1
00:00:12,030 --> 00:00:09,089
halfway through its four years Saturn

2
00:00:15,600 --> 00:00:12,040
tour Cassini's travel log is brimming

3
00:00:18,090 --> 00:00:15,610
with news one amazing discovery after

4
00:00:23,670 --> 00:00:18,100
another like postcards from an excited

5
00:00:25,050 --> 00:00:23,680
tourist information streams home I think

6
00:00:27,000 --> 00:00:25,060
it was beyond what we could have

7
00:00:29,330 --> 00:00:27,010
imagined data set being returned from

8
00:00:31,590 --> 00:00:29,340
Cassini is extraordinarily rich

9
00:00:33,150 --> 00:00:31,600
scientists will be studying it and

10
00:00:35,690 --> 00:00:33,160
learning about the Saturn system for

11
00:00:38,520 --> 00:00:35,700
decades after the mission is over a

12
00:00:40,980 --> 00:00:38,530
high-priority destination Saturn's

13
00:00:44,460 --> 00:00:40,990

largest moon Titan NASA's Voyager

14
00:00:47,040 --> 00:00:44,470
spotted an intriguing orange ball 25

15
00:00:52,590 --> 00:00:47,050
years ago the scene II went back for a

16
00:00:55,500 --> 00:00:52,600
closer look on January 14 2005 Cassini

17
00:01:00,150 --> 00:00:55,510
released the Huygens probe with cameras

18
00:01:02,819 --> 00:01:00,160
rolling and a microphone recording it

19
00:01:05,690 --> 00:01:02,829
revealed a place that is strikingly

20
00:01:08,850 --> 00:01:05,700
earth life

21
00:01:12,390 --> 00:01:08,860
Cassini has also flown by Titan more

22
00:01:16,440 --> 00:01:12,400
than a dozen times they are in French

23
00:01:19,230 --> 00:01:16,450
Titan has a thick atmosphere and we use

24
00:01:23,250 --> 00:01:19,240
the radar to be able to see the detailed

25
00:01:24,990 --> 00:01:23,260
geology we can see little swirls and

26
00:01:27,720 --> 00:01:25,000
inlets and outlets you know things like

27
00:01:29,610 --> 00:01:27,730
maybe think of his Bay's we know that

28
00:01:31,380 --> 00:01:29,620
the materials on Titan are distinctly

29
00:01:33,330 --> 00:01:31,390
different from what we find my word you

30
00:01:35,520 --> 00:01:33,340
don't find the josé materials and yet

31
00:01:38,400 --> 00:01:35,530
you find the same processor story that's

32
00:01:40,530 --> 00:01:38,410
really exciting while scientists

33
00:01:42,990 --> 00:01:40,540
expected lots of discoveries at the big

34
00:01:47,420 --> 00:01:43,000
moon Titan one of the biggest surprises

35
00:01:50,250 --> 00:01:47,430
has been from the small moon Enceladus

36
00:01:53,040 --> 00:01:50,260
here it is a tiny tiny tiny little moon

37
00:01:56,030 --> 00:01:53,050
it has geysers shooting out of the South

38
00:01:58,650 --> 00:01:56,040

Pole if you catch it in the right light

39
00:02:01,560 --> 00:01:58,660
Enceladus will show you sort of these

40
00:02:04,650 --> 00:02:01,570
jets and they're huge they extend almost

41
00:02:08,070 --> 00:02:04,660
the size of the moon itself just amazing

42
00:02:09,690 --> 00:02:08,080
amazing they call it cold faithful

43
00:02:11,699 --> 00:02:09,700
because of the similarities to the

44
00:02:14,729 --> 00:02:11,709
hydrothermal system powering Old

45
00:02:16,920 --> 00:02:14,739
Faithful in Yellowstone all the evidence

46
00:02:19,140 --> 00:02:16,930
points to possible water near the

47
00:02:22,110 --> 00:02:19,150
surface it's one of the numerous

48
00:02:25,470 --> 00:02:22,120
discoveries that will ensure the CD spot

49
00:02:27,780 --> 00:02:25,480
in history we will be learning about the

50
00:02:29,090 --> 00:02:27,790
Saturn system for decades after the

51
00:02:31,520 --> 00:02:29,100
mission

52
00:02:34,100 --> 00:02:31,530
I can't I can't even begin to estimate

53
00:02:37,010 --> 00:02:34,110
how many young scientists will do a PhD

54
00:02:39,830 --> 00:02:37,020
dissertation on Cassini data the number

55
00:02:42,080 --> 00:02:39,840
is going to be staggering Cassini's

56
00:02:44,080 --> 00:02:42,090
passport is only half filled its

57
00:02:47,830 --> 00:02:44,090
itinerary over the next two years

58
00:02:51,440 --> 00:02:47,840
includes dozens of flybys of Titan

59
00:02:54,530 --> 00:02:51,450
solidus Saturn's other moons and its

60
00:02:57,230 --> 00:02:54,540
grains we can expect more postcards from