Climate models fail to produce warm climates of the past

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Late Cretaceous plant fossils were recovered from the interior of central Siberia, suggesting to scientists that the climate was much warmer in that area in the past.[1] The fossilized remains of animals and plants that require a warm climate are commonly found in such cold climate areas, including regions at high latitudes and regions at middle latitudes in the continental interiors. Uniformitarian scientists, of course, assume that these plants and animals *lived* at these locations. Thus, paleoclimatologists consider the fossils are warm-climate indicators and use their climate interpretations as data for computer simulations of past climates. Despite heroic attempts to adjust the initial and boundary conditions, these simulations always fail to reproduce the warm climate at the latitudes where the fossils are found—often by a wide margin. The report on the fossils from central Siberia provides another example of such climate modeling failures.[1]

Examples of anomalous warm-climate paleoflora and paleofauna

There are many examples of warm-climate paleoflora and paleofauna found at high latitude or within continental interiors at mid latitudes in the scientific literature. One of the most outrageous is the "Eocene" trees, some upright and some not permineralized, found on Axel Heiberg and Ellesmere Islands in northeast Canada at 80°N, dated as "Eocene".[2,3] The paleofauna consists of salamanders, tortoises, alligators, and flying lemurs—all reinforcing the idea of a past warm climate. Such an interpretation seems to be confirmed by a recent analysis of deep-sea cores from the Arctic Ocean that concluded the Arctic Ocean was much warmer in the early Tertiary, ranging from 18°C to 24°C.[4] These temperatures compare to an average Arctic Ocean sea surface temperature today of -2°C.

Also found on Axel Heiberg Island was a tropical to subtropical crocodile-like reptile, which was dated as "Cretaceous".[5] The climate these fossils are assumed to represent has a warm season temperature of 25°C to 35°C with the coldest monthly mean temperature of 5.5°C. These temperatures are in stark contrast with today's climate in the area that has an annual mean of -20°C and a January mean of -38°C. So, both the Cretaceous and Eocene would have been outrageously warm in northeast Canada.

Dinosaur fossils have been found at many locations in the high latitudes, including Antarctica, Spitzbergen, northeast Canada, and northern Alaska.[6,7] These warm-climate fossils have created a conundrum for uniformitarians, which they have dubbed "polar dinosaurs".

The "early" Tertiary, Eocene Absaroka volcanics north and east of Yellowstone Park, Montana and Wyoming, have many areas with petrified vertical trees.[8] Out of 200 species of trees identified by the wood or pollen, several are from a subtropical to tropical environment. The Green River Formation also has subtropical and tropical paleofauna and paleoflora, such as palms trees and crocodiles.[9] The fossil distribution of large-bodied reptiles, such as tortoises and crocodiles, indicates that a warm climate occurred in the Tertiary of the Midwest of the U.S. and southern Canada clear up to the upper Tertiary.[10–12]

In the middle latitudes of continental interiors, it is common to find warm-climate paleofauna and paleoflora during the Mesozoic, as well as the Tertiary.[13,14]

The Siberian case

Spicer *et al*. document the paleoflora of the continental interior of the Vilui Basin, central Siberia, during the late Cretaceous, and suggest the climate was much warmer.[1] From the fossils they concluded that the climate was wet, warm temperate, and more equable than today. An equable climate is one in which there is little difference

Figure 1. One of many vertical petrified tree trunks at Dry Creek Petrified Environmental Education Area, east of Buffalo, Wyoming. This polystrate metasequoia tree trunk is almost 1.5 m in diameter (thanks to Roger Paterson of AiG for telling me about this location).

between the seasons. Their computer comparison with various paleoflora and climates today resulted in an estimated mean annual temperature of 13°C, a warm-month mean of 21°C, and a cold-month mean of 6°C. Such a climate is radically different from the current climate in central Siberia.

