and Utah. Whitmore (2006a, b) presented evidence from lithology, sedimentology, taphonomy (post-depositional alteration), and geochemistry that the Green River Formation is a series of lacustrine (made by a lake) strata, not a Flood deposit. The overall shape of the deposit and its lateral and vertical distribution of specific sediment types are consistent with lacustrine deposition. The presence of multiple stromatolite horizons and the spatial distribution of intact and disarticulated fish skeletons are inconsistent with catastrophic deposition and indicate deposition over a period of years. The presence of thick deposits of the mineral trona (a form of sodium carbonate formed by the evaporation of water) is inconsistent with mixture with seawater. Whitmore (2006a, b) noted that all this evidence demonstrates that the Green River Formation was not deposited during the Flood year.

Brand (2007) also mentioned the Green River Formation. He noted that the presence of stromatolites in several different horizons within the Green River Formation indicates a periodically expanding and shrinking lake, not a single, catastrophic Flood. He further noted that stromatolites are stratigraphically widespread and that this is a problem for the hypothesis that most of the Phanerozoic represents the Flood year.

Whitmore and Garner (2008) also noted that lacustrine deposits cannot have occurred during a PWS. They cited lacustrine deposits in four Cenozoic formations of North America—the Fort Union (Paleocene), Wasatch (Eocene), Green River (Eocene), and Bridger (Eocene) Formations—as evidence that those formations are post-Flood. Whitmore and Garner (2008) also noted that fluvial (stream- or river-deposited) deposits cannot occur during a PWS. They cited fluvial deposits in the aforementioned four formations and the Late Cretaceous Lance and Mesaverde Formations as evidence that those deposits are post-Flood. These authors also noted that both lacustrine and fluvial deposits are found in the Early Cretaceous Cloverly Formation and the Late Jurassic Morrison Formation and that the Triassic Chugwater Group includes fluvial deposits. A PWS therefore cannot have spanned the Triassic, Jurassic, or Cretaceous Periods.

Diversification of terrestrial animals

The concept of fixity of species was discarded early by the YEC movement. YECs have long recognized that speciation can take place within each "created kind". Robinson (1996) noted that Permian and Mesozoic strata record diversification of various categories of non-dinosaurian reptiles, Mesozoic strata record diversification of various categories of dinosaurs, and Cenozoic strata record diversification of various kinds of mammals. Because such speciation cannot occur during a single year when the entire planet is underwater and during most of which the relevant animals are dead, he argued that the entire post-Carboniferous portion of the geologic column must be post-Flood.

Whitmore and Wise (2008) noted that the Eocene Green River Formation contains multiple species within each of several mammalian families. Because "created kinds" recognized by YECs usually correspond to taxa of family rank or higher, they argued that this formation must have been deposited after enough time had passed for the descendants of the single pair of each "created kind" on the Ark to have undergone diversification. The Green River Formation, they insisted, must therefore have been deposited sufficiently long after the Flood.

The Mountains of Ararat

Holt (1996) argued that the Flood year cannot have ended before the Mountains of Ararat existed, because the Ark rested upon those mountains. He further argued that the Ark cannot have rested there during major volcanic episodes, because it would have been destroyed. Any post-Flood deposits must therefore be stratigraphically above the Ararat mountain chain. He noted that the uplift that created the chain occurred in the Eocene, Miocene, and Pliocene Epochs. Because Noah looked out onto dry land before leaving the Ark (Genesis 8:13–14), the Ark's landing had to have occurred after an Early Pliocene marine transgression that occurred in this mountain chain. According to this argument, the end of the Flood year cannot have been before the Pliocene Epoch. Robinson (1998b) advocated post-Flood status for the entire Phanerozoic Eon. To reconcile this notion with the fact that the Ararat chain did not exist before the Cenozoic, he suggested that the Ararat mountains mentioned in Genesis are not the chain that today is known by that name. Indeed, within the YEC paradigm that is the only possible solution to the dilemma.

