

Digital Information Services

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The Digital Information Services group is responsible for developing and maintaining the Minerals and Energy Branch (MEB) Geographic Information System and associated databases, the NovaScan bibliographic geoscience database, for supplying digital data and services to clients and staff, and for developing the MEB Internet web site. Permanent Digital Information Services staff consist of geologists / GIS specialists Brian Fisher and Jeff Poole, and web technician Susan Saunders. Adam Sherry and Bev Smith, both geology students, were hired to work with the group on casual basis over the past year. Kathy Mills was hired on a Geological Survey of Canada contract for three months to work on compiling geochemistry metadata. John MacNeil, a geologist / GIS specialist and Miranda Huskins, a geologist, were hired in November 2000 to work on the Targeted Geoscience Initiative (TGI) project in south-central Cape Breton Island.

Digital Geoscience Data Products

A collection of digital geology maps, databases and images of Nova Scotia (in DXF, ARC export, ArcView® shapefiles, TIFF, and JPEG formats in a UTM projection using the NAD27 datum, and in PDF format) has been developed and is now on sale through the library and available for free download from the MEB web site at <http://www.gov.ns.ca/natr/meb/pub3.htm>. The complete list of digital data products available can be seen in Appendix 3. This list can be obtained from the Halifax DNR Library or viewed on the MEB web site at <http://www.gov.ns.ca/natr/meb/pubshome.htm>. A licence agreement is issued with all digital data sets. This agreement allows unrestricted use of the data with the understanding the DNR remains the owner of the data and is not transferring copyright to the user. Since March 1999, when data were first made available for download from the MEB web site, there have been over 20,000 downloads.

Public Access GIS

A Public Access GIS has been developed for use by clients in the Halifax library. This is a user-friendly query and display system that uses a customized version of ArcView® to access a variety of geographically referenced digital geoscience data on Nova Scotia. It can display and query data sets, overlay various themes of geoscience, topographic and land-use information, and plot the resulting maps in colour. Version 3 of the Public Access GIS is currently being worked on and will contain many new themes and an improved menu system. This version should be available in 2002.

GIS Development

Digital Information Services staff have been working cooperatively with MEB staff on several projects, including creating the digital layers to be used as part of the Metro Aggregate Project and two maps which are being released as part of the project, namely: Open File Map ME 2001-1, Map of Bedrock Aggregate Potential in the Halifax - Dartmouth Metropolitan Area, Nova Scotia; and Open File Map ME 2001-2, Map of Land Use Constraints in the Halifax - Dartmouth Metropolitan Area, Nova Scotia.

The GIS version of the Registry of Mineral and Petroleum Titles database was updated several times. Two new versions (2 and 3), of the Mineral Rights Disposition Map for the Province of Nova Scotia (OFM ME 2000-6) were released.

Work is continuing on converting the NovaScan database into Arc/Info® format. When completed, the database will be made available in the Public Access GIS and on the Internet in 2002.

Work has continued on converting 48 bedrock geology maps from Fieldlog® / AutoCAD® format into ArcInfo® and incorporating these maps as part

of our GIS. These maps will be completed and released as digital products in 2002.

Internet Map Projects

Jeff Poole has created several prototype Internet Map Server (IMS) applications, currently running in-house, that will allow our clients to view, query, plot and download our digital maps and databases over the Internet. Over the next year Jeff will be committing much of his time to producing an Internet application, using ArcIMS® technology, that will provide the general public with Internet access to our Public Access GIS layers. It is planned that the initial deployment of this application will be in 2002.

Targeted Geoscience Initiative (TGI) Project in South-central Cape Breton Island

In the summer of 2000 the Geological Survey of Canada (Atlantic) and the Minerals and Energy Branch were awarded funding under the Geological Survey of Canada Targeted Geoscience Initiative (TGI) for a geological mapping project to aid mineral development in south-central Cape Breton Island. As part of this project we are responsible for producing a digital compilation of geological data for this area. John MacNeil and Miranda Huskins were hired in November 2000 to work exclusively on this project to build databases, digitize maps and develop the digital products that will be produced as a result of this project. We have identified approximately 90 layers that may potentially be included as part of the final products for this project. To date, approximately 20 maps have been digitized and many other layers have been developed for inclusion in the compilation. A web site for the project is currently under development.

