1
00:00:09,379 --> 00:00:06,050
as most people know majority the earth

2
00:00:12,199 --> 00:00:09,389
is covered by the oceans they store a

3
00:00:15,260 --> 00:00:12,209
majority of the heat that we get and in

4
00:00:18,800 --> 00:00:15,270
that respect interact with the climate

5
00:00:21,730 --> 00:00:18,810
the ocean is a big sink for heat it can

6
00:00:24,160 --> 00:00:21,740
absorb heat from the atmosphere so if we

7
00:00:27,109 --> 00:00:24,170
continue to warm the atmosphere through

8
00:00:29,990 --> 00:00:27,119
increasing carbon dioxide or other

9
00:00:33,110 --> 00:00:30,000
factors the ocean will absorb that heat

10
00:00:34,580 --> 00:00:33,120
and store it and it can store up to 80

11
00:00:37,660 --> 00:00:34,590
percent of that heat but the question is

12
00:00:39,860 --> 00:00:37,670
will it keep doing that in the future

13
00:00:41,840 --> 00:00:39,870

well the ocean surface topography

14
00:00:44,660 --> 00:00:41,850
mission is important because it provides

15
00:00:46,939 --> 00:00:44,670
a view of the changing climate it

16
00:00:48,529 --> 00:00:46,949
monitors the consequences of global

17
00:00:53,779 --> 00:00:48,539
climate change and global warming by

18
00:00:56,419 --> 00:00:53,789
monitoring sea-level rise half the ward

19
00:01:00,530 --> 00:00:56,429
population lives within 100 kilometre

20
00:01:08,310 --> 00:01:04,710
sea level is rising at 3 millimeters per

21
00:01:10,860 --> 00:01:08,320
year the ice Street of Antarctica and

22
00:01:16,310 --> 00:01:10,870
Greenland each has a capacity of Reason

23
00:01:20,210 --> 00:01:18,110
it's measuring the height of the ocean

24
00:01:22,250 --> 00:01:20,220
surface to a few inches from 800 miles

25
00:01:23,780 --> 00:01:22,260
above the surface of the earth measure

26
00:01:25,610 --> 00:01:23,790
my hand here is the spacecraft in this

27
00:01:27,590 --> 00:01:25,620
ball is the pulse of energy radar energy

28
00:01:28,880 --> 00:01:27,600
that it sends to the surface what it

29
00:01:30,560 --> 00:01:28,890
does is it measures the amount of time

30
00:01:32,600 --> 00:01:30,570
for it to come back if the ocean surface

31
00:01:34,280 --> 00:01:32,610
is lower which is represented by this

32
00:01:36,080 --> 00:01:34,290
lower step here it takes a longer amount

33
00:01:40,910 --> 00:01:36,090
of time to come back than if it were

34
00:01:42,469 --> 00:01:40,920
higher the radar altimeter sends a pulse

35
00:01:43,969 --> 00:01:42,479
of microwave energy down to the surface

36
00:01:46,370 --> 00:01:43,979
and measures the amount of time it takes

37
00:01:48,980 --> 00:01:46,380
to get back it continues the

38
00:01:51,350 --> 00:01:48,990

measurements that were started in 1992

39
00:01:53,600 --> 00:01:51,360
by topex/poseidon and continued with

40
00:01:54,890 --> 00:01:53,610
adjacent one satellite and now we have

41
00:01:56,810 --> 00:01:54,900
the OST M which is going to continue

42
00:01:58,640 --> 00:01:56,820
this record into the future and will

43
00:02:01,460 --> 00:01:58,650
help us answer questions like is sea

44
00:02:04,160 --> 00:02:01,470
level rise going to accelerate OST M is

45
00:02:06,800 --> 00:02:04,170
going to be able to provide us some of

46
00:02:10,040 --> 00:02:06,810
the key information to understanding and

47
00:02:12,650 --> 00:02:10,050
predicting and tracking hurricanes

48
00:02:16,700 --> 00:02:12,660
it's going to be able to provide us same

49
00:02:20,540 --> 00:02:16,710
kind of information for oil rigs for

50
00:02:22,580 --> 00:02:20,550
shipping or fisheries management and

51
00:02:25,450 --> 00:02:22,590
those are some of the very practical

52
00:02:28,160 --> 00:02:25,460
applications besides just the long-term

53
00:02:31,400 --> 00:02:28,170
monitoring of climate it will really