However, their climate model run for the late Cretaceous in central Siberia failed to give temperatures that matched the past warm climate. In fact, it could only manage a climate a little warmer than today, even though the model was tweaked numerous times in order to produce warmer temperatures: CO_2 concentration two to six times higher; CH_4 up to six times preindustrial levels; different ocean surface conditions, such as constantly warm polar sea surface temperatures; and other variables. None of these initial or boundary conditions warmed the climate much:

> "Despite considerable effort using an array of models and boundary conditions, understanding the inability of models to correctly reproduce high latitude warmth and equability in continental interiors for past greenhouse climates, particularly the late Cretaceous and Palaeogene [Palaeocene, Eocene, and Oligocene], has so far proved intractable and has become a 'classic' problem in palaeoclimatology … Elevated CO_2 combined with dynamic vegetation feedbacks … have gone some way to reproducing high latitude warmth and high precipitation regimes evidences by the geological record … but still the continental interiors present an enigma irrespective of which time period is under scrutiny (references deleted)."[15]

The main reason why high latitudes and the interiors of mid latitude continents are so cold today in winter and in the models, in spite of all the warming adjustments made to the models, is because temperatures in these areas are strongly correlated to the angle of the sun. For continental interiors the long distance from warm oceans is an additional factor. It seems impossible meteorologically to account for the presence of such warm climate fossils in these areas within the uniformitarian paradigm.

Spicer *et al.* suggest three possible reasons for the huge contradiction between the warm-climate fossils and their climate simulations. These are (1) systematic errors in the interpretation/calibration of the climate proxies, (2) lack of knowledge of the boundary conditions needed in the climate simulations, and/or (3) insufficient understanding of the nature of the coupled atmosphere-ocean-biosphere conditions needed in the simulations. They lean toward the third option, which also implies that there could be serious problems with their modeling of future climates. Like most research these days, they connect the relevance of their work to climate change. In particular, they claim that their predictions of future climates using similar models "may currently be underestimating future climate change in such regions."[16] In other words, if carbon dioxide levels on the earth doubled, it may become much warmer than their climate simulations have indicated. However, the climate models already seem to be greatly exaggerating the warming from increased carbon dioxide.[17]

Photo from David Oard

Figure 2. Four-metre tall petrified tree trunk vertical to layers of volcanic breccia at Specimen Creek, Yellowstone National Park, Montana.

Photo from David Oard

Figure 3. Well preserved leaf in one of the organic layers at Specimen Creek, Yellowstone National Park, Montana.

Creationist solution

There is a simple answer to the uniformitarian dilemma when you start with a biblical framework. Spicer *et al*. need to go no further than their first reason: "Systematic errors in the interpretation/calibration of the climate proxies." And the reason for the errors is their dogmatic adherence to their uniformitarian assumption.

During the Flood, the warm climate paleoflora and paleofauna would have been transported to high latitudes by strong floodwater currents in vegetation mats.[18,19] In the case of Axel Heiberg, the "fossil forests" are not normal forests with normal soil profiles. They represent vegetation buried during the Flood. In a normal soil profile, the vegetation would have mostly decayed, especially at the bottom of the soil profile. But the vegetation within a leaf layer deposited in the Flood would be well preserved at the bottom as well as top of each layer. Flood deposition is confirmed because the repeating leaf layers between the horizontal strata indeed show well preserved vegetation at the *bottom* of each leaf layer, as well as at the top.[20]

The Flood transported vegetation-mat model can solve most, if not all, the problems with the observations of warm climate fossils at high latitudes and within continental interiors of mid latitudes. It also accounts for the observed mixing of vegetation from widely divergent climates, as reported from some paleoflora sites. The model also explains the relatively common occurrence of fossil trees oriented in a vertical position, such as the one in the Powder River Basin east of Buffalo, Wyoming (figure 1). In regard to the Yellowstone "fossil forests" in Montana and Wyoming (figure 2), Dr Harold Coffin demonstrated that all the observations, including well-preserved organic horizons showing little or no decay (figure 3), can be modeled as a floating log mat in a large body of water.[21] Such a deduction is consistent with a model of log mats forming during the Genesis Flood, which also implies that the Eocene Absaroka volcanics were laid down in relatively deep water during the Flood.

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