Global warming scenario exposed as hot air

Contrary to the global warming charlatans, one thing is certain: If the geologic past is prelude to the future, an ice age is overdue. Jim Olson reports.

EIR has long taken the lead in exposing many of the "scare" scenarios, such as global warming, the ozone hole, and nuclear winter. In addition, we have repeatedly exposed the Malthusian agenda of the hoaxsters behind these scares, which inevitably turns out to be genocidal population reduction, usually under the aegis of some fascist supranational agency. In this article, we take up the issues of basic science which refute the lies of the so-called theorists of global warming. This can be most usefully done by presenting a detailed summary of an article by Laurence Hecht,[1] entitled "The Coming (Or Present) Ice Age," which appeared in the Winter 1993-1994 issue of *21st Century Science & Technology* magazine (see below).

In the last several months, gaping holes have been blown in the gasbag of hot air known as "global warming." A leading promoter worldwide of the global warming fraud is the Intergovernmental Panel on Climate Change (IPCC), an agency of the United Nations. In May, the IPCC released a report, "The Science of Climate Change 1995," with its demands for staggering global reductions in the use of fossil fuels, necessitated, so said the report's authors, because there is a scientific consensus that anthropogenic (human-caused) greenhouse gases are causing global warming.

The report triggered an immediate barrage of articles, op-eds, and letters in major publications, by distinguished scientists with vehemently dissenting views, the combined effect of which was to challenge the credibility of the IPCC by demonstrating the blatant dishonesty of the entire report.

- **Dr. Frederick Seitz.** On June 12, Dr. Seitz, the former head of the U.S. National Academy of Sciences, in an op-ed in the *Wall Street Journal,* blasted the IPCC for deleting from the published version of the report numerous key passages which expressed skepticism that global warming was attributable to human activity (the uncut version had been circulated among scientists internationally for peer review). Dr. Seitz wrote that in his more than 60 years as a scientist, "I have never witnessed a more disturbing corruption of the peer-review process than the events that led to the IPCC report." He added that, whatever the intent of those who made the changes, "their effect was to deceive policy-makers and the public into believing that the evidence shows human activities are causing global warming." He closed with the suggestion that it would be best if the IPCC, because of its unreliability, were abandoned.

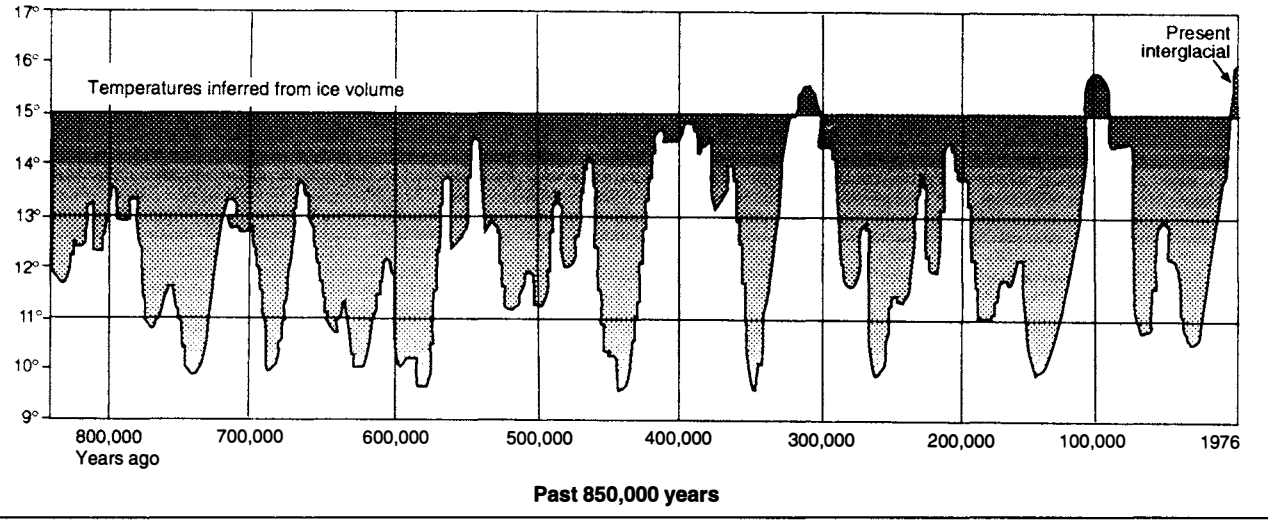
- **Dr. Richard S. Lindzen.** Dr. Lindzen, currently the Alfred P. Sloan Professor of Meteorology at the Massachusetts Institute of Technology, stated that there is no evidence that global warming is a serious problem, according to a June 18 article by William K. Stevens in the Science section of the *New York Times.* "I do not accept the [climate] model results as evidence," he said, because trusting them "is like trusting a ouija board." In the same article, Dr. William Gray of Colorado State University, a supporter of Dr. Lindzen who has become well-known of late for his reliable predictions on hurricanes, was quoted: "A lot of my older colleagues are very skeptical on the global warming thing."

