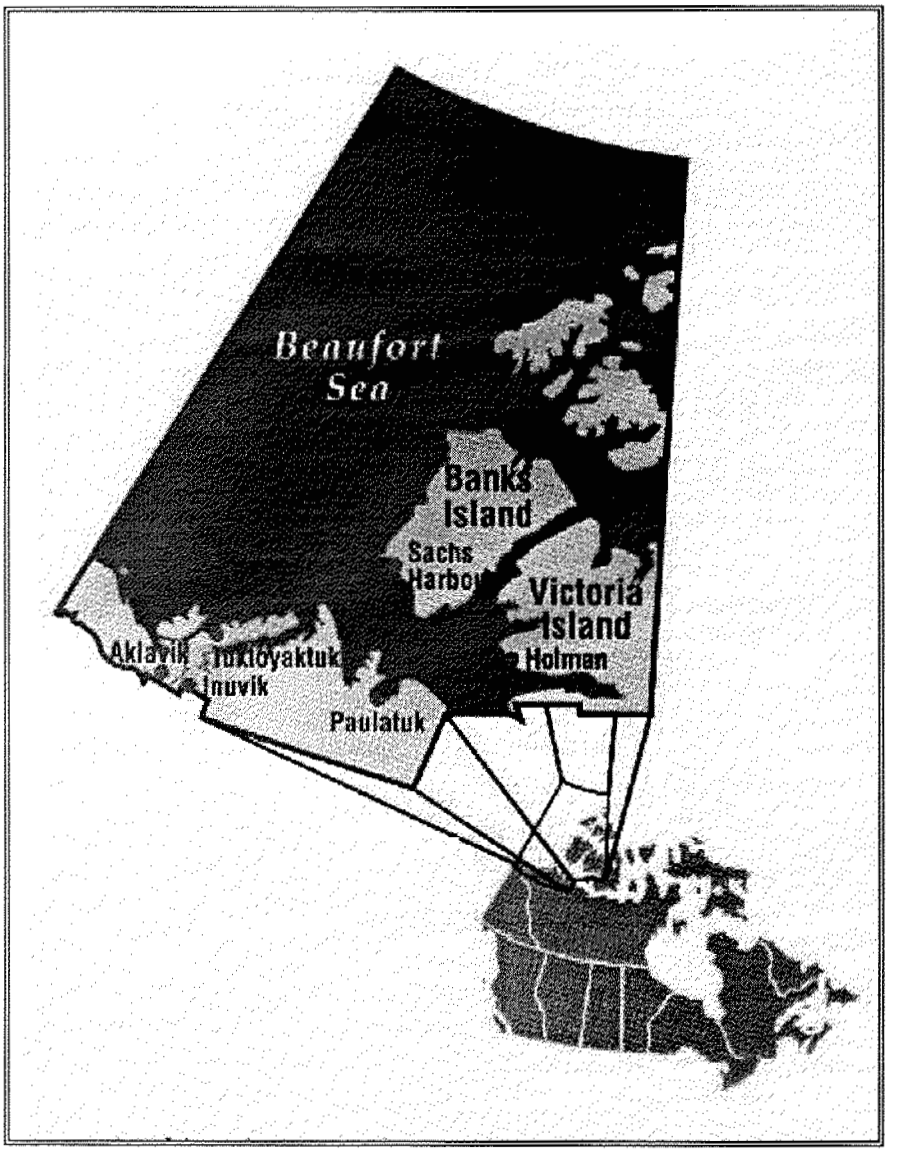
Inuvialuit Granular Resource Management System Training Manual



