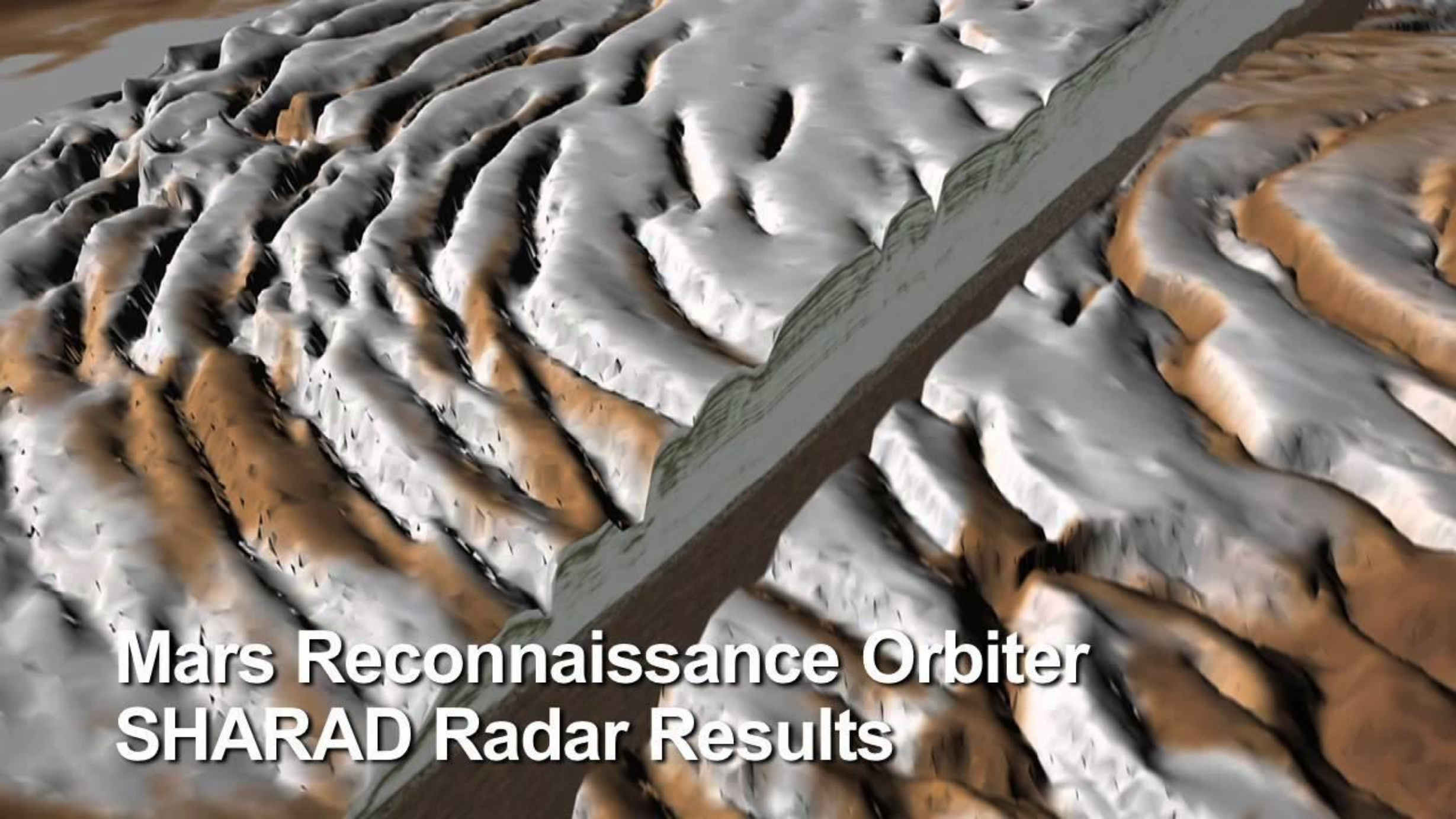

Mars Reconnaissance Orbiter SHARAD Radar Results

1
00:00:08,230 --> 00:00:04,870
deserts

2
00:00:10,470 --> 00:00:08,240
are 20 of the surface of the earth

3
00:00:13,669 --> 00:00:10,480
we've been trying to search for water in

4
00:00:14,709 --> 00:00:13,679
the north african sahara for decades and

5
00:00:17,269 --> 00:00:14,719
decades

6
00:00:20,230 --> 00:00:17,279
and the techniques after techniques and

7
00:00:22,310 --> 00:00:20,240
the success has been very limited

8
00:00:25,109 --> 00:00:22,320
we are trying to solve a problem that we

9
00:00:26,230 --> 00:00:25,119
don't understand which is where is the

10
00:00:33,270 --> 00:00:26,240
water

11
00:00:36,549 --> 00:00:33,280
changing over this huge desert surface

12
00:00:39,270 --> 00:00:36,559
the main idea behind our project

13
00:00:42,790 --> 00:00:39,280

was to use the same technology we used

14
00:00:44,790 --> 00:00:42,800
to map ice on the martian subsurface

15
00:00:46,950 --> 00:00:44,800
mars is a desert environment

16
00:00:48,549 --> 00:00:46,960
we thought that why don't we use this on

17
00:00:50,549 --> 00:00:48,559
the earth to find

18
00:00:53,430 --> 00:00:50,559
the water on the subsurface

19
00:00:56,069 --> 00:00:53,440
to our big surprise we're able to find

20
00:00:57,910 --> 00:00:56,079
these aquifers we're able to map the

21
00:00:59,910 --> 00:00:57,920
depth of the water table between the

22
00:01:02,470 --> 00:00:59,920
depth which water change in the

23
00:01:04,070 --> 00:01:02,480
subsurface we're able to see recharge

24
00:01:05,590 --> 00:01:04,080
location we able to see discharge

25
00:01:07,670 --> 00:01:05,600
location

26
00:01:10,070 --> 00:01:07,680
we're able to prove that yes we can use

27
00:01:14,310 --> 00:01:10,080
that radar technology we used on mars to

28
00:01:15,270 --> 00:01:14,320
map water on earth on a large scale

29
00:01:17,910 --> 00:01:15,280
this is

30
00:01:20,710 --> 00:01:17,920
the only technique that can map

31
00:01:22,950 --> 00:01:20,720
subsurface water on a large scale

32
00:01:26,630 --> 00:01:22,960
that can allow us to see what lies

33
00:01:28,550 --> 00:01:26,640
beneath these sand sheets and sand dunes

34
00:01:30,789 --> 00:01:28,560
in terms of water resources but also in

35
00:01:32,469 --> 00:01:30,799
terms of geological information that

36
00:01:34,630 --> 00:01:32,479
help us understand

37
00:01:37,510 --> 00:01:34,640
why these deserts has transferred to