- **Dr. Fred Singer.** On July 5, in a commentary in the *Washington Times,* Dr. Singer, Emeritus Professor of Environmental Sciences at the University of Virginia, accused the IPCC of suppressing "relevant data showing that no warming is taking place." He said, "For nearly 20 years, earth satellites

1. Laurence Hecht is an associate editor of *21st Century Science & Technology* magazine. He began serving a 33-year sentence as a political prisoner in the state of Virginia on Nov. 4, 1993, along with four other associates of Lyndon LaRouche. Copies of the Winter 1994-1995 issue are available for $5 from *21st Century Science & Technology,* P.O. Box 16285, Washington, D.C. 20041.

FIGURE 1

The Earth's climate over the last eight cycles



Source: *21st Century Science & Technology.* Adapted from Samuel W. Matthews, "What's Happening to Our Climate," *National Geographic* (November 1978), p. 576.

have been providing accurate and truly global temperature data. These data show no increase whatsoever—contrary to all the predictions of theoretical climate models."

On Aug. 3, in the same paper, Singer attacked the UN and the World Bank for scheming to impose an enormous burden of energy taxes on the developed nations, supposedly for transfer to poor nations. The Climate Treaty, which imposes sanctions on countries—mostly Third World—which don't reduce so-called "greenhouse gas emissions," is, Singer wrote, "a bureaucratic solution to a phantom problem and is a sure-fire recipe for political mischief and economic disaster."

Yet another respected scientist, Dr. Patrick Michaels, the state climatologist of Virginia, recently characterized the IPCC's altering of the final climate report as a "bait and switch" operation.

Global cooling considered

While these coverup artists have distracted the world's attention with a far-fetched and unlikely scenario of anthropogenic global warming, a look at what has been learned by the legitimate sciences of paleoclimatology, geology, and solar astronomy over the past two centuries, reveals that global cooling is a much more likely prospect. This research was the subject of Hecht's 1993-94 article, which began as follows:

"We are now in an ice age and have been for about the past 2 million years. Over the past 800,000 or so years, the Earth's climate has gone through eight distinct cycles of roughly 100,000-year duration. These cycles are driven by regular periodicities in the eccentricity, tilt, and precession of the Earth's orbit. In each of the last eight cycles, a period of glacial buildup has ended with a melt, followed by a roughly 10,000-year period—known as an interglacial—in which relatively warm climates prevail over previously ice-covered northern latitudes.

"The present interglacial has already lasted beyond the 10,000-year average. One may thus suspect that a new period of glacial advance, a new 'ice age,' is in the making. Whether it will take a few thousand years or a few hundred, or whether the process of glacial advance is already under way is difficult to say. Of one thing we are sure: The present hysteria over global warming—with its apocalyptic forecast of melting of the polar ice caps, flooding of the coastal cities, and desertification of the world's breadbaskets—is not helping citizens to understand the real and complex forces that shape the Earth's climate."

