Land and Sea Ice

Junior Science

GZ Science Resources

Climate change is causing the world to heat up. All of the frozen ice and snow around the world, together called the cryosphere, is melting because of the temperature increase. Some ice sits on top of land, such as the Antarctica and Greenland ice shelves, as well as the Glaciers around the world. Other ice floats on the sea, such as the Artic ice. Melting ice is causing the Sea level to rise – but what melting ice? This investigation helps us to understand what is causing sea level rise.

Beaker A – Sea ice

Beaker B – Land ice

1. Set up 2 large beakers, with an inverted smaller beaker in each. Place 3 ice cubes around the bottom of Beaker A, and on Beaker B place the 3 ice cubes on top of the inverted beaker.
2. Fill each with the **same volume** of water (but not above the inverted beaker – where the ice cubes sit in Beaker B).
3. Place a heat source (lamp) close to each and record volume in each beaker every 2 minutes until all the ice melts.

Time	Volume of Sea ice (A) in mL	Volume of land ice (B) in mL
Starting time (0)		
2mins		
4mins		
6mins		
Final time (when all of the ice is melted		

What conclusion can you make about the results of this investigation? And how does this relate to whether sea ice or land ice contributes to sea level rise?

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Using your science ideas, why do you think you got the results you did?

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