
cience

1
00:00:10,230 --> 00:00:08,150
draconid meteor outburst presented by

2
00:00:11,830 --> 00:00:10,240
science at nasa

3
00:00:13,030 --> 00:00:11,840
have you ever felt like the sky is

4
00:00:16,230 --> 00:00:13,040
falling

5
00:00:17,750 --> 00:00:16,240
on october 8th you might be right earth

6
00:00:20,870 --> 00:00:17,760
is going to plow through a stream of

7
00:00:22,230 --> 00:00:20,880
dust from comet 21p giacobini's inner

8
00:00:24,070 --> 00:00:22,240
and the result could be a storm of

9
00:00:26,710 --> 00:00:24,080
draconid meteors

10
00:00:28,950 --> 00:00:26,720
we're predicting as many as 750 meteors

11
00:00:31,830 --> 00:00:28,960
per hour visible mainly over the middle

12
00:00:33,590 --> 00:00:31,840
east north africa and parts of europe

13
00:00:35,590 --> 00:00:33,600

says bill cook of nasa's meteoroid

14
00:00:38,150 --> 00:00:35,600
environment office

15
00:00:40,069 --> 00:00:38,160
every six and a half years more or less

16
00:00:41,990 --> 00:00:40,079
comet giacobini's inner swings through

17
00:00:43,990 --> 00:00:42,000
the inner solar system

18
00:00:46,470 --> 00:00:44,000
with each visit it lays down a narrow

19
00:00:47,750 --> 00:00:46,480
filament of dust over time forming a

20
00:00:51,029 --> 00:00:47,760
network of filaments that earth

21
00:00:53,270 --> 00:00:51,039
encounters every year in early october

22
00:00:55,270 --> 00:00:53,280
most years we pass through gaps between

23
00:00:57,350 --> 00:00:55,280
filaments maybe just grazing one or two

24
00:00:59,510 --> 00:00:57,360
as we go by says cook

25
00:01:01,990 --> 00:00:59,520
occasionally though we hit one nearly

26
00:01:04,549 --> 00:01:02,000
head-on and the fireworks begin

27
00:01:07,350 --> 00:01:04,559
2011 could be such a year

28
00:01:09,350 --> 00:01:07,360
forecasters at nasa and elsewhere agree

29
00:01:11,510 --> 00:01:09,360
that earth is heading for three or more

30
00:01:13,190 --> 00:01:11,520
filaments on october 8th

31
00:01:15,190 --> 00:01:13,200
multiple encounters should produce a

32
00:01:17,350 --> 00:01:15,200
series of variable outbursts beginning

33
00:01:20,469 --> 00:01:17,360
around 1600 universal time with the

34
00:01:22,230 --> 00:01:20,479
strongest activity between 1900 and 2100

35
00:01:24,070 --> 00:01:22,240
universal time

36
00:01:26,870 --> 00:01:24,080
estimates of the meteor rate range from

37
00:01:29,030 --> 00:01:26,880
dozens to hundreds of meteors per hour

38
00:01:31,429 --> 00:01:29,040

one respected forecaster paul weigert of

39
00:01:33,670 --> 00:01:31,439
the university of western ontario says

40
00:01:35,749 --> 00:01:33,680
the meteor rate could go as high as 1000

41
00:01:36,950 --> 00:01:35,759
per hour the definition of a meteor

42
00:01:38,870 --> 00:01:36,960
storm

43
00:01:40,630 --> 00:01:38,880
it wouldn't be the first time

44
00:01:42,550 --> 00:01:40,640
close encounters with dusty filaments

45
00:01:46,710 --> 00:01:42,560
produced storms of more than 10 000

46
00:01:50,630 --> 00:01:46,720
draconids per hour in 1933 and 1946

47
00:01:52,469 --> 00:01:50,640
with lesser outbursts in 1985 1998 and

48
00:01:54,550 --> 00:01:52,479
2005.

49
00:01:56,149 --> 00:01:54,560
meteors from comet geocobini's inner

50
00:01:58,630 --> 00:01:56,159
stream out of the northern constellation

51
00:02:00,469 --> 00:01:58,640
draco hence their name

52
00:02:02,310 --> 00:02:00,479
draconids are among the slowest of all

53
00:02:04,310 --> 00:02:02,320
meteors hitting the atmosphere at a

54
00:02:05,429 --> 00:02:04,320
relatively leisurely 20 kilometers per

55
00:02:07,350 --> 00:02:05,439
second

56
00:02:09,430 --> 00:02:07,360
the slow pace of draconid meteors

57
00:02:11,350 --> 00:02:09,440
minimizes their danger to satellites and

58
00:02:12,550 --> 00:02:11,360
spacecraft and makes them visually

59
00:02:14,550 --> 00:02:12,560
distinctive

60
00:02:17,430 --> 00:02:14,560
a draconide gliding leisurely across the

61
00:02:19,270 --> 00:02:17,440
sky is a beautiful sight says cook

62
00:02:21,430 --> 00:02:19,280
unfortunately many of this year's

63
00:02:23,110 --> 00:02:21,440

dragonids will go unseen

64
00:02:24,949 --> 00:02:23,120
clear from the almost full moon will

65
00:02:27,670 --> 00:02:24,959
reduce the number of meteors visible

66
00:02:29,990 --> 00:02:27,680
over europe africa and the middle east

67
00:02:31,670 --> 00:02:30,000
by two to ten fold

68
00:02:33,670 --> 00:02:31,680
the situation is even worse in north

69
00:02:36,390 --> 00:02:33,680
america where the shower occurs in broad

70
00:02:38,470 --> 00:02:36,400
daylight from about noon to 5 pm eastern

71
00:02:40,070 --> 00:02:38,480
daylight time completely obliterating

72
00:02:41,509 --> 00:02:40,080
the display

73
00:02:43,190 --> 00:02:41,519
that isn't stopping a group of high

74
00:02:44,309 --> 00:02:43,200
school students from bishop california

75
00:02:45,910 --> 00:02:44,319
however

76
00:02:47,910 --> 00:02:45,920
they plan to observe the shower from the

77
00:02:49,670 --> 00:02:47,920
stratosphere where the sky is jet black

78
00:02:51,750 --> 00:02:49,680
even in noon time

79
00:02:53,190 --> 00:02:51,760
led by science at nasa's tony phillips

80
00:02:55,110 --> 00:02:53,200
the 12 students have been launching

81
00:02:57,030 --> 00:02:55,120
helium balloons to the edge of space

82
00:02:58,869 --> 00:02:57,040
since may of 2011.

83
00:03:00,949 --> 00:02:58,879
with more than 95 percent of earth's

84
00:03:02,790 --> 00:03:00,959
atmosphere below the balloon the sky

85
00:03:06,309 --> 00:03:02,800
above looks almost as black as it would

86
00:03:07,990 --> 00:03:06,319
from a spacecraft perfect for astronomy

87
00:03:10,070 --> 00:03:08,000
the students are going to fly one of our

88
00:03:12,070 --> 00:03:10,080

low light meteor cameras in the payload

89
00:03:13,430 --> 00:03:12,080
of their balloon says cook

90
00:03:15,589 --> 00:03:13,440
i hope they catch some draconid

91
00:03:17,509 --> 00:03:15,599
fireballs for us to analyze they could

92
00:03:20,470 --> 00:03:17,519
be the only ones we get

93
00:03:22,149 --> 00:03:20,480
stay tuned for results after october 8th

94
00:03:23,350 --> 00:03:22,159
for more news about things flashing in