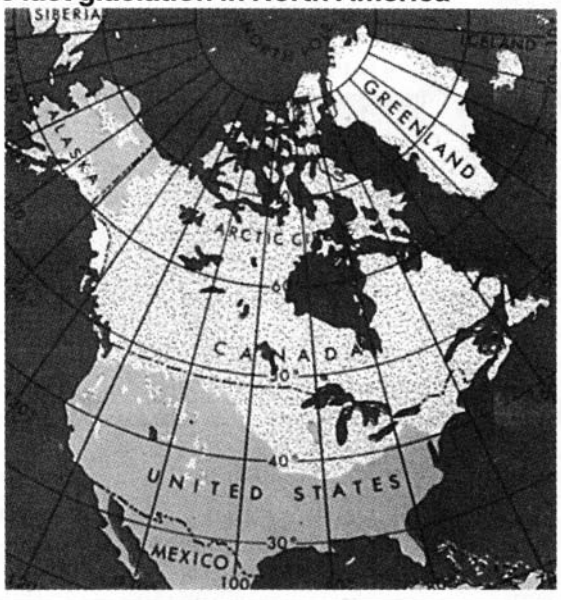
Ice ages within a geologic ice age

Currently, glaciers (large, slow-moving masses of recrystallized snow) overlie nearly 6 million square miles of Earth's 57 million square miles of land, and at the height of a glacial expansion, perhaps another 10 million square miles of land become glaciated, mostly in the Northern Hemisphere, for the obvious reason that there is more higher-latitude land mass there. Further, Northern Hemisphere glaciers have existed for only the last 2 million years, a mere blink in geologic time. Today, the 5 million-square-mile ice sheet overlying the continent of Antarctica is the largest on Earth, and began its growth 5 million years ago. In the Northern Hemisphere, the Greenland ice sheet of 0.8 million square miles is the largest glaciation. Most of the rest of the permanent ice is in mountain glaciers and sea ice at or near the poles.

Even though the last 2 million years is considered to be, in geologic terms, an ice age (itself a rarity in the history of the Earth), it has not been static, but marked by cyclical

FIGURE 2

The last glaciation in North America



Source: U.S. Geologic Survey. *21st Century Science & Technology.*

The maximum extent of glaciation occurred just 18,000 years ago and was known in North America as the Wisconsin. The dotted white areas show this huge glacier that covered the northern area of the continent and parts of the western mountain ranges. White areas show today's glaciers.

advances and retreats in glaciation. Scientists have determined with a high degree of confidence that the span of the past 850,000 years (**Figure 1**) has been marked by periods of roughly 100,000 years duration, encompassing slowly advancing glaciation and falling temperatures, then a faster global melt (glacials), followed by interludes of roughly 10,000 years duration (interglacials), in which warmer climates prevail over previously glaciated northern latitudes—the latter of which is where we find ourselves today.

The almost-100,000-year cooling phases are not continuous, but have ups and downs in steps of about 10,000 years duration, but the trend over time is increasing glaciation and colder temperatures until the glacial climax (maximum glaciation) is reached, at which point a faster (roughly 10,000 years) melt and warming occurs.

The last glacial climax

The glacial climax of the last great 100,000-year ice age occurred about only 18,000 years ago. Earth, particularly in the Northern Hemisphere, had a much different physical appearance than today. Much of North America was covered by a huge sheet of ice known as the Wisconsin (**Figure 2**). Covering New England, its southernmost extent reached to about the center of Long Island, across the northern half of New Jersey, and then across southern New York State, through western Pennsylvania, across Ohio, Indiana, Illinois, Iowa, up northwesterly through the northeast corner of Nebraska, into the Dakotas, and then westerly across the southern part of the Canadian plains. In the western mountains, alpine glaciers spread downward from the heights in the Rockies, the Cascades, and California's Sierra Nevada.

In Europe, the glacier spread down from Scandinavia into northern Germany, Poland, and the Baltic nations, and went deep into Russia and Ukraine (south of Kiev), and to the east into the central Siberian plateau. It extended southwestward over the Netherlands and blanketed much of Ireland and the British Isles. Separate mountain glaciers extended from the Alps and from the Caucasus ranges. In the Southern Hemisphere, there were extensive ice sheets in Australia, New Zealand, and Argentina.

