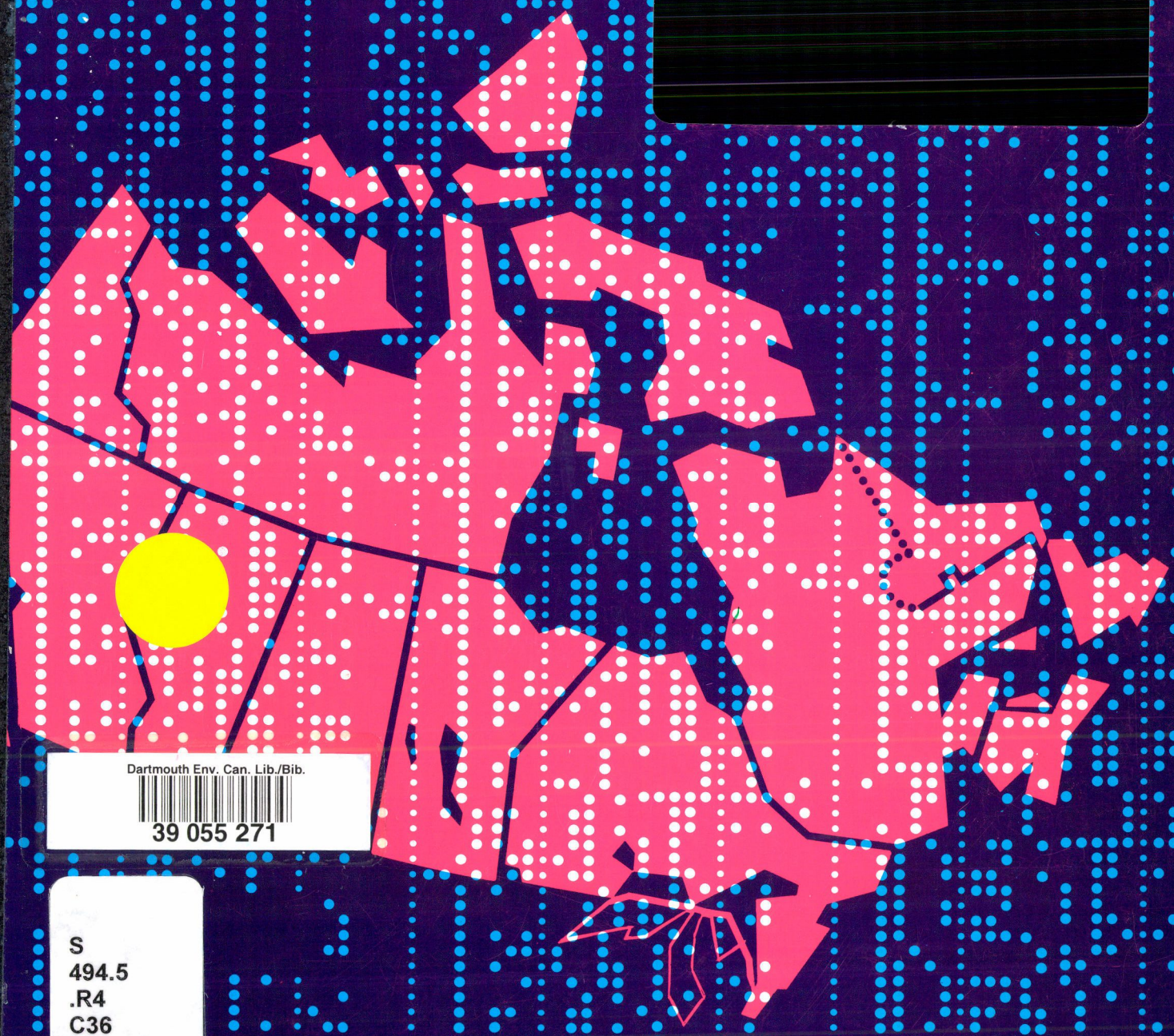
Environnement Canada
Direction générale des terres

Environment Canada
Lands Directorate

# canada land data system





## canada geographic information system

# ANNUAL REPORT

# 1979

# CANADA LAND DATA SYSTEMS DIVISION



FOR INTERNAL AND

LIMITED EXTERNAL USE

January 1980

Fisheries and Environment Canada
Environmental Management

Pêches et Environnement Canada
Gestion de l'Environnement

Bill Switzer

From/De

Mr. Joe Arbour

To/À

Please amend your copy of the CLDS Annual Report for 1979, with the attached 2 pages.

Bill

1. NATIONAL LAND DATA BASE

1.2 CONTENTS AS OF DECEMBER 31, 1978

| Coverage Name | Coverage Code | Scale | Number of Maps |
|---|---|---|---|
| Census 1971 | 000 | 1:50,000 | 71 |
| Census 1976 | 015 | 1:250,000 | 177 |
| | 035 | 1:250,000 | 286 |
| | 036 | 1:500,000 | 60 |
| Watershed | 025 | 1:250,000 | 198 |
| Shoreline | 100 | 1:50,000 | 102 |
| | 102 | 1:125,000 | 52 |
| | 105 | 1:250,000 | 285 |
| Agriculture | 200 | 1:50,000 | 15 |
| | 202 | 1:125,000 | 47 |
| | 205 | 1:250,000 | 157 |
| Forestry | 302 | 1:125,000 | 43 |
| | 305 | 1:250,000 | 142 |
| W. Ungulates | 405 | 1:250,000 | 213 |
| W. Waterfowl | 505 | 1:250,000 | 196 |
| Recreation | 600 | 1:50,000 | 54 |
| | 605 | 1:250,000 | 215 |
| Sportfish | 615 | 1:250,000 | 57 |
| Land Use | 700 | 1:50,000 | 99 |
| | 705 | 1:250,000 | 219 |
| | 710 | 1:50,000 | 98 |
| | | Total | 2783 |

1. NATIONAL LAND DATA BASE

1.2 ADDITIONS THIS YEAR (1979)

Maps Added January 1/79 - December 31/79

| Coverage Name | Coverage Code | Scale | Number of Maps |
|---|---|---|---|
| Shoreline | 105 | 1:250,000 | 13 |
| CLI - Agriculture | 200 | 1:50,000 | 60 |
| | 202 | 1:125,000 | 2 |
| | 205 | 1:250,000 | 2 |
| CLI - Forestry | 302 | 1:125,000 | 1 |
| | 305 | 1:250,000 | 4 |
| CLI - Ungulates | 405 | 1:250,000 | 14 |
| CLI - Waterfowl | 505 | 1:250,000 | 14 |
| CLI - Recreation | 600 | 1:50,000 | 47 |
| | 605 | 1:250,000 | 9 |
| Land Use | 720 | 1:250,000 | 16 |
| Federal Lands | 955 | 1:250,000 | 7 |
| James Bay Biophysical | 9129 | 1:250,000 | 75 |
| | | Total | 264 |

CONTENTS

7. Program Management

   7.1 Staffing
   7.2 Classification
   7.3 Personnel
   7.4 Staff Training and Development
   7.5 Policy Development
   7.6 Travel and/or Presentations (outside Ottawa)
   7.7 Program Reviews

8. Miscellaneous Items

9. Cost of Operations

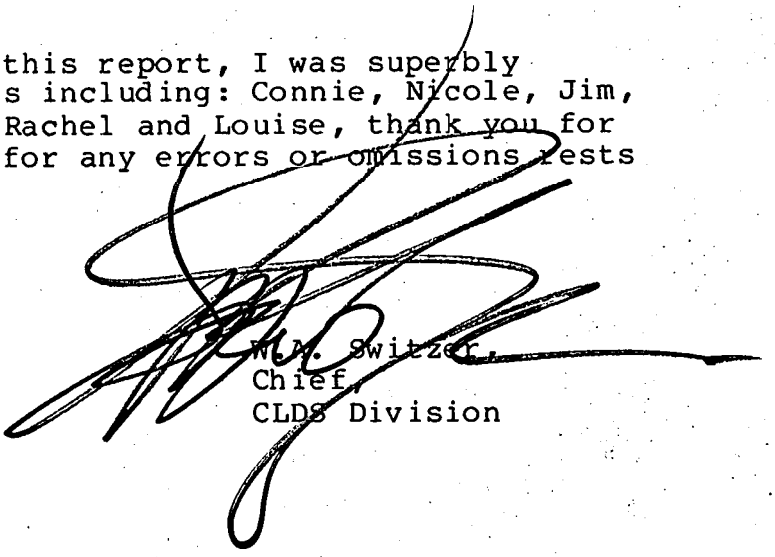
   - To November 30, 1979

10. Conclusions

## INTRODUCTION

For the past several years, each Division has made a presentation in January to Directorate Management on the past year's program. Significant effort usually goes into these presentations and although briefing notes were prepared, the CLDS Division did not prepare a formal document to chronicle the activities. This year I decided to prepare this formal report to serve as a record of the accomplishments of the Division that I have the privilege to head. This then is our first Annual Report.

In the compilation of this report, I was superbly helped by many staff members including: Connie, Nicole, Jim, Terry, Ernie and Steve. To Rachel and Louise, thank you for the typing. The responsibility for any errors or omissions rests solely with me.



W.A. Switzer,
Chief,
CLDS Division

Note:

All data is for the calendar year 1979 except cost statistics which start April 1/79.

## 1. NATIONAL LAND DATA BASE

### 1.2 ADDITIONS THIS YEAR (1979)

Maps Added January 1/79 - December 31/79

| Coverage Name | Coverage Code | Scale | Number of Maps |
|---|---|---|---|
| Shoreline | 105 | 1:250,000 | 13 |
| CLI - Agriculture | 200 | 1:50,000 | 60 |
| | 202 | 1:125,000 | 2 |
| | 205 | 1:250,000 | 2 |
| CLI - Forestry | 302 | 1:125,000 | 1 |
| | 305 | 1:250,000 | 4 |
| CLI - Ungulates | 405 | 1:250,000 | 14 |
| CLI - Waterfowl | 505 | 1:250,000 | 14 |
| CLI - Recreation | 600 | 1:50,000 | 47 |
| | 605 | 1:250,000 | 9 |
| Land Use | 720 | 1:250,000 | 13 |
| Federal Lands | 955 | 1:250,000 | 7 |
| James Bay Biophysical | 9129 | 1:250,000 | 75 |
| | | Total | 261 |

1. NATIONAL LAND DATA BASE

1.2 CONTENTS AS OF DECEMBER 31, 1978

| Coverage Name | Coverage Code | Scale | Number of Maps |
|---|---|---|---|
| Census 1971 | 000 | 1:50,000 | 71 |
| Census 1976 | 015 | 1:250,000 | 172 |
| | 035 | 1:250,000 | 283 |
| | 036 | 1:500,000 | 60 |
| Watershed | 025 | 1:250,000 | 198 |
| Shoreline | 100 | 1:50,000 | 101 |
| | 102 | 1:125,000 | 52 |
| | 105 | 1:250,000 | 284 |
| Agriculture | 200 | 1:50,000 | 15 |
| | 202 | 1:125,000 | 47 |
| | 205 | 1:250,000 | 157 |
| Forestry | 302 | 1:125,000 | 42 |
| | 305 | 1:250,000 | 142 |
| W. Ungulates | 405 | 1:250,000 | 213 |
| W. Waterfowl | 505 | 1:250,000 | 198 |
| Recreation | 600 | 1:50,000 | 53 |
| | 605 | 1:250,000 | 215 |
| Sportfish | 615 | 1:250,000 | 57 |
| Land Use | 700 | 1:50,000 | 100 |
| | 705 | 1:250,000 | 219 |
| | 710 | 1:50,000 | 99 |
| | | Total | 2278 |

## 2. CLIENT DATA BASES

### 2.1 ADDITIONS THIS YEAR (1979)

Maps Added January 1/79 - December 31/79

| Coverage Name and Description | Coverage Code | Scale | Number of Maps |
|---|---|---|---|
| $ Range & Township (Sask.) | 9031 | 1:1,000,000 | 1 |
| $ Range & Township (Sask.) | 9095 | 1:500,000 | 1 |
| $ 10 km Grid (Sask.) | 9090 | 1:250,000 | 14 |
| Federal Lands (Pilot Project) | 9101 | 1:250,000 | 4 |
| Northern Land Use (Pilot Project) | 9102, 9103,9104 | 1:250,000 | 3 |
| North West Africa (Promotion) | 9105 | N/A | 1 |
| $ North West Africa (FAO, Tomlinson Associates) | 9131, 9132,9133 | N/A | 6 |
| $ Firth River (Parks Canada) | 9106 | 1:250,000 | 2 |
| Ontario Biophysical Districts | 9107 | 1:250,000 | 4 |
| P.E.I. Soils (Promotion) | 9108 | 1:10,000 | 1 |
| P.E.I. Land Ownership (Promotion) | 9117 | 1:10,000 | 1 |
| 2 km grid (CLUMP) | 9109 | 1:250,000 | 16 |
| CMHC Windsor (Pilot) | 9110 | 1:25,000 | 9 |
| $ Flying Creek (Sask.) | 9111-9115 9128 | 1:50,000 | 6 |
| Saugeen Land Use | 9118 | 1:50,000 | 11 |
| 1951 Saugeen Land Use | 9143 | 1:50,000 | 5 |

## 2. CLIENT DATA BASES

### 2.1 ADDITIONS THIS YEAR (1979)

Maps Added January 1/79 - December 31/79

| Coverage Name and Description | Coverage Code | Scale | Number of Maps |
|---|---|---|---|
| $ Cypress Hills Provincial Park (Alberta) | 9119-9125 | 1:24,000 | 14 |
| $ ALI - Red Squirrel | 9126 | 1:250,000 | 3 |
| $ ALI - Beaver & Muskrat | 9127 | 1:250,000 | 3 |
| Alberta County (Pilot Project) | 9130 | 1:250,000 | 1 |
| Contour Map | 9134 | 1:250,000 | 1 |
| Ecoregions of Canada | 9135-9142 9146,9147 | N/A | 10 |
| $ Office of Planning and Development (Québec) | 9144 | 1:250,000 | 2 |
| 2 km grid (Ontario Lands) | 9145 | 1:250,000 | 4 |
| | | Total | 123 |

Note:

The number of client data bases created was 46 representing 18 different projects involving data input. The high number of data bases means additional resources over that normally expected to enter 123 maps. This is due to the overhead involved in setting up each project and each data base. Essentially 123 maps for 1 data base goes considerably faster than 123 maps spread over 46 separate data bases.

$ Indicates part of a cost recovery project.

## 2. CLIENT DATA BASES

### 2.2 CONTENTS AS OF DECEMBER 31, 1978

| Coverage Name & Description | Coverage Code | Scale | Number of Maps |
|---|---|---|---|
| County boundaries and names for IJC study area around the Great Lakes | 920 | 1:250,000 | 24 |
| Agriculture & shoreline for Vancouver Regional district | 923 | 1:50,000 | 4 |
| CLI Recreation<br>1964 Land Use<br>1968 Land Use<br>1973 Land Use<br>CLI Agriculture | 924<br>925<br>926<br>927<br>928 | 1:50,000 | 5 |
| Land Use for the Great Lakes Study | 930 | 1:250,000 | 24 |
| Watershed boundaries | 935 | 1:250,000 | 24 |
| Pollutant transfer | 936 | 1:250,000 | 10 |
| Satellite and airborne remote sensed data | 937<br>938<br>939<br>940 | 1:250,000 | 4 |
| Ontario Timber Inventory | 310 | 1:250,000 | 17 |
| Circles with radius of 100 miles for the 23 CMA's | 9015<br>9051-9071<br>9084 | 1:500,000 | 23 |
| Pilot study of biophysical data | 9019 | 1:125,000 | 2 |
| Geological survey of Canada | 9021 | 1:253,440 | 1 |
| 1976 Spruce Budworm areas in New Brunswick | 9023 | 1:500,000 | 1 |
| Forest defoliation areas New Brunswick | 9025 | 1:500,000 | 1 |

## 2. CLIENT DATA BASES

### 2.2 CONTENTS AS OF DECEMBER 31, 1978

| Coverage Name & Description | Coverage Code | Scale | Number of maps |
|---|---|---|---|
| Landset imagery for rural area | 9026 | 1:250,000 | 2 |
| Evaluate satellite remote sensing data | 9027 | 1:250,000 | 2 |
| Fruit growing areas | 9028<br>9082<br>9083 | 1:250,000 | 3 |
| Gros Morne National Park, Nfld | 9029 | 1:50,000 | 6 |
| 1976 Spruce Budworm defoliation in N.S. | 9030 | 1:50,000 | 7 |
| MTR and Federal/Provincial Lands | 9042 | 1:250,000 | 9 |
| Biophysical studies of the Hudson Bay Lowlands | 9043 | 1:100,000 | 5 |
| Provisional CLI agriculture within 100 mile radius of Vancouver (combined with shoreline) | 9045 | 1:50,000 | 25 |
| Administrative districts of central Ontario | 9088 | 1:250,000 | 8 |
| Provincial forest and federal lands outside the provincial forests of Saskatchewan | 9092 | 1:250,000 | 22 |
| 1977 Spruce Budworm defoliation in N.S. | 9093 | 1:50,000 | 7 |
| Biophysical coverage of Terra Nova National Park | 9096 | 1:31,680 | 4 |
| Indian Reserves in the Central Real Property Inventory | 8001 | 1:250,000 | 10 |
| | | Total | 250 |

