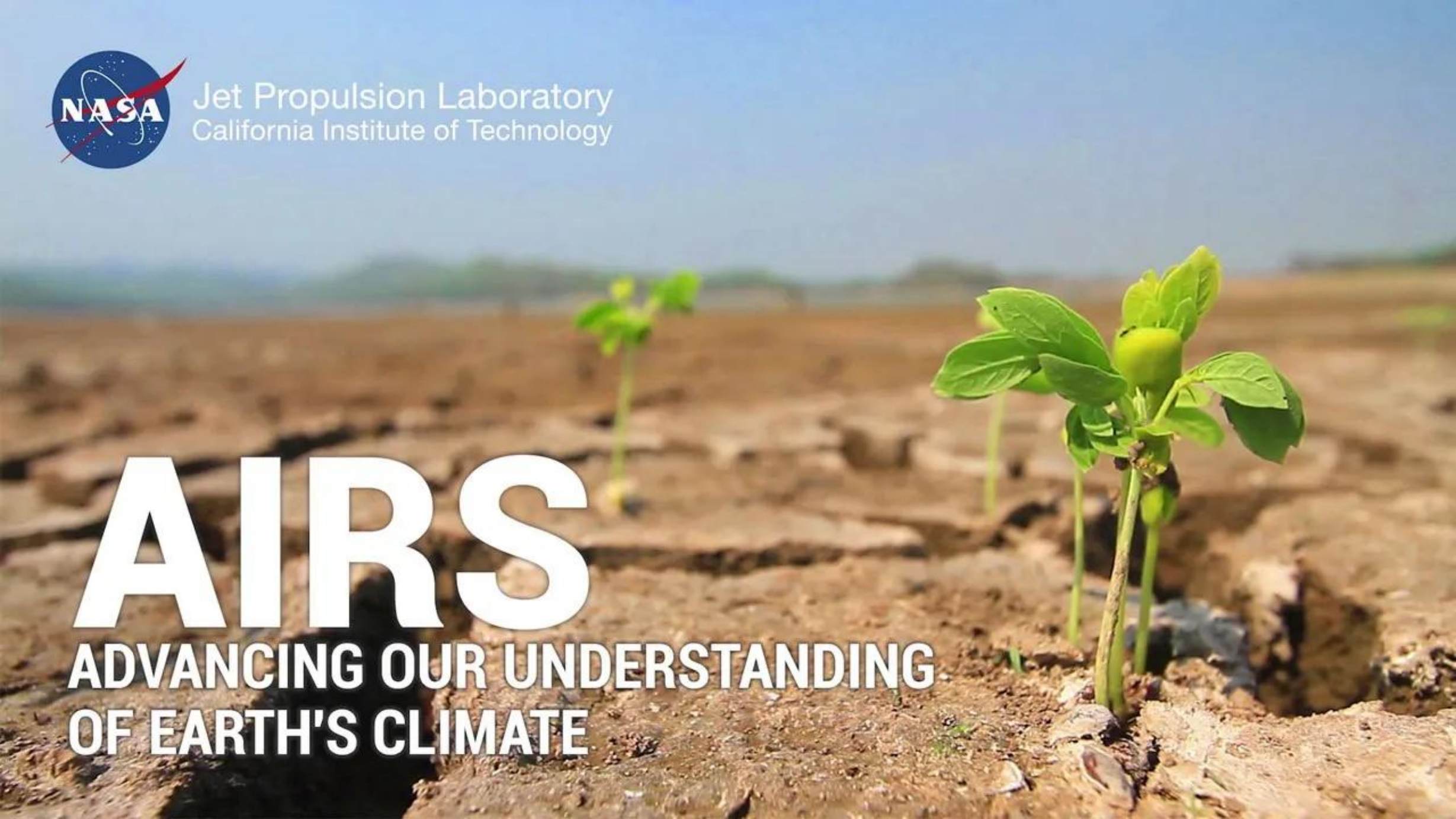
Jet Propulsion Laboratory
California Institute of Technology
AIRS
ADVANCING OUR UNDERSTANDING
OF EARTH'S CLIMATE

1
00:00:00,310 --> 00:00:04,789
[Music]

