

## DC-8 - AFRC 10/20/18 - 10/21/18

**Aircraft:**

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

**Flight Number:**

1299

**Payload Configuration:**

ATM GPS/NAV\_ATM Headwall\_ATM-T6/T7\_ATM FLIR\_ATM CAMBOT, MCoRDS/UWB Radar, Gravimeter

**Nav Data Collected:**

Yes

**Total Flight Time:**

10.7 hours

**Submitted by:**

Chris Jennison on 10/21/18

**Flight Segments:**

|                           |   |                |                  |
|---------------------------|---|----------------|------------------|
| <b>From:</b>              | SCCI  | <b>To:</b>     | SCCI             |
| <b>Start:</b>             | 10/20/18 13:26 Z  | <b>Finish:</b> | 10/21/18 00:08 Z |
| <b>Flight Time:</b>       | 10.7 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>          | <p>"Foundation-Academy IS-2 B", which is a new OIB flight and consists of four ICESat-2 tracks crossing the Academy and Support Force ice streams. Prior to taxi, winds were light, but out of the southeast, requiring a runway 07 takeoff. This caused a ~20 minute delay in takeoff, due to incoming traffic and working out VFR/IFR clearances with the tower. Once getting airborne, the flight went smoothly. We did a ramp overpass at 1500ft AGL immediately following takeoff. The aircraft and science instruments all performed well. The #4 engine oil quantity indicator gauge was reading consistently low and is likely faulty or there is a faulty sensor. We had the Steelhead film crew onboard again. They conducted several interviews and gathered lots of video footage. ATM: 100% data collection, instruments are all working well, no issues MCoRDS: 100% data collection, instrument is working well, no issues Snow Radar: 100% data collection, instrument is working well, no issues Gravimeter: 100% data collection, instrument is working well, no issues Data: 100% data collection for KT-19, no issues</p> |                |                  |

**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 10/20/18 Science Report

**Mission:**

OIB

**Mission Summary:**

Mission: Foundation Academy IS-2 B  
Priority: High

IceBridge successfully completed the high priority land ice mission Foundation Academy IS-2 B today. As predicted, the outflow from the continent caused clear skies and no weather issues during our flight. Thus, we were able to have 100% data collection along the lines.

This OIB flight was designed to target the strong beam of each beam pair along ICESat-2 ground tracks that cross the channel of Academy and Support Force ice streams. This was also the first time this mission has been flown.

The 4 ICESat-2 ground tracks that were flown and their latency between the IS2 crossovers are listed below:  
0238, t = 6 days  
0939, t = 40days  
0695, t = 24 days  
0451, t = 8days

Outreach: Since today is Saturday and schools are not in session, no class chats were conducted during our mission.

Media: OIB hosted Steelhead a 3-person documentary crew during our mission today. Various instrument team members onboard were interviewed. Their feature length documentary ?The Last Glacier? will have ~15 minutes allotted to OIB.

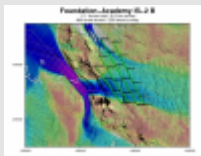
Outlook: Tomorrow we will take a mandatory crew rest hard down day and plan to resume science missions on Monday, weather permitting.

List of Images:

1. Map of today?s science mission (John Sonntag/NASA)
2. MCCORDS radar echogram over the Academy Glacier along the first IS-2 ground track. Showing layers of ice and bedrock. (Jilu Li/KU CrESiS)
3. 50 cm sastrugi present in the Academy glacier channel which is nicely picked up by the ATM T-6 laser. (Matt Linkswiler/NASA)
4. DC8 flying over crevasses and nunataks in the Pensacola Mountains. (Jeremy Harbeck/NASA)
5. Alexey Chibosov walking up the stairs to the NASA DC8 after cleaning the ATM window preflight (Jeremy Harbeck/NASA)
6. Jilu Li and Hara Talasila looking at MCCORDS data of ice thickness of at least 2400m in the Academy glacier channel during flight. (Jeremy Harbeck/NASA)

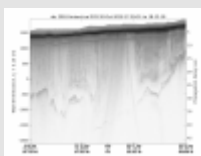
Images:

## Figure 1



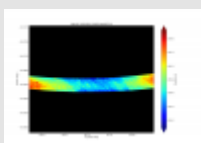
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## Figure 2



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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:**

Linette Boisvert on 10/25/18

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