## 3. DERIVED DATA BASES

### 3.1 OVERLAYS

### 3.1.1 OVERLAYS COMPLETED DURING 1979

| Derived Data Base Description | Coverage Code | Scale of Input | Area of Country |
|---|---|---|---|
| 1) Watershed, 1976 Census, Shoreline, Ungulates, Recreation | 1AT1 | 1:250,000 | Newfoundland, P.E.I. and part of Nova Scotia |
| 2) Watershed, 1976 Census, Shoreline, Ungulates, Recreation | 1BT1 | 1:250,000 | New Brunswick and part Québec |
| 3) 1976 Census, Shoreline, Ungulates, Watershed, Recreation | 1XT1 | 1:250,000 | Maritimes and Québec |
| 4) 1976 Census, Watershed, Shoreline, Ungulates, Recreation | 4CT1 | 1:250,000 | Québec |
| 5) 1976 Census, Watershed, Shoreline, Ungulates, Recreation | 5DT1 | 1:250,000 | Ontario (Region D) |
| 6) 1976 Census, Watershed, Shoreline, Ungulates, Recreation | 5ET1 | 1:250,000 | Ontario (Region E) |
| 7) 1976 Census, Watershed, Shoreline, Ungulates, Recreation | 5XT1 | 1:250,000 | Complete provinces of Manitoba and Saskatchewan (Region E, F, G) |
| 8) 1976 Census, Watershed, Shoreline, Ungulates, Recreation | 6FT1 | 1:250,000 | Manitoba (Region F) |
| 9) 1976 Census, Watershed, Shoreline, Ungulates, Recreation | 7GT1 | 1:250,000 | Saskatchewan (Region G) |
| 10) 1976 Census, Watershed, Shoreline, Ungulates, Recreation | 7XT1 | 1:250,000 | Complete province of Saskatchewan and part of Manitoba (Region F) |

| Derived Data Base Description | Coverage Code | Scale of Input | Area of Country |
|---|---|---|---|
| 11) 1976 Census, Watershed, Shoreline, Ungulates, Recreation | 8HT1 | 1:250,000 | Alberta (Region H) |
| 12) 1976 Census, Watershed, Shoreline, Ungulates, Recreation | 9IT1 | 1:250,000 | British Columbia (Region I) |
| 13) 1976 Census, Watershed, Shoreline, Ungulates, Recreation | 9XT1 | 1:250,000 | Complete province of British Columbia |
| 14) 1971 Census, Shoreline, Agriculture, Recreation, Land Use (1967), Land Use (1972), Land Use (1977) | CHTM | 1:50,000 | Chicoutimi area |
| 15) Shoreline, Land Use, 2 km Grid | CLD1 | 1:250,000 | Four maps in Alberta (82E, 82F, 82L and 82M) |
| 16) CMHC land map of Windsor, Agriculture, Recreation, Land Use (1972) | CMHC | 1:25,000 | Nine maps around Windsor |
| 17) Park zones and subzones, Shoreline, Archeological sites and mineral rights, Roadways, Topography, Soils, Slope, Orientation | CYPR | 1:24,000 | Cypress Hills Provincial Park |
| 18) Geology, Perma Frost, Soils, Vegetation, Air Temperature, Precipitation, Physiography, Shoreline | ECOR | N/A | Eight Canada-wide Ecoregion coverages |
| 19) Geology, Perma Frost, Soils, Vegetation, Air Temperature, Precipitation, Physiography, Acid rain, Sensitive water bodies, Shoreline | EREG | N/A | Ten Canada-wide Ecoregion coverages |
| 20) 1971 Census, Shoreline, Agriculture, Recreation, Land Use (1967), Land Use (1972) | HLFX | 1:50,000 | One map sheet of the Halifax area (11D12) |

| Derived Data Base Description | Coverage Code | Scale of Input | Area of Country |
|---|---|---|---|
| 21) 1971 Census, Shoreline, Agriculture, Recreation, Land Use (1967), Land Use (1972) | KITC | 1:250,000 | Four map sheets around the Kitchener area |
| 22) 1976 Census, Watershed Agriculture, Waterfowl, Forestry, Ungulates, Recreation, Land Use | M21X | 1:250,000 | Seven enumeration areas selected from electoral district 14, in map sheet 21E |
| 23) Grid Division, Terrain Mapping, Agriculture, Municipality (plus Vegetation, Wetland, Shoreline), Topography, Geology | M71I | 1:50,000 | Flying Creek area (map 72I) |
| 24) 1971, Census, Shoreline, Agriculture, Recreation, Land Use (1967), Land Use (1972), Land Use (1977) | MTRL | 1:50,000 | Montréal Area (6 maps) |
| 25) 1971 Census, Shoreline, Agriculture, Recreation, Land Use (1976), Land Use (1972), Land Use (1976) | MTR2 | 1:50,000 | Montréal Area (2 maps) |
| 26) 1971 Census, Shoreline, Agriculture, Recreation, Land Use (1967), Land Use (1972), Land Use (1976) | MTR3 | 1:50,000 | Montréal Area (8 maps) |
| 27) Land Ownership, Soils | PEIL | 1:10,000 | Kings County in Prince Edward Island |
| 28) 1971 Census, Shoreline, Recreation, Land Use (1968), Land Use (1972), Land Use (1977) | QUE1 | 1:50,000 | Québec City Area |
| 29) 1971 Census, Shoreline, Recreation, Agriculture, Land Use (1968), Land Use (1972), Land Use (1977) | QUE2 | 1:50,000 | Québec City Area |

| Derived Data Base Description | Coverage Code | Scale of Input | Area of Country |
|---|---|---|---|
| 30) 1971 Census, Shoreline, Recreation, Agriculture, Land Use (1968), Land Use (1972), Land Use (1977), Municipalities, Urban Communities, Watershed, Agriculture | QUE3 | 1:50,000 | Québec City Area |
| 31) Shoreline | 105X | 1:250,000 | Merge of Shoreline coverages for Regions A and B |

## 3. DERIVED DATA BASES

### 3.1 OVERLAYS

### 3.1.2 OVERLAYS COMPLETED PRIOR TO DECEMBER 31, 1978

| Derived Data Base Description | Coverage Code | Scale of Input | Area of Country |
|---|---|---|---|
| 1) Shoreline, Forestry, Ungulates, Recreation, Land Use, 1976 Census | 0XF2 | 1:250,000 | Province of Newfoundland |
| 2) Circle Coverage, Shoreline, Forestry, Ungulates, Recreation, Land Use | 0XFC | 1:250,000 | St. John's Newfoundland |
| 3) Merge of 1976 Census | 035C | 1:250,000 | Manitoba, Saskatchewan, Alberta |
| 4) Merge of 1976 Census | 035Y | 1:250,000 | Newfoundland, P.E.I. and part of Nova Scotia |
| 5) Shoreline, Ungulates, Waterfowl, 1971 Census | 1AQ1 | 1:250,000 | Newfoundland, P.E.I. and part of Nova Scotia |
| 6) 1976 Census, Watershed Agriculture, Waterfowl | 1AR1 | 1:250,000 | Prince Edward Island and part of Nova Scotia |
| 7) 1976 Census, Watershed, Shoreline, Agriculture, Waterfowl, | 1BR1 | 1:250,000 | New Brunswick and part of Québec |
| 8) 1976 Census, Watershed, Shoreline, Agriculture, Waterfowl | 1XR2 | 1:250,000 | Maritimes and Québec |
| 9) Adiministrative boundaries, Shoreline, Recreation, Land Use Agriculture, Forestry | 2AE1 | 1:250,000 | Nova Scotia (Part 1) |

| Derived Data Base Description | Coverage Code | Scale of Input | Area of Country |
|---|---|---|---|
| 10) Administrative boundaries, Shoreline, Recreation, Land Use, Agriculture, Forestry | 2AB1 | 1:250,000 | Nova Scotia (Part 2) |
| 11) 1971 Census, Shoreline, Ungulates, Waterfowl | 2BQ1 | 1:250,000 | New Brunswick and part of Québec |
| 12) Administrative boundaries, Shoreline, Recreation, Land Use, Agriculture, Forestry | 2XE1 | 1:250,000 | Nova Scotia |
| 13) 1971 Census, Shoreline, Agriculture, Land Use | 3AD1 | 1:250,000 | Nova Scotia |
| 14) Administrative boundaries, Shoreline, Recreation, Land Use, Agriculture, Forestry | 3AE1 | 1:250,000 | New Brunswick (Part 1) |
| 15) 1971 Census, Shoreline, Agriculture, Land Use | 3BD1 | 1:250,000 | New Brunswick |
| 16) Administrative boundaries, Shoreline, Recreation, Land Use, Agriculture, Forestry | 3BE1 | 1:250,000 | New Brunswick (Part 2) |
| 17) 1971 Census, Shoreline, Ungulates, Waterfowl | 3CQ1 | 1:250,000 | Québec |
| 18) 1971 Census, Shoreline, Agriculture, Land Use | 3XD1 | 1:250,000 | New Brunswick |
| 19) Circle coverages, Shoreline, Agriculture, Land Use | 3XDC | 1:250,000 | Halifax and St. John, N.B. circles |
| 20) 1971 Census, Shoreline, Agriculture, Forestry, Recreation, Land Use, Watershed | 3EJ1 | 1:250,000 | New Brunswick |

| Derived Data Base Description | Coverage Code | Scale of Input | Area of Country |
|---|---|---|---|
| 21) 1971 Census, Shoreline, Agriculture, Land Use | 4AD1 | 1:250,000 | Magdelen Islands |
| 22) 1971 Census, Shoreline, Recreation | 4AL1 | 1:250,000 | Magdelen Islands |
| 23) 1971 Census, Agriculture, Land Use | 4BD1 | 1:250,000 | Québec |
| 24) 1971 Census, Shoreline, Recreation | 4BL1 | 1:250,000 | Québec |
| 25) 1976 Census, Watershed, Shoreline, Agriculture, Waterfowl | 4CR3 | 1:250,000 | Québec |
| 26) 1971 Census, Shoreline, Ungulates, Waterfowl | 4DQ1 | 1:250,000 | Ontario |
| 27) 1971 Census, Shoreline, Agriculture, Land Use | 4XD1 | 1:250,000 | Québec and Maritimes |
| 28) 1971 Census, Shoreline, Agriculture, Land Use | 4XDC | 1:250,000 | City Circles for Montréal, Ottawa, Québec and Chicoutimi |
| 29) 1971 Census, Shoreline, Recreation | 4XL1 | 1:250,000 | Québec |
| 30) 1971 Census, Shoreline, Recreation | 4XLC | 1:250,000 | Québec city Circles |
| 31) 1976 Census, Shoreline, Watershed, Agriculture, Waterfowl | 4XR1 | 1:250,000 | Québec and Ontario |
| 32) 1976 Census, Shoreline, Watershed, Ungulates, Waterfowl | 4XT1 | 1:250,000 | Québec and Ontario |
| 33) 1971 Census, Shoreline, Agriculture, Land Use | 5CD1 | 1:250,000 | Québec |

| Derived Data Base Description | Coverage Code | Scale of Input | Area of Country |
|---|---|---|---|
| 34) Watershed, Shoreline, Land Use, Land Use Update, Census by County | 5CHA | 1:250,000 | Great Lakes Watershed for Québec (Region C) |
| 35) 1971 Census, Shoreline, Recreation | 5CL1 | 1:250,000 | Ontario |
| 36) 1971 Census, Shoreline, Agriculture | 5DD1 | 1:250,000 | Ontario (Region D) |
| 37) Watershed, Shoreline, Land Use, Land Use Update, Census by County | 5DHA | 1:250,000 | Great Lakes Watershed for Ontario (Region |
| 38) 1971 Census, Shoreline, Recreation | 5DL1 | 1:250,000 | Ontario (Region D) |
| 39) 1971 Census, Watershed, Shoreline, Agriculture, Land Use | 5DQ1 | 1:250,000 | Upper Grand River Watershed |
| 40) 1976 Census, Watershed, Shoreline, Agriculture, Waterfowl | 5DR1 | 1:250,000 | Ontario (Region D) |
| 41) 1971 Census, Shoreline, Agriculture, Land Use | 5ED1 | 1:250,000 | Ontario (Region D) |
| 42) 1971 Census, Shoreline, Agriculture, Land Use | 5ED2 | 1:250,000 | One map sheet in Ontario (Region D) |
| 43) 1971 Census, Shoreline, Agriculture, Land Use | 5EDC | 1:250,000 | City Circle for Thunder Bay |
| 44) Watershed, Shoreline, Land Use, Land Use Update, Census by County | 5EHA | 1:250,000 | Great Lakes Watershed for Ontario (Region E) |
| 45) 1971 Census, Shoreline, Recreation | 5EL1 | 1:250,000 | Ontario (Region E) |

| Derived Data Base Description | Coverage Code | Scale of Input | Area of Country |
|---|---|---|---|
| 46) 1971 Census, Shoreline, Ungulates, Waterfowl | 5EQ1 | 1:250,000 | Ontario (Region E) |
| 47) 1976 Census, Shoreline, Watershed, Agriculture, Waterfowl | 5ER1 | 1:250,000 | Ontario (Region E) |
| 48) Circle Coverage, 1971 Census, Shoreline, Agriculture, Land Use | 5PD1 | 1:250,000 | Toronto Circle test |
| 49) 1971 Census, Shoreline, Agriculture, Land Use | 5XD1 | 1:250,000 | All Ontario |
| 50) Circle Coverages, 1971 Census, Shoreline, Agriculture, Land Use | 5XD8 | 1:250,000 | City Circles for Ottawa and Oshawa |
| 51) Circle Coverages, 1971 Census, Shoreline, Agriculture, Land Use | 5XD9 | 1:250,000 | City Circles for Oshawa and Windsor |
| 52) Circle Coverages, 1971 Census, Shoreline, Agriculture, Land Use | 5XDC | 1:250,000 | City Circles for Toronto, Hamilton, St. Catherines, London, Windsor and Kitchener |
| 53) Circle Coverage, 1971 Census, Shoreline, Agriculture, Land Use | 5XDS | 1:250,000 | City Circle for Sudbury |
| 54) Watershed, Shoreline, Land Use, Land Use Update, Census by County | 5XH1 | 1:250,000 | Complete Great Lakes Watershed study area |
| 55) 1971 Census, Shoreline, Recreation | 5XL1 | 1:250,000 | Complete Province of Ontario |

| Derived Data Base Description | Coverage Code | Scale of Input | Area of Country |
|---|---|---|---|
| 56) Circle Coverages, 1971 Census, Shoreline, Recreation | 5XLC | 1:250,000 | City Circles for Ontario |
| 57) Circle Coverage, 1971 Census, Shoreline, Recreation | 5XLS | 1:250,000 | City Circle for Sudbury |
| 58) Circle Coverage, 1971 Census, Shoreline, Recreation | 5XLT | 1:250,000 | City Circle for Thunder Bay |
| 59) 1976 Census, Shoreline, Watershed, Agriculture, Waterfowl | 5XR1 | 1:250,000 | Complete provinces, Manitoba and Saskatchewan (Regions E, F, G) |
| 60) 1976 Census, Shoreline, Watershed, Agriculture, Waterfowl | 5XR2 | 1:250,000 | Complete provinces, Manitoba and Saskatchewan, with map sheet 073K (Watershed) added (Regions E, F, G) |
| 61) Special Watershed Coverage (936), 1971 Census, Land Use, Watershed, Shoreline | 5XX1 | 1:250,000 | Grand River Basin in Southern Ontario |
| 62) Special Watershed Coverage (936), Special Watershed (9078), 1971 Census, Land Use, Watershed, Shoreline | 5XX2 | 1:250,000 | Grand River Basin in Southern Ontario |
| 63) Special Watershed Coverage (936), Special Watershed (9078), 1971 Census, 1976 Census, Land Use, Watershed, Shoreline | 5XX4 | 1:250,000 | Grand River Basin in Southern Ontario |

| Derived Data Base Description | Coverage Code | Scale of Input | Area of Country |
|---|---|---|---|
| 64) 1971 Census, Shoreline, Agriculture, Land Use | 6FD1 | 1:250,000 | Eastern Manitoba (Region F) |
| 65) 1971 Census, Shoreline, Recreation | 6FL1 | 1:250,000 | Manitoba (Region F) |
| 66) 1971 Census, Shoreline, Ungulates, Waterfowl | 6FQ1 | 1:250,000 | Manitoba (Region F) |
| 67) 1976 Census, Watershed, Shoreline, Agriculture, Waterfowl | 6FR1 | 1:250,000 | Manitoba (Region F) |
| 68) 1971 Census, Shoreline, Agriculture, Land Use | 6XD1 | 1:250,000 | Complete province of Manitoba |
| 69) Circle Coverage, 1971 Census, Shoreline, Agriculture, Land Use | 6XDC | 1:250,000 | City Circle for Winnipeg |
| 70) 1971 Census, Shoreline, Recreation | 6XL1 | 1:250,000 | Complete province of Manitoba |
| 71) Circle Coverage, 1971 Census, Shoreline, Recreation | 6XLC | 1:250,000 | City Circle for Winnipeg |
| 72) 1971 Census, Shoreline, Agriculture, Land Use | 7FD1 | 1:250,000 | Western Manitoba and Eastern Saskatchewan |
| 73) 1971 Census, Shoreline, Agriculture, Land Use | 7GD1 | 1:250,000 | Saskatchewan (Region G) |
| 74) 1971 Census, Shoreline, Recreation | 7GL1 | 1:250,000 | Saskatchewan (Region G) |
| 75) 1971 Census, Shoreline, Ungulates, Waterfowl | 7GQ1 | 1:250,000 | Saskatchewan (Region G) |
| 76) 1976 Census, Watershed, Shoreline, Agriculture, Waterfowl | 7GR1 | 1:250,000 | Saskatchewan (Region G) |

| Derived Data Base Description | Coverage Code | Scale of Input | Area of Country |
|---|---|---|---|
| 77) 1976 Census, Watershed, Shoreline, Agriculture, Waterfowl | 7GR2 | 1:250,000 | Waterhen map sheet (073K) in Saskatchewan |
| 78) 1976 Census, Watershed, Shoreline, Agriculture, Waterfowl | 7GR3 | 1:250,000 | Waterhen map sheet (073K) in Saskatchewan |
| 79) 1976 Census, Watershed, Shoreline, Agriculture, Land Use | 7XD1 | 1:250,000 | Complete province of Saskatchewan |
| 80) Circle Coverages, 1976 Census, Shoreline, Agriculture, Land Use | 7XDC | 1:250,000 | City Circle for Regina and Saskatoon |
| 81) 1971 Census, Shoreline, Recreation | 7XL1 | 1:250,000 | Complete province of Saskatchewan and part of Manitoba (Region F) |
| 82) Circle Coverages, 1971 Census, Shoreline, Recreation | 7XLC | 1:250,000 | City Circles for Region and Saskatoon |
| 83) 1976 Census, Shoreline, Watershed, Agriculture, Waterfowl | 7XR1 | 1:250,000 | Complete province of Alberta and Part of Saskatchewan (Region G) |
| 84) 1971 Census, Shoreline, Agriculture, Land Use | 8GD1 | 1:250,000 | Eastern Alberta (Region G) |
| 85) Watershed, Shoreline, Agriculture, Recreation | 8GR1 | 1:250,000 | Region G portion of Battle River Basin |
| 86) 1971 Census, Shoreline, Agriculture, Land Use | 8HD1 | 1:250,000 | Alberta (Part 1) |
| 87) 1971 Census, Shoreline, Agriculture, Land Use | 8HD2 | 1:250,000 | Alberta (Part 2) |

| Derived Data Base Description | Coverage Code | Scale of Input | Area of Country |
|---|---|---|---|
| 88) 1971 Census, Shoreline, Agriculture, Land Use | 8HD3 | 1:250,000 | Alberta (Part 3) |
| 89) 1971 Census, Shoreline, Agriculture, Land Use | 8HD4 | 1:250,000 | Alberta (Part 4) |
| 90) 1971 Census, Shoreline, Recreation | 8DL1 | 1:250,000 | Alberta (Region H) |
| 91) 1971 Census, Shoreline, Ungulate, Waterfowl | 8HQ1 | 1:250,000 | Alberta (Region H) |
| 92) 1976 Census, Watershed, Shoreline, Agriculture, Waterfowl | 8HR1 | 1:250,000 | Alberta (Region H) |
| 93) Circle Coverages, 1976 Census, Shoreline, Agriculture, Land Use | 8XDC | 1:250,000 | City Circles for Calgary and Edmonton |
| 94) 1976 Census, Shoreline, Agriculture, Land Use | 8XL1 | 1:250,000 | Complete province of Alberta and part of Saskatchewan |
| 95) Circle Coverages, 1971 Census, Shoreline, Recreation | 8XLC | 1:250,000 | City Circles for Calgary and Edmonton |
| 96) Circle Coverages for Edmonton and Calgary | 9072 | 1:250,000 | City Circles for Edmonton and Calgary |
| 97) Circle Coverage for Regina and Saskatoon | 9073 | 1:250,000 | City Circles for Regina and Saskatoon |
| 98) Circle Coverage for Toronto, Hamilton, St. Catherines, London, Windsor, Kitchener | 9074 | 1:250,000 | City Circles for Toronto, Hamilton, St. Catherines, London, Windsor and Kitchener |

