1
00:00:05,910 --> 00:00:03,270
the expedition 40 crew is uh now

2
00:00:07,510 --> 00:00:05,920
busy throughout the middle of their uh

3
00:00:10,709 --> 00:00:07,520
work days they're aboard the space

4
00:00:13,030 --> 00:00:10,719
station meanwhile a heco or hyper

5
00:00:14,629 --> 00:00:13,040
spectral imager for the coastal ocean on

6
00:00:17,349 --> 00:00:14,639
the space station is an ongoing

7
00:00:19,510 --> 00:00:17,359
experiment that uses a special camera

8
00:00:21,510 --> 00:00:19,520
that separates light into hundreds of

9
00:00:23,109 --> 00:00:21,520
wavelength channels which reveals

10
00:00:25,830 --> 00:00:23,119
information about the composition of

11
00:00:26,790 --> 00:00:25,840
water and land along the coast and today

12
00:00:27,830 --> 00:00:26,800
we learn

13
00:00:29,750 --> 00:00:27,840

how the

14
00:00:31,029 --> 00:00:29,760
environmental protection agency is

15
00:00:33,110 --> 00:00:31,039
working with nasa to use this

16
00:00:35,030 --> 00:00:33,120
information let's head out to the

17
00:00:36,470 --> 00:00:35,040
payload operations integration center at

18
00:00:38,389 --> 00:00:36,480
the marshall space flight center where

19
00:00:39,910 --> 00:00:38,399
lori meigs is there to tell us more

20
00:00:41,910 --> 00:00:39,920
about this unique

21
00:00:43,190 --> 00:00:41,920
partnership lori

22
00:00:45,270 --> 00:00:43,200
imagine being able to take your

23
00:00:47,110 --> 00:00:45,280
smartphone and check the water quality

24
00:00:48,950 --> 00:00:47,120
and say your favorite fishing spot or

25
00:00:50,229 --> 00:00:48,960
boating location or even being able to

26
00:00:52,229 --> 00:00:50,239
check to see if there's algae in the

27
00:00:54,229 --> 00:00:52,239
water if you want to go for a swim well

28
00:00:56,630 --> 00:00:54,239
it's all in the works i recently spoke

29
00:00:59,270 --> 00:00:56,640
with an epa oceanographer who tells us

30
00:01:01,349 --> 00:00:59,280
how that organization is using the hico

31
00:01:03,430 --> 00:01:01,359
sensors from the iss and how it could

32
00:01:06,550 --> 00:01:03,440
eventually help us with say deciding on

33
00:01:09,990 --> 00:01:08,469
we've been using

34
00:01:12,390 --> 00:01:10,000
data from the international space

35
00:01:14,870 --> 00:01:12,400
station from the hico sensor

36
00:01:17,350 --> 00:01:14,880
to do water quality modeling along the

37
00:01:19,590 --> 00:01:17,360
florida coastline up in

38
00:01:21,429 --> 00:01:19,600

the florida panhandle area

39
00:01:23,429 --> 00:01:21,439
why do you do that

40
00:01:25,749 --> 00:01:23,439
well we wanted to because of the high

41
00:01:28,950 --> 00:01:25,759
resolution capability of feiko we are

42
00:01:30,789 --> 00:01:28,960
now able to look into estuaries as well

43
00:01:33,510 --> 00:01:30,799
as into the theater streams to the

44
00:01:36,310 --> 00:01:33,520
estuaries to determine water quality

45
00:01:38,310 --> 00:01:36,320
parameters such as chlorophyll suspended

46
00:01:40,950 --> 00:01:38,320
solids concentration and light

47
00:01:43,510 --> 00:01:40,960
attenuation

48
00:01:45,030 --> 00:01:43,520
what have you learned from this

49
00:01:46,630 --> 00:01:45,040
well one of the things we've learned is

50
00:01:48,069 --> 00:01:46,640
we've been able to take the data from

51
00:01:49,910 --> 00:01:48,079
the space station

52
00:01:51,670 --> 00:01:49,920
processed into models

53
00:01:54,149 --> 00:01:51,680
that gives us information and then send

54
00:01:57,109 --> 00:01:54,159
that information to epa managers in the

55
00:02:00,149 --> 00:01:57,119
form of an uh phone application

56
00:02:02,469 --> 00:02:00,159
and now with that phone application epa

57
00:02:04,469 --> 00:02:02,479
managers as well as we hope other the

58
00:02:06,550 --> 00:02:04,479
general public primarily

59
00:02:08,949 --> 00:02:06,560
will be able to take that data

60
00:02:11,029 --> 00:02:08,959
and see it on their phones

61
00:02:12,869 --> 00:02:11,039
what would i use that data for

62
00:02:15,110 --> 00:02:12,879
well if you wanted to go spend the day

63
00:02:16,470 --> 00:02:15,120

in an estuary either sailing boating or

64
00:02:19,190 --> 00:02:16,480
fishing now you would have the

65
00:02:21,190 --> 00:02:19,200
capability of calling up an image of

66
00:02:23,430 --> 00:02:21,200
your favorite location and you could

67
00:02:26,150 --> 00:02:23,440
determine for yourself what your water

68
00:02:28,229 --> 00:02:26,160
quality parameters are and if they're if

69
00:02:30,550 --> 00:02:28,239
