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Carolinas need flexibility to counter continued sea-level rise

BY ORRIN H. PILKEY
Monday, May 5, 2008

The past 12 months have been a landmark as far as recognition of sea level rise is concerned.

Last year, the 4th International Panel on Climate Change (IPCC) report came out and predicted a maximum two-foot rise in the sea level, not counting the disintegrating ice sheets, by the year 2100. The two-foot rise is mainly from thermal expansion of ocean water. There is widespread agreement among sea-level experts that the ice sheets are likely to be the driving forces of sea-level rise this coming century.

The United Nations climate change conference, which met in Bali last December, also prominently addressed the rising sea (although the conference unfortunately assumed that sea-walling the world's shorelines would solve the problem).

This year, the National Academy of Sciences released a report, as did the Environmental Protection Agency. They all stated the same thing: A major sea-level rise may be in the wings because of the unexpectedly rapid deterioration of the world's great ice sheets in Greenland and the Antarctic.

Whatever the cause, no one in the scientific community doubts that the sea level is rising, and most believe that it is likely to continue and accelerate in coming decades. The possibility exists for a catastrophic rise of as much as seven feet by the end of the century. No one is predicting that number, but if short-term ice degradation rates in the Antarctic and Greenland continue, it is a strong possibility. The question hinges on whether the Greenland and especially the West Antarctic ice sheets have reached a tipping point in their path to destruction.

One of the best tide gauges in the U.S. Atlantic for measuring sea-level change is on the U.S. Army Corps of Engineers concrete pier at Duck, N.C. It shows a present-day rise of 1 1/2 feet per century.

The Dutch expect a 2 1/2-foot rise in the next 40 years and are betting billions of dollars of construction money on it.

The Maldives has raised an area on one of its atoll islands several feet with dredged sediment — big enough for 50,000 people to live on it.

Rhode Island is managing its coast on the assumption that the rise will be (minimally) three to five feet in the next century.

The Miami/Dade County Florida Science and Technology Committee of the Climate Change Task Force argues that the county should be prepared at a minimum for three to five feet of sea-level rise in the next century (numbers

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obtained independently of the Rhode Island committee).

In Marion Bay, South Australia, a proposed new shoreline development of 80 buildings was denied because of the expected impact of sea-level rise.

The situation demands that we in the Carolinas clear the deck and prepare for a future with an expanding ocean. South Carolina and North Carolina have, in a relative sense, done a great job in this regard.

Flexibility is the key. As sea level rises, we can move or demolish threatened beach cottages. But what do we do when high rises like those lining Myrtle Beach are endangered? One thing we should do is immediately halt all ocean front high-rise construction where it has not already occurred. Such buildings limit our future response to sea-level increases.

A while back, South Carolina loosened its anti-hard-stabilization regulations to allow groins (walls perpendicular to the beach) to be built. Predictably, the first use of the groins after the change, on Hunting Island State Park, has created an instantaneous and totally predictable erosion crisis. Recently the state has allowed buildings on North Myrtle Beach to creep closer to the beach, a giant step in the wrong direction.

And what are we to do about development at very low elevations along South Carolina's marshes. It is ironic that at this critical time when we should be backing away from low elevation sites, Reps. Bill Witherspoon, R-Horry, and Dwight Loftus, R-Greenville, have introduced legislation designed to eliminate restrictions on development in coastal wetlands.

Vision is needed in the Legislature. We must insist on responsible sites for development, and we must keep the South Carolina shoreline flexible so we can respond to sea-level rise and at the same time, keep our beaches healthy for our great-grandchildren.

Orrin H. Pilkey is the James B. Duke Professor of Geology Emeritus in the Nicholas School of the Environment at Duke University.

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Posted by [majorjohnson](#) on May 5, 2008 at 7:52 a.m. ([Suggest removal](#))

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What bunk. If you want to stop building on the shoreline at least be honest enough to say that's what you want to do. Don't hitch your wagon to the global warming hoax.

All of the environmentalists and alternative energy and anti-development folks who are using global warming as the engine that pulls their train are gonna find themselves painted with the same tar as global warming hoaxers when it all comes out of the wash, and it's gonna hurt their cause. People will say, well global warming was a hoax, so this must be a hoax too because they claimed it was about warming. When this guy comes back in a few years and says we need to stop building on the coast for a different reason, after the warming hoax has been exposed, people are gonna ignore him. We now have a report out that the world will be cooling due to a "natural aberration," but pay no mind to the cooling because it's gonna start heating up again in about 10 years and kill us all.

Posted by [realscientist](#) on May 5, 2008 at 12:50 p.m. ([Suggest removal](#))

Pilkey has become a parody of himself--in one sentence he says there's a possibility of a catastrophic rise of as much as 7 feet by 2100; in the very next sentence, he says that no one is predicting that number. Huh?

