YUKON DIGITAL SURFICIAL GEOLOGY – PRELIMINARY DATA RELEASE
YGS OPEN FILE 2009-42

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INTRODUCTION

In an effort to make surficial geology baseline data across Yukon Territory more consistent and GIS accessible over 150 regional surficial geology maps have been compiled by the Yukon Geological Survey (YGS) into a standardized digital (ArcGIS) format. Preliminary versions of all data captured for this project are available as an interim product for this open file.

The maps provide 80% coverage of the territory at scales ranging between 1:250 000 and 1:25 000. The Geological Survey of Canada has published approximately 4/5 of the maps since the 1960s. Most of the remaining maps were published by the Yukon Geological Survey in the last 10 years.

The wide variety of authors, map scales and terrain within the territory have made standardizing the map legends a challenge. About half of the maps have been digitized from hard copy formats, while the remainder have been converted from various digital formats into a single standardized ArcGIS geodatabase format.

The data are a valuable resource for a variety of land-use applications in the territory, including: mineral and placer exploration, geotechnical engineering, infrastructure planning, granular resource assessments, permafrost modeling, agricultural assessments, forest management and biophysical or ecological land classification.

SUMMARY OF DATA COMPILATION PROCESS

1) DATA CAPTURE
(completed and interim data available in this open file)

The initial stage of data capture involved providing detailed instructions to GIS contractors who captured both spatial and non-spatial data as described below.

Spatial data for each map were captured as point, line or polygon features inside a standardized ArcGIS geodatabase by:
(a) digitizing georeferenced scans of hard copy maps (79 maps); or
(b) importing older GIS vector formats such as AutoCAD drawings and ESRI shapefiles (72 maps).

Non-spatial data were also captured, including original terminology used for feature descriptions and polygon labels; all original legends, descriptive notes and stratigraphic section descriptions.

Rigorous quality control measures, multiple rounds of revisions and topology checks were used at all stages of the data capture process to ensure data capture accuracy.

2) ATTRIBUTE STANDARDIZATION
(currently underway; expected completion: late-2009)

Map unit and feature descriptions are converted to standardized terminology that is applied consistently for all maps across the territory. The geodatabase structure and overall mapping system used for the final compilation is based on the British Columbia terrain classification system (Howes & Kenk, 1997) with some minor coding modifications. This system was selected largely because of its flexibility, the existence of well documented digital capture standards, the ease with which particular surficial geology characteristics can be searched, the potential to produce derivative maps for a variety of end-users and to maintain a consistent map legend between Yukon and British Columbia.

The standardizing process extracts details from original legend descriptions such as, surficial material texture, relative ages and geomorphological processes, which are then added to point, line and polygon features to increase geodatabase detail and provide the ability for complex searches. Expanded polygon labels are then subdivided into individual fields so that specific surficial material characteristics can be easily searched.

3) FINAL PUBLICATION
(expected completion: spring 2010)

A digital open file will be released containing all standardized vector data and supporting documentation, including standardized digital legends, symbology and GIS project files.
The data will be accessible online using a web interface for downloading and searching the data.

DATA ACCESS

Adjacent maps that were originally published by the same author(s) or as part of the same series were grouped and the folders put on the ftp site. Within each folder, the data is presented as a single shapefile. These shapefiles are an interim product only and the data are represented as shown on the original maps. As the standardizing progresses the updated data will be available upon request.

Interim Shapefiles

index_map.zip
105A02_Lipovsky_Watson_Lake_50k.zip
105AB_95D_W_Klassen_1982_Coal_Watson_Wolf_250k.zip
105ABCD_Klassen_OF539_1978_YKAlbers_E_AK_Hwy_100k.zip
105CD_Morison_McKenna_1982_S_Lakes_100k.zip
105CDE_Morison_Klassen_Laberge_Whse_Teslin_250k.zip
105D_Bond_2004_Whitehorse_Oct08.zip
105FK_Jackson_1993_1819to1822_1790to1793_100k.zip
105G13_Bond_2000_Weasel_Lake_50k.zip
105GJ_Jackson_1993_1832to1835_1794to1797_100k.zip
105H_Dyke_1992_Maps1674_to_1677_100k.zip
105I_Jackson_Of886_1982_Nahanni_250k.zip
105K_Bond_1999_Anvil_25k.zip
105L_Ward_and_Jackson_1993_Glenlyon_Map1786A_1789A_100k.zip
105M_Hughes_1983_Mayo_Maps2_to_5_100k.zip
105O_Morison_McKenna_1981_MacPass_100k.zip

106D_116A_Hughes_Vernon_1965_Maps1171_1172_250k.zip
106L_116I_NE_Duk_Rodkin_1990_1744A_Trail_River_250k.zip
115A_Rampton_Paradis_1982_Maps14_to_16_100k.zip
115BFGK_Rampton_1980_W_AK_Hwy_100k.zip
115H_Hughes_1987_Aishihik_Maps20_to_23_100k.zip
115I_Jackson_Carmacks_1876to1879_1997_100k.zip
115ON_Jackson_2005_Stewart_River_50k_not_standardized.zip
115P_105M_116A_106D_Bond_1998_Mayo_50k.zip
115P_Hughes_McQuesten_unpublished1983_50k.zip
116ABGHI_Thomas_Rampton_1982_Dempster_Maps6_11_100k.zip
116B_Ricker_1967_Dempster_50k.zip
116BC_Duk_Rodkin_1996_OF3288_Dawson_250k_not_standardized.zip
116PON_Hughes_1973_OF0167_125k.zip
117ACD_Rampton_1987_Map1503a_Coastal_Plain_250k.zip
95C_Smith_2003_Labiche_50k.zip

Geodatabases

Geodatabases.zip

No formal metadata is available at this time, although polygon field descriptions are available.

The “index_map” folder contains an index shapefile that shows the spatial extent of each map included in the compilation. A variety of attribute information for each map (scale, author, date, map title, etc) is included in this shapefile.

For further details on the individual Geological Survey of Canada (GSC) maps and legend descriptions, please refer to the originals that are available in pdf format from:
http://geoscan.ess.nrcan.gc.ca/starweb/geoscan/servlet.starweb?path=geoscan/geoscan_e.web

YGS-published surficial geology maps and legends are available in pdf format from:
http://www.geology.gov.yk.ca/search_publications_maps.html

DATA FORMAT

Due to server limitations we are only able to post the vector data to our ftp site. We also have this information available in an Access geodatabase format and georeferenced TIFF images from scans of the original paper maps. If you require these other formats please contact us and we will send you the data. Please notify us if you encounter inaccuracies or problems with the data. We thank you for your patience as this project gets refined and we hope you find this information useful.

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REFERENCE

Howes, D.E. and Kenk, E., 1997. Terrain classification system for British Columbia (version 2). Province of British Columbia, Resource Inventory Branch, Ministry of Environment, Lands and Parks; Recreational Fisheries Branch, Ministry of Environment; and Surveys and Mapping Branch, Ministry of Crown Lands.

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