



## Preparing for the Next Big Flood

By the Editors - Aug 6, 2012

A new analysis of worldwide temperatures over the past 60 years has found more evidence that global warming is already upon us, and is responsible for extreme heat waves -- such as the ones in [Russia](#) in 2010 and in Texas and [Oklahoma](#) last year.

Naturally, this refocuses attention on the current U.S. drought. Left out of the discussion, however, is another, equally serious and already pressing consequence of human-induced [climate change](#): sea-level rise. On all coasts, we face a huge and building threat from too much water.

With oceans expanding from the heat and with glaciers large and small melting away, sea levels have climbed more than 8 inches since 1880, and the [current rate](#) is about an inch and a quarter every decade. Many scientists expect the water to rise at least 2 feet to 3 feet more by the end of this century.

This won't happen evenly everywhere. One hot spot is the East Coast of the U.S., where the land is sinking and nearby ocean currents are slowing, causing the water to rise faster. From Cape Hatteras, [North Carolina](#), up through Cape Cod, [Massachusetts](#), in the past half century, the speed of increase in water level has been [three to four times](#) the global average. Yet the North Carolina Legislature has essentially banned relevant state agencies from taking projections of accelerating sea-level rises into account in policy making.

Such shortsightedness on the part of public officials is not only irrational, it's foolish. By 2030, in many places on the U.S. coast, sea level rise due to global warming will have [more than doubled](#) the risk of floods 4 feet or more over high tide. Lands below this 4-foot mark are now home to 5 million Americans, as well as vital infrastructure such as [power plants](#), bridge access ramps and railroads -- not to mention schools, hospitals, parks and countless seaside ice cream stands.

Thankfully, not all public officials have their heads in the dampening sand. Their actions fall into three broad categories: protection, accommodation and retreat.

Protective strategies include building or reinforcing structures such as levees, dikes and sea walls and also developing soft defenses such as marshes and beaches, which can absorb some of the extra water during a [storm surge](#). On Governor's Island in the [New York](#) harbor, for instance, the plan is to raise and grade the waterfront promenades and plant trees capable of surviving in brackish water.

Accommodation means remodeling buildings and houses in areas prone to more flooding. On Balboa Island, part of [Newport Beach, California](#), homes are being built on foundations 3 feet higher than in the past. In bigger cities, many apartment buildings will have to be reconfigured to convert the lower floors from residences to other uses. Underground stormwater and wastewater networks will also need to be remodeled or reinforced, as city officials are planning in [Olympia, Washington](#).

Retreat is, of course, the strategy of last resort. Few residents want to give up their ocean views, even when the view is getting closer, and coastal real estate is some of the most valuable in the country, bringing in high property taxes. This explains official resistance to rezoning it to prohibit building. Along the Atlantic Coast, new development is [still expected](#) on almost 60 percent of the land within 1 meter of sea level. Local officials have to find the gumption to rezone before nature forces them to.

Congress could help -- by ordering the [Federal Emergency Management Agency](#) to redraw its outdated flood insurance rate maps to take into account anticipated sea-level rise. [Research](#) shows that every dollar invested in such efforts to prepare for disaster yields \$4 in future benefits. Better maps could help local governments plan better, and also help FEMA's National Flood Insurance Program save money.

Not "believing" in climate change has always been silly; it has never been a matter of belief. Pretending not to see the oceans rising takes this willful blindness to a new and more dangerous level. If coastal flooding is going to be an ordinary part of life, then the safety of millions of Americans depends on better preparation for it.

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