1
00:00:00,040 --> 00:00:04,150
[howling wind]

2
00:00:04,170 --> 00:00:08,210
Walt: We just returned from the GPM Cold Season

3
00:00:08,230 --> 00:00:12,270
Precipitation Experiment held in Ontario, Canada.

4
00:00:12,290 --> 00:00:16,330
And it was a very successful experiment. We collected the bulk of the

5
00:00:16,350 --> 00:00:20,510
data that we went up there to get, and I think that everybody is very happy with the dataset.

6
00:00:20,530 --> 00:00:24,550
I would say that it did not snow across the norther tier of the United

7
00:00:24,570 --> 00:00:28,580
States and Southern Canada as much as we had hoped it would this year, but surprisingly

8
00:00:28,600 --> 00:00:32,610
enough, even given the relative lack of snow that we had,

9
00:00:32,630 --> 00:00:36,630
we got all the events that we basically wanted.

10
00:00:36,650 --> 00:00:40,670
One of the objectives for this field campaign was to

11
00:00:40,690 --> 00:00:44,750
test the range of snowfall intensities

12
00:00:44,770 --> 00:00:48,800
that occur. And the idea being there that we would be able to

13
00:00:48,820 --> 00:00:52,870

sort of find where it is in that spectrum of events that we would actually be able to

14
00:00:52,890 --> 00:00:56,930
detect falling snow from space with the GPM

15
00:00:56,950 --> 00:01:00,960
Core satellite.

16
00:01:00,980 --> 00:01:05,020
[jet engine]

17
00:01:05,040 --> 00:01:09,050
Through the duration of the campaign we went the full

18
00:01:09,070 --> 00:01:13,100
six weeks using all the aircraft hours that were available to us on the DC-8.

19
00:01:13,120 --> 00:01:17,120
We flew about 14 missions, for a total about 75 flight hours

20
00:01:17,140 --> 00:01:21,140
I sort of assumed we would show up and basically burn out our flight

21
00:01:21,160 --> 00:01:25,190
hours in a very short time up there in frequent heavy snowfall

22
00:01:25,210 --> 00:01:29,280
events, and what actually transpired is that we ended up using the entire

23
00:01:29,300 --> 00:01:33,320
duration of the field campaign to get our datasets because the snow events

24
00:01:33,340 --> 00:01:37,370
were sort of spaced fairly regularly and

25
00:01:37,390 --> 00:01:41,670
were not that heavy and we kept wanting to get the heavier event, and it took a while

26
00:01:41,690 --> 00:01:45,840
to get that.
Steve: As you can see it's snowing pretty good

27
00:01:45,860 --> 00:01:49,870
this morning at the CARE site. Pretty nice large aggregates.

28
00:01:49,890 --> 00:01:53,930
It's exactly what we're looking for and it just keeps coming down.

29
00:01:53,950 --> 00:01:57,950
Walt: So we've completed the GCPEx experiment in terms of being

30
00:01:57,970 --> 00:02:01,990
on the ground and collecting the data. Now a phenomenal effort actually goes

31
00:02:02,010 --> 00:02:06,020
into quality controlling all of the data we collected. That is, to make sure that

32
00:02:06,040 --> 00:02:10,080
all of those datasets that we collected are usable,

33
00:02:10,100 --> 00:02:14,140
there's no bad data in the datasets, and that has to be done for

34
00:02:14,160 --> 00:02:18,270
a huge number of ground instruments that were deployed, both radars

35
00:02:18,290 --> 00:02:22,310
direct measurements of snowfall using gauges, particle

36
00:02:22,330 --> 00:02:26,350
imaging systems, all of those data on the ground. And then you have to move to the aircraft

37
00:02:26,370 --> 00:02:30,380
data, which is also very complex because you've got several different probe types

38

00:02:30,400 --> 00:02:34,410
that were flying in the clouds, looking at different aspects of the precipitation

39
00:02:34,430 --> 00:02:38,460
and all of that data has to be quality controlled. And finally you have the

40
00:02:38,480 --> 00:02:42,480
satellite simulator, or the DC-8, that carried the radiometer, the

41
00:02:42,500 --> 00:02:46,550
COSMIR radiometer and the APR-2 radar.

42
00:02:46,570 --> 00:02:50,630
All of those data have to be--and we're talking gigabytes and terabytes--

43
00:02:50,650 --> 00:02:54,730
of data that has to be quality controlled. That will take on the order of six months to

44
00:02:54,750 --> 00:02:58,770
a year to accomplish. And that connection in between what I

45
00:02:58,790 --> 00:03:02,810
measured during this field campaign to what I think I'm going to see in space

46
00:03:02,830 --> 00:03:06,850
essentially encompasses the development process of

47
00:03:06,870 --> 00:03:10,880
making an algorithm to retrieve the snowfall from space.