From…Climate.gov

SCIENCE & INFORMATION FOR A CLIMATE-SMART NATION

Climate Change: Global Sea Level

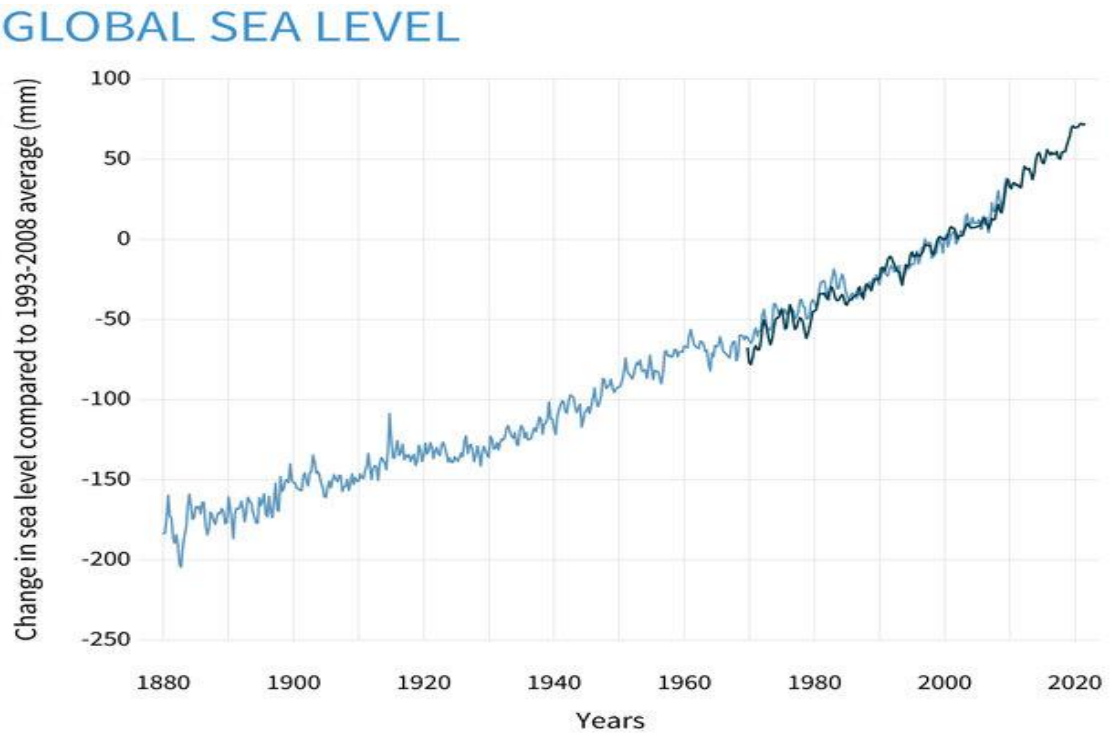
BY REBECCA LINDSEY REVIEWED BY RICK LUMPKIN, GREG JOHNSON, PHILLIP THOMPSON, WILLIAM SWEET……PUBLISHED AUGUST 14, 2020 UPDATED APRIL 19, 2022

HIGHLIGHTS

- Sea level has risen 8–9 inches (21–24 centimeters) since 1880.
- In 2020, global sea level set a new record high—91.3 mm (3.6 inches) above 1993 levels.
- The rate of sea level rise is accelerating: it has more than doubled from 0.06 inches (1.4 millimeters) per year throughout most of the twentieth century to 0.14 inches (3.6 millimeters) per year from 2006–2015.
- In many locations along the U.S. coastline, high-tide flooding is now 300% to more than 900% more frequent than it was 50 years ago.
- If we are able to significantly reduce greenhouse gas emissions, U.S. sea level in 2100 is projected to be around 0.6 meters (2 feet) higher on average than it was in 2000.
- On a pathway with high greenhouse gas emissions and rapid ice sheet collapse, models project that average sea level rise for the contiguous United States could be 2.2 meters (7.2 feet) by 2100 and 3.9 meters (13 feet) by 2150.

Seasonal (3-month) sea level estimates from Church and White (2011) (light blue line) and University of Hawaii Fast Delivery sea level data (dark blue). The values are shown as change in sea level in millimeters compared to the 1993-2008 average. NOAA Climate.gov image based on analysis and data from Philip Thompson, University of Hawaii Sea Level Center.

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 melt water from glaciers and ice sheets and thermal expansion of seawater as it warms. In 2020, global mean sea level was 91.3 millimeters (3.6 inches) above the 1993 average, making it the highest annual average in the satellite record (1993-present).



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 has risen 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.

Read the rest of the story at LINK: https://www.climate.gov/news-features/understanding-climate/climate-change-global-sea-level