| Derived Data Base Description | Coverage Code | Scale of Input | Area of Country |
|---|---|---|---|
| 99) Circle Coverage for Montréal, Ottawa, Québec, Chicoutimi | 9075 | 1:250,000 | City Circles for Montréal, Ottawa, Québec and Chicoutimi |
| 100) Circle coverage for Halifax and St. John, N.B. | 9076 | 1:250,000 | City Circles for Halifax and St. John, N.B. |
| 101) Circle Coverage for Vancouver and Victoria | 9077 | 1:250,000 | City Circles for Vancouver and Victoria |
| 102) Circle Coverage for Oshawa, Toronto, Hamilton, St. Catherines, Kitchener, London, Windsor | 9085 | 1:250,000 | City Circles for Oshawa, Toronto, Hamilton, St. Catherines, Kitchener, London and Windsor |
| 103) Shoreline, Recreation | 9HL1 | 1:250,000 | Five maps in British Columbia |
| 104) Shoreline, Ungulates, Waterfowl | 9HQ1 | 1:250,000 | Five maps in British Columbia |
| 105) 1976 Census, Watershed, Shoreline, Waterfowl | 9HS1 | 1:250,000 | British Columbia (Region H) |
| 106) Shoreline, Recreation | 9IL1 | 1:250,000 | British Columbia |
| 107) Shoreline, Ungulates, Waterfowl | 9IQ1 | 1:250,000 | British Columbia (Region I) |
| 108) 1976 Census, Shoreline, Watershed, Waterfowl | 9IS1 | 1:250,000 | British Columbia (Region I) |
| 109) Circle Coverages, Shoreline, Recreation | 9XLC | 1:250,000 | City Circles for Vancouver and Victoria |
| 110) Shoreline, Ungulates, Waterfowl | 9XQ1 | 1:250,000 | British Columbia (not complete) |
| 111) 1976 Census, Shoreline, Waterfowl | 9XS1 | 1:250,000 | Complete province of British Columbia |
| 112) 1971 Census, Shoreline, Recreation | AAL1 | 1:250,000 | Nova Scotia and Prince Edward Island (Region A) |

| Derived Data Base Description | Coverage Code | Scale of Input | Area of Country |
|---|---|---|---|
| 113) 1971 Census, Shoreline, Recreation | ABL1 | 1:250,000 | New Brunswick and part of Québec (Region B) |
| 114) 1976 Census, Shoreline, Agriculture, Forestry, Recreation, Algonquin Park Study coverage | ALGN | 1:250,000 | Algonquin Park |
| 115) 1976 Census, Shoreline, Agriculture, Ungulates, Waterfowl, Recreation, Land Use, Lac Ste. Anne coverage | ALT3 | 1:250,000 | Lac Ste. Anne, Alberta |
| 116) 1971 Census, Shoreline, Recreation | AXL1 | 1:250,000 | Maritime provinces except Newfoundland |
| 117) Circle coverage, 1971 Census, Shoreline, Recreation | AXLC | 1:250,000 | City Circles for Halifax and St. John, N.B. |
| 118) 1971 Census, Watershed, Shoreline, Agriculture, Recreation, Land Use | BG06 | 1:250,000 | Bruce and Grey Counties |
| 119) Biophysical classification and Shoreline | BIOP | 1:250,000 | East side of map 54D in Manitoba |
| 120) Watershed, Agriculture, Forestry, Ungulates, Recreation, Land Use Land Use Systems, Soils Coverage | BLUS | 1:250,000 | Brandon area, map sheets 52G and 52J |
| 121) Five Circle Coverages | CIRO | 1:250,000 | Five circles with 15 miles radius overlayed together (map 31D) |
| 122) 1976 Census, Shoreline, Agriculture, Ungulates, Waterfowl, Land Use | DRT4 | 1:250,000 | Two map sheets in Manitoba (52E, 52L) |

| Derived Data Base Description | Coverage Code | Scale of Input | Area of Country |
|---|---|---|---|
| 123) 1976 Census, Shoreline, Agriculture, Ungulates, Waterfowl, Land Use | DRT5 | 1:250,000 | North Manitoba |
| 124) 1976 Census, Shoreline, Agriculture, Ungulates, Waterfowl, Land Use | DRTX | 1:250,000 | Complete province of Manitoba |
| 125) Shoreline, Agriculture, Ungulates, Waterfowl, Recreation, Land Use, boundries and subdivision of the Edmonton Regional Planning District | ERPC | 1:250,000 | Four map sheets in Alberta (83G, 83H, 83I and 83J), around Edmonton |
| 126) 1971 Census, Shoreline, Ungulates, Waterfowl | EXQ1 | 1:250,000 | Maritimes, Québec and Ontario complete |
| 127) Shoreline, Land Use (1967), Land Use (1972), 2 km UTM grid | GCA1 | 1:50,000 | Map sheet 31D04 in Ontario |
| 128) Shoreline, Land Use (1967), Land Use (1972), 2 km UTM grid | GCA2 | 1:50,000 | Map sheet 72I09 in Saskatchewan |
| 129) Shoreline, Land Use and Grid | IW07 | 1:250,000 | Study area unknown in Region C |
| 130) Coverages unknown | LRIS | 1:250,000 | Green River Valley in New Brunswick |
| 131) Shoreline, Land Use (1968), Land Use (1972) | LUCA | 1:50,000 | Four map sheets around Calgary |
| 132) Shoreline, Land Use (1968), Land Use (1972) | LUOT | 1:50,000 | Eight map sheets around Ottawa |
| 133) Shoreline, Land Use (1968), Land Use (1972) | LURE | 1:50,000 | Four map sheets around Regina |

| Derived Data Base Description | Coverage Code | Scale of Input | Area of Country |
|---|---|---|---|
| 134) Land Use (1970), Land Use (1976) | LUSI | 1:50,000 | Neepawa area in Manitoba |
| 135) Special Watershed, Great Lakes study area, Land Use Update, Watershed, Shoreline, Land Use | M41A | 1:250,000 | Map sheet 41A in Ontario (Niagara Escarpment) |
| 136) 1976 Census and Generalized Shoreline (Special-Statistics Canada Project) | M71A | 1:250,000 1:500,000 | Maritimes (Region A) |
| 137) 1976 Census (Special-Statistics Canada Project) | M71B | 1:250,000 1:500,000 | New Brunswick and Part of Québec (Region B) |
| 138) 1976 Census (Special-Statistics Canada Project) | M71C | 1:250,000 1:500,000 | Part of Québec (Region C) |
| 139) 1976 Census (Special-Statistics Canada Project) | M71D | 1:250,000 1:500,000 | Part of Ontario (Region D) |
| 140) 1976 Census (Special-Statistics Canada Project) | M71E | 1:250,000 1:500,000 | Part of Ontario (Region E) |
| 141) 1976 Census (Special-Statistics Canada Project) | M71F | 1:250,000 1:500,000 | Part of Manitoba (Region F) |
| 142) 1971 Census, Shoreline, Agriculture, Ungulates, Waterfowl, Recreation, Land Use, Surficial Geology | M83A | 1:250,000 | Red Deer Area (map 83A) |
| 143) 1976 Census and Generalized Shoreline (Special-Statistics Canada Project) | MABC | 1:250,000 1:500,000 | Québec and Maritimes |
| 144) 1976 Census | MABX | 1:250,000 | Part of British Columbia (Region I) |

| Derived Data Base Description | Coverage Code | Scale of Input | Area of Country |
|---|---|---|---|
| 145) 1976 Census, Generalized Shoreline, (Special-Statistics Canada Project) | MCDE | 1:250,000 1:500,000 | Complete province of Ontario |
| 146) 1976 Census, (Special-Statistics Canada Project) | MFGH | 1:250,000 1:500,000 | Complete for provinces Saskatchewan and Alberta |
| 147) Ungulates | MFGU | 1:250,000 | Complete province of Saskatchewan |
| 148) 1976 Census | MHHI | 1:250,000 1:500,000 | Province of British Columbia and Alberta (Part only) |
| 149) 1976 Census, Generalized Shoreline | MSFE | 1:250,000 1:500,000 | Complete province of Manitoba |
| 150) 1976 Census, Generalized Shoreline | NBCI | 1:250,000 1:500,000 | Complete province of British Columbia |
| 151) 1971 Census, Watershed, Agriculture, Land Use | NCDS | 1:250,000 | Niagara Peninsula |
| 152) 1976 Census, Generalized Shoreline (Special-Statistics Canada Project) | NEWB | 1:250,000 1:500,000 | New Brunswick and Quebec (Region B) |
| 153) Forest Land Ownership (Holdings), Forestry | NPCS | 1:250,000 | Truro (map 11E) |
| 154) Administration Boundaries, Shoreline, Recreation, Land Use, 1971 Census, Agriculture, Forestry, Waterfowl, Sport Fish, School District Boundaries | PEIA | 1:250,000 | Complete province of Prince Edward Island |
| 155) Unknown | RANS | 1:250,000 | Region A of Nova Scotia |

| Derived Data Base Description | Coverage Code | Scale of Input | Area of Country |
|---|---|---|---|
| 156) Shoreline, Watershed 1976 Census, Agriculture Ungulates, Waterfowl | REC2 | 1:250,000 | Region A of Nova Scotia |
| 157) Shoreline, 1971 Census, Recreation, Land Use | REGB | 1:250,000 | Region B |
| 158) Dissolved Water Bodies-SHC3 | SHRC | 1:250,000 | Generalized Shoreline for Region C. Dissolved land areas from SHC3 |
| 159) Dissolved Water Bodies-SHE2 | SHRE | 1:250,000 | Generalized Shoreline for Region E. Dissolved land areas from SHE2 |
| 160) Dissolved Water Bodies-SHI2 | SHRI | 1:250,000 | Generalized Shoreline for Region I, B.C. only Dissolved land areas from SHI2 |
| 161) Five 15-mile radius circles, Subset Shoreline, Recreation | SIMO | 1:250,000 | Five 15-mile radius circles combined with Recreation and Shoreline for map 31D |
| 162) Shoreline, Agriculture Ungulates, Waterfowl, Recreation, Coastal E.A.'s along St. Lawrence | SLS2 | 1:250,000 | Coastal E.A.'s along St. Lawrence Seaway in Region B. Includes parts of map sheets 21L, 21M, 21N, 22B, 22C, 22D, 22F and 22G |
| 163) 1976 Census at 1:250,000, 1976 Census, at 1:500,000, Generalized Shoreline | STBO | 1:250,000 | Intersection overlay of 1976 Census at 1:250,000 and 1:500,000 with Generalized Shoreline for Region B |

| Derived Data Base Description | Coverage Code | Scale of Input | Area of Country |
|---|---|---|---|
| 164) 1976 Census Statistics Canada Agricultural Ecumene Data, Generalized Shoreline | STOA | 1250,000 | Statistics Canada Agricultural Ecumene Data for Region A |
| 165) 1976 Census at 1:250,000, at 1:500,000 Generalized Shoreline | STOC | 1:250,000 1:500,000 | 1976 Census at 1:250,000 and 1:500,000 with Generalized Shoreline for Region C |
| 166) As above, for Region D | STOD | 1:250,000 1:500,000 | As above, for Region D |
| 167) As above, for Region E | STOE | 1:250,000 1:500,000 | As above, for Region E |
| 168) As above, for Region F | STOF | 1:250,000 1:500,000 | As above, for Region F |
| 169) 1976 Census, Generalized Shoreline | STOI | 1:250,000 | 1976 Census with Generalized Shoreline for Region I |
| 170) Agriculture, Recreation 1973 Land Use | URI1 | 1:50,000 | URISA test overlay for graphics reduction of Ottawa area |
| 171) Agriculture, Recreation Land Use for 1974 1968 and 1973 | URIS | 1:50,000 | Final URISA overlay, used in graphics demonstrations of Ottawa area |
| 172) Agriculture, Recreation Land Use for 1968 | UTE4 | 1:50,000 | URISA demonstration in Montréal - Ottawa area |
| 173) 1971 Census, Shoreline, Ungulates and Waterfowl | WXQ1 | 1:250,000 | Regions E, F, G and H within CLI |
| 174) 1971 Census, Shoreline, Agriculture, Ungulates Waterfowl, Land Use | W62H | 1:250,000 | Map Sheet 62H |

## 3. DERIVED DATA BASES

### 3.2 GRAPHICS DATA

#### 3.2.1 COMPLETED DURING 1979

| DATABASE | V | REF | YR | SCALE | PROJ | DESCRIPTION |
|---|---|---|---|---|---|---|
| AFRICA | 3 | N | 79 | 50,000 | UTM | Map of North West Africa representing the present degradation, rate and present state of soil(9015), as per the International Soils Classification. |
| AFRICA1 | 3 | Y | 79 | 50,000 | UTM | Second International Soils Study for FAO concerning erosion patterns and risk factors with country boundaries. |
| BUDWORM3 | 3 | Y | 79 | 50,000 | UTM | Seven 1:50,000 map sheets of central Cape Breton Island depicting forest stand deliniations as well as spruce budworm damage. |
| CENMAN1B | 4 | N | 79 | 250,000 | LAM | The same as CENMAN1 (1978) except there are fewer thematic variables. |
| CLMNU1 | 3 | Y | 79 | 250,000 | UTM | Northern Land Use Mapping Series, Yellowknife Map sheet (85J). |
| CLMNU4 | 3 | N | 79 | 250,000 | UTM | Central Manitoba corridor. A polygon was overlayed on CLI - shoreline, agriculture, wildlife ungulates and waterfowl. Map sheets included were 062H, 062I, 062J, 062O, 063B, 063C. |
| CLMNU5 | 3 | N | 79 | 250,000 | UTM | Data base CLMNU1 - Northern Land Use (Yellowknife 85J) overlayed with a contour map sheet. |
| CLMQUE | 3 | Y | 79 | 50,000 | UTM | Province of Quebec, CLI information: Recreation class/subclass/location, Electoral District/Enumeration Area, Land Use 1968, 1972 and 1977. |

V = Version of Graphics program
REF = Presence (Y) or absence (N) of a descriptive reference file
YR = Year of creation
PROJ = Map projection used for plotting
LAM = Lambert Conic Conformal
UTM = Universal Transverse Mercator

| DATABASE | V | REF | YR | SCALE | PROJ | DESCRIPTION |
|---|---|---|---|---|---|---|
| COADC | 3 | N | 79 | 250,000 | LAM | 100 mile radius circle of St. John's, Nfld containing Land Use, Agriculture and Shoreline information. |
| CYPFIVE | 5 | Y | 79 | 24,000 | UTM | Cypress Hills Provincial Park - Alberta (park features.) |
| ECOREGN | 3 | N | 79 | 50,000 | UTM | Eight-way Overlay of Canada wide ecological coverages from The National Atlas. |
| EMR1000 | 3 | N | 79 | 1,000,000 | LAM | Region C land use. Minimum water and land areas of 1,000 acres. |
| EMR1000A | 3 | N | 79 | 1,000,000 | LAM | Region A land use. Minimum land and water area of 1,000 acres. |
| EMR1000B | 3 | N | 79 | 1,000,000 | LAM | Region B Land Use. Minimum land and water area of 1,000 acres. |
| EMR1000D | 3 | N | 79 | 1,000,000 | LAM | Region D Land Use. Minimum land and water area of 1,000 acres. |
| EMR1000E | 3 | N | 79 | 1,000,000 | LAM | Region E Land Use. Minimum land and water area of 1,000 acres. |
| EMR1000F | 3 | N | 79 | 1,000,000 | LAM | Region F Land Use. Minimum land and water area of 1,000 acres. |
| EMR1000G | 3 | N | 79 | 1,000,000 | LAM | Region G Land Use. Minimum land and water area of 1,000 acres. |
| EMR1000H | 3 | N | 79 | 1,000,000 | LAM | Region H Land Use. Minimum land and water area of 1,000 acres. |
| EMR1000I | 3 | N | 79 | 1,000,000 | LAM | Region I Land Use. Minimum land and water area of 1,000 acres. |
| EMR4000A | 3 | N | 79 | 1,000,000 | LAM | Region A Land Use. Minimum land and water area of 4,000 acres. |
| EMR4000B | 3 | N | 79 | 1,000,000 | LAM | Region B Land Use. Minimum land and water area of 4,000 acres. |
| EMR4000D | 3 | N | 79 | 1,000,000 | LAM | Region D Land Use. Minimum land and water area of 4,000 acres. |
| EMR4000E | 3 | N | 79 | 1,000,000 | LAM | Region E Land Use. Minimum land and water area of 4,000 acres. |

| DATABASE | V | REF | YR | SCALE | PROJ | DESCRIPTION |
|---|---|---|---|---|---|---|
| EMR4000F | 3 | N | 79 | 1,000,000 | LAM | Region F Land Use. Minimum land and water area of 4,000 acres. |
| EMR4000G | 3 | N | 79 | 1,000,000 | LAM | Region G Land Use. Minimum land and water area of 4,000 acres. |
| EMR4000H | 3 | N | 79 | 1,000,000 | LAM | Region H Land Use. Minimum land and water area of 4,000 acres. |
| EMR4000I | 3 | N | 79 | 1,000,000 | LAM | Region I Land Use. Minimum land and water area of 4,000 acres. |
| EREGION | 5 | N | 79 | 50,000 | UTM | Canada-wide coverages taken from The National Atlas. |
| FIRTH | 3 | Y | 79 | 250,000 | LAM | Biophysical classification of a potential park site in the Northern Yukon (9106); includes most of map sheets 117-A and 117-D. |
| FLYCREEK | 3 | Y | 79 | 50,000 | UTM | Flying creek map (72I) in Regina Saskatchewan. All user defined coverages form this data base. |
| FLYCREEK | 5 | Y | 79 | 50,000 | UTM | Flying creek map (72I) in Regina Saskatchewan. All user defined coverages form this data base. |
| GRIDKIT | 5 | N | 79 | 50,000 | UTM | Kitchener Area Maps: 40P07,8,9,10. Contains information such as Shoreline, Census, Agriculture, Recreation, Land Use 68, Land Use 72 and a grid relocation coverage. |
| GROSMORN | 3 | N | 79 | 50,000 | UTM | Single coverage of Gros Morne National Park in Newfoundland. (Biophysical data). 7 map sheets. |
| HUDSON | 3 | N | 79 | 100,000 | UTM | Biophysical classification of a coastal section of the Hudson Bay Lowlands lying on the western side of Hudson Bay; includes map sheets 32M04, 42P01, 42P08 and 42P09. |
| INDX | 3 | N | 79 | 50,000 | UTM | Map index for 250,000 scale map sheets for all Canada. Shows all CLI coverages and some overlay coverages. |

