

**Book Review – Grand Canyon:
Monument to Catastrophe
Chapter 9 – The Atmosphere above GC**



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This chapter is more or less irrelevant to the formation of the Grand Canyon. The authors present it in order to give their model for the Ice Age (singular). However, as you will see, there are many ice ages throughout geologic history.

Please note, that Dr. Michael Oard is the premier young-earth creation theorist when it comes to weather. He is a meteorologist. However, for some reason, this chapter was written by a geophysicist (see page IV).

**The Night Sky
The Composition of Our Atmosphere
How the Sun Heats Our Atmosphere
General Circulation of Our Atmosphere
Clouds**

There is nothing significant in these five major sections. The authors are merely trying to lend credibility to their arguments concerning the last section.

The Sky Has Fallen

This entire section must be taken with a grain of salt. All the references, with the exception of the first (Fultz) are exclusively from young-earth theorists, and thus are flawed, because of their preconceptions about the earth being only 6,000 years old. True science involves the examination of the data, and then coming to a conclusion, whereas the young-earth theorists have done it backwards...they have reached the conclusion already, before they have looked at the evidence that we see in the rock record.

Concerning the reference to Fultz (#1, in Models section), they do not reference him later in the discussion, and it seems that the only reason for mentioning him in the opening paragraph of the Models section, is just so that they have one non-creationist reference. His inclusion is unimportant to their arguments.

Models (Page 192)

Here the author presents the vapor-canopy model. It is said that this vapor canopy rested on top of the current atmosphere, and contained about 40 feet of water. That would work, if the earth's surface were no more than 40 feet above sea level at any

point. Genesis 7:20 states the waters covered the tallest mountains by 15 cubits, which, depending on which definition of cubit you use, would be between 22.5 and 27.5 feet of coverage. That means, not accounting for waters from the rocks that young-earth theorists propose, the land before the flood would have to be less than 20 feet above sea level over the entire earth. This is a minor point, so let's examine the three predictions of the young-earth theorists.

Greenhouse Effect (Page 192)

The authors claim that prior to the flood, the earth was warmer due to this vapor canopy. They state the evidence that the polar regions were much warmer at one time, and mention the fact that frozen trees are found in polar regions. The authors also mention that the Cretaceous Period (144-65 Million years ago) the average sea-level temperature was 45°F degrees, whereas it is -4°F now.

Yes, there is evidence that the polar regions were warmer at one point, but what they fail to mention is that there is abundant evidence of ancient ice ages, occurring millions of years ago, before these warm periods. If the vapor model were true, you should not have these in the rock record.

Widespread, well-known glacial deposits occur throughout the Southern Hemisphere Gondwanaland landmasses, ranging from Carboniferous to Permian in Age (354 to 248 million years ago).

Dwyka Formation

These glacial deposits occur throughout southern Africa. The Dwyka is about 1300 meters of sediment, with the middle 800+ containing tillite units. These units rest on widespread striated pavements, and contain striated and faceted clasts. Well-preserved glacial valleys are exposed throughout the area. The tills are typical, including clast orientations, and contain both local and remotely-derived gravel particles. Dates are Upper Carboniferous to Lower Permian, or about 290 million years ago. This formation falls in the category of Early Flood rocks, using the model proposed by the book in Figure 4.1. How could they be early flood rocks, when the only Ice Age proposed by the authors is Post-Flood?

Permian of Australia

Glaciers were widespread over all of Australia during the Late Carboniferous, with continental ice sheets reaching maximum coverage during Permian time. The evidences for this ice exists throughout the entire spectrum of glacial sediments, which includes outwash, glaciolacustrine, and glacial marine deposits. Glacial pavements with striations, grooves, and crescentic gouges abound.

At Hallett Cove and Fleurieu Peninsula, there are clasts of various plutonic and metamorphic sources. Ice rafting was also common, as evidenced by the large dropstones scattered throughout.

It is estimated that there were dozens of glacial advances in southeastern Australia during the Permian. Referring to Figure 4.1 of the book under review, these rocks are

Early Flood rocks. Again, this does not fit the model of the only Post-Flood Ice Age as proposed by the authors.

