

# SOON AND MORNER: Sea-level rise data based on shoddy science

## Stemming the tide of political fear-mongering

By Willie Soon and Nils-Axel Morner

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- Illustration: Global warming by Greg Groesch for The Washington Times [more >](#)

There is much concern over rising sea levels and disappearing coastline. Yet how are such changes really measured?

Satellites can measure tiny changes in sea levels referenced to a known baseline, but those measurements have only been available since 1993. Two other methods used for changes occurring over more than 100 years are tide gauges and efforts by the United Nations' Intergovernmental Panel on Climate Change (IPCC) in computer modeling.

A tide gauge monitors water level changes in relation to a local reference height. They are simple devices, not too different from a pingpong ball floating in a tube. Tide gauge data are available for more than 1,750 stations around the world and are the longest time series available. In the case of Delaware, records go back to the early 20th century, while in places such as Amsterdam they go back to the late 17th century.

How reliable are such data?

In Atlantic City, for example, coastal engineer Cyril Galvin says the tide gauge data may be too sensitive to local and regional activities that aren't ultimately related to "natural" changes in sea level -- including any that might be related to greenhouse gas-induced global warming.

In examining sea-level changes for 100 years or more from stations on the Eastern Seaboard, Mr. Galvin could not find any acceleration in sea-level rise. University of Florida professor Robert Dean and Army Corps of Engineers analyst James Houston have independently reached this same conclusion.

While examining tide gauge records from Atlantic City's Steel Pier, Mr. Galvin discovered a remarkable effect apparently caused by spectators who came to watch horse-diving between 1929 and 1978. From old photographs, it was estimated that

there must have been about 4,000 spectators who would come to watch. Given that this crowd probably weighed about 150 tons, the pier was subject to significant loading and unloading cycles. The initial 1912-1928 data showed the sea level rising at a rate of 0.12 inches per year. The rate tripled around 1929 when the horses began diving. When the shows were suspended from 1945 to 1953, sea level fell at a rate of 0.06 inches per year. When the diving resumed, the sea level rose again at a rate of 0.16 inches per year.

Such clear documentation of the direct influence of local weight loading and unloading activities on tide gauge reading should add a cautionary note to connecting tide gauge data series to man-made greenhouse gas global warming phenomena.

Model projections of rapid sea-level rise and acceleration caused by global warming as proposed by the IPCC's coming Fifth Assessment Report should also be subject to scrutiny.

The first bit of bad news for the IPCC is that scientists have always been uncomfortable in predicting climate 20, 50 or 100 years in the future because they know that climate models are simply not up to the task. Such long-term climate forecasting is more the result of political pressure.

The major problems with simulating variations and changes in ice sheets have been known for a long time now. The key issue is the accurate representation of topography. In the Fifth Assessment Report's climate models, the representation of the Greenland Ice Sheet, for example, is clearly deficient. Without the correct accounting for the valleys and hills beneath the ice sheet, melted ice quickly drains off the ice sheet and is counted as a net loss of ice mass.

In the real world of bumps and valleys in ice surfaces, refreezing can quickly occur when cold temperatures return. This is why Swiss Federal Institute of Technology scientists long ago concluded that it may even be possible for both the Greenland and Antarctic ice sheets to gain ice mass under the doubled atmospheric carbon-dioxide scenario if improved climate models are used.

In an eagerly anticipated paper in the *Journal of Climate*, a group of scientists from the British Antarctic Survey documented how all of the 18 climate computer models that are used in the Fifth Assessment Report failed in the simple task of simulating the annual cycle and trends in the Antarctic sea ice extent. The authors found the majority of the climate models have too small a sea ice extent at minimum in February, while several of the models have less than two-thirds of the observed values at September maximum.

Even more devastating news is that the observed Antarctic sea ice extent over the past 30 years is showing an increasing trend, while most climate models produce decreasing sea ice extent. Such an obvious discrepancy from observed phenomena should once again cast strong suspicion upon rapid sea level change scenarios in the Fifth Assessment Report and render them void for use in public policy.

Not surprisingly, objective sea level research should be based on observational facts in

nature itself and not on computer models.

The message is clear. When it comes to sea level, any reliance on the IPCC's Fifth Assessment Report is misplaced. Study of current and ancient climate tells us that climate model predictions of rapid acceleration in global and regional sea levels are simple scaremongering. Prudent policymaking should be based on objective science rather than fear.

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