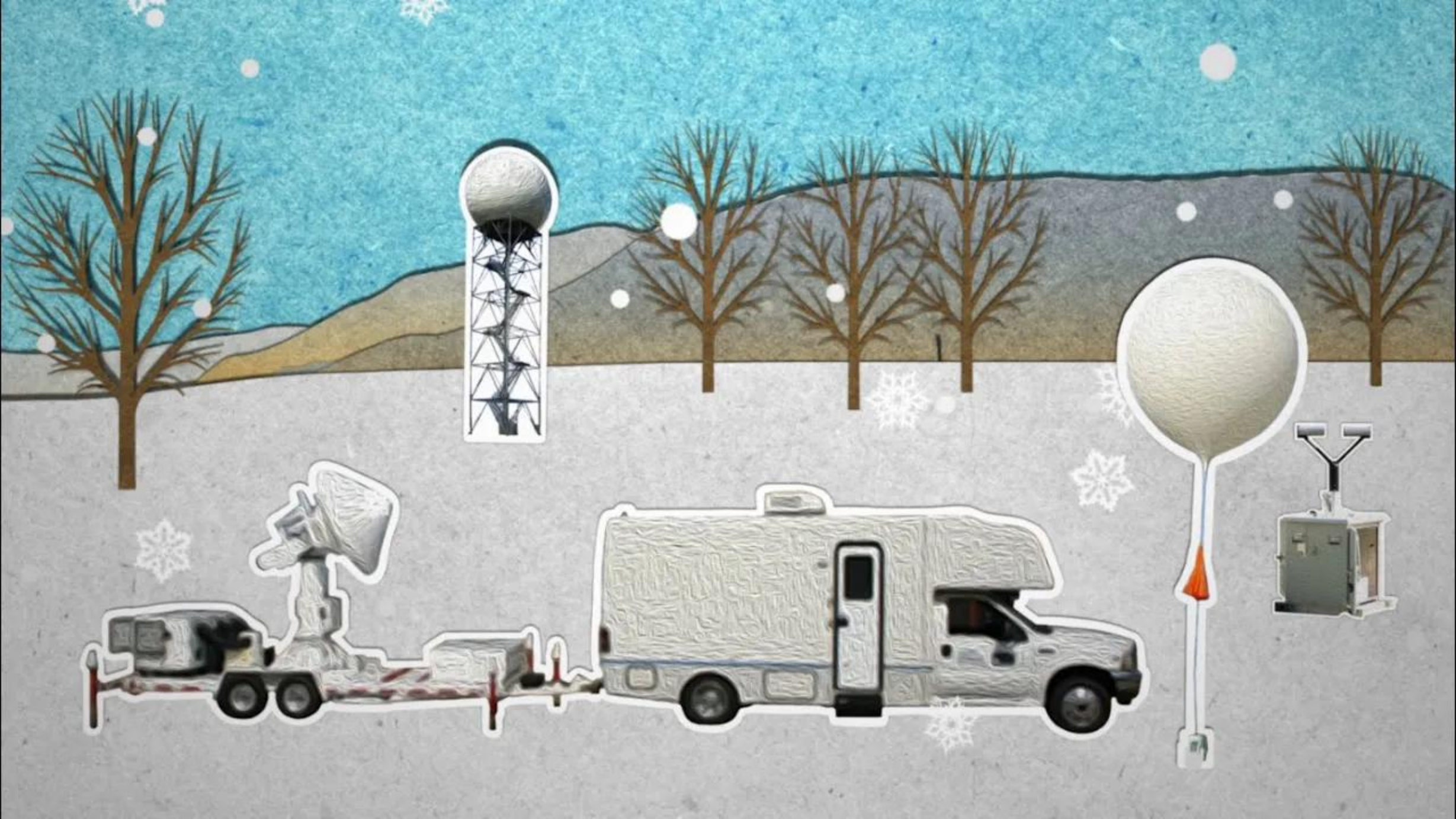

1
00:00:00,000 --> 00:00:03,000
Narrator: The snow day.

2
00:00:03,000 --> 00:00:06,000
For some, a cozy winter wonderland.

3
00:00:06,000 --> 00:00:12,000
For others, it means hazardous roads and lots of shoveling.

4
00:00:12,000 --> 00:00:15,000
Snowstorms are among the most difficult storms to measure from space

5
00:00:15,000 --> 00:00:19,000
and for forecast models to predict.

6
00:00:19,000 --> 00:00:23,000
The same storm can bring vastly different snowfall totals to nearby areas.

7
00:00:23,000 --> 00:00:26,000
This creates a lot of uncertainty for how a storm

8
00:00:26,000 --> 00:00:29,000
will impact those living in its path.

9
00:00:29,000 --> 00:00:34,000
Dr. Lynn McMurdie: The thing is about snowstorms is they may be really broad in general

10
00:00:34,000 --> 00:00:38,000
but specifics inside them, there’s some places that get a lot of snow and a lot of places that don’t.

11
00:00:38,000 --> 00:00:43,000
The ones that get a lot of snow are usually because they are underneath these narrow regions called snowban

12
00:00:43,000 --> 00:00:47,820
and we don’t understand how those snowbands form

13
00:00:47,820 --> 00:00:50,000

and become regions of intense snowfall.

14
00:00:50,000 --> 00:00:54,000
So, we've decided we need to go out there and measure them better in order to help improve our forecasting

15
00:00:54,000 --> 00:00:58,000
Narrator: NASA's Investigation of Microphysics and Precipitation for

16
00:00:58,000 --> 00:01:03,000
Atlantic Coast-Threatening Snowstorms, or IMPACTS campaign,

17
00:01:03,000 --> 00:01:07,820
will take a comprehensive look at the mechanics of East Coast snowstorms

18
00:01:07,820 --> 00:01:11,820
in hopes to improve forecast models.

19
00:01:11,820 --> 00:01:15,820
From the ground, Doppler radar will track snowfall distribution

20
00:01:15,820 --> 00:01:19,820
and intensity, this will be alongside weather balloons

21
00:01:19,820 --> 00:01:23,820
that will be released to gather profiles of the storm.

22
00:01:23,820 --> 00:01:27,820
A little higher up, NASA's P3 aircraft

23
00:01:27,820 --> 00:01:31,820
will fly inside the snow-producing clouds to see

24
00:01:31,820 --> 00:01:35,820
what type of snow is developing, as well as deploy instruments

25
00:01:35,820 --> 00:01:39,820
that will gather profile measurements of temperature, humidity, and wind.

26
00:01:39,820 --> 00:01:43,000
And above the storm,

27
00:01:43,000 --> 00:01:47,820
NASA’s ER-2 aircraft will monitor the snowstorm using the same

28
00:01:47,820 --> 00:01:51,820
instruments as satellites. The radar will allow scientists

29
00:01:51,820 --> 00:01:55,000
to see inside the clouds and help improve

30
00:01:55,000 --> 00:01:59,820
how snowstorms are studied from space.

31
00:01:59,820 --> 00:02:03,820
This multi-institutional study will be conducted

32
00:02:03,820 --> 00:02:06,000
over the next three winters, with the team hoping to profile

33
00:02:06,000 --> 00:02:11,000
as many storms as possible.

34
00:02:11,000 --> 00:02:15,820
This study aims to close the knowledge gap on snowstorms