

GENESIS

An unexpected confirmation

Craig Paardekooper © 2006

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INTRODUCTION

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A straight forward reading of Genesis dates the birth of Adam to about 4004 B.C. This date is arrived at by simply adding the age of each Patriarch.

The Bible describes Adam as a tiller and a gardener, and Adam's immediate descendents are described as the inventors of metallurgy and the founders of the first cities. Archaeology confirms that around 4000 B.C. metals were discovered and the first cities founded. In-fact, the names of the Biblical cities and their geographical locations do match those places identified by archaeology as the "cradle of civilization".

So in describing the dawn of civilization, as far as cities, geography and industry are concerned, the key elements of the Biblical narrative seem historically accurate.

However controversy arises when the Bible claims that IMMEDIATELY prior to this dawn of civilization, there was a "Creation Week". We know from science that life has existed on earth for millions of years. So how do we square the facts of science with the idea that there was a "creation week" just prior to 4000 B.C. In this essay we explore an interesting and novel possibility.

THE INITIAL STATE

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The Bible describes the initial state of the Earth immediately BEFORE this Creation Week –

“And the Earth was without form and void, and darkness was upon the face of the deep”

We gain further insight into this initial state by inference from the acts God performed during the Creation Week. The initial state of the Earth was –

1. **Without light:** (inferred from the statement that God made light to shine on the first day of the Creation Week)
2. **Covered with water:** (inferred from the statement that God made dry ground appear on the third day of the Creation Week)
3. **Empty of Life:** (Inferred from the statements that God created life during the Creation Week)

What would this primordial state of the Earth be like... Firstly, without light, or even with a diminution of light, the earth's surface would become very cold. It would resemble a “nuclear winter”. The darkness would lead to a universal freezing. Secondly, if there was an abundance of water, then we would expect an abundance of ice.

In brief, *the Bible suggests that*

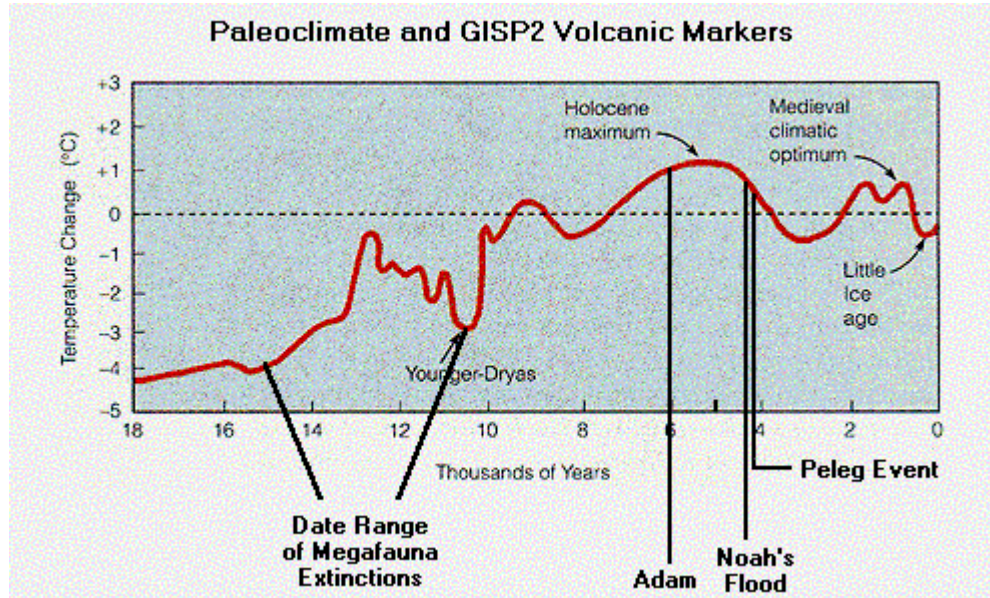
Immediately prior to 4000 B.C. conditions on earth were very different – there was darkness, much land was covered with water, and because of the darkness we should expect that there was also intense cold and vast areas of ice.

Now let us look at the history of our planet immediately prior to 4000 B.C. to see if there is any evidence for a universally icy Earth with widespread flooding of the land. Let us test the Bible. If the Earth was in a state of watery darkness and cold, as the Bible claims, then such conditions should be apparent in the record of the rocks.

1. ICE

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The diagram below shows the temperature changes from 16,000 B.C. till present as determined from analysis of ice-core samples taken in Greenland. Note that 8,000 B.C. marks the end of the Pleistocene epoch. We are currently living in the Holocene.



The graph above shows the Earth's average atmospheric temperature for the past 18,000 years BP (before present). Note -

- 1) There is a period of mass extinction shown on the graph immediately preceding the time of Adam. These extinctions begin about 14,000 BP and end about 10,000 years ago (8,000 B.C.).
- 2) The end of the extinction phase terminates in a relatively sudden and dramatic drop in global temperatures, marked by the Younger-Dryas cooling event.

It is immediately apparent that 8,000 B.C. marks the end of the Ice Age. 6,000 B.C. marks a "little ice age". Then from about 5,000 B.C. the temperature rises steadily until 4,000 B.C. when Adam is created. So immediately prior to Adam's time we do indeed find a very icy earth.

"Besides the ice core studies, Numerous authorities place the end of the Ice Age at 11,000 years,¹⁰ 10,000 years,¹¹ and even 8,000 years.¹² Radiocarbon dating has virtually silenced the much older dating position, once so widely held."

¹⁰*Digging for history*, Edward Bacon, Forward by Wm. F. Albright, John Day Publ., 1960, 1961, p. 3.

¹¹*The Story of Geology*, Jerome Wyckoff, Golden Press, N.Y., 1960, p. 11.

