



EXCERPT FROM...

Climate Change: Global Sea Level

Author: [Rebecca Lindsey](#), November 19, 2019

SEA LEVEL SINCE 1880

Global mean sea level has risen about 8–9 inches (21–24 centimeters) since 1880, with about a third of that coming in just the last two and a half decades. The rising water level is mostly due to a combination of meltwater from glaciers and ice sheets and thermal expansion of seawater as it warms. In 2018, global mean sea level was 3.2 inches (8.1 centimeters) above the 1993 average—the highest annual average in the satellite record (1993-present)

Explore this interactive graph: *Click and drag either axis to display different parts of the graph. To squeeze or stretch the graph in either direction, hold your Shift key down, then click and drag. The light blue line shows seasonal (3-month) sea level estimates from [Church and White \(2011\)](#). The darker line is based on [University of Hawaii Fast Delivery](#) sea level data. For more detail on the data sources, see the end of the article.*

Read the full article at:

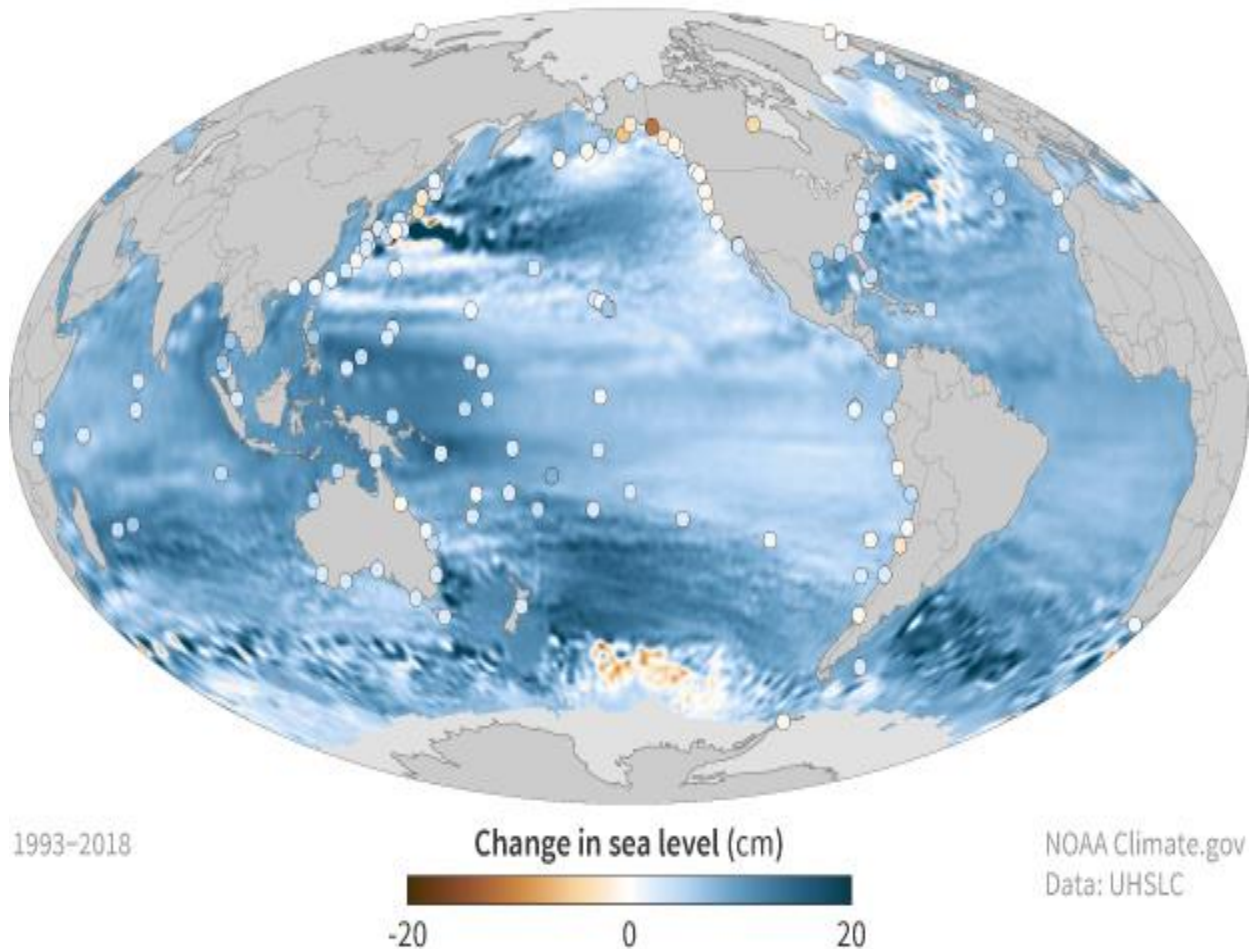
<https://www.climate.gov/news-features/understanding-climate/climate-change-global-sea-level>

The global mean water level in the ocean rose by 0.14 inches (3.6 millimeters) per year from 2006–2015, which was 2.5 times the average rate of 0.06 inches (1.4 millimeters) per year throughout most of the twentieth century. By the end of the century, global mean sea level is likely to rise at least one foot (0.3 meters) above 2000 levels, even if greenhouse gas emissions follow a relatively low pathway in coming decades.

In some ocean basins, sea level rise has been as much as 6-8 inches (15-20 centimeters) since the start of the satellite record. Regional differences exist because of natural variability in the strength of winds and ocean currents, which influence how much and where the deeper layers of the ocean store heat.

Between 1993 and 2018, mean sea level has risen across most of the world ocean (blue colors). In some ocean basins, sea level has risen 6-8 inches (15-20 centimeters). Rates of local sea level (dots) can be amplified by geological processes like ground settling or offset by processes like the centuries-long rebound of land masses from the loss of ice age glaciers. NOAA Climate.gov map, based on data provided by Philip Thompson, University of Hawaii.

Sea level change (1993-2018)



Past and future sea level rise at specific locations on land may be more or less than the global average due to local factors: ground settling, upstream flood control, erosion, regional ocean currents, and whether the land is still rebounding from the compressive weight of Ice Age glaciers. In the United States, the fastest rates of sea level rise are occurring in the Gulf of Mexico from the mouth of the Mississippi westward, followed by the mid-Atlantic. Only in Alaska and a few places in the Pacific Northwest are sea levels falling, though that trend will reverse under high greenhouse gas emission pathways.

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