U.S. Air Quality

The Smog Blog

« Use of Standardized United States
/ Code Orange and Yellow

1
00:00:13,680 --> 00:00:07,600
[music]

2
00:00:13,700 --> 00:00:17,720
Has pollen got you sneezing? Wondering where that mysterious afternoon haze

3
00:00:17,740 --> 00:00:21,740
is coming from? How do you find out what's in the air you're breathing?

4
00:00:21,760 --> 00:00:25,760
For thousands of people each day, the answer's clear...

5
00:00:25,780 --> 00:00:29,840
... even if the air is not. Just a web click away, it's the Smog Blog.

6
00:00:29,860 --> 00:00:34,010
[Ray Hoff:] "The Smog Blog is a daily diary of

7
00:00:34,030 --> 00:00:38,040
pollution in the United States. We have students looking at air pollution

8
00:00:38,060 --> 00:00:42,060
across the country from NASA and NOAA assets, to tell

9
00:00:42,080 --> 00:00:46,080
public forecasters what's going on in the country."

10
00:00:46,100 --> 00:00:50,090
And the Smog Blog is not just for weather forecasters. Average Joes

11
00:00:50,110 --> 00:00:54,140
with hay fever, asthma, heart problems - and those with just a healthy curiosity

12
00:00:54,160 --> 00:00:58,190
about what's in the air, read the blog to get up-to-date,

13
00:00:58,210 --> 00:01:02,220

understandable air quality information. The NASA-funded

14
00:01:02,240 --> 00:01:06,240
team, led by physicist Ray Hoff, gathers ground information

15
00:01:06,260 --> 00:01:10,250
from their home base at the University of Maryland Baltimore County.

16
00:01:10,270 --> 00:01:14,300
First, they get a real-time view of current air quality

17
00:01:14,320 --> 00:01:18,330
by using high-tech instruments - like the sun photometer,

18
00:01:18,350 --> 00:01:22,370
which measures the thickness of the pollution layer...

19
00:01:22,390 --> 00:01:26,380
... and a laser-shooting instrument called LIDAR.

20
00:01:26,400 --> 00:01:30,390
It's similar to radar but it uses light instead of microwaves,

21
00:01:30,410 --> 00:01:34,460
bouncing a laser beam off of airborne particles to gauge the amount

22
00:01:34,480 --> 00:01:38,490
and kinds of pollutants.

23
00:01:38,510 --> 00:01:42,530
[Ray Hoff:] "The human respiratory system is designed so that most of the big particles

24
00:01:42,550 --> 00:01:46,550
are all taken out in your nose. They come out in your nasal passages.

25
00:01:46,570 --> 00:01:50,560
So particles that are smaller than two and a half microns in size, those particles

26
00:01:50,580 --> 00:01:54,610
get deep into the lungs. And so if you have respiratory problems like asthma,

27
00:01:54,630 --> 00:01:58,660
or if you have cardiopulmonary problems like you're

28
00:01:58,680 --> 00:02:02,700
predisposed to having high blood pressure and you could have a heart attack,

29
00:02:02,720 --> 00:02:06,730
those are the particles that we worry the most about."

30
00:02:06,750 --> 00:02:10,750
While the ground-based gear gets and accurate picture of what's happening

31
00:02:10,770 --> 00:02:14,810
today, it doesn't let the Smog Bloggers see into the future.

32
00:02:14,830 --> 00:02:18,860
For that, they turn to NASA satellites.

33
00:02:18,880 --> 00:02:22,890
Global satellite imagery lets the Smog Bloggers spot

34
00:02:22,910 --> 00:02:26,910
incoming particulate matter traveling aloft on air currents, like smoke

35
00:02:26,930 --> 00:02:30,930
from forest fires.

36
00:02:30,950 --> 00:02:34,980
[Ray Hoff:] "In the West, because of the predominance of forest fires - West and Canada,

37
00:02:35,000 --> 00:02:39,030
you'll see alot of smoke in the West in our blog posts and

38
00:02:39,050 --> 00:02:43,070

the kind of iconic pictures that came of the California fires that were

39
00:02:43,090 --> 00:02:47,100
shown on CNN over and over again, the public really

40
00:02:47,120 --> 00:02:51,120
latches onto the fact that satellites can tell them what's going at a day-to-day basis

41
00:02:51,140 --> 00:02:55,180
when they see these large events happening."

42
00:02:55,200 --> 00:02:59,240
So far, the Smog Blog's had over twenty million hits.

43
00:02:59,260 --> 00:03:03,340
Followers can watch pollution travel around the world from coal-fired plants,

44
00:03:03,360 --> 00:03:07,380
desert sandstorms,

45
00:03:07,400 --> 00:03:11,400
even volcanic eruptions. And for the students who blog?

46
00:03:11,420 --> 00:03:15,410
More even than a lesson in science, it's a chance

47
00:03:15,430 --> 00:03:19,470
to connect directly the people their research helps most.

48
00:03:19,490 --> 00:03:23,500
[Ray Hoff:] When you can put together a real-world application at the end of it that

49
00:03:23,520 --> 00:03:27,530
why it's important that you're doing this, it's alot easier for you to go to class