



1
00:00:10,730 --> 00:00:06,829
comet Ison meteor shower presented by

2
00:00:13,129 --> 00:00:10,740
science at NASA anticipation is building

3
00:00:15,049 --> 00:00:13,139
as comet Ison plunges into the inner

4
00:00:18,980 --> 00:00:15,059
solar system for a close encounter with

5
00:00:21,590 --> 00:00:18,990
the Sun in November 2013 blast at

6
00:00:23,480 --> 00:00:21,600
point-blank range by solar radiation the

7
00:00:26,200 --> 00:00:23,490
sungrazer will likely become one of the

8
00:00:28,630 --> 00:00:26,210
finest comets in many years

9
00:00:31,870 --> 00:00:28,640
when NASA's Swift spacecraft observed

10
00:00:34,000 --> 00:00:31,880
the common in January 2013 it will still

11
00:00:36,729 --> 00:00:34,010
near the orbit of Jupiter but already

12
00:00:38,860 --> 00:00:36,739
very active more than one hundred and

13
00:00:41,319 --> 00:00:38,870

twelve thousand pounds of dust were

14

00:00:44,740 --> 00:00:41,329

spewing from the comet's nucleus every

15

00:00:46,720 --> 00:00:44,750

minute it turns out some of that dust

16

00:00:49,430 --> 00:00:46,730

might end up on earth

17

00:00:51,560 --> 00:00:49,440

veteran meteor researcher Paul why grid

18

00:00:53,389 --> 00:00:51,570

of the University of Western Ontario has

19

00:00:55,880 --> 00:00:53,399

been using a computer to model the

20

00:00:58,280 --> 00:00:55,890

trajectory of dust ejected by comet ison

21

00:01:02,150 --> 00:00:58,290

and his findings suggest that an unusual

22

00:01:05,149 --> 00:01:02,160

meteor shower could be in the offing for

23

00:01:07,130 --> 00:01:05,159

several days around january 12th 2014

24

00:01:09,530 --> 00:01:07,140

earth will pass through a stream of

25

00:01:12,350 --> 00:01:09,540

fine-grained debris from comet ison says

26
00:01:14,960 --> 00:01:12,360
Swaggart the resulting shower could have

27
00:01:17,120 --> 00:01:14,970
some interesting properties for one

28
00:01:19,700 --> 00:01:17,130
thing it could dust the surface of the

29
00:01:21,740 --> 00:01:19,710
earth according to y grits computer

30
00:01:24,620 --> 00:01:21,750
models the debris stream is populated

31
00:01:27,560 --> 00:01:24,630
with extremely tiny grains of dust no

32
00:01:29,330 --> 00:01:27,570
more than a few microns wide they will

33
00:01:31,850 --> 00:01:29,340
be hitting at a speed of fifty six

34
00:01:33,740 --> 00:01:31,860
kilometers a second because the

35
00:01:35,660 --> 00:01:33,750
particles are so small they will be

36
00:01:39,139 --> 00:01:35,670
rapidly slowed to a stop in Earth's

37
00:01:40,790 --> 00:01:39,149
upper atmosphere instead of burning up

38
00:01:43,090 --> 00:01:40,800

in a flash of light they will drift

39

00:01:46,070 --> 00:01:43,100

gently down to the earth below he says

40

00:01:48,200 --> 00:01:46,080

don't expect to notice though the

41

00:01:51,109 --> 00:01:48,210

invisible rain of Comet dust if it

42

00:01:53,510 --> 00:01:51,119

occurs would be very slow it can take

43

00:01:55,630 --> 00:01:53,520

months or even years for fine dust to

44

00:01:58,160 --> 00:01:55,640

settle out of the high atmosphere

45

00:02:01,390 --> 00:01:58,170

another unusual manifestation of the

46

00:02:03,700 --> 00:02:01,400

shower could be noctilucent clouds

47

00:02:05,650 --> 00:02:03,710

noctilucent clouds are electric blue

48

00:02:08,469 --> 00:02:05,660

clouds that float high above Earth's

49

00:02:11,050 --> 00:02:08,479

poles recent data from NASA's Ames

50

00:02:14,740 --> 00:02:11,060

spacecraft suggests that they are seeded

51
00:02:16,960 --> 00:02:14,750
by space dust tiny meteoroids act as

52
00:02:19,690 --> 00:02:16,970
nucleating points where water molecules

53
00:02:21,670 --> 00:02:19,700
gather the resulting ice crystals

54
00:02:24,730 --> 00:02:21,680
assemble into clouds at the edge of

55
00:02:27,370 --> 00:02:24,740
space itself this is still speculative

56
00:02:30,580 --> 00:02:27,380
but common Ison could provide the seeds

57
00:02:32,530 --> 00:02:30,590
for a noctilucent display electric blue

58
00:02:34,420 --> 00:02:32,540
ripples over Earth's polar regions might

59
00:02:38,050 --> 00:02:34,430
be the only visible sign that a shower

60
00:02:40,870 --> 00:02:38,060
is taking place waggit notes yet another

61
00:02:44,080 --> 00:02:40,880
curiosity the shower is going to hit our

62
00:02:45,729 --> 00:02:44,090
planet from two directions at once

63
00:02:48,190 --> 00:02:45,739

when Earth passes through the debris

64

00:02:50,920 --> 00:02:48,200

stream we will encounter two populations

65

00:02:53,490 --> 00:02:50,930

of Comet dust one swarm of deaths will

66

00:02:55,690 --> 00:02:53,500

be following common Ison into the Sun

67

00:02:57,850 --> 00:02:55,700

another swarm will be moving in the

68

00:03:00,580 --> 00:02:57,860

opposite direction pushed away from the

69

00:03:02,440 --> 00:03:00,590

Sun by solar radiation pressure the

70

00:03:05,350 --> 00:03:02,450

strings will pepper opposite sides of

71

00:03:07,630 --> 00:03:05,360

Earth simultaneously in my experience

72

00:03:11,110 --> 00:03:07,640

this kind of double whammy is

73

00:03:12,880 --> 00:03:11,120

unprecedented says why Gert bill cooke

74

00:03:14,740 --> 00:03:12,890

of nasa's meteoroid environment office

75

00:03:17,500 --> 00:03:14,750

says there's little danger to earth

76
00:03:19,449 --> 00:03:17,510
orbiting spacecraft these particles are

77
00:03:21,220 --> 00:03:19,459
just too small to penetrate the walls of

78
00:03:22,780 --> 00:03:21,230
our satellites and they don't stand a

79
00:03:25,660 --> 00:03:22,790
chance against the heavy shielding of

80
00:03:27,339 --> 00:03:25,670
the ISS however he adds mission

81
00:03:29,229 --> 00:03:27,349
operators undoubtedly will be alert

82
00:03:32,470 --> 00:03:29,239
around january 12th for possible

83
00:03:35,199 --> 00:03:32,480
anomalies skywatcher should probably be

84
00:03:37,780 --> 00:03:35,209
alert to the odds of seeing anything

85
00:03:40,600 --> 00:03:37,790
arlo become an ice on could prove full

86
00:03:43,059 --> 00:03:40,610
of surprises for more information about