1
00:00:19,120 --> 00:00:15,600
[Music]

2
00:00:21,519 --> 00:00:19,130
here is rotating globe of Mars and we're

3
00:00:24,550 --> 00:00:21,529
going to zoom in on the middle southern

4
00:00:26,950 --> 00:00:24,560
latitudes the part of Mars where we find

5
00:00:31,630 --> 00:00:26,960
these active slope features and zooming

6
00:00:33,850 --> 00:00:31,640
in on the Newton Basin crater here what

7
00:00:35,860 --> 00:00:33,860
you can see are lots of gullies the

8
00:00:37,720 --> 00:00:35,870
active features that we've recently

9
00:00:41,680 --> 00:00:37,730
discovered on the slopes that are facing

10
00:00:43,540 --> 00:00:41,690
mostly to the north to the equator what

11
00:00:49,630 --> 00:00:43,550
we see are much smaller scale features

12
00:00:52,509 --> 00:00:49,640
than gullies you can see an area of

13
00:00:54,520 --> 00:00:52,519

bedrock a steep cliff here and it's from

14
00:00:59,259 --> 00:00:54,530
that bedrock that these dark features

15
00:01:00,880 --> 00:00:59,269
flow out given the latitude and the

16
00:01:02,829 --> 00:01:00,890
slope aspect in particular the

17
00:01:04,540 --> 00:01:02,839
temperatures suggest that there is a

18
00:01:05,740 --> 00:01:04,550
volatile involved here and the

19
00:01:09,460 --> 00:01:05,750
appropriate volatile for this

20
00:01:11,410 --> 00:01:09,470
temperature is water probably salty

21
00:01:12,370 --> 00:01:11,420
water because sometimes these are active

22
00:01:14,530 --> 00:01:12,380
when it's a little bit below the

23
00:01:17,080 --> 00:01:14,540
freezing point of pure water salt lowers

24
00:01:19,060 --> 00:01:17,090
the melting point and water on Mars

25
00:01:23,500 --> 00:01:19,070
should be salty we know there's lots of

26
00:01:25,420 --> 00:01:23,510
salts on Mars this is potentially actual

27
00:01:28,890 --> 00:01:25,430
water in the liquid state flowing on

28
00:01:31,960 --> 00:01:28,900
Mars today not millions of years ago

29
00:01:35,140 --> 00:01:31,970
then late spring and into the summer is

30
00:01:37,360 --> 00:01:35,150
when these features form and fade by

31
00:01:39,460 --> 00:01:37,370
late summer early fall they'll be

32
00:01:41,080 --> 00:01:39,470
completely gone and we'll see just a

33
00:01:43,480 --> 00:01:41,090
normal-looking slope throughout the

34
00:01:46,090 --> 00:01:43,490
winter every place where we have

35
00:01:48,670 --> 00:01:46,100
multiple years these features recur

36
00:01:50,710 --> 00:01:48,680
they're not exactly the same they may be