

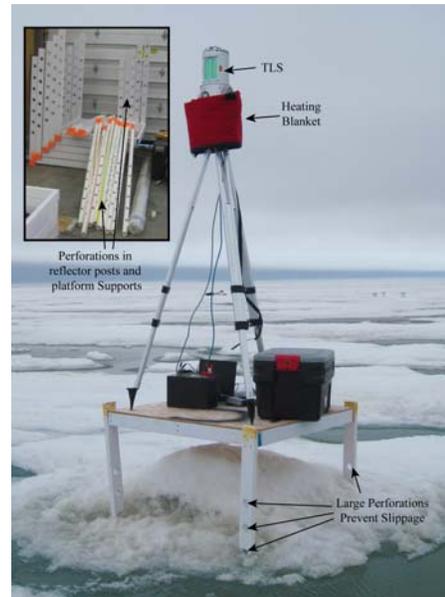
## 2010 LiDAR Data

Location: Cropped to a rectangular area 200m x 100m, situated with the north side of the rectangular area coincident with the 2010 transect line which extended:

From 71.37078 N 156.5125 E (“0 m end”)

To 71.37114 N 156.5070 E (“200 m end”)

Collection: High resolution terrestrial LiDAR scans were repeatedly collected using a Riegl LMS-Z420i scanner, from 8 different platforms affixed to the ice, two in the center of the field that were accessed by a single snowmachine “road”, and 6 along the outsides of the site. All data is registered together to produce a single point cloud of the surface using a number of reflectors situated around the site. The extreme northern side of the cropped scans represents the area where transect measurements occurred. No returns are received from melt ponds.



LiDAR Scanner on custom platforms  
Inset: reflectors prior to installation

Data Format: Data is presented in 5 different files. Filename indicates collection date. The .XYZ file is a simple point cloud of all the points collected, after filtering for errant points caused by reflections and precipitation. X, Y, and Z coordinates of each point are provided in columns 1, 2, and 3. The .QTT file is the same full dataset in QT modeler proprietary format for easy viewing and manipulation. The Raster files are truncated datasets in X,Y, Z point cloud format, comma separated into 3 columns. Points are interpolated onto an even spaced grid of the size given (0.1m or 0.25m). This allows much easier data manipulation by discarding most of the points collected very near the scanner where resolution greatly exceeds average resolution. Finally, a 5th data file, the surface height distribution provides pre-processed histogram data on surface height. Surface height bins are in column 1, and area at that height is in column 2.

### Further documentation

We plan to publish the full methodology of the LiDAR scanning. Please don't hesitate to contact [chris.polashenski@gmail.com](mailto:chris.polashenski@gmail.com) for more collection or processing technique information until we link that publication.