



1

00:00:03,680 --> 00:00:07,850

<<music throughout>> Up past the clouds, past the stratosphere, and even farther

2

00:00:07,870 --> 00:00:11,910

some 60 to 600 miles above Earth

3

00:00:11,930 --> 00:00:15,970

our atmosphere slowly gives way to space.

4

00:00:15,990 --> 00:00:20,010

This region, the ionosphere, is home to the aurora, but it is also

5

00:00:20,030 --> 00:00:24,140

increasingly a key part of the human domain.

6

00:00:24,160 --> 00:00:28,220

It houses not only astronauts, but radio signals used to guide airplanes,

7

00:00:28,240 --> 00:00:32,400

and ships, and many satellites, and yet

8

00:00:32,420 --> 00:00:36,600

the ionosphere is not well understood.

9

00:00:36,620 --> 00:00:40,680

To explore this area of near Earth space, NASA and UC Berkeley

10

00:00:40,700 --> 00:00:44,780

built the ionospheric connection explorer, or ICON.

11

00:00:44,800 --> 00:00:48,860

ICON's task is to help us understand just what causes

12

00:00:48,880 --> 00:00:52,970

the constant changes we see in the ionosphere. The more we understand

13

00:00:52,990 --> 00:00:57,030

the more we can protect our assets in space.

14

00:00:57,050 --> 00:01:01,090

From a position close to Earth, ICON samples variations in the ionosphere

15

00:01:01,110 --> 00:01:05,260

over the course of hours days and seasons.

16

00:01:05,280 --> 00:01:09,360

The mission will investigate how the ionosphere reacts to our planet's weather, rising up

17

00:01:09,380 --> 00:01:13,440

from below, as well as space weather from above.

18

00:01:13,460 --> 00:01:17,570

A key set of the mission's observations focus on the most eye catching

19

00:01:17,590 --> 00:01:21,770

phenomena visible in the ionosphere: air glow.

20

00:01:21,790 --> 00:01:25,870

Colorful bands of plasma caused by solar radiation.

21

00:01:25,890 --> 00:01:30,020

ICON will use specialized technology to track how this plasma

22

00:01:30,040 --> 00:01:34,070

is moving through the ionosphere.

23

00:01:34,090 --> 00:01:38,360

As we learn more about the relationship linking Earth's atmosphere and the space environment

24

00:01:38,380 --> 00:01:42,550

the information will help improve the ability to predict conditions in the ionosphere,

25

00:01:42,570 --> 00:01:46,620

one more important step in protecting ourselves as we venture farther and farther

26

00:01:46,640 --> 00:01:50,720

from home.

27

00:01:50,740 --> 00:01:54,870

tone