Preliminary Science Flight Report
Operation IceBridge Antarctica 2011

Flight: **GV-FL08**
Mission: **LVIS-Getz2**

Flight Report Summary

Aircraft	**NSF G-V (N677F)**
Flight Number	8
Flight Request	118003
Date	Wednesday October 19^{1h}, 2011, DOY 292
Purpose of Flight	Operation IceBridge Mission, LVIS Getz2
Take off time	11:46 UTC from Punta Arenas (SCCI)
Landing time	22:21 UTC at Punta Arenas (SCCI) on October 19, 2011
Flight Hours	10.5
Aircraft Status	Airworthy.
Sensor Status	All installed sensors operational.
Significant Issues	None
Accomplishments	• High-altitude survey (~42,000 ft pressure altitude) of grid lines • Completed mission as planned. • Mapped ~3,300 sq. km with LVIS sensor • Conducted roll and pitch maneuvers for calibration at start/end of flight
Geographic Keywords	Antarctica, Getz Ice Shelf, Marie Byrd Land, West Antarctic Ice Sheet, WAIS
ICESat/CryoSat Track	Grid lines cross numerous Icesat tracks
Repeat Mission	Overlap with previous IceBridge data at Getz

Science Data Report Summary

Instrument	Instrument Operational			Data Volume	Instrument Issues
	Survey Area	Entire Flight	High-alt. Transit		
LVIS	☑	☒	☑	50 GB	None
POS/AV (510 + 610)	☑	☑	☑	5 GB	None
LVIScameras(2)	☑	☒	☑	25 GB	None
G-V Onboard Data	☑	☑	☑	10 MB	None

Mission Report (Michelle Hofton, Mission Scientist, Instrument Operators: David Rabine, Shane Wake)

During this LVIS NSF G-V flight we surveyed a series of lines along the southern edge of the Getz ice shelf extending inland over Marie Byrd land plus transit lines to and from the survey area. Two, ~350km long grid lines and two ~175km long lines all spaced ~20km apart were surveyed. The survey is part of the overall deployment plan to collect grid data over a large region that encompasses the entire Antarctic Peninsula to the Getz Coast. The tracks flown during this flight increased the density of coverage from the existing LVIS grid data (Getz1 flight) in the region.

Model predictions and weather report from the airport weather office again predicted a small cloud free area in the central region of the Getz ice shelf and dense cloud cover on the eastern edge of the possible survey area. The flight was launched with the expectation of selecting the final flight lines using visible imagery available during the transit portion of the flight to the ground team, and, ultimately, the conditions observed in the area upon arrival. Transit to the area was cloudy although data were generally collected from the Thwaites/Dotson area onwards with about 50% coverage from the coast to the start of the first line. The planned data lines were completely cloud free, and, with conditions favorable, we were able to extend the length of two of the planned lines by 20 nautical miles, and one by 40 nautical miles. The transit out to the Dotson/Thwaites region was partly cloudy however data were collected along the line with about 60% coverage.

The LVIS sensor worked very well. Data was successfully collected over the survey lines and on portions of the transit over land to/from the target area. The camera was operated in cloud free areas.

Roll and pitch maneuvers were carried out on the transit to/from Antarctica.

Individual instrument reports from experimenters on board the aircraft:

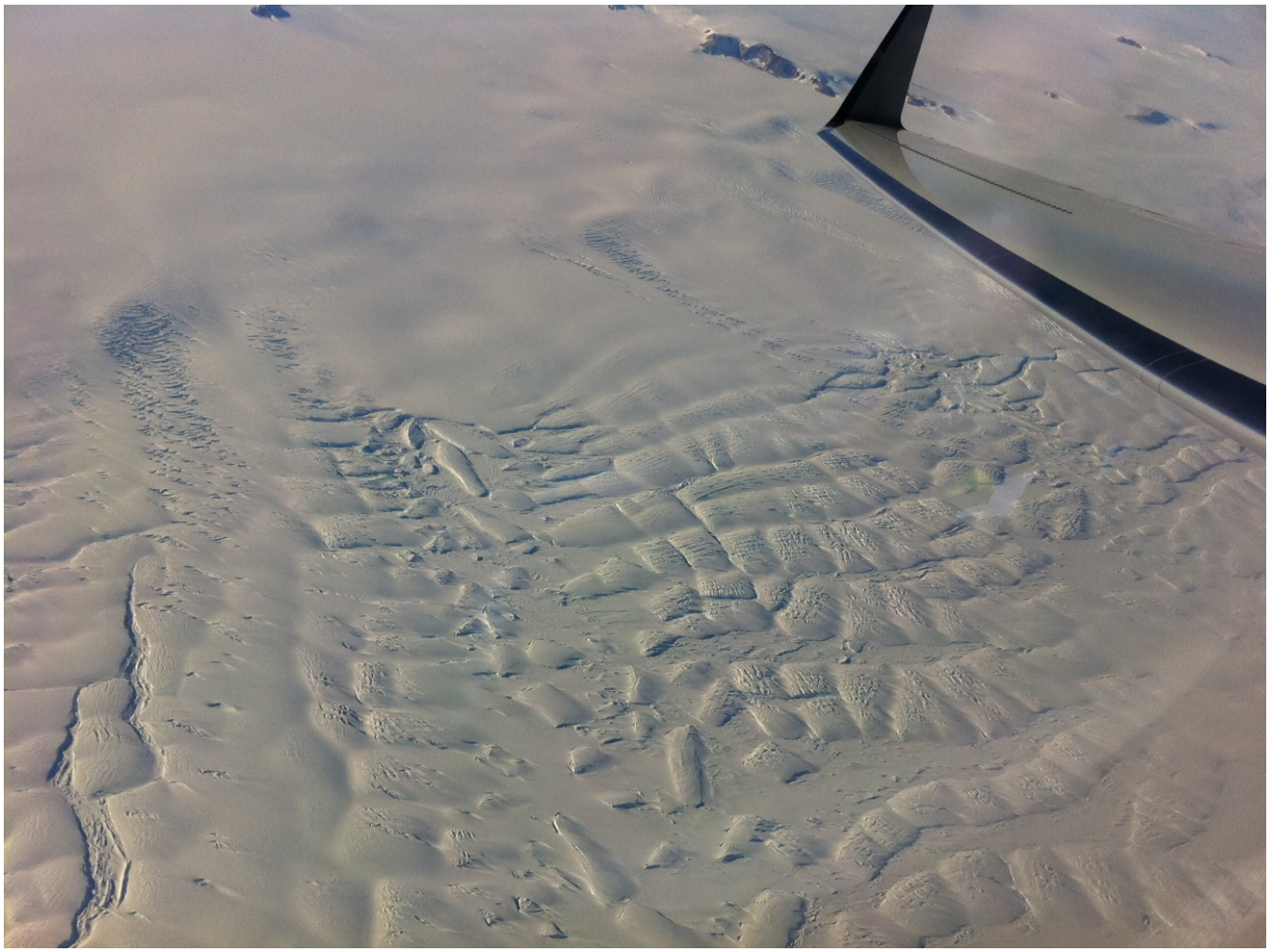
LVIS: The LVIS system worked well.

POS/AV: Systems worked well. No issues.

