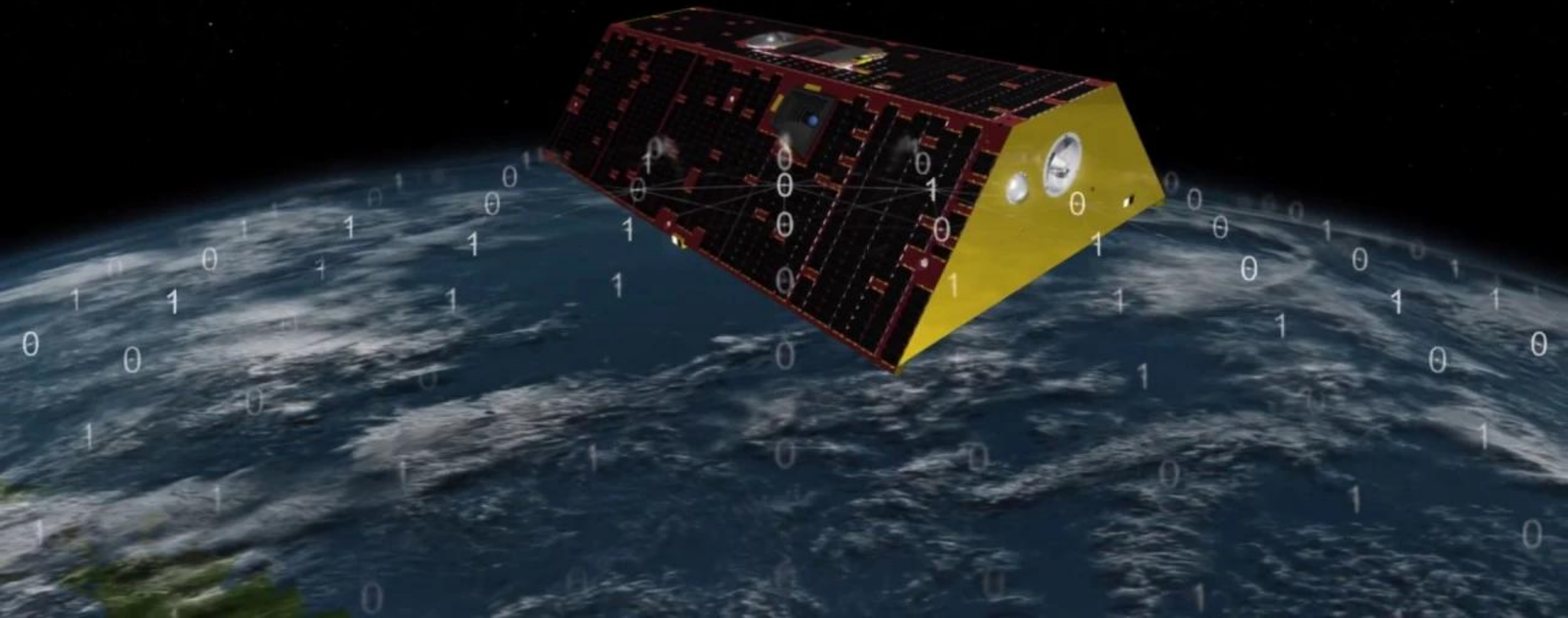


The GRACE-FO Mission



1
00:00:00,266 --> 00:00:06,572
[Music]

2
00:00:06,605 --> 00:00:08,608
[Frank Webb] Water is one
of the main indicators

3
00:00:08,641 --> 00:00:11,210
of how the planet
is responding

4
00:00:11,243 --> 00:00:13,446
to our evolving climate.

5
00:00:13,479 --> 00:00:16,649
We built our civilization
around the climate that we had,

6
00:00:16,682 --> 00:00:18,584
and the water
resources that we had

7
00:00:18,617 --> 00:00:19,818
and if those are changing,

8
00:00:19,852 --> 00:00:23,690
that can have a profound impact
on how we operate our society.

