1
00:00:05,780 --> 00:00:03,709
there are frustrations in doing this

2
00:00:07,820 --> 00:00:05,790
science and probably the greatest

3
00:00:12,710 --> 00:00:07,830
frustration especially with polar

4
00:00:15,470 --> 00:00:12,720
research is how long it takes well we're

5
00:00:17,599 --> 00:00:15,480
focused on Pine Island glacier the one

6
00:00:20,419 --> 00:00:17,609
place in Antarctica where things are

7
00:00:23,779 --> 00:00:20,429
happening fastest and the changes are

8
00:00:26,389 --> 00:00:23,789
the greatest the satellites have

9
00:00:28,880 --> 00:00:26,399
directed us there but we have to get our

10
00:00:31,040 --> 00:00:28,890
boots on the ground into the snow right

11
00:00:32,900 --> 00:00:31,050
there to be able to make the

12
00:00:35,930 --> 00:00:32,910
measurements of what is going on

13
00:00:38,420 --> 00:00:35,940

underneath the ice to understand the

14
00:00:40,180 --> 00:00:38,430
details of those processes so we can

15
00:00:43,250 --> 00:00:40,190
predict what the future is going to be

16
00:00:45,890 --> 00:00:43,260
we want to go back as soon as we can and

17
00:00:48,950 --> 00:00:45,900
we're being held back by the need to

18
00:00:50,960 --> 00:00:48,960
establish this helicopter support camp

19
00:00:54,890 --> 00:00:50,970
and that's going to take at least

20
00:00:57,830 --> 00:00:54,900
another two seasons to complete we

21
00:00:59,569 --> 00:00:57,840
learned that we can't land with the

22
00:01:02,270 --> 00:00:59,579
small airplanes that we were hoping to

23
00:01:06,349 --> 00:01:02,280
use the surface is too rough and too

24
00:01:09,499 --> 00:01:06,359
hard to safely establish our peel camp

25
00:01:11,300 --> 00:01:09,509
with a fixed-wing aircraft you can only

26
00:01:13,760 --> 00:01:11,310
work in Antarctica about three months

27
00:01:15,679 --> 00:01:13,770
out of the year so already it's four

28
00:01:18,410 --> 00:01:15,689
times slower because three months out of

29
00:01:21,109 --> 00:01:18,420
every 12 you can actually do something

30
00:01:23,690 --> 00:01:21,119
in the field so that's one thing that

31
00:01:26,510 --> 00:01:23,700
slows it down the fact that we are so

32
00:01:29,149 --> 00:01:26,520
far from McMurdo and having to wait two

33
00:01:31,010 --> 00:01:29,159
years just to have the type of camp that

34
00:01:33,080 --> 00:01:31,020
we have to have there so we can get

35
00:01:35,569 --> 00:01:33,090
safely onto the ice shelf the scale of

36
00:01:38,629 --> 00:01:35,579
the journey is is quite massive just

37
00:01:41,330 --> 00:01:38,639
because this is a long way from McMurdo

38
00:01:44,179 --> 00:01:41,340

that the major US base this is 1400

39
00:01:45,739 --> 00:01:44,189
miles away but that final 400 miles

40
00:01:48,319 --> 00:01:45,749
that's going to be this over snow

41
00:01:50,929 --> 00:01:48,329
Traverse that's going to be very slow

42
00:01:53,449 --> 00:01:50,939
and laborious so the scale of this is

43
00:01:56,330 --> 00:01:53,459
like going from from McMurdo to West

44
00:01:59,419 --> 00:01:56,340
Antarctica that's like flying from DC to

45
00:02:02,719 --> 00:01:59,429
Kansas City and then getting on a very

46
00:02:05,749 --> 00:02:02,729
slow lawnmower and driving at lon lower

47
00:02:09,080 --> 00:02:05,759
speed from Kansas City out to Denver so

48
00:02:11,060 --> 00:02:09,090
it does take some time well while the

49
00:02:12,950 --> 00:02:11,070
people who are working on setting up

50
00:02:15,020 --> 00:02:12,960
this camp are doing their thing we're

51
00:02:17,480 --> 00:02:15,030
doing our thing which is science so

52
00:02:19,580 --> 00:02:17,490
although we can't be at the Ice Shelf

53
00:02:22,640 --> 00:02:19,590
itself we're looking at other satellite

54
00:02:24,910 --> 00:02:22,650
data to learn as much as we possibly can

55
00:02:27,140 --> 00:02:24,920
about the ice shelf before we go back

56
00:02:28,550 --> 00:02:27,150
well one of one of the really neat

57
00:02:31,520 --> 00:02:28,560
things about this project is that

58
00:02:33,790 --> 00:02:31,530
because nobody has ever made these

59
00:02:36,350 --> 00:02:33,800
measurements and this is such a

60
00:02:38,030 --> 00:02:36,360
dramatically changing area that we're

61
00:02:39,110 --> 00:02:38,040
going to discover something we just know

62
00:02:40,390 --> 00:02:39,120
we're going to discover something

63
00:02:43,910 --> 00:02:40,400

because nobody has ever looked

64
00:02:45,910 --> 00:02:43,920
underneath this very active ice shelf

65
00:02:48,080 --> 00:02:45,920
and looked at how the ocean is

66
00:02:50,420 --> 00:02:48,090
interacting with the ice and how the ice

67
00:02:52,009 --> 00:02:50,430
sheets responding so discovery is a sure

68
00:02:53,930 --> 00:02:52,019
thing discovery is always the most

69
00:02:56,449 --> 00:02:53,940
exciting thing about doing science I

70
00:02:58,990 --> 00:02:56,459
mean I am just itching to go and is

71
00:03:01,790 --> 00:02:59,000
really frustrating to have to wait but

72
00:03:04,220 --> 00:03:01,800
we learn as much as we can in the

73
00:03:07,040 --> 00:03:04,230
intervening time to be even better

74
00:03:08,630 --> 00:03:07,050
prepared to do the science which once we

75
00:03:11,900 --> 00:03:08,640
actually have the opportunity to be

76
00:03:13,759 --> 00:03:11,910
there it does take time but the reward

77
00:03:16,940 --> 00:03:13,769
is the discoveries that we make and the

78
00:03:19,009 --> 00:03:16,950
the increase in knowledge and ability to

79
00:03:20,630 --> 00:03:19,019
predict what these ice sheets are going

80
00:03:22,940 --> 00:03:20,640
to do in the future and how it will

81
00:03:24,410 --> 00:03:22,950
affect people worldwide that makes it