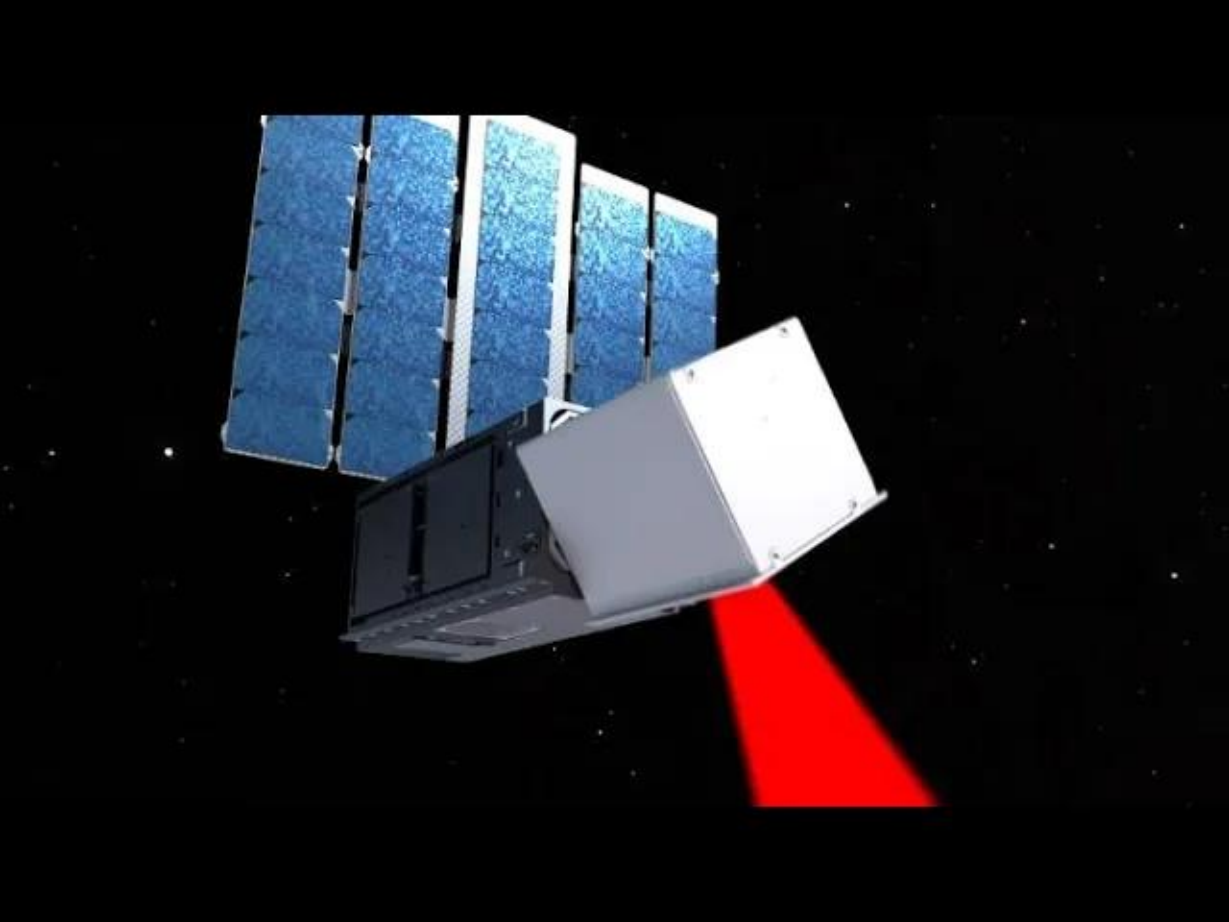

1
00:00:00,000 --> 00:00:01,961
Here’s a question,

2
00:00:01,966 --> 00:00:09,533
How does a group of satellites, each no more than a foot long, help improve forecasts for tropical storms and h

3
00:00:09,533 --> 00:00:10,600
Let's take a look.

4
00:00:11,433 --> 00:00:15,700
Hurricanes are some of the most powerful and destructive weather events on Earth.

5
00:00:16,233 --> 00:00:24,000
The 2020 Atlantic hurricane season was one of the most brutal on record, producing a record-breaking 30 nam

6
00:00:24,700 --> 00:00:29,566
What’s more, a record-tying 10 of those storms were characterized as rapidly intensifying,

7
00:00:29,566 --> 00:00:34,066
some throttling up by 100 miles per hour in under two days.

8
00:00:34,400 --> 00:00:39,400
Many weather satellites will generally measure a storm only once every few hours,

9
00:00:39,400 --> 00:00:42,900
leaving gaps in coverage where a storm may quickly strengthen.

10
00:00:44,085 --> 00:00:48,288
To help fill this observation gap, NASA is launching TROPICS;

11
00:00:48,590 --> 00:00:54,759
a collection of 6 small satellites designed to make a big impact on our understanding of damaging storms.

12
00:00:55,566 --> 00:01:02,700
Their mission: to provide near-hourly observations of a storm's precipitation, temperature, and humidity,

13
00:01:02,700 --> 00:01:06,966

allowing scientists to better understand what drives a storm’s intensification.

14
00:01:07,466 --> 00:01:13,533
To achieve this, researchers at MIT’s Lincoln Laboratory developed a miniaturized microwave radiometer

15
00:01:13,533 --> 00:01:16,300
that’s about the size of a cup of coffee.

16
00:01:16,300 --> 00:01:24,566
This small instrument will measure storm strength by detecting the thermal radiation naturally emitted by the ox

17
00:01:25,300 --> 00:01:31,566
As Earth’s climate continues to change, cost-effective, but powerful, satellites like TROPICS will be an