

**Case Study Number:** 06

**System Type:** Geographic Information System

**Title:** Canada Land Data System

**Institution or Agency:** Government of Canada

**Unit:** Environment Canada, State of the Environment Directorate (Lands Directorate)

**Case Study Conducted by:** David L. Brown

**Duration of Study:** November 22, 1999 (Round 1 of Case Studies)

**Functional Responsibilities of Respondent(s):**

Information Unknown

**Summary of System Information**

**Business Context:** The system-active between 1963 and 1995-was used to manage mappable thematic data related to the Canada Land Inventory (CLI), and the Canada Land Use Monitoring Program (CLUMP); it was also used to create thematic map coverage for various clients on a contract basis. It was administered (since 1971) by the Department of the Environment (Lands Directorate, Canada Geographic Information Systems Branch); the responsible person for the system was the Director of the Canada Land Data System Division. Records were created through three different sub-systems, which include scanning, digitizing techniques, data entry and validation. The system was accessioned by the National Archives of Canada in 1995-1996.

**Description:**

**Form, Content, and Requirements:** The Canada Land Data System had four components: a management subsystem; a data processing subsystem and a data analysis subsystem dependent upon the latter; and an information use system. The system contained both text (tabular data outputs-in English) and graphics (maps). Output was created by drawing together elements from two data sets: an imagery file (IDS-Imagery Data Set) and an attribute file (DDS-Descriptor Data Set). The responsible project officer had the formal authority to issue the records, and determined what information was included. The project officer also ensured the correct implementation of the procedures (whereby certification was maintained) described in the *Map Production Standards and Specification*. Access was restricted to who had sign-on privileges. Information about the author, addressee, etc. was stored separately in different types of files (accessible using coverage and project code) and paper documentation.

**Characteristics and Appearance:** The IDS (Imagery Data Set) consisted of text and numeric symbols and contained the information to construct a map; the DDS (Descriptor Data Set) consisted of text and numeric symbols that represented descriptive data elements for each geographic entity. Records appeared as text and maps/images, and the information was structured according to the DDS and IDS data structures. Annotations were made on the source documents during the production of the records.

**Technical Information:** The system operated on an IBM system 370 main-frame computer, using PL1 programming routines and Job Control Language (JCL) on a hardwired network. Data entry and validation were implemented using a VAX MV6000 computer. Records were temporarily stored on the hard disk of the computer (the live record was stored on the hard disk of three computers-OS370, HP-1000, PDP 11-24). After creation, the records were stored on magnetic tape; nine-track tape was the primary storage medium. The Canada Geographic Information System (CGIS) was the primary software used, and the majority of it was written in PL1 using various Assembler sub-routines.

**Additional Information:** Under the control of the National Archives of Canada, the system is completely documented to address issues of format obsolescence, and a migration strategy is used to protect the integrity of records.

Overview compiled by:  
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