This commentary is worthy of a SNL skit. Pilkey should stick to geology--once he tries to influence public policy, he makes a fool of himself.

Posted by [lillycollette](#) on May 6, 2008 at 5:54 p.m. ([Suggest removal](#))

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Posted by [parrotshark](#) on May 7, 2008 at 2:45 p.m. ([Suggest removal](#))

Here is my suggestion to majorjo and real and everyone else who thinks that sea level rise is "bunk".

Contact the P&C, tell them that you are willing under oath to state that you do not believe in global climate change, and therefore will NOT ask for Federal or State disaster help should the ocean come up and destroy any aspect of your property, home, or business.

Posted by [uttles](#) on May 11, 2008 at 11:40 a.m. ([Suggest removal](#))

MajorJohnson hit the nail on the head. Global Warming (now called "Global Climate Change" so they can claim humans caused the 1 degree C DECREASE last year) is simply an anti-capitalist movement aimed at destroying the US Economy, and it's doing a good job so far. Unfortunately we have a lot of useful idiots in this country who think that if they talk about what the "scientific community" has determined then it will make them appear to be smart and enlightened.

Posted by [realscientist](#) on May 11, 2008 at 1:40 p.m. ([Suggest removal](#))

Hey, parrotshark--I never said sea level wasn't rising. My point is that Pilkey, whom I know professionally and for whom I have little respect once he ventured into public policy, is nothing more than a scare-monger, a caricature of the Chicken Little school of environmental alarmism. He makes a claim, then says that no one really said what he just stated.

Posted by [Badgersouth](#) on May 17, 2008 at 3:09 p.m. ([Suggest removal](#))

Sun Cycles Not Key To Recent Global Warming - Expert

SAN ANTONIO, Texas - Satellite data show that changes in the sun are contributing to global warming but to a smaller extent than human activity, a space scientist at the Naval Research Laboratory in Washington told a group of petroleum geologists Wednesday.

"The sun is playing a role that you can detect, but it's not the dominant role," Judith Lean told a crowded session at the 2008 convention of the American Association of Petroleum Geologists in San Antonio.

"Climate-change sceptics have suggested that solar cycles may be more responsible than human activity for increasing global temperature. But Lean said her findings showed "the sun is a factor of 10 less than the anthropogenic."

Reuters, April 23, 2008

Posted by [Badgersouth](#) on May 17, 2008 at 3:11 p.m. ([Suggest removal](#))

Antarctic Ice Shelf Disintegration Underscores a Warming World

"Satellite imagery from the National Snow and Ice Data Center at the University of Colorado at Boulder reveals that a 13,680 square kilometer (5,282 square mile) ice shelf has begun to collapse because of rapid climate change in a fast-warming region of Antarctica."

The above is the first paragraph of a joint press release from the National Snow and Ice Data Center (NSIDC), which is part of the Cooperative Institute for Research in Environmental Sciences at the University of Colorado at Boulder; the British Antarctic Survey (BAS), based in the United Kingdom; and the Earth Dynamic System Research Center at National Cheng Kung University (NCKU) in Taiwan. The press release was posted on March 25, 2008.

<http://nsidc.org/index.html>


Posted by [Badgersouth](#) on May 17, 2008 at 3:13 p.m. ([Suggest removal](#))

Global Highlights for March 2008

- The global land surface temperature was the warmest on record for March, 3.3°F above the 20th century mean of 40.8°F. Temperatures more than 8°F above average covered much of the Asian continent. Two months after the greatest January snow cover extent on record on the Eurasian continent, the unusually warm temperatures led to rapid snow melt, and March snow cover extent on the Eurasian continent was the lowest on record.
- The global surface (land and ocean surface) temperature was the second warmest on record for March in the 129-year record, 1.28°F above the 20th century mean of 54.9°F. The warmest March on record (1.33°F above average) occurred in 2002.
- Although the ocean surface average was only the 13th warmest on record, as the cooling influence of La Niña in the tropical Pacific continued, much warmer than average conditions across large parts of Eurasia helped push the global average to a near record high for March.
- Despite above average snowpack levels in the U.S., the total Northern Hemisphere snow cover extent was the fourth lowest on record for March, remaining consistent with boreal spring conditions of the past two decades, in which warming temperatures have contributed to anomalously low snow cover extent.
- Some weakening of La Niña, the cold phase of the El Niño-Southern Oscillation, occurred in March, but moderate La Niña conditions remained across the tropical Pacific Ocean.

Source: The National Oceanic and Atmospheric Administration, an agency of the U.S. Commerce Department

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