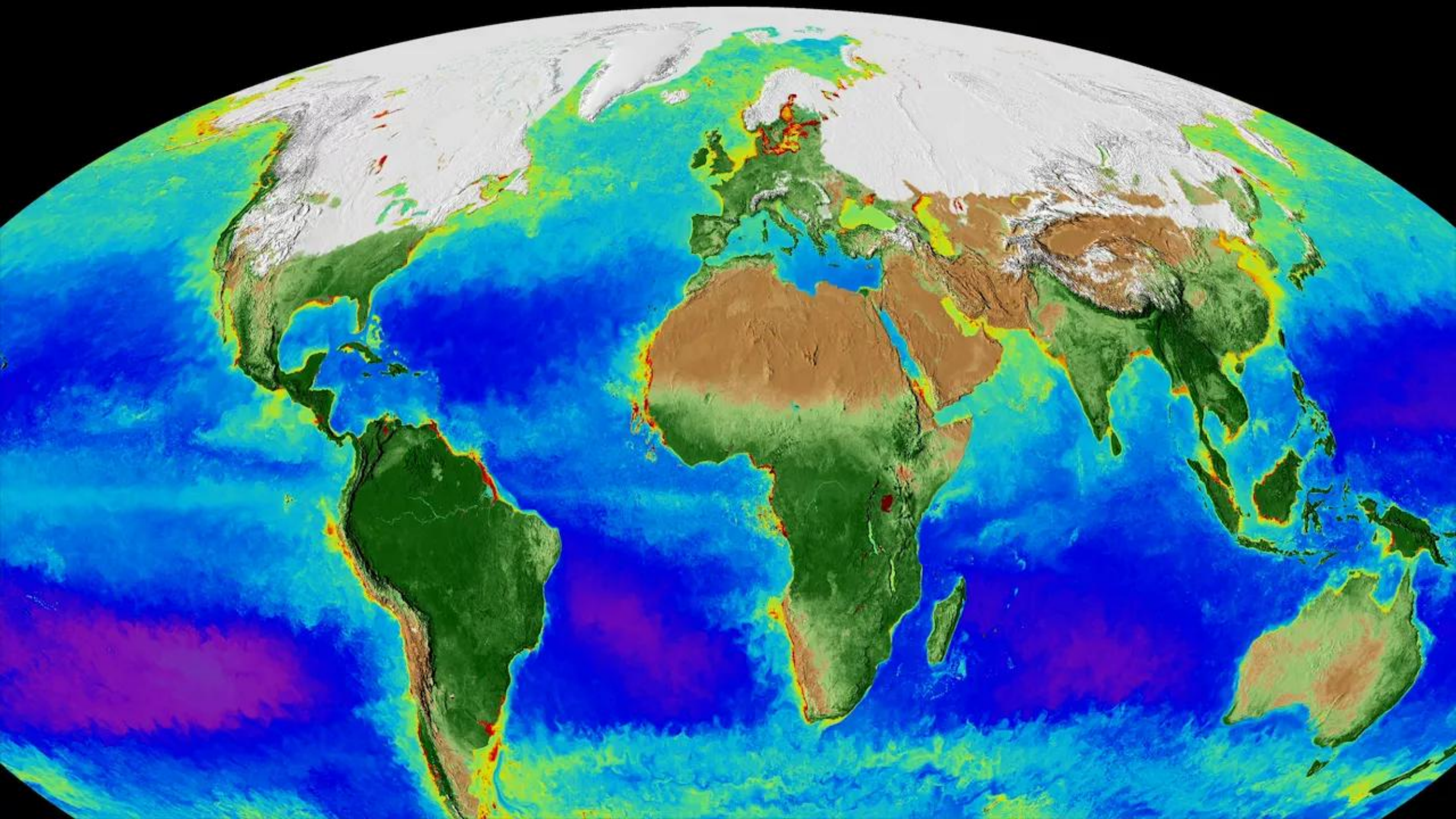

1
00:00:01,550 --> 00:00:05,570
I’m Alex Kekesi. I’m the data visualizer with

2
00:00:05,590 --> 00:00:09,590
the NASA Goddard Scientific Visualization Studio.

