

DC-8 10/27/12

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

Flight Number: 130114

Payload Configuration: OIB Antarctic 2012

Nav Data Collected: Yes

Total Flight Time: 11.4 hours

Submitted by: Frank Cutler on 10/27/12

Flight Segments:

From:	SCCI	To:	SCCI
Start:	10/27/12 11:55 Z	Finish:	10/27/12 23:18 Z
Flight Time:	11.4 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 1155Z. Perform calibration ramp pass to the SE and overfly targets at 1202Z at 1000 ft AGL. Climb to cruise altitudes of FL330. Descend to 1500 ft for initial part of low altitude data route for mission. Cross first science waypoint at 1602Z in the vicinity of Martin Peninsula. Climb to 2000 ft AGL due to turbulence at 1609Z. Two parallel ground tracks in roughly east/west direction flown covering the length of the Getz glacier area. Fly perpendicular (north/south) cross track at 1500 ft AGL between times 1654Z and 1722Z. Complete mapping at 1937Z. Perform radar instrument calibration pitch maneuvers at 1945Z, 2000 ft AGL(Dosson Ice Shelf), and then climb to FL390 for transit to Punta Arenas. Land SCCI at 2318Z.		

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 10/27/12 Science Report

Mission: OIB

Mission Summary:

F10 Getz Ice Shelf #07

Accomplishments

- Low-altitude survey (1,500 ft AGL) upstream of the Getz Ice Shelf in Marie Byrd Land.
- Completed all planned survey lines.
- ATM, MCoRDS, snow and Ku-band radars, gravimeter, and DMS were operated on the survey lines.
- Collected additional ATM and DMS high-altitude data over sea ice during transit.
- Conducted pitch maneuvers for time stamp verification of snow and Ku-band radars.
- Conducted ramp pass (1,000 ft AGL) at Punta Arenas airport after takeoff for DMS, ATM, snow and Ku-band radar instrument calibration.
- Satellite Tracks: none
- Repeat Mission: partial repeat of 2011 NCAR G-V surface altimetry with LVIS

Science Data Report Summary

Instrument	Operated	Data Volume	Instrument Issues/Comments
ATM	yes	43 GB	None
DMS	yes	82 GB	None. Collected 10,079 frames.
Snow Radar	yes	595 GB	None
Ku-band Radar	yes	595 GB	None
MCoRDS	yes	800 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 forecast for all remaining high priority missions in high priority areas remained poor today and we chose the mission with the next highest priority on the list that indicated suitable weather conditions for a science flight. The forecast for the Getz Ice Shelf area and Marie Byrd Land looked good. The western end of the survey area was close to a system that was moving in, but we were fairly confident from satellite images and models that we would only encounter the high clouds that are ahead of the bad weather. We encountered exactly the

conditions that we had expected and we were able to complete all planned survey lines at low altitude. In addition we recorded high altitude data over sea ice during the transits to and from the main survey area.

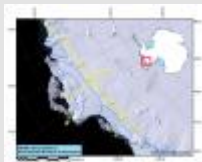
The Getz #07 mission is a new design. Its purpose is to supplement the IceBridge missions flown between 2009-2011 over the Getz Ice Shelf and upstream. The goals are to continue mapping the sub ice-shelf bathymetry using gravity data, and to continue mapping the ice surface and bedrock upstream of the grounding line. This particular flight focuses on the area inboard of the grounding line, and it includes a tie line for leveling all existing gravity profiles that we have flown. The two coast-parallel lines are a dh/dt repeat of two lines that have been surveyed from high altitude with the NCAR G-V and LVIS in 2011.

We also completed a ramp pass at Punta Arenas airport at 1,000 ft AGL after takeoff to ensure data collection during daylight for DMS and ATM instrument calibration and also for snow and Ku-band radar calibration.

ATM data collection	Time (UTC)	Hours
Begin high altitude data collection	15:26	
Begin low altitude data collection	16:00	0.5
End low altitude data collection	19:46	3.7
End high altitude data collection	20:26	0.7
Total		4.9

Images:

Trajectory map of today's science mission



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Mountains along the Hobbs Coast in Marie Byrd Land



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Submitted by: Michael Studinger on 10/28/12

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