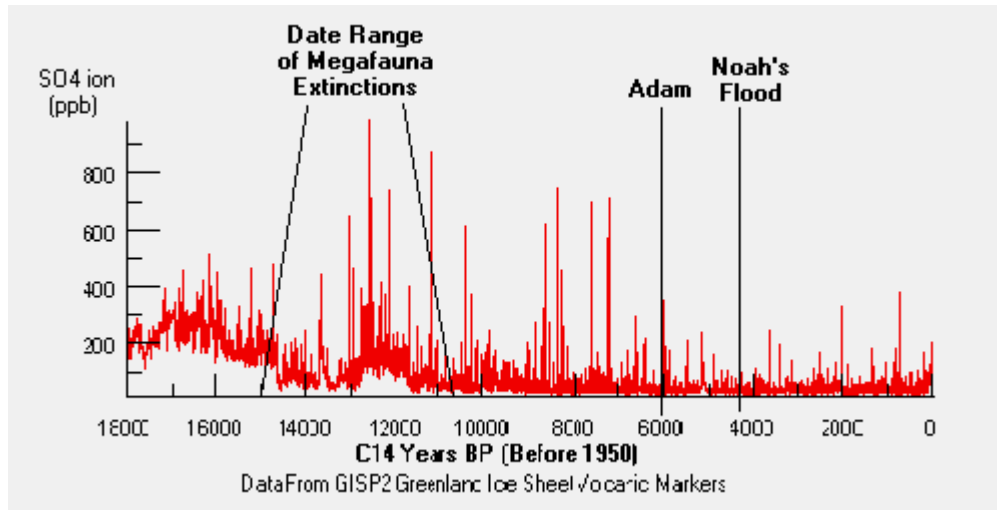
¹²*The World of Ice*, James Dryson, A. Knopf, N.Y. 1962, p. 6.

2. DARKNESS

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The diagram below shows a massive incidence of volcanic activity immediately prior to the time of the Creation Week.

This is evidenced by the finding of very high levels of SO₄ ions and volcanic dust in ice cores that date to 6,100 years before present and 13,000 years before present. Levels are approximately 400 times greater than normal.



The SO₄ findings have been independently confirmed by research on the levels of volcanic dust.

“Dust that fell on Antarctica as many as 13,000 years ago, during the height of the last Ice Age, shows concentrations of toxic metals. Grains dropped on the icy continent 13,000 and 6,100 years ago contain almost 400 times the concentration of Cadmium found in the average hunk of Earth’s crust. Those same dusts sport concentrations of lead more than 20 times that of the crust. Fine grains of dust scavenge trace metals from the air during their travels, says Hinkley. In modern times, those pollutants have presumably come from smokestacks. In ancient dusts, however, those trace metals probably got into the atmosphere from emissions of volcanoes”

Source: Todd K. Hinkley, a geochemist with the U.S. Geological Survey in Denver: January 5, 2002
Science News Vol 1. 161, No 1 page 15

The eruption of Krakatoa in the 1800’s resulted in a global drop in temperature, because the large amount of dust emitted by the volcano into the atmosphere reduced the amount of light reaching the Earth from the Sun.

If this was the effect of one volcano, what would be the effect of the volcanic activity evidenced by the ice core data? The volume of dust emitted may not have produced pitch darkness, but there was certainly a substantial darkening of the atmosphere and an obscuring of the heavenly bodies. Such darkening would certainly have produced a “nuclear winter”.

Greenland Ice-Core temperature data show that the earth experienced an intensely cold and arid period beginning in 6,100 B.C. and ending in about 5000 B.C.

Note that 6,100 years ago, is only a few years before Adam.

Also note that the date range of the extinctions coincides with the peaks of volcanic activity.

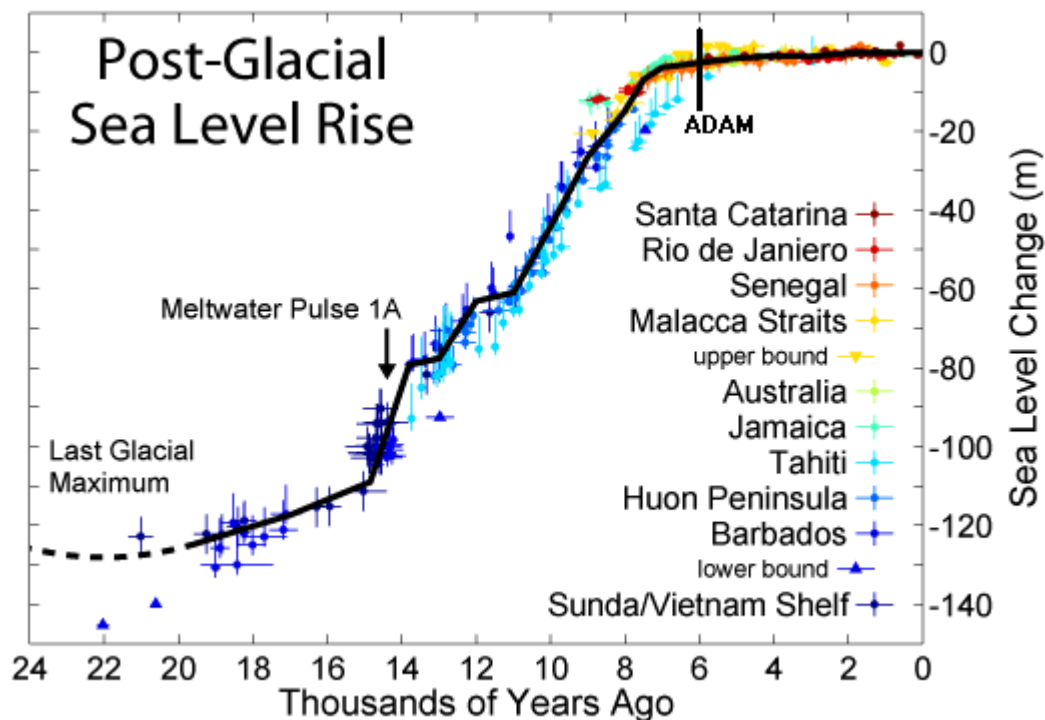
3. FLOODING

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Thirdly, the Bible describes the Earth immediately prior to Adam as covered with water. Do we find any evidence of massive flooding of the land surface at this time?

