

Reading Explorer 2, Unit 10: Greenland's Melting Glacier

Narrator:

It took nature 150,000 years to make the great Greenland ice sheet. Now, the ice is melting into the sea faster than at any time in history.

Scientist:

"There's something interesting inside because you can see small bubbles. And these bubbles are older than all the living creatures in the world. And you can listen to it ... because the bubbles are all so compressed, and when they get out it's like popping. You can talk to the ice."

Narrator:

A team of scientists led by Dr. Konrad Steffen flies into the center of Greenland every year to do just that: listen to the ice.

In recent years, areas of the glacier that hadn't melted in thousands of years have been covered in water every summer. It has locals, environmentalists, and scientists very worried. Steffen thinks we may be approaching a critical point, when the melting could become unstoppable. And it could happen within the next 50 years.

Dr. Konrad Steffen:

"I just checked the weather station and guess what!"

Researcher:

"What?"

Dr. Konrad Steffen:

It's not getting colder!

Researcher:

"Oh, why not?"

Dr. Konrad Steffen:

"Yeah, we have record temperatures again in early January!"

Narrator:

Steffen and his team travel across the ice to check one of the twenty-three weather stations on the ice sheet. Each station takes a range of measurements every 15 seconds. They feed the information into global warming computer models all over the world.

Dr. Konrad Steffen:

"The ice sheet is very old. It's over 150,000 years old. If you start to remove it, then you actually start a process that is unknown to civilization. We have never seen Greenland disappearing."

Narrator:

Steffen and his team have made an unexpected discovery, with frightening consequences. The rivers of melting ice flow down into huge holes in the glacier. These holes go all the way down to the bottom of the glacier. The water gets under the glacier, causing it to slide slowly into the sea. It's a whole new way in which huge quantities of ice are disappearing, even more rapidly.

Narrator:

Greenland's glaciers are melting so quickly now. The melting may result in sea levels rising three or four feet over the next century.

James Hansen:

"We are very close to the slippery slope right now. Some scientists already say it's probably too late to save the Arctic. I don't agree with that, but I do think we're very close to going to a situation where we would have no ice in the Arctic in the warm season."

Narrator:

It's a vicious cycle. Even as sea levels rise, the sea continues to absorb heat, contributing to the ice melt. Warming causes a faster loss of ice, and the loss of ice causes faster warming. In other words, the warmer it gets, the faster it gets warmer. We cannot easily predict the end results but it is looking more and more likely that urgent action will need to be taken to solve the problem of Greenland's melting glaciers.