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

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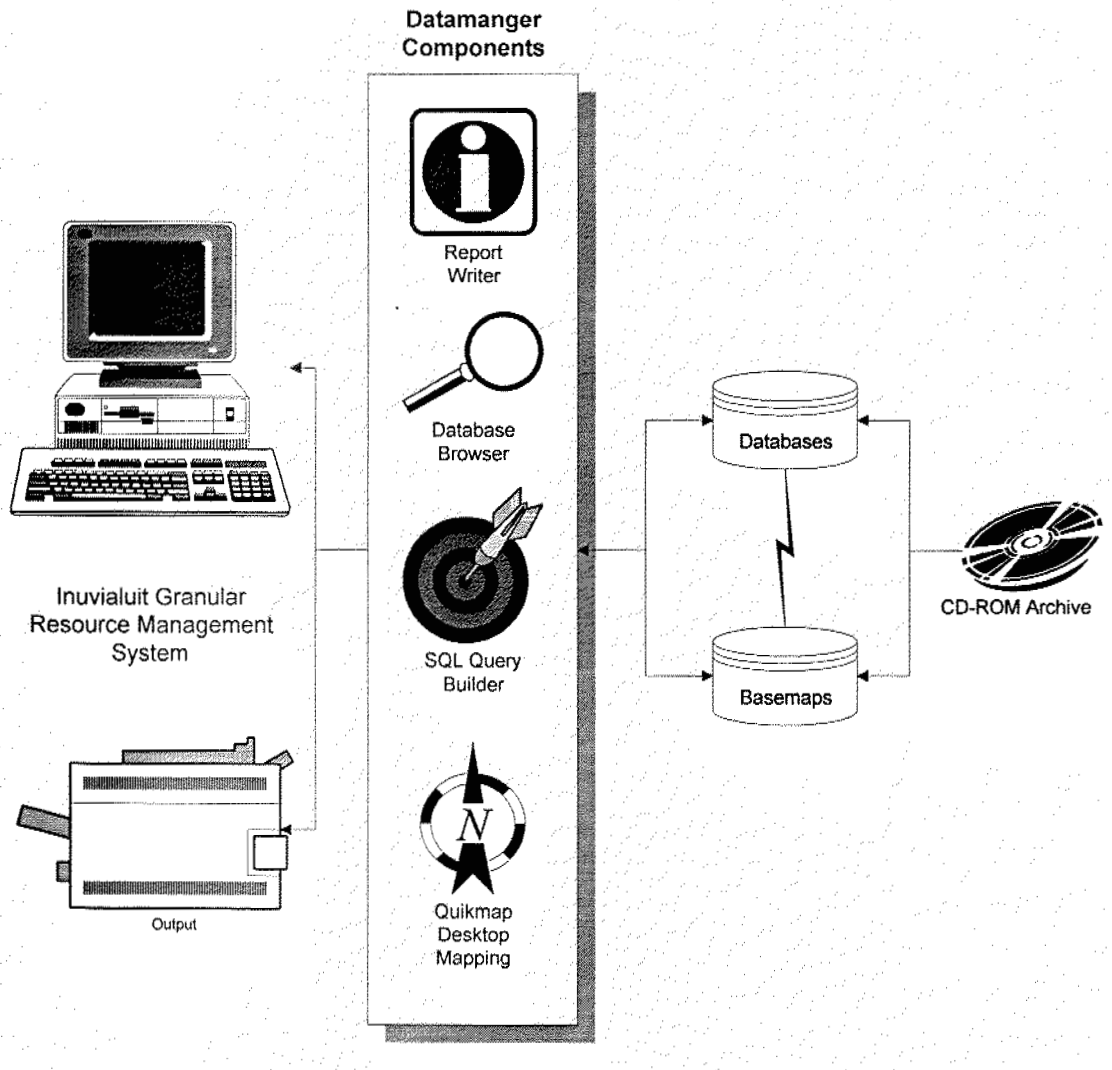
DataManager Application Overview