From the temperature graph above you have seen that prior to the time of Adam the temperature was rising steadily, and by the time of Adam's arrival there was a particularly large temperature rise.

With temperatures rising, the ice covering the Earth began to melt. A significant amount of the world's water had been frozen. It was now released. Sea levels rose by 120 meters. Immense floods resulted.



Geological records show that sea level rose rapidly until about 8,000 years ago. The rise in sea level was approximately 100 to 150 meters (about 350 to 400 feet). All the lowlands were flooded. These were the habitable areas. Combine rise in sea level with

intense volcanic activity and you have ideal conditions for floods. The geological records show that the late Pleistocene period witnessed the largest and most destructive flooding of the land in earth history. Immense floods occurred on all continents.

H.H.Howorth “The Mammoth and the Flood” writes as follows -

(1) that a great catastrophe took place at the close of the mammoth period, which overwhelmed that animal with its companions, over a very large part of the earth's surface; (2) that this catastrophe involved a widespread flood of water, which not only killed the animals, but buried them: (3) that it was accompanied by a great fall of temperature in Siberia:

Pleistocene fossil graveyards in Alaska and Siberia show thousands upon thousands of animals thrown together and buried in contorted positions with vegetation mixed in – only a massive flood could do this..

The U.S. Department of the Interior has published a U.S Geological survey entitled “*The World’s Largest Floods, Past and Present*” by Jim E.O’Connor and John E.Costa. This document lists the 27 largest floods over the last 1.8 million years. Of these 27 floods, the eleven largest all occurred in the Late Pleistocene or early Holocene . This is the time immediately prior to Adam.

Table 1. Quaternary floods with discharges greater than 100,000 cubic meters per second

[Pleistocene, about 1.8 million to 10,000 years ago; Holocene, about 10,000 years ago to present. Peak discharge: $10^6 \text{ m}^3/\text{s}$, million cubic meters per second]

Flood/River	Location	Date	Peak discharge ($10^6 \text{ m}^3/\text{s}$)	Mechanism	Reference
Kuray	Altai, Russia	Late Pleistocene	18	Ice-dam failure	Baker et al., 1993
Missoula	Northwestern USA	Late Pleistocene	17	Ice-dam failure	O'Connor and Baker, 1992
Darkhat Lakes	Mongolia	Late Pleistocene	4	Ice-dam failure	Rudoy, 1998
Jassater Lakes	Altai, Russia	Late Pleistocene	2	Ice-dam failure	Rudoy, 1998
Yaloman Lakes	Altai, Russia	Late Pleistocene	2	Ice-dam failure	Rudoy, 1998
Ulymon Lakes	Altai, Russia	Late Pleistocene	1.9	Ice-dam failure	Rudoy, 1998
Lake Agassiz	Alberta, Canada	Early Holocene	1.2	Proglacial-lake overflow	Smith and Fisher, 1993
Aniakchak	Alaska, USA	Late Holocene	1.0	Caldera-lake breach	Waythomas et al., 1996
Lake Bonneville	Northwestern USA	Late Pleistocene	1.0	Lake-basin overflow	O'Connor, 1993
Lake Regina	Canada/USA	Late Pleistocene	.8	Ice-dam failure	Lord and Kehew, 1987
Jökulsá á Fjöllum	Iceland	Early Holocene	.7	Subglacial volcanic eruption	Waitt, 2002
Indus River	Pakistan	1841	.54	Landslide-dam failure	Shroder et al., 1991
Amazon River	Obidos, Brazil	1953	.37	Rainfall	Rodier and Roche, 1984
Katla	Iceland	1918	.3	Subglacial volcanic eruption	Tomasson, 1996
Wabash River	Indiana, USA	Late Pleistocene	.27	Ice-dam failure	Vaughn and Ash, 1983
Toutle River	Northwestern USA	Late Holocene	.26	Landslide-dam failure	Scott, 1989
Amazon River	Obidos, Brazil	1963	.25	Rainfall	Rodier and Roche, 1984
Amazon River	Obidos, Brazil	1976	.24	Rainfall	Rodier and Roche, 1984
Columbia River	Northwestern USA	About 1450	.22	Landslide-dam failure	O'Connor et al., 1996
Lake Agassiz	Canada/USA	Early Holocene	.20	Proglacial-lake overflow	Teller and Thorliefson, 1987
Lena River	Kasur, Russia	1967	.19	Ice jam and snowmelt	Rodier and Roche, 1984
Lena River	Kasur, Russia	1962	.17	Ice jam and snowmelt	Rodier and Roche, 1984
Lena River	Kasur, Russia	1948	.17	Ice jam and snowmelt	Rodier and Roche, 1984
Lake Agassiz	Canada/USA	Late Pleistocene	.13	Ice-dam failure	Matsch, 1983
Porcupine River	Alaska, USA	Late Pleistocene	.13	Ice-dam failure	Thorson, 1989
Yangtze River	China	1870	.11	Rainfall	Rodier and Roche, 1984
Russell Fiord	Alaska, USA	1986	.10	Ice-dam failure	Mayo, 1989

An example of one of these mega-floods is the Black Sea Flood, which is dated to 5000 B.C.

Jan 1999, the geologists, Dr. William B. F. Ryan and Dr. Walter C. Pitman III of Columbia's Lamont-Doherty Earth Observatory in Palisades, N. Y., say they have even more archeological, geological and climate data to support the idea of a huge flood occurring in the near East just prior to 5000 B.C.. They argue their case in "Noah's Flood: The New Scientific Discoveries About the Event That Changed History"

In about 5600 B.C., with rising global sea levels, salt water from the Mediterranean and Aegean seas apparently burst into the Black Sea, then a landlocked freshwater lake. The Black Sea rose with terrifying swiftness, inundating more than 60,000 square miles of coastal plains and giving the body of water its current size and configuration.

