



1  
00:00:02,000 --> 00:00:18,500

[music]

2  
00:00:19,420 --> 00:00:21,000

Go ahead and fire up the engines

3  
00:00:21,000 --> 00:00:23,460

then you can turn on the

4  
00:00:23,460 --> 00:00:24,860

(unintelligible) lights on,

5  
00:00:24,860 --> 00:00:26,860

pressure's good. 20 per cent

6  
00:00:26,860 --> 00:00:28,860

(unintelligible)

7  
00:00:28,860 --> 00:00:33,580

[music]

8  
00:00:33,580 --> 00:00:42,000

[unintelligible cockpit and tower conversations]

9  
00:00:42,000 --> 00:00:44,000

Cleared for takeoff.

10  
00:00:44,000 --> 00:00:49,300

[music]

11  
00:00:49,880 --> 00:00:51,880

Takeoff at 21 41

12  
00:00:51,880 --> 00:00:54,540

[music]

13  
00:00:54,880 --> 00:00:57,940

We've got 14 miles 'til they start taking data.

14

00:00:58,360 --> 00:01:00,340

We've come to the Gulf with this UAVSAR instrument

15

00:01:00,340 --> 00:01:02,200

so that we can try to image

16

00:01:02,210 --> 00:01:05,500

the oil spill and the effects on the coastline,

17

00:01:05,500 --> 00:01:08,200

the whole Gulf coastline.

18

00:01:11,240 --> 00:01:12,980

We're trying to get what's called a baseline

19

00:01:12,980 --> 00:01:15,640

so we come and we image the area before

20

00:01:15,649 --> 00:01:17,900

most of the oil has hit

21

00:01:17,900 --> 00:01:19,580

and then we will come back later

22

00:01:19,580 --> 00:01:22,340

and image after the oil has hit.

23

00:01:24,520 --> 00:01:28,380

This airplane has a precision  
path auto pilot

24

00:01:28,380 --> 00:01:29,619

that was built at Dryden.

25

00:01:30,580 --> 00:01:33,320

We interrupt the antenna signal to that

26

00:01:33,320 --> 00:01:35,720

part of the autopilot and we send our

27

00:01:35,720 --> 00:01:37,140

synthetic one there

28

00:01:37,620 --> 00:01:38,900

and that will steer the airplane

29

00:01:38,900 --> 00:01:39,979

down this line through

30

00:01:39,979 --> 00:01:42,280

space that the radar people

31

00:01:42,280 --> 00:01:45,040

want to put the radar pod in the right place

32

00:01:45,040 --> 00:01:50,940

[music]

33

00:01:51,500 --> 00:01:54,440

This one's called the UAVSAR radar.

34

00:01:54,440 --> 00:01:56,860

It's an L band radar that means that it's got

35

00:01:56,860 --> 00:01:59,720

a wavelength radiation that's about 10  
inches.

36

00:02:00,360 --> 00:02:02,420

This is a long enough wavelength

37

00:02:02,420 --> 00:02:04,100

so that we can see through clouds.

38

00:02:04,100 --> 00:02:05,380

The other thing is that this is a

39

00:02:05,390 --> 00:02:08,880

polarametric radar so it transmits radiation

40

00:02:08,880 --> 00:02:10,429

and two polarizations and will

41

00:02:10,429 --> 00:02:12,820

receive radiation and two polarizations

42

00:02:12,820 --> 00:02:15,319

and those two polarizations scatter

43

00:02:15,319 --> 00:02:17,720

differently from vegetation. from water

44

00:02:17,720 --> 00:02:19,670

so we can use that to try to understand

45

00:02:19,670 --> 00:02:21,720

what's going on on the surface.

46

00:02:21,840 --> 00:02:22,860

Looking at the difference

47

00:02:22,860 --> 00:02:24,740

between the different polarizations.

48

00:02:24,840 --> 00:02:27,380

[music]

49

00:02:27,380 --> 00:02:28,960

We're gonna go to this point

50

00:02:29,280 --> 00:02:30,500

then we're gonna go out here

51  
00:02:30,500 --> 00:02:32,700  
and then we're gonna do this line coming back.

52  
00:02:33,120 --> 00:02:35,620  
that way we'll be looking South instead of North

53  
00:02:35,740 --> 00:02:37,980  
[unintelligible transmissions]

54  
00:02:39,320 --> 00:02:40,740  
Alright, looks good go ahead and release

55  
00:02:41,460 --> 00:02:42,420  
It's released

56  
00:02:42,420 --> 00:02:44,100  
Alright (unintelligible) I've got it

57  
00:02:44,240 --> 00:02:45,420  
It's stanin' on pretty good at

58  
00:02:45,420 --> 00:02:47,680  
It's staying within about two feet right now

59  
00:02:48,660 --> 00:02:49,760  
on the lateral.

60  
00:02:50,260 --> 00:02:52,600  
I'm still working on the altitude.

61  
00:02:52,860 --> 00:02:54,160  
Alright Tim, looking pretty good in the tube here.

62  
00:02:54,160 --> 00:02:55,420  
Twelve satellite

63

00:02:55,840 --> 00:03:02,840

[unintelligible transmissions]

64

00:03:02,840 --> 00:03:04,440

Well established in the tube,

65

00:03:04,440 --> 00:03:06,060

Let's move in about three feet

66

00:03:07,240 --> 00:03:09,660

Kaplan, you're the onboard processor

67

00:03:09,660 --> 00:03:23,560

[music]

68

00:03:24,660 --> 00:03:27,740

We have images of the entire, almost

69

00:03:27,740 --> 00:03:30,319

the entire United States Gulf Coastline

70

00:03:30,319 --> 00:03:32,320

that we can then look for effects of oil

71

00:03:32,320 --> 00:03:34,810

as this oil comes onshore.