Sea Level Rise NASA Resources for Grades 3 to 5

3rd- 5th grade NGSS related to Sea Level Rise:

3-LS4-1. Analyze and interpret data from fossils to provide evidence of the organisms and the environments in which they lived long ago.
3-LS4-3. Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.
3-LS4-4. Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change
3-ESS2-1. Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season.
3-ESS2-2. Obtain and combine information to describe climates in different regions of the world.
3-ESS3-1. Make a claim about the merit of a design solution that reduces the impacts of a weather-related hazard
4-ESS1-1. Identify evidence from patterns in rock formations and fossils in rock layers to support an explanation for changes in a landscape over time.
4-ESS2-1. Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by water, ice, wind, or vegetation.
4-ESS2-2. Analyze and interpret data from maps to describe patterns of Earth's features
4-ESS3-2. Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans.
5-ESS2-1. Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.
5-ESS2-2. Describe and graph the amounts of salt water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth.
5-ESS3-1. Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.
3-5-ETS1-1. Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.
3-5-ETS1-2. Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.
3-5-ETS1-3. Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.

NASA Resources

Websites:

NASA's Climate Kids website:

- https://climatekids.nasa.gov/sea-level/

Lesson Plans:

Identifying Landforms and Bodies of Water on a Map
Connect the Spheres: Earth Systems Interactions
Lessons in Sea Level Rise

Activities:

Earth's Water Globe Activity
ICESat-2 Sea Ice Towers

Virtual Interactive Activities:
Tour of the Electromagnetic Spectrum online book with videos

Articles:
Earth Observatory for Kids, known as EO Kids, is a NASA affiliated magazine for students, primarily focused on students aged 9 through 14. However, there are many articles and activities in these issues which might be interested and accessible for younger children.

- EO Kids: Making and Melting Ice at Earth's Poles
- EO Kids: Ice on Earth: By Land and By Sea
- EO Kids: Freshwater issue

The GLOBE Program's Elementary Storybook: What in the World is Happening to our Climate?
Water's Family Tree: Where Did Earth's Water Come From? article
Sea Level 101: What Determines the Level of the Sea? blog
Bevy of Biomes learning poster

Videos:
"What is the Greenhouse Effect" (2:29)
"What Causes Sea Level Rise?" (2:43)
"Getting the Big Picture" (2:39)
"Watching Rising Seas from Space" (1:58)
"Sea Level Rise" (1:30)

Data Visualizations:
Draining the Oceans