



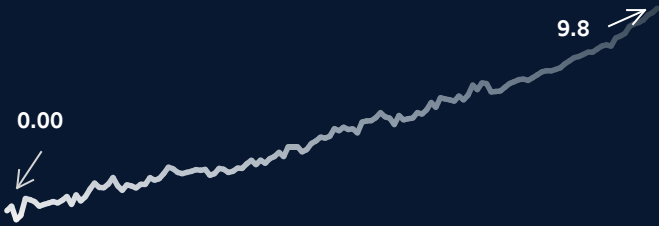
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A Rising Ocean

Climate change, driven by rising global temperatures, poses a significant threat to coastal communities and ecosystems through rising sea levels. The two primary causes of rising sea levels are thermal expansion, caused by the ocean absorbing heat and causing water molecules to expand, and the melting of ice into water, which results in increased ocean levels.

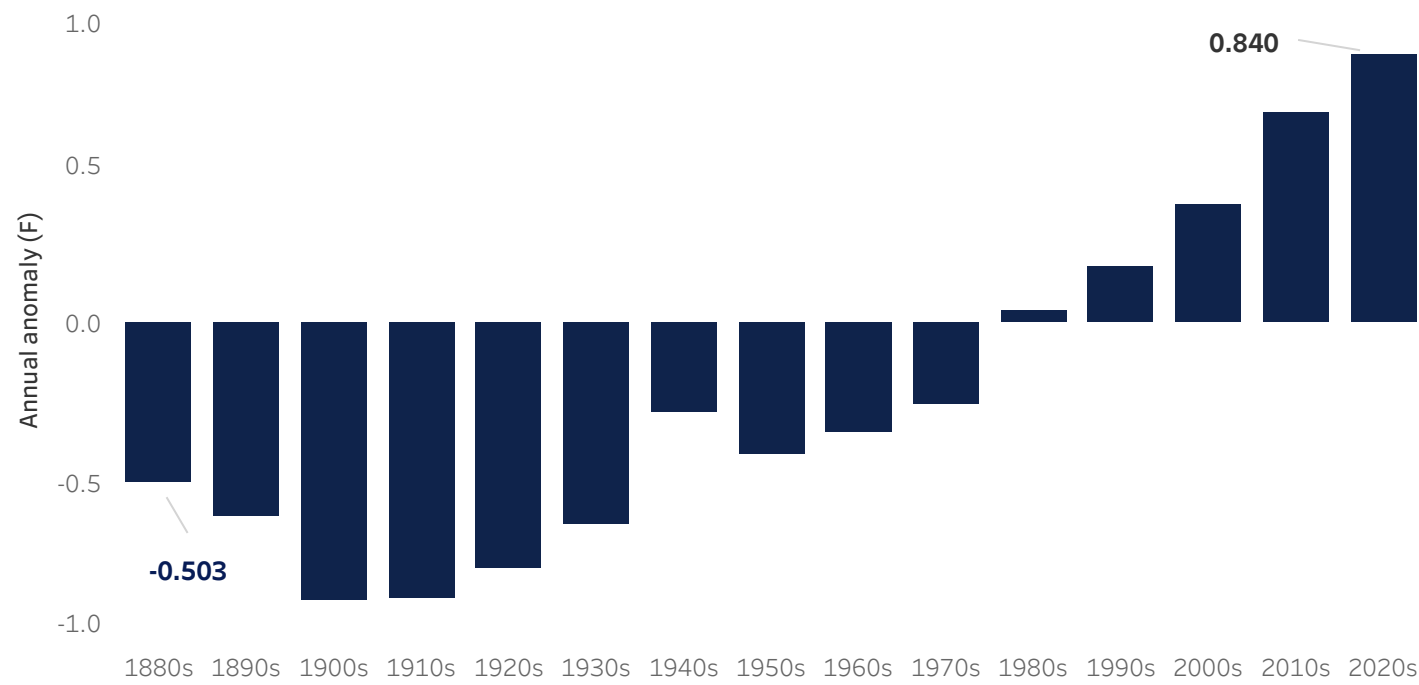
Annual sea level change between 1880 and 2021

Based on adjusted sea level measured in inches



Ocean surface temperature between 1880 and 2020, by decade average

Based on temperature compared to 1970-2000 average in degrees Fahrenheit



Since the 1950s, the average ocean temperature has consistently risen, exceeding the 1970-2000 average in the 1970s and approaching 1 degree Fahrenheit above that average in the current decade.

