1
00:00:07,909 --> 00:00:06,150
over the past few days we've seen a

2
00:00:09,830 --> 00:00:07,919
significant amount of actually liquid

3
00:00:12,549 --> 00:00:09,840
water on the surface that have both

4
00:00:14,470 --> 00:00:12,559
accumulated in small ponds and probably

5
00:00:30,270 --> 00:00:14,480
approaching the size of lakes especially

6
00:00:33,830 --> 00:00:31,589
[Music]

7
00:00:36,389 --> 00:00:33,840
an interesting thing is that the melt

8
00:00:38,150 --> 00:00:36,399
season actually in greenland started

9
00:00:40,389 --> 00:00:38,160
pretty much end of april beginning of

10
00:00:43,030 --> 00:00:40,399
may which in the grand scheme of things

11
00:00:45,830 --> 00:00:43,040
is very close to a month earlier than

12
00:00:47,670 --> 00:00:45,840
than average

13
00:00:49,270 --> 00:00:47,680

my name is brooke medley i'm the deputy

14
00:00:50,630 --> 00:00:49,280
project scientist for operation

15
00:00:54,310 --> 00:00:50,640
icebridge

16
00:00:57,270 --> 00:00:54,320
last april and may we were actually

17
00:01:01,270 --> 00:00:57,280
flying in greenland out of kangerluswack

18
00:01:04,149 --> 00:01:01,280
on the nasa p3 this was somewhat of a

19
00:01:06,070 --> 00:01:04,159
unique year where we we expected to be

20
00:01:07,750 --> 00:01:06,080
going early enough where we would see

21
00:01:10,630 --> 00:01:07,760
the typical

22
00:01:11,590 --> 00:01:10,640
dry snow conditions but rather we were

23
00:01:13,830 --> 00:01:11,600
met

24
00:01:15,190 --> 00:01:13,840
with a much different scenario where we

25
00:01:17,830 --> 00:01:15,200
saw all these

26
00:01:20,390 --> 00:01:17,840
spectacular blue ponds of beautiful

27
00:01:22,550 --> 00:01:20,400
liquid water just pooling on top of the

28
00:01:24,950 --> 00:01:22,560
surface

29
00:01:27,190 --> 00:01:24,960
the ice sheet is actually experiencing

30
00:01:29,590 --> 00:01:27,200
almost an additional month of melt

31
00:01:31,910 --> 00:01:29,600
because it started so early here part of

32
00:01:34,630 --> 00:01:31,920
it is actually driven by the fact that

33
00:01:37,030 --> 00:01:34,640
it's very warm right now but also that

34
00:01:39,670 --> 00:01:37,040
there was not a lot of snowfall last

35
00:01:41,990 --> 00:01:39,680
winter and so what that means is

36
00:01:44,870 --> 00:01:42,000
when the the snow does melt it very

37
00:01:48,149 --> 00:01:44,880
quickly exposes darker ice which can

38
00:01:49,590 --> 00:01:48,159

then melt even faster

39
00:01:52,310 --> 00:01:49,600
it went from

40
00:01:54,630 --> 00:01:52,320
pretty much frozen over at the surface

41
00:01:58,069 --> 00:01:54,640
just before the melt started to

42
00:02:00,310 --> 00:01:58,079
completely unfrozen and the rivers have

43
00:02:01,830 --> 00:02:00,320
risen and there's just a significant

44
00:02:06,630 --> 00:02:01,840
increase in the total amount of water

45
00:02:10,550 --> 00:02:08,869
over the course of 2019

46
00:02:12,309 --> 00:02:10,560
uh there was so much melt that it

47
00:02:15,430 --> 00:02:12,319
actually ended up being the second

48
00:02:18,470 --> 00:02:15,440
largest uh melt water production year

49
00:02:20,630 --> 00:02:18,480
for the greenland ice sheet since 1980.

50
00:02:23,589 --> 00:02:20,640
what does it mean for

51
00:02:25,670 --> 00:02:23,599
2020 is an excellent question so what

52
00:02:27,750 --> 00:02:25,680
happens when you have a

53
00:02:31,030 --> 00:02:27,760
an extreme melt years that it can often

54
00:02:32,470 --> 00:02:31,040
impact a subsequent season so it's

55
00:02:36,309 --> 00:02:32,480
definitely something we were looking for

56
00:02:39,430 --> 00:02:36,319
coming into the 2020 season is are we

57
00:02:42,150 --> 00:02:39,440
going to be seeing another 2019 because

58
00:02:43,030 --> 00:02:42,160
we've preconditioned the ice sheet to be

59
00:02:44,869 --> 00:02:43,040
more

60
00:02:46,470 --> 00:02:44,879
susceptible to melt and and

61
00:02:49,270 --> 00:02:46,480
interestingly

62
00:02:50,550 --> 00:02:49,280
right now 2020 is trending along a more

63
00:02:52,229 --> 00:02:50,560

normal trajectory

64
00:02:54,790 --> 00:02:52,239
for melt

65
00:02:57,670 --> 00:02:54,800
that being said this is still just july

66
00:02:59,990 --> 00:02:57,680
and the biggest pulse of melt water from

67
00:03:01,509 --> 00:03:00,000
2019 actually occurred

68
00:03:03,830 --> 00:03:01,519
at the end of july and beginning of

69
00:03:06,390 --> 00:03:03,840
august so there's still a lot of melt

70
00:03:08,149 --> 00:03:06,400
season left to go

71
00:03:10,070 --> 00:03:08,159
it's actually quite simple the longer

72
00:03:12,390 --> 00:03:10,080
your melt season that means you can just

73
00:03:14,869 --> 00:03:12,400
have more time to accumulate more melt

74
00:03:17,750 --> 00:03:14,879
and the only place for this water to go

75
00:03:19,990 --> 00:03:17,760
is into the ocean so it will be driving

76
00:03:22,070 --> 00:03:20,000
uh sea level rise and greenland is

77
00:03:24,550 --> 00:03:22,080
currently outside of the thermal

78
00:03:25,670 --> 00:03:24,560
expansion of the ocean is the largest