



1

00:00:03,180 --> 00:00:06,480

NASA'S GRACE Follow-on (GRACE-FO) mission prepares for launch in early 2018.

2

00:00:09,240 --> 00:00:09,800

[music]

3

00:00:13,060 --> 00:00:17,280

GRACE-FO stands for Gravity Recovery and Climate Experiment Follow-on

4

00:00:19,240 --> 00:00:24,400

The twin satellites will track the movement  
of water around Earth.

5

00:00:26,820 --> 00:00:30,680

Monitoring changes in ice sheets and glaciers

6

00:00:32,100 --> 00:00:34,600

Monitoring changes in underground water storage

7

00:00:35,320 --> 00:00:38,460

Monitoring changes in large lakes and rivers

8

00:00:39,740 --> 00:00:42,680

Monitoring changes in soil moisture

9

00:00:44,360 --> 00:00:46,940

Monitoring changes in sea level

10

00:00:49,100 --> 00:00:51,880

The GRACE-FO mission gives us a rich understanding  
of a fundamental resource on our Earth,

11

00:00:51,880 --> 00:00:52,580

which is water.

12

00:00:52,580 --> 00:00:57,380

How it moves and how it's changing and that  
helps us better understand our climate

13  
00:00:58,420 --> 00:01:00,620  
GRACE-FO will help improve weather models

14  
00:01:01,600 --> 00:01:05,620  
Forecast drought and floods

15  
00:01:07,120 --> 00:01:11,979  
Decision makers—companies, individuals,  
politicians—they need facts

16  
00:01:11,980 --> 00:01:14,960  
for example, just how much is sea level going to rise.

17  
00:01:14,960 --> 00:01:19,040  
Is it going to be one inch, is it going to  
be a foot, or is it going to be maybe three feet

18  
00:01:19,540 --> 00:01:22,320  
And, over what time scale those changes will happen?

19  
00:01:24,460 --> 00:01:30,480  
The speeds of the satellites are affected  
by the mass of the area they fly over.

20  
00:01:31,080 --> 00:01:38,280  
When water moves in and out of an area, that location's mass changes.

21  
00:01:38,280 --> 00:01:45,020  
By measuring those changes in mass, GRACE-FO can track the movement of water around the planet.

22  
00:01:47,000 --> 00:01:53,340  
GRACE-FO is a partnership between NASA and the German Research Centre for Geosciences

23  
00:01:53,780 --> 00:02:00,960  
The original GRACE mission began orbiting Earth on March 17, 2002

24  
00:02:02,880 --> 00:02:09,760

And provided unprecedented insights into how our planet is changing

25

00:02:12,340 --> 00:02:17,240

GRACE-FO will carry on the extremely successful work of its predecessor

26

00:02:17,600 --> 00:02:20,440

What we're after is the big picture,

27

00:02:20,720 --> 00:02:23,460

and we get that from space. We get it globally.

28

00:02:23,620 --> 00:02:28,400

And as we track the movement of water from one place to another,

29

00:02:28,780 --> 00:02:32,620

we can really understand how the planet functions as a system.