3
00:00:09,610 --> 00:00:13,600
I’m Compton Tucker and my responsibility in this is the interpretation

4
00:00:13,620 --> 00:00:15,430
of what’s happening on land.

5
00:00:15,450 --> 00:00:19,450
And I’m Gene Feldman, I’m an oceanographer at NASA Goddard

6
00:00:19,470 --> 00:00:23,460
and I'm responsible for everything wet. And I'm Lauren

7
00:00:23,480 --> 00:00:27,480
Ward. I'm a video producer here at Goddard Space Flight Center

8
00:00:27,500 --> 00:00:31,490
and will be moderating the conversation. So with that, let's jump

9
00:00:31,510 --> 00:00:34,160
right into it - what exactly are we looking at?

10
00:00:34,180 --> 00:00:38,170
What we're looking at is the abundance of plants on land and in the ocean

11
00:00:38,190 --> 00:00:42,200
and in the ocean we're looking at microscopic plants called phytoplankton

12
00:00:42,220 --> 00:00:46,210
on the land its sort of an aggregate of all vegetation.

13
00:00:46,230 --> 00:00:50,230

But they breathe, they

14
00:00:50,250 --> 00:00:54,240
they respire and the follow the sun in terms of their seasons

15
00:00:54,260 --> 00:00:58,260
Can you describe the changes that happened in twenty years since this data

16
00:00:58,280 --> 00:00:59,990
set first began?

17
00:01:00,010 --> 00:01:04,010
Yeah, as crazy as it sounds, even though we have twenty of data

18
00:01:04,030 --> 00:01:08,020
we're still at a point of - in my mind - just the wonder

19
00:01:08,040 --> 00:01:12,050
of it. I could just sit and watch this for hours.

20
00:01:12,070 --> 00:01:16,070
And for me, I've got look at it two different ways. One is just to take

21
00:01:16,090 --> 00:01:20,080
a big step back, and look at the world as whole

22
00:01:20,100 --> 00:01:24,090
Don't focus on anything in particular, but just - what am I seeing?

23
00:01:24,110 --> 00:01:28,110
What are the patterns that I'm seeing? And the main thing

24
00:01:28,130 --> 00:01:32,130
is that there's this seasonal cycle moving north

25
00:01:32,150 --> 00:01:36,140
and south. The land and the ocean

26
00:01:36,160 --> 00:01:40,150
the both bloom with the rising sun.

27
00:01:40,170 --> 00:01:44,150
If you just set back and watch it you'll see this wave of green

28
00:01:44,170 --> 00:01:46,110
move north and south with the sun.

29
00:01:46,130 --> 00:01:50,140
Back and forth, and you see that

30
00:01:50,160 --> 00:01:54,150
so dramatically in this visualization.

31
00:01:54,170 --> 00:01:58,170
And Gene and I have been studying this for a long time using satellite data

32
00:01:58,190 --> 00:02:02,170
But what's really cool for us is that you see it for the oceans as well as the land

33
00:02:02,190 --> 00:02:06,190
Yeah, which we never saw before the satellites

34
00:02:06,210 --> 00:02:07,680
Is that what makes this viz so special?

35
00:02:07,700 --> 00:02:11,700
What's so critical about this, this is the only data set

36
00:02:11,720 --> 00:02:15,720
that we have that really shows the biological response

37
00:02:15,740 --> 00:02:19,730
to environmental change. We have we all these other instruments

38
00:02:19,750 --> 00:02:23,750

that measure how the Earth changes, what the temperature,

39
00:02:23,770 --> 00:02:27,760
the winds, the currents, rainfall - things like that. We have

40
00:02:27,780 --> 00:02:31,790
all of that. But this data set shows what does the Earth's

41
00:02:31,810 --> 00:02:35,820
biology do in response to that environmental change

42
00:02:35,840 --> 00:02:39,830
And think that's one strengths of the SVS is being able to show that data

43
00:02:39,850 --> 00:02:43,850
in a way that a normal, average person can respond to.

