



A digital update of Open File 1992-13: Surficial geology map index of British Columbia

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Front cover:

Example of terrain mapping in British Columbia. Cropped map of Kwanika Creek map area (NTS 093 N/11), 1977, Ministry of the Environment, author unknown.

Back cover:

Rowe 450i large format scanner and physical map storage. **Photo by Easton Elia.**



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1. Introduction

The British Columbia Geological Survey has more than 2,000 hardcopy maps in storage that contain information about surficial materials. Most of these maps were obtained in the early 1990s, when Bobrowsky et al. (1992) produced the first surficial geology map index of the province. At the time the index was published, the stored maps were not digitally accessible; until recently many remained unavailable.

The province of British Columbia has recently moved to object storage for digital data, enabling efficient, cost-effective storage and distribution of large datasets. This Open File catalogues newly scanned surficial geology maps from the British Columbia Geological Survey physical collection and provides an updated Excel workbook and spatial files for the index developed by Bobrowsky et al. (1992). The index ([BCGS_OF2024-09.zip](#)) increases the total provincial coverage of digitally available surficial geology maps for use in mineral exploration, natural hazard assessment, aggregate resource estimation, infrastructure planning, and groundwater studies.

2. Background

Surficial materials maps in British Columbia are catalogued in three separate indexes (Table 1). Each index includes a selection of maps based on map type and data availability. The same map may exist in multiple indexes where these criteria overlap. Bobrowsky et al. (1992) is an index of surficial materials maps produced up to 1992. This index contains a broad range of map types, including surficial geology, aggregate resources, geological hazards, and soils. At the time of publication, these maps were available by request through contractor or government offices. Arnold and Ferbey (2019) is a spatial index presenting footprints for all surficial materials maps published by the British Columbia Geological Survey, the Geological Survey of Canada, and Geoscience BC. Each footprint provides a link to the map's publication page where the georeferenced scan and associated vector files (when available) can be downloaded. This index is current and is updated periodically. Knowledge Management (2011) is a

spatial index maintained by the British Columbia Ministry of Water, Land and Resource Stewardship containing scanned and georeferenced maps. Maps in this index have applications related to ecosystems, species and habitat, and soils and terrain.

3. Methods

We scanned and catalogued all large format documents including maps, map legends and project indexes. We scanned paper maps in colour and maps printed on mylar or transparent materials in greyscale, both at 400 dots per inch. All maps were scanned and catalogued as-is (i.e., raster attributes were not edited and scans were not cropped) and each digital file was examined to correct for any auto-cropping or orientation errors.

We matched the scanned documents to 1339 entries in Bobrowsky et al. (1992) and produced 603 new index entries with the remaining scans. Scans were compressed and converted to *.pdf files for release; maps were not georeferenced.

4. Digital Update

The dataset we produced (BCGS_OF2024-09.zip) contains an Excel workbook divided into three worksheets: 1) definitions, describing column headings, map types, acronyms, and abbreviations; 2) the original Bobrowsky et al. (1992) index table (OF1992-13), with new columns containing hyperlinks to scanned maps (e.g., LINK_1, LINK_2,) and notes made during the scanning process (NOTES); and 3) An inventory of scanned documents that are not included in Bobrowsky et al. (1992; OF2024-09).

The OF1992-13 and OF2024-09 worksheets were converted into spatial indexes (*.shp) using the grid cells (i.e., NTS, 250, 50, C, and 20 columns) presented in the 'Definitions' worksheet. Multiple index entries for the same map exist where the map extends across multiple grid cells. The spatial indexes do not show detailed footprints of mapping extent; instead, the 'P' column indicates maps that partially cover the associated grid cell. We did not perform cross-referencing between scanned maps in this update and other indexes. Some of the maps presented here may be available in other formats (e.g., georeferenced raster or vector) or as higher-quality scans.

Table 1. Comparison of British Columbia surface material map indexes.

	Bobrowsky et al. (1992)	Knowledge Management (2011)	Arnold and Ferbey (2019)
Title	Surficial geology map index of British Columbia	Terrestrial ecosystem information scanned map boundary	British Columbia surficial geology map index
Organization	British Columbia Geological Survey	British Columbia Ministry of Water, Land and Resource Stewardship	British Columbia Geological Survey
Number of entries	2162	3235	241
Main map types	Surficial geology (texture, genetic materials, qualifying descriptors, surface expression and modifying processes) Soils and surficial geology (soil association descriptions, surficial geology, topographic classes and soil drainage classes) Aggregate resources (sand and gravel)	Broad ecosystem classification and mapping Ecosystem inventory and mapping Species and habitat mapping Soils information and mapping Terrain inventory and mapping	Surficial geology (texture, genetic materials, qualifying descriptors, surface expression and modifying processes) Basal till potential (till units classified on depositional environment)
Publication Format	Scan of original publication (*.pdf)	Spatial index (*.shp)	Spatial index (*.gdb, *.shp) with user-friendly display options (*.kmz, stylized *.pdf map)

References cited

- Arnold, H., and Ferbey, T., 2019. British Columbia surficial geology map index. British Columbia Ministry of Energy, Mines and Petroleum Resources, British Columbia Geological Survey Open File 2019-03.
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