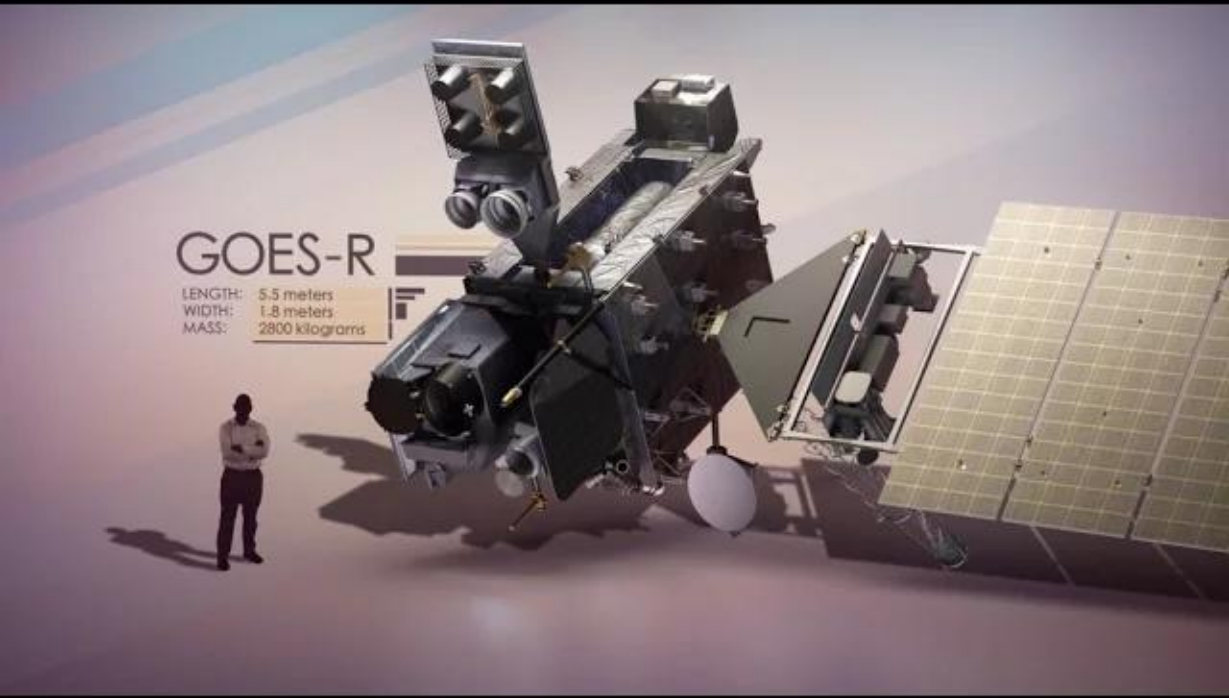
GOES-R
LENGTH: 5.5 meters
WIDTH: 1.8 meters
MASS: 2800 kilograms

1
00:00:02,000 --> 00:00:04,580
Weather is always changing

2
00:00:04,600 --> 00:00:09,100
and the better we can predict what's coming, the better we can prepare.

3
00:00:09,120 --> 00:00:14,560
The GOES-R series, NOAA's next generation geostationary weather satellites

4
00:00:14,580 --> 00:00:17,930
will be a game-changer for weather forecasting.

5
00:00:17,950 --> 00:00:24,430
For the first time, GOES-R –which will be called GOES-16 once it's operational in space--

6
00:00:24,450 --> 00:00:27,950
will be able to monitor the Earth in near real time.

7
00:00:27,970 --> 00:00:32,480
Using a powerful new instrument called the Advanced Baseline Imager,

8
00:00:32,500 --> 00:00:40,030
GOES-R gathers data and imagery about weather over the western hemisphere as frequently as every thirty s

9
00:00:40,050 --> 00:00:48,790
This enables NOAA to gather data with 3x more channels, 4x better resolution, 5x faster than before.

10
00:00:48,810 --> 00:00:53,430
Faster, more accurate data means better observations of phenomena

11
00:00:53,450 --> 00:00:59,480
like severe storms, fire, smoke, aerosols, and volcanic ash.

12
00:00:59,500 --> 00:01:03,060
But this is not the only new instrument aboard the satellite.

13
00:01:03,080 --> 00:01:09,680

GOES-R is flying another powerful technology, called the Geostationary Lightning Mapper.

14
00:01:09,700 --> 00:01:13,310
This instrument can not only measure when lightning strikes the ground,

15
00:01:13,330 --> 00:01:17,690
but also lightning activity in the clouds that is charging the atmosphere.

16
00:01:17,710 --> 00:01:23,780
Researchers have found that an increase in lightning activity may be a sign that tornados will form.

17
00:01:23,800 --> 00:01:28,030
GLM will change the way forecasters look at severe weather

18
00:01:28,050 --> 00:01:31,180
to provide faster and more accurate warnings.

19
00:01:31,200 --> 00:01:36,980
All of this new technology means forecasters at NOAA’s National Weather Service will have valuable tools

20
00:01:37,000 --> 00:01:40,630
to improve predictions of severe weather events, like hurricanes,

21
00:01:40,650 --> 00:01:46,630
providing faster warnings to emergency managers to help save lives and protect communities.

22
00:01:46,650 --> 00:01:49,980
Space weather is serious business in the 21st century,

23
00:01:50,000 --> 00:01:54,480
as much of modern life relies on sophisticated electronics systems.

24
00:01:54,500 --> 00:01:57,080
Working with other NOAA satellites,

25
00:01:57,100 --> 00:02:03,630
GOES-R will observe space weather with a suite of instruments that collect information about radiation hazards

26
00:02:03,650 --> 00:02:07,580
Space weather can interfere with communications and navigation systems,

27
00:02:07,600 --> 00:02:14,130
damage satellite electrical systems, cause risks to astronauts, and threaten power utilities.

28
00:02:14,150 --> 00:02:19,280
NOAA launched its first geostationary satellite more than 40 years ago.

29
00:02:19,300 --> 00:02:24,980
Since then, the invaluable data from GOES satellites has been essential to countless industries,

30
00:02:25,000 --> 00:02:30,980
like aviation, sea transport, and communications that rely on weather data.

31
00:02:31,000 --> 00:02:34,580
Sitting 22,300 miles above Earth,