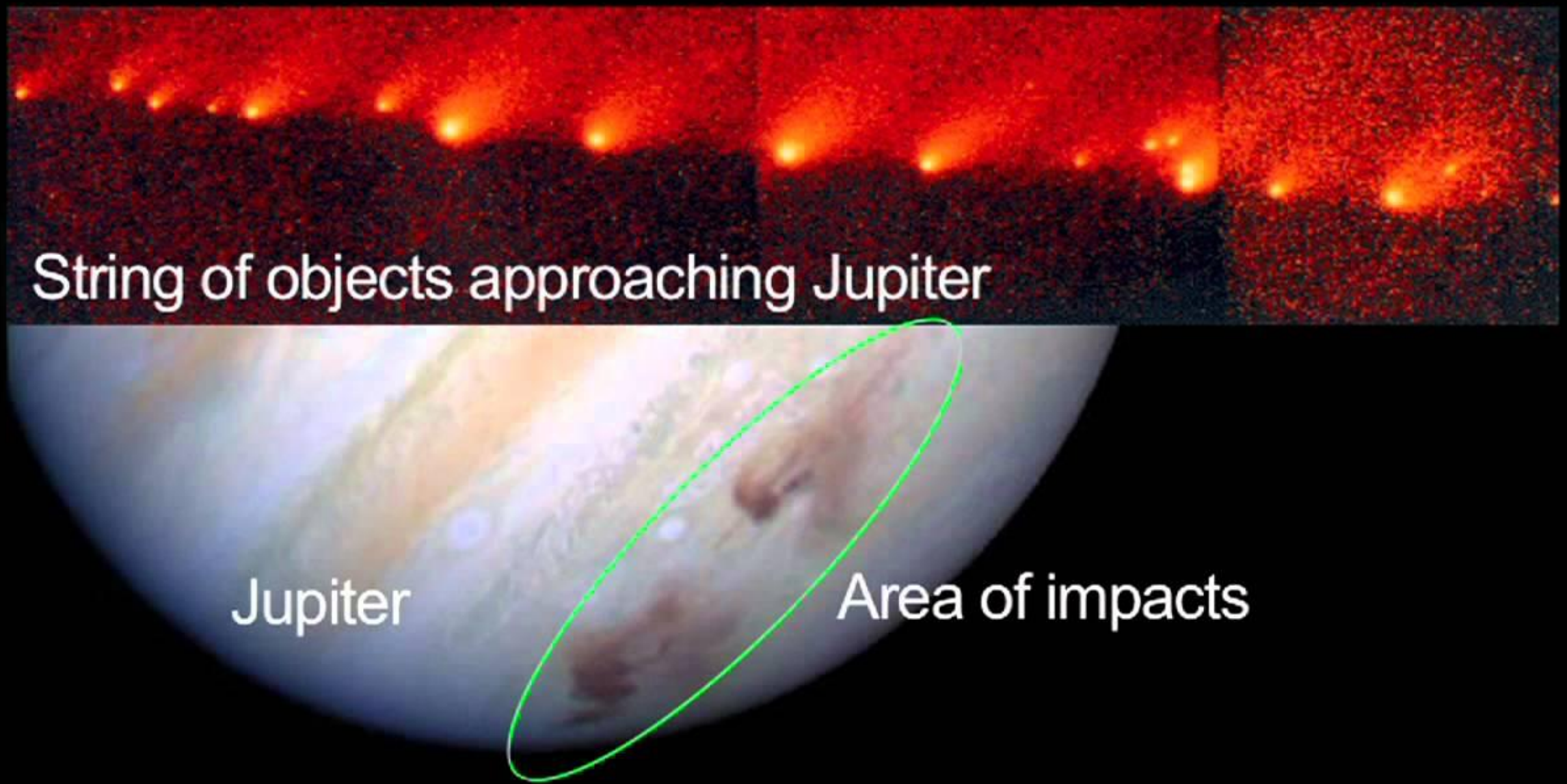
String of objects approaching Jupiter
Jupiter
Area of impacts