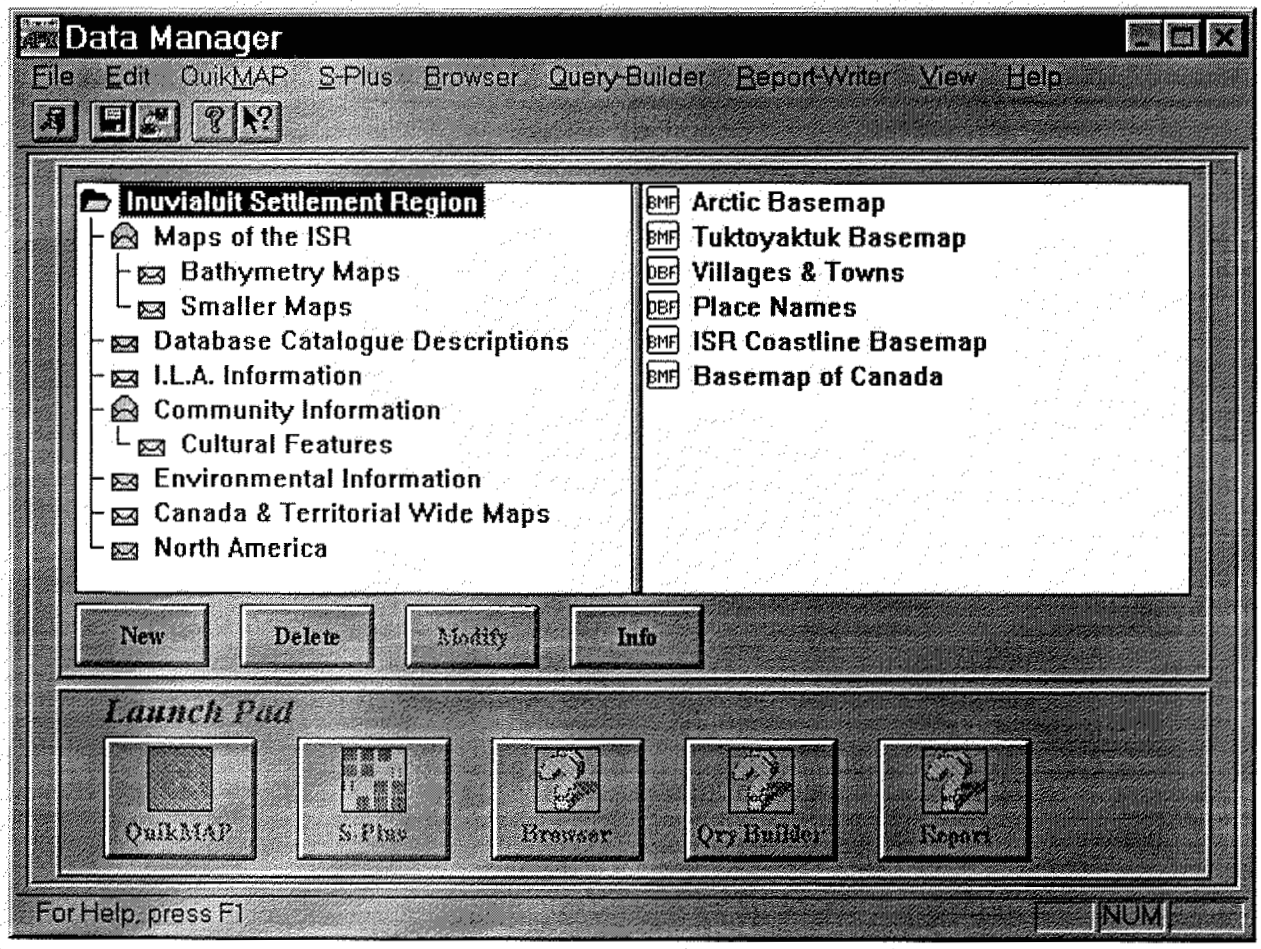
This technology on which the Inuvialuit Granular Resource Management System is built is the QUIKMAP desktop mapping system and the associated Datamanager interface. Whereas QUIKMAP, is a standalone application Datamanager incorporates several different applications under a single user interface. The 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

