

Challenge Activities for Advanced Learners

The focus of these lessons is on sea level rise caused by a warming atmosphere melting Earth's ice. Advanced students may want to research other ways the hydrosphere affects the geosphere and biosphere, e.g. as a result of severe weather events.

A good challenge activity is to have students create an experiment to see if melting land ice (ice caps and glaciers) has the same effect on sea level rise as melting floating ice (ice bergs). Students will see that if you fill a glass of water with floating ice to the brim, as the ice melts the glass of water does not overflow. On the other hand, when they fill a glass of water to the brim, and then add ice cubes, it WILL overflow.

These lessons focus on addressing the initial cause of sea level rise (warming atmosphere caused by air pollution). You may want to challenge some students to research how communities, such as those in Louisiana, are adapting to rising sea levels to help communities in the short term (see New York Times 2015 in Internet Resources). While scientists explain the problems, engineers design the solutions.