
KELLY
BRUNT

1
00:00:00,050 --> 00:00:10,580
[music]

2
00:00:10,600 --> 00:00:13,520
[crack]
[laughter]

3
00:00:13,540 --> 00:00:16,690
If CO2 is overheating Greenland, why is

4
00:00:16,710 --> 00:00:19,880
the ice still over 10,000 feet thick?

5
00:00:19,900 --> 00:00:24,280
This is a really good question, because it addresses the concept of thickness,

6
00:00:24,300 --> 00:00:27,880
which is extremely important to polar scientists.

7
00:00:27,900 --> 00:00:33,470
It's very easy to see that ice sheets and ice shelves and sea ice are changing

8
00:00:33,490 --> 00:00:37,170
in a sort of spatial sense, but what's even more important

9
00:00:37,190 --> 00:00:40,850
is that they are also thinning. It's very important for sea ice,

10
00:00:40,870 --> 00:00:43,430
but it's also important for the ice sheets.

11
00:00:43,450 --> 00:00:49,610
We know from satellite data and mosaics of that satellite data

12
00:00:49,630 --> 00:00:54,480
that our sea ice extent is decreasing in this sense, the sort of planar sense,

13

00:00:54,500 --> 00:00:59,200
and our ice sheets calve off so we lose mass in that extent as well.

14
00:00:59,220 --> 00:01:02,280
But more importantly, we're getting thinning.

15
00:01:02,300 --> 00:01:04,970
Both in the sea ice and in the ice sheets and you can imagine

16
00:01:04,990 --> 00:01:10,130
that just a little bit of thinning spread over the scale of a continent amounts to a lot of water.

17
00:01:10,150 --> 00:01:14,980
So it's a great question, but I think we just have to fine tune the questioner's expectations.

18
00:01:15,000 --> 00:01:19,030
If I were to walk outside on a really cold day, it would take a little bit of time

19
00:01:19,050 --> 00:01:23,130
for my core body temperature to drop even though I am feeling chilly on the outside.

20
00:01:23,150 --> 00:01:27,320
That's what's happening in Greenland as well. The Greenland ice sheet is really thick.

21
00:01:27,340 --> 00:01:31,830
It's going to take a lot of time to melt all of that ice.

22
00:01:31,850 --> 00:01:37,380
So the Greenland ice sheet is thinning, and it's thinning variably but mostly along the coastlines.

23
00:01:37,400 --> 00:01:44,400
It's thinning beyond our expectations and all of that thinning is taking place upstream of where the ice sheet is