Ballard's 1999 expedition revealed an ancient shoreline. Also found were shells from freshwater and saltwater mollusk species. Their radiocarbon dates support the theory of a freshwater lake inundated by the Black Sea some 7,000 years ago.

What is so interesting is that all of these examples of mega floods occur at the end of the Pleistocene. They were the biggest floods the earth had ever seen....

“And darkness was upon the face of the deep”.

It was necessary for God to separate the land from the waters and make dry land appear.

4. LIFELESSNESS

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Of course, the most central feature of the Genesis narrative is its account of Creation. The “Creation Week” describes the introduction of all the sea creatures after their kinds, and the making of all the land animals after their kinds. Prior to 4000 B.C. we would therefore expect by inference, that the Earth would be in a condition of lifelessness. Do we find ANY evidence of this.

Firstly, all the archaeological and geological evidence indicates that life has existed on Earth for millions of years. Life of all kinds preceded 4000 B.C. So, if the Bible narrative is true, then God did not create creatures for the first time in Genesis 1. The Bible must describe a **re-creation**.

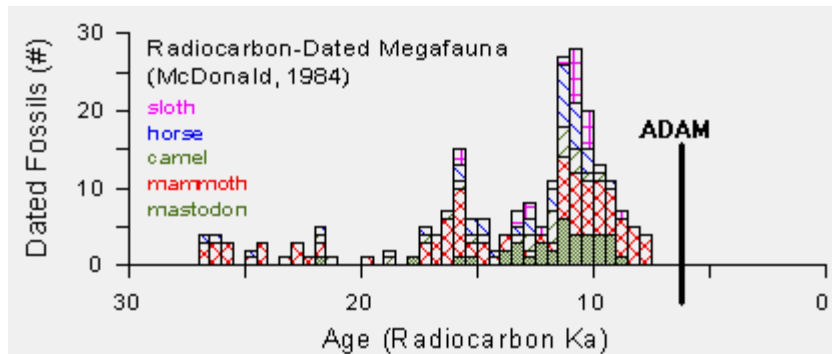
A recreation would only be necessary if the previously created world had suffered a grievous depletion of its creatures; if the biosphere had suffered depletions and losses that put it out of balance.

Is there any evidence for such a depletion of life prior to 4000 B.C.....

Fossil evidence shows that at the end of the Pleistocene there was a time of mass extinctions. The extinctions occurred from 14,000 B.C. to 4,000 B.C, and the peak of these extinctions was between 8,000 B.C. and 5,500 B.C.

Strangely enough, only the mega-fauna (giant mammals) became extinct. Nearly all the species of giant mammals on every continent were made extinct (a total of about 200 Genera), whilst smaller mammals, plants and other creatures managed to survive.

Global Timing of Megafaunal Extinction



Fossil graveyards dating from this period give us some idea of the sudden violence that attended the demise of these giants, eg the frozen mammoths in Siberia, La Brea Tar Pits etc.

Though many species survived, nature was in a ravaged and impoverished state, similar to the state it was in after the flood of Noah. So it was necessary to re-establish life on Earth again.

THE PLEISTOCENE EXTINCTION EVENT

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In one of his major works, “**The Mammoth and the Flood**”, H.H.Howorth collected data regarding the innumerable known cases of mammoths frozen in northern latitudes, particularly in Siberia.. Howorth, however, gives many details which it is quite impossible, I believe, to account for in any other way than by assuming a very sudden catastrophe followed almost immediately by intense cold.

In 1887 Howorth wrote:

"In the first place, it is almost certain in my opinion that a very great cataclysm or catastrophe occurred . . . by which the mammoth with his companions was overwhelmed over a very large part of the earth's surface. This catastrophe, secondly, involved a widespread flood of waters which not only killed the animals but also buried them under continuous beds of loam or gravel. Thirdly, that the same catastrophe was

accompanied by a very sudden change of climate in Siberia, by which the animals that had previously lived in fairly temperate conditions were frozen in their flesh under the ground and have remained there ever since. When the facts are stated, they are of such a nature as to be almost incredible . Howorth had this to say about these animal cemeteries. The most obvious cause we can appeal to as occasionally producing mortality on a wide scale among animals is a murrain or pestilence, but what murrain or pestilence is so completely unbiased in its actions as to sweep away all forms of terrestrial life, even the very carriers of it < the rodents < including the fowls of the air, the beasts of the field, elephants, tigers, rhinoceroses, frogs, mice, bison and snakes, landsnails, and every conceivable form of life, and this not in one corner only but, as far as we know, over the whole of the two great continents irrespective of latitude or longitude.

The fact of the bones occurring in great caches or deposits in which various species are mixed pell-mell is very important, and it is a fact undenied by geologists that whenever we find such a locality in which animals have suffered together in a violent and instantaneous destruction, the bones are invariably mixed and, as it were, "deposited" in a manner which could hardly be explained otherwise than by postulating the action of great tidal waves carrying fishes and all before them, depositing them far inland with no respect to order. "

Howorth continued later:

If animals die occasionally (in large numbers) from natural causes, different species do not come together to die, nor does the lion come to take his last sleep with the lamb! The fact of finding masses of animal remains of mixed species all showing the same state of preservation, not only points to a more or less contemporary death, but is quite fatal to the theory that they ended their days peacefully and by purely natural means. If they had been exposed to the air, and to the severe transition between mid-winter and mid-summer, which characterizes Arctic latitudes, the mammoths would have decayed rapidly. But their state of preservation proves that they were covered over and protected ever since".

This renowned but neglected authority concluded:

"It is almost certain in my opinion that a very great cataclysm or catastrophe occurred by which the mammoth and his companions were overwhelmed over a very large part of the earth's surface. And that the same catastrophe was accompanied by a very great and sudden change of climate in Siberia, by which the animals which had previously lived in fairly temperate conditions were frozen . . . and were never once thawed until the day of their discovery. No other theory will explain the perfect preservation of these great elephants."

