

Sources of Terrain and Soils Mapping and Information:

This document is available in digital form (.pdf with active links) from ftp://fshftp.env.gov.bc.ca/pub/outgoing/Terrain_Data/

This information will also be posted to our terrain website in the near future. The URL will be: www.env.gov.bc.ca/terrain. (Our current website URLs are in the signature block at the end of this document.)

Please sign up to our Terrain Listserv, to receive notice of updates to our website and other information. See <http://srmwww.gov.bc.ca/terrain/listserv.html> for more information and to sign up.

Terrain Mapping and Digital Standards and Guidebooks:

Links to terrain mapping and digital data standards, user guides and other related information are listed at: <http://srmwww.gov.bc.ca/tib/fia/terrainstabmap.htm>.

Soil and Terrain Map Library (MapPlace):

Digital soils and terrain (and terrain stability, surficial geology and related) map files are available for interactive viewing or download (free of charge) in .e00/.shp (GIS formats) and/or as .Tiff (raster image) files from the Soil and Terrain Map Library at: <http://www.em.gov.bc.ca/Mining/Geolsurv/Terrain&Soils/Default.htm> (select 'interactive and downloadable Terrain and Terrain Stability Maps')

Tip: To use this site, you'll need the MapGuide plug-in. See First Time Users at: <http://www.em.gov.bc.ca/Mining/Geolsurv/MapPlace/default.htm> to download the free plug-in and for tips on using 'The MapPlace'.

Tip: Check all the layers, as the maps have not been consistently catalogued. Only the uppermost selected layer is an active layer that can be queried.

Tip: Zoom into your area of interest and review projects available. Double click on projects of interest (must be uppermost active map layer) to open a new window which provides details about the project. Use the interactive map link of this window (not available for raster files) to open a new interactive mapping window. Zoom in until the polygon linework shows up. Cursor over the polygon of interest to view an attribute code. (Only one attribute is displayed. The downloadable files should contain the full suite of polygon attributes).

Tip: Use the right mouse button for printing the map window, for viewing reports, measuring distances, etc.

Other terrain and related mapping:

The Southern Interior Region (MSRM) has some digital terrain/terrain stability mapping available for interactive viewing and/or download via: <http://srmapps.gov.bc.ca/apps/sir/>

Terrain stability mapping for the Williams Lake MoF region is available from: <ftp://ftpwml.env.gov.bc.ca/dist/geology/terrstab/> Please contact Soilterrain@victoria1.gov.bc.ca if you require the full project data and reports that correspond to this data.

The Soils/Terrain program has recently received some terrain stability mapping project data for the Skeena region. This data is currently being catalogued. Please contact Soilterrain@victoria1.gov.bc.ca.

Bioterrain mapping is a variant of terrain mapping. Bioterrain mapping is commonly a component of Terrestrial Ecosystem Mapping (TEM). Typically, full terrain attributes are collected following the same RISC standards as for terrain mapping, though some polygons boundaries may have been influenced by ecosystem considerations. For more information and access to TEM data, see: <http://srmwww.gov.bc.ca/ecology/tem/index.html>

Tip: See: Bioterrain Mapping, Data Access (PEM/TEM index maps under 'About the Data', EcoCat & ftp)).

Terrain Mapping and Digital Standards and Guidebooks:

Links to terrain mapping and digital data standards, user guides and other related information are listed at: <http://srmwww.gov.bc.ca/tib/fia/terrainstabmap.htm>

Surficial Geology maps contain information about surficial materials and landforms. (In a sense, surficial geology mapping was a precursor to the 'Terrain' mapping and terrain classification standards.) To access in index of surficial geology maps for BC see: http://www.em.gov.bc.ca/Mining/Geolsurv/MapPlace/MoreDetails/of_13.htm.

Note: This index lists published hardcopy surficial geology maps. See the 'Soils and Terrain Map Library' above to access digital data.

Tip: When querying the surficial geology projects on the interactive map site, use the right mouse click to access information about each project (map name, date, author, etc.)

Note: These surficial geology maps are available only in hardcopy from map sales outlets or on loan from a variety of libraries. See links below.