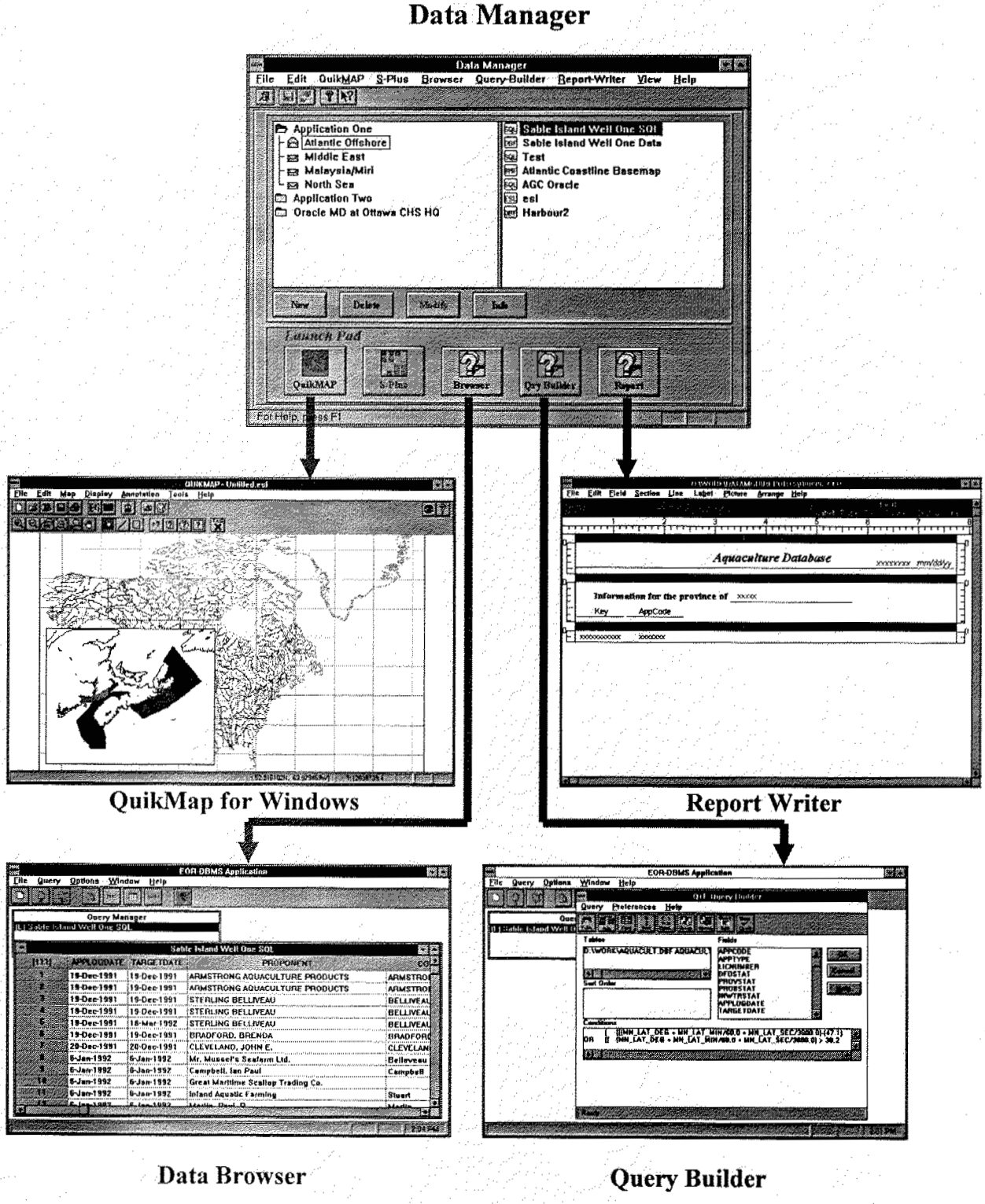
Main Group	Sub-Group	Sub-subgroup	Item Name	Data Type
Inuvialuit Settlement Region			Arctic Basemap	BMF
			Tuktoyaktuk Basemap	BMF
			Villages & Towns	DBF
			Place Names	DBF
			ISR Coastline Basemap	BMF
			Basemap of Canada	BMF
Maps of the ISR			ISR Coastline Basemap	BMF
			Lakes and Rivers	BMF
			Land 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			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
			Names of rivers, bays, lakes	DBF
			McKinley Bay	BMF
			Atkinson Point	BMF
			Kittgazuit Bay	BMF
	Granular Resources		ISR Coastline Basemap	BMF
			Inuvialuit Granular Deposits	DBF
			Inuvialuit Sources	DBF
			All Granular Deposits on Land	DBF
			Community Materials Inventory	DBF
			Place Names	DBF
			Upper Mackenzie Sources	DBF
		Yukon	Yukon Granular Resources	BMF
			Dempster Hwy Granular Resource Sources	DBF
	Oil and Gas		Oil Well Drill Locations in the Beaufort Sea	DBF
			Artificial Islands	DBF
			Ship Anchorage	DBF
			ISR Coastline Basemap	BMF
			Place Names	DBF
	Hunting & Fishing		Hunting & Fishing Camps	DBF
Community Information			Airstrips	DBF
	Cultural Features		Places where people live (Summer)	DBF
			Places where people live (Winter)	DBF
			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		Mammals in the Mackenzie Delta/ISR	DBF
			Mammal Distribution Summary	DBF
			Mammals in Winter	DBF
	Fish		Fish Distribution Summary	DBF
			Fish in the Mackenzie Delta/ILA Region	DBF
			Fish in Winter	DBF
National & Territorial Information			Basemap of Canada	BMF
			Canadian Geological Provinces	BMF
			Canadian Ecosystems	BMF
			National Landuse Database	DBF
	Cdn. Mineral Potential		Copper Potential	BMF
			Lead Potential	BMF
			Nickel Potential	BMF
			Petroleum Potential	BMF
			Uranium Potential	BMF
			Zinc Potential	BMF
			Basemap of Canada	BMF
	NWT		NWT Basemap	BMF
			NWT Landuse	DBF
	Yukon Territory		Yukon Basemap	BMF
			Yukon Granular Resources	DBF
	Specific Map Queries		Basemap of Canada	BMF
			Where are the gold mines?	SQL
			Where are the oil resources?	SQL
			Where are the iron mines?	SQL
North America			North America Coastline	BMF
			Cities of North America	BMF

