



1  
00:00:04,304 --> 00:00:06,539  
>> Narrator: The Voyager's  
approach to Jupiter,

2  
00:00:06,539 --> 00:00:08,375  
the celestial body  
that so fascinated

3  
00:00:08,375 --> 00:00:11,778  
Earth's first modern  
astronomer, Galileo.

4  
00:00:13,013 --> 00:00:14,514  
Passing through the  
boundary where the

5  
00:00:14,514 --> 00:00:18,885  
supersonic solar wind slams  
into Jupiter's magnetic field,

6  
00:00:18,885 --> 00:00:23,056  
the spacecraft's instruments  
recorded a strong bounce shock.

7  
00:00:25,191 --> 00:00:29,829  
Named after Jove, the supreme  
god of Roman mythology,

8  
00:00:29,829 --> 00:00:33,833  
Jupiter is an enormous whirling  
sphere of turbulent gasses.

9  
00:00:33,833 --> 00:00:36,903  
Big enough to hold  
over 1,300 Earths.

10  
00:00:38,471 --> 00:00:40,607  
The Voyagers discovered  
thin rings of dust

11  
00:00:40,607 --> 00:00:42,375  
circling the planet.

12  
00:00:42,375 --> 00:00:45,145  
Tiny grains containing  
silicon and carbon

13  
00:00:45,145 --> 00:00:47,981  
like a fine haze  
of ash and smoke.

14  
00:00:49,349 --> 00:00:51,684  
Jupiter's atmosphere  
displays a dazzling variety

15  
00:00:51,684 --> 00:00:53,887  
of alternating patterns.

16  
00:00:53,887 --> 00:00:56,322  
Cold, light colored  
zones dominated by

17  
00:00:56,322 --> 00:00:59,592  
ammonia ice crystals in  
the higher altitudes.

18  
00:00:59,592 --> 00:01:02,796  
And warmer dark belts of  
solid sulfurous particles

19  
00:01:02,796 --> 00:01:04,731  
in the lower altitudes.

20  
00:01:06,933 --> 00:01:09,836  
Voyager's cameras afforded  
scientists spectacular

21  
00:01:09,836 --> 00:01:13,073  
close-up views of

the Great Red Spot.

22

00:01:13,073 --> 00:01:15,675

A storm three times  
the diameter of Earth,

23

00:01:15,675 --> 00:01:18,378

raging in Jupiter's atmosphere.

24

00:01:18,378 --> 00:01:22,048

Voyager atmospheric scientist,  
Dr. Andrew Ingersoll.

25

00:01:22,048 --> 00:01:23,483

>> Dr. Ingersoll: The  
great red spot is a

26

00:01:23,483 --> 00:01:27,620

counterclockwise rotating  
storm, sort of like a hurricane,

27

00:01:27,620 --> 00:01:30,557

that is persisted for  
over three centuries.

28

00:01:30,557 --> 00:01:34,627

We were amazed that  
this spot could survive

29

00:01:34,627 --> 00:01:38,264

in the midst of all  
this turbulent activity.

30

00:01:38,264 --> 00:01:40,400

>> Narrator: With at  
least 16 known moons,

31

00:01:40,400 --> 00:01:44,838

Jupiter could well be  
considered a mini solar system.

32

00:01:44,838 --> 00:01:47,574

The Voyagers flew  
by the four largest,

33

00:01:47,574 --> 00:01:50,777

finding Callisto  
pock-marked by craters.

34

00:01:50,777 --> 00:01:54,647

Ganymede, etched by  
icy parallel grooves.

35

00:01:54,647 --> 00:01:56,583

Europa, smooth and icy.

36

00:01:58,017 --> 00:02:01,754

And Io, glowing a cold  
and sulfurous red-orange.

37

00:02:04,257 --> 00:02:06,960

Nine active volcanoes  
were found on Io,

38

00:02:06,960 --> 00:02:08,828

the first observation  
of live volcanoes

39

00:02:08,828 --> 00:02:11,164

beyond Earth and Venus.

40

00:02:11,164 --> 00:02:13,533

These geysers were spewing  
hot, sulfurous gasses

41

00:02:13,533 --> 00:02:14,367

100 miles.

42

00:02:15,535 --> 00:02:18,638

High enough to hit  
a passing satellite.

43

00:02:18,638 --> 00:02:21,808

Voyager project scientist,  
Dr. Edward Stone.

44

00:02:21,808 --> 00:02:23,710

>> Dr. Stone: If I were  
to pick one discovery

45

00:02:23,710 --> 00:02:27,847

to represent the body  
of discoveries that  
Voyagers have made

46

00:02:27,847 --> 00:02:31,551

I would pick the discovery  
of the volcanoes on Io.

47

00:02:31,551 --> 00:02:33,720

These were totally unexpected,

48

00:02:33,720 --> 00:02:38,258

and really forced us to  
reconsider our whole concept

49

00:02:38,258 --> 00:02:40,727

of the evolution of small moons

50

00:02:40,727 --> 00:02:45,265

which are orbiting in  
the outer solar system.

51

00:02:45,265 --> 00:02:46,733

>> Narrator: Pulling  
away from Jupiter

52

00:02:46,733 --> 00:02:49,035

after a joint reconnaissance

of more than six months,