1
00:00:01,000 --> 00:00:02,480
[Music]

2
00:00:02,480 --> 00:00:06,480
Narrator: It is easy to imagine Greenland as a land of perpetual ice.

3
00:00:06,480 --> 00:00:09,000
However, scientists have recently estimated that the Greenland Ice Sheet may

4
00:00:09,000 --> 00:00:13,000
be gone within the millennium.

5
00:00:13,000 --> 00:00:17,000
Andy: My name is Andy Aschwanden, I am a Glaciologist with the University

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00:00:17,000 --> 00:00:20,000
of Alaska, Fairbanks. I work at the Geophysical Institute.

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00:00:20,000 --> 00:00:24,000
Narrator: Andy and his colleagues have used data

8
00:00:24,000 --> 00:00:27,000
collected by NASA to model some of the possible futures of the Greenland Ice Sheet.

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00:00:27,000 --> 00:00:31,000
Andy: So, we see our projection

10
00:00:31,000 --> 00:00:34,000
of how the Greenland Ice Sheet will retreat

11
00:00:34,000 --> 00:00:37,000
over the course of the next roughly 300 years.

12
00:00:37,000 --> 00:00:41,000
It’s really cool that now we can actually watch

13
00:00:41,000 --> 00:00:45,000

in the animation, in the simulation, how we think it behaves.

14
00:00:45,000 --> 00:00:48,000
I mean, we put the best physics possible in there and we can

15
00:00:48,000 --> 00:00:52,000
actually watch what could happen. That is something we could not have done before.

16
00:00:52,000 --> 00:00:55,000
NASA’s Operation Ice Bridge

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00:00:55,000 --> 00:00:58,000
over the past decade has been instrumental in gathering the

18
00:00:58,000 --> 00:01:02,000
datasets that help drive our model.

19
00:01:02,000 --> 00:01:06,000
Narrator: This model gives us a more accurate picture of how greenhouse gas

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00:01:06,000 --> 00:01:10,270
emissions may affect Greenland - and us - in the future.

21
00:01:10,270 --> 00:01:14,000
Andy: Of the three scenarios that we tested there was one sort

22
00:01:14,000 --> 00:01:17,000
of a low emissions, medium emissions,

23
00:01:17,000 --> 00:01:24,000
and high emission scenario. And,

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00:01:24,000 --> 00:01:28,000
at the moment, it looks like we’re on the highest scenario.

25
00:01:28,000 --> 00:01:31,000
The three different scenarios lead to

26
00:01:31,000 --> 00:01:34,000
basically three different futures, three different Greenlands.

27
00:01:34,000 --> 00:01:38,000
If we choose the path we are on right now,

28
00:01:38,000 --> 00:01:42,000
if we stay on that path, there is actually good chance that within 1000

29
00:01:42,000 --> 00:01:45,000
years or so, the whole Ice Sheet

30
00:01:45,000 --> 00:01:48,000
will be gone.

31
00:01:48,000 --> 00:01:55,000
Narrator: These scenarios show that the melting ice could contribute at least 80% more sea level rise than prev