
Understanding Sea Level



Learn more about the different causes of sea level change and the scientific background of observations and projecting sea level. Find out about the history of measuring sea level and how state-of-the-art physical climate models predict sea level change into the future. We explain the current and projected rates and how they are derived.



[Causes](#)

Our warming world is melting glaciers and ice sheets and causing ocean water to expand, the two primary drivers of sea level rise.

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[Observations](#)

Crude marks on the walls of ancient Venice have, in the modern era, given way to satellite altimetry and gravimetry, tracing out the intricate weave of sea level causes and effects. Nature's proxy records over thousands of years, along with archaeological evidence, help complete the picture.

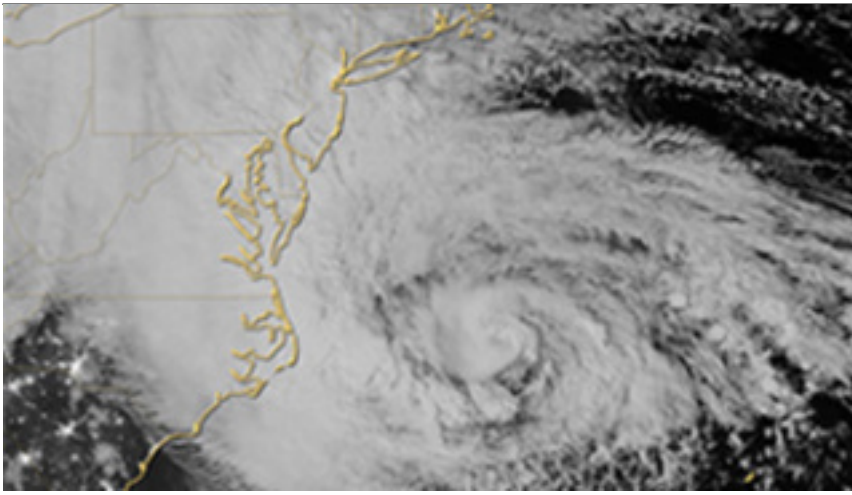
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[Projections](#)

Refinements in computer modeling continue to increase the accuracy of earth system simulations, such as those of oceans and ice. Challenges remain, however, in linking these models together to simulate the entire climate system.

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[Adaptation](#)

With billions of dollars in coastal assets, NASA is taking the first steps toward adapting to a changing world. This agency wide planning initiative seeks to apply NASA's extensive knowledge of risk assessment and Earth science to prepare both coastal and inland properties for the changes ahead.

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Credit: NASA Sea Level Change