**Global Warming Is Real**

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Global Warming Is Real

"It may be hardly noticeable to most of us, but the world's temperature is rising."

In the following viewpoint, prolific science fiction author Ben Bova claims that global warming is a real phenomenon. Dismissing the opinions of naysayers, Bova contends that measurable scientific facts show that temperatures on the planet are rising and that human-produced greenhouse gases are the culprit for the changes in the weather. Bova fears that the earth will experience a shift toward a tropical climate in a few decades unless people and governments act to redress the problem.

As you read, consider the following questions:

1. On what part of the earth does Bova say rising temperatures are most notable?
2. How does Bova use the research survey at Yosemite National Park to show evidence of global warming?
3. Why does Bova believe that doubters are hostile to the idea that humans are causing global warming?

I have a number of friends who don't believe that global warming is real. They suspect it's all a plot by Third World collectivist nations to cripple our economy.

Global warming has lots of doubters.

For example, in a commencement address a couple of years ago, the late author Michael Crichton remarked that if weather forecasts can't be depended on for accurate predictions a few days ahead, why should we take seriously alarms about a global warming that won't fully manifest itself until decades or even centuries from now?

Global-warming opponents are quick to jump on any shred of evidence that the current warming trend isn't global, or is not actually happening. They have long pointed out that as recently as the 1970s climate experts believed that the Earth was cooling, not warming.

NASA's Goddard Institute for Space Studies, one of the main sources for global-warming data, was embarrassed recently when it had to admit that its declaration that last month [2008] was the warmest October on record was wrong, based on a faulty reading of the temperatures in Siberia.

One of my closest friends sent me through the Internet a newspaper account of the Goddard fiasco, together with 136 pages of comments by various bloggers, many of them gloating over the error.

**Get the Facts**

In the face of such doubts and mistakes, though, I remembered a piece of wisdom uttered by the great science-fiction writer Robert A. Heinlein. A graduate of the U.S. Naval Academy, Heinlein once told a graduating class at Annapolis:

What are the facts? Again and again and again—what are the facts? Shun wishful thinking, ignore divine revelation, forget "what the stars foretell," avoid opinion, care not for what the neighbors think, never mind the unguessable "verdict of history"—what are the facts, and to how many decimal places? You pilot always into an unknown future; facts are your single clue. Get the facts!

The facts are based on actual temperature measurements around the world. Despite the Goddard Institute's recent gaffe, those measurements consistently show that global temperatures are rising. The rise is most noticeable at high latitudes, where Canadian and Siberian villages that have for centuries rested on solid ground are now sinking into mud, because the permafrost beneath them is thawing.

Migrating animals head north earlier because spring temperatures are arriving weeks earlier in the year. Plants blossom earlier too. And both plant and animal species are expanding their habitats northward because of the generally warmer temperatures. Arctic sea ice is thinning drastically. Glaciers are melting away.

These are observable, measurable facts.

**The Planet Is Certainly Not Cooling**

In California's Yosemite National Park, a group of researchers recently completed a survey of small mammals in an area that had been surveyed about a century earlier by other scientists. The new survey found that, compared to a century ago, species that lived at low altitudes have moved their habitats to higher areas, while the original high-altitude species have declined in numbers. This is a clear response to a warming climate: as the climate heats up, the low-altitude species are seeking cooler habitats and making inroads on the living space of the original high-altitude species.

Field mice and pine trees don't have politics. They are responding to the climate changes that they face. Those changes are real.

What's not real is the claim that until the 1970s climate scientists were worried about Earth's climate cooling into a new ice age. That's a canard. A team from the National Climatic Data Center in North Carolina surveyed climate research papers published between 1965 and 1979; their study showed that only seven papers predicted that global temperatures would grow cooler, while 44 papers predicted warmer temperatures and another 20 were either neutral or offered no long-term predictions.

**Humans Are at Fault**

The climate-change doubters are especially hostile to the idea that human actions are causing global warming. They fear that attempts to control climate-altering greenhouse-gas emissions are thinly-disguised attacks on the economies of the Western nations, especially the economy of the United States.

While I agree that the Kyoto Treaty's approach to lowering greenhouse-gas emissions is a half-baked piece of international politics, and the U.S. is right to refuse to sign it, it seems equally clear to me that human actions are indeed causing at least part of the planet's rising fever.

Our Earth goes through climate shifts over the course of time, but the greenhouse gases we humans are pouring into the atmosphere are accelerating a natural warming trend. If we can move away from fossil fuels without doing fatal harm to our economy and our way of life, it will alleviate the warming.

In his famous "Liberty or Death" speech, Patrick Henry said, "... it is natural to man to indulge in the illusions of hope. ... Are we disposed to be of the number of those who, having eyes, see not, and having ears, hear not, the things which so nearly concern their temporal salvation? For my part, whatever anguish of spirit it may cost, I am willing to know the whole truth; to know the worst and to provide for it."