The present interglacial began about 12,000 years ago, but global temperatures have not remained constant. In fact, the climate has been cooling over the last 7,000 years, and is about 1°F cooler than it was at the time of the post-glacial climatic optimum, which occurred in Europe about 6,000 B.C., and in North America about 4,000 B.C. In the subsequent time periods, there have been colder and warmer periods in both Europe and North America. The Medieval Climatic Optimum, which occurred from around 900 to 1200 A.D. in Greenland, and 1100 to 1300 A.D. in Europe, saw temperatures which approached the climatic optimum of a millennium prior. Then, both Europe and North America were hit by roughly a 500-year period of substantial cooling, known to us today as the Little Ice Age. The European settlers who were farming on Greenland vanished, and in England, the Thames River froze regularly. Other manifestations, as reported by English climatologist H.H. Lamb, in works published a decade ago, included deepening of the inland ice in Greenland; glacial advance in Norway, Iceland, and the Alps; the spread of sea ice into the North Atlantic, which eliminated the use of northern sailing routes; lowering tree lines in Europe's highlands and in the Rockies; more freezing of lakes and rivers; harvest failures and higher prices for food; abandonment of agricultural areas; and increased mortality from disease among both human and animal populations.

It is startling to realize the enormous changes wrought by the advance and then final retreat of the last great North American glaciation, only some 12,000 years ago. It gouged out the Great Lakes, and created most of the lakes and many of the rivers of the northern states of the country. Before that last great glacier, the northern Missouri River drained into Hudson Bay, and the upper Ohio River flowed northeasterly into the Gulf of St. Lawrence, while the lower Ohio drained into a southward-flowing river that no longer exists. Out west, the glacier left in its wake the 20,000-square-mile Bonneville Lake, which covered much of what is currently the state of Utah. Subsequently, much of that lake evaporated and has left only a salty remnant, the Great Salt Lake.

Changes elsewhere in the Northern Hemisphere were also very dramatic.

What causes ice ages?

There are two basic requirements for an ice age: first, a configuration of Earth's land mass wherein a big portion lies in polar and non-tropical latitudes, and second, wet, snowy winters followed by summers cool enough so that the glacial advances of the previous winter do not melt. The causes of these two conditions are complex and far from being fully understood, but the importance of looking for answers has been recognized for most of this century, and even into the last. Advances in the physical sciences and the work of thousands of researchers in fields related to historical climatology have advanced our understanding enormously, but we still do not understand climate well enough to predict its future course.

In the development of the science of climatology, the work of three men was crucial: Vladimir Köppen, Alfred Wegener, and Milutin Milankovitch, none of them household names, and the first, Köppen, scarcely known even to specialists in climatology.

Köppen (1846-1940) was born in St. Petersburg of a German family which settled in Russia under Catherine II. He studied natural sciences in Heidelberg, and received his doctorate in 1870 as a result of a paper on the effect of heat on plant growth. After a short stint working in St. Petersburg, he went to work for the German Marine Observatory in Hamburg, where he stayed 44 years and finally became the meteorologist there. He was a prolific writer, and published 526 items, the last of which was a 1924 book, *Die Klimate der Geologischen Vorzeit* (*The Climates of the Geological Past*), which he co-authored with his son-in-law, Alfred Wegener.

In 1910, Köppen was mulling over the earlier work of two German glaciologists, Penck and Brückner, who, through extensive field work in Alpine regions, had identified four different Alpine glacial advances and retreats, and produced a time-based climatic curve of them in a book published in Germany in 1910. Köppen thought it would be fruitful to superimpose on that climatic curve the secular (time-related) variations of insolation (the amount of solar radiation received at the outer boundary of Earth's atmosphere) caused by more-or-less regular variations in Earth's orbital relationship to the Sun.

Much earlier, the idea that Earth's climate may be related to long-term changes in the orbital relationship of the Earth to the Sun was hypothesized by John Herschel in 1830. Herschel thought that the 21,000-year cycle of precession of the equinoxes might be dominant, an idea that was taken up by the French mathematician Joseph Adhémar in the 1840s, and further elaborated by the Scotsman James Croll in the 1860s, who added into his calculations insolation variations caused by regular changes in the eccentricity of Earth's orbit.

By 1910, Alfred Wegener (1880-1930) had already decided to pursue the idea of continental drift (he is credited with being its father), not in itself a new idea. But he had available extensive researches by predecessors in geology, paleobiology, climatology, and other associated fields, so he was able to advance the idea, and first presented it publicly in Frankfurt am Main at the annual meeting of the Geological Association, followed by a book in 1915.

