7 – The Ice Age

The point was made earlier that a strict Genesis chronology does not account very well for the rise of cities and organized societies and civilizations before Abraham's time. Another reason why it is helpful to allow more time has to do with the climate adjustment that took place in the Earth after the Great Flood cataclysm. Conditions then were so unusual that great ice sheets covered much of Canada, parts of the USA, northwestern Europe; at the same time herds of large mammals (wooly mammoths, for example) were roaming in northern latitudes (northeast Russia and parts of Canada and Alaska), not far from where glaciers and ice sheets had formed.

How such an unusual combination of climatic circumstances could ever have existed has puzzled scientists immensely. Cold air is dry and does not allow for much precipitation, yet there had to be a huge amount of precipitation to result in the formation of ice sheets and glaciers.

To make matters worse, there is much evidence that while ice sheets had formed in some areas, yet in other areas at the same latitude, great animal herds were roaming about, happily grazing in lush grassland regions.

> **Although it is evident there was an Ice Age, scientists run into a blank wall when they try to provide the cause. They run into mystery after mystery. (*Frozen in Time*, ch.3)**
>
> **In 1968, in a volume on the causes of climate change, Erik Eriksson counted over 60 theories on the cause of the Ice Age. Although**

> **many have merit, each has fatal flaws. (*Frozen in Time*, ch.6)**
>
> **When we apply the Genesis flood and the biblical timetable to objective scientific evidence, confusion clears, mysteries are solved, and God is glorified. (*Frozen in Time*, ch.16)**

This kind of paradoxical climatic situation that befell planet Earth can be understood easily from the perspective of the Genesis account; only then do the puzzle pieces fall into place. In his book *Frozen in Time*, Michael Oard offers a helpful, well reasoned, and scientific explanation for what happened during this mysterious era of Earth's history. (See Appendix 4 below for details.)

Mr. Oard also offers a helpful explanation for why it is easier to understand the Ice Age as a relatively quick phenomenon that happened only once in Earth's history. (See Appendix 5 below.) Trying to understand it as a long, drawn-out process, or as multiple ice ages, creates more problems than it solves.

> **Time is not a side issue in creationist explanations for major mysteries of the past. I have often found that a short time scale is the key in providing reasonable solutions to long-standing mysteries of the past. Uniformitarian scientists will continue in their struggle to solve the riddles of the Ice Age and the woolly mammoths because of their dedication to present process over long ages. (*Frozen in Time*, ch.16)**

Of course, the science world tends to think in terms of vast ages of time because of the commonly accepted assumption of uniformitarian/evolutionary development. By insisting on long periods of time and by refusing to factor the Flood cataclysm into their geologic and climatic equations, scientists have cut themselves off from ever being able to grasp the dynamics of this unusual, intriguing era in Earth's history, the Ice Age; it has retarded our understanding of it. And unfortunately, it has denied students and young people the knowledge of the rich heritage of Earth's history that they deserve and need to have.

One reason that scientists think in terms of a vast and lengthy Ice Age stems from the fact that the Greenland and Antarctic ice sheets are very

thick. The Greenland ice cap has an average depth of 1,500 meters, reaching a maximum of 3,000 meters, while the Antarctic ice cap measures on average 2,000 meters; in some places it is more than 4,500 meters, covering entire mountain ranges. Those ice sheets have had a few thousand years to build up, so it is no surprise that they are very thick. But there is evidence that the ice sheets that covered much of Canada, northwestern Europe, and other areas during the Ice Age were relatively thin by comparison. (See Appendix 6 below.)

In addition, during the Ice Age, great storms came and went continuously. Scientists, using devices to bore into the Greenland or Antarctic ice domes, have recorded the resulting layer changes, thinking that they were measuring yearly fluctuations. This has resulted in exaggerated time estimates, based on the coming and going of storms, not seasons of winter and summer. Also, the theories tend to over-estimate the geographical extent of the Ice Age because much of what should have been understood as the action of the Flood waters upon the earth was mistakenly assumed to be evidence for ice action on the landscape. The kind of trail left by flooding and that left by glacial action can look similar, and it is easy to mistake one for the other.