Despite the naysayers, global warming is real. It may be hardly noticeable to most of us, but the world's temperature is rising. How far and how fast it will rise, no one can yet predict. But studies of past climate changes show that the planet can switch from ice age to tropical in a few decades.

If we want to avert wrenching changes that would come with an accelerated global warming, we should do all we could to move from fossil fuels to cleaner, less-damaging energy sources. Such a change would be good not only for our global climate, but it would be good for our economy and the world's political situation, as well.

Look at the facts. Make up your mind. Then act.

## Global Warming Is a Myth

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"In the last 1.6 million years there have been 63 alternations between warm and cold climates, and no indication that any of them were caused by changes in carbon dioxide levels."

Edmund Contoski is a retired environmental consultant who now serves as a columnist for FORCES International Liberty News Network, an organization that advocates individual liberty unfettered by state-imposed restrictions. In the following viewpoint, Contoski asserts that global warming is scientifically unproven and that the facts reveal that the earth periodically experiences changing climates. He denies that carbon dioxide emissions have any noticeable impact on global temperatures and furthermore claims that human-made emissions are insignificant when compared to the carbon output of natural sources that have always been beyond human control.

As you read, consider the following questions:

1. Why does Contoski argue that carbon dioxide is the weakest of greenhouse gases?
2. What benefits does the author see in warming global temperatures?
3. What hidden political agenda might reside behind global warming alarmism, according to Constoski?

During the 20th century, the earth warmed 0.6 degree Celsius (1 degree Fahrenheit), but that warming has been wiped out in a single year with a drop of 0.63 degree C. (1.13 F.) in 2007. A single year does not constitute a trend reversal, but the magnitude of that temperature drop—equal to 100 years of warming—is noteworthy. Of course, it can also be argued that a mere 0.6 degree warming in a century is so tiny it should never have been considered a cause for alarm in the first place. But then how could the idea of global warming be sold to the public? In any case, global cooling has been evident for more than a single year. Global temperature has declined since 1998. Meanwhile, atmospheric carbon dioxide has gone in the other direction, increasing 15-20%. This divergence casts doubt on the validity of the greenhouse hypothesis, but that hasn't discouraged the global warming advocates. They have long been ignoring far greater evidence that the basic assumption of greenhouse warming from increases in carbon dioxide is false.

**No Connection Between Carbon Dioxide and Global Warming**

Manmade emissions of carbon dioxide were not significant before worldwide industrialization began in the 1940s. They have increased steadily since. Over 80% of the 20th century's carbon dioxide increase occurred after 1940—but most of the century's temperature increase occurred before 1940! From 1940 until the mid-1970s, the climate also failed to behave according to the greenhouse hypothesis, as carbon dioxide was strongly increasing while global temperatures cooled. This cooling led to countless scare stories in the media about a new ice age commencing.

In the last 1.6 million years there have been 63 alternations between warm and cold climates, and no indication that any of them were caused by changes in carbon dioxide levels. A recent study of a much longer period (600 million years) shows—without exception—that temperature changes precede changes in carbon dioxide levels, not the other way around. As the earth warms, the oceans yield more carbon dioxide to the atmosphere, because warmer water cannot hold as much carbon dioxide as colder water.

The public has been led to believe that increased carbon dioxide from human activities is causing a greenhouse effect that is heating the planet. But carbon dioxide comprises only 0.035% of our atmosphere and is a very weak greenhouse gas. Although it is widely blamed for greenhouse warming, it is not the only greenhouse gas, or even the most important. Water vapor is a strong greenhouse gas and accounts for at least 95% of any greenhouse effect. Carbon dioxide accounts for only about 3%, with the remainder due to methane and several other gases.

**Humankind's Carbon Output Is Miniscule**

Not only is carbon dioxide's total greenhouse effect puny, mankind's contribution to it is minuscule. The overwhelming majority (97%) of carbon dioxide in the earth's atmosphere comes from nature, not from man. Volcanoes, swamps, rice paddies, fallen leaves, and even insects and bacteria produce carbon dioxide, as well as methane. According to the journal *Science* (Nov. 5, 1982), termites alone emit ten times more carbon dioxide than all the factories and automobiles in the world. Natural wetlands emit more greenhouse gases than all human activities combined. (If greenhouse warming is such a problem, why are we trying to save all the wetlands?) Geothermal activity in Yellowstone National Park emits ten times the carbon dioxide of a midsized coal-burning power plant, and volcanoes emit hundreds of times more. In fact, our atmosphere's composition is primarily the result of volcanic activity. There are about 100 active volcanoes today, mostly in remote locations, and we're living in a period of relatively low volcanic activity. There have been times when volcanic activity was ten times greater than in modern times. But by far the largest source of carbon dioxide emissions is the equatorial Pacific Ocean. It produces 72% of the earth's emissions of carbon dioxide, and the rest of the Pacific, the Atlantic, the Indian Ocean, and the other oceans also contribute. The human contribution is overshadowed by these far larger sources of carbon dioxide. Combining the factors of water vapor and nature's production of carbon dioxide, we see that 99.8% of any greenhouse effect has nothing to do with carbon dioxide emissions from human activity. So how much effect could regulating the tiny remainder have upon world climate, even if carbon dioxide determined climate? ...