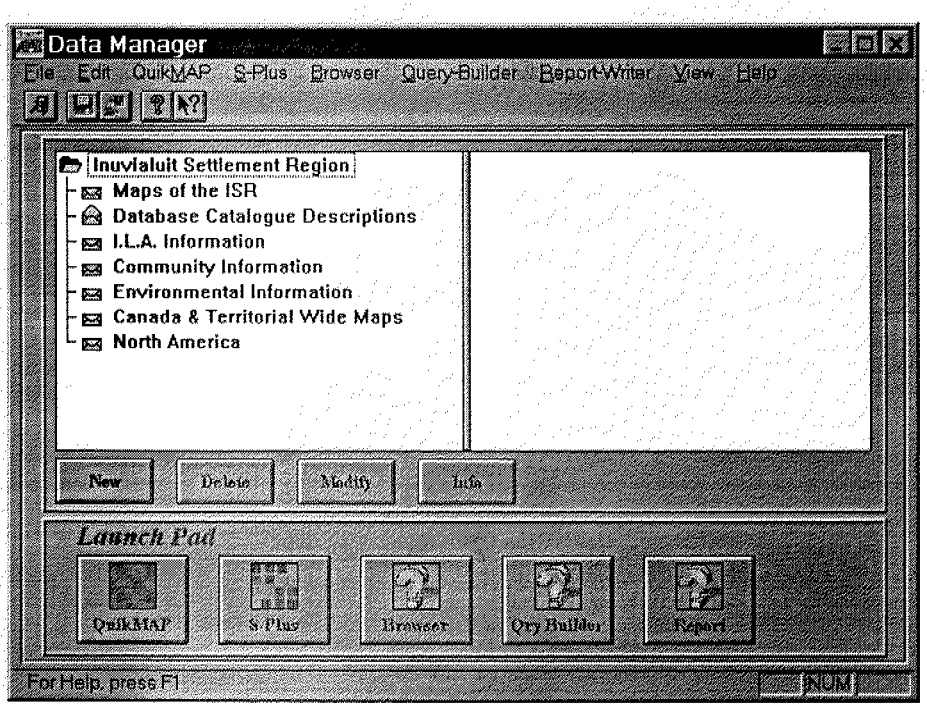
Tutorial Part 1

Applications Overview

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

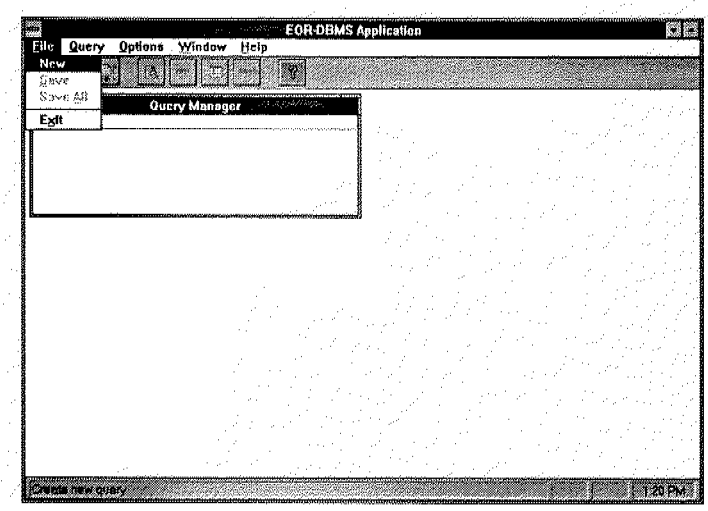


Tutorial Part 2

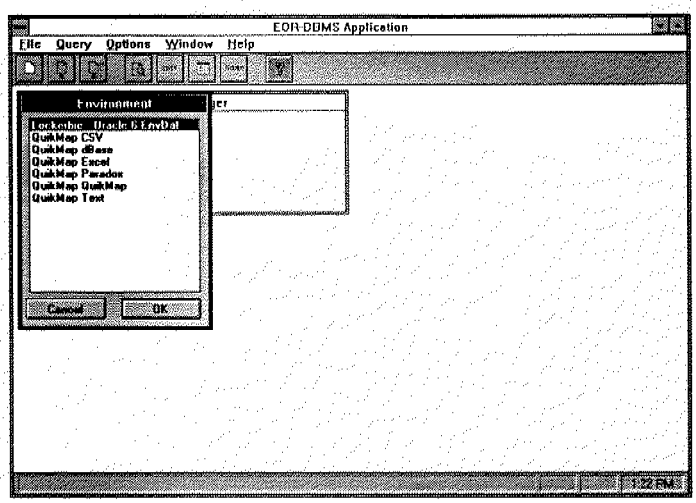


The Datamanger Application is started by double