| DATABASE | V | REF | YR | SCALE | PROJ | DESCRIPTION |
|---|---|---|---|---|---|---|
| KITCH | 3 | N | 79 | 50,000 | UTM | City of Kitchener - Maps: 40P07-10 Contains Shoreline, Census, Agriculture, Recreation, Land Use 68, Land Use 72. |
| MEGANTIC | 5 | N | 79 | 250,000 | UTM | Map 21E - Special municipalities selected from map 21E. Contains Shoreline, Census, Agriculture, Land Use, Watershed, Forestry, Ungulates, Waterfowl, Recreation. |
| NFLDV3 | 3 | N | 78 | 250,000 | LAM | The data base includes all of the Island of Nfld and part of Labrador. Contains Shoreline, Forestry, Recreation and Land Use. |
| NORTHYU | 5 | Y | 79 | 250,000 | LAM | Addition of potential pipeline corridor routes to the Firth River database in Northern Yukon. |
| NOVASCO | 3 | N | 79 | 250,000 | LAM | Province of Nova Scotia. Contains Shoreline, Census, Agriculture, Forestry, Recreation & Land Use. |
| NPCQUE | 3 | Y | 79 | 50,000 | UTM | Province of Quebec, CLI information such as Agriculture Class and Subclass, Recreation Class and Subclass, Electoral District and Land Use 1968, 1972 and 1977. |
| PEILAND | 3 | Y | 79 | 10,000 | UTM | Contains all the federal lands and ownership information for the province of PEI. |
| QUEBEC2 | 5 | N | 79 | 50,000 | UTM | Quebec City area (2/50,000 map sheets). Information such as Shoreline/ Recreation/ 3 Land Uses/ Agriculture. |
| SJNB | 3 | N | 79 | 250,000 | LAM | 100 mile radius circle of St. John, N.B. Contains agriculture, land use, 71 census, shoreline. |
| SRRCRPI | 3 | N | 79 | 250,000 | UTM | CRPI Pilot Study for P.E.I. Contains CLI coverages such as Agriculture, Forestry, Waterfowl, Recreation, Sportfish, Land Use 76 and a special point file supplied by CRPI. |

| DATABASE | V | REF | YR | SCALE | PROJ | DESCRIPTION |
|---|---|---|---|---|---|---|
| STEANNE | 3 | N | 79 | 250,000 | UTM | Lac Ste Anne in Alberta. Contains Shoreline, Census, Agriculture, Ungulates, Waterfowl, Recreation, Land Use and a special coverage supplied by Alberta. |
| TAFEMR | 3 | N | 79 | 1,000,000 | LAM | Region C land use. Minimum land and water area of 4,000 acres. |
| TERRALS | 3 | Y | 79 | 31,680 | LAM | Biophysical classification (land system level) of Terra Nova National Park in Newfoundland. |
| TERRALT | 3 | Y | 79 | 31,680 | LAM | Biophysical classification (land type level) of Terra Nova National Park in Newfoundland. |
| TERRASS | 3 | Y | 79 | 31,680 | LAM | Biophysical classification (shoreline system) of Terra Nova National Park in Newfoundland. |
| TERRASSG3 | | Y | 79 | 31,680 | LAM | Biophysical classification (shoreline segments) of Terra Nova National Park in Newfoundland. |
| V5ECORGN | 5 | N | 79 | 50,000 | UTM | Eight way overlay of Canada-wide ecological coverages from The National Atlas. |
| WINDSOR | 3 | Y | 79 | 25,000 | UTM | Windsor area containing CLI information such as Recreation, Agriculture, Land Use, Shoreline and Land Ownership. |

## 3. DERIVED DATA BASES

### 3.2 GRAPHICS DATA

#### 3.2.2 COMPLETED UP TO DECEMBER 31, 1978

| DATABASE | V | REF | YR | SCALE | PROJ | DESCRIPTION |
|---|---|---|---|---|---|---|
| BIONPC | 3 | N | 78 | 125,000 | UTM | East half of map 54D (Manitoba). Biophysical classification. |
| BLUS | 2 | N | 77 | 250,000 | UTM | Map sheets 62G and 62J overlaid on user defined Land System and soils plus CLI coverages - Watersheds, Agriculture, Forestry, Ungulates, Recreation & Land Use. |
| CALG | 3 | N | 78 | 250,000 | UTM | 100 mile radius circle of Calgary created from subset of 8XDC overlay (agriculture, land use, 71 census, shoreline). |
| CENMAN1 | 4 | N | 78 | 250,000 | LAM | 1976 Agricultural Census Data (elementary census unit of municipality) and thematic data for southwestern Manitoba. |
| CHIC | 3 | N | 78 | 250,000 | LAM | 100 mile radius circle of Chicoutimi. Contains agriculture, land use, 71 census and shoreline. |
| CMHC | 2 | N | 77 | 250,000 | UTM | Overlay of shoreline, agriculture and 3 user defined coverages for Windsor. |
| C5DQ1 | 2 | N | 77 | 250,000 | UTM | Grand River Basin (watershed 02GA01 - 02GA06) containing land use, agriculture, census, shoreline and watershed. |
| C5DQ2 | 2 | N | 77 | 250,000 | UTM | The Upper Grand River Basin (02GA) includes census, agriculture, land use and watershed data. This graphics data set incorporates census unit variable (ED,EA) as well as primary agriculture class and subclass, primary land use class and watershed boundaries. |
| C5EDC | 3 | N | 78 | 250,000 | LAM | 100 mile radius circle Thunder Bay. Contains agriculture, land use, 71 census, shoreline. |

| DATABASE | V | REF | YR | SCALE | PROJ | DESCRIPTION |
|---|---|---|---|---|---|---|
| C5XDS | 3 | N | 78 | 250,000 | LAM | 100 mile radius circle of Sudbury. Contains agriculture, land use, 71 census, shoreline. |
| C6XDC | 3 | N | 78 | 250,000 | LAM | 100 mile radius circle of Winnipeg. Contains agriculture, land use, 71 census, shoreline. |
| EDMON2 | 3 | N | 78 | 250,000 | UTM | 100 mile radius circle of Edmonton. Contains agriculture, land use, 71 census, shoreline. |
| ERPCWS | 3 | N | 78 | 250,000 | LAM | Contains information such as Shoreline, Ungulates, Waterfowl, and a special coverage for the Edmonton Regional Planning Commission. |
| ERPCYS | 3 | N | 78 | 250,000 | LAM | Contains information such as Shoreline, Land Use, Agriculture, Recreation and a special Edmonton Regional Planning Commission coverage. |
| HAMT | 3 | N | 78 | 250,000 | UTM | 100 mile radius circle of Hamilton. Contains agriculture, land use, 71 census, shoreline. |
| HLFX | 3 | N | 78 | 250,000 | UTM | 100 mile radius circle of Halifax. Contains agriculture, land use, 71 census, shoreline. |
| KITH | 3 | N | 78 | 250,000 | LAM | 100 mile radius circle of Kitchener. Contains agriculture, land use, 71 census, shoreline. |
| LODN | 3 | N | 78 | 250,000 | LAM | 100 mile radius circle of London. Contains agriculture, land use, 71 census, shoreline. |
| MACDRT2 | 2 | N | 78 | 250,000 | UTM | The data base, covering 10 map sheets in Southern Manitoba, was created for plotting purposes only. The plot code identifies pre-selected areas of high capability Waterfowl or Ungulates classes with low capability Agriculture and selected Land uses. |
| MACGCA1 | 2 | N | 78 | 50,000 | UTM | Map sheet 31D04 with Shoreline, 2 Land Use coverages and a 2km. UTM grid cell coverage. |

| DATABASE | V | REF | YR | SCALE | PROJ | DESCRIPTION |
|---|---|---|---|---|---|---|
| MACGCA2 | 2 | N | 78 | 50,000 | UTM | Map sheet 72I09 with Shoreline, 2 Land Use coverages and a 2km. grid cell coverage. |
| MACLUS1 | 2 | N | 78 | 50,000 | UTM | 1970 and 1976 Land Uses for the Nepawa, Manitoba map sheet (62J3 west). |
| MAN1 | 3 | N | 78 | 250,000 | LAM | South-eastern portion of Manitoba comprising Census Divisions 4,5,6,7, 8,15. Contains Census, Agriculture, Waterfowl, Ungulates, Land Use. |
| MAN2 | 3 | N | 78 | 250,000 | LAM | South-western portion of Manitoba comprising the Census Divisions 1,2,3,9,10,11,12,13,14. Contains Census, Agriculture, Waterfowl, Ungulates, Land Use. |
| MAN3 | 3 | N | 78 | 250,000 | LAM | South-central portion of Manitoba comprising the Census Division 16,17 and 18. Contains Census, Agriculture, Waterfowl, Ungulates, Land Use. |
| MAN4 | 3 | N | 78 | 250,000 | LAM | North-central portion of Manitoba comprising Census Divisions 19 and 20 within CLI Boundaries. Contains Census, Agriculture, Waterfowl, Ungulates, Land Use. |
| MAN5 | 3 | N | 78 | 250,000 | LAM | Northern portion of Manitoba comprising Census Divisions 21 and 22 that are with CLI boundaries. Contains Census, Agriculture, Waterfowl, Ungulates, Land Use. |
| MTRL | 3 | N | 78 | 250,000 | LAM | 100 mile radius circle of Montreal. Contains agriculture, land use, 71 census, shoreline. |
| M83AS | 3 | N | 78 | 250,000 | UTM | Red Deer map in Alberta (83A). Contains land use, recreation, ungulates, agriculture, census and surficial geology. |
| NFLDV3 | 3 | N | 78 | 250,000 | LAM | The data base includes all of the Island of Nfld and part of Labrador. Contains Shoreline, Forestry, Recreation and Land Use. |

| DATABASE | V | REF | YR | SCALE | PROJ | DESCRIPTION |
|---|---|---|---|---|---|---|
| NSBUDW | 2 | N | 78 | 50,000 | UTM | Cape Breton Spruce Budworm defoliation 1976-1977. |
| OSHA | 3 | N | 78 | 250,000 | LAM | 100 mile radius circle of Oshawa. Contains agriculture, land use, 71 census, shoreline. |
| OTWA | 3 | N | 78 | 250,000 | LAM | 100 mile radius circle of Ottawa. Contains agriculture, land use, 71 census, shoreline. |
| OTWA | 2 | N | 78 | 250,000 | UTM | 15 mile radius circle of Ottawa. Which includes shoreline, census, agriculture capability and land use as well as 5,10, and 15 mile radius concentric circles. |
| PECO | 3 | N | 78 | 250,000 | UTM | Prince Edward County/Ontario. Contains watershed/EA/Agriculture class and subclass/Waterfowl class and limitations. |
| QUEB | 3 | N | 78 | 250,000 | LAM | 100 mile radius circle of Québec City. Contains agriculture, land use, 71 census, shoreline. |
| REGINA | 3 | N | 78 | 250,000 | LAM | Fifty mile radius circle for Regina containing Shoreline, Agriculture, Ungulates, Waterfowl and concentric circles (5,10,15,20,25,35,50 mile radius). |
| REGN | 3 | N | 78 | 250,000 | LAM | 100 mile radius circle of Regina. Contains agriculture, land use, 71 census, shoreline. |
| SEAWAY | 3 | N | 78 | 250,000 | LAM | This data base should be used only for plotting. If summary reports are required the data base must be recreated. |
| SKTN | 3 | N | 78 | 250,000 | LAM | 100 mile radius circle of Saskatoon. Contains agriculture, land use, 71 census, shoreline. |
| SRRSWM2 | 2 | N | 77 | 250,000 | UTM | South West Manitoba (Riding Mountain, Spruce Woods, Souris Valley and Brandon). The area is defined by polygon co-ordinates. Contains Shoreline, Agriculture and Land Use. |

| DATABASE | V | REF | YR | SCALE | PROJ | DESCRIPTION |
|---|---|---|---|---|---|---|
| STCMABC | 2 | N | 77 | 1,000,000 | LAM SPEC | Contains the 1976 census boundaries, the agricultural ecumene, and a generalized shoreline for region A,B and C. For retrieval of Maritimes and Québec. |
| STCMCDE | 2 | N | 77 | 1,000,000 | LAM SPEC | 1976 census boundaries, agricultural ecumene, a generalized shoreline for regions C,D,E. For retrieval of Ontario. |
| STCMSFE | 2 | N | 77 | 1,000,000 | LAM SPEC | 1976 census boundaries, agricultural ecumene, a generalized shoreline for regions E,F. For retrieval of Manitoba. |
| STCNBCI | 2 | N | 77 | 1,000,000 | LAM SPEC | 1976 census boundaries, agricultural ecumene, a generalized shoreline for regions H and I. For retrieval of B.C. |
| STCNFGH | 2 | N | 77 | 1,000,000 | LAM SPEC | 1976 census boundaries, agricultural ecumene, a generalized shoreline for regions F, G, H, For retrieval of Saskatchewan and Alberta. |
| STCT | 3 | N | 78 | 250,000 | LAM SPEC | 100 mile radius circle St. Catherines. Contains agriculture, land use, 71 census, shoreline. |
| TRTO | 3 | N | 78 | 250,000 | UTM | 100 mile radius circle of Toronto. Contains agriculture, land use, 71 census, shoreline. |
| URISA | 3 | Y | 78 | 50,000 | UTM | Ottawa map sheet. Contains agriculture class and subclass, recreation class, land use 64, 68 and 73. |
| WASCM | 2 | N | 77 | 250,000 | UTM | Surficial geology overlayed on Land Use, Recreation, Ungulates, Agriculture and Census for map sheet 83A. |
| WDSR | 3 | N | 78 | 250,000 | LAM | 100 mile radius circle Windsor. Contains agriculture, land use, 71 census, shoreline. |

SPEC = Special version of the Lambert transformation routine

# 4. PROJECTS

## 4.1 RESEARCH AND DEVELOPMENT

### INPUT

#### Point Graphics Input System

A system to enter point information into the CGIS data base and to manipulate point data with polygon information was implemented. The first major application of this system is the Federal Lands Project.

#### Mass Digitizations of Raw Input Documents

Considerable research has gone into a feasibility study of scanning raw input documents. This mode of input would use the techniques associated with the scribing process but eliminate much or all of the compilation time and scribing currently being done. This technology has tremendous potential for the mass digitization of base line data already available as separate plates (e.g. contours, shoreline, etc.) or for new mapping programs intended for input to the CGIS. The conceptualized system would make use of the drum scanner and the AUTOMAP system for corrections and editing. The basic software for digitizing directly is now in place, although substantial improvements will have to be made before this mode of input becomes economically routine.

#### CGIS - AUTOMAP Interface

During this year a system to convert data digitized on the Automap System (either using the digitizer tables or the drum scanner) to the CGIS format was designed and is under construction. When this system goes into production in the second quarter of 1980, it will offer backup to the drum scanner and perhaps more importantly it is the first interface to CGIS of a whole family of interactive digitizing systems. This potentially gives the Directorate access to an enormous body of digital information.

## Improved Data Encoding

All key-entry and point-digitizing applications have been moved to the HP mini computer. This has reduced the number of errors during entry, since the mini computer maintains all input. The line digitizing mode of input (DIGIMAP) has also been implemented. Under this new interactive environment, it is hoped that more usage of this alternative mode of input will be made. Already, we can see productivity increases.

# MANIPULATION

## S and F Fact Conversion

A system to perform internal conversion of the scaling factors (essentially different scale data) of information in the data base has been written and is now being tested. This system should be implemented early in 1980. When operational it will allow for the manipulation of two coverages digitized at widely varying scales and remove the need to know at project initiation that such data will ultimately be overlayed. This is an extremely complex development and in many ways is equivalent to some of the original software development.

## Forestry Overlay - 3190-0068-03 (946-0105)

A Canada-wide forestry overlay has been defined for processing in 1980. CLI summary tabulations will be generated as one output from the overlay.

## Map Statistics - 3190-0177-26

The linear measurement program was modified to provide polygon lengths in inches and centimeters (and number of vertices) by map sheet. This information will enable us to make more accurate cost estimates for future projects.

# OUTPUT

## Colour Images - 3190-0166-01

Color slides from the Spruce Budworm data base were prepared using the DICOMED colour film image recorder on the Forestry ARIES system.

## CLI Raw Data Reports - 3190-0199-01

Summary reports by province are being prepared for agriculture, recreation, waterfowl and ungulates. They will be tabulated by ED, county and watershed in both acres and hectares. A report of Agriculture Capability by county is available for publishing in early 1980.

## Investigation of Smoothing on Gerber Plots - 3190-0108

Various methods of line smoothing were investigated to find an algorithm which will create more attractive plots. This will continue in 1980.

## Standard Interchange Format for Data Transfer

The preparation of a document describing the standard interchange format to be used for the transfer of data between geographic information systems was completed this year. It is now in the final stages of publication and will be available early in 1980. (The software to allow the CLDS to accept data in this format is being constructed as part of the Automap Interface project and will be available in the same time frame.) The final editing of this document was a long and tedious process as it had to be written as a rigid system specification so that it could be used directly by programmers contributing to the system interface. This standard was developed according to a format specified for the transfer of remotely sensed information. It is possible that our polygon interchange format will be documented as part of an international standard.

## GRAPHICS

## Point Graphics - 3190-0108-04

A version of the interactive graphics program, to handle point data, was developed. Many other enhancements such as automatic labelling at centroids and the ability to create subset files were added. Interactive or user specified labelling for Gerber plots was also added.

## Graphics Training Data Base - 3190-0108 (945-0228)

The cost of training graphics system users is high due partially to the cost of interactive processing and the size of the data base used. To reduce the cost to train future users, a small data base has been created that will still provide enough information for a meaningful training session.

## Color Graphics - 3190-0105-05

The current version of the graphics software (Version 5) is being modified to produce colored line maps on a Tektronix 4027 color graphics terminal. Colored shading of polygons is also under investigation. We were unable to mount the Tektronix software package IGL. The intent is to examine this software to see if it is useful in future graphics releases. Tektronix is examining the problem.

## Census - Graphics Interactive Link - 3190-0181-02 (945-0219)

This system was completed in January, 1979. It provides a capability to retrieve tabular reports and corresponding maps interactively from census (or similar data) and thematic data.

## Graphics (General) - 3190-0108

Many enhancements have been made in the past year including the addition of legend information, the ability to superimpose plots, automatic labelling by centroid and improved labelling on Gerber plots.

## MISCELLANEOUS

## Mailing List - 3190-0154

Software to maintain an internal mailing list was written and tested. The entry of names is nearing completion.

Map Index - 3190-0177-20 (945-0102)

An interactive graphics data base for 250,000 coverages showing the maps processed was created. Using this data base it is possible to see what data is available for any area. It has been mainly used for demonstration purposes.

## 4. PROJECTS

### 4.2 DATA PROCESSING SERVICES

#### NATIONAL LAND DATA BANK

##### Northern Land Use - 3190-0102-06

One map sheet (Yellowknife) in the NLUIS series was processed. It was overlayed with contour data and a graphics data base created. It was presented at the Northern Land Use Mapping Seminar in Kananaskis in May 1979.

##### Federal Lands Data Base - 3190-0196-02

The 7 map sheets received by CLDS have been processed. Further map sheets will be input as they are received. Methodology and cost estimates for handling the national data base were completed in 1979.

##### James Bay - 3118-36

75 out of 123 map sheets have been processed and are now in the data base. Digital files of 44 map sheets were prepared for the James Bay Developemnt Corporation. A demonstration graphics data base has been created.

##### Land Use Urban Centres (CLUMP) - 3190-0102-07

The centres of Québec City, Montréal and Chicoutimi were processed in 1979. Graphics data bases were created and the Lands Regional Office in Québec has been analysing the data base for Québec City. Calgary, Edmonton and Oshawa are currently being processed (1980).

