1
00:00:00,020 --> 00:00:04,120
When melt water leaves an ice sheet, where does it go?

2
00:00:04,120 --> 00:00:08,300
Some of it it quickly flows off the surface of the ice toward the ocean

3
00:00:08,300 --> 00:00:12,330
through underground channels. But some water gets trapped near the top of the ice sheet

4
00:00:12,330 --> 00:00:16,400
in a region of compacted snow which has not yet

5
00:00:16,400 --> 00:00:20,580
been squeezed hard enough to become solid ice.

6
00:00:20,580 --> 00:00:24,610
This region is known as firn and it sits between the fresh snow above and the solid ice below.

7
00:00:24,610 --> 00:00:28,680
In some places, so much water can accumulate in the firn

8
00:00:28,680 --> 00:00:32,700
that it acts as a natural aquifer within an ice sheet or a glacier.

9
00:00:32,700 --> 00:00:36,820
A new NASA study of the massive Helheim Glacier

10
00:00:36,820 --> 00:00:40,860
in eastern Greenland shows that some of the water trapped in the firn

11
00:00:40,860 --> 00:00:44,890
may be reaching the bedrock of the glacier through giant cracks in the ice

12
00:00:44,890 --> 00:00:48,910
called crevasses.

13
00:00:48,910 --> 00:00:52,990

Helheim is criss-crossed by a series of these large crevasses,

14
00:00:52,990 --> 00:00:57,020
and models show that the water flows into these crevasses and descends all the way down to the glacier bed.

15
00:00:57,020 --> 00:01:01,190
From there, the water has a clear path to the ocean.