



1
00:00:09,669 --> 00:00:05,749

[Music]

2
00:00:12,310 --> 00:00:09,679

we're using radar to try to characterize

3
00:00:16,310 --> 00:00:12,320

oil within an oil slick what we want to

4
00:00:19,029 --> 00:00:16,320

do is to tell where's the thickest oil

5
00:00:20,950 --> 00:00:19,039

because most of the oil is in that thick

6
00:00:23,910 --> 00:00:20,960

layer and that's the part that they can

7
00:00:26,390 --> 00:00:23,920

take remediation equipment and get rid

8
00:00:30,220 --> 00:00:26,400

of the most harmful oil in the

9
00:00:30,230 --> 00:00:34,549

[Music]

10
00:00:39,990 --> 00:00:38,389

the radar called the uavsar hangs in a

11
00:00:44,709 --> 00:00:40,000

pod below

12
00:00:49,190 --> 00:00:47,270

i fly with the aircraft in the radar and

13
00:00:52,869 --> 00:00:49,200

look at the images as they're being

14

00:00:55,510 --> 00:00:52,879

collected i mean the aircraft flies this

15

00:00:59,470 --> 00:00:55,520

path and the radar collects an image

16

00:01:02,709 --> 00:00:59,480

swath that's about maybe 12 miles wide

17

00:01:02,719 --> 00:01:07,190

okay ready

18

00:01:11,270 --> 00:01:09,590

we have a drone that makes

19

00:01:12,390 --> 00:01:11,280

multi-spectral measurements from which

20

00:01:15,429 --> 00:01:12,400

we can derive

21

00:01:17,190 --> 00:01:15,439

thickness we have a sampler we actually

22

00:01:18,950 --> 00:01:17,200

put in the water that can measure oil

23

00:01:21,749 --> 00:01:18,960

thickness and kathleen's flying on the

24

00:01:24,310 --> 00:01:21,759

uav star so we have multiple layers of

25

00:01:25,590 --> 00:01:24,320

going up to verify our data and then

26

00:01:29,830 --> 00:01:25,600

translate it

27

00:01:32,950 --> 00:01:31,830

okay so right now we are we're

28

00:01:35,190 --> 00:01:32,960

flying a

29

00:01:38,149 --> 00:01:35,200

survey mission with a multi-spectral

30

00:01:39,830 --> 00:01:38,159

sensor so we are going to generate a map

31

00:01:42,389 --> 00:01:39,840

of this oil

32

00:01:46,789 --> 00:01:42,399

very thick actionable oil so we're gonna

33

00:01:50,950 --> 00:01:48,550

now we're getting ready to take a tube

34

00:01:53,350 --> 00:01:50,960

sample which is a direct measurement of

35

00:01:54,870 --> 00:01:53,360

the thickness of the oil thicker oil is

36

00:01:57,350 --> 00:01:54,880

what lasts the longest in the

37

00:01:59,670 --> 00:01:57,360

environment and does the most damage to

38

00:02:02,389 --> 00:01:59,680

marine life and the physical environment

39

00:02:05,510 --> 00:02:02,399

and that's the oil that the responders

40

00:02:07,429 --> 00:02:05,520

focus on in their cleanup

41

00:02:09,109 --> 00:02:07,439

the more we know about situations the

42

00:02:11,270 --> 00:02:09,119

better and having a ship right by santa

43

00:02:12,470 --> 00:02:11,280

barbara kind of made it easy and natural

44

00:02:13,750 --> 00:02:12,480

that the black thing would get to be

45

00:02:15,110 --> 00:02:13,760

involved in this kind of mission and

46

00:02:16,949 --> 00:02:15,120

it's just a great partnership between

47

00:02:19,589 --> 00:02:16,959

the coast guard and noaa we hope it

48

00:02:21,670 --> 00:02:19,599

continues to to grow and we're excited

49

00:02:24,949 --> 00:02:21,680

to be a part of that uavsar is a

50

00:02:28,229 --> 00:02:24,959

prototype for an upcoming nasa mission

51
00:02:30,790 --> 00:02:28,239
called nysar and so the methods that we

52
00:02:32,229 --> 00:02:30,800
develop here we can try to apply them to

53
00:02:34,470 --> 00:02:32,239
the data that we get from that

54
00:02:37,190 --> 00:02:34,480
instrument one of the things that makes

55
00:02:40,949 --> 00:02:37,200
this this whole thing possible and makes

56
00:02:42,790 --> 00:02:40,959
it impactful is that noah is so heavily

57
00:02:45,350 --> 00:02:42,800
involved in this they're actually

58
00:02:48,150 --> 00:02:45,360
leading this and the end game is to

59
00:02:50,630 --> 00:02:48,160
develop a way for noah

60
00:02:52,949 --> 00:02:50,640
to use this kind of remote sensing and

61
00:02:55,110 --> 00:02:52,959
automatically tell where the thicker oil

62
00:02:57,509 --> 00:02:55,120
is not just detect that they have a

63
00:03:00,630 --> 00:02:57,519

slick but that it's the thick part of

64

00:03:02,949 --> 00:03:00,640

the slick nasa partnering with noaa we