## LANDS HEADQUARTERS

### CLUMP Grid Sampling - 3190-0102-04

A 2 km grid for a pilot study for the CLUMP program was input, overlayed and several reports generated. An alternate sampling method was also investigated.

### Ecoregions of Canada - 3190-0102-08

The study consisted of 10 maps of Canada, each depicting a different theme. The maps were input, overlayed and a graphics data base created.

### B.C. Agriculture Circles - 3190-0125-07

This project included the entry of 1:50,000 Agriculture capability maps and the generation of capability statistics for varying circle radii around Vancouver.

### CMHC Windsor - 3190-0125-08

This study used both CLI and CMHC data. Nine maps at a scale of 1:25,000 were input. They were overlayed with CLI data and a graphics data base was created. The user is currently examining the (GDB) data.

### CMA Land Use - 3190-0125-12

Land Use by circle reports were generated for 23 CMA's in Canada.

### Federal Lands Pilot - 3190-0196-01

Seven map sheets were input for this pilot study and a sample graphics data base (GDB) was created for the Maritimes.

## LANDS HEADQUARTERS

### Saugeen Land Use - 3190-0200-04

This land use study of the Saugeen Basin in Southern Ontario consists of data at 1:50,000. Eleven map sheets of 1979 land use and 5 map sheets of 1951 land use were input. These were overlayed with agriculture capability and 1976 census. Census summary information will be integrated and a census graphics data base created.

### Northern Land Use - 3190-0193-02

This project was an experiment using the Automap System to familiarize the NLUIS staff with automated techniques. Unfortunately this project was postponed and no firm conclusions reached.

## LANDS ATLANTIC

### Halifax Library Program - 3190-0208

This project was undertaken to provide the Halifax office with a replacement cataloguing procedure when the one based at BIO became unavailable. It maintains a list of publications in the order that they are shelved plus a cross-reference listing on title keywords.

### P.E.I. Land Holdings - 3190-0187-01

The study consisted of one map of land parcels and land use and one map of soils data. A file of information about the land holdings was merged with a soils/land parcels overlay and a graphics data base created. The purpose was to demonstrate that CGIS could handle soils data.

### Lands Maritimes - 3190-0208

Two large graphics data bases were created, one for Halifax and one for Nova Scotia containing land use and capability information.

These are being used by the Atlantic office for demonstrations and report purposes.

## LANDS QUEBEC

### Québec Lands Office (General) - 3190-0207

Several graphics data bases have been created (and will be created) using CLUMP data. Databases for Québec, Montréal, Chicoutimi and Sherbrooke are being used by the Lands Office and OPDQ.

### James Bay Data Base Graphics - 3190-0207-01 (946-0129)

A small (5 map) graphics data base from the James Bay biophysical data base was created. The database is used as a demonstration database by the Québec Lands Office, and as a retrieval system by the Bureau de la Baie James in Québec.

LANDS ONTARIO

Kitchener Data Base - 3190-0200-05

A graphics data base of 4 map sheets (scale 1:50,000) in the Kitchener area was created. The GDB consisted of land use and CLI capability data. It was accessed from Burlington by the Lands Office.

Kitchener 2 km Grid - 3190-0200-06

A 2 km grid for 4 map sheets (scale 1:50,000) in the Kitchener area was input into the system. It was overlayed with the previous Kitchener data and new graphics data base created.

## FEDERAL USERS

### EPS 80 km Grid for Canada - 3190-0020

An 80 km grid to coincide with a U.S. 80 km grid was created and registered on a map of Canada at a scale of 1:6,336,000. The grid and 1971 census division boundaries were digitized using the Automap System and several maps at different scales were produced.

### CFS - 3190-0164

Consultations continued with CFS on the national forestry statistics program. Three proposals, two written and one verbal, were made to handle the project. No final decision has been indicated to us.

### DND Automap - 3190-0193-01

DND continues to make use of our Automap system for map digitizing. It is expected that this project will continue next year but that may be the last as DND is buying their own system.

### Terra Nova National Park - 3190-0195-02

Biophysical maps for the park were input. A significant amount of time was spent by CLDS staff in interpreting and correcting the very complex classification data. A graphics data base and many tabulations were produced.

### Parks Canada Population Counts - 3190-0195-03

Tabulations of population by radii band for a series of points (given in lat-long) representing national historic parks and sites were produced from the 1976 Census Canada Geographic file.

Parks Canada - Firth River - 3190-0195-04

Biophysical maps of the Firth River area (Yukon) were input and a graphics data base was created. This is a potential park site. The data was collected by Lands for Parks.

Indian Affairs - 3190-0213

Capability reports for agriculture, waterfowl, ungulates and recreation for all Indian Reserves within the CLI boundary were generated.

EMR Land Use Gerber Plots - 3190-0205-01

Maps of productive and unproductive woodland from the land use coverage were created for each region at a scale of 1:2,000,000.

Gros Morne National Park - 3190-0195-01

Biophysical maps for the park were input. The classification data was added later and a graphics data base created. This data base is being accessed from Halifax. Several maps and tabulations were created. It will be used in park planning.

## PROVINCIAL USERS

### Cypress Hills Provincial Park (Alberta) - 3190-0148-04

A study consisting of 14 maps, 2 each for 7 themes, were input for the park. They were overlayed and a graphics data base created and accessed from Edmonton. Digital files were also produced for the user.

### ALI Furbearing Capability - 3190-0148-05

Three maps each for 2 themes (red squirrel capability and beaver and muskrat capability) were input. They are in the data bank and are awaiting a definition of output requirements by the user.

### Alberta County Pilot - 3190-0148-06

A study of Lac Ste Anne county consisting of CLI capability data overlayed with township, range and section boundaries. A graphics data base was created for the user to access from Edmonton.

### N.S. Spruce Budworm - 3190-0184-02

The data base created last year was used to perform a number of retrievals, including a request which produced maps showing Spruce Budworm defoliation. These were used to brief the Deputy Minister (N.S.) in support of policy considerations.

### Québec Short Term (Québec Agriculture Cross-Tabulations - 3190-0185-01

Cross tabulations of agriculture capability by county and municipality were produced for the Ministère de l'Agriculture du Québec.

OPDQ - 3190-0185-02

A special graphics database was created for Québec. Two additional land use maps were added to the original Québec data base created for the CLUMP project. Digital Data was supplied to OPDQ.

Megantic Graphics Database - 3190-0185-02

A Graphics database for the Megantic area in Québec was created. Seven electoral districts were selected from Census 76 files and overlaid with several CLI coverages. OPDQ was the main user of the database. We are using the database for demonstration purposes.

James Bay Development - 3190-0185-04

Digital files for 44 of the James Bay biophysical maps were supplied (see 3118-36).

Manitoba Summary Reports - 3190-0190

Tabulations of CLI Agriculture classes and subclasses by enumeration area for the province of Manitoba were produced for the Manitoba Department of Municipal and Urban Affairs.

Saskatchewan Recreation Circles Tabulations - 3190-0191

Tabulations of CLI recreation capability for circles of varying radii centered on Regina and Saskatoon were produced for Saskatchewan Municipal Affairs.

Hydro-Québec - 3190-0185-03

This project was initiated at the request of Hydro Québec to input several maps along the north shore of the St. Lawrence. Processing will start early in 1980. Digital data files will be supplied to Hydro-Québec and cross-tabulations and (possibly) graphics databases will be created for the regional office.

Saskatchewan Flying Creek - 3190-0191-03

This project consisted of six maps for six different themes for the Qu'Apelle River Valley in Southern Saskatchewan. These were input, overlayed and a graphics data base (GDB) was produced. User training was provided and the data base was used from a remote terminal loaned to Saskatchewan by CLDS.

## OTHER USERS

### International Soils Map (Africa) - 3190-0206-02

This study consisted of maps of North-West Africa depicting present soil degradation and risk of degradation. These were input and overlayed. A graphics data base was created for the user. Colour maps were produced using both the DICOMED film recorder and standard photo-mechanical processes. Digital files were also generated.

# 4. PROJECTS

## 4.3 SYSTEM MAINTENANCE

Projects falling into this category, although critical to the operation of the system, are generally not considered to be of significant interest to those not directly involved with system operation. Consequently a description of these projects is not provided. A cost summary however has been included in Section 8, Cost of Operations.

## 5. ADVICE AND ASSISTANCE

### FIDS - 3190-0215-01

Throughout the fall, R. Smale provided software and advice to CASD on projection-conversion subroutines and explanations of the use and creation of Gerber plotting commands.

### Saskatchewan

In August, T. Fisher spent 2 days assisting Forest Inventory Personnel to evaluate consultants' responses to an RFP.

In December a comprehensive proposal for the transfer of the CGIS to Saskatchewan was prepared and submitted to the consultants.

### U.S. Parks Service

W.A. Switzer spent a day with senior U.S. Parks Service officers providing insights into geoprocessing in a park environment.

### Miscellaneous

Several meetings have been held with other groups and agencies to discuss geoprocessing opportunities and to provide advice. However the time spent on any one occasion has been very limited.

## 6. PROMOTION

### 6.1 VISITORS

| Month | Visitor | Organization/Location |
|---|---|---|
| January 1979 | Dr. Les Carlson, Dr. Robbie Reid | Canadian Forestry Service |
| | Mr. D. Day | Parks Canada |
| | Mr. Barry Giffen | Alberta |
| | Mr. J. Bruce | ADM - EMS |
| | Dr. Gordon Beanlands | Nova Scotia |
| | Mr. Lee | Urban Affairs |
| | Mr. Robert C. Scace | Alberta |
| | CFS Regional Directors (Tour) | Cross Country |
| | Mr. Norm Walls | Auditor General (Haskins and Sells) |
| February 1979 | Dr. Hugh Calkins | State University of New York |
| | Tour by 16 students | Syracuse University |
| | Mr. John Senyk | B.C. Lands Office |
| | Mr. David Douglas | University of Ottawa |
| | Dr. Roger Tomlinson | Tomlinson Associates, Ottawa |
| | Dr. John E. Osborne | Ministry of Natural Resources, Toronto |
| | Mr. Ron Speers | Systemhouse |
| | Mr. D.B. Coombs | CCREM |
| | Mr. Malcolm Thurgur | Statistics Canada |

| Month | Visitor | Organization/Location |
|---|---|---|
| March 1979 | Ms Jocelyn Evans | Public Service Commission |
| | Mr. Don Christie<br>Mr. Bernie Tessier | DND |
| | Mr. Steve Stankis | University of Waterloo |
| | Dr. Mike Bonner | Forest Management Institute |
| | Dr. Duane Marble<br>Dr. Donna Peuquet | State University of New York |
| | Mr. Gilles Pouliot | O.P.D.Q., Québec |
| | Mr. R. Devitt | Systemhouse |
| | Mr. Joel Yan | Statistics Canada |
| | Mr. Norman Walls | Auditor-General |
| April 1979 | Mr. Neil Flemming | D.P.W. |
| | Mr. Joe Arbour | Halifax Regional Office |
| | Mr. Wayne Griese | Ottawa |
| | Dr. Roger Tomlinson | Tomlinson Associates |
| | Mr. Ward Walker | Systemhouse |
| May 1979 | Mr. Michel Jean | Québec |
| | Mr. Rhéault Michel | Québec |
| | Ms Elaine L. Kozak | Alberta Bureau of Statistics |
| | Mr. Conway | AES, Toronto |
| | Tour of 10 members of CSA standards committee | |
| | Mr. G. Arnold<br>Col. Preston | DND |
| | Dr. Peter Clark<br>Dr. Julian Dumanski<br>Mr. John Day | Land Resource Research Institute |

| Month | Visitor | Organization/Location |
|---|---|---|
| May 1979 | Mr. André Savoie and guest | Parks Canada Sherbrooke University |
| June 1979 | Dr. J.R. Ross | Alberta Government, Parks |
| | Mr. Basinski | N.R.C., Ottawa |
| | Mr. Ian Sutherland | Alberta, Remote Sensing Centre |
| | Dr. Robert W. Peplies | TVA, Tenn. |
| | Dr. R. Honea | TVA, Tenn. |
| | Ms Jocely Cantin | Québec |
| | Dr. C.W.B. King | Australia |
| | Mr. Terry Stanhope | Consultant, Ontario |
| | Mr. André Savoie<br>Mr. Ken Burnett<br>Mr. Dick Andrews<br>Mr. Leo Lechtimiene | Parks Canada |
| | Mr. Erik Davidson | CRTC, Ottawa |
| | Mr. Harold Jones | DPW |
| | Mr. Randy Trenholm | N.B. Agriculture |
| | Visit of a Russian Technology Group | USSR |
| July 1979 | Mr. Yoshitahe Kato | Japan |
| | Dr. Roger Tomlinson | Ottawa |
| | Mr. Roger Norgran<br>Mr. Jim Stanley | MMRS<br>Amherst, N.S. |
| | Mr. Frank Vena | EPS, Ottawa |
| | Mr. Colin May | Indian & Northern Affairs |

| Month | Visitor | Organization/Location |
|---|---|---|
| July 1979 | Tour of 10 people from soil conservation conference including | |
| | Hank Jones | Ottawa |
| | Gus Piva | Ottawa |
| | Allen Betts | Alberta |
| | Donald Johnston | New York |
| August 1979 | Mr. Clark Wilson | Regina, Saskatchewan |
| | Mr. Riaz Ahmed | Municipal Affairs |
| | Mr. Robert Madill | Systemhouse |
| | Dr. A.R. Boyle | U. of Saskatchewan, Saskatoon |
| September 1979 | Mr. Ed MacAuly | N.S. Lands and Forests |
| | Ms Jane Shubert | SIBBALD Group Consultants |
| | Mr. Denny DeRochers | James Bay, Dev. Corp. |
| | Mr. Moe La Jeunesse | EMR |
| October 1979 | Tour of 20 people from an international soils conference including | |
| | Sitapha Diatta | Rép. du Sénégal |
| | Jean-Paul Legros | France |
| | Samouth Bayan | France |
| | Joseph Bindzi Tsala | Cameroun |
| | Ahmed Souissi | Tunisia |
| | Khalil Khazzaka | Liban |
| | Roger Maignien | France |
| | Roger Pierre Bertrand | France |
| | André Pecrot | Italy |
| | Ghislain Rousseaux | Belgique |
| | Ferdinand Delecour | Belgique |
| | Bernand Quetin | |
| | Namadou Ouattara | Niger |
| | Maddou Ghanem | Maroc |
| | Richard Guthrie | U.S.A. |
| | Sami Ovattara | Rép. Haute Volta |
| | Amajou Kone | Rép. du Mali |

| Month | Visitor | Organization/Location |
|---|---|---|
| October 1979 | Mr. Jim Spencer | British Columbia |
| | Ms Kathleen Beattie | Ottawa |
| | Mr. Denny Kalensky | Québec |
| | Mr. Ron Morrison | York University, Toronto |
| | Mr. Ken Allied | Alta |
| | Mr. Colin Barrigar | Toronto |
| | Mr. C.B. Carlin | N.S. |
| | Mr. Samson S.O. Sanni | N.B. |
| | Mr. Stuart MacRitchie | N.B. |
| | Mr. Ian Isares | N.B. |
| | Mr. Rostam Yazclani | N.B. |
| | Mr. Ashoki Sujianani | N.B. |
| | Mr. Roberto Steffensen | Ottawa |
| | Mr. Hugo D. Torres Delperal | Mexico |
| | Mr. Antonio B. Sosa | Mexico |
| | Dr. Russwurn<br>Mr. Chris Brynt | Ontario |
| | Mr. Gregg Galanos | Hydro Québec |
| November 1979 | Mr. E.S. d'A. Friel | New Zealand |
| | Mr. Tatsuo Ito | Japan |
| | Mr. Rick Bryson | CFS, Ottawa |
| | Mr. John Kerr | Ont. Ministry of Natural Resources, Toronto |

| Month | Visitor | Organization/Location |
|---|---|---|
| November 1979 | Mr. Mike Parkes | P & PD, DOE |
| December 1979 | Dr. Roger Tomlinson | Ottawa |
| | Dr. Ray Boyle | Saskatoon |
| | Mr. Gary Sawayama | LRIS, Summerside, P.E.I. |

## 6. PROMOTION

### 6.2 TRAINING (FOR USERS) AND/OR PRESENTATION (IN OTTAWA)

IWD

Presentation to IWD on the CGIS as part of the EMS Program Evaluation.

CWS

Presentation to CWS on the CGIS as part of the EMS Program Evaluation.

CFS

Presentation to CFS on the CGIS as part of the EMS Program Evaluation.

AGRICULTURE

Division staff made a system capabilities presentation to senior LRRI and Lands staff as part of a CANSIS/CGIS familiarization session.

LIAISON OFFICER

Two weeks were spent introducing Mr. Joe Arbour to the system.

## 6. PROMOTION

### 6.3 CONFERENCES

#### DPI

Several staff members attended the annual DPI (Data Processing Institute) Annual meeting in Ottawa.

#### OICC

Mr. E. Beaudette attended the annual OICC (Ontario Institute of Chartered Cartographers) meeting. Mr. Beaudette is presently on the Board of Directors of the OICC and attends monthly meetings.

#### Computer Graphics and Interactive Technology

Mrs. C. MacDonald represented the Division at this important computer graphics conference.

#### Man Computer Communications Conference

Mr. T. Fisher attended on behalf of the Division.

#### Computer Graphics Week

Mr. M. Comeau attended this first week long graphics conference/seminar at Harvard University.

#### AUTO CARTO IV

Mr. T. Fisher presented an overview of the system and Mr. Joe Arbour presented a paper on the application of the system in Gros Morne National Park.

Mr. W. Switzer chaired three sessions on Natural Resource Systems.

## 6. PROMOTION

## 6.4 PUBLICATIONS AND REPORTS

### PUBLICATIONS

#### Brochure

The CLDS brochure was completed to the colour proof stage. This production involved a substantial re-orientation of the techniques used for presenting the CLDS to the user community. As a followup to this effort we have prepared a new series of foils that have been used for a number of presentations.

#### Data Interchange

The long awaited standard report for data transfer between geographic information systems is scheduled to be printed early in 1980. This represents a significant accomplishment and indicates the degree of cooperation existing between some of the government agencies involved in spatial data processing.

CLDS/CGIS REPORTS

R001000 CGIS OVERVIEW I

This paper is intended to provide a brief synopsis of the Canada Geographic Information System (CGIS).

Revised February, 1977 - original 1975

R001010 CGIS OVERVIEW II

A general description of the system stressing its capabilities. This was originally used as the paper submitted to AUTO CARTO IV for inclusion in the proceedings.

December, 1979 (Draft)

R001020 INTRODUCTION TO THE CGIS

This paper provides a more indepth, technical description of the CGIS.

July, 1974

R001030 A GEO-INFORMATION SYSTEM (CGIS) AND THE CADASTRE: A DEMONSTRATION PROJECT

This paper demonstrates how the CGIS can be used to analyse thematic data along with statistical data about land parcels.

February, 1977

R001040 THE USE OF A BIOPHYSICAL (ECOLOGICAL) DATA BASE FOR PARK PLANNING

This paper demonstrates how the CGIS Interactive Graphics Subsystem (IGSS) was used to analyse a data base of ecological data for Gross Morne National Park to aid in park planning.

