

Lenton, P.G., Chackowsky, L., Pacey, M. and Lindal, D. 2001: Geoscience Information Services projects; *in* Report of Activities 2001, Manitoba Industry, Trade and Mines, Manitoba Geological Survey, p. 182-185.

## SUMMARY

Geoscience Information Services Section has worked extensively on digital conversion of both bedrock and surficial geology maps. Geographic information system (GIS) and data-management support has been given to the Western Superior NATMAP project, the Flin Flon Targeted Geoscience Initiative and the EXGIS southeast Manitoba digital geological data compilation. New presentations were developed for the Internet map server system on the departmental Web site.

## INTRODUCTION

The Geoscience Information Services Section (GISS) of the Manitoba Geological Survey is responsible for all GIS, CAD, graphic arts and database work in the Survey. The section also acts as a resource of expertise on computer hardware, software and systems for the Department. Internet map publishing and website database publishing fall under GISS as well.

## SURFICIAL GEOLOGY COMPILATION MAPS

As part of the ongoing program to convert existing paper maps to electronic form and, where possible, to update and upgrade their content, GISS has undertaken conversion of existing 1:250 000 scale surficial geology maps to digital form. These maps will be edge-matched and reclassified according to a common legend. The objectives of this project include:

- a digital geology base for use in the production of a three-dimensional modeling project (Matile et al., GS-23, this volume);
- production of a digital 1:250 000 scale surficial geology base to be used with the GIS Map Gallery (*see* below); and
- production of a seamless 1:250 000 scale surficial geology base with a common legend, to be used in the construction of an updated 1:1 000 000 scale *Surficial Geology of Manitoba* map to replace the 20 year old Map 81-1 (Manitoba Mineral Resources Division, 1981).

The compilation incorporates all relevant Manitoba Geological Survey (MGS) and Geological Survey of Canada (GSC) surficial geology maps. The current status of this project is shown in Figure GS-29-1.

## MAP PRODUCTION TECHNIQUES

The Manitoba Geological Survey is in the process of modernizing map production and printing. While all map construction and layout have been done with digital technology for several years, there has been a reliance on conventional printing-press methods for publishing full-colour maps. Acquisition of a high-speed inkjet printer allows for rapid in-house printing of colour maps using GIS technology. Currently we do not use 'print on demand', where a client waits for a map to print, but rather use short-run inkjet printing to maintain a small stock of all maps.

The first test of this new production capability was the layout and printing of 15 full-colour preliminary maps for the geological compilation of the Thompson Nickel Belt, produced by the Thompson Nickel Belt Geology Working Group (2001a-o). Production of this number of colour maps in the available time would not have been possible using previous software and printing processes.

Geographic information system software used in map production has been upgraded to the latest ArcGIS® 8.1 product from ESRI Inc. This allows improvement in the quality of map layout and reduction in production time.

## BEDROCK GEOLOGY COMPILATION MAP SERIES (BGCMS)

The Bedrock Geology Compilation Map Series is an ongoing program of 1:250 000 scale bedrock geological compilation presented as annotated maps with marginal notes. Previous production relied on manual drafting and conventional press printing of colour maps. The production of these maps has been changed to GIS technology and printing will now be done in house (*see* above). All previously produced maps have been converted to digital form; all new maps are completely digital from the start of the compilation process. The current status of the BGCMS project is illustrated in Figure GS-29-2. Work is currently focused on the northern eight sheets in the Cochrane-Seal rivers area. Work is complete on NTS 64N, nearing completion for NTS 64O and well advanced for the remaining six sheets. These maps were modified by D. Schledewitz to update the previous maps (Schledewitz, 1986).

