**COSEE Hands-On Activities**

**USA Science & Engineering Festival**

**Grouping: Climate Change**

**Lesson/Activity:** Ice Melt/Sea Level Rise

*The goal of this activity is to understand the difference between land ice and sea ice and their effect on ocean levels.*

**Materials**

* 2 clear glasses or beakers (500 ml works well)
* 2 different non-permanent markers
* Ice cubes
* Elastic band
* Fine wire window screen mesh
* Coat hanger
* Pliers with wire cutter

**Instructions**

1. Make a small shelf stand about 50 mm high and 50 mm in diameter using some coat hanger wire and pliers. Cut a piece of wire mesh and cover the top of the stand.
2. Fill the one glass halfway with water
3. Add 5-6 ice cubes and mark the water level.
4. Place mesh shelf in the other glass. Fill the glass with water to just below the shelf and mark the water level on the side of the glass using the same color. Add 5-6 ice cubes on top of the shelf.
5. Place both cups beneath a heat lamp
6. Watch as the ice melts and re-mark the water levels with the other colored marker.

Did either change? What’s happening?

The ice floating in water represents icebergs. As the temperature of the earth increases, some of this ice will melt, but there is no change on sea level. Arctic polar ice is floating and has no influence on sea level when it melts.

However, melting of continental ice, such as ice sheets on land in Antarctica, do add water to the ocean when they melt and has the effect of raising sea level. Sea level increased 20 cm in the past century. Scientists predict that sea level rise is accelerating and that sea level will rise 30 to 70 cm during the coming century. Because over 100 million people live at an elevation that is within 100 cm of sea level worldwide, this predicted rise in sea level will displace many people.