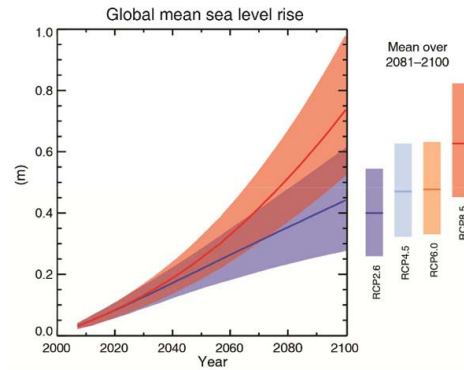


## What IPCC's climate report says about rising sea levels

Lauren Sommer, BURN Contributor

No one was too shocked by the [latest climate projections](#) released in the [Intergovernmental Panel on Climate Change's](#) (IPCC) fifth report on Friday. The United Nations-created group is responsible for a sort of climate change "master doc," collating studies from around the globe into a general consensus with the help of thousands of scientists.

What did they find? Global temperatures are on the rise and we're to blame. Or, in scientific speak, the panel said it's "extremely likely" (greater than 95 percent certainty) that the warming is primarily due to human influence (burning fossil fuels and pumping carbon into the atmosphere). "There is a need for us to reduce emissions of greenhouse gases substantially if we really want to stabilize the Earth's climate and I hope this is a message that the world will receive and accept," said IPCC chairman Rajendra Pachauri.



One topic did grab headlines: rising sea level. On average, it's already gone up about seven inches since 1900, but the rate of change is expected to speed up. Under a worst-case scenario with unchecked greenhouse gas emissions, sea levels could rise 20 to 38 inches by the end of the century. That's higher than the IPCC assessed in its last report six years ago, which put it from 10 to 23 inches.

Why the difference? It has to do with the two different factors that cause sea level rise. One is based on a basic tenet of physics: as water gets warmer, it expands. That's caused about 40 percent of the sea level rise they can account for over the last decade.

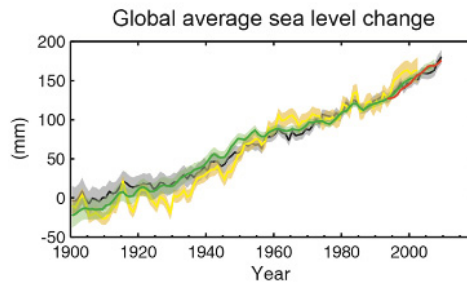
The other cause of sea level rise is a little trickier for scientists to sort out. Glaciers and the Greenland and Antarctic ice sheets contain massive amounts of water, and they're melting. That makes the ice sheets the "ticking time bombs" of climate change, according to some. Complete loss of the [Greenland ice sheet](#), something the report says is possible with sustained warming over a millennium, would cause sea levels to rise by 23 feet.

The Greenland ice sheet is losing ice at a faster and faster pace, but in its previous report, the IPCC excluded some of that information from its sea level rise projections, saying not enough was known about the melting process to model it accurately. The state of the science has improved, the panel says, hence the jump in the numbers.

[Other studies](#) in the scientific community put sea level rise projections even higher. The IPCC acknowledged that, but found "there is no consensus currently in the scientific community about these very high sea level projections over the next 100 years," according to Thomas Stocker, co-chair of the IPCC working group that released the report.

As was seen with Superstorm Sandy, the economic cost of storm surges and flooding runs into the billions and may only be a taste of what's [predicted for New York City](#) and [other places](#) around the globe. More details about the sea level rise scenarios and the strategies to reduce carbon emissions are expected as the IPCC rolls out the rest of its assessment over the next year.

Lauren Sommer reports on environment, science and energy for KOED Public Radio in San Francisco. All graphics from IPCC.



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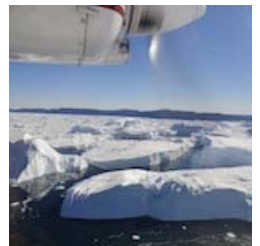
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