9
00:00:24,290 --> 00:00:26,426
[Mike Watkins] GRACE and GRACE
Follow On measure

10
00:00:26,459 --> 00:00:28,294
the motion of water
around the Earth

11
00:00:28,327 --> 00:00:30,263
and they measure that in

all forms of water -

12

00:00:30,296 --> 00:00:31,831

water that's stored
underground,

13

00:00:31,864 --> 00:00:32,899

water in the ocean,

14

00:00:32,932 --> 00:00:34,834

water that's frozen in
the form of glaciers.

15

00:00:34,867 --> 00:00:37,170

So, all of that together,
GRACE can measure.

16

00:00:38,170 --> 00:00:41,908

[TEXT: The GRACE-FO Mission]

17

00:00:43,442 --> 00:00:46,112

[Webb] GRACE Follow
On is a mission to

18

00:00:46,145 --> 00:00:47,647

measure how water is

19

00:00:47,680 --> 00:00:49,682

distributed on the
planet and how that

20

00:00:49,715 --> 00:00:51,150

changes from month to month.

21

00:00:51,183 --> 00:00:54,187

GRACE stands for Gravity
Recovery and Climate Experiment.

22

00:00:54,220 --> 00:00:56,823

And it's a follow on mission
to this mission called GRACE

23

00:00:56,856 --> 00:00:58,524
that we launched in 2002,

24

00:00:58,557 --> 00:01:00,593
and that mission just ended
a few months ago.

25

00:01:00,626 --> 00:01:01,928
And GRACE Follow On
is going to pick up

26

00:01:01,961 --> 00:01:03,262
and continue that
science legacy.

27

00:01:03,295 --> 00:01:05,865
Even though GRACE
flew for 15 years,

28

00:01:05,898 --> 00:01:07,700
climate is one of those
things which takes place

29

00:01:07,733 --> 00:01:09,435
on decadal time scales.

30

00:01:09,468 --> 00:01:11,537
It's really important that we
look at these trends over

31

00:01:11,570 --> 00:01:13,539
longer time periods so
we can establish

32

00:01:13,572 --> 00:01:15,575
the forces which
are driving them.

33

00:01:17,376 --> 00:01:18,578
[Morton] One follows the other,

34

00:01:18,611 --> 00:01:21,013
and between them,
they accurately

35

00:01:21,046 --> 00:01:23,950
track the distance between
the two satellites.

36

00:01:23,983 --> 00:01:28,654
And as the fly over changes
in mass on the Earth,

37

00:01:28,687 --> 00:01:29,789
they move back and forth.

38

00:01:29,822 --> 00:01:32,859
And we track those little
changes very accurately.

39

00:01:32,892 --> 00:01:35,128
And we do that with global
positioning system

40

00:01:35,161 --> 00:01:38,297
satellite information
and with star cameras

41

00:01:38,330 --> 00:01:40,333
that are on board
the two spacecraft.

42

00:01:42,635 --> 00:01:46,739
I think there's an increasing
awareness and consciousness

43

00:01:46,772 --> 00:01:49,809
around the earth that water
is a critical resource,

44
00:01:49,842 --> 00:01:51,911
and that the sea
level is rising,

45
00:01:51,944 --> 00:01:53,546
the polar caps
are melting,

46
00:01:53,579 --> 00:01:56,082
and that all these
have long term

47
00:01:56,115 --> 00:01:58,284
ramifications on how we live.

48
00:01:58,984 --> 00:02:01,754
[Webb] The GRACE Follow On
measurements give us very

49
00:02:01,787 --> 00:02:04,824
clear and tangible information
so we can make sound decisions

50
00:02:04,857 --> 00:02:06,726
in the future of how we
manage our resources.

51
00:02:07,393 --> 00:02:09,395
The GRACE-FO mission is a
partnership between NASA and

52
00:02:09,428 --> 00:02:10,897
the German Research Centre for
Geosciences (GFZ)

53
00:02:10,930 --> 00:02:12,165

[LOGO: NASA / Jet Propulsion
Laboratory /