1
00:00:06,430 --> 00:00:12,040
Thrusting outward into space, we gain new perspective on ourselves.

2
00:00:12,060 --> 00:00:16,070
How beautiful it is our cloud-wreathed spaceship, Planet Earth

3
00:00:16,090 --> 00:00:19,700
How beautiful, and how small.

4
00:00:19,720 --> 00:00:24,110
The Western Test Range in California, July 23rd, 1972.

5
00:00:24,130 --> 00:00:27,120
[engines fire]

6
00:00:27,140 --> 00:00:31,560
Perhaps no new devleopment in space is more significant than this

7
00:00:31,580 --> 00:00:40,230
ERTS – short for Earth Resources Technology Satellite

8
00:00:40,250 --> 00:00:44,260
[music]

9
00:00:44,280 --> 00:00:48,270
At Goddard Space Flight Center at Greenbelt, Maryland,

10
00:00:48,290 --> 00:00:52,290
the operations control center monitors the spacecraft's flight night and day.

11
00:00:52,310 --> 00:00:56,310
Watching every element of its operation and issuing orders

12
00:00:56,330 --> 00:00:58,480
that control its performance.

13
00:00:58,500 --> 00:01:03,380

The color additive viewer is all but indispensible for many investigators.

14
00:01:03,400 --> 00:01:07,330
Among them, NASA's senior geologist, Dr. Nicholas Short.

15
00:01:07,350 --> 00:01:10,420
The color additive viewer is an instrument that uses color filters

16
00:01:10,440 --> 00:01:13,830
to enhance certain features of an image we're particularly interested in.

17
00:01:13,850 --> 00:01:20,440
For instance, here's a black and white picture of the Monterey Bay area in California

18
00:01:20,460 --> 00:01:24,470
produced by the infrared channel on the ERTS Multi-Spectral Scanner.

19
00:01:24,490 --> 00:01:28,500
Now if we project this image through a green filter,

20
00:01:28,520 --> 00:01:32,550
the green tones, which are vegetation, such as the farm areas in the Great Valley

21
00:01:32,570 --> 00:01:36,560
will show up more green. By combining different spectral images

22
00:01:36,580 --> 00:01:41,780
and trying different filters, we can get a wide variety of effects and choose the one that's best suited to our nee

23
00:01:42,150 --> 00:01:47,230
We here at Dartmouth are concerned about a pressing social and economic problem:

24
00:01:47,250 --> 00:01:53,980
urban sprawl, and conversely with a disappearing resource, open land.

25
00:01:54,000 --> 00:01:58,980
Our general area of interest is the highly urbanized section of the Eastern Seaboard

26
00:01:59,000 --> 00:02:03,480
which extends from Boston southward to Washington,

27
00:02:03,500 --> 00:02:06,310
and to which has been given the name Megalopolis.

28
00:02:06,330 --> 00:02:09,980
Our specific area of interest is the New England section of it.

29
00:02:10,000 --> 00:02:13,480
Increasingly the spreading problems of megalopolis

30
00:02:13,500 --> 00:02:19,250
require a broader base treatment to that of individual metropolitan areas.

31
00:02:19,270 --> 00:02:24,280
This is an ERTS photograph of southeastern New England, Long Island Sound,

32
00:02:24,300 --> 00:02:28,170
the Atlantic Ocean, the face of Cape Cod, and Boston.

33
00:02:28,190 --> 00:02:32,200
By enlarging this area, which corresponds to the state of Rhode Island,

34
00:02:32,220 --> 00:02:35,220
we can make a land use map of that area.

35
00:02:35,240 --> 00:02:40,230
ERTS, a new chapter in space, is in fact a new chapter