An event that killed in mass suddenly over a continent wide area and also caused a sudden freezing would necessarily be a global wide event. The following passages are taken from the work of R. CEDRIC LEONARD -

"Back in middle 1940s Dr. Frank C. Hibben, Prof. of Archeology at the University of New Mexico mounted an expedition to Alaska to look for human remains. The remains he found were not human, but what he found was anything but evidence of gradualism or uniformitarianism. Instead he found miles of muck filled with the remains of mammoth, mastodon, several kinds of bison, horses, wolves, bears and lions. Just north of Fairbanks, Hibbens and his associates watched as bulldozers pushed the half-melted muck into sluice boxes for the extraction of gold. Animal tusks and bones rolled up in front of the blades "like shavings before a giant plane". The carcasses were found in all attitudes of death, most of

them "pulled apart by some unexplainable prehistoric catastrophic disturbance" (Hibben, 1946).

The evidence of the violence of nature combined with the stench of rotting carcasses was staggering. The ice fields containing these remains stretched for hundred of miles in every direction (Hibben, 1946). Trees and animals, layers of peat and mosses, twisted and mangled together like some giant mixer had jumbled them some 10,000 years ago, and then froze them into a solid mass. The evidence immediately suggests an enormous tidal wave which raged over the land, tumbling animals and vegetation within its mass, which was then quick-frozen (Sanderson, 1960). But the extinction is not limited to the Arctic.

Paleontologist George G. Simpson considers the extinction of the Pleistocene horse in north America to be one of the most mysterious episodes in zoological history, admitting that in all honesty no one knows the answer. He also admits that this is only a part of the larger problem of the extinction of many other species in America at the same time (Simpson, 1961). The horse is merely the tip of the iceberg: giant tortoises living in the Caribbean Sea, the giant sloth, the sabre-toothed tiger, the glyptodont and toxodon. These were all tropical animals. They weren't wiped out because Alaska and Siberia were experiencing an Ice Age. "Unless one is willing to postulate freezing temperatures across the equator, such an explanation clearly begs the question," say leading Paleontologists (Martin & Guilday, 1967).

Woolly mammoths, woolly rhinoceros, giant armadillos, giant beavers, giant jaguars, giant ground sloths and scores of other entire species were all totally wiped out at the end of the Pleistocene. Massive piles of mastodon and sabre-toothed tiger bones were discovered in Florida (Valentine, 1969), while whole mastodons, toxodons, giant sloths and other animals were found in Venezuela quick-frozen among the mountain glaciers (Berlitz, 1969). All died on a global scale, at about the same time, circa. 10,000 B.C.

FROZEN ANIMALS IN SIBERIA

The picture in Siberia and northern Europe is no different. Just north of Siberia whole islands are formed of the bones of Pleistocene animals swept northward from the continent into the frigid waters of the Arctic Ocean. It has been estimated that some **ten million animals** lay buried along the rivers of northern Siberia. Thousands of tusks formed a massive ivory trade for the master carvers of China, all from the remains of the frozen mammoths and mastodons of Siberia. The famous Beresovka mammoth first drew attention to the preserving properties of being quick-frozen when buttercups were found in its mouth and undigested food in its stomach. This was no gradual event--it had to be sudden!

And the event was worldwide. The mammoths of Siberia became extinct about the same time as the giant rhinoceros of Europe; the mastodons of Alaska and the bison of Siberia ended simultaneously. The same is true of the Asian elephants and the American camels. The cause of these extinctions must be common to both hemispheres. If the coming of glacial conditions was gradual, it would not have caused the extinctions, because the various animals could have simply migrated to where conditions were better. What is seen here is total surprise, and uncontrolled violence (Leonard, 1979).

Geologists are once more becoming divided on the issue of catastrophism. A few are breaking away from their hard stand of the past, and are at looking at the problem with more of an open mind. Mr. Harold P. Lippman seems to be objective when he admits that the magnitude of fossils and tusks encased in the Siberian permafrost present an "insuperable difficulty" to uniformitarianism alone, since no gradual process can result in the preservation of tens of thousands of tusks and whole individuals, "even if they died in winter" (Lippman, 1962). Especially when many of these individuals have undigested grasses and leaves in their belly.

Certain misguided workers have vainly suggested that man was the cause of all this death and destruction. In the first place, the remains of the animals outnumber the remains of man a

million to one. There is no way the populations of man could have killed this many animals. Some Pleistocene bone sites obviously represent the efforts of Big Game Hunters: fire was sometimes used to drive a herd of animals over a cliff or into a bog to be slaughtered for food. In these instances, the hand of man is rather obvious. Prof. N. K. Vereschagin of the then Soviet Union states bluntly: "The accumulation of mammoth bones and carcasses of mammoth, rhinoceros, and bison found in frozen ground in Indigirka, Lolya, and Novosibirsk bear no traces of hunting of primitive man" (Vereschagin, 1967).

UNIVERSAL DEATH IN 10,000 B.C.

Charles Darwin, the famous naturalist, was shocked by the extinction of species at the close of the Pleistocene. He writes: "The extinction of species has been involved in the most gratuitous mystery . . . no one can have marvelled more than I have at the extinction of species" (Darwin, 1859). He declared that for whole species to be destroyed in Southern Patagonia, in Brazil, in the mountain ranges of Peru, and in North America up to the Bering Straits, one must "shake the entire framework of the globe".

If a woolly mammoth standing out in the grasslands of central Asia were to suddenly die, for whatever reason, his body would simply rot and the scavengers would pick the bones clean. The only way for this to have happened would be for the mammoth to either fall in a lake or pond and drown or be swept into this mass of vegetation, insects and mud by a massive wave of water. Under which of these two scenarios would such an animal be quick-frozen? His hair and skin were still intact--even the food in his stomach!

