

Scientist Education Webcast

Sea Level Rise- What it is; Why it's such a problem; What we can do about!

National Science Teaching Association

April 7, 2022

Speaker: William Sweet National Oceanic and Atmospheric Administration

The Webcast discussed the 6th assessment report on the rise of CO₂ concentration, sea level rise and the impact on weather, increase emission, extreme rain fall and the impact on glacier ice. The speaker was very knowledgeable about the effects of climate change on our environment. He discussed what was the causes of the weather pattern which is having an impact on the weather. He discussed the use of the satellites that capture data that shows a change in the sea-level rise.

He talked about gravitational pull and gravity causing a rise. He showed from the data that in the US, the sea level rises will be increasing on average 10-12 inches higher in the next 30 years. He showed the data for the East, Gulf, West Caribbean, Hawaiian Islands, and Alaska coast. The Models showed Greenland, Antarctica ice melt matters and is being detected in the models. The higher global temperatures due to increase emission is causing all areas to heat up and cause seas level rise. Dr Sweet provide a link to the NOAA website to provide teachers with resources to create lessons for middle grade students to teach them about El Nino, La Nina, Sea level rising, ocean acidification, water quality and coral bleaching.

The rate of flooding is accelerating. He presented the data showing the storms occurring days and weekly. The flood risk is changing and there is a cost to labor, equipment used to clean up after the storms. He showed pictures of the areas in Charleston SC, Miami Fl, Norfolk VA. He talked about the days are very sunny and then the storm hits. Flooding is occurring with high tides. The high tide flood is occurring more often. He provided the definitions of what classifies the minor, moderate major flood. NOAA has a costal indications dashboard where you can track the flood alerts when you put in the zip code for the area you are interested in studying. He used a data map to show the coastal flooding accelerations. Determining whether it will be a El Nino, or La Nina will help plan for the storms. Using the dashboard will help scientists to plan for the flood risk from year to year.

Resources for teachers:

Data in the classroom: <https://dataintheclassroom.noaa.gov/index.php>

Sea Level Riser viewer: <https://coast.noaa.gov/slr/>

Sea level Report: <https://tidesandcurrents.noaa.gov/sltrends/faq.html#q1>

Trend Tables:

<https://tidesandcurrents.noaa.gov/sltrends/regionalComparison.html?region=USNA>