click the program icon…the data dictionary graphically displays the application data items for use.

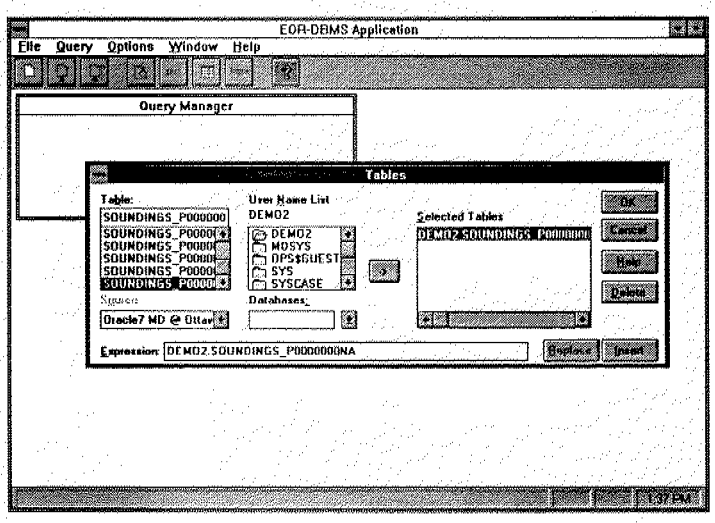
Access to Data using Query Builder/Data Browser



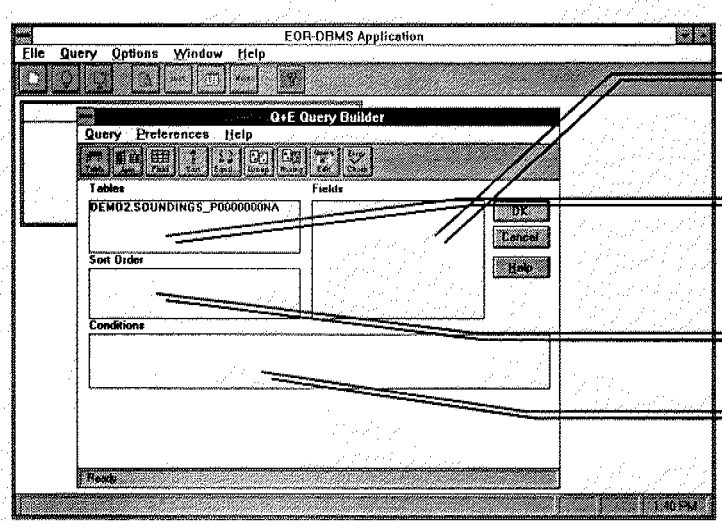
Step 1: Launch Query Builder and select "New"