2
00:00:07,829 --> 00:00:06,309
every person in the world is affected by

3
00:00:10,390 --> 00:00:07,839
heirs

4
00:00:12,789 --> 00:00:10,400
it's the atmospheric infrared sounder a

5
00:00:14,870 --> 00:00:12,799
revolutionary instrument that is able to

6
00:00:16,950 --> 00:00:14,880
look at the infrared the thermal

7
00:00:18,870 --> 00:00:16,960
radiation that is emitted by the earth

8
00:00:20,230 --> 00:00:18,880
and by the atmosphere

9
00:00:21,830 --> 00:00:20,240
heirs is the first instrument to

10
00:00:24,280 --> 00:00:21,840
actually be able to do something like

11
00:00:34,630 --> 00:00:24,290
this

12
00:00:39,350 --> 00:00:37,270
it was designed to provide data to help

13
00:00:40,630 --> 00:00:39,360

improve weather forecasting and to help

14
00:00:41,990 --> 00:00:40,640
us understand what's going on with

15
00:00:44,549 --> 00:00:42,000
climate

16
00:00:46,229 --> 00:00:44,559
because it lasted so long it allows us

17
00:00:48,630 --> 00:00:46,239
to have a record of climate change that

18
00:00:50,790 --> 00:00:48,640
is completely unique so it shifted from

19
00:00:53,510 --> 00:00:50,800
being a revolutionary weather mission to

20
00:00:55,350 --> 00:00:53,520
being a revolutionary climate mission

21
00:00:58,069 --> 00:00:55,360
climate is all about understanding

22
00:00:59,990 --> 00:00:58,079
trends the longer the data set is the

23
00:01:02,310 --> 00:01:00,000
better you'll be able to understand

24
00:01:04,710 --> 00:01:02,320
what's going on now we have a 20-year

25
00:01:07,590 --> 00:01:04,720
data record that data set in itself will

26
00:01:09,350 --> 00:01:07,600
be looked at for the next 100 years or

27
00:01:11,590 --> 00:01:09,360
so or longer

28
00:01:19,990 --> 00:01:11,600
it will give people a glimpse into this

29
00:01:24,469 --> 00:01:22,230
the arctic's gone from being what it was

30
00:01:27,429 --> 00:01:24,479
30 or 40 years ago to what it is today

31
00:01:29,590 --> 00:01:27,439
which is a lot warmer a lot less cloudy

32
00:01:30,789 --> 00:01:29,600
a lot more water vapor which airs

33
00:01:33,030 --> 00:01:30,799
observes

34
00:01:36,230 --> 00:01:33,040
a lot less ice

35
00:01:38,950 --> 00:01:36,240
there's also this wealth of information

36
00:01:41,910 --> 00:01:38,960
in the air spectra about many different

37
00:01:43,109 --> 00:01:41,920
trace gases carbon monoxide

38
00:01:45,670 --> 00:01:43,119

ozone

39
00:01:53,270 --> 00:01:45,680
ammonia carbon dioxide

40
00:01:57,830 --> 00:01:55,350
one thing we can see in the air's data

41
00:01:59,749 --> 00:01:57,840
over time is large fire events

42
00:02:02,950 --> 00:01:59,759
throughout the world

43
00:02:07,270 --> 00:02:02,960
air pollution is a global problem we can

44
00:02:09,350 --> 00:02:07,280
see those plumes moving across the world

45
00:02:11,670 --> 00:02:09,360
airs data are used in the development of

46
00:02:13,750 --> 00:02:11,680
the u.s drought monitor

47
00:02:16,470 --> 00:02:13,760
we do produce results from heirs to

48
00:02:18,309 --> 00:02:16,480
understand how fluid spreading when the

49
00:02:19,910 --> 00:02:18,319
atmosphere is drier

50
00:02:23,190 --> 00:02:19,920
there appears to be a tendency for

51
00:02:25,589 --> 00:02:23,200
people to get the flu all those have

52
00:02:27,750 --> 00:02:25,599
enormous economic consequences

53
00:02:30,070 --> 00:02:27,760
and social consequences

54
00:02:31,830 --> 00:02:30,080
and this is why it matters

55
00:02:34,710 --> 00:02:31,840
errors is about decision making it's

56
00:02:36,309 --> 00:02:34,720
about using the data that we get from

57
00:02:38,630 --> 00:02:36,319
these space-borne instruments and

58
00:02:40,710 --> 00:02:38,640
applying them to critical challenges we

59
00:02:42,949 --> 00:02:40,720
have on earth right now

60
00:02:45,270 --> 00:02:42,959
the data that we've collected from ayers

61
00:02:46,949 --> 00:02:45,280
is vastly unexplored

62
00:02:49,430 --> 00:02:46,959
future generations will be able to

63
00:02:51,670 --> 00:02:49,440

extract much more important information

64
00:02:55,030 --> 00:02:51,680
and get a lot more insight into the