



1  
00:00:05,780 --> 00:00:03,740  
when we're talking about salt in the

2  
00:00:07,909 --> 00:00:05,790  
ocean we're talking pretty much the same

3  
00:00:10,310 --> 00:00:07,919  
salt that you use in cooking the

4  
00:00:12,169 --> 00:00:10,320  
chemical known as sodium chloride the

5  
00:00:13,669 --> 00:00:12,179  
event to the beach you've gone swimming

6  
00:00:15,320 --> 00:00:13,679  
in the ocean you know that the ocean is

7  
00:00:17,269 --> 00:00:15,330  
salty and what most people don't

8  
00:00:19,730 --> 00:00:17,279  
recognize is that the concentration of

9  
00:00:21,439 --> 00:00:19,740  
salt or what we call salinity varies

10  
00:00:24,170 --> 00:00:21,449  
quite a bit from one part of the ocean

11  
00:00:25,779 --> 00:00:24,180  
to another when water evaporates off the

12  
00:00:28,220 --> 00:00:25,789  
sea surface and goes into the atmosphere

13  
00:00:29,509 --> 00:00:28,230

that makes the water saltier because

14

00:00:32,540 --> 00:00:29,519

you're taking fresh water out and you're

15

00:00:34,520 --> 00:00:32,550

leaving more salt behind as the minerals

16

00:00:37,190 --> 00:00:34,530

of the salt circulates around in the

17

00:00:38,690 --> 00:00:37,200

ocean it moves heat around heat that's

18

00:00:40,760 --> 00:00:38,700

carried by the ocean affects the

19

00:00:42,530 --> 00:00:40,770

atmosphere the changes of the atmosphere

20

00:00:45,799 --> 00:00:42,540

and the sea surface temperature is

21

00:00:47,869 --> 00:00:45,809

coupled together it controls climate we

22

00:00:50,569 --> 00:00:47,879

have measured sea surface temperature we

23

00:00:53,869 --> 00:00:50,579

measured winds over water sea level rise

24

00:00:55,700 --> 00:00:53,879

color of the ocean but yet we do not

25

00:00:59,959 --> 00:00:55,710

know one of the fundamental properties

26  
00:01:02,090 --> 00:00:59,969  
that affect climate which is the density

27  
00:01:04,429 --> 00:01:02,100  
of the concentration of salt in the

28  
00:01:06,140 --> 00:01:04,439  
ocean salinity is one of the missing

29  
00:01:08,390 --> 00:01:06,150  
parameters will never be measured from

30  
00:01:09,500 --> 00:01:08,400  
space before we have no salinity samples

31  
00:01:10,609 --> 00:01:09,510  
at all from parts of the world

32  
00:01:12,380 --> 00:01:10,619  
particularly in the southern hemisphere

33  
00:01:14,120 --> 00:01:12,390  
in the South Pacific and in South

34  
00:01:16,609 --> 00:01:14,130  
Atlantic and southern Indian Oceans so

35  
00:01:17,840 --> 00:01:16,619  
there's a big date again this mission

36  
00:01:20,390 --> 00:01:17,850  
will Aquarius is one of the most

37  
00:01:23,510 --> 00:01:20,400  
exciting mission to date it measures how

38  
00:01:25,910 --> 00:01:23,520

salty the ocean is from space as you

39

00:01:28,640 --> 00:01:25,920

take a pinch of salt we put in a gallon

40

00:01:33,140 --> 00:01:28,650

of water we can measure that kind of

41

00:01:35,630 --> 00:01:33,150

sensitivity of salt from 408 miles above

42

00:01:38,120 --> 00:01:35,640

the earth in seven days will map the

43

00:01:39,859 --> 00:01:38,130

entire Earth and go back to the same

44

00:01:42,740 --> 00:01:39,869

point measuring it over and over again

45

00:01:44,570 --> 00:01:42,750

and will monitor over time how the

46

00:01:47,060 --> 00:01:44,580

change is in variability are

47

00:01:49,520 --> 00:01:47,070

by having salinity information from

48

00:01:51,710 --> 00:01:49,530

space or provide this missing link and

49

00:01:53,690 --> 00:01:51,720

make better predictions on the climate

50

00:01:55,130 --> 00:01:53,700

change in climate model all the

51  
00:01:57,620 --> 00:01:55,140  
measurements that we make in the earth

52  
00:01:59,570 --> 00:01:57,630  
sciences program within NASA are really

53  
00:02:01,520 --> 00:01:59,580  
to better understand the climate

54  
00:02:03,290 --> 00:02:01,530  
processes that are happening now how we

55  
00:02:05,020 --> 00:02:03,300  
can use that information to better

56  
00:02:07,160 --> 00:02:05,030  
predict the future so we can plan better

57  
00:02:09,200 --> 00:02:07,170  
salinity is one of those measurements

58  
00:02:11,330 --> 00:02:09,210  
that we need to fill an important gap to