Even the Pleistocene geologist William R. Farrand of the Lamont-Doherty Geological Observatory, who is opposed to catastrophism in any form, states: "Sudden death is indicated by the robust condition of the animals and their full stomachs . . . the animals were robust and healthy when they died" (Farrand, 1961). Neither in his article nor in his letters of rebuttal does Farrand ever face the reality of worldwide catastrophe represented by the millions of bones deposited all over this planet at the very end of the Pleistocene.

Some geologists may be softening their traditional stand against axial tilts and other rotational variations which could be the cause of world catastrophies. Dr. J. R. Heirtzler of the Lamont-Doherty Geological Observatory observed that there has been "a revival of a 30-year-old theory that the glacial ages were caused by changes in the tilt of the earth's axis . . . there is clear evidence that large earthquakes occur at about the same time as certain changes in the earth's rotational motion." He goes on to say: "Whatever the mechanism of these changes, it is not hard to believe that similar changes in the earth's axial motion in times past could have caused major earthquake and mountain-building activity (see my Archeology page: [Tiahuanacu](#)) and could even have caused the magnetic field to flip" (Heirtzler, 1968). It has also been found that the end of the Pleistocene was attended by rampant volcanic activity (Hibben, 1946).

More recently Prof. Stephen Jay Gould, professor of geology at Harvard University, after studying the geological and paleontological record intensively, has championed the cause for open-minded consideration of catastrophism and uniformitarianism. He concludes that both concepts are represented equally in the geological record (Gould, 1977). Prof. Hibben appears to sum up the situation in a single statement: "The Pleistocene period ended in death. This was no ordinary extinction of a vague geological period which fizzled to an uncertain end. This death was catastrophic and all inclusive" (Hibben, 1946)."

Farrand, William R., "Frozen Mammoths and Modern Geology," Science, Vol.133, No. 3455, March 17, 1961.

Heirtzler, J. R., "Sea-floor spreading," Scientific American, Vol. 219, No. 6, December 1968.

Gould, Stephen Jay, "Catastrophies and Steady State Earth," Natural History, Vol. LXXXIV, No. 2, February 1975.

Gould, Stephen Jay, "Evolution's Erratic Pace," *Natural History*, Vol. LXXXVII, No. 5, May 1977.

Hibben, Frank, "The Lost Americans," Thomas & Crowell Co., New York, 1946.

Leonard, R. Cedric, Appendix A in "A Geological Study of the Mid-Atlantic Ridge," Special Paper No. 1, Cowen Publ., Bethany, 1979.

Lippman, Harold E., "Frozen Mammoths," *Physical Geology*, New York, 1969.

Martin, P. S. & Guilday, J. E., "Bestiary for Pleistocene Biologists," *Pleistocene Extinction*, Yale University, 1967.

Sanderson, Ivan T., "Riddle of the Frozen Giants," *Saturday Evening Post*, No. 39, January 16, 1960.

Simpson, George G., "Horses," New York, 1961.

Vereshchagin, N. K., "Primitive Hunters and Pleistocene Extinction in the Soviet Union," *Pleistocene Extinction* (P. S. Martin & H. E. Wright, J., editors), New Haven, 1967.

The best collection of the documentation on this event can be found within the paper "[*Catastrophe and Reconstitution*](#)" by the late Arthur Cushman. I recommend you take time to read this paper.

In one of his early writings, Charles Darwin commented on what he saw in the fossils of South America:

"The mind is at first irresistibly hurried into the belief that some great catastrophe has occurred. Thus, to destroy animals both large and small in South Patagonia, in Brazil, in the Cordillera, in North America up to the Behring Straits, we must shake the entire framework of the globe. Certainly no fact in the long history of the world is so startling as the wide extermination of its Inhabitants."

Darwin, Charles, *Journal of Researches*, Ward Lock, New York. 1845, p. 178.

A contemporary of Darwin commented:

"We live in a zoologically impoverished world, from which all the hugest and fiercest, and strangest forms have recently disappeared.... Yet it is surely a marvelous fact, and one that has hardly been sufficiently dwelt upon this sudden dying out of so many large mammalia not in one place only but over half the land surface of the globe."

"There must have been some physical cause for this great change, and it must have been a cause capable of acting almost simultaneously over large portions of the earth's surface."

Wallace, Alfred Russell, *Geographical Distribution of Animals*, Vol. 1, Hafner, New York, 1876, pp. 150, 151.

SUMMARY

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Surprisingly, the geological evidence we do possess seems to confirm the Biblical narrative.

The state of the Earth IMMEDIATELY PRIOR to Adam WAS one of

1. darkness (from volcanic dust) and hence cold
2. widespread flooding due to huge rises in sea level and tidal wave action
3. desolation - many species and genera had been wiped out – the remainder impoverished - just before Adam's time.

This is a very surprising confirmation of key elements of the Biblical account.

A state of the Earth where there was intense cold, diminished light, frequent flooding, and massive volcanism would certainly experience a desolation of it's life and habitats. Such universal destruction would leave life hanging in a balance. .

During the "Creation Week" that followed, God dispelled the dust that obscured the light, and allowed the warm rays of the Sun to reach the Earth. The rising melt waters had flooded most of the land, so God separated the land from the waters to make dry land appear. In Psalm 104 it says that God set boundaries on the extent of the oceans.

CLUES IN THE BIBLE

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So 4000 B.C. was preceded by a traumatic period consisting of a combination of freezing temperatures, intense volcanism, and major flooding of habitats. The result was a depletion of the animal populations, an outright extinction of some, a desolation of plant life and habitats, a fundamental disturbance of the balance of nature. ..

Perhaps this is why the Bible refers to the initial state as **Tohu** and **Bohu** – the most direct translation being "ruined"/"worthless"/"useless" and "desolate" – but is usually translated "without form and void".

Besides their occurrence in Genesis, the same words, "Tohu" and "Bohu", occur TOGETHER in only 2 other places

- Jeremiah Chapter 4 v 23-26 – where these words are used to describe the judgement of God bringing desolation upon the whole Earth.
- Isaiah 24 v 10, and 34 v 11 – where these words are used to describe the utter desolation and ruin of the Earth

This should tell us something. God used the same words to describe the initial state of the Earth, because that too represented a desolation and the result of a judgement.

