Active layer and permafrost properties, including snow depth, soil temperature, and soil moisture, Barrow, Alaska, Version 1

USER GUIDE

How to Cite These Data

As a condition of using these data, you must include a citation:

Brown, J. and F. Nelson 1998. *Active layer and permafrost properties, including snow depth, soil temperature, and soil moisture, Barrow, Alaska, Version 1.* [Indicate subset used]. Boulder, Colorado USA. NASA National Snow and Ice Data Center Distributed Active Archive Center. https://doi.org/10.7265/w3wq-st79. [Date Accessed].

FOR QUESTIONS ABOUT THESE DATA, CONTACT NSIDC@NSIDC.ORG

FOR CURRENT INFORMATION, VISIT https://nsidc.org/data/GGD222

National Snow and Ice Data Center

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Notice: This data set was first published on the 1998 CAPS CD.
The text for this document was taken unchanged from that CD.

1 DETAILED DATA DESCRIPTION

This data set contains data compiled for the soil active layer at Barrow, Alaska from 1962 to 1993 by the U.S. Army's Cold Regions Research and Engineering Laboratory (CRREL) and Frederick Nelson, State University of New York at Albany. Observations on the seasonal thaw layer at Barrow, Alaska, were started in 1962 by CRREL and continued into the late 1960's. Measurements were resumed in 1991 as part of an NSF funded project under the U.S. Global Change Program's Arctic System Science (ARCSS) Land-Atmosphere-Ice Interactions (LAII) program. The study site was located at 156 degrees, 35 minutes West, and 71 degrees, 18 minutes, 15 seconds North. Initial data collection was the responsibility of Jerry Brown at CRREL. Data compilation and reduction for the ARCSS/LAII program was supervised by Frederick Nelson, Department of Geography and Planning, State University of New York at Albany.

Soil temperatures are currently available from 1963-66, and 1993, and are contained in the subdirectory \SOILTEMP. Soil moisture content data are available from 1963 only and are contained in the subdirectory \MOISTURE. Snow depth measurements are available from 1963-64, and are contained in the subdirectory \SNOWDPTH. Thaw depth data are currently available from 1962-68, and 1991-93, and are contained in the subdirectory \THAWDPTH. These data were collected at each study plot site to characterize the active soil layer at Barrow and to determine the relationships these physical properties have at permafrost sites in the Arctic. Please refer to each subdirectory for detailed descriptions of the sampling techniques used to collect the data and the data format for each data set.

2 REFERENCES AND RELATED PUBLICATIONS

Brown, Jerry and Johnson, P.L. 1965. Pedo-ecological Investigations, Barrow, Alaska. Cold Regions Research and Engineering Laboratory Technical Report 159, Hanover, NH, 32 pages plus appendices.

Brown, Jerry 1969. Soil properties developed on the complex tundra relief of northern Alaska. Biuletyn Peryglacjalny, vol. 18, pp. 153-167.

Mc Gaw, R. W., Outcalt, S.I., and Ng, E. 1978. Thermal properties and regime of wet tundra soils at Barrow, Alaska. In Proceedings, Third International Conference on Permafrost, National Research Council of Canada, Ottawa, Canada, vol. 1, 47-53.

Nakano,Y.,and Brown,J. 1972. Mathematical modelling and validation of the thermal regimes in tundra soils, Barrow, Alaska. Arctic and Alpine Research, 4: 19-38.

National Science Foundation Grant OPP 9214897; Active Layer/Landscape Interactions: A Retrospective and Contemporary Regional Approach in Arctic Alaska. Ohio State University.

3 DOCUMENT INFORMATION

3.1 Publication Date

1998

3.2 Date Last Updated

2021