if they're clean enough for you to go

70
00:02:33,030 --> 00:02:30,560
play or fish in

71
00:02:34,949 --> 00:02:33,040
is this all new from when we talked last

72
00:02:37,270 --> 00:02:34,959
i know you were wanting to do that maybe

73
00:02:39,910 --> 00:02:37,280
last time and now it's in stone you can

74
00:02:42,309 --> 00:02:39,920
do that yeah this is new because last

75
00:02:44,630 --> 00:02:42,319
time we talked we were able to create

76
00:02:46,710 --> 00:02:44,640
the models to get the data now we've

77
00:02:49,030 --> 00:02:46,720
been able to take that data and

78
00:02:52,309 --> 00:02:49,040
create a phone app and now that phone

79
00:02:54,150 --> 00:02:52,319
app is in will be soon in testing

80
00:02:56,150 --> 00:02:54,160
so that now and then after that the idea

81
00:02:57,990 --> 00:02:56,160
is to make it available to the public

82
00:02:59,910 --> 00:02:58,000
and to

83
00:03:01,830 --> 00:02:59,920
water quality managers

84
00:03:03,110 --> 00:03:01,840
the prototype app was well received with

85
00:03:05,030 --> 00:03:03,120
an epa

86
00:03:06,790 --> 00:03:05,040
and now we've evolved

87
00:03:09,910 --> 00:03:06,800
that prototype app

88
00:03:11,750 --> 00:03:09,920

into we've added another parameter to it

89
00:03:13,990 --> 00:03:11,760
and now we'll able you'll be able to

90
00:03:14,869 --> 00:03:14,000
pull up

91
00:03:25,430 --> 00:03:14,879
a

92
00:03:28,789 --> 00:03:25,440
green scum you pretty much see

93
00:03:30,789 --> 00:03:28,799
around ponds and in estuaries but the

94
00:03:33,110 --> 00:03:30,799
and generally they're pretty

95
00:03:36,229 --> 00:03:33,120
innocuous

96
00:03:39,990 --> 00:03:36,239
algae but sometimes they can turn toxic

97
00:03:41,350 --> 00:03:40,000
for whatever reason and as such

98
00:03:43,750 --> 00:03:41,360
small animals depending on the

99
00:03:45,190 --> 00:03:43,760
concentration of cyano cells

100
00:03:47,990 --> 00:03:45,200
small animals

101
00:03:50,630 --> 00:03:48,000
can can be at risk for being sick and at

102
00:03:52,949 --> 00:03:50,640
high concentrations there's a

103
00:03:55,750 --> 00:03:52,959
risk for humans getting sick

104
00:03:58,630 --> 00:03:55,760
so now to have it we've evolved the

105
00:04:01,030 --> 00:03:58,640
our data as well as the app into

106
00:04:02,309 --> 00:04:01,040
just general water quality information

107
00:04:03,990 --> 00:04:02,319
to now

108
00:04:06,149 --> 00:04:04,000
looking at environmental health and

109
00:04:09,110 --> 00:04:06,159
human health how much does this excite

110
00:04:10,390 --> 00:04:09,120
you personally as a oceanographer as an

111
00:04:14,550 --> 00:04:10,400
oceanographer i think it's really

112
00:04:16,550 --> 00:04:14,560
exciting because one we get to i i enjoy

113
00:04:18,469 --> 00:04:16,560

working with the space station data and

114
00:04:20,310 --> 00:04:18,479
with all the personnel involved so

115
00:04:22,230 --> 00:04:20,320
that's exciting in itself but then the

116
00:04:23,990 --> 00:04:22,240
data itself because it's

117
00:04:27,189 --> 00:04:24,000
really and i keep using the word high

118
00:04:29,110 --> 00:04:27,199
resolution i mean 95 meter resolution is

119
00:04:31,909 --> 00:04:29,120
incredible for

120
00:04:33,510 --> 00:04:31,919
remotely send satellite data so now i

121
00:04:35,990 --> 00:04:33,520
can really look at the dynamics of

122
00:04:37,749 --> 00:04:36,000
processes and the estuaries and from a

123
00:04:39,830 --> 00:04:37,759
personal standpoint to now be able to

124
00:04:40,870 --> 00:04:39,840
have that information available on a

125
00:04:43,430 --> 00:04:40,880
phone app

126
00:04:45,350 --> 00:04:43,440
that i could pull up at any time to see

127
00:04:47,749 --> 00:04:45,360
if i want to go with my family to the

128
00:04:51,189 --> 00:04:47,759
beach or to the lakes that's that's

129
00:04:55,430 --> 00:04:53,110
and taking a live look at the payload

130
00:04:57,110 --> 00:04:55,440
operations integration center brian

131
00:04:59,030 --> 00:04:57,120
blair is the pod today the payload

132
00:05:01,189 --> 00:04:59,040
operations director he's being assisted

133
00:05:03,110 --> 00:05:01,199
by jason norwood and then you see over

134
00:05:04,469 --> 00:05:03,120
there the pacom cody jones that's the

135
00:05:06,870 --> 00:05:04,479
one who relays

136
00:05:08,629 --> 00:05:06,880
all of the information to and from the

137
00:05:10,310 --> 00:05:08,639
astronauts so

138
00:05:11,990 --> 00:05:10,320

they're busy at work today helping those