

Data Revitalization by Fresh Eyes on Ice Project (NSF #1836523)

University of Alaska Fairbanks, Water and Environmental Research Center

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Column Header Descriptions

Region: general location within Alaska, USA; typically to nearest town or village

SiteName: name of lake or pond

Latitude: latitude in decimal degrees, NAD83

Longitude: longitude in decimal degrees, NAD83

Date: month/day/year

IceThickness: thickness of ice based on standard TWIT measurement in meters

SnowDepth: average depth of snow on lake or pond surface near ice measurement in meters

SnowDensity: density of snow near ice thickness measurement in kilograms per meter cubed

Methods and Reference Citation:

Detailed methods can be found in Morris and Jeffries (2010). All field observations were made by teams of ALISON-trained teachers and students in their classrooms typically from January to April as safe ice conditions existed. On several sites ALISON researchers took the lead on making these measurements. Ice thickness was made at the same central location on lakes using a TWITT (thermal wire ice thickness thingy). TWITT consists of resistance wire entrained in the ice early in the season mounted "L" shaped stand. A 12-volt battery is attached the resistance wire and insulated wire to melt the ice around the resistance wire until a weight attached to the sub-ice weight can be pulled tight against the bottom of

the ice. Ice thickness is the difference between wire height to the “L” stand before and after pulling the weight against the ice bottom to the nearest centimeter. Snow depth is measured with a graduated rod at 21 points along a 100 meter transect near the ice measurement location and reported as an average to the nearest centimeter. Snow density is based on snow-water equivalent tube volumetric samples at three locations along this transect, weighted to the nearest 0.1 grams and converted to density based on the volume collected and averaged among samples per date.

Morris, K., and M. Jeffries. 2010. Alaska Lake Ice and Snow Observatory Network (ALISON). Pages 149-150 in B. Kaiser, B. Allen, and S. Zicus, editors. *Polar Science and Global Climate: An International Resource for Education and Outreach*. Pearson Education Limited, Harlow, Essex, UK.