In his book *Frozen in Time*, Michael Oard puts forth a good case for an Ice Age of 700 years (as noted in Appendix 5). There is plenty of well-researched science that is used to back up this assertion. His conclusion, however, is interesting:

> **Based on strict biblical chronology and assuming no gaps in the ancestral lists, the Ice Age ended about four thousand years ago. (*Frozen in Time*, ch.12)**

Implicit in this statement is the acknowledgment that the commonly accepted Genesis timeline (by which the Flood would have occurred in 2500 B.C.) may be a "strict" (or abridged) chronology because of "gaps in the ancestral lists". So, although it is theoretically possible that the Ice Age could have been 700 years in length, ending around the time of Israel's descent into Egypt, it also could have been longer. And it might be more realistic to add some extra time, in keeping with what the records in the Book of Genesis seem to allow. (This subject is covered more thoroughly in earlier posts of this series.)

Continue to Chapter 8: Conclusion

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APPENDIX 4: Dynamics of the Ice Age – Quotes from *Frozen in Time*, chapter 7, by Michael Oard

The two ingredients required for an Ice Age, cool temperatures and tons of snow, were dramatically fulfilled immediately after the Genesis flood.

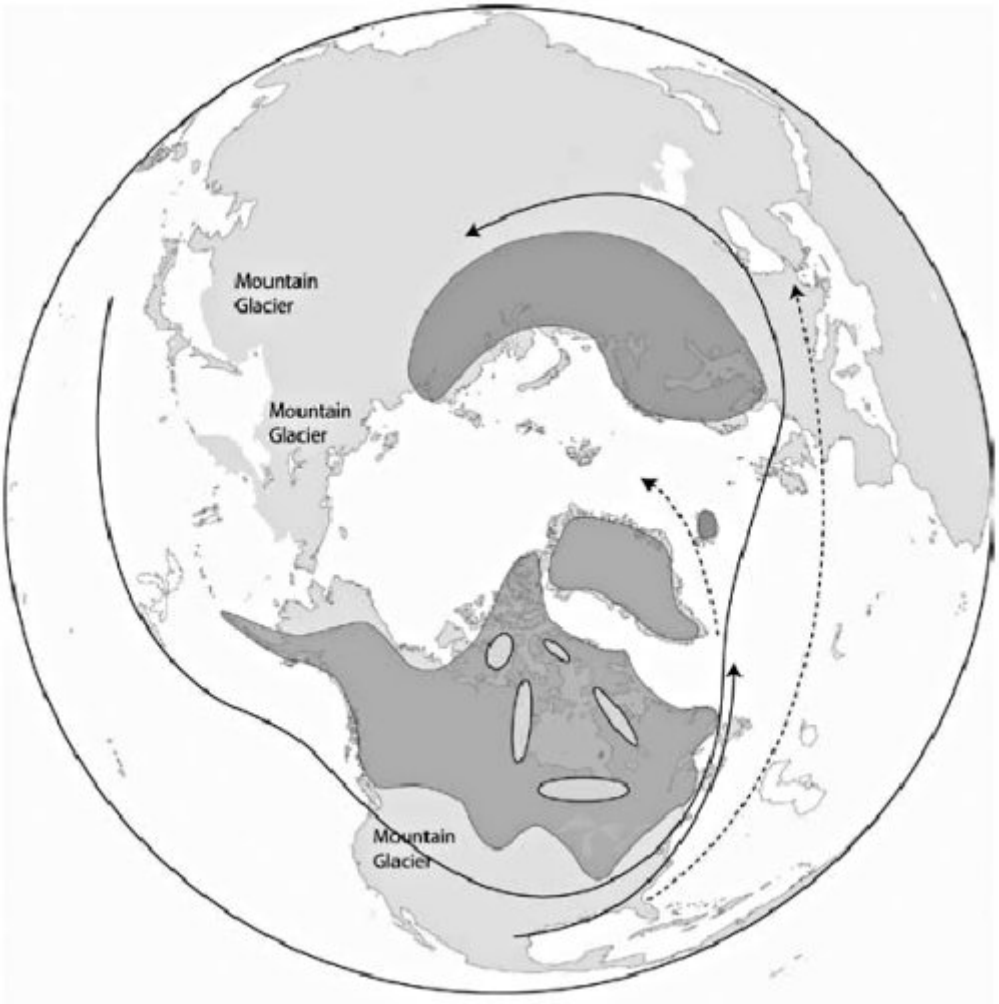
One of the results of a global Flood would be the perturbation of the climate before it reached the equilibrium we observe today. . . It is within this transitional climate that the mysteries of the Ice Age and woolly mammoth find a reasonable solution.

