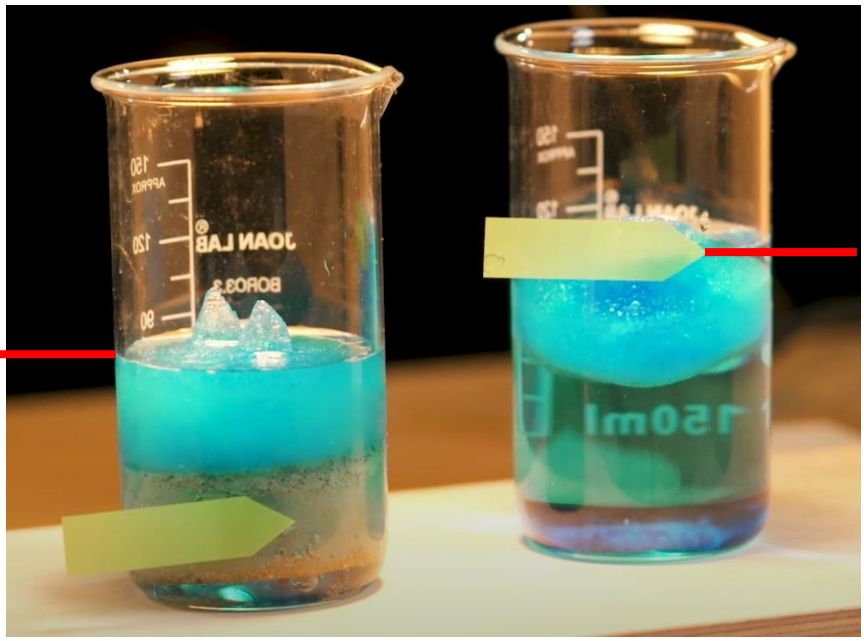
Activity 6 – The Rise in Sea Level

How does climate change lead to a rise in sea level?

Moritz Strähle und
Cecilia Scorza

Experiment 1: Is sea level rising due to melting icebergs?
Experiment 2: Is the sea level rising due to the warming of the water?

→ Mark the level with the water-soluble felt pen and heat the water in the flask with your hands for a few minutes. Watch the ice cubes while doing so.



→ Write down your observations in both experiments and describe in a short summary why sea levels are rising (and why they are not) due to global warming. Also refer to the pictures in the background text and the results of the experiments.

Ice on stone: clear increase of up to 23ml
Ice in water: no significant increase in water level

Water in glass tube: slight increase due to hand heat of 5mm

The water level in the beaker with the ice cube on the stones has risen sharply. In the beaker with the floating ice cube, the water level did not increase significantly.

In the Erlenmeyer flask, the water level has also risen because the water expands due to the heating.

<u>What does this mean for the globe?</u>

The melting of land ice, e.g. glaciers, leads to a significant rise in sea level, but sea ice does not contribute noticeably.

The warming of the oceans also causes the water to expand, and sea level rises.