
GOES
N-O-P
More than weather prediction...

1
00:00:00,010 --> 00:00:04,050
[Kathleen McIntyre] The GOES satellites are really a national treasure.

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00:00:04,070 --> 00:00:08,110
[Andre Dress] These satellites are providing a huge service and they provide the safety net

3
00:00:08,130 --> 00:00:12,140
for people so that they get out of harms way. When I think of GOES,

4
00:00:12,160 --> 00:00:14,210
it’s not just a weather satellite.

5
00:00:14,230 --> 00:00:18,260
[Dr. Howard J. Singer] The GOES satellites provide us very critical data for space weather.

6
00:00:18,280 --> 00:00:22,300
[Paul Richards] That’s very critical and very important for astronauts because

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00:00:22,320 --> 00:00:26,340
we are not protected from Earth’s atmosphere from the space weather.

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00:00:26,360 --> 00:00:28,400
[Andre Dress] One of the big things is Search and Rescue.

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00:00:28,420 --> 00:00:32,450
[Mickey Fitzmaurice] The GOES satellites save lives not just through search and rescue

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00:00:32,470 --> 00:00:38,540
distress alert but with real-time monitoring of severe weather events.

11
00:00:38,560 --> 00:00:46,560
[dramatic music]

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00:00:46,580 --> 00:00:48,600
[Andre Dress] Well, GOES-P is the last in the series.

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00:00:48,620 --> 00:00:52,640

[Kathleen McIntyre] We want to make sure that we have the capability on orbit

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00:00:52,660 --> 00:00:55,660
for continuous weather monitoring for this country.

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00:00:55,680 --> 00:00:58,720
[Andre Dress] So GOES-P will be important to be a spare satellite.

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00:01:00,830 --> 00:01:04,870
[Kathleen McIntyre] The first GOES satellite was launched in 1975

17
00:01:04,890 --> 00:01:08,930
and it was called GOES-A. It was the first time we actually saw an image

18
00:01:08,950 --> 00:01:11,960
of what the weather was creating on Earth.

19
00:01:11,980 --> 00:01:16,000
[Andre Dress] They were satellites we called spinners. The instrument that was on it actually rotated

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00:01:16,020 --> 00:01:21,020
with the satellite so it took a long time to actually get the images from the Earth.

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00:01:22,070 --> 00:01:26,070
[Tom Fields] The next generation, which was the previous one to the current generation, I through M,

22
00:01:26,090 --> 00:01:30,090
was the first series that was 3-axis stabilized, which meant it actually

23
00:01:30,110 --> 00:01:35,100
sat and pointed at the Earth as supposed to spinning and having to take images while it’s spinning.

24
00:01:35,120 --> 00:01:37,130
[Kathleen McIntyre] So we were able to continuously monitor weather.

25
00:01:40,160 --> 00:01:41,160
[music]

26
00:01:41,180 --> 00:01:45,170
[Andre Dress] We jumped to a 3-axis stabilized spacecraft.

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00:01:45,190 --> 00:01:48,220
[Mickey Fitzmaurice] The next generation is always better than the previous generation.

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00:01:48,240 --> 00:01:50,220
GOES-P will be the best of the lot.

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00:01:50,240 --> 00:01:54,290
[Andre Dress] The spacecraft has the ability to be very very stable.

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00:01:54,310 --> 00:01:56,320
[Tom Fields] Our images; our data is used real-time.

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00:01:56,340 --> 00:02:00,340
Real-time we have to be able to calibrate and know that when we look at that .

32
00:02:00,360 --> 00:02:03,390
image, where exactly is that point on the Earth’s surface.

33
00:02:03,410 --> 00:02:07,450
[Andre Dress] When we have a huge hurricane, we want to have an accurate prediction. If it’s off by

34
00:02:07,470 --> 00:02:11,480
kilometers or miles, you’ve got people in harms way that you

35
00:02:11,500 --> 00:02:13,530
didn’t think were going to be in harms way.

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00:02:13,550 --> 00:02:17,560
[Jolyn Russell] So when the spacecraft is sitting in space, it’s looking down at the Earth and it stays

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00:02:17,580 --> 00:02:21,590
stationary like this but this solar array out here moves and tracks

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00:02:21,610 --> 00:02:26,620

the sun so that way it’s always looking at the sun and can take a scan every minute.

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00:02:26,640 --> 00:02:30,630
[Paul Richards] Different phenomenon from the sun is constantly

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00:02:30,650 --> 00:02:34,750
bombarding the Earth. Although you might not know it, the solar weather affects you

41
00:02:34,770 --> 00:02:39,820
every day down here as well, not only just astronauts, it affects people on Earth.

42
00:02:39,840 --> 00:02:44,880
[Janet Green] Space weather can affect the power grid. It can affect communication with planes, it can cause

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00:02:44,900 --> 00:02:47,920
in GPS, it can damage satellites.

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00:02:47,940 --> 00:02:51,960
[Dr. Howard J. Singer] That whole series of satellites, GOES N-O-P,

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00:02:51,980 --> 00:02:56,000
has some new capabilities for us in space weather. This is data that arrives

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00:02:56,020 --> 00:03:00,060
almost instantaneously and therefore allows us

47
00:03:00,080 --> 00:03:03,120
to provide very timely alerts and warnings.

48
00:03:03,140 --> 00:03:07,160
[Mickey Fitzmaurice] The search and rescue system is another valuable tool for these satellites.

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00:03:07,180 --> 00:03:11,180
In many cases one or two bursts from a beacon

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00:03:11,200 --> 00:03:13,210
saves a person’s life.

51
00:03:13,230 --> 00:03:17,250
[Paul Richards] GOES satellites are operational satellites, meaning

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00:03:17,270 --> 00:03:21,260
they are not experimental, they are constantly up there so it is

53
00:03:21,280 --> 00:03:25,280
constantly giving us data with no gaps in

54
00:03:25,300 --> 00:03:27,330
the data coming to us.

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00:03:27,350 --> 00:03:29,430
[Andre Dress] In the future, we are going to get better resolution

56
00:03:29,450 --> 00:03:31,470
and not only that but faster images.

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00:03:31,490 --> 00:03:36,510
We can start getting images on the order of 5 minutes as supposed to 26 minutes it takes