

The Snow ALbedo eVOLution (SALVO) Campaign  
Metadata Document Date: June 13, 2023  
Instrument: Magnaprobe

Contact Information

Jennifer Delamere ([jsdelamere@alaska.edu](mailto:jsdelamere@alaska.edu))

2156 Koyukuk Dr.

Fairbanks, AK 99775

Anika Pinzner ([apinzner@alaska.edu](mailto:apinzner@alaska.edu))

Matthew Sturm ([msturm1@alaska.edu](mailto:msturm1@alaska.edu))

**Instrument**

Manufacturer: Snow Hydro, LLC

Website: <http://www.snowhydro.com/index.html>

Description: Using this probe, an operator can walk across a snow-covered landscape and in several hours produce a detailed transect of snow depths. A data logger on the probe stores several thousand points. Data is downloaded to a computer at the end of a day or several days.

**Data Processing Levels for Magnaprobe**

- 00: raw, directly from instrument
- b1: data reformatted from the original logger file to .csv file
- b2: removal of calibration points, duplicate points, to create a file containing only data points for the 201 measurements along each line positions (0 to 200 m)
- b3: replacement of all negative snow depth values with 0.0 cm values

**Positional Accuracy Report**

Near daily snow depths were measured every meter along a 200-m line located on the north edge of each swath at each site. To ensure accurate repeat measurements, two 100-m tapes were stretched along the line before measurements and served as location guides. Both tapes were secured by tripods placed at 0 m, 50 m, 100 m, 150 m, and 200 m and metal stakes placed at 25 m, 75 m, 125 m, and 175 m. Potentially, relocation uncertainty resulted in a differential accuracy between two surveys of about  $\pm 2$  cm, but in actual practice we frequently note that the probe was being inserted in the same hole in the snow from the previous survey, increasing the differential accuracy to better than  $\pm 1$  cm.