

New York Under Water: Sea Level Change This Century

At the end of September 2009, renowned climatologist Stefan Rahmstorf spoke to an international climate change conference in Oxford, England. Rahmstorf is a respected authority specializing in analysis of ice melt and sea level changes. He and other climate scientists made this startling announcement:

[A rise of at least 2 meters \(~6 foot\) in the world's sea levels is now virtually unstoppable.](#)

Sit with that for a moment.

"Unstoppable."

No matter what we do now to rein in greenhouse gases, the processes that initiate significant sea level change are already underway. A tipping point in the ice melt processes has been reached. The best outcome, said Rahmstorf, would be that after temperatures stabilized, sea levels would only rise at a steady rate "for centuries to come," and not accelerate. This assumes we can halt global warming after about 1.5 degree C increase.

Realistically speaking, though, given political issues and climate change denial resistance from the various ostriches on the scene - the much more likely scenario is that humans collectively will **not** be able achieve the 1.5 degree C limit, in which case the rise in sea level will be much more rapid.

Rahmstorf's best guess is a one meter rise this century, assuming three degrees warming, and up to five meters over the next 300 years. This and other estimates are also affected by unknown variables such as what will transpire with large sheet ice at the poles, and transient sea rises, which are different from long-term global sea levels. Should the climate heat up more than that, or sheet ice or transient events occur, it is easily possible to see a 2 meter rise this century, and possibly much more. (For considerable [discussion on this](#) and related points, see the excellent content at [Real Climate: Climate Science from Climate Scientists.](#))

But the tipping point is already here, and passed. That means global processes are underway with their own inexorable march towards ever more melting ice and rising seas. This will proceed at its own pace, as inevitable and unstoppable as the rising tide.

This is not a distant eventuality, but a sea change (literally) whose effects we will see within our lifetimes. By 2050 certain populated coastal areas will be significantly impacted by this impending change in sea level. It is no exaggeration to say entire cities will be flooded or submerged: a 2-meter sea rise will, for example, obliterate built-up urban areas in the southern San Francisco Bay, including parts of San Jose. It will submerge chunks of the Port of Los Angeles, threaten Washington D.C., and drown portions of the densely built Jersey shore and industrial New York waterfronts. Low-lying coastal islands off the Carolinas, Florida, and along the Gulf Coast will simply vanish.

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Most people have not even begun to contemplate (much less plan for) the real-world consequences of such a fantastic change in the world as we have known it.



Part 2 in this series: [What Does a 2-Meter Sea Rise Look Like?](#)

Part 3 in this series: [Global Warming in Science Fiction](#)