Aggregate Potential Mapping is typically based on terrain or surficial geology mapping and this information may be included in the project datasets. Aggregate potential mapping projects have been completed for Prince George, Okanagan, Nanaimo, Sea-to-Sky, Sunshine Coast, North Coast and Northeast BC. See: <http://www.em.gov.bc.ca/Mining/Geolsurv/MapPlace/MoreDetails/aggregate.htm>

Soil Mapping and Digital Standards and Guidebooks:

The '**Soil Inventory Methods for BC**' manual provides common standards and methods that are proposed as Provincial requirements for all soil inventory conducted in the Province. See: <http://srmwww.gov.bc.ca/risc/pubs/teecolo/soil/index.htm>

Field Inventory Site and Soil Description data collection and data capture should follow the standards set out in the **Describing Ecosystems in the Field** manual available (downloadable html or .pdf formats, or hardcopy) via: <http://srmwww.gov.bc.ca/ecology/dteif/index.html>

Tools to assist with data capture are available via: <http://srmwww.gov.bc.ca/ecology/tem/forms.html>

The following **Canadian Soil Mapping and Soil Classification Standards** manuals are available from: <http://sis.agr.gc.ca/cansis/publications/manuals/index.html>

- A Soil Mapping System for Canada: Revised
- Analytical Methods Manual
- Land Suitability Rating System for Agricultural Crops
- Manual for Describing Soils in the Field
- Soil Survey Handbook
- The Canadian System of Soil Classification (1st Edition)
- The Canadian System of Soil Classification (2nd Edition)
- **The Canadian System of Soil Classification (3rd Edition)** is available from:
http://sis.agr.gc.ca/cansis/references/1998sc_a.html

For information about **Humus Forms**, see 'Taxonomic Classification of Humus Forms in Ecosystems of British Columbia: First Approximation' available via:
<http://www.for.gov.bc.ca/hfd/pubs/Docs/Mr/Lmr008.htm> and 'Towards a taxonomic classification of humus forms' available from the Ministry of Forests Library (link below) or other libraries.

Many other reference materials are available via:
<http://sis.agr.gc.ca/cansis/references/index.html>

The Soil Landscapes of BC report is available via our soils website at:
<http://srmwww.gov.bc.ca/soils/index.html>.

Soil Landscapes of Canada (interactive map) is available via:
http://sis.agr.gc.ca/cansis/systems/online_maps.html.

CANSIS Soil Surveys:

Soil Survey reports (.pdf) and maps (.e00 and/or .jpg) are available (at no cost) via Detailed Soil Survey Index at: http://sis.agr.gc.ca/cansis/systems/online_maps.html (Tip: this site uses an interactive mapping application to help users locate the soil surveys in their area of interest)

Technical information is available from: <http://sis.agr.gc.ca/cansis/nsdb/detailed/intro.html>

Tools: The Soil Mapper extension for Arcview (a tool that works with ArcView software to facilitate importing and mapping of detailed soil survey data) is available via:
<http://sis.agr.gc.ca/cansis/systems/soilmap/>

Shortcut: If you know which soil survey report you are interested in, use:
<http://sis.agr.gc.ca/cansis/publications/bc/index.html>

CAPAMP:

CAPAMP digital soil map files (.e00) for the Lower Mainland, Southeast Vancouver Island, and the Okanagan)at 1:20,000 scale) are available from:
ftp://fshftp.env.gov.bc.ca/pub/outgoing/Soil_Data/ (These same soils maps and additional derived theme maps are available as hardcopy prints - see below).

Documentation regarding the digital CAPAMP data capture/validation is available via the Ecological Data Catalogue (EcoCat) at: <http://srmapps.gov.bc.ca/apps/acat/> (search for the term 'CAPAMP')

Agriculture Capability Mapping

Agriculture Capability maps (GIS format .e00) are available via the Canada Land Inventory topic from the CANSIS site at: http://sis.agr.gc.ca/cansis/systems/online_maps.html

(Note: These files represent an incomplete set of CLI data (see next link), converted by CANSIS from the original CLI datasets to a component based file structure format.)

CLI Soil Capability maps (Agriculture capability, forestry capability, etc) in GIS format and raster images (.wmf) are available via: <http://geogratings.cgdi.gc.ca/CLI/frames.html>

Technical information is available via: <http://sis.agr.gc.ca/cansis/nsdb/cli/index.html>

Hardcopy soils, agriculture capability and other theme maps are available (at a range of scales) for areas with agricultural potential. See topic: Hardcopy Maps below.

For **City Agriculture Capability** mapping (large cities), see the GeoConnections Discovery Portal at: <http://geodiscover.cgdi.ca/gdp/index.jsp?language=en>

- Tip: search the catalogue for: Location = BC, Subject = Soil, and Keywords = City.

