

# Global warming and sea-level rise

Science-based analyses of America's key environmental issues

Center for Science &  
Public Policy  
www.scienceandpolicy.org

## Contact Information

209 Penn. Ave., SE  
Washington, DC 20003

Tel: 202-454-5249

Fax: 202-454-5223

Robert Ferguson  
Executive Director  
bferguson@ff.org

**Claim:** *Global warming will cause massive sea level rise.*

One of the major **false horror stories** to follow on the heels of CO<sub>2</sub>-induced global warming is a *predicted* increased rate in sea level rise that is said to be so large and rapid that *it's predicted* to devastate human settlements and natural ecosystems scattered throughout the world's low-lying coastal areas. Some claim this devastating rise is already underway.

**Update:** A recent paper by Davis et al. (2005) found that between 1992 and 2003 Antarctic snow and ice cover gained a mass of about 45 billion tons per year, tying up enough moisture to *lower* sea level by 0.12 millimeters per year.

In spite of the many new instruments and techniques that have been developed and used to search for a global warming signal in global sea level data, Cazenave and Nerem (2004) report that "these tools seem to have raised more questions than they have answered."

Several prior studies have concluded that the rate of global sea level rise has been rather stable over the past century or more at a mean value of approximately  $1.8 \pm 0.3$  mm yr<sup>-1</sup> (Douglas, 1991, 1992; Maul and Martin, 1993; Church *et al.*, 2004; Holgate and Woodworth, 2004). Nevertheless, White *et al.* (2005) conducted one more analysis of the available data in an attempt to find the elusive predicted increase in the sea level's rate of rise, comparing estimates of coastal and global averaged sea level for 1950 to 2000. White *et al.* concluded that their results confirmed earlier findings of "no significant increase in the rate of sea level rise during this 51-year period," i.e., over the last half of the 20th century, including the last two decades that are typically demonized by climate alarmists for their supposedly "unprecedented" rate of temperature increase.

**These findings suggest that we *cannot* find any real-world evidence of acceleration in either global or coastal sea level rise over the entire industrial period, when *the air's CO<sub>2</sub> content rose by about a third.***

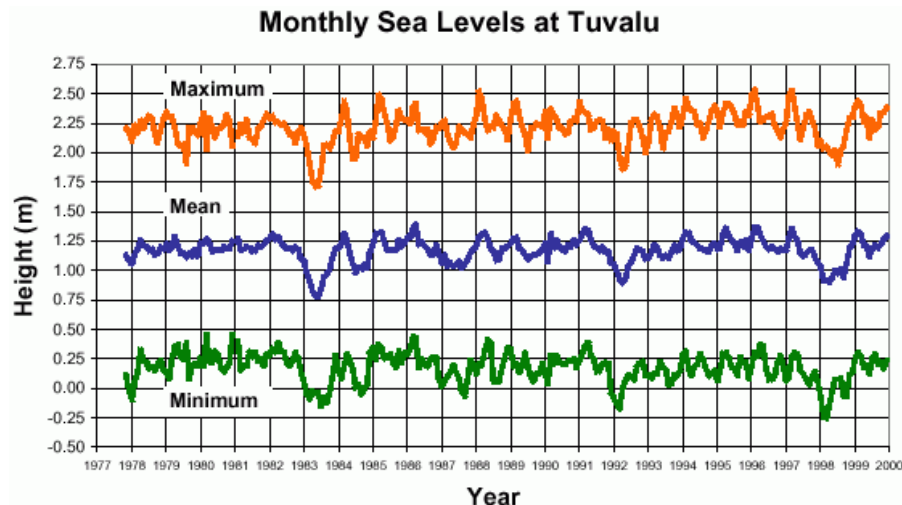
The poster-child examples of warming alarmism are the island of Tuvalu and the Maldives. The Tuvalu government led the cry about small nations being swamped beneath the waves of rising seas, seeking wanted international compensation and for Australia and New Zealand to guarantee 'residency' to their 12,000 islanders in the event of inundation.

All real measurements show that Tuvalu has suffered, at worst, no sea level rise. Now the National Tidal Facility, based in Adelaide, Australia, has dismissed the Tuvalu claims as unfounded. They have maintained accurate monitoring of sea level at Tuvalu, and report, "The historical record shows no visual evidence of any acceleration in sea level trends."

However, it is likely that beach erosion and building on the island to attract tourism have caused the sea flooding of areas over the last decade. But it is a *local* problem that will not be solved by massive cuts in carbon dioxide emissions.

Nor does there appear any sea level threat to Maldives, a coral atoll group in the centre of the Indian Ocean and inhabited for the last 1,500 years. The President of INQUA, the international commission with expertise in sea level, Nils-Axel-Mörner, had this to say recently, "It has been popular to threaten small islands and low-lying coasts with scenarios of disastrous future flooding. The Maldives has been the most utilized target. We have undertaken a careful analysis of actual sea level changes in the Maldives. *No rise* has been

recorded either in the present or the past centuries. Instead we have documented a *significant sea level fall* in the last 20-30 years."



#### References:

Davis, C.H., et al., 2005. Snowfall-driven growth in East Antarctic ice sheet mitigates recent sea-level rise. *SciencExpress*, May 19, 2005.

Cazenave, A. and Nerem, R.S. 2004. Present-day sea level change: observations and causes. *Reviews of Geophysics* **42**: 10.1029/2003RG000139.

Church, J.A., White, N.J., Coleman, R., Lambeck, K. and Mitrovica, J.X. 2004. Estimates of the regional distribution of sea level rise over the 1950 to 2000 period. *Journal of Climate* **17**: 2609-2625.

INQUA. 2000. Homepage of the Commission on Sea Level Changes and Coastal Evolution, [www.pog.su.se/sea](http://www.pog.su.se/sea). Sea Level Changes, News and Views, The Maldives Project.

<http://www.john-daly.com/press/#maldives>