Milankovitch's solar astronomy

Milutin Milankovitch (1879-1958), born in Serbia, received his doctorate in 1904 from the Institute of Technology in Vienna. He returned home in 1909 to take a position as Professor of Applied Mathematics at the University of Belgrade. Early on, he had begun his own investigation of the astronomical theory of climate, and from 1911 until 1920, had spent countless hours in laboriously calculating the heat effects on Earth of cyclical variations in the orbital relationship between Earth and the Sun. After publishing some small works in that decade, in 1920 he published a book in French, *The Mathematical Theory of Heat Phenomena Produced by Solar Radiation,* which caught Köppen's eye, and resulted in extensive correspondence between the two. The upshot was that Köppen and Wegener used several of Milankovitch's solar radiation curves in their 1924 book cited above, which book married the two ideas, continental drift and solar insolation changes due to orbital variations, in one grand concept.

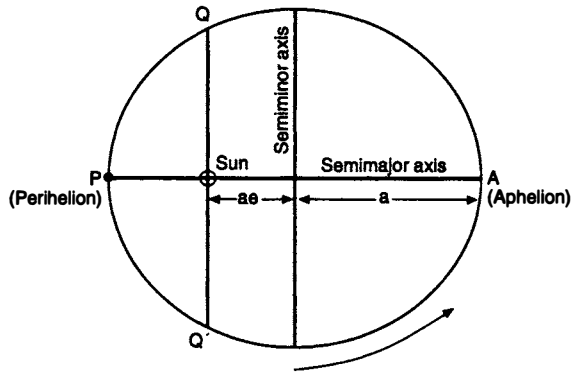
Milankovitch continued to refine his theory, and from Belgrade, published a summary of his life's work, *Kanon der Erdbestrahlung und seine Andwendung auf das Eiszeitenproblem* (*Canon of Insolation and the Ice Age Problem*), on April 6, 1941, the day the Nazis invaded Yugoslavia.

The article relates that all three men, Köppen, Wegener, and Milankovitch, were familiar with and indebted to the work of the great 17th-century German astronomer Johannes Kepler, whose discovery that the planetary orbits were elliptical about the Sun, with the Sun at one focus of the ellipse, and subsequent development of the laws of planetary motion, were the bedrock for all future astronomical hypotheses concerning climate.

Like many revolutionary ideas in human history, neither the idea of continental drift, nor of the effect of solar astronomy on Earth's climate, was received as manna from heaven. Both came under substantial and sustained attack by other scientists over the decades, Milankovitch's theory particularly. More than once, a group of scientists claimed to have proved Milankovitch in error, only to find themselves proven wrong. Finally, in 1976, over a half-century after Milankovitch had sent his radiation curves to Köppen, a group of investigators (Dr. John Imbrie, et al.) at Columbia University's Lamont-Doherty Geological Observatory, published an article in the Dec. 10 issue of *Science,* "Variations in the Earth's Orbit: Pacemaker of the Ice Ages." The article described how spectral analysis of two different deep-sea core samples from the bottom of the Indian Ocean had validated,

FIGURE 3

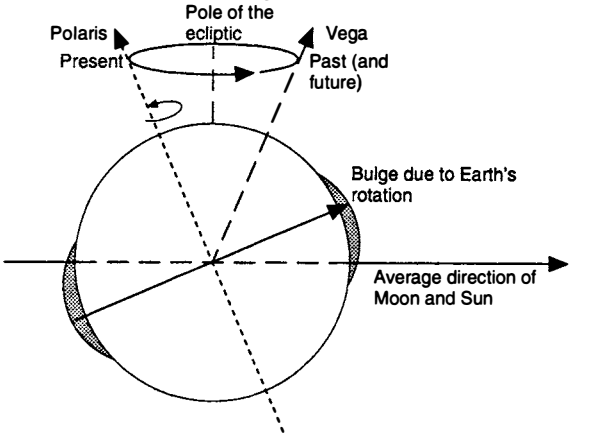
Orbital motion of the Earth around the Sun



Source: *21st Century Science & Technology.*

FIGURE 4

Precession and change of pole star

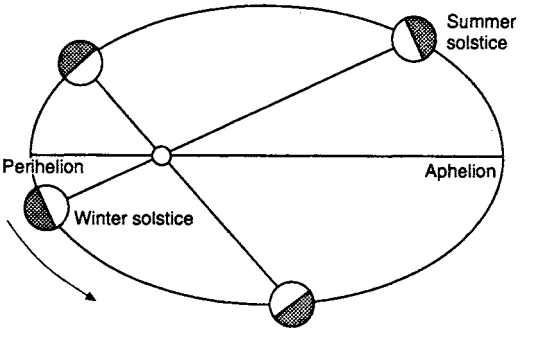


Source: *21st Century Science & Technology.*

The Earth's spin axis makes a complete rotation around the pole of the ecliptic in a cycle of approximately 26,000 years. The pole star is now Polaris, but about 13,000 years ago it was Vega.

