SWOT

SURFACE WATER & OCEAN TOPOGRAPHY

1
00:00:06,869 --> 00:00:04,550
so for me swat is water

2
00:00:09,110 --> 00:00:06,879
that's what is precision

3
00:00:10,629 --> 00:00:09,120
in one word i would describe swat as

4
00:00:12,950 --> 00:00:10,639
beautiful

5
00:00:15,829 --> 00:00:12,960
swat stands for surface water and ocean

6
00:00:18,710 --> 00:00:15,839
topography swat will be observing the

7
00:00:19,830 --> 00:00:18,720
elevation of water surface in the ocean

8
00:00:22,150 --> 00:00:19,840
on the land

9
00:00:25,750 --> 00:00:22,160
the water surface height will allow us

10
00:00:27,990 --> 00:00:25,760
to assess the water storage in lakes and

11
00:00:29,269 --> 00:00:28,000
stream flow of rivers

12
00:00:30,550 --> 00:00:29,279
our water is one of our precious

13
00:00:32,870 --> 00:00:30,560

resources

14
00:00:35,270 --> 00:00:32,880
swat is unique because it is the first

15
00:00:37,270 --> 00:00:35,280
global view of our ever-changing water

16
00:00:39,430 --> 00:00:37,280
supply on earth

17
00:00:42,150 --> 00:00:39,440
swat's main instrument is called cairn

18
00:00:44,310 --> 00:00:42,160
which is the k band radar interferometer

19
00:00:46,470 --> 00:00:44,320
cairn is what sets apart swat from other

20
00:00:48,549 --> 00:00:46,480
missions it's a unique instrument that

21
00:00:50,950 --> 00:00:48,559
we're flying for the first time the

22
00:00:52,470 --> 00:00:50,960
karen instrument uses the two antennas

23
00:00:54,709 --> 00:00:52,480
which are spread out on either side of

24
00:00:56,310 --> 00:00:54,719
the spacecraft in order to bounce

25
00:00:59,029 --> 00:00:56,320
signals off of both of those to get a

26
00:01:01,029 --> 00:00:59,039
much larger view of the surface

27
00:01:03,910 --> 00:01:01,039
and being able to do it in very high

28
00:01:06,550 --> 00:01:03,920
resolution higher accuracy and also a

29
00:01:09,270 --> 00:01:06,560
wide swath so that we're able to measure

30
00:01:12,310 --> 00:01:09,280
large tracks over the earth in a

31
00:01:15,510 --> 00:01:12,320
relatively small amount of time

32
00:01:18,710 --> 00:01:15,520
swat is a pathfinder mission using new

33
00:01:20,710 --> 00:01:18,720
technology to address transformative

34
00:01:23,510 --> 00:01:20,720
questions on climate change and its

35
00:01:25,109 --> 00:01:23,520
impact on our environment

36
00:01:27,109 --> 00:01:25,119
we're collaborating with kness the

37
00:01:28,870 --> 00:01:27,119
french space agency for these programs

38
00:01:30,870 --> 00:01:28,880

but we're also helping the global

39
00:01:32,870 --> 00:01:30,880
community to be able to contribute and

40
00:01:35,190 --> 00:01:32,880
collaborate towards making our home

41
00:01:37,190 --> 00:01:35,200
planet a better place

42
00:01:39,510 --> 00:01:37,200
swat will make our models better and

43
00:01:40,870 --> 00:01:39,520
understanding the water budget helps us

44
00:01:43,830 --> 00:01:40,880
be able to steward that precious

45
00:01:46,069 --> 00:01:43,840
resource if water is out of balance we

46
00:01:47,180 --> 00:01:46,079
could face droughts and it could also

47
00:01:50,870 --> 00:01:47,190
lead to floods

48
00:01:55,910 --> 00:01:53,270
swat is going to be observing water in

49
00:01:57,830 --> 00:01:55,920
oceans and ocean science is essential

50
00:01:59,510 --> 00:01:57,840
for understanding sea level rise and

51
00:02:03,030 --> 00:01:59,520
climate change

52
00:02:05,510 --> 00:02:03,040
now we are facing a time that we need to

53
00:02:07,910 --> 00:02:05,520
be very precise therefore we can

54
00:02:11,670 --> 00:02:07,920
accurately predict what will happen in

55
00:02:14,309 --> 00:02:11,680
our coastal cities 50 years from now

56
00:02:17,110 --> 00:02:14,319
understanding that it is a finite source

57
00:02:19,510 --> 00:02:17,120
and we can't rely on that forever is

58
00:02:21,190 --> 00:02:19,520
something that's really important i'm

59
00:02:23,510 --> 00:02:21,200
just so excited and can't wait to see

60
00:02:25,430 --> 00:02:23,520
how it impacts the lives of others

61
00:02:27,510 --> 00:02:25,440
without really understanding the earth

62
00:02:29,589 --> 00:02:27,520
we cannot protect it because we know

63
00:02:31,750 --> 00:02:29,599

that the missions that we work on are

64
00:02:34,100 --> 00:02:31,760
going to have an impact on our children