Infact four words are used by the Bible to describe the initial state of the Earth –

1. **Tohu** (ruined, worthless, useless, chaos, without form)
2. **Bohu** (desolate, empty, void)
3. **Tehom** (the deep, the Flood, the abyss)
4. **Darkness**

Tehom is translated as the Deep in Genesis. Tehom is associated with the Flood of Noah in the Old Testament, and with the Abyss (Bottomless Pit) in the New Testament. Both are strongly associated with death and judgement.

Darkness is associated with evil, judgement and death throughout the Bible.

All four words in combination strongly suggest judgement. We have an abyss of waters covering the Earth – just as in Noah’s time. We have a darkness that is not due to the Sun, but due to something blocking the Sun from the Earth.. We have a condition of ruin, desolation and worthlessness.

Tohu: occurs 20 times in the Old Testament (12 times in Isaiah, 3 times in Job, once in Jeremiah, once in Psalms, once in 1 Samuel, once in Deuteronomy, and once in Genesis). The most direct translation of Tohu is “ruined, worthless, useless”

Bohu:Occurs 3 times – once in Genesis, once in Isaiah, and once in Jeremiah

Hayah – “to become”

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Genesis 1v2 is usually translated “And the earth was formless and void”. However the most direct translation is “*And the earth became.....*”.

The verb **hayah** translated **was** occurs 27 times in Genesis chapter 1; however in 22 of these 27 instances the Septuagint translates it as **became** rather than **was**; and in 13 instances the Latin Vulgate translates it as **became** rather than **was**. So there is a good case for translating Genesis 1v2 as “And the earth BECAME a desolate ruin”.

For example, in **Genesis 19:26**, the same Hebrew word **hayah** is used (See also [Genesis 2:7](#) and 9:15.) And there it is translated into the English word "became." In the first three chapters of the Bible, and many other places where you find the word **hayah**, in almost every case it denotes **a condition that was different from a former condition**. In other words, the earth "BECAME" chaotic. It had not always been that way.

Plainly the word "was" (*hayah*) here has the meaning of "became." **The Rotherham translation of Genesis 1:2**, out of the original Hebrew language, is this: "Now the earth HAD BECOME waste and empty." It hadn't always been that way.

CONCLUSION [Return to Contents Page](#)

Geological evidence and radio-carbon dating indicate that a short time prior to Adam, the Earth really was in a state of intense cold and darkness, and also there really was widespread flooding of most of the land surface. This is a rather surprising confirmation of the Genesis story.

These environmental conditions contributed to widespread extinction of life, witnessed by the complete elimination of the Mega Fauna (Giant animals) from the world scene, and by fossil graveyards that exhibit the rapid demise of masses of creatures under conditions of flooding and great violence. The world had become desolate and ruined, and darkness was upon the face of the deep.

Genesis chapter 1 then goes on to describe the Creation Week, when God re-introduced life.

This conclusion takes away nothing from the grandeur of God's acts of creation. It squares with all the facts. And it has the profound effect of resolving a conflict between the Bible and the age of the Earth discovered by science.

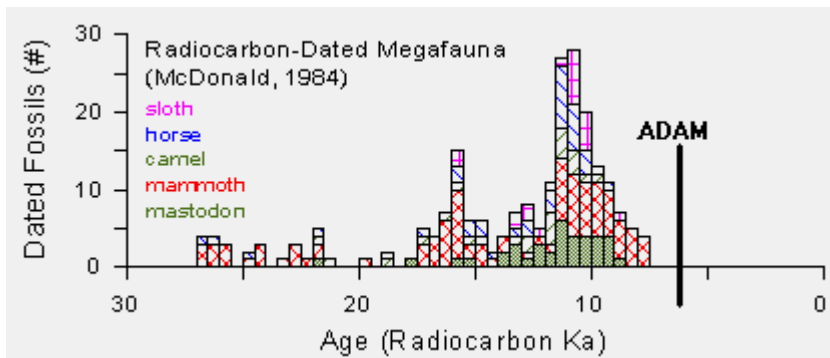
But there is more to say. At the time of Adam there was a huge change in the kinds of animals that populated the earth. Please read on.

A STRANGE WORLD BEFORE ADAM [Return to Contents Page](#)

There is universal agreement among geologists that before the Pleistocene extinctions, the Earth was populated by giant mammals of every kind. Geologists refer to these extraordinary creatures as the MEGA-FAUNA.

These giant mammals disappear from the fossil record just prior to Adam.

Global Timing of Megafaunal Extinction



Imagine meeting a bear the size of a house, or a beaver the size of a car. That will give you some idea of the size of these creatures. Here is a short list of some of the Mega Fauna –

Giant Kangaroo:

Procoptodon goliah was the largest kangaroo ever. *Procoptodon goliah* stood 2.5 to 3 metres high and weighed 200-300 kilograms.

Giant Lizards:

Megalania prisca was an enormous goanna-like carnivore, at least 5.5 metres long, and with a weight of about 600 kilograms. This is twice the length of their closest living relative, the Komodo Dragon of eastern Indonesia.

Giant Ox

The Ice Age musk ox grew 6 feet tall, larger than today's 4-foot-tall ox. Some weighed more than 1,500 pounds.

Giant Deer

In Ireland, quite different fossils have been found. Enormous numbers of giant deer. The Irish Elk, *Megaloceros*, was larger than any existing deer and had antlers that spread 13 feet across.