Agriculture capability classification standards for BC are available via: http://www.alc.gov.bc.ca/alr/ag_cap_details.htm. (The referenced documents are available via the Ministry of Forests library.(see below)).

Canadian Soil mapping and Agriculture capability manuals and information are also available via: <http://geogratings.cgdi.gc.ca/CLI/frames.html> (see CLI Reports) and <http://sis.agr.gc.ca/cansis/publications/manuals/index.html>

Derived Maps

Other soils related derivative maps are available in several of the areas of BC, typically where soils surveys have been conducted at 1:20,000 scale (e.g. the CAPAMP mapping). (These derivative maps are available in Hardcopy format only). In addition to soils mapping, related themes include:

- Land capability for agriculture
- Agriculture Soil Management Groups
- Soil drainage
- Soils affected by flooding and/or high water table
- Surface soil erosion potential
- Irrigation water requirement
- Soil suitability for septic tank effluent absorption
- Soil suitability for residential development

See hardcopy map listing for a complete list of available maps.

Documentation regarding the algorithms used to derive some of the above theme maps is available via: <http://www.for.gov.bc.ca/hfd/library/documents/bib94911/bib94911.htm>

Climate Capability Maps:

Climate related mapping, including climate capability, climatic moisture deficit/surplus, freeze free period, growing degree days, and May to September precipitation, is available for some areas in BC. See the hardcopy **Map List** below.

Reports describing the Climate Capability Classification methodology are available (free download) via the Ministry of Forests Library (<http://www.for.gov.bc.ca/hfd/library/index.htm>)

Tip: search the catalogue for 'Climate Capability Classification'

Information about the 'Growing Degree days' methodology is available via: <http://sis.agr.gc.ca/cansis/nsdb/ecostrat/egdd.html>

An updated Plant Hardiness Map (2000) is available via:
http://sis.agr.gc.ca/cansis/systems/online_maps.html

Soil Analyses:

Soil Analyses (BCSIS) are available via: <http://srmwww.gov.bc.ca/soils/provsoil/index.html> (Data is available via an interactive map-based query application. Query results include site and soil horizon information.)

The full attribute BCSIS database (including lab analyses) and documentation, are available for download from: ftp://fshftp.env.gov.bc.ca/pub/outgoing/Soil_Data/BCSIS/ (The BCSIS database is in MSAccess 98 format. The data tables contained in the database are also available as .xls or .csv files in the folder: BCSIS_exported_Tables, for users with an earlier version of MSAccess or other applications.)

Hardcopy (print-on-demand) Maps:

A listing the available hardcopy (print-on-demand) terrain, soils and related mapping can be viewed or downloaded via our ftp site at:
ftp://fshftp.env.gov.bc.ca/pub/outgoing/Soil_Data/Terrain_Soils_MapList/ (The **Map List** is available in .pdf or .xls formats.)

Note: The Map List is based on the mylars in our map cabinets. The list does not include mapping available in digital formats only or reports without hardcopy maps. We have attempted to flag corresponding available digital data and reports, however, this information is likely incomplete. Please report any errors or omissions to soilterrain@victoria1.gov.bc.ca in order that we may update the list.

If you are not familiar with the system of mapsheet naming and map locations, see below for tips on how to identify the mapsheets of interest.

Ordering print-on-demand maps:

Hardcopy (print-on-demand) soils and terrain and related (e.g. agriculture capability, soil drainage, etc.) maps (as listed on our Map List) can be ordered from:
<mailto:soilterrain@victoria1.gov.bc.ca>. These maps are \$5 per map plus shipping and taxes.

When ordering, please supply contact information including a street and mailing address. The reproduction company will then contact you by phone for billing information (a credit card number) and shipping instructions (mail or courier). Please allow at least 2 weeks for delivery of maps, to allow for pulling of mylars from our inventory, transfer of maps to the reproduction company, the reproduction company's workload and shipping to you.

Note: Please contact your local printing or reproduction company for plotting of maps from downloaded digital files (e.g. from CANSIS or MapPlace). This service is not available from the Soil/Terrain program.

Other sources of Soil/Terrain reports and maps:

Published hardcopy soils reports and terrain/soils maps can also be ordered (at a cost) from the Pacific Regional Society of Soil Sciences: <http://www.prsss.ca/default.shtml> (Note: response time may vary)

Several Soil Survey reports are available print-on-demand (at a cost) from Trafford via: <http://srmwww.gov.bc.ca/soils/project/report.html>

BC Publications has a few Soil Survey reports and other soils and terrain related publications as well as a diverse range of these products. See : <http://www.publications.gov.bc.ca/> (Tip: use keyword: 'terrain' or 'soil' to search for publications).