Future directions for the BGCMS program are to:

- complete the Cochrane-Seal rivers project;
- update map 64B, which is currently out of print;
- incorporate the results of new geological compilation projects into 62H, 62I, 52E and 52L;
- incorporate NATMAP Shield Margin Project results into 63J, 63K, 63N and 63O;

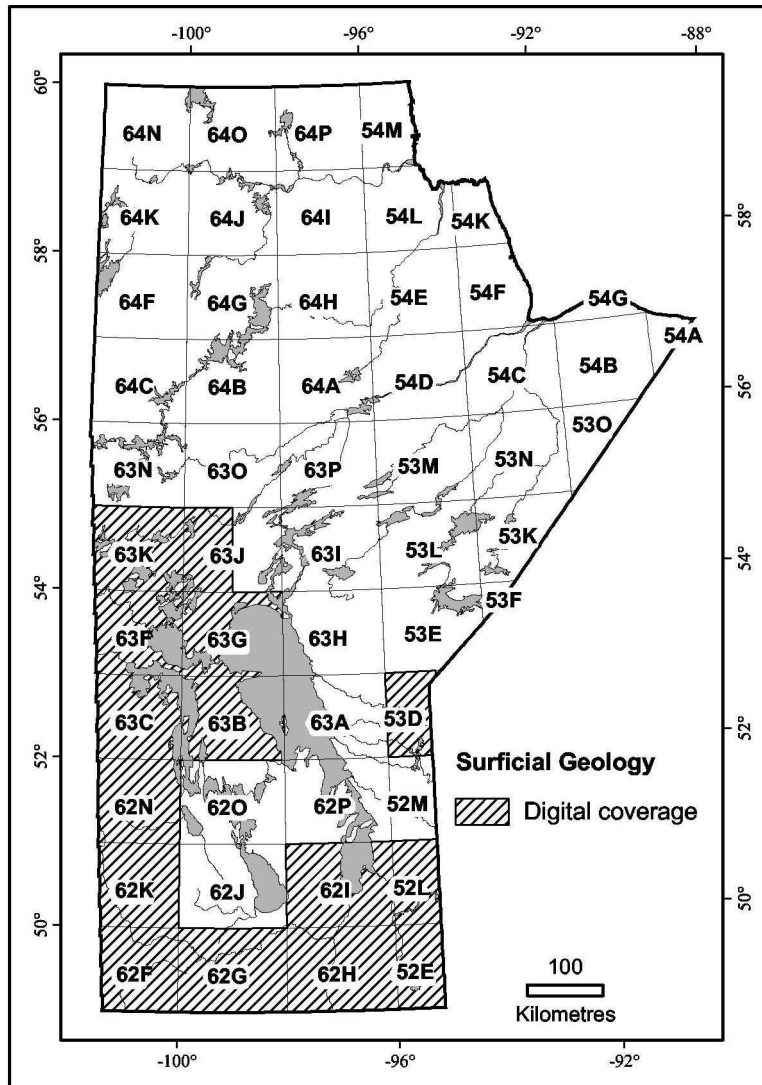


Figure GS-29-1: Current status of the surficial geology digital compilation project.

- add new sheets 63G (currently underway), 63A and 53D;
- incorporate a new revised legend structure into all BGCMS maps; and
- reclassify the digital BGCMS maps for a project to revise the 1:1 000 000 scale *Geological Map of Manitoba*.

## REGIONAL GEOLOGICAL COMPILATION PROJECTS

In addition to the BGCMS project, GISS is involved in several other map and data compilation projects, including:

- Western Superior NATMAP 1:250 000 and 1:500 000 scale map compilations. MGS produced prototype layouts and symbol sets for the MGS–Ontario Geological Survey–GSC joint project.
- Central Wabigoon geological compilation with T. Corkery.
- EXGIS compilation: a joint MGS–GSC project to produce a digital compilation of all available data for southeastern Manitoba (parts of NTS 62H, 62I, 52E, 52L, 52M and 62P); and
- compilation of kimberlite indicator-mineral data (Fedikow et al., 2001a, b).

