



1
00:00:05,990 --> 00:00:04,309
distant galaxies

2
00:00:08,310 --> 00:00:06,000
black holes

3
00:00:10,629 --> 00:00:08,320
the martian surface

4
00:00:13,190 --> 00:00:10,639
we all know nasa explores some of the

5
00:00:15,749 --> 00:00:13,200
most far out parts of space

6
00:00:18,870 --> 00:00:15,759
but nasa is also working on crucial

7
00:00:24,150 --> 00:00:18,880
research right in our own backyard

8
00:00:29,029 --> 00:00:26,550
earth science researchers david toll and

9
00:00:31,750 --> 00:00:29,039
ted engman have been involved in efforts

10
00:00:33,830 --> 00:00:31,760
to incorporate nasa satellite data into

11
00:00:35,030 --> 00:00:33,840
water management projects around the

12
00:00:37,190 --> 00:00:35,040
chesapeake

13
00:00:37,830 --> 00:00:37,200

part of the nasa mission is to protect

14

00:00:41,030 --> 00:00:37,840

the

15

00:00:43,190 --> 00:00:41,040

satellite data has a very unique and

16

00:00:45,270 --> 00:00:43,200

powerful role it can play in managing

17

00:00:47,029 --> 00:00:45,280

our resources

18

00:00:49,590 --> 00:00:47,039

the satellite gives us

19

00:00:51,750 --> 00:00:49,600

the synoptic picture of the total bay

20

00:00:54,069 --> 00:00:51,760

and if there are improvements we should

21

00:00:56,229 --> 00:00:54,079

be able to see them with the satellite

22

00:00:57,430 --> 00:00:56,239

data or if there's degradation that

23

00:01:00,869 --> 00:00:57,440

should it be

24

00:01:03,349 --> 00:01:00,879

able to be detected also

25

00:01:05,830 --> 00:01:03,359

this is the way nasa sees the chesapeake

26
00:01:08,710 --> 00:01:05,840
bay with one of its satellites called

27
00:01:14,149 --> 00:01:10,870
but as beautiful as it looks the

28
00:01:16,469 --> 00:01:14,159
chesapeake bay is in trouble

29
00:01:19,429 --> 00:01:16,479
four centuries of urban population

30
00:01:21,429 --> 00:01:19,439
growth have crippled the bay

31
00:01:23,830 --> 00:01:21,439
harming water quality and threatening

32
00:01:26,070 --> 00:01:23,840
the species that rely on a healthy

33
00:01:28,630 --> 00:01:26,080
ecosystem

34
00:01:29,990 --> 00:01:28,640
you can see if you fly over the bay you

35
00:01:32,390 --> 00:01:30,000
can see

36
00:01:34,630 --> 00:01:32,400
the difference in color in in the water

37
00:01:37,749 --> 00:01:34,640
and that's indicative of sediment or

38
00:01:38,789 --> 00:01:37,759

algae or some other type of

39

00:01:42,069 --> 00:01:38,799

problem

40

00:01:45,350 --> 00:01:42,079

area and i think the ability of

41

00:01:46,950 --> 00:01:45,360

satellite data to portray this without a

42

00:01:49,030 --> 00:01:46,960

single word

43

00:01:51,270 --> 00:01:49,040

you can you can see what what the

44

00:01:53,109 --> 00:01:51,280

situation is

45

00:01:55,749 --> 00:01:53,119

many of the pollutants that degrade the

46

00:01:59,670 --> 00:01:55,759

bay come from its watershed

47

00:02:03,429 --> 00:01:59,680

an enormous area of 64 000 square miles

48

00:02:05,590 --> 00:02:03,439

that covers parts of six states

49

00:02:07,990 --> 00:02:05,600

watershed runoff carries more pollutants

50

00:02:11,670 --> 00:02:08,000

when it travels over paved surfaces and

51
00:02:14,229 --> 00:02:11,680
cropland versus marshlander forests so

52
00:02:16,550 --> 00:02:14,239
land cover information from satellites

53
00:02:20,630 --> 00:02:16,560
helps bay managers predict the best

54
00:02:23,670 --> 00:02:20,640
places to curb watershed pollution

55
00:02:24,869 --> 00:02:23,680
the unique role that nasa can play

56
00:02:31,430 --> 00:02:24,879
in

57
00:02:33,990 --> 00:02:31,440
it provides an environment for

58
00:02:36,309 --> 00:02:34,000
the other agencies and state groups to

59
00:02:37,430 --> 00:02:36,319
look at the total picture of the bay and

60
00:02:40,470 --> 00:02:37,440
how

61
00:02:45,270 --> 00:02:40,480
various water quality indicators change

62
00:02:50,150 --> 00:02:48,309
such a fragile ecosystem that by being

63
00:02:51,910 --> 00:02:50,160

able to perhaps use satellite data to