Other Pre-Flood Ice Ages

Tillites are well-documented on all continents except Antarctica, with dating to the Precambrian, 650 to 700 million years ago. By the young-earth model, these glacial deposits are considered as creation week rocks, however it seems odd that during the intense mountain building, volcanic-ridden creation week, that glaciers dominated six of the seven continents!

The Varangian Ice Age deposits are found throughout northern Europe, the British Isles, and Greenland. Pebbly mudstones (from ice rafting) are common, with some striated pavements. The Port Askaig Tillite in Scotland and Ireland is over 700 meters thick, and contains glacial marine, glacial fluvial, and nonglacial sediments. In Norway, the Upper and Lower Tillite Formations contains tillites deposited in a glacial marine environment.

In Canada, the Gowganda Formation, also Precambrian, displays typical glacial till features; poor sorting, unstratified, varying particle sizes and sources. Sandstone lenses show evidence of ice rafting. The base of the formation contains striations and grooves in the underlying bedrock. The age of this formation is considerably older, at 1,300 million years old.

All of these examples of ancient glacial deposits occurred during the creation week, or during the early flood stages, if you believe the young-earth model. However, that is totally inconsistent with their argument, and with the evidence.

Increased Atmospheric Pressure (Page 193)

In this section the authors use the argument that the great winged dinosaurs would have an easier time of taking off and maintaining flight, because of the increased pressure. While interesting, this proves nothing. Reducing the flight speed by 10 miles per hour would indeed show that the dinosaurs could fly easier, but this is only circumstantial evidence at best. No direct evidence of this increased pressure is presented. I'm sure there would be many other benefits to this increased pressure, such as the increased healing time mentioned, but that does not prove that this condition existed. Perhaps the vapor canopy kept out alien visitors until after the Flood, but there is no proof of this.

If they could have produced some direct evidence of this pressure, you can rest assured that they would have included it in this book. The lack of it is proof that their theory is weak.

Rapid Post-Flood Ice Age (Page 194)

The authors propose this as an explanation for the recent ice ages. In the second paragraph, the authors state there are two requirements for an ice age, which are first, global cooling, and second, substantially increased moisture in the atmosphere.

They claim the moisture came from strong evaporation from a much warmer ocean following the flood. The main proponent of the rapid post-Flood ice age theory is Michael Oard. The source of his heat for the oceans is volcanic activity (see the book review for *Frozen In Time* (www.answersincreation.org/frozen_in_time.htm)). Unfortunately for the young earth theory, a by-product of volcanism is carbon dioxide emissions, which is a potent greenhouse gas.

Using the lava flows that are supposedly Flood related, it is a simple matter to calculate how much carbon dioxide was emitted. In our current atmosphere, we have about 400 parts per million CO₂. Scientists are very concerned about this approaching 600 PPM, as CO₂ is a strong greenhouse gas, which contributes to global warming. Glenn Morton has calculated the amount of CO₂ in Oard's post-flood Ice age, and it is a staggering 58,615 PPM (this is a "minimum!"). In reality, Oard's post-Flood world would be boiling, not ice-covered. Noah would have been roasted! (See Carbon Dioxide and the Flood (<http://home.entouch.net/dmd/co2.htm>).

Also, the authors claim that it would take about 500 years to reach maximum ice volume, so you have a warm ocean for 500 years. This is not feasible, given the fact that young-earth theorists claim that rapid cooling of granitic rock bodies occurred during the creation week. If the oceans were heated from volcanic activity during the flood, then it would not have taken 500 years for them to cool. If they cooled rapidly during the creation week, they would cool rapidly after the flood. If you say they cooled slowly in the hundreds of years after the creation, then there would have been another, post-creation Ice Age, prior to the Flood, but there is no such evidence, nor any claims of such, by young earth creationists.

Conclusions (Page 195)

There are far too many problems with the young-earth model for it to be considered as a valid theory. Atmospheric evidences are very weak or non-existent, and multiple, pre-flood ice ages in the rock record cannot be explained by the vapor-canopy model.