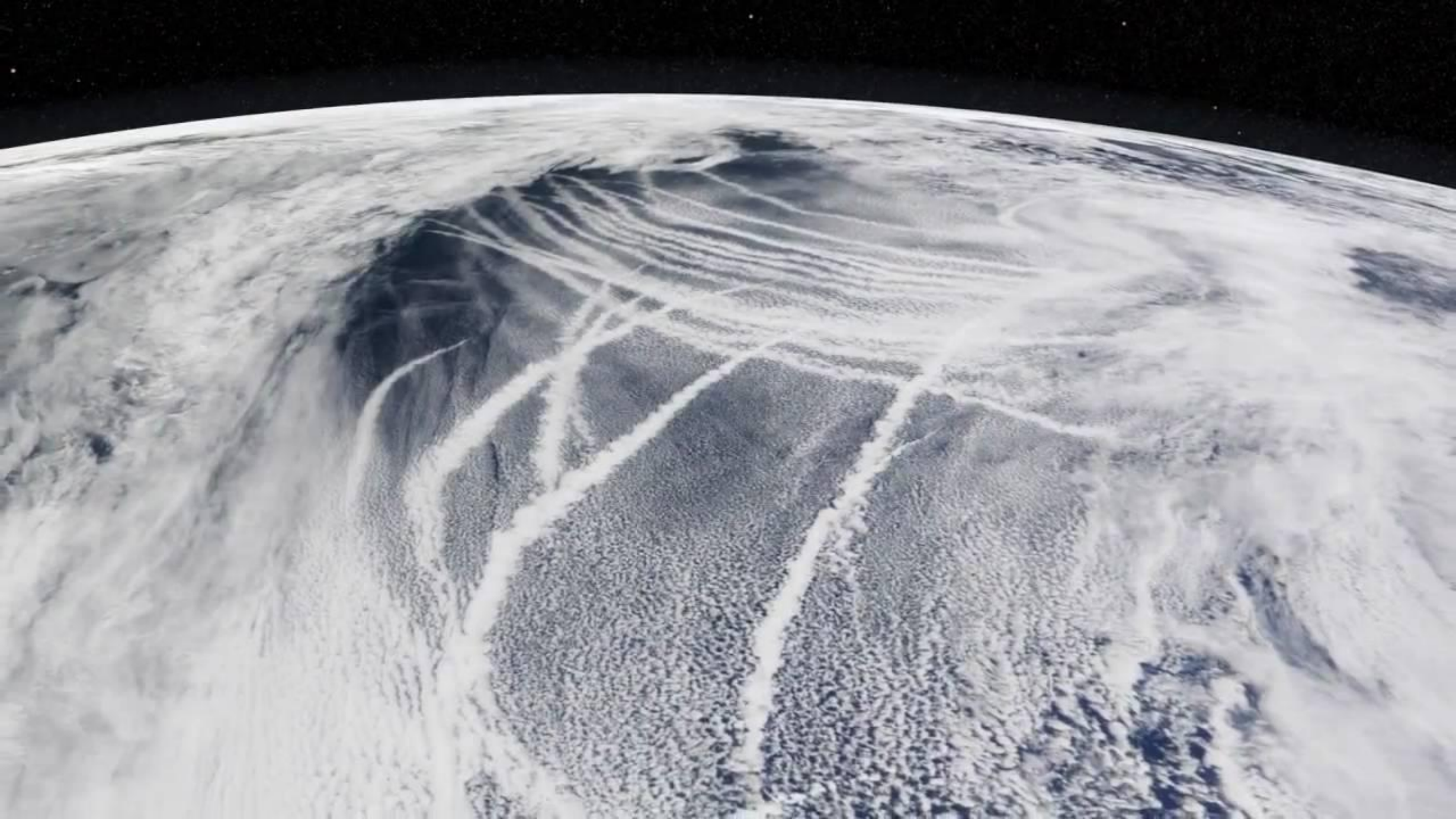

1
00:00:11,980 --> 00:00:03,980
[music]

2
00:00:12,000 --> 00:00:15,980
The Earth is a bright planet.

3
00:00:16,000 --> 00:00:19,980
From space, we can see why. More than half our world is covered with clouds

4
00:00:20,000 --> 00:00:23,980
at any one time. Those clouds reflect

5
00:00:24,000 --> 00:00:27,980
a lot of sunlight back to space, helping keep our planet relatively cool.

6
00:00:28,000 --> 00:00:31,980
But a NASA satellite instrument called MODIS is showing us

7
00:00:32,000 --> 00:00:35,980
that humans can change our planet's brightness.

8
00:00:36,000 --> 00:00:39,980
The pollution we put into the atmosphere actually alters clouds.

9
00:00:40,000 --> 00:00:43,980
The best way to see this is to look for signs of pollution in areas that have

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00:00:44,000 --> 00:00:47,980
otherwise clean air, like the north Pacific, near the Aleutian islands.

11
00:00:48,000 --> 00:00:51,980
In clean ocean air, water vapor condenses

12
00:00:52,000 --> 00:00:55,980
around salt particles and marine sulfate particles, creating clouds.

13
00:00:56,000 --> 00:00:59,980

To the naked eye, the clouds in the north Pacific all look

14
00:01:00,000 --> 00:01:03,980
about the same. But MODIS' sensor reveals a different story...

15
00:01:04,000 --> 00:01:07,980
... long skinny trails of brighter clouds

16
00:01:08,000 --> 00:01:11,980
hidden within. As ships travel across the ocean,

17
00:01:12,000 --> 00:01:15,980
sulfate particles in their exhaust create more cloud drops that are smaller in size

18
00:01:16,000 --> 00:01:19,980
resulting in even brighter clouds. And, on clear days,

19
00:01:20,000 --> 00:01:23,980
ships can actually create new clouds.

20
00:01:24,000 --> 00:01:27,980
Water vapor condenses around particles of pollution, forming streamers

21
00:01:28,000 --> 00:01:31,990
of clouds as the ships travel on.

22
00:01:32,010 --> 00:01:35,990
Could air pollution actually curb global warming by making our planet brighter and more reflective?

23
00:01:36,010 --> 00:01:39,990
Scientists are studying the phenomenon, but

24
00:01:40,010 --> 00:01:43,990
scientists say it's not likely to significantly slow global warming.

25
00:01:44,010 --> 00:01:47,990
The heat-trapping effect of greenhouse gases, many of which lurk in the same pollution,

26
00:01:48,010 --> 00:01:51,990
will most likely keep temperatures on the rise.