



1  
00:00:03,970 --> 00:00:05,805  
>> Narrator:  
Approaching Neptune.

2  
00:00:05,805 --> 00:00:09,709  
After 12 years on the road,  
and another billion miles,

3  
00:00:09,709 --> 00:00:12,712  
Voyager 2 was an  
exhausted traveler.

4  
00:00:14,347 --> 00:00:17,717  
By August of 1989,  
Voyager 2 was speeding

5  
00:00:17,717 --> 00:00:19,352  
more than 40,000 miles per hour

6  
00:00:19,352 --> 00:00:22,088  
toward its rendezvous  
with Neptune.

7  
00:00:22,088 --> 00:00:24,290  
The last stop on a  
spectacular grand tour

8  
00:00:24,290 --> 00:00:26,459  
of the four outer planets.

9  
00:00:28,061 --> 00:00:29,662  
Discovered in 1846,

10  
00:00:31,097 --> 00:00:34,267  
Neptune was named after the  
mythical Roman God of the Sea.

11  
00:00:34,267 --> 00:00:37,604  
The planet appears blue,

because its methane

12

00:00:37,604 --> 00:00:40,106

absorbs most of the  
red in the spectrum,

13

00:00:40,106 --> 00:00:43,309

leaving mostly green and blue.

14

00:00:43,309 --> 00:00:46,012

Voyager 2 flew by  
Neptune only 22 miles

15

00:00:46,012 --> 00:00:49,182

off its charted course,  
and only one second

16

00:00:49,182 --> 00:00:51,618

off its scheduled flyby time.

17

00:00:53,720 --> 00:00:57,824

Skimming only 3,000 miles  
over the planet's North Pole,

18

00:00:57,824 --> 00:00:59,993

Voyager found Neptune  
to be a giant ball

19

00:00:59,993 --> 00:01:03,196

of melted rock and ice,  
cloaked in hydrogen, helium,

20

00:01:03,196 --> 00:01:05,999

and methane gasses,  
its atmosphere whipped

21

00:01:05,999 --> 00:01:09,102

by winds of up to  
700 miles per hour.

22

00:01:11,638 --> 00:01:13,973

Voyager flew the closest  
that any spacecraft

23

00:01:13,973 --> 00:01:16,076

has come to one of  
the outer planets,

24

00:01:16,076 --> 00:01:19,479

discovering at least four  
complete rings of ice and rock,

25

00:01:19,479 --> 00:01:22,549

six new moons, and  
a great dark spot,

26

00:01:23,483 --> 00:01:24,851

a hurricane the size of Earth

27

00:01:24,851 --> 00:01:28,822

raging in Neptune's  
southern hemisphere.

28

00:01:28,822 --> 00:01:31,391

Doctor Andrew Ingersoll:

29

00:01:31,391 --> 00:01:32,625

>> Ingersoll: The storm revolves

30

00:01:32,625 --> 00:01:35,228

around the planet  
every 18 hours,

31

00:01:36,729 --> 00:01:39,499

and then it rotates  
around its own axis

32

00:01:39,499 --> 00:01:43,236

like a big glob of pizza

dough every 16 days.

33

00:01:46,106 --> 00:01:48,508

>> Narrator: Largest of  
Neptune's eight moons,

34

00:01:48,508 --> 00:01:52,679

Triton orbits in an opposite  
rotation from the planet.

35

00:01:52,679 --> 00:01:54,948

Triton was once probably  
an independent object

36

00:01:54,948 --> 00:01:58,485

in orbit around the sun, until  
it collided with the moon

37

00:01:58,485 --> 00:02:02,288

and was captured by  
Neptune's gravity.

38

00:02:02,288 --> 00:02:04,891

Pock marked by impact  
craters and glazed pink

39

00:02:04,891 --> 00:02:07,894

by a radiation blitz of  
methane and nitrogen ices

40

00:02:07,894 --> 00:02:11,264

and atmosphere, Triton is  
the coldest known object

41

00:02:11,264 --> 00:02:15,435

in the solar system, and  
one of the most reflective.

42

00:02:16,970 --> 00:02:21,207

Utilizing Voyage's digitized

photographs of this icy moon,

43

00:02:21,207 --> 00:02:24,043

scientists saw jagged mountains,

44

00:02:24,043 --> 00:02:25,712

high cliffs,

45

00:02:25,712 --> 00:02:27,113

and frozen lakes.

46

00:02:28,581 --> 00:02:31,384

The most bizarre discovery  
on Triton was the presence

47

00:02:31,384 --> 00:02:34,754

of icy geysers, some of  
which are still active,

48

00:02:34,754 --> 00:02:38,925

spewing organic particles  
a hundred miles downwind.

49

00:02:40,160 --> 00:02:41,895

Doctor Edward Stone:

50

00:02:41,895 --> 00:02:43,429

>> Stone: The Voyager  
mission of the outer planets

51

00:02:43,429 --> 00:02:47,066

has certainly been the  
journey of a lifetime.

52

00:02:47,066 --> 00:02:49,536

Having encountered  
Triton as the last world

53

00:02:49,536 --> 00:02:51,204

we would visit, I  
don't see how any

54

00:02:51,204 --> 00:02:53,600  
of the scientists could  
have been happier.

55

00:02:53,600 --> 00:02:55,900  
>> Narrator: Voyager  
2 has set its course

56

00:02:55,909 --> 00:02:59,200  
for southwest of the  
constellation Sagittarius.

57

00:02:59,212 --> 00:03:01,614  
Traveling at 10 miles per  
second, it is expected

58

00:03:01,614 --> 00:03:04,017  
to pass four light  
years from Sirius;