**The Benefits of Warming**

The global warming advocates make all sorts of false claims about dire consequences of global warming. They claim it will result in the spread of malaria, food shortages, more human deaths, more violent weather, and a loss of biological diversity through the extinction of species. All untrue. The largest number of species—the greatest biological diversity—is in the tropics. As you move away from the equator, you find fewer and fewer species, until you reach the earth's poles, where there is zero diversity because nothing can live there.

Agricultural productivity is also reduced by cold climate, not a warmer one. That's why Siberia and Alaska are not noted for agricultural abundance. A warmer climate would mean longer growing seasons and would make agriculture possible in areas where it isn't today. And there are at least 300 studies showing plants and forests grow faster and more luxuriantly under conditions of increased carbon dioxide.

Our bodies require heat. We are warm-blooded and have no fur. We wear clothes, build homes, and heat them with fires, all as protection against the cold. Far more people move to Florida, California, or Arizona because of warm climate than move to Alaska, North Dakota, or Montana. Canada is the world's second largest country, but 90% of the population lives within 100 miles of its southern border. Worldwide, far more people die every year from cold than from heat. So why should global warming be bad for us? ...

**Contrary Evidence**

Here's an example of the global warming alarmists completely ignoring contrary data, or even denying it exists. Some scientists assert that the current level of carbon dioxide in the atmosphere (about 380 parts per million) is the highest in 800,000 years. The media sucks this up and broadcasts it all over the airwaves and the newspapers, and the public, not knowing any better, believes it must be true. But how could such learned men be so ignorant in their own field of expertise as to not know of the abundant temperature records that give lie to their claim? How could they not know of the monumental compilation by Ernst-Georg Beck of more than 90,000 direct carbon dioxide measurements, between 1812 and 1961, from 175 published technical papers? Zbigniew Jaworowski, M.D., Ph.D., D.Sc., says these measurements were ignored for three decades "not because they were wrong. Indeed, these measurements were made by top scientists, including two Nobel Prize winners, using techniques that are standard textbook procedures. ... The only reason for rejection was that these measurements did not fit the hypothesis of anthropogenic global warming. I regard this as perhaps the greatest scientific scandal of our time." ...

Why is it that the global warming advocates are unfazed by any contrary evidence, no matter how strong? All their claims of disasters from global warming have been debunked. All their computer models have been shown to be false, to be based on flawed assumptions, incapable of being reconciled with the observable facts. Vaclav Klaus, President of the Czech Republic and a university professor before he became president, is the author of a book on global warming and has spoken often on the subject. He says, "What frustrates me is the feeling that everything has already been said and published, that all rational argument has been used, yet it does not help." It does not help because global warming alarmism is not based on rational argument. It is not based on science. It is not based on reality. It is based on political ideology. If rational argument doesn't fit, then phony arguments must be invented: the spread of malaria, the loss of biological diversity, polar bears disappearing, etc. If computer models can predict disaster scenarios only by programming unrealistic assumptions, then that will be done. If global warming does not fit the observable temperature measurements, then a new "reality" must be invented to fit the ideology: the actual temperature records must be altered or dismissed. The global warming advocates are not disturbed by all this because, in their view, ideology trumps reality.

**Hidden Political Agenda**

Patrick Moore, a cofounder and director of Greenpeace, resigned because of its "trend toward abandoning scientific objectivity in favor of political agendas." After the failure of communism, he says, there was little public support for collectivist ideology. In his view, a "reason environmental extremism emerged was because world communism failed, the [Berlin] wall came down, and a lot of peaceniks and political activists moved into the environmental movement bringing their neo-Marxism with them and learned to use green language in a very clever way to cloak agendas that actually have more to do with anticapitalism and antiglobalism than they do anything with ecology or science." ...

Do you ever wonder how communism could last for 70 years in Russia? Surely there was plenty of evidence, for decades, that the system was failing: food shortages, declining life expectancy, increased infant mortality, low standards of living, primitive hospitals, and sanitation facilities lagging far behind those in Western Europe and America—not to mention pollution far worse than in the West. But to diehard communists, the facts did not matter. All the observable negatives of collectivism were trumped by ideology. The same is true of the ideology behind global warming.