

Sea Level Rise Estimate Grows Alarming Higher in Latest Federal Report

NOAA's latest report arrives, predicting worst-case scenario of 8 feet of rise by century's end, just as Donald Trump takes office with pro-fossil fuel policies.

By Nicholas Kusnetz

Jan 24, 2017

Places like Robbins, Md., already struggling with sea level rise, could see even more flooding under new federal projections. Credit: Getty Images

New federal estimates say global sea levels could rise faster than previously thought, and the rise may be even worse in many coastal regions of the United States.

A new report, written by scientists with several federal agencies and universities, says that under a worst-case scenario, [climate change](#) [1] could [raise the oceans an average of more than 8 feet by 2100](#) [2], about 20 inches more than a [previous federal estimate](#) [3] published in 2012. The best case now projected would be an average of about a foot.

The report was delivered just as President Donald Trump took office, immediately working to undo President Barack Obama's climate policies. On his inauguration day, pages mentioning climate change on [whitehouse.gov](#) were removed. Trump has promised policies to increase fossil fuel development in the U.S., and to undo Obama's major emissions-cutting initiative, the Clean Power Plan.

Sea level rise will likely be worse in some regions of the U.S. because of ocean currents, wind patterns and settling sediments. The authors examined six scenarios with a range of probabilities in an effort to help state and local governments plan for sea level rise. Under all of them, the [Northeast should expect higher waters](#) [4] than much of the rest of the globe. The Pacific Northwest and Alaska would likely experience lower-than-average increases under the best-case scenarios.

"The ocean's not flat," said William V. Sweet, one of the authors and a scientist at NOAA. "It's not going to rise like water in a bathtub."

The six scenarios are based on United Nations models of future greenhouse gas emissions, depending on whether countries rapidly slash pollution or continue burning fossil fuels as usual. The authors determined that the worst-case rise of more than 8 feet has only a 0.1 percent chance of occurring by 2100, even under a business-as-usual emissions scenario, but **a rise of more than 1.5 feet is near certain with high emissions.**

The increase in the estimates for global sea rise was partly due to new research on the Antarctic ice sheet, which is melting faster and appears to be more fragile than previously estimated, suggesting that some of the **more pessimistic scenarios are increasingly likely.**

The report also warned that moderate coastal flooding will become **25 times more likely with a 14-inch rise in the seas.** That level could come anytime from 2030 to 2080 for most coastal cities, depending on their location and the world's emissions. It would mean that a flood that now comes once every five years would be expected five times a year.

Sea levels have already risen by more than 8 inches globally since 1880, with 3 inches coming since 1993. Tidal flooding "has increased by an order of magnitude over the past several decades," the report says, "turning it from a rare event into a recurrent and disruptive problem."

The authors note that 2 million Americans would likely see their homes permanently flooded if sea levels rise 3 feet. Twice that increase would inundate the homes of 6 million. **Only the rosier scenarios would avoid a 3-foot rise by 2100.** The effects of global warming, of course, will continue long beyond that year.

"Even if society sharply reduces emissions in the coming decades," the authors write, "sea level will most likely continue to rise for centuries."

Published Under:

[Climate Science](#) [5]

[NOAA](#) [6]