



## Ocean Acidification: Green Brains On Acid

### To the Editor:

I was wondering if you know anything about ocean acidity. I saw it mentioned by the Livermore scientist interviewed ["Interview: Richard F. Post: A Fusion Pioneer Talks About Fusion And How to Get There," *21st Century*, Summer 2009, and saw a Hollywood-style video on it, but it didn't have any scientific evidence.

The movie: "Acid Test," stated that it took millions of years for acid levels to rise to what they were, due to CO<sub>2</sub>, during the Jurassic period, and that now they are increasing at that rate over decades, devastating shellfish. Weakening the shells of these animals will kill them and destroy the entire food chain, it said.

Their solution is solar, thermal, and wind. Silly.

**Kelly Costello**  
Washington, D.C.

### Gregory Murphy Replies

As the Earth enters into a period of global cooling, the eco-fascists have adopted ocean acidification as the next scare to achieve their goal of population reduction.

When water absorbs carbon dioxide, it produces carbonic acid (H<sub>2</sub>CO<sub>2</sub>), the mild acid that gives the taste to club soda and carbonated beverages. Ocean water is not acidic, but the opposite, alkaline, with a pH measure from 7.90 to 8.20. A pH of 7 is considered neutral, and below 7 is acidic. When the oceans absorb more CO<sub>2</sub>, they do not become "acidic," but less alkaline.

However, scaring people about the oceans turning to

acid, allows the green fascists to continue their genocidal assault on scientific progress and at the same time, keep up the pressure to force nations to cut carbon emissions. The cutting of carbon emissions on the scale demanded by the Intergovernmental Panel on Climate Change will lead to the death of 4.5 billion people, mostly children.

The phrase "ocean acidification" first appeared in 2003, in a paper published in the journal *Nature*, titled, "Oceanography: Anthropogenic Carbon and Ocean pH," written by Ken Caldeira of the Carnegie Institute for Global Ecology in Stanford, California.

### A Model-Only Scare

The anecdotal evidence that CO<sub>2</sub> will cause the oceans to become corrosive is based on a faulty experiment conducted at the Carnegie Institute for Global Ecology. This 2003 experiment took a highly concentrated CO<sub>2</sub> gel, which contained a 760 parts per million (ppm) concentration of CO<sub>2</sub>—about double present atmosphere levels—and dropped it into a very large fish tank. That concentration was intended to represent the doubling of present atmospheric CO<sub>2</sub> concentrations. The highly concentrated gel formed carbonic acid in the fish tank, dissolving the fish and the shellfish creatures in the tank, much the same way a piece of meat will dissolve in a glass of Coca Cola.

Based on this one experiment, all of the alarmist stories about melting shell fish and an ocean "dead zone" have been spun out. But, there is a big differ-

ence between a 760 ppm gel dropped into a large fish tank in one shot, and a 760 ppm CO<sub>2</sub> atmospheric concentration that slowly enters the oceans' highly buffered system over several centuries.

In the real world, carbon dioxide emissions only increase linearly at a average rate of 1.5 to 2 parts per million a year. Thus, even to get to the level of carbon emissions that the alarmists say will cause the oceans to become corrosive (if we assume they are right), will take 192.5 years. Don't you think that in that time frame, with man's capacity of creativity and ability to discover, that we could find a solution—even if ocean acidification were to become a real problem.

### A Non-Problem

But ocean acidification is a non-problem and really only an attack on scientific progress and human development. As Swedish materials scientist Fred Goldberg reported at the 2008 Heartland International Conference on Climate Change: If all of the fossil fuels on the Earth were burned all at once in an orgy of consumption, it would not produce enough carbon dioxide emissions to lower the oceans' pH by one step. That is, from say 8 on the pH scale to 7.

It should also be noted that the human contribution to carbon dioxide emissions is less than 4 percent of the total of the current atmospheric carbon dioxide concentration of 385 ppm. So human carbon emissions can not be the main cause of change in ocean pH, as claimed in the



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*Ocean acidification is a fish story. Here, a white shark at Isla Guadalupe, Mexico.*



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*Ocean pH varies widely. This school of goldband fusilier was photographed in Papua, New Guinea.*

Natural Resources Defense Council film "Acid Test."

Ocean surface layer pH does change and cycle naturally. First, let's get some things straight. Ocean pH is measured mainly around land masses and mainly at the surface layer, which does not represent the pH of the whole ocean, which varies with depth. Ocean pH cycles around land masses because of the upwelling of nutrients from the bottom of the ocean and the overturning of the ocean surface layer. Variation is also a seasonal result of different ocean oscillations, including the Pacific Decadal Oscillation.

Ocean pH varies from about 7.90 to 8.20 at different geographical locations. But along coasts there are much larger variations: from 7.3 inside deep estuaries, to 8.6 in productive coastal plankton blooms, and to 9.5 in tidal pools. The pH is lowest (most "acidic") in the most productive ocean regions, where upwellings of water from the deep ocean occur.

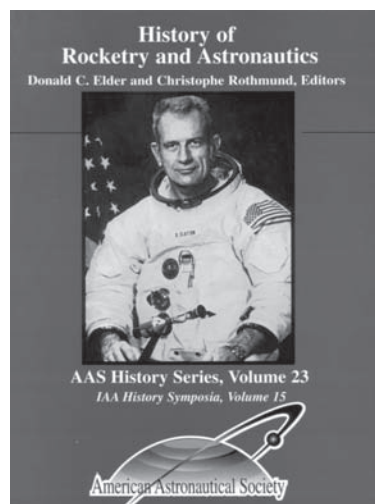
#### The Real Effects of CO<sub>2</sub>

Craig Idso, director of the Center for the Study of CO<sub>2</sub>, has recently published a book, *CO<sub>2</sub>, Global Warming, and Coral Reefs*, cataloging some of the recent research on the effects that an increased

CO<sub>2</sub> will have on the oceans and marine life. He shows that increased CO<sub>2</sub> concentrations in the ocean will be a great benefit to the marine plants, for increasing sea surface temperature could increase the rates of photosynthesis up to 92 percent.

This is a far cry from the doomsday scenarios of the eco-fascists. Idso also points out that if absorption of carbon dioxide into the oceans were to continue to increase, it would be offset by the continuing process of the weathering of terrestrial carbonates, which increase delivery of calcium ions to the oceans and raise the pH level. To quote the Australian geologist Ian Plimer, "There is no chance that the oceans will turn into acid, as long as the Earth has rocks."

In the conclusion of his book, Idso writes, "Clearly, climate alarmist claims of impending marine species extinctions due to increases in both temperature and atmospheric CO<sub>2</sub> concentrations are not only not supported by real-world evidence; they are actually refuted by it." Idso further states, "We've got to realize that rising atmospheric CO<sub>2</sub> concentrations are not the bane of the biosphere, but a boon to the planet's many life forms."



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