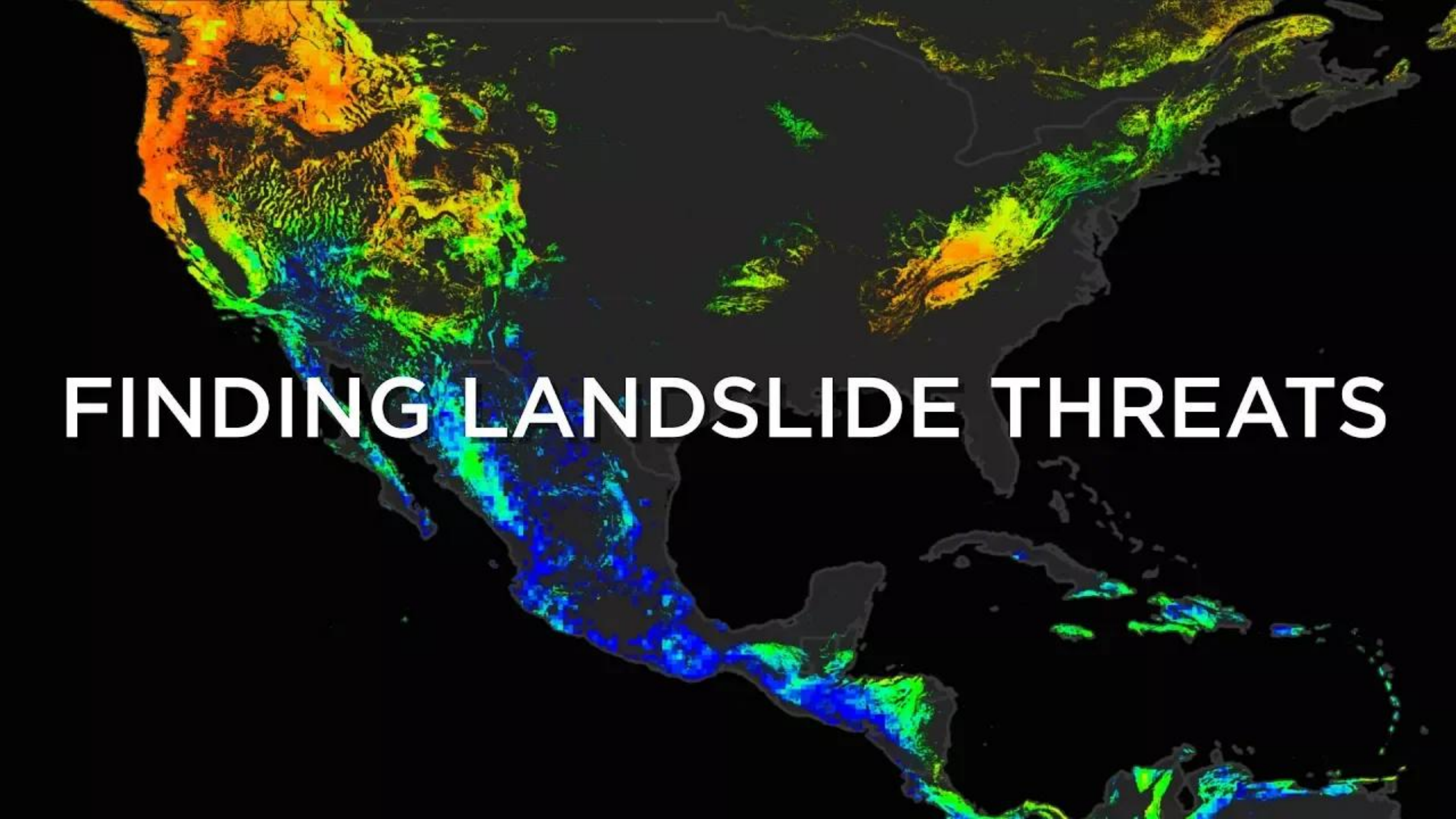
FINDING LANDSLIDE THREATS

1
00:00:00,000 --> 00:00:02,770
Deadly landslides can happen in the space of minutes,

2
00:00:02,790 --> 00:00:06,310
but factors that cause landslides can be detected ahead of time

3
00:00:06,330 --> 00:00:08,410
and from space.

4
00:00:08,430 --> 00:00:11,560
With satellites, NASA scientists have developed a new model

5
00:00:11,580 --> 00:00:17,670
to estimate where and when landslides may strike around the world using real-time information.

6
00:00:17,690 --> 00:00:21,940
The model, known as Landslide Hazard Assessment for Situational Awareness,

7
00:00:21,960 --> 00:00:26,840
estimates which regions have a moderate or high chance of landslides every 30 minutes.

8
00:00:26,860 --> 00:00:30,920
For the first time, potential landslide activity can be seen globally.

9
00:00:30,940 --> 00:00:34,580
These regions are identified by several factors.

10
00:00:34,600 --> 00:00:39,100
First, the model uses the Global Precipitation Measurement Mission to track rainfall

11
00:00:39,120 --> 00:00:43,000
- the most widespread and frequent trigger of landslides worldwide.

12
00:00:43,020 --> 00:00:46,330
Then the model evaluates which areas with high rainfall

13
00:00:46,350 --> 00:00:49,860

are also prone to landslides using a susceptibility map.

14
00:00:49,880 --> 00:00:53,370
The regions highlighted in this map may have a combination of

15
00:00:53,390 --> 00:00:57,230
steep slopes, deforestation, a weak bedrock, road construction

16
00:00:57,250 --> 00:00:59,680
or are near Earthquake fault zones

17
00:00:59,700 --> 00:01:03,530
- factors that make land more prone to landslides in heavy rains.

18
00:01:03,550 --> 00:01:06,250
Scientists ran the model looking back 15 years

19
00:01:06,270 --> 00:01:11,120
to determine when and where potential landslide activity tends to happen around the world,

20
00:01:11,140 --> 00:01:14,750
or in essence when landslide season exists in different regions.

21
00:01:14,770 --> 00:01:18,760
When this model is compared to NASA’s database of landslide reports

22
00:01:18,780 --> 00:01:20,740
dating back to 2007,

23
00:01:20,760 --> 00:01:23,370
similar patterns emerge.

24
00:01:23,390 --> 00:01:28,530
For example, potential landslide activity peaks from February to April in Peru.

25
00:01:28,550 --> 00:01:33,340
Whereas in Taiwan the peak occurs in May and June.

26
00:01:33,360 --> 00:01:36,280
But not every landslide is seen or reported.

27
00:01:36,300 --> 00:01:43,110
The model also reveals landslide-prone regions that currently don’t have any reported fatalities in the database

28
00:01:43,130 --> 00:01:46,650
Scientists will use the NASA model in combination with landslide reports

29
00:01:46,670 --> 00:01:50,490
to improve our understanding of where and when landslides may occur.