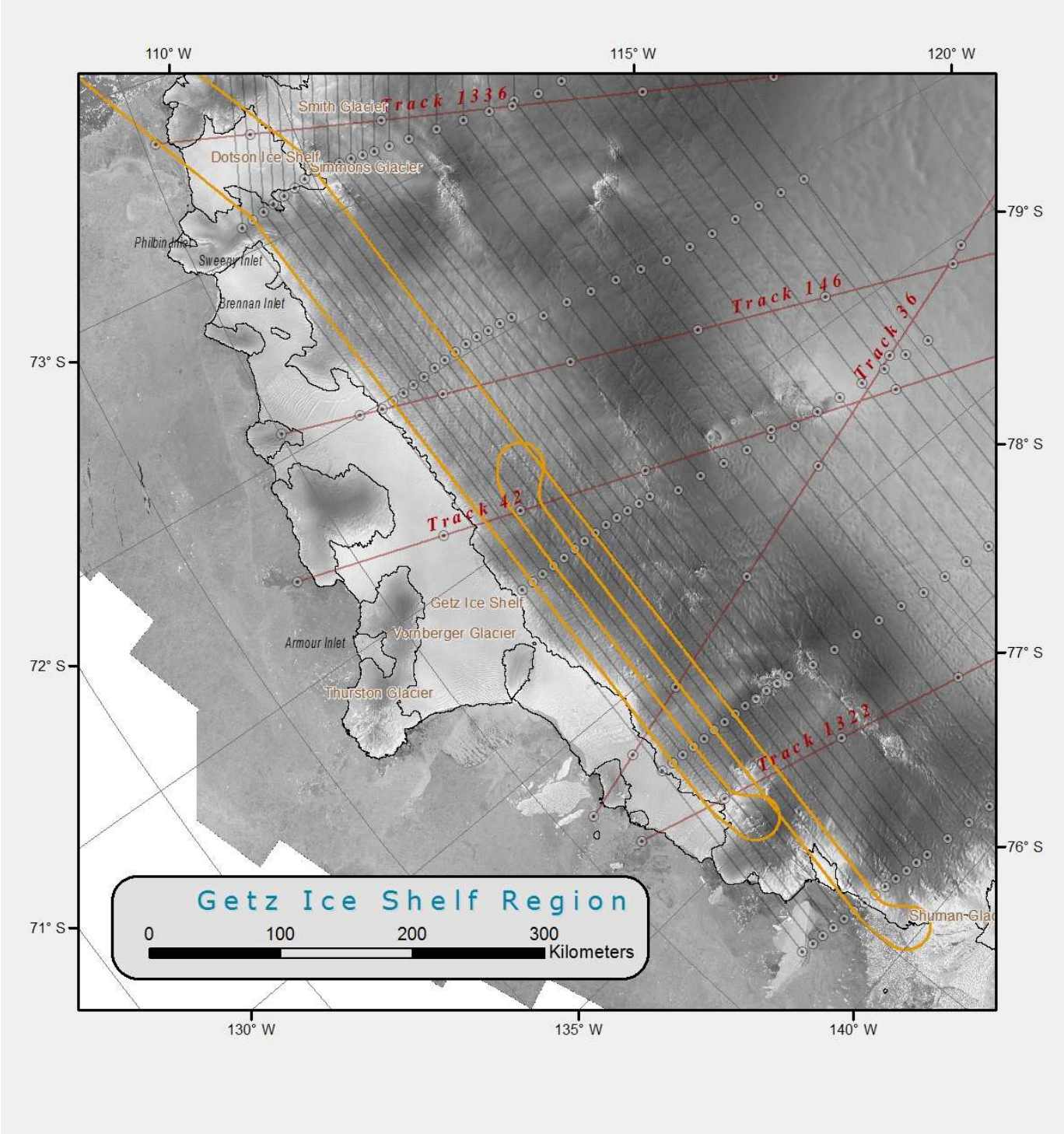
LVIScam: System worked well. No issues.

G-V onboard data: System worked well.

Saunders Coast from the NCAR G-V at 41000’.



Flight track for today's mission in gold.



Flight Hours Summary

Flight	Date	Aircraft Flight #	Data Flight#	Duration (hr)	Running Total(hr)	Remaining Science Hours*
						100.00
PUQ-PUQ	10/07/11	RF01	GV-FL01	10.7	10.7	89.3
PUQ-PUQ	10/08/11	RF02	GV-FL02	10.4	21.1	78.9
PUQ-PUQ	10/10/11	RF03	GV-FL03	10.7	31.8	68.4
PUQ-PUQ	10/12/11	RF04	GV-FL04	10.3	42.1	58.4
PUQ-PMC	10/13/11	FF01	-	1.9		
PMC-PUQ	10/14/11	FF02	-	2.1		
PUQ-PUQ	10/14/11	RF05	GV-FL05	1.4	43.5	56.5
PUQ-PUQ	10/15/11	RF06	GV-FL06	10.5	54.0	46.0
PUQ-PUQ	10/17/11	RF07	GV-FL07	10.9	64.9	35.1
PUQ-PUQ	10/19/11	RF08	GV-FL08	10.5	75.4	24.6

* Extended science mission hours are available