Sea Level Rise Education and Data Resources

NOAA Ocean Service Sea Level Rise Learning Module  
http://oceanservice.noaa.gov/education/sea-level-rise/welcome.html  
Developed by NOAA NOS and NASA Jet Propulsion Laboratory, this module informs about sea level rise, its causes, and impacts; and challenges students to think about what they can do in response. It features grade level-appropriate (6-12) instruction and activities centered on a 23-minute video presentation.

NOAA Data in the Classroom Sea Level Rise Module  
https://dataintheclassroom.noaa.gov/content/sea-level  
Activities designed for MS Level students, it helps them understand sea level using real data. Educators can use any of the five modules developed to explore dynamic Earth processes and understand the impact of environmental events on a regional or global scale.

Climate.Gov Teaching Resources Sea Level Rise Middle School Level Learning Activities  
https://www.climate.gov/teaching/resources/search-education/middle-6-8-119/search-type/learning-activities-123?keywords=sea%20level%20rise  
NOAA’S Climate.gov is a source of timely and authoritative scientific data, information, and educational resources about climate and climate change’s impacts. These are learning activities, curriculum materials, and multi-media resources, are presented for formal and informal educators looking to incorporate sea level change resources into their teaching environments.

NOAA Ocean Today Videos:  
Global vs. Local Sea Level Rise  
https://oceantoday.noaa.gov/globalvslocalealsealevel/  
Sea Levels on the Move  
https://oceantoday.noaa.gov/sealevelsonthemove/  
These short videos present NOAA’s science and activities on sea level rise. The first video show why global sea level is rising, and why this impacts coastal areas around the world differently due to sea level fluctuations, changes in land elevation, winds, and ocean circulation. The second video presents how NOAA continuously measures sea level changes by taking height measurements of the ocean and land using tide gauges stationed along coastal areas, and satellites orbiting the Earth.

Sea Level Change: Past, Present and Future.  
Stephen Gill, Former Senior Scientist, NOAA's Center for Operational Oceanographic Products and Services (COOPS) provides an overview of the fundamental concept of and causes of global sea level change. He reviews and illustrates basic oceanographic definitions and historical sea-level change over ice-age time scales. He also discusses how present rates of sea level change are determined from tide gauges and satellite altimeters.
Diving in to Sea Level Change It’s ‘App’ropriate
Columbia University's Lamont-Doherty Earth Observatory Polar Team has been measuring changes in ice sheets and oceans for decades. This data helps determine changes in sea level and develop predictions and impacts for the future. Hear about the science of monitoring sea level rise based on land ice melt and how they’ve made it accessible via the FREE ‘Sea Level Rise: Polar Explorer’ ‘app' which offers a guided tour through the many layers of science that impact sea level rise

Sea Level Rise: Polar Explorer
https://thepolarhub.org/core-projects/polar_explorer.html
Additional details of the FREE Sea Level Rise: Polar Explorer App and links to download. Polar Explorer’s interactive maps allow navigation through a range of topics, including: What is sea level and how do we measure it? Why does sea level change? Where is it changing now? What was sea level in the past and what might are scientists predicting for the future? Framed around a series of questions users can chose their own pathway and level of complexity, while exploring authentic science data in engaging and accessible ways. The app reinforces the NGSS science practice of asking questions around data.

Climate and Water Teaching Box (UCAR)
https://scied.ucar.edu/teaching-box/climate-water
Teaching Boxes are collections of classroom-ready and standards-aligned activities, content, and multimedia that build student understanding of science, technology, engineering, and math. This teaching box helps secondary students learn how climate change is affecting the water cycle with a particular focus on sea level rise

NOAA Tides & Currents Sea Level Trends
https://tidesandcurrents.noaa.gov/sltrends/sltrends.html
NOAA COOPS has been measuring sea level for over 150 years, with tide stations of the National Water Level Observation Network operating on all U.S. coasts. Changes in Mean Sea Level (MSL), either a sea level rise or sea level fall, have been computed at 142 long-term water level stations using a minimum span of 30 years of observations at each location. These measurements have been averaged by month to present an accurate linear sea level trend.

NOAA’s Digital Coast Sea Level Rise Viewer
https://coast.noaa.gov/digitalcoast/tools/slr.html
This tool allows visualization of community-level impacts from coastal flooding or sea level rise (up to 6 feet above average high tides). Photo simulations of future flooding impacts of local landmarks are provided, as well as data on water depth, connectivity, flood frequency, socio-economic vulnerability, wetland loss and migration, and mapping confidence.

Sea Level Change: Observations from Space
https://sealevel.nasa.gov/
NASA keeps track of sea level change and its causes from space. On this site you can learn how NASA satellite observations help our understanding of this complex topic. You’ll find excellent tutorials and videos explaining about sea level, how and why it’s changing globally and regionally, explore the data, hear from scientists and read news features.