1
00:00:19,910 --> 00:00:17,510
louisiana's delta region is a national

2
00:00:22,070 --> 00:00:19,920
resource providing much of this country

3
00:00:24,310 --> 00:00:22,080
shrimp and other fish products as well

4
00:00:26,310 --> 00:00:24,320
as oil and natural gas

5
00:00:28,150 --> 00:00:26,320
but many of the wetlands which serve as

6
00:00:30,550 --> 00:00:28,160
spawning grounds for its major fish

7
00:00:32,389 --> 00:00:30,560
crops are rapidly disappearing

8
00:00:34,709 --> 00:00:32,399
what makes the situation even more

9
00:00:37,750 --> 00:00:34,719
striking is that other parts of this

10
00:00:40,630 --> 00:00:37,760
same shoreline are actually growing

11
00:00:42,790 --> 00:00:40,640
it's this dual set of circumstances that

12
00:00:45,030 --> 00:00:42,800
has caught the attention of geologists

13
00:00:47,750 --> 00:00:45,040

doug rickman from nasa's stennis space

14
00:00:49,190 --> 00:00:47,760
center and louisiana state university's

15
00:00:51,590 --> 00:00:49,200
oscar hugh

16
00:00:53,910 --> 00:00:51,600
their focus today is a part of the coast

17
00:00:55,110 --> 00:00:53,920
where mud is accumulating and forming

18
00:00:57,189 --> 00:00:55,120
new land

19
00:00:59,990 --> 00:00:57,199
the mud is sediment from rivers which

20
00:01:02,150 --> 00:01:00,000
flow into the gulf but why it's washing

21
00:01:04,549 --> 00:01:02,160
ashore in certain areas and not in

22
00:01:06,950 --> 00:01:04,559
others is not well understood

23
00:01:09,830 --> 00:01:06,960
that's why hue also leads expeditions

24
00:01:11,990 --> 00:01:09,840
into the gulf itself the ocean floor in

25
00:01:14,710 --> 00:01:12,000
this area is essentially a broad

26
00:01:17,510 --> 00:01:14,720
featureless plane of sediment deposited

27
00:01:19,109 --> 00:01:17,520
by the echapolaya river a major branch

28
00:01:21,830 --> 00:01:19,119
of the mississippi

29
00:01:24,149 --> 00:01:21,840
using a variety of techniques hugh and

30
00:01:26,230 --> 00:01:24,159
his colleagues map the muddy bottom to

31
00:01:29,270 --> 00:01:26,240
determine the patterns by which sediment

32
00:01:30,950 --> 00:01:29,280
moves and land is gained to manage this

33
00:01:33,990 --> 00:01:30,960
environment we must understand how it

34
00:01:35,590 --> 00:01:34,000
naturally operates levying has gone on

35
00:01:37,030 --> 00:01:35,600
uh there are locks in the control

36
00:01:38,550 --> 00:01:37,040
structures going on some of these have

37
00:01:40,870 --> 00:01:38,560
been very valuable and others have had

38
00:01:42,789 --> 00:01:40,880

very serious negative consequences and

39
00:01:45,510 --> 00:01:42,799
as these environments change as land is

40
00:01:47,670 --> 00:01:45,520
lost or land is gained or

41
00:01:49,350 --> 00:01:47,680
land erosion takes place

42
00:01:50,389 --> 00:01:49,360
it has a serious effect on the economy

43
00:01:53,030 --> 00:01:50,399
here

44
00:01:54,710 --> 00:01:53,040
this scanner called cams at the nasa

45
00:01:56,870 --> 00:01:54,720
stennis center provides another

46
00:01:59,030 --> 00:01:56,880
perspective on the problem when

47
00:02:02,069 --> 00:01:59,040
installed on the learjet and flown over

48
00:02:04,789 --> 00:02:02,079
the study site cams produces imagery

49
00:02:06,870 --> 00:02:04,799
which with doug rickman's expertise

50
00:02:08,949 --> 00:02:06,880
clearly shows a growing delta at the

51
00:02:12,070 --> 00:02:08,959
mouth of the atchafalaya

52
00:02:15,589 --> 00:02:12,080
the yellow areas are exposed mud flats

53
00:02:17,750 --> 00:02:15,599
the image on the top is from march 1987

54
00:02:19,670 --> 00:02:17,760
below it is the same area less than a

55
00:02:21,430 --> 00:02:19,680
year later

56
00:02:24,470 --> 00:02:21,440
as rickman illustrates with this

57
00:02:26,390 --> 00:02:24,480
geologic map of the state sediment-rich

58
00:02:28,470 --> 00:02:26,400
waters from the mississippi being

59
00:02:30,949 --> 00:02:28,480
channeled down the atchafalaya are

60
00:02:33,750 --> 00:02:30,959
helping form this new delta

61
00:02:36,309 --> 00:02:33,760
the problem to the east near new orleans

62
00:02:38,630 --> 00:02:36,319
is that old delta regions levied off

63
00:02:39,830 --> 00:02:38,640

from the mississippi to prevent flooding

64
00:02:42,470 --> 00:02:39,840
are dying

65
00:02:44,470 --> 00:02:42,480
the goal is to reverse this trend or at

66
00:02:47,270 --> 00:02:44,480
least prevent further damage by better

67
00:02:49,830 --> 00:02:47,280
understanding sediment transport once we

68
00:02:52,309 --> 00:02:49,840
can understand that then we can tell

69
00:02:54,630 --> 00:02:52,319
people if you do this kind of action if

70
00:02:56,630 --> 00:02:54,640
you put a levee here if you'd like this

71
00:02:59,270 --> 00:02:56,640
or if you divert the water here

72
00:03:01,670 --> 00:02:59,280
this is the impact you're going to have

73
00:03:04,149 --> 00:03:01,680
this information could have applications

74
00:03:06,390 --> 00:03:04,159
in other coastal areas around the world

75
00:03:08,470 --> 00:03:06,400
and provide an important model for

76
00:03:11,670 --> 00:03:08,480
dealing with rising sea levels should

77
00:03:14,309 --> 00:03:11,680
global warming occur

78
00:03:17,589 --> 00:03:14,319
studying louisiana's delta