Canadian Geoscience Knowledge Network

The Canadian Geoscience Knowledge Network

(CGKN) is a collaborative effort between the 12 provincial and territorial geoscience agencies and the federal Geological Survey of Canada, which operates six offices across Canada. The plan is for the CGKN to be a single window of access, using the Internet, to the geoscience holdings of all the surveys. MEB has been involved in two CGKN projects over the past year.

In January 2001 Kathy Mills was hired for three months under contract to the GSC, as part of the Geochemistry On-line project, to begin compiling metadata on regional geochemistry surveys and databases so that the information can be entered into the CGKN geochemistry data model. The metadata for three surveys, consisting of five databases, was completed by the end of the contract at the end of March 2001.

In October MEB received funding from the CGKN Metadata Catalogue Project to develop a metadata server, which is part of a distributed network of metadata servers, and a database containing metadata describing our digital data products and our publications, which will be searchable over the Internet by CeoNET and the CGKN metadata search engine. The money we received was used to hire Jeff McKinnon to work on this project for six months from September 2001 - March 31, 2002. Jeff has been working in ArcCatalog® and creating metadata for many of our digital products.

NovaScan

NovaScan is the bibliographic geoscience database on Nova Scotia and its offshore regions. As of December 31, 2001, the database contained 14,977 MEB records, consisting of 6,573 mineral exploration assessment reports, 3,566 publications, 2,693 open files, 1,200 journal literature references, 756 theses, 172 contribution series, 12 digital publications, and 5 outside publications.

NovaScan was updated with 96 new records in 2001: 56 assessment reports, 31 publications, 2 open files, and 7 contribution series.

In 2001, 114 assessment reports were publicly released from confidential status. Each month, a list

of open assessment reports was generated from NovaScan®, distributed to the DNR Library, the Core Library in Stellarton, and to the three Regional Geologists in Coxheath, Bible Hill and Bridgewater, as well as posted on the MEB web site. Quarterly reports were produced and published in the *Nova Scotia Minerals Update* newsletter, and on the web site.

In order to provide better service to our staff and clients by allowing Internet access to and searching of the NovaScan® database, two independent projects were continued in 2001. The first project involved downloading the database into the MEB GIS and creating geographic boundaries for all NovaScan® records. When complete, the NovaScan® database will be searchable through MEB's Public Access GIS, and also searchable on the Internet. Completion of this project should take place in 2002.

The second project involved downloading and converting the NovaScan® records into standard library MARC® format, so that they could be loaded into the Provincial Library's Internet-accessible *Ncompass* catalogue database. This catalogue can be accessed at the following address: <http://ncompass.library.ns.ca>. After selecting your language of choice (English/French), select Nova Scotia Department of Natural Resources from the available catalogue listings, and you will then be able to search all the DNR Library records including the NovaScan® records. As of December 31, 2002, all non-confidential NovaScan® records were entered into the *Ncompass* database. Newly released assessment reports are added to the *Ncompass* catalogue on a monthly basis.

Minerals and Energy Branch Web Site Development

The following publications were posted on our web site in 2001:

Report ME 2001-2 Mining Matters for Nova Scotia.

Report ME 2000-1 Report of Activities 1999.

Open File Map ME 2000-6 Mineral Rights Disposition Map for the Province of Nova Scotia.

Bulletin ME 5 Salt and Potash Resources in Nova Scotia, by R. C. Boehner, 1986, 346 pages, 8 1/2" x 11" format, includes Nova Scotia Department of Mines and Energy Map 1983-3, scale 1:500 000.

Bulletin ME 3 Assessment of Peat Moss Occurrences in Guysborough, Antigonish, Pictou, Colchester and Cumberland Counties, Nova Scotia, by D. R. Sutherland and F. S. Shea, 1976, 301 pages.

Minerals Update Newsletter: Volume 18, Numbers 1, 2, 3 and 4.

Open File Report ME 2001-2 Geology of the South Mountain Batholith, Southwestern Nova Scotia, by M. A. MacDonald, 2001, 359 pages, 1 map (includes Map ME 1994-1).

Open File Report ME 2001-1 Fault-controlled Zinc Mineralization in the Antigonish Highlands, Antigonish and Pictou Counties, Nova Scotia, by G. A. O'Reilly, 2001, 9 pages, 6 coloured figures.

Pan-American Conference on Research on Fluid Inclusions (D. J. Kontak).