

Prediction of Rapid Sea Level Rise Won't Change Global Climate Talks

A new study predicting 10 feet of sea level rise by the century's end isn't supported by the mainstream scientific community.

By **Brian Clark Howard**, National Geographic

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Flooding is frequent in the mudflats north of Manila in the Philippines, where the city has expanded due to rising population. Sea level rise threatens many such low-lying areas around the world.

PHOTOGRAPH BY GEIRGE STEINMETZ, NATIONAL GEOGRAPHIC CREATIVE

A bombshell climate study published this week warns that sea levels may rise a catastrophic 10 feet (3 meters) by the end of this century, rather than the currently predicted 3 feet (.9 meters). But mainstream climate scientists say the report appears speculative and is not in sync with the leading understanding of melting sea ice.

As a result, the study is unlikely to change leading scientific consensus or affect the current negotiations on a comprehensive global agreement on climate change.

The new study, led by former NASA climate scientist James Hansen (now at Columbia University) is set to be published in the peer-reviewed journal Atmospheric Physics and

Chemistry. Hansen and 16 colleagues argue in the paper that increasing melting of the ice sheets over Greenland and Antarctica will lead to a shutdown of the ocean's currents. That would lead to warm waters trapped under Antarctica, which would increase the melting of ice there (if all the continent's ice melted, it would raise sea level by around 200 feet).

Hansen's prediction is more dire than the scenario deemed most likely by the Intergovernmental Panel on Climate Change (IPCC), which foresees no more than 3 feet of sea level rise by century's end. (See an interactive of sea level rise.)

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The 10 feet Hansen predicts would make many of the world's coastal cities, from New York to Shanghai, unlivable. It would also flood South Florida, making everything below Interstate 75 unlivable (from Ft. Lauderdale on down). Three feet would put many of New York's airport runways underwater, but

would be much easier to mitigate with seawalls. ([Learn more about the damage expected for Florida.](#))

A number of prominent climate scientists [are skeptical](#) of Hansen's conclusions.

[Ian Joughin](#), a professor of Earth sciences at the University of Washington, says melting glaciers and ice sheets contribute only about 1 millimeter (0.04 inches) of sea level rise a year. While Hansen and team predict a doubling in the rate of ice melt in Greenland in the coming years, Joughin says that seems unlikely given past trends and what we currently know about the processes.

"I don't think you can extrapolate current melt rates to get to 10 feet," says Joughin.

Hansen was not available to comment on the study or the reaction.

Gavin Schmidt, a climate scientist with NASA's Goddard Institute for Space Studies, says the Hansen report is merely "one scenario, and not evidence for that scenario."

Schmidt says the study "might add to the discussions" but is far enough from conventional thinking that it is unlikely to change mainstream climate views, international negotiations on reducing carbon, or the IPCC's recommendations to world governments.

"There's plenty of reason to worry about sea level rise, but I don't see 10 feet happening by end of century," says Joughin.

"Ten feet is well outside the range of peer-reviewed projections and peer-reviewed scientific literature," says Benjamin Strauss, a scientist at Climate Central, a non-profit climate research and journalism organization in Princeton, New Jersey.



Learn more about melting glaciers in this video.
This story was updated at 4:45 pm ET on July 22.

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Brian Howard is a senior writer covering environment, science, technology, and other topics.
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