

Digital Information Services

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The Digital Information Services group is responsible for developing and maintaining the branch Geographic Information System (GIS) and associated databases, the NovaScan bibliographic geoscience database, for supplying digital data and services to clients and staff, and for developing the branch internet web site.

Permanent Digital Information Services staff consists of Brian Fisher and Jeff Poole, both of whom are geologists and GIS specialists, and Susan Saunders, a word processing operator. Krista Fraser, a GIS specialist, and Gayle Chapman, a geology student, are working with the group on a casual basis. Janette Vavra, formerly with this group, left the department in May 1998 and was replaced by Jeff Poole.

Digital Geoscience Data Products

A collection of digital geoscience datasets (in DXF, ARC export format, or as TIFF images in a UTM projection using the NAD27 datum) on Nova Scotia has been developed and is now on sale through the library. These datasets include digital geology maps, databases and images. The complete list of digital data products available can be seen in Appendix 3. This list can be obtained from the Halifax Library of the Nova Scotia Department of Natural Resources (DNR) or viewed on the Minerals and Energy Branch website at <http://www.gov.ns.ca/natr/meb/pubshome.htm>. A licence agreement is issued with all digital datasets. This agreement allows unrestricted use of the data with the understanding that Department of Natural Resources remains the owner of the data and is not transferring copyright to the buyer.

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 which uses a customized version of ArcView® to access a variety of geographically referenced digital geoscience data. It can display and query datasets, overlay various themes of geoscience, topographic and land-use information, and output the resulting maps as coloured plots. Staff are currently working on version 2 of the public access GIS which will

contain new themes, an improved menu system, labelling capabilities and many other new features. This should be available in early 1999.

World Wide Web Site

The Minerals and Energy Branch has developed its own web site, which can be found at the following address: <http://www.gov.ns.ca/natr/meb>. In addition to providing information about branch staff and programs, the site also provides the latest *Publication Release Notices*, *Publications and Digital Data for Sale* lists, all the issues of the branch newsletter *Nova Scotia Minerals Update*, a *What's New* page, a copy of *Minerals, a Policy for Nova Scotia 1996*, *Selected Base Metal and Industrial Mineral Publications*, a review of *Mining Activities in Nova Scotia*, and a *Topics* page.

NovaScan

NovaScan is the bibliographic geoscience database on Nova Scotia and its offshore regions. As of December 31, 1998, the database contained 14,335 DNR records, consisting of 6202 mineral exploration assessment reports, 3411 publications, 1270 journal literature references, 1263 open file maps, 1196 open file reports, 72 open file illustrations, 756 theses, 148 contribution series, 5 outside publications, and 12 digital publications. Custom searches of the NovaScan database for clients will be done on request. Work is currently underway to make NovaScan accessible to clients through the public access GIS. This should be available in early 1999.

GIS Projects

The Digital Information Services staff have also been working cooperatively with branch staff and some other organizations on several projects.

Mineral Resource Land-use Digital Atlas

In conjunction with land-use staff, we are continuing to convert the 'Mineral Resource Land-use Atlas' for Nova Scotia into digital form.

Surficial Geology Project

In cooperation with the surficial geologists an ArcView® application was developed which will be used to compile data collected as part of a new 1:50 000 surficial geology mapping project.

New Bedrock Geology Map of Nova Scotia

The new 1:500 000 scale *Geology Map of Nova Scotia* is nearing completion and will be integrated into the GIS. It is hoped that the new map will be available by mid-1999.

Registry Database

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. This database will be available in the new version of the public access GIS.

Composite Geology Map of Nova Scotia

Work on a new composite geology map of Nova Scotia continued through the year by Gayle Chapman and Michelle Williamson. Using AutoCAD® and Fieldlog®, work has been completed on the initial digitizing and verification of 45 geology maps, including the geological line work and over 60 000 data points and their attributes. These maps and databases will be included in the GIS and made available through the public access GIS over the next year.

Gold District Plans

A new project, to digitize the line and point information for 30 Faribault gold district maps was started by Gayle Chapman. She has completed the initial digitizing and is now in the process of verifying the data. Following this, the data will be put into our GIS, the maps will be geo-referenced, and then added to the public access GIS.

1:50 000 Shaded Relief Digital Elevation Model Project

Krista Fraser developed an application to produce shaded

relief images and hard copy maps from a 1:50 000 Digital Elevation Model (DEM) which was developed by Tim Webster at the Nova Scotia College of Geographic Sciences (COGS).

1:10 000 Digital Elevation Model and Watershed Project

This project was initiated with the cooperation of the Nova Scotia Geomatics Centre, Department of Agriculture and Marketing, DNR Forestry Division, and DNR Wildlife Division. Krista Fraser is developing a GIS application to produce hydrologically correct DEMs from the 1:10 000 scale topographic base maps, and then produce watershed maps. Phase one, the development of the application, will be completed by March 31, 1999, and will test the application in one or more geographic areas to determine requirements for the viability of creating DEMs and watersheds for the whole province.

Internet Map Server

Jeff Poole, who has experience developing internet map servers, is currently investigating the feasibility of creating an internet map server that will allow our clients to view, query, plot and download our digital maps and databases over the internet.

Canadian Geological Knowledge Network (CGKN)

As a result of an initiative launched through the National Geological Surveys Committee, the Minerals and Energy Branch is also working cooperatively with the Geological Survey of Canada and other provincial minerals and energy departments across Canada to investigate the possibility of creating an internet-based Canadian Geological Knowledge Network (CGKN). The objective of this initiative is to provide access to all provincial and federal geoscience data through one internet web site. The initial meeting and workshops to discuss the CGKN concept were held in Ottawa in December 1998 and were attended by Scott Swinden and Brian Fisher.