A Response to the Smokejumper Magazine Story about Global Warming

by Charles R. Mansfield

All of us have a dream fire that goes something like this. It is Friday afternoon and a thunderstorm has hit the high country. When you arrive in the fire area the wind is calm, the air is cool and the fire is in a stand of alpine timber next to a large meadow. When you land it is like landing on a feather bed. A major trail is a couple miles from the fire and it is all downhill to the road. As you cross the small stream to get to the fire you can see big trout that have never heard the rumors of a hook. . . . Have you ever considered why that meadow is there? Often, the answer is that a glacier carved a small lake a long time ago. Over time, the lake was filled in with dirt and vegetable matter and now it is a meadow. Is this unusual? No there are thousands of small lakes in the mountain west that were formed in this way.

Most of us accept the theory that the Great Lakes were formed by a continental glacier. Theory, yes it is a theory but it is supported by strong evidence. In the 1600's and 1700's the early explorers along the west coast found the place now called Glacier Bay. The glaciers extended 20 to 30 miles from their present location. I have ridden the tour boat from Glacier Bay Lodge and felt the power of the ocean turbulence as the boat was tossed about at the glacial moraine as the tide was going out. Those Glaciers have been receding at a fairly constant rate since their discovery.

During the years between 1150 and 1460 and between the years 1560 and 1850 climatic events called the Little Ice Age occurred. (1) Research by Woods Hole, reported by Allen Alda on Scientific American Frontiers (2) on 4 April, 2007, indicates that these events were probably caused by changes in the salinity of the Atlantic Ocean. Alda discussed the ocean core sampling by Woods Hole and others which indicate that similar events have occurred several times in the last 20,000 years. The salinity effect is a complex result of warming of tropical waters, melting of arctic ice and the topography of the arctic basin. Was the "global warming" that set these events in motion due to the works of man. There weren't many humans around and their technology was not as advanced so it is very doubtful that these events (global cooling as the result of global warming) were caused by man. Are there good records of the temperature during this event? No, the first thermometer was invented by Galileo in the early 1600's. Standard air temperature measurements were only started in the early 1800's. The evidence is circumstantial but it appears that the average temperatures in northern Europe are only now beginning to rise to where they were before the little ice age.

The eruption of the Tambora volcano in 1816 (3) probably caused the "Year Without a Summer". It is estimated that the Tambora volcano ejected 150 to 180 cubic kilometers of material into the atmosphere. That eruption resulted in enough cooling drop global temperatures by about 4.5 degrees Fahrenheit. The result was partial crop failure over much of the planet. The Krakatoa eruption of 1883 (4) ejected only about 25 cubic Kilometers of material and resulted in a global temperature drop of 3.2 degrees Fahrenheit. Those eruptions were mild compared with the eruptions that covered eastern Oregon and Washington to a depth of nearly a mile. The "Deccan Traps" in India and similar eruptions in Russia have resulted from volcanic events. I suspect that these types of eruptions have caused global cooling events on a much larger scale. I am not aware of the amount of "global warming" gasses such as water vapor and carbon dioxide produced by these eruptions but they are certainly much more than the amounts produced by man at that time.

Volcanic eruptions and ocean salinity changes can produce "global cooling" events. Yet after these sudden cooling events the global temperatures rise. The global temperatures increase slowly and it is estimated that the current global temperatures are just now reaching the levels that were seen just before the Little Ice Age.

As a scientist I have looked at the evidence and concluded that major changes in global temperatures have been taking place since before man learned to write. If man is not the dominate factor in global temperature change what is the cause of these events? The results of present experimentation are not yet in but my personal feeling is that the earth is a habitable place because of the balance between solar output and geologic effects on the surface of the earth. The sun is the engine that warms the earth. Were it not for the geologic events on earth that sporadically cause sudden events, the global temperatures would be far higher. It is a bit arrogant to assume that humans can significantly change the pattern of natural global temperature changes.

Global Warming Mania

In spite of evidence to the contrary there is a constant claim that greenhouse gasses released by man are the cause of "Global Warming". Why is this claim so persistent? Part of the reason goes back to a difference of Philological Analysis. Some branches of Philosophical Analysis propose that if a person can conceive that something exists then it in fact exists. Scientific Philosophy, founded by Hume and Descartes, takes the approach that something does not exist unless it can be measured. As an undergraduate at Oregon State University I took a course in the Philosophy of Science taught by Peter Anton. Anton resigned in mid semester for a better position and Willy Unsoeld (CJ-50) took his place as place as the Professor. In his first lecture, Willy made the statement that he was not a Philosopher of Science and furthermore most of us in the class could easily argue him into submission on Scientific Philosophy at that point. He stated that he would try his best to teach us Scientific Philosophy if we would cut him some slack. A course in the Scientific Philosophy was a requirement for Graduate degrees at many Universities. While this requirement was mandatory for students in the hard sciences such as Physics and Chemistry the requirement was lower for students in fields such as Biology. At that point in time "Environmental Science" did not exist. Unfortunately, the requirement for understanding of the Philosophical underpinnings of Science has diminished as time has gone on.

Probably the most important point is that the distinction between cause and effect has blurred. Many now claim that a correlation between A and B implies a causal relationship. In fact there may be no relationship between A and B. As a scientist I constantly struggle with the ethical requirement of proving a causal relationship when in my heart of hearts I realize that none may exist. Also, many do not realize that there is a distinction between Prescriptive Law (legal) and Descriptive Law (science). I feel that "Global Warming Mania" is a complex subject that is clouded by people with agendas directed away from scientific process and fact. If we follow the course called for by the Global Warming advocates we may indeed open up unintended consequences that will damage our society.

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References that lead to information published in the scientific literature

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