Step 2: Select a data source



Step 3: Select Table



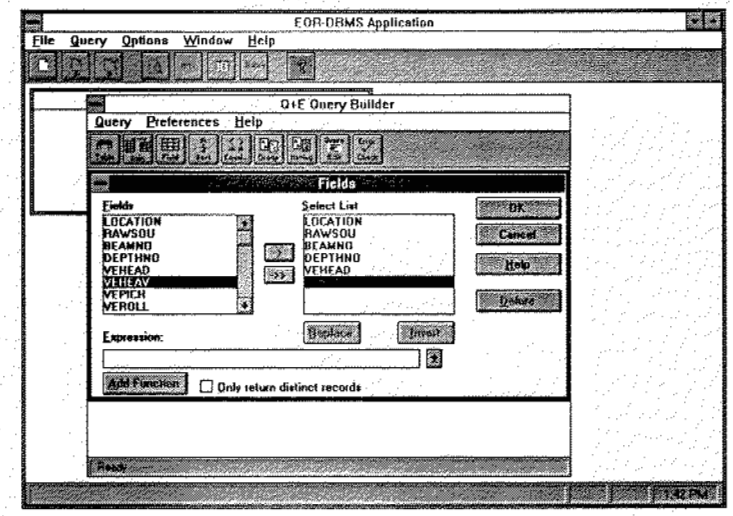
Click here to select from a list of available fields. Go on to step 6.

Click here to go back to step 5 to reselect from a list of available tables or choose more tables to join.

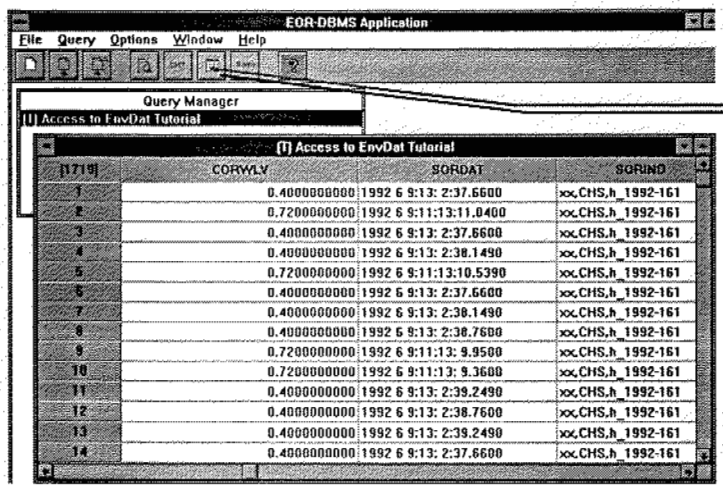
Click here to add Sort order.

Click here to add selection condition.

Step 4: Query Building dialogs



Step 5: Select fields

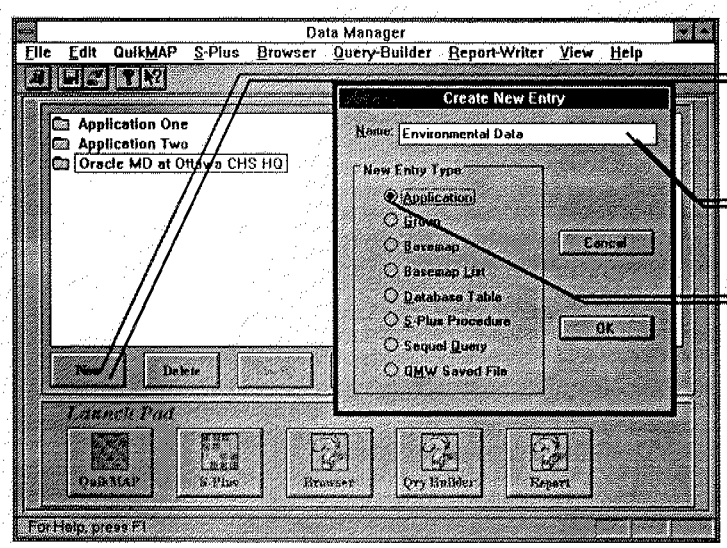


Click "Browse" button to activate browser on selected SQL.

