



GLACIER MELT

Earth is the only planet we know of where water can be in the form of a gas, liquid or solid (remember: water is essential for life). When scientists look for life on other planets, they usually look for water as an indicator of life. At the northern part of our planet in the Arctic Circle (where our farm is!), there are vast sheets of ice, which have more of an impact on global climate than you might think. As the ice melts, water absorbs warmth from the sun which the white ice would've reflected back into space, thereby contributing to the increasing temperature of our planet. Fresh water from melting ice sheets also changes ocean currents, affects conditions for wildlife, and will potentially contribute to extreme weather conditions in the future.



 **Grab a ruler, a pad and a pencil. Did you know sea levels are thought to have risen 15-20cm in the last 100 years due to melting ice? Look at this on a ruler and write down about what effect that might have on inhabited islands and coast lines.**

What is an ice cap?

An ice cap is a thick layer of snow and ice covering less than 50,000 square kilometers. Ice caps form as snow falls, melts and falls again. Snow that melts slightly becomes harder and compressed. New snow falls on top and the snow underneath becomes even denser. This happens over and over again with layers of compressed, hard snow forming on top of each other. Eventually a huge mass of solid ice forms known as a glacier. Ice caps in polar regions are known as polar ice caps.

What is an ice sheet?

An ice sheet is glacial ice covering more than 50,000 square kilometers. The Antarctic ice sheet is the largest single mass of ice on Earth. If this melted it's thought that sea levels would rise by up to 60m! Ice sheets form when snow that falls in winter doesn't entirely melt in summer. Over time the snow accumulates and compresses to form ice sheets.


What is an ice field?

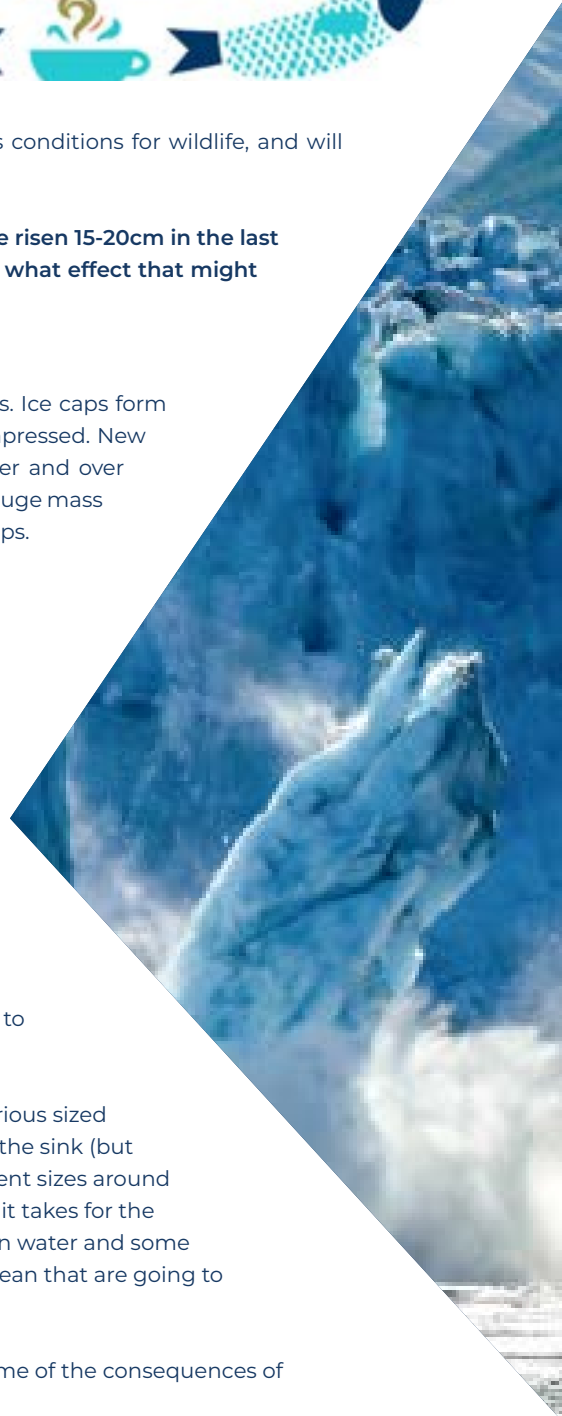
An ice field is an expanse of ice caps and glaciers.

Why are glaciers melting?

Glaciers have been melting since the beginning of the 19th century. Scientists think this is because of human activities, especially the burning of fossil fuels, like driving our cars which has increased the amount of carbon dioxide in the atmosphere leading to global warming.

To see the effect melting ice fields have on animals, islands and populations, collect various sized bowls, fill them with water and freeze. Once frozen, turn them out into a plastic tub or the sink (but plug it!) The frozen blocks of ice are various sizes of glaciers. Next, place stones of different sizes around the glaciers. Set a timer and grab your ruler! Measure the water as it rises and the time it takes for the melting to occur. Note the effect it has on the rocks. Some will be completely covered in water and some will be just barely peeking above. The stones represent the millions of islands in the ocean that are going to disappear from the melting of global ice fields!

 This activity is obviously oversimplified but a great visual demonstration of some of the consequences of melting polar ice caps and ice sheets.



We want to see your Hygge creations! Tag your photos on social: #kvaroyarctic #hygge

