1
00:00:08,120 --> 00:00:04,060
[music]

2
00:00:08,140 --> 00:00:12,240
Joe: The weather here is very unique in that we have all these different types of precipitation

3
00:00:12,260 --> 00:00:16,390
occurring in the same spot and the underlying factor behind all of it is

4
00:00:16,410 --> 00:00:20,420
rain, rain, rain. It's one storm system after another comes in from the

5
00:00:20,440 --> 00:00:24,610
coast, and the rainfall just piles up.
Patrick: Really what we're looking at here

6
00:00:24,630 --> 00:00:28,740
are these big midlatitude frontal systems that make landfall

7
00:00:28,760 --> 00:00:32,930
onto the Olympic Peninsula and how these systems kind of go

8
00:00:32,950 --> 00:00:36,930
from the ocean onto the land and hit the mountains and start really

9
00:00:36,950 --> 00:00:40,980
growing vertically and where some really intense convection

10
00:00:41,000 --> 00:00:45,030
and rainfall can occur. So ground validation basically helps us understand

11
00:00:45,050 --> 00:00:49,040
how well the satellite is seeing precipitation.
Patrick: So what we're trying

12
00:00:49,060 --> 00:00:53,090
to do with GPM is kind of build a three dimensional view of

13
00:00:53,110 --> 00:00:57,240
precipitating clouds. And so in order to do that we need

14
00:00:57,260 --> 00:01:01,260
measurements that are directly on the ground and then we need measurements

15
00:01:01,280 --> 00:01:05,310
of the cloud and then measurements kind of looking from different perspectives of the cloud.

16
00:01:05,330 --> 00:01:09,390
David: NASA will be providing two aircraft, the DC-8,

17
00:01:09,410 --> 00:01:13,460
which will be flying at mid-levels, 39,000 feet or so, and

18
00:01:13,480 --> 00:01:17,640
then the ER-2 aircraft, which flies much higher above the clouds.

19
00:01:17,660 --> 00:01:21,710
On the ground the main assets are the NASA Polarmetric Radar, is where

20
00:01:21,730 --> 00:01:25,780
we are now, along with the D3R radar, which is a dual-frequency, dual-

21
00:01:25,800 --> 00:01:29,940
polarization radar that has the same frequencies as the GPM satellite

22
00:01:29,960 --> 00:01:34,110
Well we're quite remote, which is fine, but he hardest part actually

23
00:01:34,130 --> 00:01:38,250
for my group was to acquire land on the Quinault Indian

24
00:01:38,270 --> 00:01:42,320
Nation Territory. There was a lot of--we needed to make sure we

25
00:01:42,340 --> 00:01:46,390

were doing the right thing environmentally, get all the right permits. We worked very closely with the

26
00:01:46,410 --> 00:01:50,480
Quinault Indian Nation, they were wonderful. Then once we got all the regular permits,

27
00:01:50,500 --> 00:01:54,520
we had to then kind of cap the top of the mountain to support our radar

28
00:01:54,540 --> 00:01:58,730
which requires about 1500 pounds per square foot for it to be set on

29
00:01:58,750 --> 00:02:02,780
stable.
Patrick: some of my colleauges

30
00:02:02,800 --> 00:02:06,930
actually had to hike in and put instruments in or go maintain instruments

31
00:02:06,950 --> 00:02:11,010
you know, 14-mile journeys into the woods basically. It's really neat

32
00:02:11,030 --> 00:02:15,040
to get to work in such a unique environment like that

33
00:02:15,060 --> 00:02:19,150
where you can actually put these instruments in places where there's never been measurements

34
00:02:19,170 --> 00:02:23,330
like that before.
Matt: You know we have sites all the way on the

35
00:02:23,350 --> 00:02:27,380
coast, they're going to see probably 6 inches of rain for the season. We're going to have some

36
00:02:27,400 --> 00:02:31,430
sites that are going to be up in the mountains that are going to see a couple of feet of rain for

37
00:02:31,450 --> 00:02:35,460

the season, and we also have instruments sitting around 5000 feet that are going to see probably

38
00:02:35,480 --> 00:02:39,650
a few feet of snow. So we're going to see quite a breadth of precipitation for

39
00:02:39,670 --> 00:02:43,700
this project.
[music]