1
00:00:17,420 --> 00:00:14,810
every year thousands of acres of

2
00:00:22,040 --> 00:00:17,430
Southern California fires are wiped out

3
00:00:24,439 --> 00:00:22,050
by wildfire that's why be so surprised

4
00:00:26,750 --> 00:00:24,449
to see crews from Los Angeles County

5
00:00:28,279 --> 00:00:26,760
Fire Department actually sending the

6
00:00:32,030 --> 00:00:28,289
blades in the San Gabriel Mountains

7
00:00:34,700 --> 00:00:32,040
about 17 using a ground-based device on

8
00:00:42,880 --> 00:00:34,710
the territory and a pellet or jumping

9
00:00:47,779 --> 00:00:45,290
the goal was to prevent a larger

10
00:00:51,229 --> 00:00:47,789
potentially catastrophic wildfire in

11
00:00:53,240 --> 00:00:51,239
this area of heavy dead vegetation but

12
00:00:55,670 --> 00:00:53,250
the controlled burn also served another

13
00:00:58,160 --> 00:00:55,680

purpose it gave numerous scientific

14
00:01:00,469 --> 00:00:58,170
groups including two from NASA an

15
00:01:03,370 --> 00:01:00,479
opportunity to study the impact of

16
00:01:05,680 --> 00:01:03,380
natural fires on our environment

17
00:01:07,960 --> 00:01:05,690
a primary concern is the effect of

18
00:01:10,300 --> 00:01:07,970
large-scale burning on our atmosphere

19
00:01:11,890 --> 00:01:10,310
according to a scientist from NASA's

20
00:01:15,550 --> 00:01:11,900
Langley Research Center in Hampton

21
00:01:18,130 --> 00:01:15,560
Virginia Joel Levine we have evidence

22
00:01:20,080 --> 00:01:18,140
that certain gases are building up we

23
00:01:23,920 --> 00:01:20,090
have evidence that climate may in fact

24
00:01:28,300 --> 00:01:23,930
be changing it turns out that burning

25
00:01:31,360 --> 00:01:28,310
biomass forests vegetation grass shrubs

26
00:01:33,910 --> 00:01:31,370
is a very important source of a number

27
00:01:37,840 --> 00:01:33,920
of these gases that have very important

28
00:01:40,090 --> 00:01:37,850
environmental impacts one significant

29
00:01:43,150 --> 00:01:40,100
gas produced by burning vegetation is

30
00:01:45,790 --> 00:01:43,160
carbon dioxide computer models suggest

31
00:01:48,040 --> 00:01:45,800
that if the level of carbon dioxide in

32
00:01:49,930 --> 00:01:48,050
the atmosphere is doubled the average

33
00:01:53,440 --> 00:01:49,940
temperature of the earth will go up

34
00:01:55,390 --> 00:01:53,450
three to four degrees result could be

35
00:01:58,300 --> 00:01:55,400
extensive melting at the North and South

36
00:02:00,749 --> 00:01:58,310
Poles causing widespread flooding in

37
00:02:02,890 --> 00:02:00,759
coastal areas around the world

38
00:02:04,600 --> 00:02:02,900

agricultural growing patterns could also

39
00:02:06,940 --> 00:02:04,610
be dramatically change

40
00:02:09,999 --> 00:02:06,950
crops now harvested in the central us

41
00:02:12,040 --> 00:02:10,009
for example might only grow in Canada to

42
00:02:14,260 --> 00:02:12,050
determine how much carbon dioxide and

43
00:02:16,960 --> 00:02:14,270
other so-called greenhouse gases were

44
00:02:19,420 --> 00:02:16,970
coming off the Lodi Canyon burn Langley

45
00:02:21,610 --> 00:02:19,430
researcher Randy Cofer working aboard a

46
00:02:24,490 --> 00:02:21,620
fire department helicopter flew through

47
00:02:26,590 --> 00:02:24,500
the smoke globe collecting samples these

48
00:02:31,270 --> 00:02:26,600
are currently being analyzed at the mess

49
00:02:33,840 --> 00:02:31,280
ascent plugin might be some soil is

50
00:02:38,970 --> 00:02:36,110
natural fire from a different angle

51
00:02:40,860 --> 00:02:38,980
65,000 feet above is another group 0

52
00:02:46,800 --> 00:02:40,870
muscle circular sister Ames Research

53
00:02:50,420 --> 00:02:46,810
Center in Mountain wheeler telephonic to

54
00:02:50,430 --> 00:02:55,020
your eyes

55
00:02:58,170 --> 00:02:56,940
looks like we do have some of the

56
00:03:00,809 --> 00:02:58,180
thermal activity coming through a

57
00:03:02,610 --> 00:03:00,819
smartphone from imagery generated by the

58
00:03:05,070 --> 00:03:02,620
airborne scanner during the load I

59
00:03:07,949 --> 00:03:05,080
inspire idea NASA research scientist Jim

60
00:03:09,809 --> 00:03:07,959
brass scholars and writers portions and

61
00:03:11,699 --> 00:03:09,819
determine a significantly higher istics

62
00:03:14,190 --> 00:03:11,709
of the blade solberg is tempted or

63
00:03:15,960 --> 00:03:14,200

signal we have seen the smoke see what

64
00:03:18,059 --> 00:03:15,970
we have what we're trying to do is

65
00:03:20,520 --> 00:03:18,069
develop a tool to predict what Langley

66
00:03:23,190 --> 00:03:20,530
collects essentially they know for a

67
00:03:25,620 --> 00:03:23,200
fact the types of gases and where they

68
00:03:27,270 --> 00:03:25,630
were collected so what we do is we use

69
00:03:30,090 --> 00:03:27,280
Langley's data as what we call the

70
00:03:32,400 --> 00:03:30,100
ground truth the basic information we

71
00:03:34,290 --> 00:03:32,410
overlay are remotely sends data on the

72
00:03:35,910 --> 00:03:34,300
top of that and hopefully looking those

73
00:03:37,949 --> 00:03:35,920
together we can put a model together

74
00:03:40,470 --> 00:03:37,959
that may predict not only on a local

75
00:03:42,180 --> 00:03:40,480
basis but a regional and global basis

76
00:03:47,880 --> 00:03:42,190
what fire is actually doing from the

77
00:03:50,400 --> 00:03:47,890
standpoint of atmospherics studying

78
00:03:53,370 --> 00:03:50,410
forest fires and effort by NASA to