P-3 Orion - WFF 04/12/19

Aircraft: P-3 Orion - WFF (See full schedule)
Flight Number: #2083: 2019 OIB Science Flight #7
Payload Configuration: Operation IceBridge
Nav Data Collected: No
Total Flight Time: 7.2 hours
Submitted by: Kelly Griffin on 04/16/19
Flight Segments:

From:	BGTL	**To:**	BGTL
Start:	04/12/19 10:57 Z	**Finish:**	04/12/19 18:08 Z
Flight Time:	7.2 hours		
Log Number:	19P017	**PI:**	Joseph MacGregor
Funding Source:	Bruce Tagg - NASA - SMD - ESD Airborne Science Program		
Purpose of Flight:	Science		
Miles Flown:	2109 miles		

Flight Hour Summary:

	19P017
Flight Hours Approved in SOFRS	250
Total Used	216.3
Total Remaining	33.7

19P017 Flight Reports

Date	Flt #	Purpose of Flight	Duration	Running Total	Hours Remaining	Miles Flown
03/26/19	#2053: 2019 OIB ATF Check	Check	0.9	0.9	249.1	0
03/27/19	#2059: 2019 OIB PTF-Laser	Check	2.3	3.2	246.8	0
03/28/19	#2061: 2019 OIB PTF-Radar	Check	3.2	6.4	243.6	0
04/01/19	#2068: 2019 OIB WFF-BGTL Transit Flight	Transit	6.9	13.3	236.7	2458
04/03/19	#2070: 2019 OIB Science Flight #1	Science	7.6	20.9	229.1	1938
04/05/19	#2072: 2019 OIB Science Flight #2	Science	7.7	28.6	221.4	1910
04/06/19	#2073: 2019 OIB Science Flight #3	Science	7.2	35.8	214.2	2000
04/08/19	#2075: 2019 OIB Science Flight #4	Science	6.9	42.7	207.3	1780
04/09/19	#2076: 2019 OIB Science Flight #5	Science	7.8	50.5	199.5	2045
04/10/19	#2081: 2019 OIB Science Flight #6	Science	10.1	60.6	189.4	2702
04/11/19	#2082: BGSF-BGTL Transit	Transit	2.2	62.8	187.2	696
04/12/19	#2083: 2019 OIB Science Flight #7	Science	7.2	70	180	2109
04/15/19	#2086: 2019 OIB Science Flight #8	Science	4.8	74.8	175.2	1243
04/16/19	#2087: 2019 OIB Science Flight #9	Science	7.6	82.4	167.6	2036

04/17/19	#2088: 2019 OIB Science Flight #10	Science	7.7	90.1	159.9	1937
04/18/19	#2090: 2019 OIB Science Flight #11	Science	7.8	97.9	152.1	2008
04/19/19	#2091: 2019 OIB Science Flight #12	Science	7.6	105.5	144.5	2104
04/20/19	#2092: 2019 OIB Science Flight #13	Science	6.9	112.4	137.6	0
04/22/19	#2094: 2019 OIB Science Flight #14	Science	6.6	119	131	1867
04/23/19	#2099: 2019 OIB Science Flight #15	Science	7.7	126.7	123.3	1979
04/25/19	#2102: 2019 OIB BGTL-KBGR Transit Flight	Transit	6.2	132.9	117.1	0
04/26/19	KBGR to BGSF Transit	Transit	5.7	138.6	111.4	0
05/05/19	2019 OIB Science Flight #16	Science	7.8	146.4	103.6	0
05/06/19	2019 OIB Science Flight #17	Science	8.4	154.8	95.2	0
05/07/19	2019 OIB Science Flight #18	Science	8.5	163.3	86.7	0
05/08/19	2019 OIB Science Flight #19	Science	8	171.3	78.7	0
05/12/19	2019 OIB Science Flight #20	Science	9	180.3	69.7	0
05/13/19	2019 OIB Science Flight #21	Science	7	187.3	62.7	0
05/14/19	2019 OIB Science Flight #22	Science	7.9	195.2	54.8	0
05/15/19	2019 OIB Science Flight #23	Science	8.3	203.5	46.5	0
05/16/19	2019 OIB Science Flight #24	Science	6.3	209.8	40.2	0
05/17/19	2019 OIB Transit	Transit	6.2	216	34	0
05/17/19	2019 OIB Transit	Transit	0.3	216.3	33.7	0

Flight Reports began being entered into this system as of 2012 flights. If there were flights flown under an earlier log number the flight reports are not available online.

Related Science Report:

OIB - P-3 Orion - WFF 04/12/19 Science Report

Mission: OIB
Mission Summary:

Mission: ICESat-2 Arctic Ocean #2 (racetrack)
Priority: Baseline

This new flight for 2019 flies out-and-back along a single ICESat-2 ground track, selected and timed so that our aircraft and the spacecraft fly the track as closely as possible in time, and also with the track drift-corrected according to winds measured from the aircraft. The particulars of the technique we will use to fly the track will depend on knowledge of ICESat-2's pointing accuracy just prior to the time of this flight. Options include out-and-back along the same or parallel and offset lines, varying the altitude of one or both lines, or even a four-segment line. The general idea is to obtain a composite swath wide enough to capture any likely pointing offset of the spacecraft. See Appendix D for more details on the design of these flights.

A sufficiently large cloud-free region in imagery and a decent forecast led us to select this baseline mission, another racetrack as a sufficiently long stretch of cloud-free regions was not available. We arrived on-station after two hours of transit to ICESat-2 RGT 218 only two minutes before the spacecraft passed overhead at 13:03 UTC on an ascending pass with clear skies overhead. As for ICESat-2 Arctic Ocean #1, we surveyed ICESat-2 beams 1L and 2L at 3500 ft AGL three times each with a 425-meter offset. Because winds were light and roughly parallel to the RGT, we did not correct for sea ice drift. We encountered some haze about 15 minutes into the flight. Unfortunately, ATM T7 experienced a malfunction during the first of the six lines and had about a 10-minute gap in data collection (~13:22-13:32 UTC), likely due to a temperature issue. Otherwise, skies were mostly clear and the mission was a satisfying success, with a few leads observed and lots of good data collected. ATM reported 100% data collection with the exception of the T7 malfunction. Even though MCoRDS was not operated during this sea ice mission, CReSIS was able to confirm during transit that their efforts further isolate the snow radar from MCoRDS interference succeeded. On the transit home, we chatted with thee K-12 classrooms from, including one from Project Manager Eugenia De Marco's hometown in Argentina. Due to ceilings at Thule AB, we did not perform a ramp pass.

Attached images/files:

1. Map of today's mission (John Sonntag / NASA)
2. KML of today's mission (John Sonntag / NASA)
3. Snow-covered alluvial fans jutting into a sea-ice-covered Ellesmere Island fjord, with evidence of tidal flexure in the near-shore sea ice (John Sonntag / NASA)
4. You can call these pressure ridges "AL" (Jeremy Harbeck / NASA)
5. ATM T6 (wide swath) of sea ice leads and pressures ridges not named AL (Matt Linkswiler / NASA)

Images:

Map of today's mission

Read more

Snow-covered alluvial fans jutting into a sea-ice-covered Ellesmere

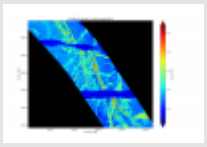
Read more

You can call these pressure ridges "AL"

Read more

ATM T6 (wide swath) of sea ice leads and pressures ridges not

named AL



Read more

Submitted by: Joseph MacGregor on 04/12/19

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