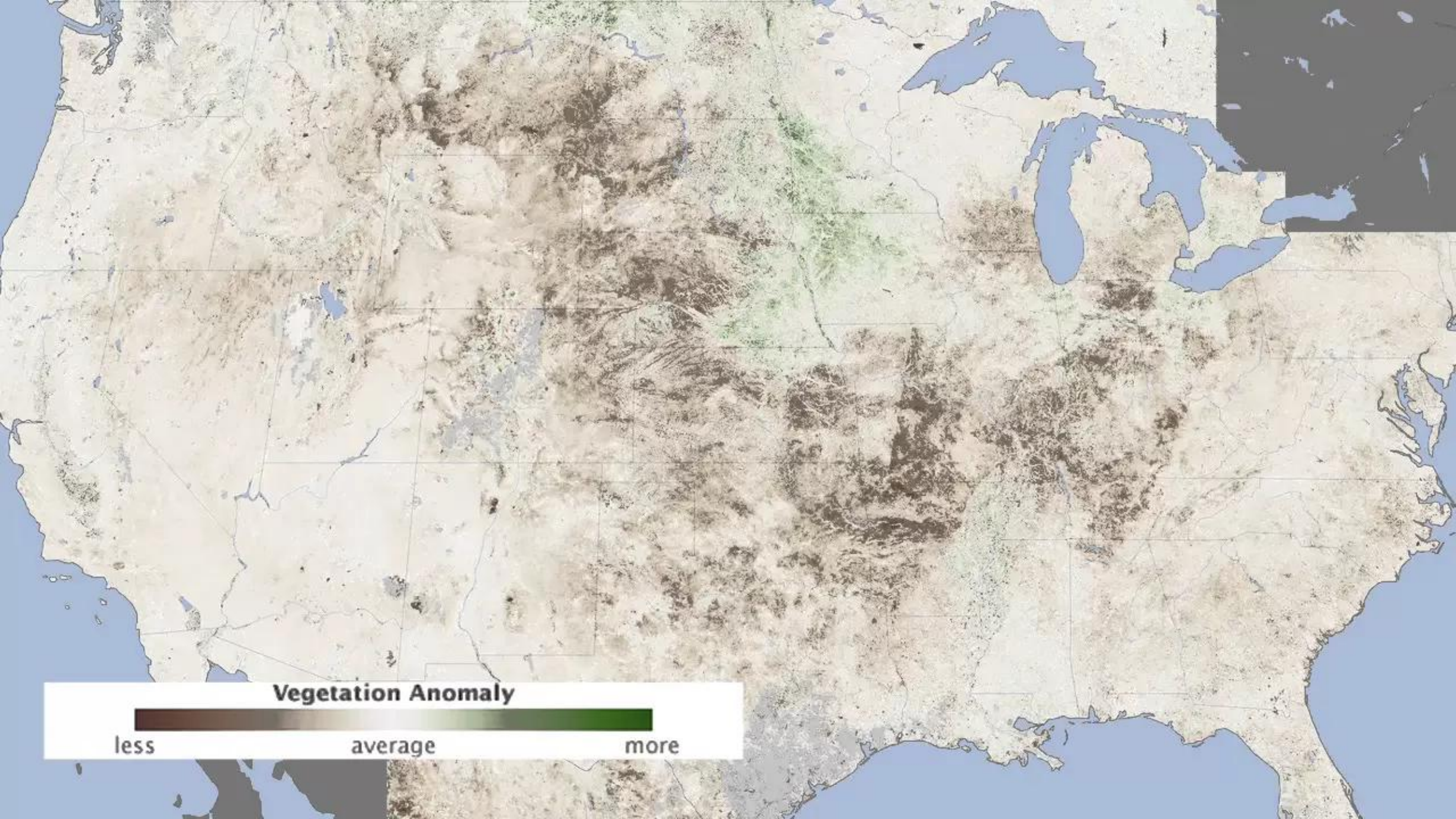
Vegetation Anomaly
less
average
more

1
00:00:10,199 --> 00:00:08,249
my name is Doug Martin I work at the

2
00:00:12,060 --> 00:00:10,209
Goddard Space Flight Center I use NASA

3
00:00:14,640 --> 00:00:12,070
satellites to understand how fires burn

4
00:00:16,049 --> 00:00:14,650
across the globe and how those fires

5
00:00:17,990 --> 00:00:16,059
released carbon emissions into the

6
00:00:20,640 --> 00:00:18,000
atmosphere contributes to global warming

7
00:00:22,439 --> 00:00:20,650
climate and the dryness of the climate

8
00:00:24,900 --> 00:00:22,449
conditions influences fire weather

9
00:00:27,839 --> 00:00:24,910
everywhere whether you're in Australia

10
00:00:31,019 --> 00:00:27,849
or Greece Southern California or across

11
00:00:33,750 --> 00:00:31,029
the entire North American continent 2012

12
00:00:36,240 --> 00:00:33,760
was a very dry year that dryness is

13
00:00:39,110 --> 00:00:36,250

associated with turning forests and

14
00:00:43,080 --> 00:00:39,120
grasslands into a flammable mixture of

15
00:00:44,550 --> 00:00:43,090
dead material the long history of

16
00:00:46,980 --> 00:00:44,560
observations we have from NASA

17
00:00:48,720 --> 00:00:46,990
satellites about how and where fires

18
00:00:50,490 --> 00:00:48,730
burn across the globe helps us

19
00:00:52,380 --> 00:00:50,500
understand what the climate conditions

20
00:00:53,940 --> 00:00:52,390
are when those fires are burning as

21
00:00:56,400 --> 00:00:53,950
climate conditions are really important

22
00:00:58,440 --> 00:00:56,410
as we look towards the future trying to

23
00:01:00,180 --> 00:00:58,450
understand how fire weather may change

24
00:01:03,420 --> 00:01:00,190
under projections of future climate

25
00:01:05,880 --> 00:01:03,430
change most of the climate models

26
00:01:08,160 --> 00:01:05,890
project an increase in the risk of fire

27
00:01:10,770 --> 00:01:08,170
