Ice-flow indicator database, British Columbia and Yukon

Holly Arnold and Travis Ferbey

BRITISH COLUMBIA
Ministry of Energy, Mines and Petroleum Resources

Open File 2020-03

Ministry of Energy, Mines and Petroleum Resources
Mines and Mineral Resources Division
British Columbia Geological Survey

Recommendation citation: Arnold, H. and Ferbey, T., 2020. Ice-flow indicator database, British Columbia and Yukon. British Columbia Ministry of Energy and Mines and Petroleum Resources, British Columbia Geological Survey Open File 2020-03, 1p.

Front cover: Ice-flow indicators showing reversal in ice-flow direction. Larger rat tail in foreground shows ice flowing westward. Smaller rat tail in background shows ice flowing eastward. **Photo by Travis Ferbey**.

Back cover. Cross-cutting striations in bedrock outcrop showing two ice-flow directions. **Photo by Travis Ferbey**.

Databases for this paper can be downloaded from

http://cmscontent.nrs.gov.bc.ca/geoscience/PublicationCatalogue/OpenFile/BCGS_OF2020-03.zip

BRITISH COLUMBIA | Ministry of Energy, Mines and Petroleum Resources

Ice-flow indicator database, British Columbia and Yukon

Holly Arnold and Travis Ferbey

Ministry of Energy, Mines and Petroleum Resources
British Columbia Geological Survey
Open File 2020-03

Ice-flow indicator database, British Columbia and Yukon

Holly Arnold[1a,] and Travis Ferbey[1]

[1] British Columbia Geological Survey, Ministry of Energy, Mines and Petroleum Resources, Victoria, BC, V8W 9N3
[a]corresponding author: Holly.e.Arnold@gov.bc.ca

Recommended citation: Arnold, H. and Ferbey, T., 2020. Ice-flow indicator database, British Columbia and Yukon. British Columbia Ministry of Energy and Mines and Petroleum Resources, British Columbia Geological Survey Open File 2020-03, 1p.

Keywords: Ice-flow indicators, Cordilleran Ice Sheet, database

Summary

A better understanding of the Cordilleran Ice Sheet flow history is important for designing, implementing, and interpreting geochemical and mineralogical data from drift prospecting surveys. Building on ice-flow indicator compilations for British Columbia and Yukon by Arnold et al. (2016), this database (BCGS_OF2020-03.zip) illustrates major ice-flow directions for the Canadian sector of the Cordilleran Ice Sheet during the Late Pleistocene. A total of 506 ice-flow features in British Columbia have been added to the compilation from 25 bedrock geology maps. The data were derived from published and unpublished surficial geology, terrain, bedrock geology, and glacial feature maps; there are now 152,980 measurements in the database.

All features are classified into a common legend using definitions and symbols outlined by Deblonde et al. (2018). Symbol orientations are those of the original authors (Appendix 1 in BCGS_OF2020-03.zip). However, we did not reconcile discrepancies in azimuth as reported by individual authors, and adjacent features with opposing orientations may be artifacts. Data density is largely a function of the original scale of mapping with larger-scale mapping being more likely to produce higher densities of features.

References cited

Arnold, H., Ferbey, T., and Hickin, A.S., 2016. Ice-flow indicator compilation, British Columba and Yukon. British Columbia Ministry of Energy and Mines, British Columbia Geological Survey Open File 2016-04; Geological Survey of Canada Open File 8083, 1:1,750,000 scale.

Deblonde, C., Cocking, R.B., Kerr, D.E., Campbell, J.E., Eagles, S., Everett, Huntley, D.H., Inglis, E., Parent, M., Plouffe, A., Robertson, L., Smith, I.R., and Weatherston, A., 2018. Surficial data model: the science language of the integrated Geological Survey of Canada data model for surficial geology maps Version 2.3.14. Geological Survey of Canada, Open File 8236, 50p.

BRITISH COLUMBIA

Ministry of
Energy, Mines and
Petroleum Resources

BRITISH COLUMBIA
est. 1895
125
GEOLOGICAL SURVEY