November, 1979

R001050 CANADA LAND DATA SYSTEM - A COMPUTER SYSTEM FOR ENVIRONMENTAL BASELINE DATA

This is a demonstration of the CGIS Graphics Sub System (IGSS) showing its capability to analyse ecological data. A series of pipeline corridors were defined and their impact analysed using the ecological data.

November, 1979 (Draft)

R001060 FIRTH RIVER GRAPHICS DATA BASE

This data base was set up for a joint Parks-Lands Directorate project. The paper describes the complex biophysical data contained in the data base.

April, 1979 (Draft)

R001070 A DEMONSTRATION PREPARED FOR : THE NORTHERN LAND USE MAPPING SERIES

This paper describes 2 interactive data bases set up to illustrate the capability of the IGSS to present and analyse the Northern Land Use Mapping Series information.

March, 1979 (Draft)

R001080 CAPE BRETON BUDWORM GRAPHICS DATA BASE

This paper describes how the IGSS has been used to analyse defoliation and related forest stand information over a three year time period.

June, 1979

(unumbered as yet) INTERACTIVE GRAPHICS SUBSYSTEM

A new version of the Interactive Graphics Subsystem documentation (IGSS) was prepared and will be available early in 1980.

## 6.5 DATA REPORTS

R002000 AGRICULTURE CAPABILITY BY PROVINCE

Agriculture capability classes by subclasses are tabulated by province. All provinces except NFLD and BC are included in the report. Data source: CLI maps.

Dec. 1975; Acres; 23 pages

R002010 1965 LAND USE BY PROVINCE

1965 CLI land use classes are tabulated by province. All provinces except BC are included. Data source: CLI maps.

Dec. 1975, NFLD Nov. 1976; Acres; 9 pages

R002020 AGRICULTURE - LAND USE(1965) CROSS TABULATION

Agriculture capability class by land use class are cross tabulated by province. All provinces except BC and NFLD are included in the report. Data source: CLI maps.

Oct. 1976; Acres; 16 pages

R002030 RECREATION AREA AND SHORELINE

This tabulation is by class and feature (3 characters) by province. For each class-feature combination, the area and shoreline length are given. Complex analysis is not included. A separate report was generated for each province.
Data source: CLI maps.

Nov 1976, BC Feb. 1977; Acres, hectares, kilometers

NFLD - 46 pages, PEI - 10 pages, N.S. - 26 pages,
N.B. - 17 pages, Que. - 36 pages, Ont. - 50 pages,
Man. - 42 pages, Sask.- 27 pages, Alta - 41 pages,
B.C. - 68 pages

R002040 RECREATION AREA AND SHORELINE - PRIMARY FEATURE

The same as R002030 except that only the first character of the feature is reported. Available only for BC. Data source: CLI maps.

Feb. 1977; Acres, heactares, kilometers; 9 pages

R002050 FORESTRY REPORT BY PROVINCE

For each Forest capability class and subclass the area and percentage are given. Currently available for PEI, NS and NB in one report. Data source: CLI maps.

Aug. 1977; Acres; 7 pages

R002060 50 AND 100 MILE CITY RADIUS AGRICULTURE CAPABILITY

Each city has 2 reports - agriculture capability (class and subclass) for both a 50 and a 100 mile radius circle. In addition, a report is available for the area within a fifty mile radius of Toronto, Hamilton, St. Catherines, Kitchener and London. Data source: CLI maps.

Feb. 1977; Acres

| | | | |
|---|---|---|---|
| Halifax | - 8 pages, | St. John, NB | - 8 pages, |
| Chicoutimi | - 6 pages, | Québec | - 5 pages, |
| Montréal | - 6 pages, | Ottawa | - 7 pages, |
| Hamilton | - 13 pages, | Kitchener | - 11 pages, |
| Windsor | - 10 pages, | Toronto | - 12 pages, |
| London | - 12 pages, | St. Catherines | - 12 pages, |
| Sudbury | - 12 pages, | Thunderbay | - 12 pages, |
| Winnipeg | - 12 pages, | Saskatoon | - 12 pages, |
| Regina | - 12 pages, | Calgary | - 10 pages, |
| Calgary | - 10 pages, | Edmonton | - 12 pages, |

Toronto, St Catherines, Hamilton, Kitchener, London - 4 pages

R002070 5 TO 100 MILE CITY RADIUS AGRICULTURE CAPABILITY

The agriculture capability class and subclass are tabulated by the following radii bands around cities: 0-5 miles, 5-10, 10-15, 15-20, 20-25, 25-35, 35-50, 50-75, 75-100. A separate report is available for each city. Data source: CLI maps.

Nov. 1977; Acres, miles

| | | | |
|---|---|---|---|
| Halifax | - 13 pages, | St. John N.B. | - 17 pages, |
| Chicoutimi | - 15 pages, | Québec | - 20 pages, |
| Montréal | - 20 pages, | Ottawa | - 20 pages, |
| Oshawa | - 12 pages, | Toronto | - 12 pages, |
| Hamilton | - 11 pages, | St Catherines | - 13 pages, |
| Kitchener | - 12 pages, | London | - 13 pages, |
| Windsor | - 11 pages, | Sudbury | - 14 pages, |
| Thunderbay | - 8 pages, | Winnipeg | - 13 pages, |
| Regina | - 17 pages, | Saskatoon | - 16 pages, |
| Calgary | - 18 pages, | Edmonton | - 16 pages. |

R002080 GROUPED CITY RADIUS AGRICULTURE CAPABILITY

The agriculture capability class and subclass are tabulated for the same radii bands and cities as in R002070. A single report tabulating the statistics for all 20 cities grouped together. Data source: CLI maps.

Dec. 1977; Acres, miles; 32 pages

R002090 PRIMARY AGRICULTURE CLASSES BY WATERFOWL CLASSIFICATION

These reports consist of 2 parts. The first tabulates primary agriculture capability classes (horizontal) by primary waterfowl capability class (vertical) and is contained within the first 12 entries of each table. The second part tabulates primary agriculture classes by complete waterfowl classification. These are available by province for all provinces except B.C. and NFLD. Data source: CLI maps.

Mar. 1978; Hectares

| | | | |
|---|---|---|---|
| P.E.I. | - 3 pages, | N.B. | - 22 pages, |
| N.S. | - 22 pages, | Que. | - 52 pages, |
| Ont. | - 62 pages, | Man. | - 18 pages, |
| Sask. | - 24 pages, | Alta | - 26 pages. |

R002100 DECOMPLEXED AGRICULTURE CLASSES BY WATERFOWL CLASSIFICATION

This report is the same as R002090 except that the agriculture capability has been decomplexed. It is available by province for all provinces except B.C. and NFLD. Data source: CLI maps.

Apr. 1978; Hectares

| | | | |
|---|---|---|---|
| P.E.I. | - 3 pages, | N.B. | - 22 pages, |
| N.S. | - 22 pages, | Que. | - 52 pages, |
| Ont. | - 62 pages, | Man. | - 18 pages, |
| Sask. | - 24 pages, | Alta | - 26 pages. |

R002110 PRIMARY WATERFOWL CLASSES BY WATERSHED

These reports show primary waterfowl capability classes (horizontal) by watershed code (vertical), both for land and water areas. Totals for each major watershed are included. The reports are available by province for all provinces except NFLD. Data source: CLI maps.

Apr. 1978; Hectares

| | | | |
|---|---|---|---|
| P.E.I. | - 6 pages, | N.B. | - 34 pages, |
| N.S. | - 47 pages, | Qué. | - 67 pages, |
| Ont. | - 102 pages, | Man. | - 35 pages, |
| Sask. | - 45 pages, | Alta | - 68 pages, |
| B.C. | - 75 pages. | | |

R002120 DECOMPLEXED AGRICULTURE CLASSES BY WATERSHED

These reports depict decomplexed agriculture class by watershed code for land areas. Totals for each major watershed are included. The reports for Alberta and Saskatchewan include irrigated as well as non-irrigated lands. The reports are available by province for all provinces except B.C. and NFLD. Data source: CLI maps.

Apr. 1978; Hectares

| | | | |
|---|---|---|---|
| P.E.I. | - 3 pages, | N.B. | - 19 pages, |
| N.S. | - 24 pages, | Qué | - 35 pages, |
| Ont. | - 52 pages, | Man. | - 19 pages, |
| Sask. | - 24 pages, | Alta | - 36 pages. |

R002130 DECOMPLEXED WATERFOWL CAPABILITY

There are 2 cross tabulations of decomplexed waterfowl classes by primary subclass for each province. The first depicts land areas only while the second depicts the water areas. The reports are available by province for all provinces except NFLD. Data source: CLI maps.

June 1978; Square kilometers

P.E.I., N.B., N.S., Qué., Ont., Man., Sask., Alta, B.C. - 2 pages each.

R0002140 5 TO 100 MILE CITY RADIUS RECREATION CAPABILITY

Each city report is broken down by the following radii bands: 0-5 miles, 5-10, 10-15, 15-20, 20-25, 25-35, 35-50, 50-75, 75-100. The area of each recreation class and primary feature along with shoreline length is given for each radii band. Data source: CLI maps.

Dec. 1976; Acres, hectares and kilometers

| | | | |
|---|---|---|---|
| St Johns, NFLD | - 68 pages, | St John N.B. | - 71 pages, |
| Halifax | - 69 pages, | Chicoutimi | - 70 pages, |
| Québec | - 76 pages, | Montréal | - 73 pages, |
| Ottawa | - 77 pages, | Sudbury | - 73 pages, |
| Kitchener | - 66 pages, | Windsor | - 60 pages, |
| London | - 62 pages, | Hamilton | - 66 pages, |
| Toronto | - 59 pages, | St Catherines | - 71 pages, |
| Thunder Bay | - 48 pages, | Winnipeg | - 61 pages, |
| Regina | - 44 pages, | Saskatoon | - 55 pages, |
| Calgary | - 55 pages, | Edmonton | - 61 pages, |
| Vancouver | - 67 pages, | Victoria | - 67 pages. |

## 6.6 MISCELLANEOUS

A display showing the CLDS capabilities was prepared. This has been set up at a couple of conferences in Canada and parts of it were sent to Japan for an international conference.

## 7. PROGRAM MANAGEMENT

### 7.1 STAFFING

During the first half of the year, several staffing actions were taken.

A CS3 board was held to fill two vacant CS3 positions. Three of our seniour CSs, Cathy Gordon, Mike Comeau and Sujit Banerjee all qualified for these positions. The promotions were offered to Mrs. Gordon and Mr. Comeau. Two staffing actions were then initiated to fill the resulting CS2 vacancies.

The first was filled by Ms. Doreen Dewar who came to us from Energy, Mines and Resources on transfer. It was felt at that time that the needs of our organization could best be met by reclassifying the remaining CS2 position as a CS1 and filling it at that level. This vacancy was filled by Mr. Richard Smale, who was on staff as a term employee.

These actions resulted in a full staff complement-a novel situation that has produced significant benefits. These staffing actions also resulted in an imbalance in the 3 software groups from a numerical, experience and requirements standpoint. Therefore a reassignment of functions was undertaken to move the people resources to the areas where their capabilities could best be utilized. In the short term this caused some disruption of activities, however, the organization is now functioning at its best level to date.

Early in the year, a board was held to staff the Land's Atlantic Regional Office CLDS Liaison Officer. W.A. Switzer participated from CLDS and Mr. Joe Arbour was selected as the successful candidate.

In December, the equivalent position was staffed in Quebec City with M.A. Comeau representing CLDS on the board.

## 7.2 CLASSIFICATION

Finally after much effort and time, the Chief and Head of Software Systems positions were classified at the CS5 and CS4 levels respectively. This allowed for the remaining 2 Group Leader positions to be classfied at the CS3 level and staffing action to commence.

As a result of a Treasury Board review of DD positions, one of ours was given a close examination. This resulted in several meetings to discuss the positions and a position paper written by the Chief to defined the classification level. This exercise is not over yet and promises to carry over into 1980.

A CS2 position was reclassified to the CS1 level to reflect organizational needs.

## 7.3 PERSONNEL

The compressed work week for the CS members of the Directorate was in force for the entire year. Every indication is that the flexibilety is achieving the hoped for advantages and that it does have a positive effect on morale.

Our proposal for the introduction of the compressed work week system has been requested by a number of other government agencies is who are in the process of implementing similar systems.

## 7.4 STAFF TRAINING AND DEVELOPMENT

To minimize the effect of the cancellation of most of the staff training due to the government restraint policy, a number of inhouse training sessions were organized. The first was a 1 week introduction to the IMAGE data base management system on the Hewlett-Packard mini-computer. This was arranged in cooperation with the Computing and Applied Statistics Directorate.

Later in the year, Mr. Everett McDurmett gave all interested staff members a 1 day presentation on the 4027 colour Graphics Terminal.

Mr. Brian Haché, Computing and Applied Statistics Directorate, gave a 1 day course on the facilities of the new HP operating system.

Dr. Ray Boyle, an internationally recognized expert from the University of Saskatchewan, gave a 1/2 day glimpse into the future of geoinformation processing.

Our senior draftsman was trained in the use of the AUTOMAP system and plans are to train all drafting staff to use the system this year.

External training for the year was limited to the following:

(1) EDP Security Course in March,
(2) an EDP Security Coordinators Course in October given by the RCMP,
(3) Time Management course,
(4) Career Planning in the Public Service,
(5) Computer Communication II (Carleton University),
(6) Dynamics of Supervision,
(7) System Design Workshop,
(8) Introduction to Computers,
(9) Retirement Planning.

## 7.5 POLICY DEVELOPMENT

### EDP POLICY REVIEW COMMITTEE

W.A. Switzer has represented EMS during the past year on a Departmental EDP Policy Review Committee. The final draft of the policy was completed in December and is now being reviewed by department line organizations.

### CLDS POLICY

Some basic principles relating to the distribution of software were developped. These will be further defined in the coming year.

## 7.6 TRAVEL AND/OR PRESENTATIONS (outside Ottawa)

| | |
|---|---|
| January 11-13 | W.A. Switzer to P.E.I. and Halifax to discuss a soils pilot project. |
| February 3 | C. MacDonald in Toronto for a Land Information Institute Meeting. |
| February 5-6 | W.A. Switzer in Halifax for a demonstration of CGIS. |
| February 14 | N. Chartrand in Toronto to attend a Word Processing show. |
| February 21-22 | E. Beaudette in Québec City to initiate the input of the James Bay biophysical maps. |
| February 26-27 | T. Fisher and C. Gordon in Winnipeg to demonstrate the CGIS. |
| February 26-March 6 | W.A. Switzer to Victoria and Calgary (Kanaskis, with C. MacDonald) to promote the use of CGIS. Edmonton to discuss the use of the system. |
| February 27-March 27 | C. MacDonald and W.A. Switzer in Kanaskis for the Northern Land Use Information Series Seminar. |
| February 28-March 2 | T. Fisher in Regina and Saskatoon to discuss potential uses of the CGIS. |
| April 4-6 | Cathy Gordon and W.A. Switzer in St. John's, Nfld, for a graphics demonstration. |
| April 17-18 | W.A. Switzer to Cleveland Ohio to present the CGIS to a Great Lakes Water Basin Planning Commision Meeting. |
| May | E. Beaudette in Toronto for the OICC Conference. |

| | |
|---|---|
| June 28 | T. Fisher in Alexandria Bay, N.Y. for a presentation to a U.S. Environmental group, EAGLE. |
| August 2-3 | T. Fisher in Prince Albert to assist provincial forest inventory personnel with the evaluation of consultants' responses to an RFP. |
| August 22-24 | W.A. Switzer to Halifax, Truro and Amherst to promote the use of CGIS. |
| September 24 | T. Fisher in Regina to setup a graphics terminal and assist in presentations to the user community. |
| September 28-October 5 | W.A. Switzer to Edmonton and Jasper to promote the use of CGIS. |
| October 3 | T. Fisher in Chicago to make presentation to a U.S. Environmental group, EAGLE (at their expense). |
| October 9-11 | C. MacDonald in Guelph for a presentation at the Spatial Terrain Modelling Conference. |
| October 22 | T. Fisher in Fredericton for a presentation at U.N.B. (travel cost partially covered by U.N.B.) |
| November 1-9 | Connie MacDonald in Edmonton, Winnipeg, Regina and Sault St-Marie giving presentations for the EMS review. |
| November 6-9 | W.A. Switzer and T. Fisher in Washington at the AUTO CARTO IV conference to give a CLDS presentation.<br>W.A. Switzer stayed over an extra day to provide advice to U.S. National Parks Service in the field of geo-processing. |
| November 13-16 | T. Fisher in Vancouver and Victoria for the EMS review. |
| November 20-21 | N. Chartrand in Burlington for the EMS review. |

## 7.7 PROGRAM REVIEWS

A significant effort was spent on 3 reviews this past year.

For the Tomlinson study, a large software effort was required to prepare the statistics demanded by the reviewers. In addition a fair amount of time was spent in technical discussions and demonstrations of system capabilities. The output of this study is a report that has been submitted to management.

The EMS evaluation required some effort in the preparation of new statistics, but its impact on the CLDS was primarily in the time spent in the preparation and presentation of seminars and travel. (I believe we hold both the daily and weekly records for the most presentation-9 in one day and 16 in 1 week!)

The third review was ongoing during that of Tomlinson Associates. The Auditor General conducted a comprehensive review of EDP operations within the Department. Although this was the least time consuming of all reviews, it still redirected scarce resources.

## 8. MISCELLANEOUS ITEMS

The Lands Directorate acquired some sophisticated Audio Visual equipment which was declared surplus elsewhere in the Department. This will be used to prepare taped presentations for distribution to our regional offices and possibly as a surveillance mechanism for our plotter. This would mean that the operator would be able to monitor the plotter from his work station.

A new and much improved system of file security called RAFC was implemented. The question of integrity of the CLDS data base become more critical with the installation of terminals across the country. Under the security systems previous to RACF it was nearly impossible to control access to computer files. Under RACF access can be controlled very closely and the users are given access to only that information relevent to their needs.

As there is currently not a CLDS terminal available in Saskatchewan, reusable packing crates were prepared and a terminal was shipped to Regina for retrieval of information from the Flying Creek Study Area. This terminal was shipped to Amherst, Nova Scotia early in January for a 2 month trial period.

Ernie Beaudette is a member of and helped to establish the Employee Assistance Program for the Department.

Our drum scanner continued to support Agriculture Canada. It was used to scan 4 field image prints.

## 9. COST OF OPERATIONS

To November 30, 1979

This in the first year (not full year) for which all staff have reported time and costs. Although not 100% accurate and in need of some refining which will be incorporated starting April 1/80, the following tables give a reasonable picture of where resources have been expended.

In its current implementation, computer costs quoted are gross and not net. There are however a number of fixed computer overhead costs that are not reported and it is anticipated that these will cancel the difference between net and gross billing. Also manpower costs are charged at the highest rate for a given classification level and not an average or actual salary.

Finally, only computer time (about 75% of the O&M budget) and manpower are accounted for. No other O&M (travel, supplies, training) or any salary overtime or any capital expenditures are included.

Unfortunatly, the computer cost billing runs about 2 months behind and thus this data is only good for the 8 months terminating November 30, 1979.

