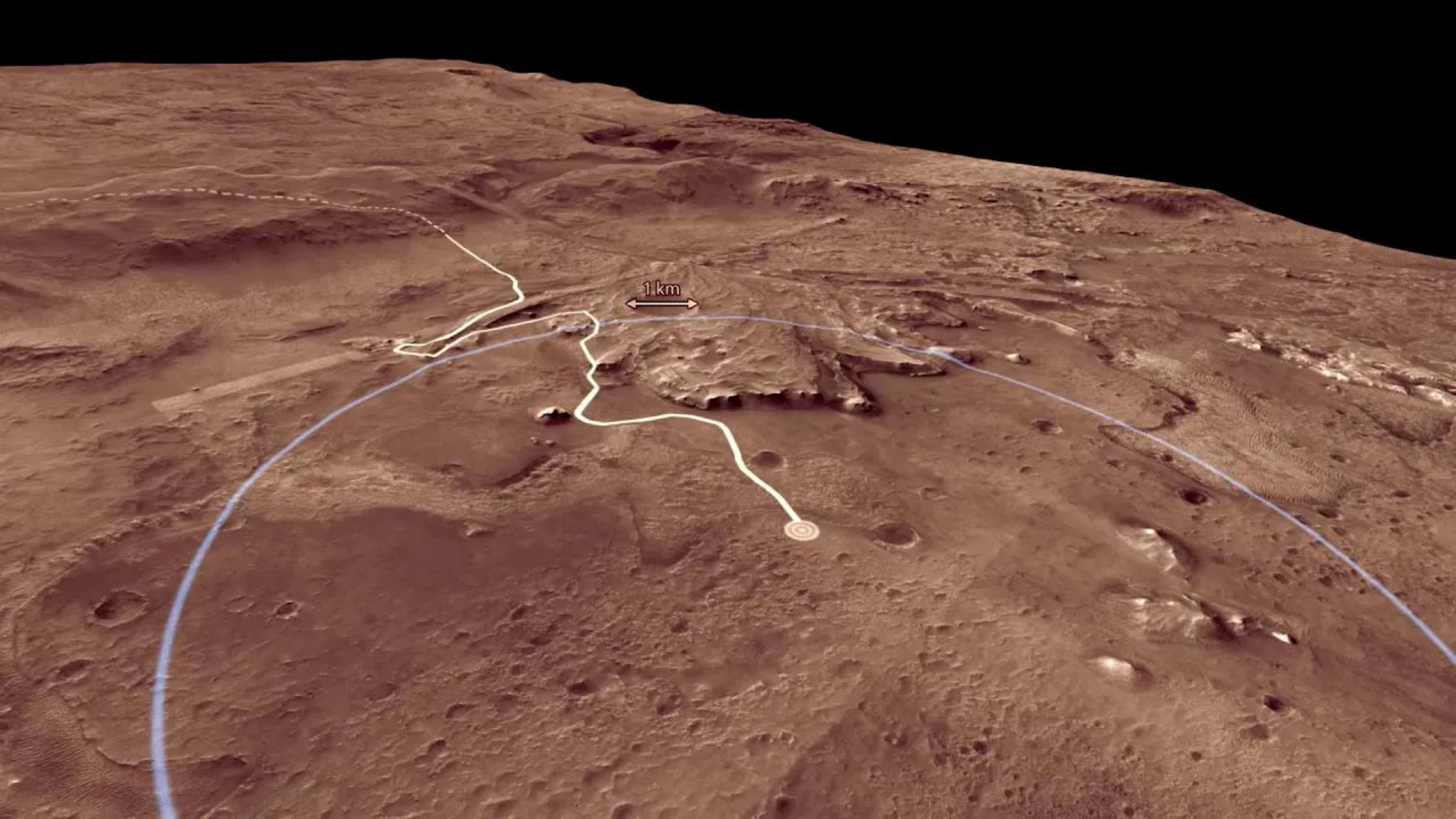
1 km

1
00:00:00,800 --> 00:00:02,235
Mars 2020 Landing Site:
Jezero Crater Flyover

2
00:00:06,605 --> 00:00:10,309
This flyover was produced from
NASA images taken from orbit.