FIGURE 5

Precession and location of the solstice



Source: *21st Century Science & Technology.*

The precession cycle changes the location on the ellipse where the winter and summer solstices occur. The approximate positions on the ellipse are shown for the solstices today.

to a large degree, Milankovitch's astronomical theory of the ice ages.

Milankovitch nicely anticipated this result: He had said decades earlier, "The fluctuations in the radiation received by the Earth over long periods of time are only *one* component of the climate of the past, but they are the most important one, and, moreover, one which is amenable to precise investigation."

In developing his theory that solar astromony drove Earth's climate, Milankovitch examined with painstaking care the effect of three major (and one lesser) cyclical variables on Earth's climate: the precession of the equinoxes modified by the much slower advance of the perihelion, the variation in the amount of "tilt" of Earth's axis to the plane of its orbit, and the variation in the eccentricity of Earth's orbit.

Eccentricity, tilt, and precession

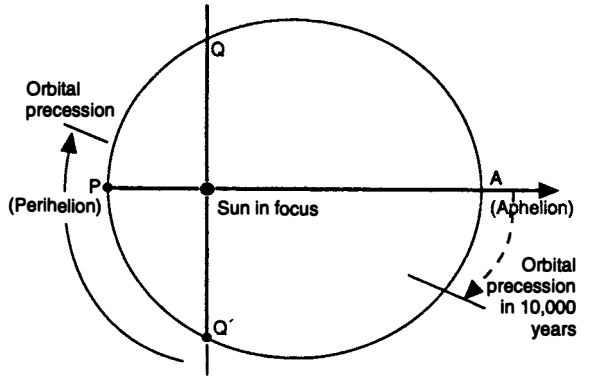
Viewed from the North Celestial Pole, Earth, in its annual revolution around the Sun (located permanently at one of the two focal points of the ellipse), follows a counter-clockwise elliptical path (**Figure 3**). For instance, each year, Earth moves from point P to Q′, to A, to Q, and back to P. Point P, the closest annual distance to the Sun, is called the perihelion, and it is also the place on the ellipse where Earth is moving the fastest along its orbital path. Point A, its farthest annual distance from the Sun, is called the aphelion, and it is there that Earth has its slowest speed along the orbital path. At the present time, solar insolation (radiation received by the outer boundary of Earth's atmosphere) is 7% less at aphelion than at perihelion, because of the differences in solar distances of the two, and the fact that light varies inversely as the square of the distance from the source. At maximum eccentricity of Earth's orbit, in the more than 90,000-year cycle of eccentricity, there will be an astounding 28% more insolation at perihelion than at aphelion!

The angle of obliquity (**Figure 4**) is the acute angle between Earth's spin axis and the pole of the ecliptic, itself the perpendicular passing though the Sun's center (Earth's is used in the figure) at right angles to the plane of the Earth's orbit. In this age, that angle is about 23.5°, but during its regular cycle of about 40,000 years, the tilt changes cyclically between a minimum of about 22° and a maximum of about 24. 5°.

Earth's spin axis does not point permanently in a fixed direction in space. Rather, it "wobbles," much like a child's top running down, making a complete circuit around the pole of the ecliptic in about 26,000 years (Figure 4). Over the time of the cycle, this cyclical wobble causes the positions on Earth's elliptical orbit of the summer and winter solstices, and the spring and fall equinoxes, to advance along the orbit (**Figure 5**). Viewed from the North Pole, this precession of the

FIGURE 6

Advance of the perihelion or orbital precession



Source: *21st Century Science & Technology.*

Perturbations in the Earth's orbit, the result of the motion of the other planets (in particular, Jupiter), cause a phenomenon known as advance of the perihelion or precession of the orbit, in which the complete cycle of precession takes approximately 21,000 years, not 26,000.

equinoxes appears to be clockwise. For Earth, the equinoxes occur twice each year, when the Sun crosses Earth's equator (the start of spring and fall), making night and day of equal length in all parts of the Earth.

