

# 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 word processor operator Susan Saunders. Adam Sherry and Megan Surette, both geology students, were hired to work with the group on a casual basis in 2000, as was Angela Murphy, a planning and land information technology graduate. Geologist/GIS specialist John MacNeil and geologist Miranda Huskins were hired in November 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 (in DXF, ARC® export, ArcView® shapefiles, TIFF, and JPEG formats in a UTM projection using the NAD27 datum, and in PDF format) on Nova Scotia 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 department's Halifax 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 Department of Natural Resources remains the owner of the data and is not transferring copyright to the owner. Since March 1999, when the data were first made downloadable from the MEB web site, there have been over 10,000 downloads.

Three new digital products were released in 2000:

**D00-01** - Geological Map of the Province of Nova Scotia, version 1, 2000, compiled by J. D. Keppie, scale 1: 500 000.

**DP 011** - Enhanced Aeromagnetic and Digital Elevation Image of Eastern Nova Scotia, version 1, 2000, M. S. King (25 m x 25 m, 40 m x 40 m, 80 m x 80 m resolutions); and

**DP 012** - Claim, Mining Tract and Petroleum Reservation Grids for Claim Reference Maps, Nova Scotia, Version 1, 2000 (distributed by 1:50 000 NTS map sheet).

Four other digital products were updated:

**DP 003** - Drillholes Database, Version 2, 2000;

**DP 010** - Abandoned Mine Openings Database, Version 2, 2000;

**DP 009** - Claim Reference Map Grid, Nova Scotia, Version 2, 2000; and

**DC 001** - Complete Set of Nova Scotia Department of Natural Resources Digital Geoscience Data, Version 3, 2000.

## Public Access GIS

A Public Access GIS has been developed for use by clients in the department's 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. It can display and query data sets, overlay various themes of geoscience, topographic and land-use information, and plot the resulting colour maps. 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 2001.

## GIS Development

Digital Information Services staff have been working cooperatively with members of other sections in the branch on several projects. The new 1:500 000 Geology Map of Nova Scotia was released as Map ME 2000-1 and digital product D00-01 in January 2000. In conjunction with the branch's Land-use staff, they have converted the Mineral Resources Land Use (MRLU) Maps for Nova Scotia into digital form. These are currently being checked and will be released as Open File Map ME 2000-3. The Land Designation and Ownership Map was released as Open File Map ME 2000-1.

Work on integrating the Registry of Mineral and Petroleum Titles database into the GIS and automating

the production of the Mineral Claims Disposition Map has been completed. Three open files maps were released as a part of this project in the last year: OFM ME 2000-6, Mineral Rights Disposition Map; OFM ME 2000-7, Designated Underground Gas Storage Exploration Areas; and OFM ME 2000-8, Geothermal Resource Areas. A map of Crown limestone areas will be released in 2001. Each of these will be released as a digital product on our web site in 2001 and the databases will be available in version 3 of the Public Access GIS.

Work is continuing on converting the NovaScan database into ArcInfo® format. When completed, the database will be made available in the Public Access GIS and on the Internet in 2001. Thirty of the detailed Faribault Gold District maps were converted into Arc/Info® format and georeferenced by Megan Surette. These will be released as digital products on our web site in 2001 and included with version 3 of the Public Access GIS. Adam Sherry was hired to digitize several bedrock geology maps that will be used in the new digital compilation being done as part of the branch's Metro Aggregate Project.

## Internet Map Projects

Jeff Poole has created several prototype Internet Map Server (IMS) applications, currently running in-house, which will allow our clients to view, query, plot and download digital maps and databases over the Internet. Over the next year Jeff will be committing the majority of his development 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 2001.

## South-central Cape Breton Island Project

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

## Canadian Geoscience Knowledge Network

The Canadian Geoscience Knowledge Network (CGKN) is a collaborative effort between the 12 provincial and territorial geoscience agencies and the Geological Survey of Canada, which operates six offices across Canada. The plan is for the CGKN to be a single window of Internet access to the geoscience holdings of all the surveys. Over the past year Brian Fisher has served on the CGKN steering committee and the data model working group. He has also been working on the metadata catalogue project and the geochemistry online project. Committees working on these two projects plan to have web sites developed and data published on the Internet in 2001.

## NovaScan

NovaScan is the bibliographic geoscience database on Nova Scotia and its offshore regions. As of December 31, 2000, the database contained 14,881 DNR records, consisting of 6517 mineral exploration assessment reports, 3535 publications, 2691 open files, 1200 journal literature references, 756 theses, 165 contribution series, 12 digital publications, and 5 outside publications.

NovaScan was updated with 502 new records in year 2000: 121 assessment reports, 173 publications, 183 open files, 24 contribution series, and 1 outside publication.

In 2000, 152 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. An Assessment Report Index was released during 2000 entitled OFR ME 2000-1: NTS Location, Author and Citation Index to Nova Scotia Department of Natural Resources, Minerals and Energy Branch Assessment Reports 1996-1999.

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 carried out in 2000. The first project involved downloading the database into the branch GIS and creating geographic boundaries for all Novascan records. When complete, the NovaScan database will be

searchable through the Public Access GIS, and also searchable on the Internet. Completion of this project should take place in year 2001.

The second project involved downloading and converting 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, 2000, all open NovaScan records were entered into the *Ncompass* database. Newly opened assessment reports are added to the *Ncompass* catalogue on a monthly basis.

## Minerals and Energy Branch Web Site

The following publications were posted on our web site in 2000:

**Bulletin ME 2, Part II** Limestones and Dolomites of Nova Scotia: Antigonish, Guysborough, Pictou and Cumberland Counties, by D. A. Murray.

**Bulletin ME 7** Structure of the Canadian Appalachians, by J. D. Keppie.

**Economic Geology Series ME 1990-3** Oil Shale Resources of Nova Scotia, by W. D. Smith and R. D. Naylor.

**Economic Geology Series ME 1992-1** Various Industrial Mineral Commodities in Nova Scotia, by R. H. MacDonald.

**Economic Geology Series ME 1992-2** Aggregate Potential of Cumberland and Colchester Counties, Nova Scotia, by G. Prime.

**Information Circular ME 60** Properties for Option in Nova Scotia 2000.

**Information Series ME 8** Coal in Nova Scotia, by J. H. Calder.

### Nova Scotia Minerals Update

Volume 17, Number 1

Volume 17, Number 2

Volume 17, Number 3

Volume 17, Number 4

**Open File Report ME 2000-1** NTS Location, Author and Citation Index to Nova Scotia Department of Natural Resources, Minerals and Energy Branch Assessment Reports 1996-1999, by P. D. McCulloch, S. Marshall, N. A. Lyttle and J. S. Saunders.

**Open File Report ME 2000-3** Limestones and Dolomites of Nova Scotia, Part 3 (Colchester and Halifax Counties), by D. A. Murray.

**Report ME 2000-2** Mining Matters for Nova Scotia 2000, ed. D. R. MacDonald.

In addition, major revisions were made to the Virtual Field Trip of the Landscapes of Nova Scotia, by R. R. Stea.

