

P-3 Orion 04/06/17

Aircraft: [P-3 Orion - WFF](#) (See full schedule)

Flight Number: Science Flight #17- Svalbard South Mission (High Priority)

Payload Configuration: OIB Arctic

Nav Data Collected: No

Total Flight Time: 8.5 hours

Submitted by: Kelly Griffin on 04/06/17

Flight Segments:

| | | | |
|---------------------------|--|----------------|------------------|
| From: | ENSB | To: | ENSB |
| Start: | 04/06/17 08:00 Z | Finish: | 04/06/17 16:30 Z |
| Flight Time: | 8.5 hours | | |
| Log Number: | 17P006 | PI: | Nathan Kurtz |
| Funding Source: | Bruce Tagg - NASA - SMD - ESD Airborne Science Program | | |
| Purpose of Flight: | Science | | |

Flight Hour Summary:

| | |
|---------------------------------------|---------------|
| | 17P006 |
| Flight Hours Approved in SOFRS | 333.6 |
| Total Used | 332 |
| Total Remaining | 1.6 |

17P006 Flight Reports

| Date | Flt # | Purpose of Flight | Duration | Running Total | Hours Remaining | Miles Flown |
|-------------------------------------|---|-------------------|----------|---------------|-----------------|-------------|
| 02/24/17 | Airworthiness Test Flight | Check | 1 | 1 | 332.6 | |
| 02/26/17 | Project Test Flight #1 | Check | 4.9 | 5.9 | 327.7 | |
| 02/27/17 | Project Test Flight #2 | Check | 3 | 8.9 | 324.7 | |
| 03/07/17 | Transit Flight | Transit | 8.2 | 17.1 | 316.5 | |
| 03/09/17 | Science Flight #1 - North Pole Transect | Science | 8 | 25.1 | 308.5 | |
| 03/10/17 | Science Flight #2 - Laxon Line | Science | 8.5 | 33.6 | 300 | |
| 03/11/17 - 03/12/17 | Science Flight #3 - Chukchi West Line | Science | 8 | 41.6 | 292 | |
| 03/12/17 - 03/13/17 | Science Flight #4 - North Beaufort Loop Line | Science | 8.1 | 49.7 | 283.9 | |
| 03/14/17 - 03/15/17 | Science Flight #5 - East Beaufort Loop Line | Science | 8 | 57.7 | 275.9 | |
| 03/20/17 | Science Flight #6 - Sea Ice South Basin Transect (to Thule) | Science | 8.1 | 65.8 | 267.8 | |
| 03/22/17 | Science Flight #7 - North Flux 02 | Science | 7.9 | 73.7 | 259.9 | |
| 03/23/17 | Science Flight #8 - Zig Zag West Line | Science | 7.9 | 81.6 | 252 | |
| 03/24/17 | Science Flight #9 - CryoVEx Line | Science | 5.8 | 87.4 | 246.2 | |
| 03/27/17 | Science Flight #10 - Northwest Coastal A Line | Science | 7.4 | 94.8 | 238.8 | |
| 03/28/17 | Science Flight #11 - North Central Cap 01 Line | Science | 7.6 | 102.4 | 231.2 | |
| 03/29/17 | Science Flight #12 - Ellesemere Island 01 Line | Science | 7.6 | 110 | 223.6 | |
| 03/30/17 | Science Flight #13 - Ellesemere South Line | Science | 7.9 | 117.9 | 215.7 | |
| 03/31/17 | Science Flight #14- Alexander-Petermann Line | Science | 6.5 | 124.4 | 209.2 | |

