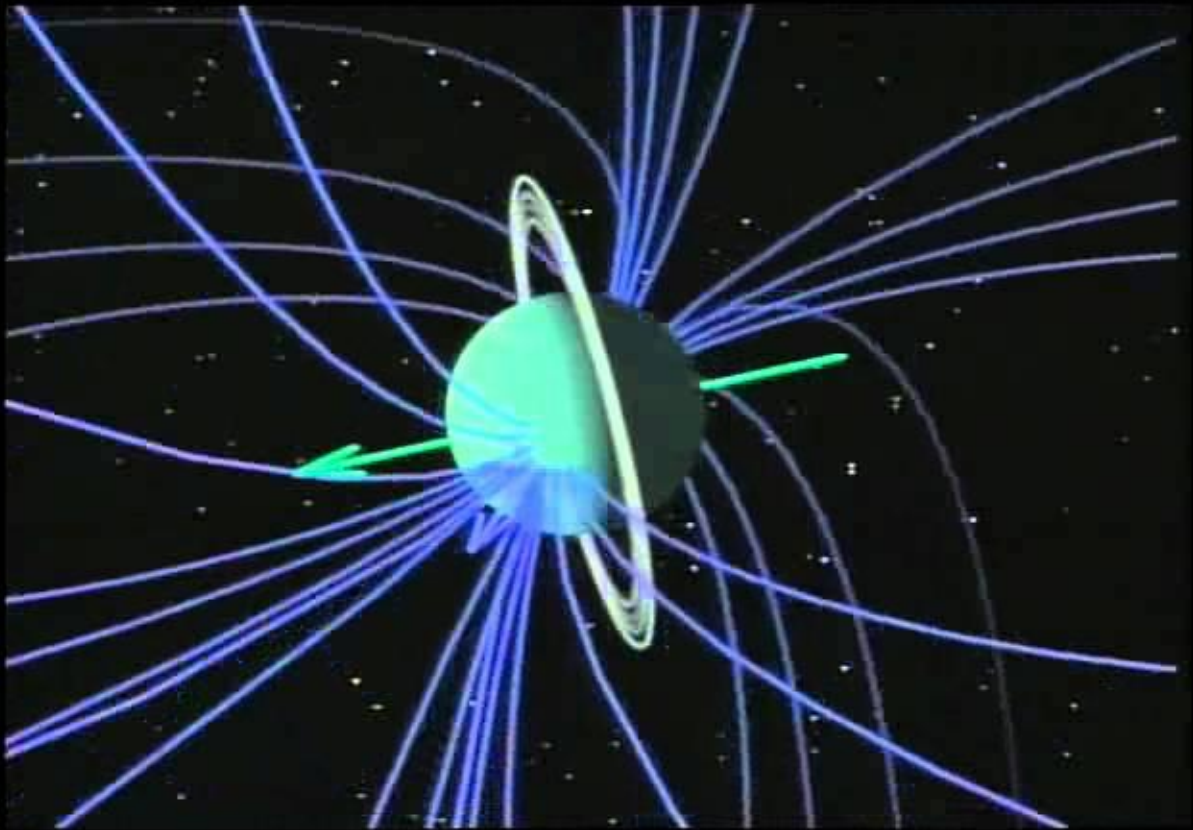

1
00:00:14,920 --> 00:00:18,070
liftoff

2
00:00:21,830 --> 00:00:19,670
and since the earth is part of the solar

3
00:00:24,070 --> 00:00:21,840
system by studying the solar system

4
00:00:25,349 --> 00:00:24,080
we hope that we will learn more about

5
00:00:28,550 --> 00:00:25,359
where the earth how the earth got to

6
00:00:31,189 --> 00:00:28,560
where it is today and where it's going

7
00:00:42,830 --> 00:00:31,199
well we're not disappointed this mission

8
00:00:42,840 --> 00:00:49,750
exciting

9
00:00:53,110 --> 00:00:51,830
when you watch the behavior of these

10
00:00:55,189 --> 00:00:53,120
clouds the way they

11
00:00:57,510 --> 00:00:55,199
interact with one another it's as though

12
00:01:02,310 --> 00:00:57,520
you were seeing two swirling

13
00:01:06,550 --> 00:01:04,869

this is the most dynamic and active

14
00:01:07,030 --> 00:01:06,560
geologic surface in the entire solar

15
00:01:10,149 --> 00:01:07,040
system

16
00:01:11,429 --> 00:01:10,159
volcanic lava flows each of these

17
00:01:16,870 --> 00:01:11,439
satellites

18
00:01:29,030 --> 00:01:20,310
you can fit approximately 760 earths

19
00:01:33,270 --> 00:01:31,670
well the rings are made up of individual

20
00:01:34,950 --> 00:01:33,280
individual small particles perhaps

21
00:01:38,830 --> 00:01:34,960
something the size of a basketball and

22
00:01:38,840 --> 00:01:45,990
satellite

23
00:01:49,190 --> 00:01:47,990
so you have to catch it just right when

24
00:01:51,990 --> 00:01:49,200
the outside freezes

25
00:01:53,190 --> 00:01:52,000
and the inside is still liquid saturn's

26
00:01:55,030 --> 00:01:53,200
large moon titan

27
00:01:56,789 --> 00:01:55,040
has an atmosphere probably two to three

28
00:01:57,749 --> 00:01:56,799
times as dense as the atmosphere here on

29
00:01:59,830 --> 00:01:57,759
earth an atmosphere

30
00:02:06,310 --> 00:01:59,840
predominantly nitrogen but with a trace

31
00:02:09,430 --> 00:02:08,389
late last night we had these frames come

32
00:02:14,550 --> 00:02:09,440
back from

33
00:02:14,560 --> 00:02:20,150
very very unusual difficult to explain

34
00:02:20,160 --> 00:02:27,350
very sensitive to any dust in the rings

35
00:02:30,630 --> 00:02:29,110
miranda surpassed our wildest

36
00:02:33,830 --> 00:02:30,640
expectations

37
00:02:35,190 --> 00:02:33,840
here we see a cliff 16 miles high on

38
00:02:36,710 --> 00:02:35,200

this fault

39
00:02:38,470 --> 00:02:36,720
if you were standing here you could flip

40
00:02:42,150 --> 00:02:38,480
a rock off it would take it nine minutes

41
00:02:45,589 --> 00:02:43,830
how do you generate a magnetic field of

42
00:02:47,750 --> 00:02:45,599
a planet briefly

43
00:02:55,750 --> 00:02:47,760
you do it by having an electrical

44
00:02:59,030 --> 00:02:57,350
negative five decimal three eight

45
00:03:06,790 --> 00:02:59,040
microseconds

46
00:03:11,110 --> 00:03:08,869
i guess the surprise to me was that

47
00:03:12,790 --> 00:03:11,120
there was anything to see at all

48
00:03:16,830 --> 00:03:12,800
that's motion that's how you study

49
00:03:21,030 --> 00:03:19,190
meteorology

50
00:03:23,110 --> 00:03:21,040
it looks like we got pounded with about

51
00:03:24,390 --> 00:03:23,120
300 hits per second of tiny little dust

52
00:03:26,550 --> 00:03:24,400
particles

53
00:03:27,670 --> 00:03:26,560
and the science is pushed in in an

54
00:03:30,830 --> 00:03:27,680
amazing fashion

55
00:03:34,949 --> 00:03:30,840
it's like fitting a jigsaw puzzle

56
00:03:38,390 --> 00:03:36,789
one of the interesting thing that's kind

57
00:03:48,710 --> 00:03:38,400
of that's kind of bizarre