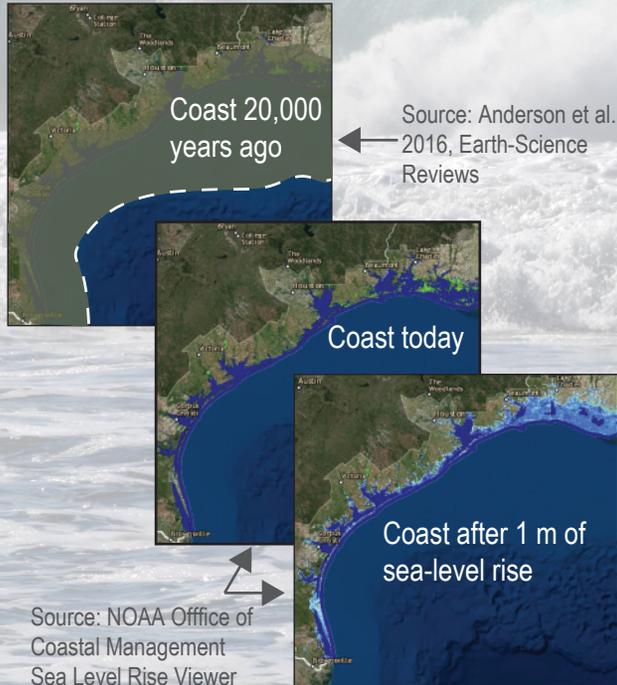


Texas coast: Past, present & future

About 20,000 years ago, the Texas coast was up to 130 km seaward of where it is now. This is because glaciers were much bigger, trapping water on land. Since then, glaciers started to melt as climate naturally warmed, causing the coast to migrate inland.



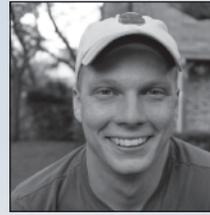
Today, the Texas coast is home to the largest chain of barrier islands, which protects many people from the effects of sea-level rise.

The fate of the Texas coast will depend on how fast sea level rises, the perseverance of barrier and coastal sediments, and coastal management.

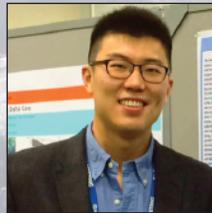
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The Texas coast and its response to sea-level change

Additional resources on sea level are available from:

NASA Sea Level Change

<https://sealevel.nasa.gov/>

NOAA Office of Coastal Management

<https://coast.noaa.gov/>

Electronic version of the pamphlet and sea-level demonstration details available at laurensimkins.weebly.com

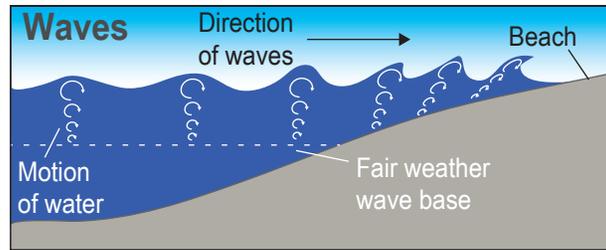
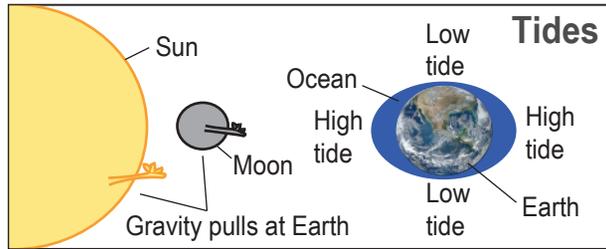


What is sea level?

The height of the ocean surface, commonly measured at a position along the coast.

What causes sea level to change?

