1
00:00:00,060 --> 00:00:04,220
We plan our lives around rain. We always want to know when and

2
00:00:04,240 --> 00:00:08,400
where and how much. Not just for our weekend plans,

3
00:00:08,420 --> 00:00:12,590
but for how we make decisions about our safety and transportation, our economy,

4
00:00:12,610 --> 00:00:16,760
our livelihoods. So, how do we measure rain?

5
00:00:16,780 --> 00:00:20,950
Well, we can set out a rain gauge, like this one, and it measures the amount

6
00:00:20,970 --> 00:00:25,120
of rain that falls over time. The problem with this is that only measures rain in one

7
00:00:25,140 --> 00:00:29,310
very small spot. In fact, if you took all the rain gauges in the world

8
00:00:29,330 --> 00:00:33,500
packed them together, they would into two basketball courts. Now

9
00:00:33,520 --> 00:00:37,650
we can cover more ground if we use radar. Radar sends out a signal,

10
00:00:37,670 --> 00:00:41,790
and it measures how much of that signal is scattered by rain or snow. But radars

11
00:00:41,810 --> 00:00:45,920
are only available in certain parts of the world, and many countries just don't have access to

12
00:00:45,940 --> 00:00:50,020
that technology. And that's just on land. Think about

13
00:00:50,040 --> 00:00:54,120

how we're going to measure rain over all of the world's oceans.

14
00:00:54,140 --> 00:00:58,180
Look, the point is it's impossible to cover the entire Earth with enough instruments

15
00:00:58,200 --> 00:01:02,230
that are going to give us accurate precipitation rates for the whole globe.

16
00:01:02,250 --> 00:01:06,260
So, we have to think bigger and higher. Instead of having a

17
00:01:06,280 --> 00:01:10,430
patchy network of rain gauges and radars, we can have a whole constellation of satellites

18
00:01:10,450 --> 00:01:14,620
looking down at the Earth, measuring things like falling rain,

19
00:01:14,640 --> 00:01:18,800
snow and even ice. The Global Precipitation Measurement mission, or GPM,

20
00:01:18,820 --> 00:01:22,990
is going to do that. And it's going to give us precipitation rates for the whole

21
00:01:23,010 --> 00:01:27,020
globe every three hours. Now GPM is going to cover it all:

22
00:01:27,040 --> 00:01:31,190
from land and oceans, from the tropics to the edge of the poles,

23
00:01:31,210 --> 00:01:35,370
over mountains and valleys, from our

24
00:01:35,390 --> 00:01:39,510
farmland to our cities and towns. We're going to need

25
00:01:39,530 --> 00:01:43,650
more than a perspective on the ground if we're going to look at precipitation from a truly global

26
00:01:43,670 --> 00:01:47,770
standpoint, and GPM is just the mission that's going to give us that big picture.

27
00:01:47,790 --> 00:01:51,950
[music ends]