

# Combatting global warming would be a waste

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HUMANS RECORD historical events, Herodotus wrote, "in the hope of preserving from decay the remembrance of what men have done."

Nature also writes its own history. And when coupled with that written by men, it can ameliorate the tendency to sensationalize current trends in climate into something unusual or dangerous.

Recently, Sen. John Kerry of my home state, Massachusetts, and a leading Democratic Party presidential candidate, added to the alarmism over climate change. At an environmental conference in Washington, he compared the "threat of global warming" with that of the Cold War, indicating that it required the same mobilization of national resources as was needed to defeat Soviet communism.

In a similar vein, attorneys general from six states are suing the federal government to enforce reductions in carbon dioxide emission, which is essential to life on the planet and has never been classified as a toxic pollutant but is blamed by alarmists for warming the globe. New York and some other states are even considering legislation for the state to enforce reductions in the emission of CO<sub>2</sub>, which arises mainly from burning fossil fuels.

These domestic calls for action echo a United Nations-sponsored worldwide plan, called the Kyoto Protocol. It requires signatories to reduce their greenhouse gas emissions based upon the notion that the Earth is dangerously warming.

The historical record -- both man and nature's -- doesn't support this view.

It is true that, according to thermometer measurements, the Earth was warmer by some 0.6 degrees Celsius at the end of the 20th Century than it was in the second half of the 19th. And because the 20th Century also coincided with an increased concentration of human-made greenhouse gases in the air, it may be argued that the 20th Century's warmth -- and future global warming -- was and will be caused, at least in part, by the burning of fossil fuels.

But to get a proper estimate of the amount of human-made global warming a demonstration is required that the 20th Century actually was unusually warm, and that the 19th Century was normal. Were they?

To find the answer, we must go back several centuries to a period when the amount of greenhouse gases emitted from human activities was minimal. At that time, the instrumentally measured record of global temperature change was insufficient to detail climate's natural fluctuations, as the record dates only to the mid-19th Century.

Nature's record, however, goes back much further.

What makes up that record? It is natural indicators -- or proxies -- of climate information derived from glaciers, boreholes, coral, tree growth, sediments of pollen, insects or sea organisms, river effluvia, dune migration, stalactites and stalagmites, plus human documentary evidence such as weather diaries or crop accounts.

The technique of studying proxies isn't easy. There are many differences among proxies, so averaging across many proxies remains tricky. Another difficulty is that no one type of proxy is widely available to make a

meaningful global average.

Because of these limitations, proxies are best viewed as records of local climate, with each accounted for in the context of its limits and uncertainties -- in time, geographical extent and climate sensitivity.

Nonetheless, despite the problems, there is a wealth of climate information from proxies that can now be culled using modern technology to provide a history of climate at many locations worldwide.

And a recent review (<http://cfa-www.harvard.edu/press/pr0310.html>) by a team from Harvard University, of more than 240 scientific articles by over 1,000 researchers using the various proxy data shows that the climate in most locations was not extreme or unusual during the 20th Century. Instead, the warmest, or most extreme, climate for those locations occurred in the Medieval Warm Period, between the 9th and 14th centuries.

That period of extreme climate -- long before the air's increase in greenhouse gas concentration from human activities -- must have natural explanations. Whatever they are, the results of the warming, as far as man was concerned, in most cases appear to have been more beneficial than dangerous. Vikings made their way to Greenland and Newfoundland in that period. And England had productive vineyards.

H.H. Lamb, the founder of the climatic research unit at East Anglia University, found that England's climate was warm enough in the 12th and 13th centuries to support more than 50 vineyards, signifying that May frosts were rare. But natural swings in climate ended that environment, beginning with a period known as the Little Ice Age, lasting about from 1300 to 1900 C.E., during which Europe had more acute winters. The intensity of the Little Ice Age reached its peak from 1550 to 1700, bringing crop failures, disease and death. Many died of famine in Scotland during crop failures in seven of eight years at the end of the 18th Century.

That the last millennium has seen periods warmer than the 20th Century in many parts of the world where there is information means that the 20th Century was not unusual. Meanwhile, the 19th Century, where thermometer records begin, seems to have been the tail of an unusual cold period that had persisted for some centuries, perhaps as far back as the 14th Century in some areas. It was not so normal.

The scientific history drawn from nature and man's observations over the last millennium suggests that a strong trend of human-induced warming does not exist. The scientific facts indicate that costly policies to combat global warming are unlikely to mitigate any of climate's ever-present natural risks, but they could reduce society's economic ability to cope with them.

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