1
00:00:00,010 --> 00:00:03,990
[music] Narrator: Operation IceBridge has arrived

2
00:00:04,010 --> 00:00:08,000
at Thule Air Base to kick off this year’s survey of Arctic sea ice

3
00:00:08,020 --> 00:00:12,000
and the ice sheets and glaciers of Greenland. But just a week ago

4
00:00:12,020 --> 00:00:16,010
they were still at Wallops Flight Facility outfitting a brand new aircraft

5
00:00:16,030 --> 00:00:20,010
for the trip.Actually the NASA C-130

6
00:00:20,030 --> 00:00:24,020
four-engine turboprop cargo plane has seen five decades of service,

7
00:00:24,040 --> 00:00:28,030
but it’s a new aircraft to IceBridge. With its distinctive nose,

8
00:00:28,050 --> 00:00:32,070
elevated cockpit, and open cabin, it’s a change of pace for the team,

9
00:00:32,090 --> 00:00:36,080
but functionally, it’s built to do the job.

10
00:00:36,100 --> 00:00:40,100
Sonntag: Yeah, so the C-130 it's an interesting aircraft … Again this one for us is a new airplane.

11
00:00:40,120 --> 00:00:44,100
It's about my age, actually, but Wallops just got it about a year ago.

12
00:00:44,120 --> 00:00:48,110
First time we've installed in it. It has some advantages, some disadvantages

13
00:00:48,130 --> 00:00:52,110

over the P-3 that we normally take to Greenland. Pretty similar performance really. Roughly similar range rough

14
00:00:52,130 --> 00:00:56,150
ground speed, maneuverability characteristics that sort of thing.

15
00:00:56,170 --> 00:01:00,150
Narrator: For the past few months, the Wallops and IceBridge teams have been busy

16
00:01:00,170 --> 00:01:04,160
making sure the aircraft is properly configured for the mission’s many laser,

17
00:01:04,180 --> 00:01:08,160
radar, and photographic instruments.

18
00:01:08,180 --> 00:01:12,160
Sonntag: That was a long road -- it's always a big deal putting all these instruments -- there's a whole suite of t

19
00:01:12,180 --> 00:01:16,170
what to us is a new airplane. A lot of design work, a lot of machining, a lot of cutting

20
00:01:16,190 --> 00:01:20,170
of metal, a lot of re-designing and re-machine work and re-cutting of metal

21
00:01:20,190 --> 00:01:24,180
when the first one doesn't always work out like we hoped.

22
00:01:24,200 --> 00:01:28,190
Once we're modularized and designed into the system it'll be pretty easy, but the first time is hard

23
00:01:28,210 --> 00:01:32,190
and that's what's been an issue with this particular deployment because all

24
00:01:32,210 --> 00:01:36,190
all of our optical instruments have to be machined to fit to look out a

25
00:01:36,210 --> 00:01:40,200
particular viewport in the bottom. All the wiring has to work.

26
00:01:40,220 --> 00:01:44,200
The equipment you see behind me here which is precise navigation equipment

27
00:01:44,220 --> 00:01:48,210
which helps us put the airplane directly underneath the satellite path

28
00:01:48,230 --> 00:01:52,220
or directly over one of our previous paths from IceBridge all that has to be wired into the system,

29
00:01:52,240 --> 00:01:56,220
tested, flight-tested and that's what we're in the process of doing now.

30
00:01:56,240 --> 00:02:00,230
Narrator: One week later, with all test flights a success,

31
00:02:00,250 --> 00:02:04,230
IceBridge is now 6,000 miles to the north, already has its first flight in the books,