Extensive summer cooling of the land is the first requirement needed for an ice age to develop. High snowfall is the second. Cooling alone cannot generate more precipitation, since cold air holds less moisture, not more. This is the major reason why uniformitarian Ice Age theories fail.

In the Ice Age model after the Flood, the abundant moisture needed for an ice age would be produced by evaporation from a warm ocean at mid and high latitudes. Why would the oceans be warm? First, it is likely the pre-Flood ocean was warmer than now. Secondly, if the water from the "fountains of the great deep" came from within earth's crust, much hot water would be added to the pre-Flood ocean. . . intense tectonic activity during the Flood and lava flows would add more heat. Earthquakes and rapid ocean currents during the Flood would mix this warm water with the pre-Flood ocean. As a result, the ocean immediately following the Flood would have been warm from pole to pole and from top to bottom. Because of this, the Arctic and Antarctic Oceans would have had no sea ice and, as strange as it may seem in today's climate, may have been warm enough for a pleasant swim.

Although the oceans would be warm, the continents would be cool due to the volcanic ash and dust in the stratosphere. The heat released by the warm ocean and its mixing with the air over the land would result in

milder winter temperatures compared to today. The main effect of the volcanic ash and gases would be to cause the land to cool during the summer.



Distribution of snow and ice and storm tracks at maximum glaciation. Circular areas within the North American ice sheet represent postulated ice domes. Little sea ice has formed as yet. (from "Chapter 8: The Snowblitz" in *Frozen in Time*)

In summary, the Flood and its aftershocks provide the volcanic dust and gases that bring the summer cooling indispensable for the Ice Age. Water from the "fountains of the great deep" and mixing during the Flood provides a warm ocean. In the mid and high latitudes the warm ocean would cause copious evaporation and produce massive amounts of snow.

The two ingredients required for an Ice Age, cool temperatures and tons of snow, were dramatically fulfilled immediately after the Genesis flood. This unique climate would persist for hundreds of years after the Flood as the intensity of the two mechanisms slowly decreased.

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APPENDIX 5: Extent of the Ice Age – Quotes from *Frozen in Time* by Michael Oard

Many of the glacial features are still sharp and only slightly eroded, indicating that the Ice Age was fairly recent. . . The freshness of glacial features argues for a much younger date. (*Frozen in Time*, ch.3)

Uniformitarian scientists claim that it takes about 100,000 years for an ice age cycle. In the Flood model, it would be rapid — some would consider it catastrophic. The volcanic effluents in the stratosphere [and collapse of water vapor shroud] and a warm ocean are a powerful ice age-breeding mechanism. (*Frozen in Time*, ch.9)

Estimating the length of the Ice Age depends mainly upon how long it would take for a warm ocean after the Flood to cool. Once the ocean cooled below some threshold temperature, there would not be enough evaporation to sustain net ice sheet growth. With less snow and less volcanic pollution, the summer sun would be more effective in melting the ice sheets during the summer. (*Frozen in Time*, ch.9)

I calculated a minimum cooling time of 174 years and a maximum time of 1,765 years. Using values in the mid range of the variables, I ended up with about 500 years to reach glacial maximum. . . Regardless of whether minimum or maximum values are used in the equation, the ice sheets develop in a very short time compared to the uniformitarian estimate of around 100,000 years. (*Frozen in Time*, ch.9)

The total time for deglaciation would be in the neighborhood of 200 years. This is surprisingly fast — the melting would be catastrophic! (*Frozen in Time*, ch.10)

This melt time requires much less time than the uniformitarian

estimates. The Flood model rate of 30 feet/year (10 m/yr) at the periphery compares very closely to modern measurements in the cool, commonly cloudy melting zones of glaciers in Alaska, Iceland, and Norway. (*Frozen in Time*, ch.10)