44
00:02:43,870 --> 00:02:47,860
And we you've been able to do, Alex, is you make it beautiful.

45
00:02:47,880 --> 00:02:48,890
It is very attractive.

46
00:02:48,910 --> 00:02:52,910
We're looking at the Living Earth, we're looking at our home planet

47
00:02:52,930 --> 00:02:56,920
change day in and day out

48
00:02:56,940 --> 00:03:00,940
and there's a visceral connection that we have to this

49
00:03:00,960 --> 00:03:01,700
home of ours.

50
00:03:01,720 --> 00:03:05,720
We know, there's only planet we know that has

51
00:03:05,740 --> 00:03:09,750
and active biosphere, or a biosphere, and that's our

52
00:03:09,770 --> 00:03:13,790
planet. We know from the Hubble Space Telescope there are one to two trillion

53
00:03:13,810 --> 00:03:17,800
galaxies in the universe - galaxies - and this

54
00:03:17,820 --> 00:03:21,840
only planet that we know which as life, and its very special and its very

55
00:03:21,860 --> 00:03:25,850
dear and this representation to me, captures that.

56
00:03:25,870 --> 00:03:29,860
I mean, on my part, I mean really the challenge here was kinda

57
00:03:29,880 --> 00:03:33,860
wrangling all this twenty years worth of data

58
00:03:33,880 --> 00:03:37,880
so I mean, you guys did an amazing job at collecting

59
00:03:37,900 --> 00:03:41,890
it all, and creating

60
00:03:41,910 --> 00:03:45,900
data sets that can be easily be used together. I mean with the biosphere

61
00:03:45,920 --> 00:03:49,930
its primarily SeaWIFS, VIIRS

62
00:03:49,950 --> 00:03:53,960
Aqua, is it Aqua? Modis - yeah

63
00:03:53,980 --> 00:03:57,980

You look at this image and there's so much here that

64
00:03:58,000 --> 00:03:59,510
we still don't understand.

65
00:03:59,530 --> 00:04:03,520
I agree with Gene. We're looking at the consequence

66
00:04:03,540 --> 00:04:07,530
of instruments on satellites not looking away from Earth, but

67
00:04:07,550 --> 00:04:11,540
looking at Earth through time, how thing change, how things

68
00:04:11,560 --> 00:04:15,560
vary or don't. It's just fascinating to look at

69
00:04:15,580 --> 00:04:19,570
and its so dynamic and this is what's great about time series

70
00:04:19,590 --> 00:04:23,580
Well that's one of the thoughts I had was that the people in this room right now

71
00:04:23,600 --> 00:04:27,600
if you ask yourself the question, "What have I done to make sure

72
00:04:27,620 --> 00:04:31,630
that the Earth is a healthier and safer place?", I think the people in this room

73
00:04:31,650 --> 00:04:35,650
can fairly say that they've done quite a lot in collecting

74
00:04:35,670 --> 00:04:39,690
the data and then creating the data a in a way people can understand it

75
00:04:39,710 --> 00:04:43,700
What I love about this is there are no country boundries

76
00:04:43,720 --> 00:04:47,720
there's no distinction between land science and ocean science

77
00:04:47,740 --> 00:04:51,740
It's one world, one planet, one home

78
00:04:51,760 --> 00:04:53,090
This is our Living Planet.

79
00:04:53,110 --> 00:04:57,100
Exactly, and the more we as humans

80
00:04:57,120 --> 00:05:01,110
on this planet, inhabitants of the planet, look as this as

81
00:05:01,130 --> 00:05:05,130
one entity that we are all responsible for, I think

82
00:05:05,150 --> 00:05:09,140
I think the sooner we will be able to come up with solutions to a lot of the problems

83
00:05:09,160 --> 00:05:13,150
that we're facing right now. We have to look at this as one planet

84
00:05:13,170 --> 00:05:17,180
where what happens in place effects what happens in another place