1
00:00:05,670 --> 00:00:03,510
looking at severe weather event after

2
00:00:09,350 --> 00:00:05,680
severe weather event we found it to be

3
00:00:11,190 --> 00:00:09,360
important to study cloud tops

4
00:00:13,910 --> 00:00:11,200
using this latest generation satellite

5
00:00:15,589 --> 00:00:13,920
technology we have found these clouds

6
00:00:16,630 --> 00:00:15,599
that are a bit odd and look a bit

7
00:00:18,870 --> 00:00:16,640
unusual

8
00:00:21,109 --> 00:00:18,880
it looks a bit like smoke and it also

9
00:00:24,150 --> 00:00:21,119
has a very warm appearance

10
00:00:27,349 --> 00:00:24,160
when you look at storms that produce the

11
00:00:29,750 --> 00:00:27,359
really damaging tornadoes and large hail

12
00:00:32,310 --> 00:00:29,760
you're taking very unstable air hot and

13
00:00:34,389 --> 00:00:32,320

humid air near to the ground and raising

14
00:00:37,110 --> 00:00:34,399
it up into the upper atmosphere very

15
00:00:38,470 --> 00:00:37,120
very fast and then it hits the layer of

16
00:00:40,549 --> 00:00:38,480
the atmosphere above called the

17
00:00:43,350 --> 00:00:40,559
stratosphere

18
00:00:45,590 --> 00:00:43,360
clouds that are especially strong eject

19
00:00:47,990 --> 00:00:45,600
into the stratosphere it's like a smoke

20
00:00:49,430 --> 00:00:48,000
plume emerging from those bubbling

21
00:00:51,590 --> 00:00:49,440
updrafts

22
00:00:53,590 --> 00:00:51,600
and because the stratosphere is warmer

23
00:00:55,110 --> 00:00:53,600
you can see this pattern

24
00:00:58,069 --> 00:00:55,120
one of the most exciting things that we

25
00:01:00,630 --> 00:00:58,079
found in this research is that over 85

26
00:01:03,189 --> 00:01:00,640
of the really damaging storms produce

27
00:01:05,670 --> 00:01:03,199
this kind of smoke-like plume and also

28
00:01:07,910 --> 00:01:05,680
this plume pattern tends to occur about

29
00:01:09,990 --> 00:01:07,920
30 minutes prior to when the severe

30
00:01:12,230 --> 00:01:10,000
weather events are happening and so this

31
00:01:14,950 --> 00:01:12,240
is especially valuable for the public at

32
00:01:17,190 --> 00:01:14,960
large a forecaster can instantly see

33
00:01:18,390 --> 00:01:17,200
this pattern when it emerges in a cloud

34
00:01:20,230 --> 00:01:18,400
and they're going to be able to issue

35
00:01:22,789 --> 00:01:20,240
warnings faster and tell people to take

36
00:01:24,870 --> 00:01:22,799
cover or get their belongings inside

37
00:01:27,109 --> 00:01:24,880
satellites observe everywhere all the

38
00:01:29,109 --> 00:01:27,119

time so being able to do something that

39
00:01:31,510 --> 00:01:29,119
helps warning just from a satellite