

**TO: Kent Shiffer
Earth Science Project Office
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Flight Report

Aircraft :	Ultima Thule Outfitters DHC-3 Otter
Operating Site(s) From / To :	UTO / Petersburg
Flight Date :	May 22, 2009
Flight Number / Data Flight # :	1/1
Time out:	8 am local
Time in:	5 pm local
Flight Time :	8.0
Flt Request # / PI:	Chris Larsen, IBA2009
Purpose of Flight :	Data [X] Ferry [] Functional Check [] Other []
Sensor Payload :	Geophysical Institute UAF laser altimetry system
Comments :	Final approval and flight release is received in the morning from Mike Cropper. EMI check and electrical check performed, and successful results thereof are communicated to Mike Cropper. All systems in up status. Excellent weather continues across the state. The ferry flight to Juneau was CAVU, with minor headwinds at altitude. A quick fuel stop in Juneau, and the brief remainder of the ferry flight to the Stikine Icefield in perfect weather, with calm winds. A glacier landing (on skis) high on the Icefield allowed a central placement of a GPS base station for the northern section of the Icefield. Short baselines improve the accuracy of the kinematic GPS processing, which a central GPS base station on the ice facilitates. After allowing for a static initialization period, the aircraft was started, and the instruments turned on. After takeoff, laser altimetry measurements began, first on the Dawes glacier. The Dawes is a large

tidewater calving glacier in the northern part of the Stikine Icefield. The flight continued south, and the Sawyer and South Sawyer Glaciers were profiled next. The South Sawyer has a very broad flat accumulation area where IceSAT data can be compared with our surveys, and a number of IceSAT lines were crossed.

Another glacier landing on skis was performed to place a second GPS base station for the southern section of the Icefield. After another static initialization period, the flight continued with more profiles of the South Sawyer and its broad accumulation zone. Several inland (east) flowing glaciers were next, with the Triumph, Pendant, Flood and Great Glaciers all yielding excellent data. This clockwise progression around the southern Stikine Icefield continued to the LeConte Glacier, a large and rapidly retreating tidewater outlet of the Icefield. After the first profile of the LeConte, we ferried 35 miles to Petersburg, our planned fuel stop. After a refueling procedure, the flight continued with several more profiles on the LeConte, which has important data from prior UAF Geophysical Institute laser altimetry. After completing the LeConte and the nearby Baird Glaciers, a third glacier landing on skis was performed to retrieve the southern GPS base station. The northern GPS base station was left out overnight, continuously running, so as to provide survey control for the next day's flight to the northern section of the Stikine Icefield.

The flight was ended in Petersburg, for an overnight rest and refuel. The weather had remained perfect throughout the entire day. Weather and forecast checks in the evening held promise for continued excellent weather.

SUBMITTED BY: Chris Larsen

25 May 2009

Map showing the laser ground tracks over the Stikine Icefield:



