Inuvialuit Granular Resource Management System Training Manual



Indian & Northern Affairs Canada Natural Resources & Environment Branch Land Management Division

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DataManager Application Overview

This technology on which the Inuvialuit Granular Resource Management System is built is the QUIKMAP desktop mapping system and the associated Datamanager interface. Whereas QUIKMAP, is a standalone application Datamanager incorporates several different applications under a single user interface. The Datamanager application incorporates a SQL Query builder, Database browser, report builder, and the Quikmap mapping system. Each application individually functions alone in interactions with databases and or maps all linkages to and descriptions of datasets, maps, reports, etc. are stored in a "Datamgr.DM" file. The functional description of the datamanager application and its components is described in the following diagram.



Datamanager "Datamgr.DM" File Structure

The datamanager "Datamgr.DM" file contains a structural reference to the information sets contained on the CD-ROM. This file is designed to be customized by the end-user and is done so through Datamanagers graphical interface. The "Datamgr.DM" file created for the Inuvialuit Granular Resource Management System contains the most commonly used references, names, and terminology to the archive. The Inuvialuit Granular Resource Management System is designed as a living project, ultimately flexible to the end users' requirements, therefore the datamanager file created (see below) represents a snap shot in time. As the end-user becomes more familiar with the datasets, and application software, they will modify the "Datamgr.DM" to their own specific requirements.

Below DataManager Startup Screen



DataManager File Content

| Main Group | Sub-Group | Sub- | item Name | Data |
|---------------------------------|--------------------|---------------------------------------|--|------|
| Insurabuit Settlement Persion | | subgroup | Amtic Reseman | |
| indvialut dettement Kegion | | <u> </u> | Tuktovaktuk Baseman | BME |
| | | 1 | | DRF |
| | | ł | Place Names | DBF |
| | | | ISR Coastine Baseman | BMF |
| | | - | Baseman of Canada | BMF |
| Maps of the ISR | | 1 | ISR Coastline Basemap | BMF |
| | | | Lakes and Rivers | BMF |
| | | | Land Coloured in Green | DBF |
| | | | Lakes Coloured in Blue | DBF |
| | | | Inuvialuit Settlement Region | SQL |
| | | | Villages, Towns, Hamlets | DBF |
| | | | Place Names of Lakes, Harbours, etc. | DBF |
| | Bathymetry Maps | | Beaufort Sea | BMF |
| | | | Arctic Bathymetry | BMF |
| | | | Beaufort Bathymetry | BMF |
| | | | Tuktoyaktuk Bathymetry | BMF |
| | Smaller Maps | | Tuktoyaktuk Basemap | BMF |
| | | | McKinley Bay | BMF |
| | | | Kittigazuit | BMF |
| | | | Atkinson Point | BMF |
| Database Catalogue Descriptions | | | Beaufort Environmental Atlas Database Descriptions | SQL |
| | | | NWT-ISR Gran. Res. Database Descriptions | SQL |
| | | | Yukon Territory Gran. Res. Database Descriptions | SQL |
| ILA Information | | ļ | Tuktoyaktuk Basemap | BMF |
| | | | ISR Coastline Basemap | BMF |
| | | | Inuvialuit Settlement Region | SQL |
| | | | Garbage Disposal Sites | DBF |
| | | | NWT Land Use | DBF |
| | | | Yukon Land Use | DBF |
| | | | Villages, Towns, Hamlets | DBF |
| | | ļ | Names of rivers, bays, lakes | DBF |
| | | | McKinley Bay | BMF |
| | | | Atkinson Point | |
| | Consulas Deseuvers | | | BMF |
| | Granular Resources | · · · · · · · · · · · · · · · · · · · | ISR Coastine Basemap | BMP |
| | | | Inuviatult Granular Deposits | |
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| | | | Unner Mackanzia Source | |
| | | Yukon | Yukon Granular Resources | BME |
| | | | Demoster Hwy Granular Resource Sources | |
| | Oil and Gas | 1 | Oil Well Drill Locations in the Beaufort Sea | DBF |
| | | | Artificial Islands | DBF |
| | | 1 | Ship Anchorage | DBF |
| - | | | ISR Coastline Baseman | BMF |
| | | | Place Names | DBF |
| | Hunting & Fishina | 1 | Hunting & Fishing Camps | DBF |
| Community Information | | | Airstrips | DBF |
| | Cultural Features | | Places where people live (Summer) | DBF |
| | T | | Places where people live (Winter) | DBF |
| | | 1 | Archeology Sites | DBF |
| | | | Hunting & Fishing Camps | DBF |
| | | | Place Names | DBF |
| Environmental Information | Birds | | Bird Distribution Summary | DBF |
| | | | Birds in the Mackenzie Delta/ISR | DBF |
| | | | Birds in Winter | DBF |

| | Mammals | N | Mammals in the Mackenzie Detta/ISR | DBF |
|------------------------------------|------------------------|-----|--|-----|
| | | N | Mammal Distribution Summary | DBF |
| · · · · · | | N | Mammals in Winter | DBF |
| | Fish | F | Fish Distribution Summary | DBF |
| | | . F | Fish in the Mackenzie Delta/ILA Region | DBF |
| | | F | Fish in Winter | DBF |
| National & Territorial Information | | E | Basemap of Canada | BMF |
| | | C | Canadian Geological Provinces | BMF |
| | | 0 | Canadian Ecosystems | BMF |
| | | N | National Landuse Database | DBF |
| | Cdn. Mineral Potential | | Copper Potential | BMF |
| | | L | Lead Potential | BMF |
| | | | Nickel Potential | BMF |
| | | F | Petroleum Potential | BMF |
| | | l l | Uranium Potential | BMF |
| | | Z | Zinc Potential | BMF |
| | | E | Basemap of Canada | BMF |
| | NWT | N | NWT Basemap | BMF |
| | | N | NWT Landuse | DBF |
| | Yukon Territory | Y | Yukon Basemap | BMF |
| | | ١ | Yukon Granular Resources | DBF |
| | Specific Map Queries | E | Basemap of Canada | BMF |
| | | V | Where are the gold mines? | SQL |
| | | V | Where are the oil resources? | SQL |
| | | V | Where are the iron mines? | SQL |
| North America | | h | North America Coastline | BMF |
| | | (| Cities of North America | BMF |

Applications Overview

- 1. Applications are launched automatically as required by DataManager.
- 2. Applications manipulate only relevant data items in data dictionary.

Data Manager Data Manager File Edit QuikMAP S-Plus Browser Query-Builder Report-Writer View Help A Stor View Help 100 C Sable Island Well One Sol Sable Island Well One Data Sable Island Well One Data Test Atlantic Coastline Basemap AGC Oracle Application One Atlantic Offshore B Malaysia/Miri Application Two Oracle MD at Ottawa CHS HQ 🗟 esi 📾 Harbour2 Delote She dify Nave hall aunch Pac 2 2 12 a la la QuikMAP ForHelp el e Diaplay Ameritation Jools Help Elim B about C B Z C 12 (17) (2) File Edit Fleid Section Line Label C C Aquaculture Database xxxxxxxx mm/ddly 3m m for the pr Key AppCode QuikMap for Windows **Report Writer** EOR-DBMS 3 m 17 wet 1 1.0 Sable Island Well Or r SO1 WORK ADUACUET DEF AS APPLOUDATE TARGETDATE PROPONENT AP9 000117 FAIG TOAT PriceOntrept AP90 100117 APMETROKE OLUCUTURE PRODUCTS 19 Dec 1991 APMETROKE OLUCUTURE PRODUCTS 19 Dec 1991 19 Dec 1993 APMETROKE OLUCUTURE PRODUCTS 19 Dec 1991 19 Dec 1991 10 Dec 1991 EG a state of ARMSTR ARMSTRO ARMSTRO BELLIVEAI BELLIVEAI BELLIVEA (2014) LAT DEB + MH TAT MIN 200 + MN LAT SEC/3600 0) 47 13 DB II (MN LAT DEB + MH LAT RIN 200 + MN LAT SEC/3600 0) > 30.2 BRADFOR Beilevzes Campbell Stuart

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Data Browser

Query Builder

Tutorial Part 2



The Datamanger Application is started by double click the program icon...the data dictionary graphically displays the application data items for use.

Access to Data using Query Builder/Data Browser



Step 1: Launch Query Builder and select "New"



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Step 6: Browse Data



Data Dictionary Manipulation using Data Manager

Data Manager 98 Edit QuikMAP S-Plus Query-Builde Beport-Write File Select group in which a new basemap Vier Hel A E & ? 12 reference will be created **Create New Entry** Name: Atlantic Coast Application Onc Application Two Cracte MD at Oraws CHS HO Environmenter Data New Entry Type Click on "New" to define a new data Q Group item. O Baranap List Concul O Databat Table Type in the name of the basemap O S-Plus Pro a k O Sequel Query O QMW Saved File - 1•= / (c) Dekie Tim Select "Basemap" Launch Pad R 14 Quikblap For Help, press F1 Step 3: Create a new Basemap reference



Step 4: Specify the reference to a BMF file.





| EN EN | e Edit | QuikMAP | <u>\$</u> -Plus | Browser | Data Mai Query-E | lager uilder | <u>Beport-Write</u> | Yicw | <u>H</u> elp | • [• |
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Step 9: Report created and added to list.







Step 2: Viewing maps and data in QuikMap

Structured Query Language - SQL Overview

SQL is a standardized language for relational databases. It is easy to use and effective. What is an SQL query and when would you use one?

An SQL query is a query you create using an SQL statement. Some examples of SQL-specific queries are the union query, pass-through query, data-definition query, and subquery.

SQL string/statement

An expression that defines an SQL command, such as SELECT, UPDATE, or DELETE, and includes clauses such as WHERE and ORDER BY. SQL strings/statements are typically used in queries and in aggregate functions. They are also used as the record source for forms, reports, list boxes, and combo boxes if you use wizards to create these objects.

Union query

This type of query combines fields (columns) from one or more tables or queries into one field or column in the query's results. For example, if you have six vendors that send new inventory lists each month, you can combine these lists into one result set using a union query, and then create a make-table query based on the union query to make a new table.

Pass-through query

This type of query sends commands directly to ODBC databases, such as Microsoft SQL Server, using commands that are accepted by the server. For example, you can use a pass-through query to retrieve records or change data.

Subquery

This type of query consists of an SQL SELECT statement inside another select query or action query. You can enter these statements in the Field row of the query design grid to define a new field, or in the Criteria row to define criteria for a field. You can use subqueries to:

- Test for the existence of some result from the subquery (using the EXISTS or NOT EXISTS reserved words).
- Find any values in the main query that are equal to, greater than, or less than values returned by the subquery (using the ANY, IN, or ALL reserved words).
- Create subqueries within subqueries (nested subqueries).

SQL functions

The SQL functions are like functions in mathematics or other computer languages. One group of functions operate on one row at a time, the other - aggregate functions - operate on multiple results, the whole table or result set. There is a basic set of SQL functions defined by the ANSI standard, but most vendors have added their own functions.

Common aggregate functions are:

- □ AVG() Average of the values in a column
- □ COUNT() Number of NOT NULL values in a column
- □ FIRST() Value of column of the first row, rows are not in any order
- □ LAST() Value of column of the last row
- □ MAX() Greatest value in a column (maximum)
- □ MIN() Least value in a column (minimum)
- □ SUM() Total sum of values in a column (sigma)

Examples of expressions in SQL statements

You can use an expression in many places in an SQL statement, as the following examples show.

| Expression | Result |
|---|--|
| SELECT [FirstName], [LastName] FROM | Displays the values in the FirstName and LastName |
| Employees WHERE [LastName]="Davolio"; | fields for employees whose last name is Davolio. |
| SELECT [ProductID], [ProductName] FROM | Displays the values in the ProductID and |
| Products WHERE [CategoryID]=Forms![New | ProductName fields in the Products table for records |
| Products]![CategoryID]; | in which the CategoryID value matches the |
| | CategoryID value specified in an open New |
| | Products form. |
| SELECT Avg([OrderAmount]) FROM Orders | Calculates the average sale for orders for which the |
| WHERE [OrderAmount]>1000; | value in the OrderAmount field is more than 1000. |
| SELECT Department, Count([Department]) FROM | Displays departments having more than 100 |
| Employees GROUP BY Department HAVING | employees. |
| Count([Department])>100; | |