TO NOVEMBER 30/79

SUMMARY OF EXPENDITURES

| ACTIVITY (COLLATOR 381) | COST TO NOV. 30/79 | % OF TOTAL | COST PRORATING 000 | % OF NEW TOTAL |
|---|---|---|---|---|
| 000 | 193,002.69 | 27% | ---------- | --- |
| 945 | 280,750.22 | 40% | 385,720.23 | 54% |
| 946 | 158,895.45 | 22% | 218,305.05 | 31% |
| 947 | 76,554.49 | 11% | 105,177.52 | 15% |
| TOTAL | 709,202.85 | 100% | 709,202.80 | 100% |

PROJECTED YEARLY SPENDING (12 months) = $1,063,804.
(Based on first 8 months)

This represents some 114 projects (studies) split up into 4 activities (page 1 and 2) and 12 groupings (page 3).

PROJECT : CLDS EXPENDITURE SUMMARY BY FINANCIAL CODE

PERIOD OF: NOVEMBER 1 to 30, 1979

| FINANCIAL CODE | BATCH | TSO | MANPOWER | PERIOD TOTAL | MANPOWER COST Apr. 1/79 TO Nov. 30/79 TOTAL | COMPUTER COST Apr. 1/79 TO Nov. 30/79 TOTAL | Apr. 1/79 TO Nov. 30/79 TOTAL |
|---|---|---|---|---|---|---|---|
| 000 | 0 | 0 | 22,228.79 | 22,228.79 | 192,836.63 | 166.06 | 193,002.69 |
| 945 | 22,575.68 | 3,951.12 | 18,267.75 | 44,800.83 | 107,984.44 | 172,765.78 | 280,750.22 |
| 946 | 11,597.23 | 4,371.74 | 3,425.47 | 19,394.44 | 44,605.11 | 114,290.34 | 158,895.45 |
| 947 | 3,420.51 | 4,631.96 | 5,432.79 | 13,485.26 | 32,983.65 | 43,570.84 | 76,554.49 |
| Total | 7,593.42 | 12,954.82 | 49,354.80 | 99,909.32 | 378,409.83 | 330,793.02 | 709,202.85 |

PROJECT : CLDS EXPENDITURE SUMMARY

PERIOD OF: NOVEMBER 1 to 30, 1979

| PROJECT | BATCH | TSO | MANPOWER | PERIOD TOTAL | MANPOWER COST Apr. 1/79 TO Nov. 30/79 TOTAL | COMPUTER COST Apr. 1/79 TO Nov. 30/79 TOTAL | Apr. 1/79 TO Nov. 30/79 TOTAL |
|---|---|---|---|---|---|---|---|
| CLDS Research & Development | 7,084.61 | 5,515.49 | 10,504.01 | 23,104.11 | 66,814.56 | 78,848.33 | 145,662.89 |
| National Land Data Bank | 19,620.42 | 501.38 | 8,546.08 | 28,667.88 | 42,390.86 | 102,609.58 | 145,000.44 |
| Lands Headquarters | 1,547.46 | 166.50 | 581.74 | 2,295.70 | 17,396.12 | 32,820.69 | 50,216.81 |
| Lands Atlantic | 0 | 463.75 | 0 | 463.75 | 2,398.51 | 9,270.33 | 11,668.84 |
| Lands Québec | 0 | 856.33 | 0 | 856.33 | 448.96 | 7,419.96 | 7,868.92 |
| Lands Ontario | 3,564.91 | 212.05 | 328.59 | 4,105.55 | 738.03 | 8,172.98 | 8,911.01 |
| Federal Users | 11.40 | 0 | 1,532.74 | 1,444.14 | 6,164.51 | 6,563.28 | 12,727.79 |
| Provincial Users | 1,204.10 | 2,343.83 | 791.36 | 4,429.29 | 14,937 | 29,228.32 | 44,166.25 |
| Other Users | 8.83 | 0 | 0 | 8.83 | 3,333.33 | 5,162.96 | 8,496.29 |
| Promotion | 0 | 329.28 | 251.20 | 580.48 | 4,504.11 | 3,610.39 | 8,114.50 |
| Maintenance | 3,291.63 | 1,873.90 | 3,462.74 | 8,628.27 | 28,828.83 | 35,560.02 | 64,388.85 |
| Overhead | 1,179.34 | 692.31 | 23,351.34 | 25,224.99 | 191.671.92 | 11,900.33 | 203,572.25 |
| Total | 37,602,70 | 12,954.82 | 49,351.80 | 99,909.32 | 379,627.67 | 331,167.17 | 710,794.84 |

PROJECT : CLDS PERCENTAGE EXPENDITURE BREAKDOWN

PERIOD OF:

| PROJECT | EXPENDITURE AS % OF TOTAL | EXPENDITURE AS % OF TOTAL OVERHEAD PRORATED |
|---|---|---|
| CLDS Research & Development | 20 | 28 |
| National Land Data Bank | 20 | 28 |
| Lands Headquarters | 7 | 10 |
| Lands Atlantic | 2 | 3 |
| Lands Québec | 1 | 1.5 |
| Lands Ontario | 1 | 1.5 |
| Federal Users | 2 | 3 |
| Provincial Users | 6 | 8 |
| Other Users | 1 | 1.5 |
| Promotion | 1 | 1.5 |
| Maintenance | 9 | 13 |
| Overhead | 29 | 0 |
| Total | 99 | 99 |

CLDS Operations - Research and Development, Maintenance and Promotion = 42.5%
National Land Data Bank 28 %
Lands Projects 16 % 86.5% LANDS
Others: Federal and all others 12.5%

PROJECT : CLDS RESEARCH & DEVELOPMENT

PERIOD OF: NOVEMBER 1 to 30, 1979

| PROJECT | BATCH | TSO | OTHER | MANPOWER | PERIOD TOTAL | MANPOWER COST Apr. 1/79 TO Nov. 30/79 TOTAL | COMPUTER COST Apr. 1/79 TO Nov. 30/79 TOTAL |
|---|---|---|---|---|---|---|---|
| Graphics Development Gen. 3190-0108 (945-0228) (includes 3190-0108-05) | 436.24 | 451.76 | 0 | 372.69 | 1,260.69 | 9,427.38 | 18,424.92 |
| Graphics Point Data 3190-0108-04 (947-0202) | 1,266.52 | 3,678.15 | 0 | 1,254.35 | 6,199.02 | 7,577.80 | 20,580.88 |
| S & F Conversion 3109-0114 (945-0205) | 1,705.54 | 237.37 | 0 | 1,309.84 | 3,252.75 | 10,776.49 | 9,778.27 |
| Graphics Optimization (CL) 3190-0151 (945-0228) | 0 | 0 | 0 | 0 | 0 | 0 | 1,146.69 |
| Automap General 3190-0159 (945-0217) | 0 | 0 | 0 | 31.86 | 31.86 | 2,436.02 | 0 |
| CGIS Automap Interface 3190-0159-03 (947-0203) | 2,153.99 | 953.81 | 0 | 3,121.94 | 6,229.74 | 15,964.24 | 21,494.61 |
| DICOMED 3190-0166-01 (947-0204) | 0 | 0 | 0 | 24.56 | 24.56 | 1,786.64 | 279.40 |
| Grid Generation 3190-0166-02 (945-0207) | 0 | 0 | 0 | 0 | 0 | 153.50 | 1,615.11 |
| Grid Algorithms 3190-0166-03 (945-0225) | 0 | 0 | 0 | 1,715.07 | 1,715.07 | 3,453.11 | 0 |
| Data Interchange Standards 3190-0173-08 (947-0302) | 0 | 0 | 0 | 0 | 0 | 187.08 | 0 |
| Scanner/Digitizer Tests (CL) 3190-0173-09 (945-0232) | 0 | 0 | 0 | 0 | 0 | 29.40 | 326.34 |
| H.P. Area Calculation 3190-0177-16 (945-0218) | 0 | 0 | 0 | 0 | 0 | 1,622.82 | 0 |

PERIOD OF: NOVEMBER 1 to 30, 1979

| PROJECT | BATCH | TSO | OTHER | MANPOWER | PERIOD TOTAL | MANPOWER COST Apr. 1/79 TO Nov. 30/79 TOTAL | COMPUTER COST Apr. 1/79 TO Nov. 30/79 TOTAL |
|---|---|---|---|---|---|---|---|
| IDS Display 3190-0177-21 (945-0210) | 33.86 | 194.40 | 0 | 45.24 | 273.50 | 1,962.89 | 2,142.15 |
| H.P. Encoding 3190-0177-23 (945-0211) | 0 | 0 | 0 | 182.28 | 182.28 | 2,449.52 | 0 |
| H.P. Digitizing 3190-0177-24 (945-0212) | 0 | 0 | 0 | 36.96 | 36.96 | 997.10 | 0 |
| Scanner Study 3190-0177-29 (945-0228) | 0 | 0 | 0 | 101.30 | 101.30 | 154.10 | 0 |
| HP-DIGIMAP Interface 3190-0177-30 (945-0230) | 0 | 0 | 0 | 195.36 | 195.36 | 2,656.51 | 0 |
| Line Thinning Tests 3190-0177-32 (945-0232) | 1,488.46 | 0 | 0 | 2,112.56 | 3,601.02 | 3,607.78 | 2,605.25 |
| Census Graphics 3190-0181-02 (945-0219) | 0 | 0 | 0 | 0 | 0 | 659.20 | 28.96 |
| CLI Census Project (CL) 3190-0190-02 (945-0219) | 0 | 0 | 0 | 0 | 0 | 102.37 | 176.45 |
| Point Data General 3190-0202 (945-0202) | 0 | 0 | 0 | 0 | 0 | 318.90 | 137.23 |
| Point Data Reduction 3190-0202-01 (945-0202) | 0 | 0 | 0 | 0 | 0 | 264.82 | 112.07 |
| Point Data Retrieval 3190-0202-02 (945-0202) | 0 | 0 | 0 | 0 | 0 | 226.89 | 0 |
| Total | 7,084.61 | 5,515.49 | 0 | 10,504.01 | 23,104.11 | 66,814.56 | 78,848.33 |

PROJECT : NATIONAL LAND DATA BANK

PERIOD OF: NOVEMBER 1 to 30, 1979

| PROJECT | BATCH | TSO | OTHER | MANPOWER | PERIOD TOTAL | MANPOWER COST Apr. 1/79 TO Nov. 30/79 TOTAL | COMPUTER COST Apr. 1/79 TO Nov. 30/79 TOTAL |
|---|---|---|---|---|---|---|---|
| CGIS Map Input (945-0000) | 0 | 0 | 0 | 1,585.51 | 1,585,51 | 6,607.24 | 0 |
| H.P. Mini Computer 3103-13 (945-0100) | 0 | 0 | 0 | 142.56 | 142.56 | 970.23 | 0 |
| CLI Tabular Reports (CL) 3115-02 (945-0000) | 16.30 | 0 | 0 | 0 | 16.30 | 0 | 82.13 |
| Ontario Timber (CL) 3118-31 (945-0000) | 0 | 0 | 0 | 0 | 0 | 0 | 51.13 |
| James Bay 3118-36 (945-0104) | 5,324.21 | 0 | 0 | 4,297.25 | 9,621.46 | 13,163.59 | 14,164.15 |
| CLI Edits 3190-0052-03 (945-0201) | 110.03 | 0 | 0 | 8.82 | 118.85 | 8.82 | 2,158.26 |
| Production Support General 3190-0053 (945-0201) | 0 | 0 | 0 | 154.35 | 154.35 | 1,790.30 | 3,963.29 |
| CLI Production Support 3190-0053-01 (945-0201) | 3,519.44 | 0 | 0 | 190.08 | 3,709.52 | 1,629.44 | 34,597.76 |
| Special Coverage Support 3190-0053-02 (945-0000) | 0 | 85.81 | 0 | 44.10 | 129.91 | 1,181.34 | 864.25 |
| Overlay Rec/Ungl/76 Census 3190-0068-06 (946-0105) | 0 | 0 | 0 | 0 | 0 | 142.92 | 2,011.56 |
| N. Alta Watrfwl/Ungl/76 Census 3190-0068-07 (946-0106) | 0 | 0 | 0 | 0 | 0 | 868.81 | 2,503.38 |
| Northern Land Use 3190-0102-06 (945-0110) | 0 | 0 | 0 | 0 | 0 | 503.29 | 285.03 |

PROJECT : NATIONAL LAND DATA BANK

PERIOD OF: NOVEMBER 1 to 30, 1979

| PROJECT | BATCH | TSO | OTHER | MANPOWER | PERIOD TOTAL | MANPOWER COST Apr. 1/79 TO Nov. 30/79 TOTAL | COMPUTER COST Apr. 1/79 TO Nov. 30/79 TOTAL |
|---|---|---|---|---|---|---|---|
| Land Use Urban Centres 3190-0102-07 (945-0111) (CLUMP) | 5,027.24 | 387.89 | 0 | 600.83 | 6,015.96 | 5,010.83 | 15,332.07 |
| Map Cost Stats 3190-0177-26 (945-0214) | 0 | 0 | 0 | 0 | 0 | 979.57 | 1,327.08 |
| Federal Lands Data Base 3190-0196-02 (945-0108) | 446.02 | 27.68 | 0 | 559.07 | 1,033.37 | 3,218.47 | 1,456.18 |
| CLI Tabulations 3190-0199 (945-0104) | 0 | 0 | 0 | 741.21 | 741.21 | 4,627.71 | 93.91 |
| CLI County Tabulations 3190-0199-01 (946-0104) | 5,176.58 | 0 | 0 | 222.30 | 5,398.88 | 327.54 | 23,346.25 |
| Total | 19,620.42 | 501.38 | 0 | 8,546.08 | 28,667 88 | 42,390.86 | 102,609.58 |

PROJECT : LANDS HEADQUARTERS

PERIOD OF: NOVEMBER 1 to 30, 1979

| PROJECT | BATCH | TSO | OTHER | MANPOWER | PERIOD TOTAL | MANPOWER COST Apr. 1/79 TO Nov. 30/79 TOTAL | COMPUTER COST Apr. 1/79 TO Nov. 30/79 TOTAL |
|---|---|---|---|---|---|---|---|
| CLUMP Grid Sampling 3190-0102-04 (945-0107) | 0 | 0 | 0 | 0 | 0 | 1,124.74 | 6,046.63 |
| Ecoregions of Canada 3190-0102-08 (945-0112) | 0 | 0 | 0 | 18.60 | 18.60 | 951.78 | 2,235.26 |
| B.C. Agr. Circles 3190-0125-07 (946-0108) | 0 | 0 | 0 | 0 | 0 | 43.66 | 665.95 |
| CMHC Windsor 3190-0125-08 (946-0402) | 189.92 | 166.50 | 0 | 268.24 | 624.66 | 3,930.97 | 7,306.47 |
| CMA Land Use 3190-0125-12 (945-0130) | 0 | 0 | 0 | 0 | 0 | 251.84 | 865.92 |
| Federal Lands Pilot 3190-0196-01 (945-0106) | 22.35 | 0 | 0 | 0 | 22.35 | 3,315.53 | 4,579.84 |
| Saugeen Land Use 3190-0200-04 (946-0410) | 1,335.19 | 0 | 0 | 294.90 | 1,630.09 | 7,777.60 | 11,120.62 |
| Total | 1,547.46 | 166.50 | 0 | 581.74 | 2,295.70 | 17,396.12 | 32,820.69 |

PROJECT : LANDS ATLANTIC

PERIOD OF: NOVEMBER 1 to 30, 1979

| PROJECT | BATCH | TSO | OTHER | MANPOWER | PERIOD TOTAL | MANPOWER COST Apr. 1/79 TO Nov. 30/79 TOTAL | COMPUTER COST Apr. 1/79 TO Nov. 30/79 TOTAL |
|---|---|---|---|---|---|---|---|
| Halifax Library Program 3190-0183 (945-0000) | 0 | 0 | 0 | 0 | 0 | 0 | 68.59 |
| P.E.I. General 3190-0187 (946-0000) | 0 | 0 | 0 | 0 | 0 | 44.10 | 34.96 |
| P.E.I. Land Holdings 3190-0187-01 (946-0403) | 0 | 0 | 0 | 0 | 0 | 2,287.69 | 1,646.51 |
| Lands Maritimes 3190-0208 (946-0116) | 0 | 463.75 | 0 | 0 | 463.75 | 66.72 | 7,520.27 |
| Total | 0 | 463.75 | 0 | 0 | 463.75 | 2,398.51 | 9,270.33 |

PROJECT : LANDS QUEBEC

PERIOD OF: NOVEMBER 1 to 30, 1979

| PROJECT | BATCH | TSO | OTHER | MANPOWER | PERIOD TOTAL | MANPOWER COST Apr. 1/79 TO Nov. 30/79 TOTAL | COMPUTER COST Apr. 1/79 TO Nov. 30/79 TOTAL |
|---|---|---|---|---|---|---|---|
| Québec Lands Office (General) 3190-0207 (946-0124) | 0 | 856.33 | 0 | 0 | 856.33 | 448.96 | 7,419.96 |
| Total | 0 | 856.33 | 0 | 0 | 856.33 | 448.96 | 7,419.96 |

PROJECT : LANDS ONTARIO

PERIOD OF: NOVEMBER 1 to 30, 1979

| PROJECT | BATCH | TSO | OTHER | MANPOWER | PERIOD TOTAL | MANPOWER COST Apr. 1/79 TO Nov. 30/79 TOTAL | COMPUTER COST Apr. 1/79 TO Nov. 30/79 TOTAL |
|---|---|---|---|---|---|---|---|
| Lands - Ontario Regional Office (General) 3190-0200 (946-0000) | 0 | 204.90 | 0 | 0 | 204.90 | 0 | 1,226.23 |
| Kitchener Data Base 3190-0200-05 (946-0417) | 0 | 0 | 0 | 0 | 0 | 372.60 | 3,009.26 |
| Kitchener 2km Grid 3190-0200-06 | 3,564.91 | 7.15 | 0 | 328.59 | 3,900.65 | 365.43 | 3,937.49 |
| Total | 3,564.91 | 212.05 | 0 | 328.59 | 4,105.55 | 738.03 | 8,172.98 |

PROJECT : FEDERAL USERS

PERIOD OF: NOVEMBER 1 to 30, 1979

| PROJECT | BATCH | TSO | OTHER | MANPOWER | PERIOD TOTAL | MANPOWER COST Apr. 1/79 TO Nov. 30/79 TOTAL | COMPUTER COST Apr. 1/79 TO Nov. 30/79 TOTAL |
|---|---|---|---|---|---|---|---|
| EPS 80 KM Grid<br>3190-0020 (946-0125) | 0 | 0 | 0 | 1,127.63 | 1,127.63 | 1,453.99 | 0 |
| CFS<br>3190-0164 (945-0109) | 0 | 0 | 0 | 117.01 | 117.01 | 248.37 | 854.29 |
| DND Automap<br>3190-0193-01 (946-0111) | 0 | 0 | 0 | 105.60 | 105.60 | 1,182.16 | 720.15 |
| Parks General<br>3190-0195 (947-0101) | 0 | 0 | 0 | 39.94 | 39.94 | 233.19 | 890.95 |
| Terra Nova National Park<br>3190-0195-02 (946-0406) | 0 | 0 | 0 | 0 | 0 | 494.47 | 133.69 |
| Parks-Canada-Firth River<br>3190-0195-03 (946-0101) | 0 | 0 | 0 | 0 | 0 | 175.10 | 392.65 |
| Parks-Firth R.<br>3190-0195-04 (946-0407) | 0 | 0 | 0 | 0 | 0 | 505.09 | 2,126.93 |
| C.W.S.<br>3190-0198-02 (946-0102) | 0 | 0 | 0 | 0 | 0 | 24.96 | 1.34 |
| Agr. Can.<br>3190-0211 (946-0305) | 0 | 0 | 0 | 0 | 0 | 150.67 | 90.71 |
| Indian Affairs<br>3190-0213 (946-0122) | 0 | 0 | 0 | 0 | 0 | 1,490.88 | 1,341.17 |

