

## DC-8 - AFRC 10/31/18 - 11/01/18

Aircraft: [DC-8 - AFRC](#) (See full schedule)

Flight Number: 1303

Payload Configuration: OIB 2018 Configuration - ATM-Cambot, ATM-GPS/ATM-NAV, ATM-FLIR, ATM-T6, ATM-T7, Gravimeter, MCoR Snow RADAR, and piggybacks ARMAS & Tinman

Nav Data Collected: Yes

Total Flight Time: 11.3 hours

Submitted by: Timothy Moes on 11/01/18

### Flight Segments:

<b>From:</b>	SCCI	<b>To:</b>	SCCI
<b>Start:</b>	10/31/18 15:12 Z	<b>Finish:</b>	11/01/18 02:29 Z
<b>Flight Time:</b>	11.3 hours		
<b>Log Number:</b>	<a href="#">198006</a>	<b>PI:</b>	Joseph MacGregor
<b>Funding Source:</b>	Bruce Tagg - NASA - SMD - ESD Airborne Science Program		
<b>Purpose of Flight:</b>	Science		
<b>Comments:</b>	A successful science flight completing the Smith-Pope-Kohler IceSat-2 baseline mission. All science instruments successfully obtained data and the aircraft returned in good condition with no writeups.		

### Flight Hour Summary:

	<b>198006</b>
<b>Flight Hours Approved in SOFRS</b>	345.8
<b>Total Used</b>	292.8
<b>Total Remaining</b>	53

### 198006 Flight Reports

Date	Flt #	Purpose of Flight	Duration	Running Total	Hours Remaining	Miles Flown
<a href="#">10/02/18</a>	1287	Check	2.6	2.6	343.2	0
<a href="#">10/08/18</a>	1289	Transit	10.1	12.7	333.1	0
<a href="#">10/08/18</a>	1290	Transit	2.8	15.5	330.3	0
<a href="#">10/10/18 - 10/11/18</a>	1291	Science	11.5	27	318.8	0
<a href="#">10/11/18 - 10/12/18</a>	1292	Science	11.6	38.6	307.2	0
<a href="#">10/12/18 - 10/13/18</a>	1293	Science	11.3	49.9	295.9	0
<a href="#">10/13/18 - 10/14/18</a>	1294	Science	10.7	60.6	285.2	0
<a href="#">10/15/18 - 10/16/18</a>	1295	Science	11.1	71.7	274.1	0
<a href="#">10/16/18 - 10/17/18</a>	1296	Science	10.1	81.8	264	0
<a href="#">10/18/18 - 10/19/18</a>	1297	Science	11.1	92.9	252.9	0
<a href="#">10/19/18 - 10/20/18</a>	1298	Science	10.8	103.7	242.1	0
<a href="#">10/20/18 - 10/21/18</a>	1299	Science	10.7	114.4	231.4	0
<a href="#">10/22/18 - 10/23/18</a>	1300	Science	11.1	125.5	220.3	0
<a href="#">10/27/18 - 10/28/18</a>	1301	Science	11.3	136.8	209	0
<a href="#">10/30/18 - 10/31/18</a>	1302	Science	11.7	148.5	197.3	0

<a href="#">10/31/18 - 11/01/18</a>	1303	Science	11.3	159.8	186	0
<a href="#">11/01/18</a>	1304	Transit	0.6	160.4	185.4	0
<a href="#">11/03/18 - 11/04/18</a>	1305	Science	11	171.4	174.4	0
<a href="#">11/04/18</a>	1306	Science	10.8	182.2	163.6	0
<a href="#">11/05/18</a>	1307	Science	10.4	192.6	153.2	0
<a href="#">11/07/18</a>	1308	Science	10.4	203	142.8	0
<a href="#">11/09/18 - 11/10/18</a>	1309	Science	11.1	214.1	131.7	0
<a href="#">11/10/18 - 11/11/18</a>	1310	Science	10.6	224.7	121.1	0
<a href="#">11/11/18</a>	1311	Science	10.8	235.5	110.3	0
<a href="#">11/12/18</a>	1312	Science	10.7	246.2	99.6	0
<a href="#">11/14/18 - 11/15/18</a>	1313	Science	11.2	257.4	88.4	0
<a href="#">11/15/18</a>	1314	Science	10.3	267.7	78.1	0
<a href="#">11/16/18 - 11/17/18</a>	1315	Science	10.1	277.8	68	0
<a href="#">11/19/18</a>	1316	Transit	3.4	281.2	64.6	0
<a href="#">11/21/18</a>	1317	Transit	11.6	292.8	53	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 - DC-8 - AFRC 10/31/18 Science Report

**Mission:** OIB

**Mission Summary:**

Mission: Smith-Pope-Kohler IS-2  
Priority: Baseline

The successful completion of the Smith-Pope-Kohler IS-2 baseline mission ends our Punta Arenas deployment on a very high note! All forecasts agreed that all cloud cover should dissipate by mission arrival, and after staring into thick clouds over Eights Coast and near Pine Island Bay, a slow clearing and quick peek of the Thwaites shelf in the distance were a welcome sight.

Skies were clear over nearly the entire survey apart from a few, small scattered clouds and a larger bank over the most inland part of the survey near Toney Mountain. Blowing snow was apparent over most of the surface. Turbulence haunted us all day, but the pilots maneuvered the tracks masterfully and all instruments performed well.

Over the shortest latency ICESat-2 ground track 0493, IceBridge flew at 5000' and offset to the west by 1310 meters to ensure coincidence with ICESat-2 due to its current pointing bias. Underlined tracks below indicate that ICESat-2 surveyed prior to IceBridge. All remaining tracks were flown at 1500'. ATM reported minimal signal loss over the clouds, and snow radar dropped out briefly while ascending to 5000'.

**ICESat-2 ground track and survey latency:**

**0180**, t = 19 days

**0493**, t = 23 hours 15 minutes (5000' AGL, offset 1310 m west)

**0554**, t = 3 days

**0737**, t = 15 days

**0744**, t = 16 days

Outreach: Emily Schaller led our final classroom chats of the campaign. In all, we conducted 37 classroom chats that reached 1,052 students in 10 US states, Canada, Togo, Ghana and South Africa. Many, many thanks to all

who participated.

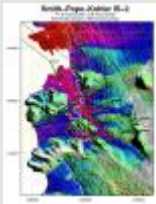
Outlook: Our takeoff today was delayed 2 hours (arrival back in Punta Arenas near midnight), which means that the entire IceBridge team will work on little rest for the pack up and move to Ushuaia early in the morning tomorrow. The impressive commitment of all on board, on the ground, and back at home will keep us on track for restarting science flights this Saturday out of Ushuaia.

List of attached figures:

1. Map of today's science mission. (John Sonntag/NASA)
2. The DC-8 wing comes into view as we near Mt. Murphy from the Crosson Ice Shelf. (Brooke Medley/NASA)
3. Snow streams over mountain near Kohler Glacier. (Katy Mersmann/NASA)
4. A peek down into a giant crevasse on Pope Glacier. (Brooke Medley/NASA)
5. Destroyed blue ice where Smith Glacier pours into the Crosson Ice Shelf (Katy Mersmann/NASA).
6. New sea ice forms while snow blows off the cliff at the front of the Dotson Ice Shelf (Brooke Medley/NASA)

Images:

## Figure 1



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## Figure 2



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## Figure 3



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## Figure 4



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## Figure 5



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## Figure 6



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**Submitted by:** Brooke Medley on 11/11/18

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