

Science Flight Report

Operation Ice Bridge May 2011



UAF Alaska Flight No 2
Mission Plan: Stikine Icefield

Flight Report Summary

Aircraft	DHC-3 Otter
Flight Number	UAF-2
Flight Request	UAF
Flight Hours	7.2
Take off time	08:00:00.00 Z from Petersburg
Landing time	16:00:00.00 Z at Ultima Thule Outfitters Lodge
Date	Monday, May 16 2011, Day of Year 136
Purpose of Flight	LiDAR surveys of glaciers within the Stikine Icefield, SE Alaska.
Aircraft Status	Airworthy.
Sensor Status	operational.
Significant Issues	None.
Accomplishments	<ul style="list-style-type: none"> • LiDAR profiles of Stikine Icefield, including the Sawyer, South Sawyer, Baird, and Dawes Glaciers.
Planned Events	<ul style="list-style-type: none"> • The next surveys will be flown in Glacier Bay National Park.

Science Data Report Summary

This mission performed LiDAR surveys of glaciers the Stikine Icefield, including the Sawyer, South Sawyer, Baird, and Dawes Glaciers.

LiDAR data were collected at a height of 500-650 meters above the glacier surface, and mapped a 0.5 km wide swath along the centerline of the glaciers. This swath map consists of measurements from individual laser shot points on a roughly 1 meter by 1 meter grid. The individual point measurements of the glacier surface latitude, longitude and elevation have an accuracy of approximately ± 10 cm.

Geographic keywords: (SE Alaska)

Repeat Mission: yes (2010, 2009, 2000, 1995)

Instrument	Instrument Operational		Data Volume for days 135+136	Instrument Issues
	Target area	Entire Flight		
UAF LiDAR	Yes	No	~2.5 GB in raw binary format	None
GPS	Yes	Yes	~900 MB in raw binary format	None
IMU	Yes	Yes	~500 MB in raw binary format	None

Mission Log (Chris Larsen)

Today's mission is LiDAR surveys of glaciers the Stikine Icefield, including the Sawyer, South Sawyer, Baird, and Dawes Glaciers. The weather was perfect throughout the entire day. The flight was ended at our base of operations. We plan to survey Glacier Bay area next, weather permitting.

Individual instruments on board the aircraft:

LiDAR: The UAF LiDAR systems worked well.

GPS: System worked normally. No problems.

IMU: System worked well. No issues.



Figure 1: LiDAR ground tracks over Stikine Icefield for days 135+136 (May 15-16, 2011).



Figure 2: South Sawyer tidewater glacier terminus.



Figure 3: Sawyer Glacier tidewater terminus.