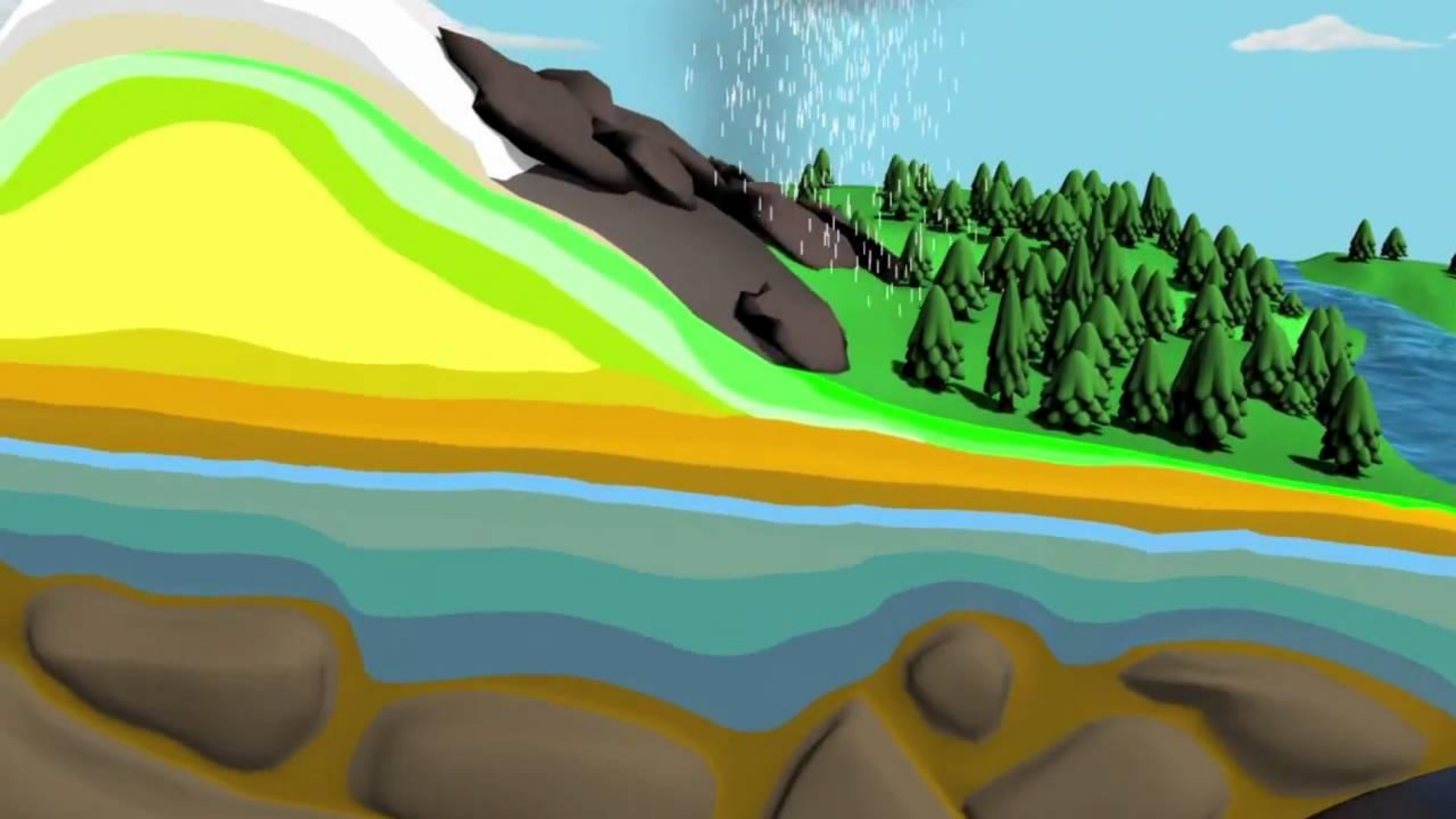

1
00:00:08,050 --> 00:00:12,070
Salt plays an important role

2
00:00:12,090 --> 00:00:16,100
in our daily lives. True, salt makes

3
00:00:16,120 --> 00:00:20,130
our food tastier, but perhaps its most significant role is

4
00:00:20,150 --> 00:00:24,150
as an ingredient in Earth's climate.

5
00:00:24,170 --> 00:00:28,170
Measurements of sea surface salinity, or the concentration of salt

6
00:00:28,190 --> 00:00:32,200
at the ocean's surface, gives scientists vital information on

7
00:00:32,220 --> 00:00:36,240
global ocean circulation and how fresh water moves between the

8
00:00:36,260 --> 00:00:40,280
ocean and other reservoirs. How does water move, you might ask?

9
00:00:40,300 --> 00:00:44,300
Through the water cycle, the process by which

10
00:00:44,320 --> 00:00:48,330
water circulates from the ocean, to the atmosphere, to the land, and then back to the

11
00:00:48,350 --> 00:00:52,370
ocean. Water on the ocean's surface evaporates,

12
00:00:52,390 --> 00:00:56,400
can travel as clouds or vapor over land,

13
00:00:56,420 --> 00:01:00,410

fall as rain or snow, and then work its way back to the

14
00:01:00,430 --> 00:01:04,430
ocean through rivers, surface runoff, or as icebergs.

15
00:01:04,450 --> 00:01:08,440
In other words, the ocean plays a major role in the

16
00:01:08,460 --> 00:01:12,490
water cycle. In fact, 86% of all global

17
00:01:12,510 --> 00:01:16,530
evaporation and 78% of global precipitation occurs over

18
00:01:16,550 --> 00:01:20,570
the ocean. As the water cycle changes,

19
00:01:20,590 --> 00:01:24,600
so does salinity! Ocean salinity is

20
00:01:24,620 --> 00:01:28,610
affected by the water cycle. As salt water evaporates

21
00:01:28,630 --> 00:01:32,620
or freezes, the salt is left behind and salinity

22
00:01:32,640 --> 00:01:36,650
increases. But precipitation and runoff

23
00:01:36,670 --> 00:01:40,670
dilute salt water, decreasing salinity.

24
00:01:40,690 --> 00:01:44,680
Now, while these changes in salinity may seem insignificant compared to the

25
00:01:44,700 --> 00:01:48,720
size of the ocean, they make a huge difference in how water

26
00:01:48,740 --> 00:01:52,750
circulates. Scientists need a breadth of information

27
00:01:52,770 --> 00:01:56,790
to understand the ocean's processes. And that's where

28
00:01:56,810 --> 00:02:00,820
Aquarius comes in. The sensor will use advanced technologies to

29
00:02:00,840 --> 00:02:04,840
give NASA its first space-based measurements of sea surface