| | | | | | |
|--------------------------|--|---------|-----|-------|-------|
| 04/03/17 | Science Flight #15- Zachariae 79N Fram Straight and BGTL ENSB Transit | Science | 7.4 | 131.8 | 201.8 |
| 04/05/17 | Science Flight #16 - Svalbard North Line (High Priority) | Science | 7 | 138.8 | 194.8 |
| 04/06/17 | Science Flight #17- Svalbard South Mission (High Priority) | Science | 8.5 | 147.3 | 186.3 |
| 04/07/17 | Science Flight #18- Combined Zig Zag East Mission and Transit ENSB to BGTL | Science | 8.3 | 155.6 | 178 |
| 04/10/17 | Science Flight #19- North Central Gap 3 | Science | 7.8 | 163.4 | 170.2 |
| 04/11/17 | Science Flight #20- CryoVex 2 (High Priority) | Science | 7.8 | 171.2 | 162.4 |
| 04/12/17 | Science Flight #21-Northwest Coastal C | Science | 7.2 | 178.4 | 155.2 |
| 04/13/17 | Science Flight #22-North Glaciers 02 Prime (High Priority) | Science | 8.2 | 186.6 | 147 |
| 04/14/17 | Science Flight #23-IceSat-2 North/CryoSat-2 SARIn | Science | 7 | 193.6 | 140 |
| 04/17/17 | Science Flight #24-Humboldt 01(High Priority) | Science | 7.8 | 201.4 | 132.2 |
| 04/19/17 | Science Flight #25-Sea Ice - South Canada Basin (MediumPriority) | Science | 7.8 | 209.2 | 124.4 |
| 04/20/17 | Transit Flight to Kangerlussuaq | Transit | 3 | 212.2 | 121.4 |
| 04/21/17 | Science Flight #26-Southeast Coastal | Science | 8 | 220.2 | 113.4 |
| 04/22/17 | Science Flight #27-Helheim- Kangerd | Science | 7.8 | 228 | 105.6 |
| 04/24/17 | Science Flight #28-Geikie 01 (High Priority) | Science | 8 | 236 | 97.6 |
| 04/26/17 | Science Flight #29-Devon-Bylot (Medium Priority) | Science | 7.9 | 243.9 | 89.7 |
| 04/28/17 | Science Flight #30-Penny 01 (Medium Priority) | Science | 6 | 249.9 | 83.7 |
| 04/29/17 | Science Flight #31-Thomas - Jakobshavn 01 | Science | 8.4 | 258.3 | 75.3 |
| 05/01/17 | Science Flight #32-Thomas - Jakobshavn-Eqip-Store | Science | 8.4 | 266.7 | 66.9 |
| 05/02/17 | Science Flight #33-Thomas - ICESat-2 Central | Science | 7.9 | 274.6 | 59 |
| 05/03/17 | Science Flight #34-Thomas - Southwest Coastal A | Science | 8.3 | 282.9 | 50.7 |
| 05/05/17 | Science Flight #35-Helheim- Kangerdlugssuaq Gap B (High Priority) | Science | 8.2 | 291.1 | 42.5 |
| 05/06/17 | Science Flight #36-Helheim-K- EGIG-Summit | Science | 8 | 299.1 | 34.5 |
| 05/08/17 | Science Flight #37-Southeast Glaciers 01 (High Priority) | Science | 8 | 307.1 | 26.5 |
| 05/10/17 | Science Flight #38-Umanaq B (High Priority) | Science | 8 | 315.1 | 18.5 |
| 05/11/17 | Science Flight #39-ICESat-2 South (High Priority) | Science | 8.1 | 323.2 | 10.4 |
| 05/12/17 | Science Flight #40-Nuuk Fjords | Science | 1.8 | 325 | 8.6 |
| 05/13/17 | Transit Flight to Dover DE (to clear customs) | Transit | 6.4 | 331.4 | 2.2 |

05/13/17

Transit Flight to Wallops Flight Facility

Transit

0.6

332

1.6

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 04/06/17 Science Report

Mission: OIB

Mission Summary:

OIB completed the high priority Svalbard South mission. This mission was designed to sample sea ice on the eastern hemisphere side of the Pole, within the Russian FIR boundary which had formerly been off limits to OIB. This mission fills in the gap between the "Sea Ice – Svalbard North" mission and the Russian islands of Franz Josef Land, Severnaya Zemlya and other minor islands, remaining at least 50 nm away from all Russian land masses. We also flew an ICESat-2 ground track at the far end of the flight line. The return leg was flown at high altitude as continuous headwinds during the mission used enough fuel to prevent low altitude data collection during the entire trip. High altitude ATM and DMS data were acquired during this portion of the line since the skies were mostly clear. In addition to Level 1 Requirements S11 and S12, this mission addresses sea ice level 1 baseline requirement S13d by sampling sea ice in the eastern Arctic. We also flew some 1996/2002 ATM lines over some of the Svalbard ice caps in transit to and from the sea ice, though missing portions of the data due to clouds at times.

The weather forecast for the mission showed mainly clear skies with some clouds on the southern portion of the line near Svalbard and up to Franz Josef Land. This is largely what we experienced, but with some very thin haze present along the eastern portion of the line. Good data was collected through most of the flight, with a small bit of missed data due to clouds near Svalbard. We also had to turn off data collection for a short distance on the sea ice near Svalbard to comply with Norwegian regulations. The ice conditions were quite variable along the flight, varying from more deformed ice near Svalbard to less deformed and compact ice as we went east.

Data volumes

ATM: T5: 35 Gb T6: 113 Gb

FLIR: 15 Gb

Cambot: 41 Gb

KT19: 10 Mb

DMS: 89.6 Gb

MCoRDS: 378 Gb

Accumulation radar: 283 Gb

Snow/Ku radar: 1.0 Tb

data on: 0924

data off: 1715

File:

 [svalbard_south.pdf](#)

Submitted by: Nathan T. Kurtz on 04/06/17

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Page Editor: Katja Drdla

NASA Official: Marilyn Vasques

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