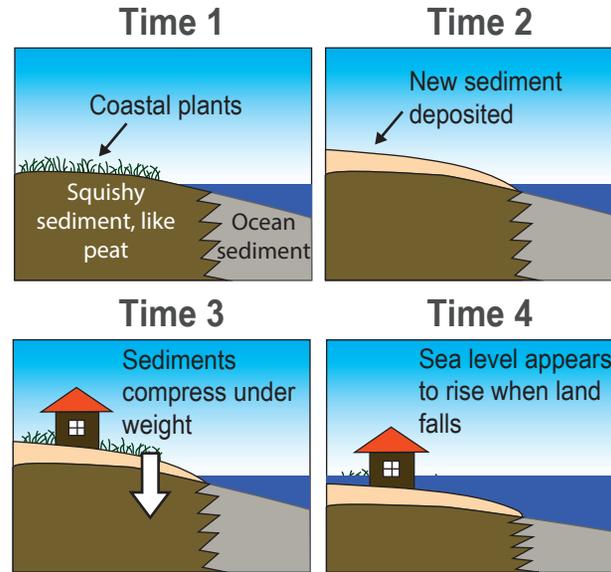
Sea level changes every day because of tides, waves, and other less frequent events like storms and hurricanes.



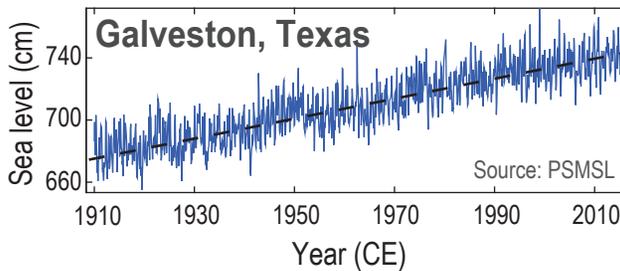
Sea level also changes when glaciers grow and shrink. The Antarctic and Greenland ice sheets are the largest reservoirs of water trapped on land and can melt into the ocean if climate is warm enough, causing sea level to rise.



Sea level appears to rise when the land sinks because of the compaction of sediments that have a lot of water or empty pore spaces.



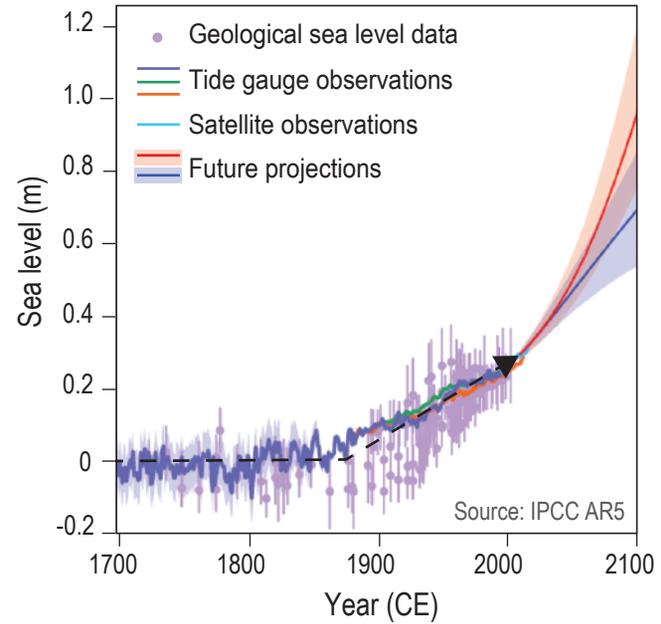
Measured sea level from a tide gauge, like the record below, is a combination of all of these factors and more.



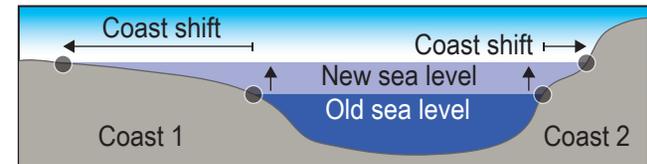
The wiggles are from daily, monthly, and seasonal changes in sea level, whereas the longer trend shows rising sea level since at least the early 20th century. This sea-level trend is similar to many records worldwide.

How does the coast change when sea level rises?

The pace of sea-level rise matters! Today, global mean sea level is rising 3.4 mm per year, mostly from glaciers melting and ocean heating.



The elevation and shape of the coast influences how sensitive it is to sea-level rise.



Land can grow if sediments are available and is removed if sediments are carried away by the ocean.



Source: Google Earth