1
00:00:00,020 --> 00:00:04,130
[Holben]: Hello, my name is Brent Holben. I'm the

2
00:00:04,150 --> 00:00:08,180
project scientist for the AERONET project and I'd like to

3
00:00:08,200 --> 00:00:12,190
welcome you all to Mount AERONET here on the top of building 33

4
00:00:12,210 --> 00:00:16,240
where we provide calibration for all of our

5
00:00:16,260 --> 00:00:20,420
instruments that are in the network.

6
00:00:20,440 --> 00:00:24,420
AERONET is a relatively small program that

7
00:00:24,440 --> 00:00:28,600
is designed to measure aerosol concentrations and

8
00:00:28,620 --> 00:00:32,620
properties from a ground-based network

9
00:00:32,640 --> 00:00:36,660
of sun photometers, these guys here, for

10
00:00:36,680 --> 00:00:40,670
primarily for validation of satellite retrievals of aerosols.

11
00:00:40,690 --> 00:00:44,720
We know the energy at the top of the atmosphere. We're measuring it at

12
00:00:44,740 --> 00:00:48,900
the bottom of the atmosphere with these guys. We can actually point it

13
00:00:48,920 --> 00:00:52,950

at the sun. It has a filter wheel here that, uh,

14
00:00:52,970 --> 00:00:56,980
looks at nine spectral channels and we use

15
00:00:57,000 --> 00:01:01,150
that difference between the top and the bottom of the atmosphere

16
00:01:01,170 --> 00:01:05,190
to characterize the properties, as well as to measure

17
00:01:05,210 --> 00:01:09,220
the concentration of those aerosols. Also, there

18
00:01:09,240 --> 00:01:13,260
is a very large land surface community

19
00:01:13,280 --> 00:01:17,290
that doesn't care anything about aerosols, but they want to see what's going on with the

20
00:01:17,310 --> 00:01:21,290
vegetation and surface characteristics. So, they need to remove the

21
00:01:21,310 --> 00:01:25,290
atmosphere. So, the data from

22
00:01:25,310 --> 00:01:29,300
this basically provides that information to correct the

23
00:01:29,320 --> 00:01:33,330
satellite imagery so you can get a better view of the surface

24
00:01:33,350 --> 00:01:37,360
characterization. There's also the ocean community

25
00:01:37,380 --> 00:01:41,420
which is interested in ocean color and the concentration of chlorophyll and

26
00:01:41,440 --> 00:01:45,460
particulates in the water. And aerosols

27
00:01:45,480 --> 00:01:49,510
contributed approximately 90% of the signals, so it's very important

28
00:01:49,530 --> 00:01:53,520
to very accurately remove the aerosol signal

29
00:01:53,540 --> 00:01:57,700
from that satellite ocean color

30
00:01:57,720 --> 00:02:01,740
signal. All together, there are about 450

31
00:02:01,760 --> 00:02:05,940
sites worldwide and they're very well distributed.

32
00:02:05,960 --> 00:02:09,970
In all kinds of ecosystems and all kinds

33
00:02:09,990 --> 00:02:13,980
of aerosol environments. And as satellites

34
00:02:14,000 --> 00:02:18,020
come and go, this project is

35
00:02:18,040 --> 00:02:22,020
simple enough and robust enough that it

36
00:02:22,040 --> 00:02:26,050
keeps producing more and more information

37
00:02:26,070 --> 00:02:30,110
at a higher and higher data rate, at a higher and higher

38
00:02:30,130 --> 00:02:34,110

distribution. So, I suspect that

39
00:02:34,130 --> 00:02:38,120
in the long term, we're going to grow to several thousand

40
00:02:38,140 --> 00:02:42,300
instruments. And because it's a relatively

41
00:02:42,320 --> 00:02:46,310
inexpensive program, I think that the future