Giant Birds:

At least eight species of now extinct giant birds flourished in Australia. They included the largest bird yet discovered, *Dromornis stirtoni*, which was 3 metres in height and weighed more than 500 kg. *Genyornis newtoni*, which stood about 1.8 metres high. The **Giant vulture** had a four metre wing span. Fossil birds from this time have been found with a 30ft wingspan

Giant Sloths:

Megatherium, a huge ground sloth. During the Ice Age these slow, lumbering beasts grew more than 20 feet long, today's sloths, which are usually no more than 2 feet long

Giant Beavers. Rodents were bigger in the Ice Age too especially beavers. The largest rodent in North America was the giant beaver. It measured 8 feet long and weighed 480 pounds—around the size of a today's black bear! Compare that to the modern beaver, which weighs around 65 pounds. The giant beaver had cutting teeth up to 6 inches long, which may have been used for cutting wood.

Giant Cats:

Enormous saber-toothed cats ranged across much of North America during the Ice Age. Some of these huge cats had "sabers"—upper canine teeth—more than 10 inches long. There were also **giant Cheetahs** – one wonders how fast THEY could run.

Giant Apes

Gigantopithecus, a huge ape larger than current gorillas. *Gigantopithecus* was the largest primate that ever walked the Earth. He would have risen 9 to 10 feet high if he choose to stand up on only his hind legs, and probably weighed about 600 lbs

Giant Wolves

the Dire Wolf, *Canis dirus*, which was larger than current wolves. They had huge heads and tremendous teeth. Some are the largest members of the dog family ever to exist.

Giant Elephants

The most immense and powerful creatures of the Pleistocene were undoubtedly the giant mammoths—the largest elephants of all time – with an average height of over 14ft. Modern elephants average 9ft, not nearly as large as their mammoth ancestors.

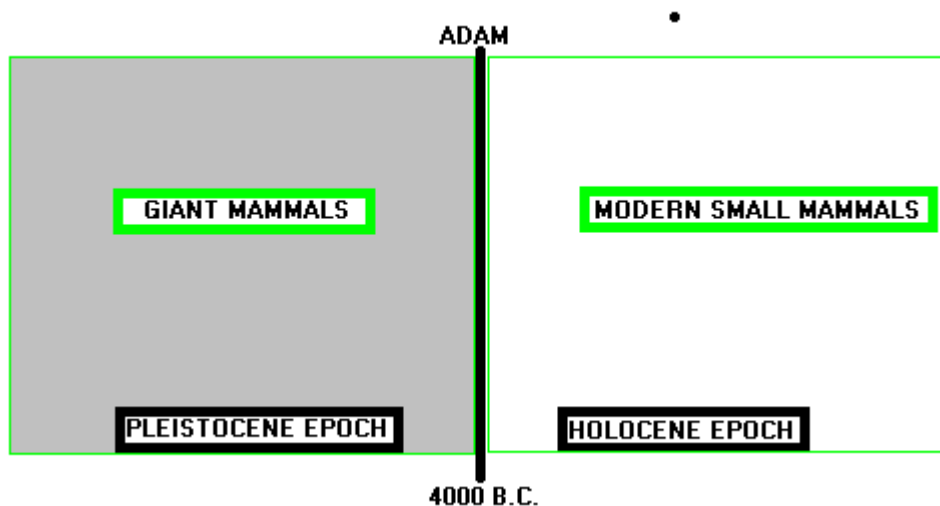
There were also giant bears, giant camels and giant snakes. The list could go on. And it wasn't just the size of these creatures that was extraordinary. Their whole structure exuded a solidity, immense strength and vitality that would make modern creatures seem puny and insipid by comparison.

At the end of the Pleistocene, mass extinctions put an end to these giants. The extinctions were oddly selective. Only the mega fauna (giant animals) were eliminated.

Bob H.Slaughter says, "The staggering fact that about 95% of the North American megafauna (giant mammals) became extinct during a short period some 8,000 years ago (about 6,000 B.C.).

This means that the time of Adam represents a major turning point, a watershed in Earth history. Prior to him were the giant mammals; after him were the small mammals we know today.

"It is impossible," as Charles Darwin puts it, "to reflect on the changed state of the American continent without the deepest astonishment. Formerly it must have swarmed with great monsters; now we find mere pigmies."



Before Adam, the world had been the dominion of giant mammals. It is uncertain whether man could have achieved dominion in such a world. The elimination of the giants at the end of the Pleistocene left a "power vacuum". – and Man appears to have taken the throne.

The Bible says that God made Adam King of creation and inaugurated a new age. Surprisingly, this seems to be confirmed by geology - a huge transition in nature – namely the end of the world of the giants – and the beginning of the age of Man.

LONGEVITY

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As a general rule giantism and long life go together. The longer a creature lives, the longer it's growth period, the bigger it will grow. I would guess that these giant beavers, rhinos etc had life spans that were quite a bit longer than their modern equivalents. We have “giant” tortoises today that live for 300 years. The giant tortoises of the Pleistocene were even bigger – did they live even longer? How much longer? So should we really be surprised to find that the Bible records longer lifespans at this time? Adam is recorded as living for over 900 years. The huge stature, strength, and vitality of the Pleistocene creatures suggests a lifespan and endurance that was correspondingly long. .

END NOTE

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The thesis outlined above proposes a possible synthesis between the Bible and science. I hope it has conveyed some of the mystery that shrouds the ancient history of our planet. One thing has become apparent to me; no one knows the full truth of what really happened - that remains for future generations to decipher. The fossil record shows that life has existed on our planet for millions of years, punctuated by the sudden appearance of species fully formed, and equally punctuated by their mysterious extinction. The Cambrian Explosion is an example of the former during which a vast number of species appeared in a very short time, whilst the catastrophic demise of the dinosaurs is an example of the latter. Perhaps GENESIS has been repeated before.

The Bible tells us that a "colony" was established in Eden where new life was nurtured, a protected environment. Mankind that emerged was different from the Neanderthal species that had preceded him. He was less of an animal - ruled by his spirituality, rationality and sense of justice, rather than by base instinct and animal passion.

A new age was begun. Water, fire and ice had cleansed and baptised the earth and made it new. And in the fresh dawn of that new age mankind stood and surveyed his new world. And the wonders of the previous age were soon lost in forgetfulness.