BC Geological Survey Branch (GSB) publications (maps/reports):
<http://www.em.gov.bc.ca/Mining/Geosurv/Publications/default.htm>

Crown Publications (including many GSB publications): <http://www.crownpub.bc.ca/>

The Ecological Report Catalogue (EcoCat) application provides access to reports, maps, digital data for Bioterrian and many other ecosystem, hydrometric and fish related projects) (free downloads:) See: <http://srmapps.gov.bc.ca/apps/acat/>

Some soil, surficial geology, terrain reports and data (as well as a vast array of other data) are available for discovery, download or viewing via the Land and Resource Information Data Warehouse at: www.lrdw.ca Tip: Search for 'Soil' or 'Surficial' etc. in the Title or All Fields; and uncheck the 'Theme View' option. (Note: MoE will be loading Terrain/Terrain Stability Mapping project data to the LRDW, commencing during 2006.)

Links to Libraries

BC Ministry of Forests and Range Library: <http://www.for.gov.bc.ca/hfd/library/index.htm>

GSC Pacific (Vancouver) - Geoscience Research Library:
http://gsc.nrcan.gc.ca/org/vancouver/library/index_e.php

Ministry of Energy and Mines Library: <http://www.em.gov.bc.ca/Publicinfo/Library/default.htm>

Note: if you do not live in the Vancouver or Victoria areas, the materials from the above libraries can be borrowed via inter-library loan through your local library.

Finding the Mapsheet(s) of interest:

Here are several options for finding the mapsheets of interest:

a) If you don't know which mapsheet is the correct one, you can view the 1:20,000 (e.g. 92F.065) and 1:50,000 (e.g. 92F/11) or 1:250,000 (e.g. 92F) mapsheet grids interactively on the web via:

'Make a Map' at: www.landinformationbc.com. (There's a tutorial, if you haven't used this before).
Tip: Select Map Layers: Imagery & Base Maps / Base Maps (Reference Grids)

Or, visit The MapPlace: www.mapplace.ca (see First Time Users and download the MapGuide Plug-in.

Tip: Zoom in to the general area of interest and turn on the grid layers and labels from the list.)

b) If you have a legal lot description, and want to know which mapsheet the property is on, you can view cadastre data online via: <http://srmwww.gov.bc.ca/sgb/IMF/index.html> (if you haven't used this site before, there is a tutorial).

Tip: After you've zoomed in close in the area of interest, turn on 'layers' and :

1) (optional) check the "i" button under 'Tantalis Layers/Survey Parcels' to confirm the lot

identification, and

2) under Base - auto scaling, check the "i" button for Grids, and click on the parcel again
- this will tell you the mapsheet number.

c) To find the NTS mapsheet that a geographic feature is located on, search the BC Geographical Names Information System database at: <http://srmwww.gov.bc.ca/bcnames/>.

NOTE: the Agriculture Capability mapping for the Langley-Vancouver area is based on the 1:25,000 grid. The 1:50,000 scale map grid is split into 8 letter blocks as follows:

E	F	G	H
I	J	K	L
D	C	B	A
M	N	O	P

92G/02 In this example, 92G/02 is the 1:50,000 scale map grid

The NE quadrant of 92G/02 would consist of 92G/02G and 92G/02H.

Terrain Listserv:

The Terrain Listserv has been implemented as a communications tool for the terrain mapping, inventory and terrain information community. The MoE provincial terrain information specialists will be using this listserv to communicate and consult with subscribers about:

- proposed changes to standards/guidelines/procedures,
- newly available data/information,
- education and professional development opportunities, and
- other initiatives related to access and management of terrain information.

To review the Listserv Policy and sign-up, visit: <http://srmwww.gov.bc.ca/terrain/listserv.html>

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Please report any broken hyperlinks and make suggestions regarding other sources of information or reference materials that are potentially of interest to terrain and soils data users.

Feel free to contact me if I can be of further assistance, or to order hardcopy (print-on-demand) maps.

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<http://srmwww.gov.bc.ca/soils/>
<http://srmwww.gov.bc.ca/terrain/> (to be updated soon to include all of the above information and more!)
<http://www.landinformationbc.com>

(* Formerly: Resource Information Branch
Land Information BC, MSRM)

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