



## Where I work Hartmut Schulz

Photographed by Volker Diekamp/MARUM, University of Bremen.

I am a marine geologist, interested in the study of deep time. In my field, we collect long sediment cores from the ocean floor, to reconstruct the oceans and climates of the past, looking for analogues of the current warming climate.

This picture was taken on a cold evening in September 2022 during a research cruise to Baffin Bay, off the Greenland coast. Today, in the Arctic, ice is melting rapidly. We know there was also a very warm period around 400,000 years ago, when large parts of the Greenland ice sheet could have melted and contributed to sea-level rise.

On this cruise, we tried to reach sediments from that time, to analyse them for climate proxies such as pollen, which indicate how much of the ice sheet had melted and been replaced by vegetation.

In this photo, I am separating a newly collected core into sections for storage in the ship's hold. We obtain the cores using iron tubing that is usually 10–20 metres long and which we drive into the sediment using a 2-tonne weight.

Then we winch the tube out to see what

we've got. The ideal core is long and straight, but we sometimes get a 'banana' – when the tube has struck a buried rock and become bent.

Although it looks as if I am working alone, there are people all around me. At sea, you always work in a team. I like that very much. In total, I have spent close to 2 years on the open ocean, including an 11-week cruise in the Antarctic Ocean. The Southern Ocean was the most impressive: so vast, so harsh.

The Baffin Bay cruise finished in St John's, Newfoundland, Canada, on 4 October last year. The cores have now been shipped to Bremen, Germany, where the cruise's lead scientist is based. We will gather there this year to decide which cores to study first.

You can't sample the whole ocean when you're collecting cores; you must be selective. We think we found a good position for reaching 400,000-year-old sediments, but it is tricky. We will see.

**Hartmut Schulz** is a marine geologist at the University of Tübingen, Germany. **Interview by James Mitchell Crow.**