Goddard GLOSSARY

hy·per·spec·tral

1
00:00:00,200 --> 00:00:03,833
Hyperspectral. Hyperspectral measurements
allow us to look beyond what human eyes

2
00:00:03,833 --> 00:00:07,300
can see to peer through cosmic dust clouds
or monitor the health of our ocean.

3
00:00:07,766 --> 00:00:11,100
Electromagnetic energy travels in waves
that we perceive in different ways

4
00:00:11,100 --> 00:00:13,600
-- from very long
radio waves to very short

5
00:00:13,600 --> 00:00:16,500
X- and gamma ray waves with visible light
somewhere in the middle.

6
00:00:16,800 --> 00:00:18,500
Hyperspectral analysis combines

7
00:00:18,500 --> 00:00:21,433
measurements taken over a wide range
of that electromagnetic spectrum.

8
00:00:21,833 --> 00:00:24,500
The upcoming Plankton
Aerosol Cloud ocean Ecosystem

9
00:00:24,500 --> 00:00:27,766
satellite -- PACE -- will help us study
Earth's ocean in new ways,

10
00:00:27,900 --> 00:00:30,800
using hyperspectral measurements of light
emitted from Earth's surface.

11

00:00:30,800 --> 00:00:31,866
Using ultraviolet

12
00:00:31,866 --> 00:00:34,900
light, we'll see tiny particles
suspended in our ocean and atmosphere,

13
00:00:35,066 --> 00:00:37,733
which helps us understand the impact
of human activities on our planet.

14
00:00:38,300 --> 00:00:41,800
Meanwhile, measurements in visible light
-- what our eyes see -- help us monitor

15
00:00:41,800 --> 00:00:43,500
the concentration of phytoplankton,

16
00:00:43,500 --> 00:00:46,266
tiny organisms that make up the base
of the ocean food web.

17
00:00:46,500 --> 00:00:49,100
Using even longer
infrared measurements will allow space

18
00:00:49,100 --> 00:00:52,000
to monitor atmospheric conditions
above and near the ocean.