1
00:00:00,190 --> 00:00:04,230
[music, titles]

2
00:00:08,300 --> 00:00:12,310
Narrator: IceBridge is off to a strong start this year, having

3
00:00:12,330 --> 00:00:16,380
completed seven science missions over outlet glaciers, sea ice, and ice sheets

4
00:00:16,400 --> 00:00:20,430
and covering a broad range of territory both east and west

5
00:00:20,450 --> 00:00:24,470
of the Antarctic Peninsula. This is exactly the kind of start mission managers

6
00:00:24,490 --> 00:00:28,580
were hoping for when they were preparing the aircraft thousands of miles away in California,

7
00:00:28,600 --> 00:00:32,620
two weeks ago.

8
00:00:32,640 --> 00:00:36,690
Cutler: Dryden has been invited by Headquarters to play a pretty major role in Operation IceBridge when it

9
00:00:36,710 --> 00:00:40,770
comes to studying the Antarctic contininent. So we've prepared the DC-8

10
00:00:40,790 --> 00:00:44,830
with numerous instruments to fly long duration flights out of Punta Arenas, Chile.

11
00:00:44,850 --> 00:00:48,860
For this year's campaign we've got a complement of about

12
00:00:48,880 --> 00:00:52,940
17 scientists will be flying on board,

13
00:00:52,960 --> 00:00:56,970

and we've got seven instruments installed, and they rage from a lidar

14
00:00:56,990 --> 00:01:01,040
to radars, to a gravity meter as well which is kind of a unique instrument.

15
00:01:01,060 --> 00:01:05,110
And at the end of the campaign when we've flown

16
00:01:05,130 --> 00:01:09,150
roughly 15 stories, if we've hit the targets and they successfully

17
00:01:09,170 --> 00:01:13,160
collected data, then we know that we've done a good job.

18
00:01:13,180 --> 00:01:17,220
Studinger: So this is the fourth year we are going back to Antarctica with the DC-8.

19
00:01:17,240 --> 00:01:21,260
And we have analyzed the data from

20
00:01:21,280 --> 00:01:25,270
previous flights and previous missions and we see that the

21
00:01:25,290 --> 00:01:29,340
ice sheets for example, like Pine Island Glacier, are rapidly thinning.

22
00:01:29,360 --> 00:01:33,380
And the thinning is accelerating and it's spreading further and further

23
00:01:33,400 --> 00:01:37,390
inland so this is something we really have to keep

24
00:01:37,410 --> 00:01:41,460
an eye on and go back every year in order to make sure that we collect the

25
00:01:41,480 --> 00:01:45,510
data that we need to feed into computer models that allow us

26
00:01:45,530 --> 00:01:49,560
to make predictions for the future.

27
00:01:49,580 --> 00:01:53,580
Narrator: Until today, the mission had yet to feature a return to the site of last year's

28
00:01:53,600 --> 00:01:57,620
discovery of a massive rift in the Pine Island Glacier, a huge flow

29
00:01:57,640 --> 00:02:01,700
of ice that has been called the weak underbelly of the West Antarctic Ice sheet.

30
00:02:01,720 --> 00:02:05,750
Satellite images show the glacier has not calved yet,

31
00:02:05,770 --> 00:02:09,790
but when it does, could produce an iceberg the size of New York City.

32
00:02:09,810 --> 00:02:13,820
Keep in mind that the main science objective of Operation IceBridge

33
00:02:13,840 --> 00:02:17,890
is to study how the ice is changing in polar regions on a much broader scale,

34
00:02:17,910 --> 00:02:21,950
not searching out calving events. But being at the right place

35
00:02:21,970 --> 00:02:25,990
at the right time provided a scientific bonus.

36
00:02:26,010 --> 00:02:30,010
Brunt: IceBridge did a great job of surveying that crack and giving us a great visual

37
00:02:30,030 --> 00:02:34,090
on, on rift dynamics. I mean the ice melange

38
00:02:34,110 --> 00:02:38,150

that is in that rift is very interesting.

39
00:02:38,170 --> 00:02:42,170
IceBridge is based out of Chile to fly all sorts of

40
00:02:42,190 --> 00:02:46,260
flight lines associated with bridging the gap between ICESat and ICESat2.

41
00:02:46,280 --> 00:02:50,340
They happened to survey it last year, just fortuitously.

42
00:02:50,360 --> 00:02:54,360
It would be awesome if they could go back for sure.

43
00:02:54,380 --> 00:02:58,400
It wouldn't be directly their science but it would be great to

44
00:02:58,420 --> 00:03:02,520
see the evolution of that rift or possibly even a new survey

45
00:03:02,540 --> 00:03:06,600
associated with the new calving front.

46
00:03:06,620 --> 00:03:10,650
Narrator: Today's mission featured a rare high altitude flight over the Pine Island Glacier.