



1
00:00:10,220 --> 00:00:07,720

[Music]

2
00:00:13,520 --> 00:00:10,230

with spring right around the corner it's

3
00:00:15,470 --> 00:00:13,530

the season for Aurora's also known as

4
00:00:17,090 --> 00:00:15,480

the Northern Lights Aurora's are the

5
00:00:18,830 --> 00:00:17,100

brilliant curtains of colored light that

6
00:00:20,480 --> 00:00:18,840

appear in the night sky in the far

7
00:00:20,950 --> 00:00:20,490

northern or southern regions of the

8
00:00:23,390 --> 00:00:20,960

world

9
00:00:24,800 --> 00:00:23,400

although Aurora's are spectacular to

10
00:00:27,950 --> 00:00:24,810

watch they're actually a manifestation

11
00:00:31,220 --> 00:00:27,960

of violent space weather these are just

12
00:00:33,560 --> 00:00:31,230

caused by energy coming into us magnetic

13
00:00:35,750 --> 00:00:33,570

atmosphere causing the whole magnetic

14

00:00:37,430 --> 00:00:35,760

field to reconfigure and end up with an

15

00:00:39,709 --> 00:00:37,440

explosive release of high-energy

16

00:00:42,020 --> 00:00:39,719

electrons and protons into our Earth's

17

00:00:44,330 --> 00:00:42,030

atmosphere where they strike the

18

00:00:48,590 --> 00:00:44,340

molecules both oxygen and nitrogen and

19

00:00:50,630 --> 00:00:48,600

cause them to glow besides igniting the

20

00:00:52,520 --> 00:00:50,640

Northern Lights these sub storms can

21

00:00:55,189 --> 00:00:52,530

create big problems here on earth by

22

00:00:58,600 --> 00:00:55,199

disrupting power grids satellites air

23

00:01:01,040 --> 00:00:58,610

travel and even GPS signals

24

00:01:03,140 --> 00:01:01,050

spring is one of the best times to view

25

00:01:05,000 --> 00:01:03,150

the Aurora's because of sub storms that

26

00:01:07,850 --> 00:01:05,010

spark them are more frequent in the

27

00:01:09,590 --> 00:01:07,860

months around the equinoxes plus the

28

00:01:12,560 --> 00:01:09,600

longer nights provide a great backdrop

29

00:01:14,540 --> 00:01:12,570

for these stunning displays while

30

00:01:16,430 --> 00:01:14,550

Aurora's have fascinated observers for

31

00:01:18,830 --> 00:01:16,440

centuries little had been known about

32

00:01:20,540 --> 00:01:18,840

their origin but NASA's aiming to

33

00:01:22,070 --> 00:01:20,550

resolve this mystery with a new mission

34

00:01:25,640 --> 00:01:22,080

to study the Northern Lights called

35

00:01:28,190 --> 00:01:25,650

feminists the Sema's mission uses five

36

00:01:30,109 --> 00:01:28,200

identical satellites and a network of

37

00:01:31,640 --> 00:01:30,119

ground observatories to track and

38

00:01:34,550 --> 00:01:31,650

determine what triggers the Aurora's

39

00:01:36,710 --> 00:01:34,560

that occur during sub storms and since

40

00:01:39,410 --> 00:01:36,720

it's launched just last year temas has

41

00:01:41,180 --> 00:01:39,420

made some important discoveries even in

42

00:01:43,580 --> 00:01:41,190

the first days of our mission we've used

43

00:01:45,920 --> 00:01:43,590

the five spacecraft in the dedicated

44

00:01:49,190 --> 00:01:45,930

array of ground observatories to track

45

00:01:51,469 --> 00:01:49,200

aurora racing westward across canada and

46

00:01:54,410 --> 00:01:51,479

alaska and time their motion and

47

00:01:55,639 --> 00:01:54,420

understand where they occur as our

48

00:01:58,580 --> 00:01:55,649

knowledge about the Northern Lights

49

00:02:02,250 --> 00:01:58,590

continues to expand pretty soon Aurora's