1
00:00:00,030 --> 00:00:04,020
[Music]

2
00:00:04,040 --> 00:00:08,080
John Sonntag: Our flight today takes us from Longyearbyen, Svalbard back to Thule, back west,

3
00:00:08,100 --> 00:00:12,130
back to one of our main bases of operation after a bit of a

4
00:00:12,150 --> 00:00:16,210
one-week sojourn over here in Svalbard.

5
00:00:16,230 --> 00:00:20,300
We started off the mission with some flightlines

6
00:00:20,320 --> 00:00:24,430
over Svalbard's ice sheets – small ice sheets – and glaciers.

7
00:00:24,450 --> 00:00:28,600
Of course that's not the reason we went

8
00:00:28,620 --> 00:00:32,760
to Svalbard to begin with. We went there to expand our sea ice coverage

9
00:00:32,780 --> 00:00:36,900
over on the eastern side of the pole, which is a very exciting science goal

10
00:00:36,920 --> 00:00:40,930
for the project.But it turns out that in order to get to that sea ice

11
00:00:40,950 --> 00:00:45,130
you have to fly over large portions of Svalbard itself.

12
00:00:53,280 --> 00:00:57,370
It gives us a nice long comparison

13
00:00:57,390 --> 00:01:01,430

of where the glaciers were 15 and 20 years ago versus where they are

14
00:01:01,450 --> 00:01:05,520
now in terms of volume.

15
00:01:05,540 --> 00:01:09,700
In addition to the ATM data over these glaciers, we're also getting some very very modern

16
00:01:09,720 --> 00:01:13,730
state of the art radar data from the MCoRDS sounder, from the

17
00:01:13,750 --> 00:01:17,930
accumulation radar which tells us a lot about the snow accumulation

18
00:01:17,950 --> 00:01:22,000
in the last several years in the top several meters of the

19
00:01:22,020 --> 00:01:26,100
ice on Svalbard, and also from the snow radar, which is also a

20
00:01:26,120 --> 00:01:30,200
new instrument.

21
00:01:38,480 --> 00:01:42,540
We only mapped glaciers in Svalbard today for about 20 minutes. That's how long it took us to get off into the P

22
00:01:42,560 --> 00:01:46,630
off the northwest corner of the archipelago. And that takes us into some really

23
00:01:46,650 --> 00:01:50,760
interesting sea ice there. It changes dramatically. The sea ice changes dramatically

24
00:01:50,780 --> 00:01:54,820
as you cross the Fram from east to west. It starts out with a little bit of open water there

25
00:01:54,840 --> 00:01:58,880
at the northwest tip of Norway and then you get into some broken up pack ice,

26
00:01:58,900 --> 00:02:02,920
looks like a big piece of ice that someone took a hammer to,

27
00:02:02,940 --> 00:02:07,130
and shattered, a giant hammer. Really it’s pretty stuff, neat looking.

28
00:02:07,150 --> 00:02:11,200
And then it gets more and more consolidated as you go west.

29
00:02:15,310 --> 00:02:19,390
The Fram Strait by the way is

30
00:02:19,410 --> 00:02:23,520
the primary pathway that sea ice from the Arctic Basin gets out

31
00:02:23,540 --> 00:02:27,700
to the warmer oceans of the world.

32
00:02:27,720 --> 00:02:31,860
After we got to Greenland

33
00:02:31,880 --> 00:02:36,050
we turned north and made sort of an M-shaped pattern,

34
00:02:36,070 --> 00:02:40,150
and the purpose of that was to track the gradient of sea ice, the thickest oldest sea ice

35
00:02:40,170 --> 00:02:44,250
near the coast of Greenland and getting thinner up toward the pole.

36
00:02:44,270 --> 00:02:48,350
And then we’ll finish out the mission today heading into the Nares Strait,

37
00:02:48,370 --> 00:02:52,380
going across the ice arch at the top of the strait, it’s an arch of ice

38
00:02:52,400 --> 00:02:56,470

it’s kind of an interesting, almost a structural looking feature

39
00:02:56,490 --> 00:03:00,630
on satellite imagery and out the window.

40
00:03:00,650 --> 00:03:04,790
And then we go back to Thule, spend the weekend,

41
00:03:04,810 --> 00:03:08,980
rest up after our many time zones of travel this week, we’re all pretty tired,