Discussion

It should be noted that mainstream geologists have identified a much wider stratigraphic distribution of desiccation cracks, raindrop impressions, *in situ* plant fossils, fusain (fossil charcoal), eolian deposits, paleosol, lacustrine deposits, and fluvial deposits than Flood geologists typically recognize. Fossil charcoal, for example, is known from all post-Ordovician periods (Scott 2000; Scott and Glasspool 2006), which by itself is enough to eliminate any of those periods from having been completely spanned by a PWS, because fire cannot burn underwater. But even without recognizing the complete stratigraphic distribution of any of these indicators of subaerial deposition, Flood geologists have still managed to confirm, with sound sedimentological reasoning, that no Tertiary epoch, Phanerozoic period, or post-Haden eon was spanned by a PWS (see Figure 1). This means that—according to the results of the studies by Flood geologists themselves—if the Flood occurred during Phanerozoic time then all Flood deposits are stratigraphically sandwiched between a pair of non-Flood deposits within the stratigraphic span of a single one of the geologic periods. If this is the case, then the Flood left little if any geologic evidence of its occurrence. Flood geologists have difficulty accepting that a worldwide cataclysm would leave but a small geological scar, but they themselves have provided evidence that either such is the case, or the Flood was pre-Phanerozoic, or it is mythical.

An entirely pre-Phanerozoic Flood is accepted by a few Flood geologists (for example, Morton 1982; Robinson 1998b; Hunter 2000; Tyler 2006). According to the view expressed by those authors, God's carrying out of his threat in Genesis 6:13 that the Flood would destroy the earth (the land, not the entire planet earth, because the writers of Genesis did not know they were on a planet) did indeed completely destroy all pre-Flood land, thereby eliminating the geological record of a pre-Flood world. In this view, Hadean and early Archean igneous deposits record the geological catastrophe that accompanied the onset of the Flood, and the unconformity between such igneous strata and subsequent sedimentary strata marks the wiping out of the pre-Flood land by the Flood. It could be that such authors represent the vanguard of a paradigm shift. If so, then acceptance that the entire Phanerozoic has no worldwide Flood deposits will be the consensus of the next generation of YECs. In light of the current state of Flood geologic research it will be the most realistic consensus possible within the YEC paradigm.

Unfortunately for the proponents of that view, the hypothesis that a Precambrian Flood occurred and left no sedimentary strata is less scientific than the hypothesis that most or much the Phanerozoic sedimentary column was Flood-deposited. This is because the latter hypothesis is testable and falsifiable—and has been tested and falsified by the Flood geologists themselves—whereas any hypothesis that a phenomenon occurred but left no evidence for its occurrence is an untestable, unfalsifiable hypothesis. Some may argue that the igneous Hadean and Archean deposits are evidence of the geological catastrophe that caused or accompanied the onset of the Flood, but the equation *catastrophe* = *Flood* is fallacious. No recorded geological catastrophe has caused worldwide flooding.

The majority of Flood geologists continue to maintain that a large portion of the Phanerozoic column represents the Flood year, although they have falsified that position themselves. As shown in Figure 1, this is an untenable position even within the paradigm of Flood Geology, because the collected evidence from five decades of research in Flood Geology demonstrates that a PWS cannot have spanned any Phanerozoic period. Even if the Mesozoic and Cenozoic Eras were simultaneous (for example, Oard 2001; Reed and others 2006; Matthews 2009), Flood geologists have rendered untenable the hypothesis that the Flood year spanned much of the relevant slice of time, by demonstrating that too much Mesozoic and Cenozoic sediment deposition was subaerial or was prolonged for years. The continued denial of the implications of their own findings is an example of what I call the gorilla mindset: the attitude that if something looks like a duck, walks like a duck, and quacks like a duck, but religious dogma says it is a gorilla, then it is a gorilla.

It is noteworthy that the gorilla mindset is steadily diminishing within the ranks of the practitioners of Flood Geology. Fewer and fewer researchers in that field deny the accumulated evidence of subaerial deposition or of deposition for longer than one year for large portions of the Phanerozoic column. As mentioned above, some have already rejected the hypothesis of a Phanerozoic Flood in favor of the hypothesis of a Precambrian Flood, despite the fact that such a hypothesis necessitates acceptance of a lack of sedimentary deposition by a Flood in the geologic record. In the words of Flood geologist Max Hunter (2009:88), "It is somewhat ironic…that, almost a half century after publication of *The Genesis Flood* by Whitcomb and Morris in 1961, the geologic record attributed to the Genesis Flood is currently being assailed on all sides by diluvialists…[and] there remains not one square kilometer of rock at the earth's surface that is indisputably Flood deposited."

Flood Geology began in order to find support for YEC doctrine but ironically it has now produced an impressive body of evidence against it. The defeat of Flood Geology by its own hand is a great example of how the practice of sound geology leads to correct geological conclusions.

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