Putting it all together, I conclude that it took about 500 years for the Ice Age to reach its maximum and 200 years to melt. This is a total of 700 years from start to finish — a time much different than uniformitarian theories. Given the unique conditions that existed after a worldwide Flood, I have also concluded that there was only one Ice Age. It was indeed a rapid, even a catastrophic, Ice Age. It could easily have occurred between the time of the Genesis flood and the time historical records first were written in northern Europe. (*Frozen in Time*, ch.10)

A short distance of transport would be expected in one ice age, but in multiple ice ages, the debris should be bulldozed farther and farther from its source. Since most glacial till is from local bedrock, one ice age is a more straightforward deduction. (*Frozen in Time*, ch.11)

In conclusion, climate change at the end of the Ice Age was the main cause of late Ice Age extinctions. A post-Flood Ice Age explains why the large animals did not go extinct at the end of previous glaciations. There were no previous glaciations or interglacials. There was only one Ice Age, brought on by the unique conditions that followed the global Flood. (*Frozen in Time*, ch.16)

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APPENDIX 6: Evidence of Thin Ice Sheets (quotes from *Frozen in Time*, chapter 9)

There is some recent evidence, however, that the past ice sheet thicknesses were significantly lower than uniformitarian scientists expected. Instead of one big Laurentide ice sheet with a center over Hudson Bay, most geologists now conclude that there were at least two main ice domes, one east of Hudson Bay in Labrador and one west and northwest of Hudson Bay, the Keewatin dome. . . This is based mainly on the direction of striated bedrock and the dispersion of glacial debris. There probably were other ice domes, for instance the Foxe/Baffin Dome. .

. Another dome possibility built up just north of the Great Lakes. Regardless, two or more domes instead of one dome imply a thinner ice sheet.

Furthermore, the periphery of the Laurentide ice sheet in the north central United States is now known to have been much thinner than earlier thought. The original estimates of thicker ice were based on the thick periphery of the Antarctica ice sheet. The evidence for a thinner periphery comes from observations that the tops of mountains in north central Montana, the western Cypress Hills of southeast Alberta, and the Wood Mountain Plateau in southwest Saskatchewan were all found to be above the ice.[7] Ice thickness in southern Alberta and Saskatchewan was rather variable, but was around 1,000 feet (300 meters) deep. The ice surface slope in southern Alberta to its southern terminus was nearly flat.[8] This thickness is about 1/5 the thickness postulated by using the edge of the Antarctica ice sheet as an analogy. With such a flat slope and a general uphill topography from southern Canada into Montana, mainstream scientists are left with a quandary: how did the ice sheet spread into north central Montana moving uphill? According to the way glaciers move, it should have been impossible. The most likely explanation is that the snow and ice had to form generally in place [without having to "flow" very far], as predicted in the post-Flood Ice Age model.

Further evidence for a thin ice sheet comes from the northern Midwest United States. It is now known that ice lobes along the margin in this area surged southward. These surges left behind lateral moraines. The gentle slope of these lateral features indicates that the ice sheet must have been notably thin.[9] The driftless area in southwest Wisconsin suggests thin ice lobes missed this area entirely. If the periphery ice were not thin, the driftless area would have been buried by ice.

Not only was the southwest and south-central periphery of the Laurentide ice sheet thin, but recent evidence indicates the northwest margin in the eastern Yukon Territory was also thin.[10] The southeast margin in New England was relatively thick. There is little information from other areas of the periphery of the Laurentide ice sheet.

Occhietti[11] sums up the significance of the new observational data:

> **These results change the concept of the Laurentide ice sheet radically. They imply, notably, a much smaller ice volume, and complex margins.**

Footnotes:

7. Mathews, W.H., Surface profiles of the Laurentide ice sheet in its marginal areas, Journal of Glaciology 13(67):37–43, 1974.

8. Clayton, L., J.T. Teller, and J.W. Attig, Surging of the southwestern part of the Laurentide ice sheet, Boreas 14:235–241, 1985.

9. Beget, J.E., Modeling the influence of till rheology on the flow and profile of the Lake Michigan lobe, southern Laurentide ice sheet, U.S.A., Journal of Glaciology 32(111):235–241, 1986.

10. Beget, J., Low profile of the northwest Laurentide ice sheet, Arctic and Alpine Research 19:81–88, 1987.

11. Occhietti, S., Laurentide ice sheet: Oceanic and climatic implications, Palaeogeography, Palaeoclimatology, Palaeoecology 44:13, 1983.

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