

DC-8 10/13/12 - 10/14/12

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

Flight Number: 130106

Payload Configuration: OIB Antarctic 2012

Nav Data Collected: Yes

Total Flight Time: 10.9 hours

Submitted by: Frank Cutler on 10/14/12

Flight Segments:

From:	SCCI	To:	SCCI
Start:	10/13/12 13:27 Z	Finish:	10/14/12 00:19 Z
Flight Time:	10.9 hours		
Log Number:	138003	PI:	Michael Studinger
Funding Source:	Bruce Tagg - NASA - SMD - ESD Airborne Science Program		
Purpose of Flight:	Science		
Comments:	Depart SCCI at 1327Z. Perform calibration ramp pass to the SE and overfly targets at 1340Z at 1500 AGL. Climb to cruise altitude of FL310. Descend to 1500 ft MSL to cross first science waypoint at 1605Z. Fly circuitous path over sea ice along Antarctic coastline in Bellingshausen & Amundsen Sea areas. MCoRDs depth sounder recorded ice thickness data over Burke Island. Overfly last low altitude waypoint at 2044Z. Climb to FL400 for transit to Punta Arenas continuing to collect data during first 0.5 hours of return leg. Land SCCI at 0019Z.		

Flight Hour Summary:

	138003
Flight Hours Approved in SOFRS	200
Total Used	215.7
Total Remaining	-15.7

138003 Flight Reports

Date	Flt #	Purpose of Flight	Duration	Running Total	Hours Remaining	Miles Flown
10/02/12	130101	Check	5	5	195	
10/03/12	130102	Check	3.2	8.2	191.8	
10/08/12 - 10/09/12	130103	Transit	10.7	18.9	181.1	
10/10/12	130104	Transit	3.2	22.1	177.9	
10/12/12	130105	Science	11.2	33.3	166.7	
10/13/12 - 10/14/12	130106	Science	10.9	44.2	155.8	
10/15/12	130107	Science	11.6	55.8	144.2	
10/16/12 - 10/17/12	130108	Science	11.8	67.6	132.4	
10/18/12	130109	Science	11.6	79.2	120.8	
10/19/12 - 10/20/12	130110	Science	10.2	89.4	110.6	
10/22/12	130111	Science	11.2	100.6	99.4	
10/23/12 - 10/24/12	130112	Science	11.3	111.9	88.1	
10/25/12	130113	Science	11.4	123.3	76.7	
10/27/12	130114	Science	11.4	134.7	65.3	
10/28/12 - 10/29/12	130115	Science	11.3	146	54	
11/01/12 - 11/02/12	130116	Science	12	158	42	

11/02/12 - 11/03/12	130117	Science	10.6	168.6	31.4
11/04/12	130118	Science	11	179.6	20.4
11/06/12 - 11/07/12	130119	Science	9.4	189	11
11/07/12 - 11/08/12	130120	Science	11.5	200.5	-0.5
11/09/12	130121	Transit	3.3	203.8	-3.8
11/10/12 - 11/11/12	130122	Transit	11.6	215.4	-15.4
11/11/12	130123	Transit	0.3	215.7	-15.7

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 10/13/12 - 10/14/12 Science Report

Mission: OIB

Mission Summary:

F02 Bellingshausen Sea 01

Accomplishments

- Low-altitude survey (1,500 ft AGL) over sea ice in the Bellingshausen and Amundsen Sea. Completed all planned survey lines.
- Collected additional high altitude data.
- ATM, MCoRDS, snow and Ku-band radars, gravimeter, and DMS were operated on the survey lines.
- Conducted one ramp pass (1,500 ft AGL) at Punta Arenas airport after takeoff for DMS, ATM, snow and Ku-band radar instrument calibration.
- Satellite Tracks: none
- Repeat Mission: October 21, 2009; October 10, 2010; October 11, 2011

Science Data Report Summary

Instrument	Operated	Data Volume	Instrument Issues/Comments
ATM	yes	55 GB	None
DMS	yes	97 GB	None
Snow Radar	yes	474 GB	None
Ku-band Radar	yes	474 GB	None
MCoRDS	yes	140 GB	None
KT-19	yes	20 MB	None
Gravimeter	yes	1.2 GB	None
DC-8 On-board Data	yes	40 MB	None

Mission Report (Michael Studinger, Mission Scientist)

The various weather models predicted favorable conditions this morning for the high priority mission plan Bellingshausen 1. On October 21, 2009 we flew this landmark sea ice mission for the first time. It has been repeated on October 10 and 11 in 2010 and 2011, respectively. Today's flight marks the fourth year of data collection over this important sea ice transect across the pack ice of the Bellingshausen and Amundsen Sea under relatively heavy ice conditions.

We expected some clouds at the eastern part of the survey area from the low pressure system centered over Alexander Island. The forecast from the airport met office also predicted low clouds in the center of the survey area. As expected, none of the clouds posed any real issues for us and we lost only 15 minutes of ATM and

DMS data on the entire survey line due to clouds. The northern segment was flown at high altitude. At waypoint 110n we started a 1000 ft/min climb to 40,000 ft AGL. Both ATM T3 and DMS kept recording data and with the exception of a few isolated clouds got good extra data along this line. We recorded 4.6 hours of science data at low altitude and an additional 0.5 hours during the high altitude segment bringing the total up to 5.1 hours of science data collection.

We also flew over Burke Island in the Amundsen Sea. There was some interest in the science community about the ice thickness over this small island. We turned on the MCoRDS depth sounder and recorded ice thickness data over the small island during this sea ice mission.

The known wildlife colonies in the survey area were at safe distance from the flight path of the DC-8.

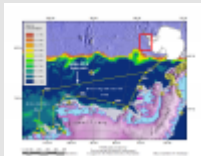
After takeoff we did a ramp pass at 1,500 ft over the field at Punta Arenas airport for DMS and ATM instrument calibration.

All in all this was the perfect day. The weather over such a large and difficult area could not have been better.

	Time (UTC)	Hours
Begin high altitude data collection		
Begin low altitude data collection	16:07	
End low altitude data collection	20:45	4.6
End high altitude data collection	21:45	0.5
Total		5.1

Images:

Trajectory of today's science mission over the Bellingshausen and



[Read more](#)

Sea ice in the Bellingshausen Sea seen from the DC-8



[Read more](#)

Submitted by: Michael Studinger on 10/14/12

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