



## Carolinas need flexibility to counter continued sea-level rise

BY ORRIN H. PILKEY  
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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 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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