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 --> 00:00:35,680
the ionosphere is not well understood.

9
00:00:35,680 --> 00:00:40,680
To explore this area of near Earth space, NASA and UC Berekley

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
00:00:52,980 --> 00:00:56,300

the more we can protect our assets in space.

14
00:00:56,300 --> 00:01:01,080
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 --> 00:01:32,280
is moving through the ionosphere.

23
00:01:32,280 --> 00:01:37,980
As ICON learns more about the relationship linking Earth's atmosphere and the space environment

24
00:01:37,980 --> 00:01:42,180
the information will help improve the ability to predict conditions in the ionosphere,

25
00:01:42,180 --> 00:01:46,620
one more important step in protecting ourselves as we venture farther and farther

26
00:01:46,640 --> 00:01:48,200
from home.

27
00:01:50,100 --> 00:01:54,240
tone