## GIS MAP GALLERY

The ‘GIS Map Gallery’, a web-enabled Geographic Information System, has received a positive response over the past year and proven to be a valuable service to our clients. The Map Gallery is currently receiving 600 to 1100 hits per month. The system provides timely and accurate twenty-four hour access to the department’s information through an easy-to-use, interactive, information-reference mapping tool. We have continued to develop and enhance the Map Gallery with the addition of the complete mineral-exploration assessment library of reports, which are now available for download in PDF format. Developments for the upcoming year include publication of the 1:250 000 scale bedrock and surficial geological mapping and mineral deposit locations for the province. Petroleum-well locations and associated information relevant to the oil and gas industry are also planned for publication on the GIS Map Gallery.

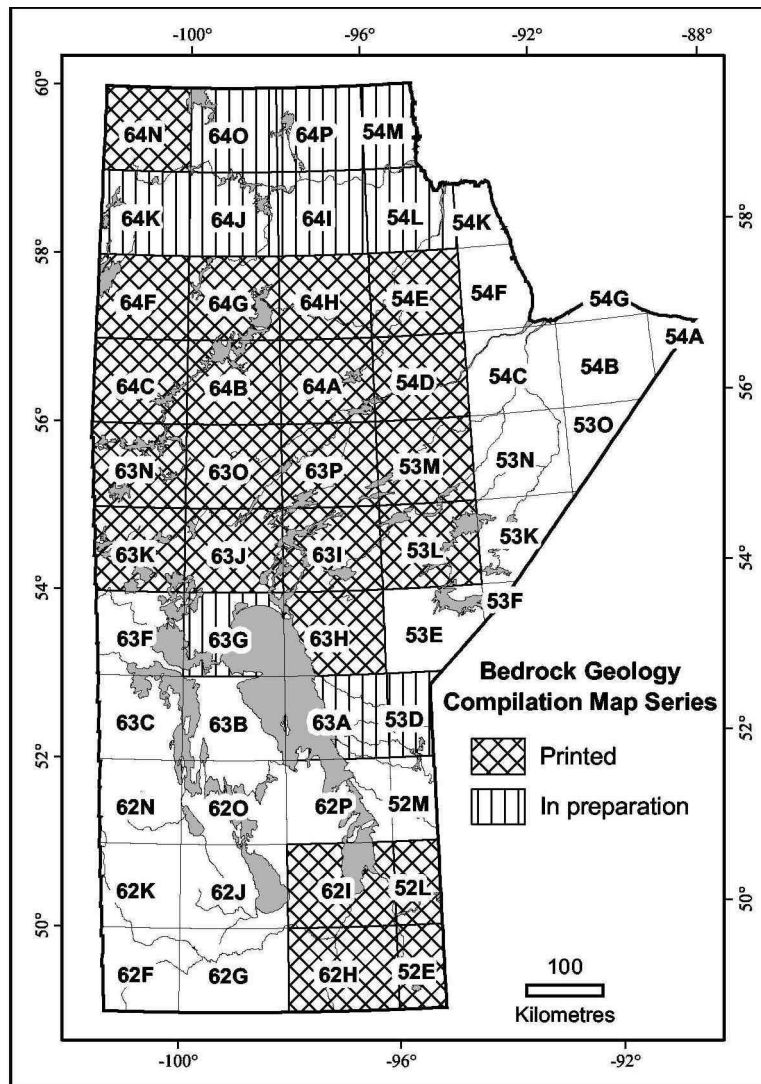


Figure GS-29-2: Current status of the Bedrock Geology Compilation Map Series project.

What can you do at the GIS Map Gallery? Prospectors, geologists, mining company staff and other interested stakeholders are now able to:

- see where mineral dispositions are located;
- investigate the geological setting and see what infrastructure exists in their area of interest;
- determine areas that are restricted in terms of staking and exploration;
- find out who holds what ground;
- find out what ground is available for staking in their area of interest; and
- find out where recent staking has taken place and what work has been done in the area.

The GIS Map Gallery is the access point for information on mineral claims, assessment files and geological databases. It can be found at <http://www.gov.mb.ca/em/geoscience/gis/gis-index.html>.

## REFERENCES

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