



1
00:00:07,269 --> 00:00:05,990
a meteor shower from halley's comet

2
00:00:10,150 --> 00:00:07,279
presented by

3
00:00:12,789 --> 00:00:10,160
science at nasa

4
00:00:15,509 --> 00:00:12,799
usually waking up before sunrise is a

5
00:00:18,390 --> 00:00:15,519
good way to get a head start on the day

6
00:00:20,870 --> 00:00:18,400
on october 21st waking up early could

7
00:00:23,189 --> 00:00:20,880
stop you in your tracks

8
00:00:26,070 --> 00:00:23,199
blame halley's comet

9
00:00:28,070 --> 00:00:26,080
every year in mid to late october earth

10
00:00:30,710 --> 00:00:28,080
passes through a stream of dusty debris

11
00:00:32,549 --> 00:00:30,720
from comet halley and the pre-dawn sky

12
00:00:34,549 --> 00:00:32,559
lights up with a pretty display of

13
00:00:37,030 --> 00:00:34,559

shooting stars

14

00:00:39,030 --> 00:00:37,040

we expect to see about 25 meteors per

15

00:00:42,549 --> 00:00:39,040

hour when the shower peaks on sunday

16

00:00:44,709 --> 00:00:42,559

morning october 21st says bill cook the

17

00:00:45,990 --> 00:00:44,719

head of nasa's meteoroid environment

18

00:00:48,709 --> 00:00:46,000

office

19

00:00:51,430 --> 00:00:48,719

with no moon to spoil the show observing

20

00:00:53,270 --> 00:00:51,440

conditions should be ideal

21

00:00:55,670 --> 00:00:53,280

because these meteors streak out of the

22

00:00:57,670 --> 00:00:55,680

constellation orion astronomers call

23

00:00:59,670 --> 00:00:57,680

them

24

00:01:02,470 --> 00:00:59,680

the orionid meteor shower isn't the

25

00:01:05,990 --> 00:01:02,480

strongest but it is one of the most

26
00:01:07,910 --> 00:01:06,000
beautiful showers of the year notes cook

27
00:01:09,510 --> 00:01:07,920
the reason is it's setting

28
00:01:11,190 --> 00:01:09,520
the shower is framed by some of the

29
00:01:12,550 --> 00:01:11,200
brightest stars and planets in the

30
00:01:15,270 --> 00:01:12,560
heavens

31
00:01:17,910 --> 00:01:15,280
constellations such as taurus gemini and

32
00:01:19,270 --> 00:01:17,920
orion provide a glittering backdrop for

33
00:01:21,190 --> 00:01:19,280
the display

34
00:01:23,590 --> 00:01:21,200
but that's not all

35
00:01:26,070 --> 00:01:23,600
this year venus and jupiter have moved

36
00:01:28,230 --> 00:01:26,080
into position with sirius the dog star

37
00:01:30,069 --> 00:01:28,240
to form a bright triangle in the eastern

38
00:01:32,950 --> 00:01:30,079

predawn sky

39

00:01:34,789 --> 00:01:32,960

on the morning of october 21st blazing

40

00:01:36,069 --> 00:01:34,799

pieces of halley's comet will cut

41

00:01:38,630 --> 00:01:36,079

straight through the heart of this

42

00:01:41,190 --> 00:01:38,640

celestial triad

43

00:01:44,310 --> 00:01:41,200

to see the show cook suggests going

44

00:01:45,990 --> 00:01:44,320

outside one to two hours before sunrise

45

00:01:49,270 --> 00:01:46,000

when the sky is dark and the

46

00:01:51,590 --> 00:01:49,280

constellation orion is high overhead

47

00:01:53,190 --> 00:01:51,600

lie down on a blanket with a broad view

48

00:01:55,429 --> 00:01:53,200

of the heavens

49

00:01:57,590 --> 00:01:55,439

although orionids emerge from a small

50

00:02:00,789 --> 00:01:57,600

area near the shoulder of orion they

51

00:02:03,510 --> 00:02:00,799

will spray across the entire sky

52

00:02:05,590 --> 00:02:03,520

be prepared for speed he adds

53

00:02:09,029 --> 00:02:05,600

meteoroids from halley's comet strike

54

00:02:10,710 --> 00:02:09,039

earth's atmosphere traveling 148 000

55

00:02:13,990 --> 00:02:10,720

miles per hour

56

00:02:16,309 --> 00:02:14,000

only the november leonids are faster

57

00:02:18,790 --> 00:02:16,319

speed is important because fast meteors

58

00:02:21,270 --> 00:02:18,800

have a tendency to explode

59

00:02:23,350 --> 00:02:21,280

occasionally orionid fireballs will

60

00:02:25,910 --> 00:02:23,360

leave incandescent streams of debris in

61

00:02:27,990 --> 00:02:25,920

their wake that linger for minutes

62

00:02:29,830 --> 00:02:28,000

such filaments of meteor smoke twisted

63

00:02:32,309 --> 00:02:29,840

by upper atmospheric winds into

64

00:02:34,470 --> 00:02:32,319

convoluted shapes can be even prettier

65

00:02:36,390 --> 00:02:34,480

than the meteors themselves

66

00:02:37,990 --> 00:02:36,400

it really is a wonderful morning to be

67

00:02:38,869 --> 00:02:38,000

awake says cook

68

00:02:41,990 --> 00:02:38,879

just

69

00:02:43,830 --> 00:02:42,000

don't plan on going anywhere in a hurry

70

00:02:46,309 --> 00:02:43,840

for more news about events in the night