activity based purely on how dry the

28
00:01:12,740 --> 00:01:10,780
conditions will be in the future when we

29
00:01:15,690 --> 00:01:12,750
look at this we see it in two different

30
00:01:18,960 --> 00:01:15,700
respects the first is that we expect

31
00:01:21,540 --> 00:01:18,970
more extreme events events like 2012

32
00:01:23,130 --> 00:01:21,550
across the western US we have very dry

33
00:01:25,530 --> 00:01:23,140
conditions that persist for several

34
00:01:27,630 --> 00:01:25,540
months are associated with lots of fire

35
00:01:30,390 --> 00:01:27,640
activity if we look for those same kinds

36
00:01:32,370 --> 00:01:30,400
of dry events in the future we see that

37
00:01:35,850 --> 00:01:32,380
something that so once a decade event

38
00:01:37,920 --> 00:01:35,860

under today's climate might be three or

39
00:01:41,580 --> 00:01:37,930
five years in every decade by the middle

40
00:01:43,649 --> 00:01:41,590
and end of the century when we look at

41
00:01:46,920 --> 00:01:43,659
the climate projections we look to see

42
00:01:48,570 --> 00:01:46,930
what the strength of these changes will

43
00:01:50,550 --> 00:01:48,580
be under different climate scenarios

44
00:01:51,870 --> 00:01:50,560
actually the risks of fires and

45
00:01:55,230 --> 00:01:51,880
particularly the risk of these extreme

46
00:01:57,030 --> 00:01:55,240
events is much lower under an emission

47
00:01:59,340 --> 00:01:57,040
scenario that suggests we're making

48
00:02:00,980 --> 00:01:59,350
strides against reducing our global

49
00:02:03,270 --> 00:02:00,990
warming greenhouse gas emission if

50
00:02:05,609 --> 00:02:03,280
instead we look towards a scenario where

51
00:02:07,710 --> 00:02:05,619
we continue to heavily reliant on fossil

52
00:02:10,169 --> 00:02:07,720
fuels we see that by the middle of the

53
00:02:11,610 --> 00:02:10,179
century the frequency of these extreme

54
00:02:14,160 --> 00:02:11,620
fire weather events is likely to