OIB
Antarctic Flight 14, Antarctica Peninsula 3

Aircraft	DC-8
Flight Number	DC8-100122
Flt Req #	108002
Flight Hours	11.3
Date	11/4/09
Purpose of Flight	ICE Bridge Peninsula-3
Aircraft Status	Airworthy
Sensor Status	All installed sensors operational.
Significant Issues	None
Accomplishments	A pre-dawn snow flurry forced yet another de-icing and a 14 min. delay in departing. Late breaking weather imagery also caused a substitution of missions and replanning with last to first routing. A good decision as arrival weather at the Peninsula indicated. The flight matched tracks of several other aircraft conducting ATM flights on previous campaigns. Three new lines used ATM aircraft controls coupling while the remainder of the data tracks relied on hand flying of ATM guidance cues. Spectacular weather and low winds made for an outstanding data acquisition opportunity. MCoRDSs and Ku Band radars were operational throughout the target areas with MCoRDS capturing a significant glacier summit between Graham and Oscar II coasts.
Planned events	LVIS Peninsula flight planned

Flight Summary

Peninsula-3, FLT 14

November 4, 2009

Bill Krabill (Mission Principal Investigator):
November 4, 2009

DC8 mission # 14 to Antarctica

Flight Plan id: PEN-3

During the weather brief with the airport weather office it became obvious that conditions were poor for the high altitude LVIS mission, so the low-level PEN-3 flight plan was substituted.

official take-off 141414z

On the way to the PEN-3 area we could observe that the weather in the LVIS desired area was as we thought back in the weather office, confirming that we made the correct call.

Begin descent 1640z.

Much of this flight surveyed a grid over the Larsen C Ice Shelf. Later in the flight we surveyed several significant glaciers in the central Peninsula area, including the Atlee, Flask, Crane, Hektoria, and Drygalski Glaciers. It was a splendid day for flying glaciers!

2331z climb out for return to base.

Plan for tomorrow: weather looks good for a high altitude LVIS mission over the northern Peninsula. To optimize the good weather window we plan on taking off at 13:00z

Individual instrument reports:

ATM: A very successful mission was flown today. The two ATM's recorded over 7 hours of continuous data. The DC8 once again flew on the Soxmap system, as well as a few lines coupled up on the CDI system. All systems operated well again, with approximately 300 million laser shots taken.

MCoRDS: The University of Kansas MCoRDS system collected 2 TB of data during the 7.5 hour survey. A mid-mission system reboot took MCoRDS off the air for about 30 minutes to swap out full disks. Ice shelf thickness was ~100m throughout that portion of the survey. Over the non-ice shelf portions of the survey the bottom echo was detectable approximately 50-60% of the mission.

Snow and Ku-Band radar: The Ku-band Radar collected data for the low-altitude flight today.

LVIS: operated for calibrations today.

DMS: worked well; routine; 10,000 images recorded.

Gravity: worked normally.

POS/AV: operated normally.

DC8 on board data: worked well.

Jim Yungel (ATM Team):

Following the previous 11/4/09 am sitrep outgoing email, a last check at the Punta Arenas airport weather office resulted in a difference between the forecast models we generally use in decision making, and the forecaster's most recent high res wx images and his opinions. The weather forecaster convinced us that the Pen 3 flight lines had a better weather chance than the planned high altitude LVIS flight, so a last minute switch in flight plans was carried out.
The forecaster was completely correct.
Following the change in plans and a de-icing of the DC8 after last night's light snowfall, we launched just a few minutes after our 11 am scheduled plan.
We flew into sunny conditions with occasional very light high cirrus over the Pen 3 flight lines, resulting in an outstanding data set over the Larsen Ice Shelf and many impressive glaciers. Science instrumentation onboard the DC8 functioned well, with teams reporting good data acquired during mission #14 of 17.
We flew a night-time ramp pass at 1500' for ATM calibration.
We have a promising forecast for an 11 am LVIS high altitude tomorrow.