PROJECT : FEDERAL USERS

PERIOD OF: NOVEMBER 1 to 30, 1979

| PROJECT | BATCH | TSO | OTHER | MANPOWER | PERIOD TOTAL | MANPOWER COST Apr. 1/79 TO Nov. 30/79 TOTAL | COMPUTER COST Apr. 1/79 TO Nov. 30/79 TOTAL |
|---|---|---|---|---|---|---|---|
| FIDS Project 3190-0215-01 (946-0303) | 11.40 | 0 | 0 | 142.56 | 153.96 | 205.63 | 11.40 |
| Total | 11.40 | 0 | 0 | 1,532.74 | 1,544.14 | 6,164.51 | 6,563.28 |

PERIOD OF: NOVEMBER 1 to 30, 1979

| PROJECT | BATCH | TSO | OTHER | MANPOWER | PERIOD TOTAL | MANPOWER COST Apr. 1/79 TO Nov. 30/79 TOTAL | COMPUTER COST Apr. 1/79 TO Nov. 30/79 TOTAL |
|---|---|---|---|---|---|---|---|
| Cypress Hills Provincial (Alberta) 3190-0148-04 (946-0411) | 0 | 0 | 0 | 0 | 0 | 3,092.31 | 6,130.57 |
| Alberta Furbearing Capability 3190-0148-05 (946-0413) | 173.60 | 0 | 0 | 54.04 | 227.64 | 1,264.75 | 1,224.93 |
| Alberta County Pilot 3190-0148-06 (946-0415) | 0 | 0 | 0 | 0 | 0 | 854.52 | 2,060.17 |
| Forest Inventory of N.S. 3190-0184-01 (946-0408) | 0 | 0 | 0 | 0 | 0 | 21.97 | 0 |
| N.S. Spruce Budworm 3190-0184-02 (946-0409) | 229.69 | 578.93 | 0 | 363.09 | 1,171.71 | 584,34 | 1,334.01 |
| Québec General 3190-0185-01 (947-0102) | 0 | 0 | 0 | 0 | 0 | 693.67 | 325.00 |
| Québec Short Term 3190-0185-01 (946-0418) | 0 | 0 | 0 | 0 | 0 | 481.56 | 0 |
| O.P.D.Q. 3190-0185-02 (946-0418) | 223.37 | 228.89 | 0 | 73.68 | 525.94 | 575.20 | 5,535.55 |
| James Bay Development Corporation 3190-0185-04 (946-0127) | 514.82 | 76.84 | 0 | 221.76 | 813.42 | 1,092.96 | 1,564.75 |
| Manitoba Sumary Reports 3190-0190 (946-0126) | 0 | 0 | 0 | 0 | 0 | 207.78 | 65.71 |
| Manitoba - Hodgson 3190-0190-02 (946-0126) | 0 | 0 | 0 | 0 | 0 | 102.37 | 176.45 |

PROJECT : PROVINCIAL USERS

PERIOD OF: NOVEMBER 1 to 30, 1979

| PROJECT | BATCH | TSO | OTHER | MANPOWER | PERIOD TOTAL | MANPOWER COST Apr. 1/79 TO Nov. 30/79 TOTAL | COMPUTER COST Apr. 1/79 TO Nov. 30/79 TOTAL |
|---|---|---|---|---|---|---|---|
| Saskatchewan Recreation Circles Tabulations 3190-0191 (946-0127) | 0 | 0 | 0 | 0 | 0 | 359.83 | 223.61 |
| Saskatchewan Flying Creek 3190-0191-03 (946-0401) | 152.62 | 1,459.17 | 0 | 78.79 | 1,690.58 | 5,606.67 | 10,587.57 |
| Total | 1,294.10 | 2,343.83 | 0 | 791.36 | 4,429.29 | 14,937.93 | 29,228.32 |

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PROJECT : OTHER USERS

PERIOD OF: NOVEMBER 1 to 30, 1979

| PROJECT | BATCH | TSO | OTHER | MANPOWER | PERIOD TOTAL | MANPOWER COST Apr. 1/79 TO Nov. 30/79 TOTAL | COMPUTER COST Apr. 1/79 TO Nov. 30/79 TOTAL |
|---|---|---|---|---|---|---|---|
| International Soils Map 3190-0206-02 (946-0118) | 8.83 | 0 | 0 | 0 | 8.83 | 3,333.33 | 5,162.96 |
| Total | 8.83 | 0 | 0 | 0 | 8.83 | 3,333.33 | 5,162.96 |

PROJECT : PROMOTION

PERIOD OF: NOVEMBER 1 to 30, 1979

| PROJECT | BATCH | TSO | OTHER | MANPOWER | PERIOD TOTAL | MANPOWER COST Apr. 1/79 TO Nov. 30/79 TOTAL | COMPUTER COST Apr. 1/79 TO Nov. 30/79 TOTAL |
|---|---|---|---|---|---|---|---|
| Seminars, etc. 3114-01 (000-0930) | 0 | 0 | 0 | 220.50 | 220.50 | 737.51 | 0 |
| CLDS/CGIS Promotion 3114-05 (946-0200) | 0 | 329.28 | 0 | 30.70 | 359.98 | 3,766.60 | 3,610.39 |
| Total | 0 | 329.28 | 0 | 251.20 | 580.48 | 4,504.11 | 3,610.39 |

PERIOD OF: NOVEMBER 1 to 30, 1979

| PROJECT | BATCH | TSO | OTHER | MANPOWER | PERIOD TOTAL | MANPOWER COST Apr. 1/79 TO Nov. 30/79 TOTAL | COMPUTER COST Apr. 1/79 TO Nov. 30/79 TOTAL |
|---|---|---|---|---|---|---|---|
| Inventory of GIS 3112-23 (947-0206) | 0 | 0 | 0 | 0 | 0 | 280.62 | 0 |
| MEC General 3190-0049 (945-0220) | 0 | 0 | 0 | 42.48 | 42.48 | 462.30 | 0 |
| PHASE 5-8 General 3190-0050 (945-0221) | 0 | 0 | 0 | 0 | 0 | 343.20 | 0 |
| Input System 3190-0052 (945-0201) | 8.68 | 0 | 0 | 0 | 8.68 | 784.25 | 764.33 |
| Input System Conversion 3190-0052-02 (945-0201) | 0 | 0 | 0 | 0 | 0 | 706.22 | 0 |
| Utilities 3190-0053-03 (945-0236) | 0 | 0 | 0 | 0 | 0 | 618.06 | 1,491.22 |
| Data Bank Maintenance 3190-0053-08 (945-0237) | 955.55 | 0 | 0 | 98.36 | 1,053.91 | 121.96 | 3,937.92 |
| Tape Library Maintenance 3190-0053-09 (945-0238) | 60.29 | 0 | 0 | 1,055.06 | 1,115.35 | 3,381.90 | 312.41 |
| Disk Maintenance 3190-0053-11 (945-0240) | 1,521.56 | 0 | 0 | 134.14 | 1,655.70 | 157.48 | 11,391.29 |
| Miscellaneous Maintenance 3190-0075 (945-0204) | 654.57 | 1,031.39 | 0 | 105.50 | 1,791.46 | 1,437.78 | 16,243.23 |
| Automatic Backup for CGIS01 3190-0075-04 (945-0204) | 0 | 0 | 0 | 34.61 | 34.61 | 495.05 | 116.65 |

PROJECT : MAINTENANCE

PERIOD OF: NOVEMBER 1 to 30, 1979

| PROJECT | BATCH | TSO | OTHER | MANPOWER | PERIOD TOTAL | MANPOWER COST Apr. 1/79 TO Nov. 30/79 TOTAL | COMPUTER COST Apr. 1/79 TO Nov. 30/79 TOTAL |
|---|---|---|---|---|---|---|---|
| RACF Conversion 3190-0177-25 (945-0213) | 0 | 0 | 0 | 25.56 | 25.56 | 802.27 | 178.90 |
| Tape Library 3190-0177-27 (945-0226) | 0 | 0 | 0 | 0 | 0 | 256.13 | 0 |
| 9 TRK Gerber Conversion 3190-0177-28 (945-0227) | 0 | 0 | 0 | 15.50 | 15.50 | 126.90 | 103.67 |
| MSS Conversion 3190-0177-33 (945-0233) | 90.98 | 842.51 | 0 | 734.75 | 1,668.24 | 782.27 | 933.49 |
| PHASE 4 General 3190-0180 (945-0216) | 0 | 0 | 0 | 0 | 0 | 792.00 | 0 |
| PHASE 3 3190-0180-03 (000-0940) | 0 | 0 | 0 | 0 | 0 | 36.75 | 28.46 |
| Overhead 3200 (000-0940) | 0 | 0 | 0 | 1,216.78 | 1,216.78 | 17,243.69 | 58.45 |
| Total | 3,291.63 | 1,873.90 | 0 | 3,462.74 | 8,628.27 | 28,828.83 | 35,560.02 |

PROJECT : OVERHEAD

PERIOD OF: NOVEMBER 1 to 30, 1979

| PROJECT | BATCH | TSO | OTHER | MANPOWER | PERIOD TOTAL | MANPOWER COST Apr. 1/79 TO Nov. 30/79 TOTAL | COMPUTER COST Apr. 1/79 TO Nov. 30/79 TOTAL |
|---|---|---|---|---|---|---|---|
| CLDS Overhead (000-0940) | 0 | 0 | 0 | 16,421.50 | 16,421.50 | 162,009.79 | 0 |
| Word Processing 3103-10 (947-7708) | 0 | 0 | 0 | 992.00 | 992.00 | 6,260.41 | 0 |
| Standards 3112-03 (945-0229) | 0 | 0 | 0 | 29.84 | 29.84 | 578.61 | 0 |
| Photos, Equipment, etc. 3112-10 (000-0940) | 0 | 0 | 0 | 1,170.07 | 1,170.07 | 3,010.46 | 0 |
| EDP Security 3112-17 (945-0235) | 0 | 0 | 0 | 299.55 | 299.55 | 758.85 | 0 |
| EMS Pgm Evaluation 3112-22 (000-0940) | 0 | 0 | 0 | 1,882.08 | 1,882.08 | 2,844.54 | 0 |
| Committees 3114-02 (000-0940) | 0 | 0 | 0 | 0 | 0 | 934.87 | 0 |
| Reports 3115-01 (000-0940) | 0 | 0 | 0 | 944.71 | 944.71 | 5,091.63 | 0 |
| Cost Recovery 3119 (000-0940) | 0 | 0 | 0 | 373.15 | 373.15 | 853.71 | 0 |
| Accounting 3190-0053-10 (945-0239) | 934.50 | 0 | 0 | 246.70 | 1,181.20 | 766.19 | 5,294.98 |

PROJECT : OVERHEAD

PERIOD OF: NOVEMBER 1 to 30, 1979

| PROJECT | BATCH | TSO | OTHER | MANPOWER | PERIOD TOTAL | MANPOWER COST Apr. 1/79 TO Nov. 30/79 TOTAL | COMPUTER COST Apr. 1/79 TO Nov. 30/79 TOTAL |
|---|---|---|---|---|---|---|---|
| Mailing List Projects 3190-0154 (946-0203) | 16.30 | 0 | 0 | 113.59 | 129.89 | 900.97 | 47.72 |
| Miscellaneous Services 3190-0172 (000-0940) | 0 | 0 | 0 | 0 | 0 | 73.68 | 79.15 |
| Accounting Problems 3190-0177-08 (945-0209) | 36.17 | 0 | 0 | 3.67 | 39.84 | 5,868.28 | 5,593.80 |
| Internal Mailing List 3190-0177-31 (945-0231) | 192.37 | 692.31 | 0 | 876.48 | 1,761.16 | 1,719.93 | 884.68 |
| Total | 1,179.34 | 692.31 | 0 | 23,353.34 | 25,224.99 | 191,671.92 | 11,900.33 |

## 10. CONCLUSIONS

For the first time, last April, two half day workshops were chaired by W.A. Switzer on work to be done by CLDS for the Directorate. The objective was to ascertain the expected workload and to set priorities for data input. This was done and a report was later submitted to Lands management (The System and its Data Base - Some Proposals for Consideration) for approval.

In general, it can be said that most of the Lands programs did not make their expected demands upon the system but we were easily able to shift our resources to those Lands programs that exceeded their expected demands. This transparent internal shift of resources, I believe, resulted in better service to the entire Lands program. (See following Table 10.1)

For the first time in years we were fully staffed for part of the past year and the results began to show especially in our ability to start some significant research and development and to satisfy the demands of users. We were so successful that the applications group has received written praise from external sources for the manner in which presentations and seminars were concluded.

In the production support area, much of the ground work required to accept source maps scanned directly has already been done. When this is fully operational it will eliminate the need to scribe maps. In addition to its obvious benefit to the CLDS, it is a unique piece of research, which as far as we are able to tell has never been fully successfully implemented. When complete this will result in a significant research report and will further enhance our position as a leader in geographic information processing technology.

The software system group has designed and is currently implementing a system that will allow entry of mapped information from turnkey systems, such as Automap, into the CGIS. With the number of these turnkey systems expanding daily (at least so it seems) this potentially gives us access to a tremendous body of digital information.

TABLE 10.1

Lands Programs

(Omitting CLI)

| Project | Projected Map Input | Priority | Actual Map Input |
|---|---|---|---|
| Federal Lands | 50 | H | 7 |
| James Bay (Biophysical) | 120 | H | 75 |
| (Water) | 40 | M | 18 |
| Total Land Use Change | 50 | H | 13 |
| L.U. Pilot Classification Test | 4 | H | 0 |
| NLUIS | 200 | L | 1 |
| (Water) | 200 | L | |
| Hudson Bay Lowlands | 6 | M | 0 |
| Experimental Lakes (ready to input) | 3 | M | 0 |
| Remote Sensing Kitchener | 2 | M | 0 |
| Long Point | 2 | M | 0 |
| CORTS (manuscripts here; no request for input) | 12 | M | 0 |
| Saugeen | 12 | H | 16 |
| CMHC | 9 | H | 9 |
| Flood Plain Pilot | 6 | H | 0 |
| Coal Pilot | ? | ? | 0 |
| Remote Sensing | 2 | L | 0 |
| Ecoregions | 12 | H | 10 |
| TOTAL | 318 (exclusive of low priority input) | | 149 |

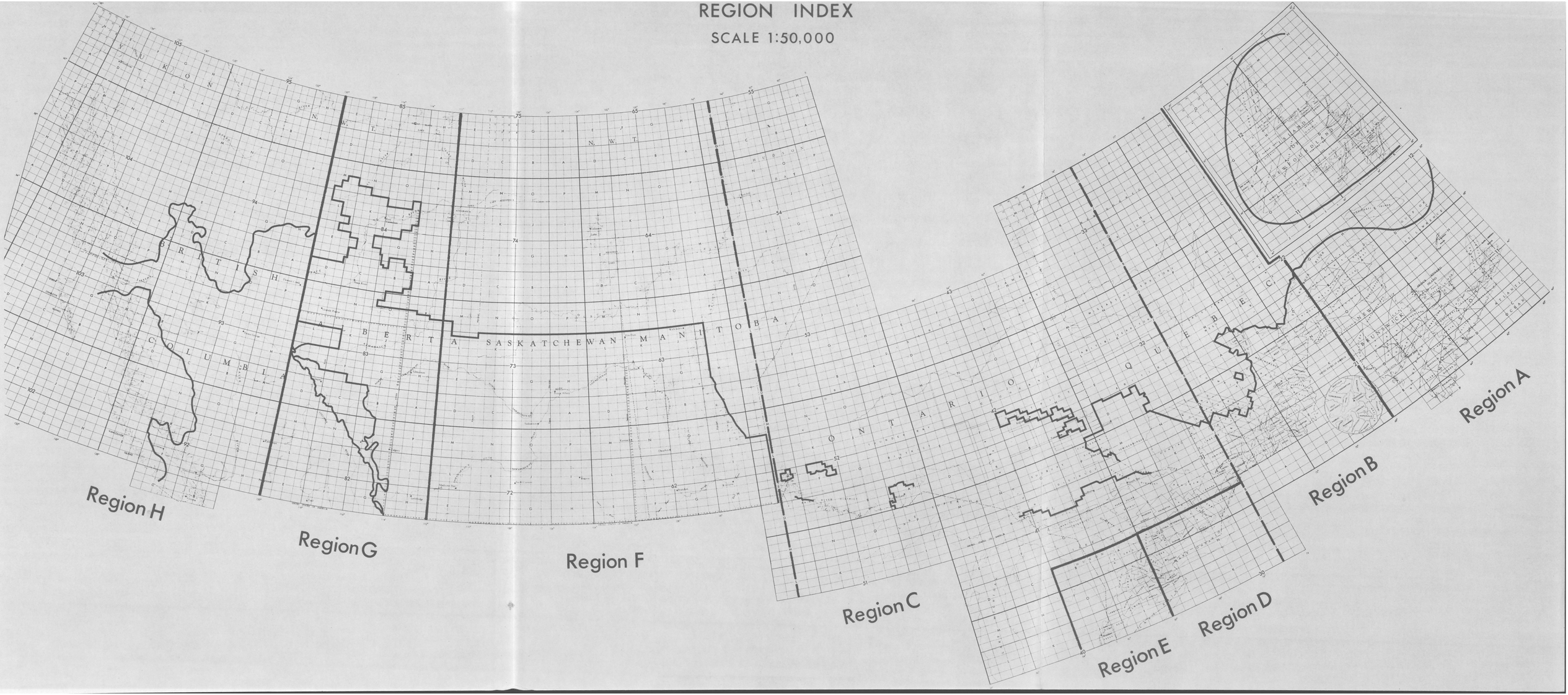
The production group itself continues to provide excellent service in the entry of mapped information. Although this years production of just under 400 maps is somewhat less than average, the number of special projects and related output assignments has been higher than normal. Examples of these latter assignments have included:

- reproduction of topographic base film positives for CLUMP. (photomec work)
- preparation of foils for CLDS presentations
- designing and producing a colour proof cover for reports
- maintaining the Lands organization chart on the AUTOMAP system
- maintaining the 21st floor plan on the AUTOMAP system
- assisting with the preparation of a display of the CLDS
- production of colour proofs for the international soil map and spruce budworm defoliation maps
- operating our map plotter

In conclusion, the past year has offered a variety of opportunities that seemingly continues to expand each year.

# REGION INDEX

SCALE 1:50,000



# REGION INDEX

SCALE 1:250,000