1
00:00:04,550 --> 00:00:02,629
nysar is a satellite mission that is

2
00:00:07,110 --> 00:00:04,560
going to be observing the earth with

3
00:00:09,110 --> 00:00:07,120
radar it will have two radars that view

4
00:00:11,110 --> 00:00:09,120
the earth at different wavelengths we

5
00:00:13,430 --> 00:00:11,120
can combine those data that allow us to

6
00:00:15,430 --> 00:00:13,440
learn more about things like vegetation

7
00:00:18,150 --> 00:00:15,440
and soil moisture than we can do with

8
00:00:19,750 --> 00:00:18,160
only one of those wavelengths so nysar

9
00:00:21,830 --> 00:00:19,760
is definitely going to be a breakthrough

10
00:00:24,390 --> 00:00:21,840
for field scale soil moisture which is

11
00:00:26,070 --> 00:00:24,400
one of your main drivers of both food

12
00:00:28,710 --> 00:00:26,080
security and then as well more on the

13
00:00:31,349 --> 00:00:28,720

economic commodity forecasts

14
00:00:32,630 --> 00:00:31,359
naisa is going to look at objects that's

15
00:00:35,990 --> 00:00:32,640
the size of

16
00:00:38,150 --> 00:00:36,000
about 6 kilometer in size which is

17
00:00:41,510 --> 00:00:38,160
typical soccer field

18
00:00:42,389 --> 00:00:41,520
to about 200 meter we'll be able to see

19
00:00:45,510 --> 00:00:42,399
whether

20
00:00:49,029 --> 00:00:45,520
a particular patch of that size is wet

21
00:00:51,189 --> 00:00:49,039
or dry the current land surface models

22
00:00:53,510 --> 00:00:51,199
can't really quantify irrigation so

23
00:00:55,830 --> 00:00:53,520
nystar is going to now help understand

24
00:00:58,150 --> 00:00:55,840
how much water is actually being used to

25
00:01:00,370 --> 00:00:58,160
grow a crop which will help us save

26
00:01:02,549 --> 00:01:00,380
water so that's kind of a big deal

27
00:01:04,390 --> 00:01:02,559
[Music]

28
00:01:05,670 --> 00:01:04,400
see the middle there the middle is set

29
00:01:17,270 --> 00:01:05,680
though

30
00:01:20,469 --> 00:01:18,870
we're going to deploy a couple dozen of

31
00:01:21,990 --> 00:01:20,479
these reflectors each one of these

32
00:01:23,350 --> 00:01:22,000
reflectors has to be the same brightness

33
00:01:25,109 --> 00:01:23,360
and that tells us how we have to

34
00:01:27,030 --> 00:01:25,119
calibrate the image and so that we can

35
00:01:28,469 --> 00:01:27,040
use it for science no matter where we

36
00:01:30,310 --> 00:01:28,479
put them in oklahoma we want them to

37
00:01:31,190 --> 00:01:30,320
have the same brightness in the radar

38
00:01:32,789 --> 00:01:31,200

image

39
00:01:35,910 --> 00:01:32,799
the science team is working with a lot

40
00:01:38,149 --> 00:01:35,920
of agricultural scientists with the usda

41
00:01:39,990 --> 00:01:38,159
and other agencies and trying to make

42
00:01:41,910 --> 00:01:40,000
sure that the products from nice are

43
00:01:43,830 --> 00:01:41,920
useful make sure they understand the

44
00:01:47,520 --> 00:01:43,840
soil moisture conditions and where crops

45
00:01:47,530 --> 00:01:57,749
[Music]

46
00:02:01,830 --> 00:01:59,350
understanding the moisture in the soil

47
00:02:03,429 --> 00:02:01,840
can definitely help those farmers better

48
00:02:05,590 --> 00:02:03,439
understand what's happening underneath

49
00:02:07,030 --> 00:02:05,600
the ground do they need to water

50
00:02:09,109 --> 00:02:07,040
is there too much water there they just

51
00:02:10,550 --> 00:02:09,119
need to kind of let things grow you know

52
00:02:12,869 --> 00:02:10,560
are they in a drought condition if they

53
00:02:14,630 --> 00:02:12,879
do need to irrigate how much all those

54
00:02:16,229 --> 00:02:14,640
different things just to you know better

55
00:02:18,949 --> 00:02:16,239
help those farmers make the best

56
00:02:21,190 --> 00:02:18,959
possible decisions for their their crops

57
00:02:23,589 --> 00:02:21,200
we have a lot of rainfall and vegetation

58
00:02:25,589 --> 00:02:23,599
with flooding extreme temperatures you

59
00:02:27,589 --> 00:02:25,599
get all this production of vegetation

60
00:02:29,830 --> 00:02:27,599
and then you get drought and it dries it

61
00:02:31,990 --> 00:02:29,840
out all these extremes we need to know

62
00:02:34,070 --> 00:02:32,000
more about the climate and what is

63
00:02:36,550 --> 00:02:34,080

happening with soil moisture and i'm

64
00:02:38,710 --> 00:02:36,560
hoping that the nysar data can help

65
00:02:40,630 --> 00:02:38,720
agriculture and learn more about what's

66
00:02:43,030 --> 00:02:40,640
going on in the ground beneath them to

67
00:02:45,270 --> 00:02:43,040
help with production

68
00:02:47,110 --> 00:02:45,280
i truly believe that agriculture is one

69
00:02:48,630 --> 00:02:47,120
of the kind of essential components to

70
00:02:51,589 --> 00:02:48,640
many what we call sustainable

71
00:02:53,910 --> 00:02:51,599
development goals poverty nutrition

72
00:02:56,470 --> 00:02:53,920
livelihoods environment whether it's

73
00:02:59,750 --> 00:02:56,480
water soil air to lift people out of

74
00:03:02,390 --> 00:02:59,760
poverty so it's something i personally