3
00:00:10,342 --> 00:00:14,080
The blue circle indicates the
area the rover will likely land.

4
00:00:14,113 --> 00:00:17,450
The arcing hills in the center,
about 1600 feet high,

5
00:00:17,483 --> 00:00:19,786
and are the rim
of Jezero Crater.

6
00:00:19,819 --> 00:00:21,621
The goal of Mars 2020
is to learn

7
00:00:21,654 --> 00:00:23,923
whether life ever
existed on Mars.

8
00:00:23,956 --> 00:00:26,092
It's too cold and dry
for life to exist

9
00:00:26,125 --> 00:00:27,960
on the Martian surface today.

10
00:00:27,993 --> 00:00:30,963
But after Jezero Crater formed
billions of years ago,

11

00:00:30,996 --> 00:00:33,266
water filled it to
form a deep lake

12
00:00:33,299 --> 00:00:36,135
about the same size
as Lake Tahoe.

13
00:00:36,168 --> 00:00:40,773
Eventually, as Mars' climate
changed, Lake Jezero dried up.

14
00:00:40,806 --> 00:00:43,810
And surface water
disappeared from the planet.

15
00:00:43,843 --> 00:00:47,080
An ancient lake is a fantastic
place to pursue our goal

16
00:00:47,113 --> 00:00:49,482
of looking for
possible Martian life.

17
00:00:49,515 --> 00:00:52,251
On Earth, lakes are filled
with living creatures.

18
00:00:52,284 --> 00:00:55,188
Evidence of that life is often
preserved in the mud and sand

19
00:00:55,221 --> 00:00:57,323
deposited on the
bottom of the lake.

20
00:00:57,356 --> 00:00:59,492
So we use the rover's
instruments to explore

21

00:00:59,525 --> 00:01:01,761
the rocks of the
ancient lake bed.

22
00:01:02,762 --> 00:01:05,164
Here we can see evidence
of the former lake.

23
00:01:05,197 --> 00:01:07,233
A canyon cutting
through the crater rim

24
00:01:07,266 --> 00:01:09,102
was carved by a river.

25
00:01:09,135 --> 00:01:11,104
As the water entered
the lake it slowed

26
00:01:11,137 --> 00:01:13,039
and dropped the sand
and mud it was carrying

27
00:01:13,072 --> 00:01:15,075
to form the fan-shaped delta.

28
00:01:16,042 --> 00:01:18,177
The white line is a path the
rover might follow

29
00:01:18,210 --> 00:01:21,147
in its first two years,
called the prime mission.

30
00:01:21,180 --> 00:01:23,850
During this period we use the
rover science instruments

31
00:01:23,883 --> 00:01:26,152
to analyze the lake sediments.

32
00:01:26,385 --> 00:01:28,020
After we explore the delta,

33
00:01:28,053 --> 00:01:31,091
we hope to investigate the
shoreline of the former lake.

34
00:01:31,825 --> 00:01:33,359
To get there we have to
traverse around

35
00:01:33,392 --> 00:01:35,528
a sea of modern sand dunes.

36
00:01:35,661 --> 00:01:38,197
From this perspective you
can see former shorelines

37
00:01:38,230 --> 00:01:39,966
curving around a headland.

38
00:01:39,999 --> 00:01:43,903
We can picture waves in Lake
Jezero beating on a sandy beach.

39
00:01:44,670 --> 00:01:47,140
And finally we will press
on to the crater rim.

40
00:01:48,408 --> 00:01:50,543
Jezero Crater formed when a
large object collided with Mars,

41
00:01:50,576 --> 00:01:53,012
excavating rocks from deep
in the Martian crust,

42
00:01:53,045 --> 00:01:55,582

exposing them in the
rim for us to study.

43
00:01:56,249 --> 00:01:58,885
These rocks would have been hot
shortly after the impact

44
00:01:58,918 --> 00:02:00,820
and may have hosted hot springs.

45
00:02:00,853 --> 00:02:02,855
Deposits from these springs
would be another target

46
00:02:02,888 --> 00:02:05,892
in our search for possible
ancient life on Mars.

47
00:02:10,462 --> 00:02:12,098
NASA Jet Propulsion Laboratory