At the same time, owing to influences of other planets on the Earth, the elliptical plane of the Earth itself rotates, but at a much slower rate than the 26,000-year cycle of Earth's wobble, and in a counter-clockwise direction when viewed from the North pole. To represent this, in Figure 3, imagine the elliptical plane PQ′AQ rotating counter-clockwise, like a cam pinned at the Sun. The net effect of these two oppositely-moving precessions is that the cycle time for the precession of the equinoxes is 21,000 years, rather than 26,000 years (**Figure 6**).

Earth's seasons are a result of the combined effect of the orbital inclination, or tilt of Earth's rotational axis from the pole of the ecliptic (Figure 4), and Earth's annual revolution around the Sun.

Hecht's article concludes with an examination of several scenarios, including the secular interplay of all of the long-term cyclical variations in orbital relationships described previously. He discusses briefly what combination of cycles would be conducive to a long-term global cooling, and what would not. But, he cautions against using the mathematically derived curves as a "wheel of fortune," and notes that even the great Milankovitch was wrong in his estimate of what cycle may have been dominant in a particular prior ice age. He concludes that solar astronomy is a powerful tool to use in looking forward in time. However, he notes that there are other variables, likely some not yet even entertained by the human mind. As a young man in Belgrade, it is reported that Milankovitch said, "I feel attracted by the infinite. . . . I want to grasp the entire universe and spread light to its farthest corners." He did spread light, but there are more dark corners in the cosmos awaiting others like him.

Global warming, global cooling, or neither?

It is interesting to contrast the science supporting, on the one hand, the global warming scenario, and on the other, global cooling.

The shrill scaremonger advocates of warming look back 20 years, or even as much as 100, and from very suspect data, claim they have proven that there is global warming, that it is anthropogenic, and furthermore, that we are all doomed unless we submit to their fascist proposals to cope with their "findings."

The geologists, paleoclimatologists, and solar astronomers, on the other hand, look many millennia into the past and identify numerous prior ice ages and interglacials. By dint of hard work by some outstanding scientists over nearly the last two centuries, they have established a relationship between continent locations and solar astronomical cycles on the one hand, and glaciations and interglacials on the other; they conclude, from the historical record, that the more likely climatic event in the future is a global cooling.

The hoaxsters, tied to the present, say man is causing global warming now. The other group, investigating the laws of the cosmos, aren't quite so hysterical (or cocksure).

The only honest answer to the vexing question of whither Earth's climate, should be, "We don't know."

For further reading

A. Berger, 1978. "Long-term Variations of Caloric Insolation Resulting from the Earth's Orbital Elements," *Quaternary Research,* Vol. 9, pp. 139-67.

J.D. Hays, J. Imbrie, and N.J. Shackelton, 1976. "Variations in the Earth's Orbit: Pacemaker of the Ice Ages," *Science,* Vol. 194, pp. 1121-32.

John Imbrie and Katherine Palmer Imbrie, 1979. *Ice Ages: Solving the Mystery* (Hillside, N.J.: Enslow Publishers).

Robert S. Kandel, 1980. *Earth and Cosmos* (Oxford: Pergamon Press).

H.H. Lamb, 1985. *Climatic History and the Future* (Princeton, N.J.: Princeton University Press).

Kirk A. Maasch, 1992. "Ice Age Dynamics," *Encyclopedia of Earth System Science,* Vol. 2, pp. 559-69.

Martin Schwarzbach, 1986. *Alfred Wegener: The Father of Continental Drift* (Madison, Wisconsin: Science Tech, Inc.). Originally published in 1980 as *Alfred Wegener und die Drift der Kontinente* (Stuttgart: Wissenchaftliche Verlagsgesellschaft).

Lee A. Smith, 1965. "Paleoenvironmental Variation Curves and Paleoeustatics," *Transactions—Gulf Coast Association of Geological Societies,* Vol. 15, pp. 47-60.

Peter Wright, Ralph Hardy, John Kingston, and John Gribbin, 1982. *The Weather Book* (Boston: Little, Brown).