1
00:00:06,559 --> 00:00:03,980
what's up for June solar system

2
00:00:08,470 --> 00:00:06,569
collisions hello and welcome I'm Jane

3
00:00:12,350 --> 00:00:08,480
Houston Jones at NASA's Jet Propulsion

4
00:00:14,780 --> 00:00:12,360
Laboratory in Pasadena California the

5
00:00:17,390 --> 00:00:14,790
early solar system was a messy place and

6
00:00:20,660 --> 00:00:17,400
asteroids moons and planets frequently

7
00:00:23,660 --> 00:00:20,670
collided these collisions and impacts

8
00:00:25,609 --> 00:00:23,670
left scars we can see craters are the

9
00:00:29,509 --> 00:00:25,619
most common surface features on many

10
00:00:31,880 --> 00:00:29,519
solid planets and moons when an impactor

11
00:00:34,549 --> 00:00:31,890
strikes the solid surface a shock wave

12
00:00:36,470 --> 00:00:34,559
spreads out from the impact site the

13
00:00:39,380 --> 00:00:36,480

shock wave fractures the rock and

14
00:00:41,900 --> 00:00:39,390
excavates a large cavity much larger

15
00:00:45,260 --> 00:00:41,910
than the impactor the impact sprays

16
00:00:47,060 --> 00:00:45,270
material in all directions sometimes the

17
00:00:50,240 --> 00:00:47,070
force of the impact is great enough to

18
00:00:52,430 --> 00:00:50,250
melt some of the local rock if an

19
00:00:54,380 --> 00:00:52,440
impactor is large enough some of the

20
00:00:56,090 --> 00:00:54,390
material pushed toward the edges of the

21
00:00:58,369 --> 00:00:56,100
critter will slump back toward the

22
00:01:01,250 --> 00:00:58,379
center and the rock beneath the crater

23
00:01:05,270 --> 00:01:01,260
will rebound or push back creating a

24
00:01:07,370 --> 00:01:05,280
central peak in the crater the slumped

25
00:01:10,240 --> 00:01:07,380
edges of these craters also may create

26
00:01:13,130 --> 00:01:10,250
terraces that step down into the crater

27
00:01:15,530 --> 00:01:13,140
we can even see crater chains on many

28
00:01:17,719 --> 00:01:15,540
moons and planets these are thought to

29
00:01:19,789 --> 00:01:17,729
be made by the impact of a string of

30
00:01:22,570 --> 00:01:19,799
objects just like what happened when

31
00:01:25,340 --> 00:01:22,580
comet shoemaker-levy 9 impacted Jupiter

32
00:01:27,050 --> 00:01:25,350
most impact features on many of the

33
00:01:29,420 --> 00:01:27,060
moons and planets can't be seen by

34
00:01:32,310 --> 00:01:29,430
amateur telescopes you'll have to look

35
00:01:34,350 --> 00:01:32,320
at Mission images for those

36
00:01:36,240 --> 00:01:34,360
when you're not looking at craters this

37
00:01:37,980 --> 00:01:36,250
month turn your eyes towards Saturn

38
00:01:42,030 --> 00:01:37,990

you'll find it halfway up from the

39
00:01:44,460 --> 00:01:42,040
southern horizon at sunset the hours

40
00:01:47,100 --> 00:01:44,470
between midnight and Dawn offer glimpses

41
00:01:50,220 --> 00:01:47,110
of Pluto Uranus Neptune and even

42
00:01:54,330 --> 00:01:50,230
asteroid Vesta which has a huge impact

43
00:01:56,820 --> 00:01:54,340
crater at its South Pole a large family

44
00:01:58,890 --> 00:01:56,830
of meteorites which fell to earth may

45
00:01:59,550 --> 00:01:58,900
have originated from this impact event

46
00:02:01,920 --> 00:01:59,560
on Vesta

47
00:02:04,350 --> 00:02:01,930
we'll have more to say about NASA's Dawn

48
00:02:08,040 --> 00:02:04,360
spacecraft next month when it's expected

49
00:02:10,919 --> 00:02:08,050
to achieve orbit around Vesta there are

50
00:02:13,500 --> 00:02:10,929
two eclipses this month - a partial

51
00:02:16,710 --> 00:02:13,510
solar eclipse on June 1st is visible

52
00:02:19,500 --> 00:02:16,720
over the northern Arctic regions two

53
00:02:21,360 --> 00:02:19,510
weeks later on June 15th a total lunar

54
00:02:24,270 --> 00:02:21,370
eclipse will be visible for much of the

55
00:02:26,729 --> 00:02:24,280
southern hemisphere you can read all

56
00:02:31,500 --> 00:02:26,739
about impacts in our solar system at

57
00:02:33,660 --> 00:02:31,510
solarsystem.nasa.gov slash yss for year

58
00:02:37,830 --> 00:02:33,670
of the solar system and you can learn

59
00:02:40,140 --> 00:02:37,840
all about NASA's missions at WWDC gov