1
00:00:00,010 --> 00:00:04,000
[whoosh, laser sound]

2
00:00:16,130 --> 00:00:08,070
[music]

3
00:00:16,150 --> 00:00:20,250
At 5am the Operation IceBridge team

4
00:00:20,270 --> 00:00:24,380
got the weather briefing they were hoping to hear: The Ross Sea

5
00:00:24,400 --> 00:00:28,450
had unusually clear skies, and so the first ever basin-wide

6
00:00:28,470 --> 00:00:32,480
laser and radar survey of this critical area was officially a go.

7
00:00:32,500 --> 00:00:36,490
"It should be good all day. Yeah, but like you said, this

8
00:00:36,510 --> 00:00:40,620
has been pretty ugly for quite a while so." "Yeah, it has. And that's a baseline mission."

9
00:00:40,640 --> 00:00:44,630
Three hours later, the NASA P-3 aircraft

10
00:00:44,650 --> 00:00:48,650
was on the move, taking off from the sea ice runway at

11
00:00:48,670 --> 00:00:52,730
McMurdo Station, and heading to its science target.

12
00:00:52,750 --> 00:00:56,760
The particular flight paths for the Ross Sea

13
00:00:56,780 --> 00:01:00,780

Fluxgate mission were chosen to sample the movement, or flux,

14
00:01:00,800 --> 00:01:04,830
of flows of sea ice moving northward from the coast.

15
00:01:04,850 --> 00:01:08,870
A few hours into the mission, the team encountered

16
00:01:08,890 --> 00:01:12,940
large icebergs that had broken off of nearby ice sheets, as well as many

17
00:01:12,960 --> 00:01:16,970
cracks of open ocean water, or leads, in the sea ice.

18
00:01:16,990 --> 00:01:21,010
These leads generated moisture in the air, causing localized

19
00:01:21,030 --> 00:01:25,100
fog and low cloud cover, but nothing the team’s instruments couldn’t handle.

20
00:01:25,120 --> 00:01:29,110
The leads also make a good science target because

21
00:01:29,130 --> 00:01:33,130
measuring the local sea surface height enables researchers to estimate the thickness

22
00:01:33,150 --> 00:01:37,160
of the sea ice above and below the water.

23
00:01:37,180 --> 00:01:41,200
The Ross Sea is particularly important to study since it’s one of the few places

24
00:01:41,220 --> 00:01:45,290
where sea ice coverage has been, on average, increasing

25
00:01:45,310 --> 00:01:49,330
over the last few decades. IceBridge thickness

26
00:01:49,350 --> 00:01:53,370
data should help illuminate whether that increased area actually represents