

Current projects of the Geoscience Information System (GSIS)

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The Geoscience Information System was established to manage the information collected by the Mineral Resources Division. Funding provided from the C-NBCAMD and the Innovation and Technology subagreement was used to purchase GIS hardware and to customize GIS-CARIS (Computer Aided Resource Information System) for geoscience applications. The hardware configuration of the system consists of one SPARC 370 SERVER, with 32 megabytes of memory and 1.5 gigabytes of hard-disk storage, one SUN4 workstation with 16 megabytes of memory and 700 megabytes of hard-disk storage, two 19" colour monitors, one E-size pen plotter, one E-size digitizer, one USL controller, and one Tektronics screen dump. UNIX is the operating system; CARIS is the GIS software used to manage the graphic database; and INGRES is the relational database management system.

After the successful completion of the GSIS pilot project, the following projects are in progress: (1) digital base-map maintenance for most parts of New Brunswick; (2) geoscience data compilation for priority areas; (3) digital geological data maintenance for current mapping projects; (4) geophysical and geochemical data maintenance for most parts of New Brunswick; and (5) mineral-deposit data. The pilot projects on the claim management system, coastal zone mapping, and peatland management are being planned for next year.

The hand-held computer for geological field data main-

tenance was built by Advanced Systems Design Limited according to the specifications given by the Geological Surveys Branch and will be used for recording field data. The Field Data Collector provides an economical means of collecting information needed for geoscience field surveys. It partly automates the data-collection procedure by eliminating pencil and paper and replacing them by an electronic data entry terminal. In addition, a built-in microprocessor aids the operator in the collection procedure by guiding him/her through the entries of the data sets, avoiding omission of important information and reducing operator errors. The data sets are automatically date/time-stamped.

The Data Collector Terminal is small in size, hand-held, and powered by rechargeable batteries for several continuous full-shift operations (up to 30 hours). The data memory and the clock/calendar will work even under adverse climatic conditions over a wide temperature range and do not have external cables or connectors that could corrode and cause unreliable operation. The terminal can be placed in its Interface Cradle where recharging takes place and where the transfer of field data to a host computer is performed. Separate date/time-stamped data sets can be constructed for up to 45 field sites. The data sets can be transferred into a host computer for subsequent processing by suitable software packages, such as spreadsheet programs, database programs or GIS systems.