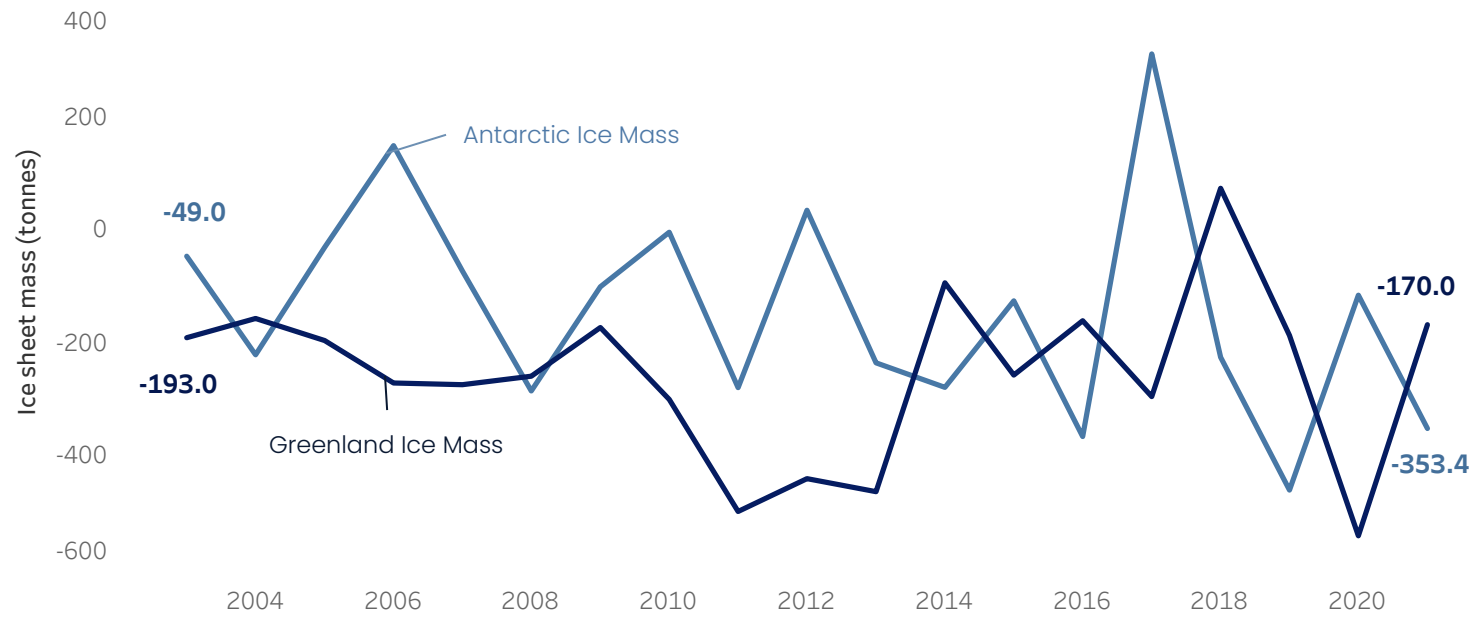
This ocean warming is resulting in thermal expansion, leading to rising sea levels. If this trend continues, the impact on sea level will increase with the ocean’s temperature.

The two dominant sources of global ice mass, the Antarctic and Greenland ice sheets, play a crucial role in regulating our planet’s climate. However, due to its location over land and warmer air temperatures, Greenland is experiencing a more rapid rate of ice loss.

In 2021, an unprecedented 550 billion tons of ice melted from Greenland, marking a new record in ice loss.

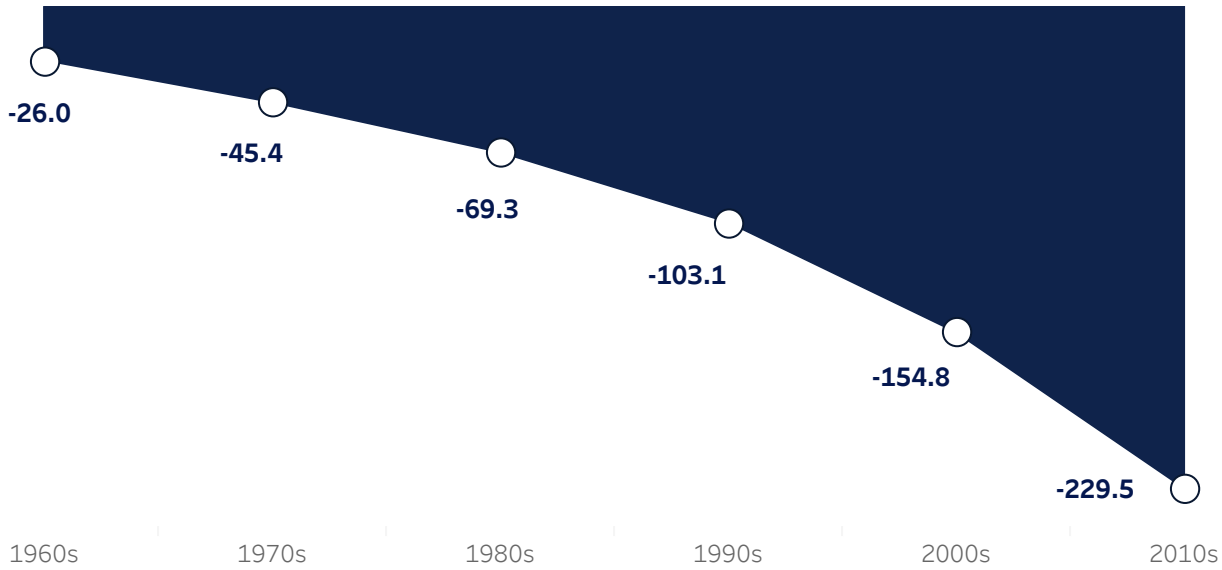
Annual ice sheet mass change in Greenland and Antarctica from 2003 to 2021

Measured in tons (billions)



Annual change in glacier mass balance worldwide between 1960 and 2019, by decade average

Measured in meters of water (equivalent)



The continued rise in global temperatures is causing widespread glacial melting, leading to a noticeable increase in sea levels.

In the 2010s, the average loss of water from global glaciers was over 200 meters, and this trend of mass loss is expected to escalate as temperatures continue to rise.

The ‘Great Lakes’ of the United States (Lake Michigan, Ontario, Huron, Superior and Erie), which hold a staggering 84% of North America’s fresh water and 21% of the world’s total, are facing the impacts of rising temperatures. As a result, the lakes are experiencing less and less ice coverage each winter.

In the 2010s, the average ice coverage on the most frozen day of the year was only 50%, compared to a much larger coverage of nearly 70% in the 1970s.

United States ‘Great Lakes’ ice coverage between 1970 and 2019, by decade average

Measured by the day with the highest percentage of the lake that was frozen