Step 6: Browse Data

Tutorial Part 3

Data Dictionary Manipulation using Data Manager

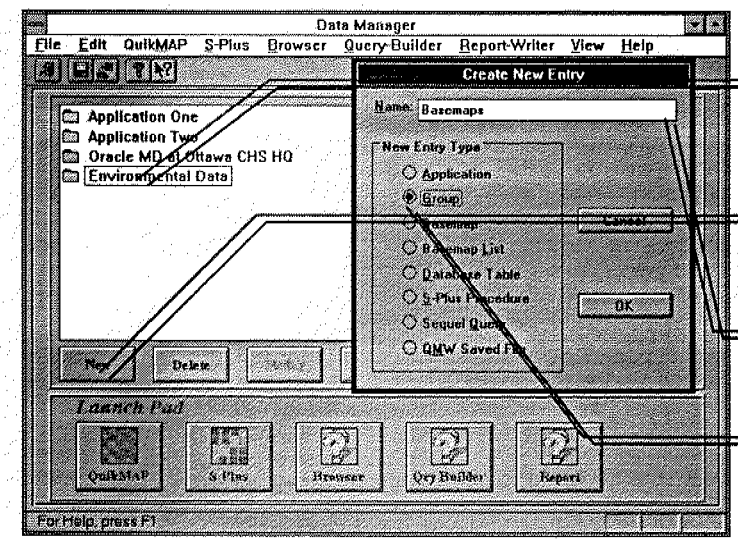


Click on "New" to define a new data item.

Type in the name of the application.

Select "Application"

Step 1: Create a new application



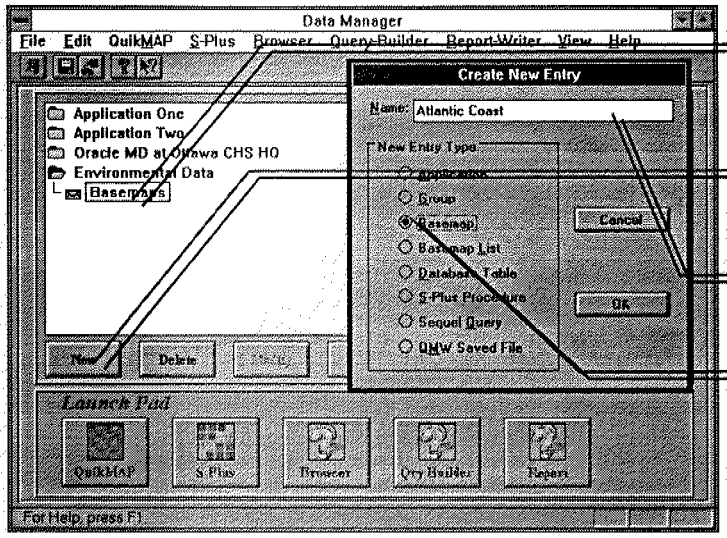
Select an application in which a new group will be created.

Click on "New" to define a new data item.

Type in the name of the group

Select "Group"

Step 2: Create a new Basemap Group



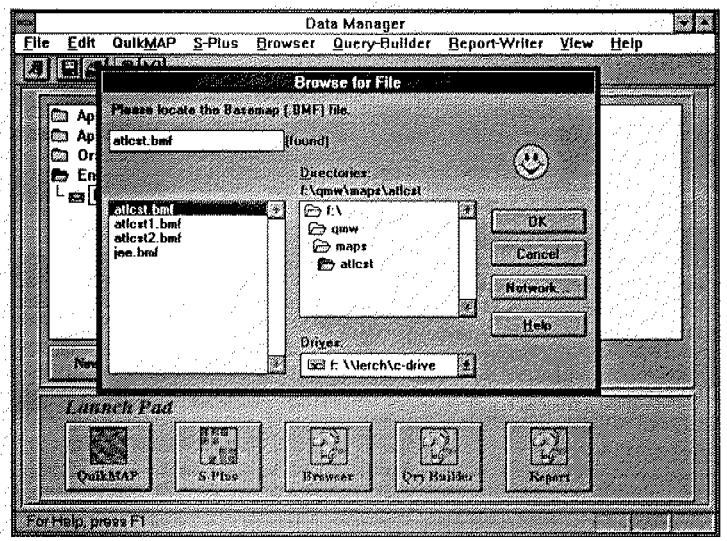
Select group in which a new basemap reference will be created

Click on "New" to define a new data item.

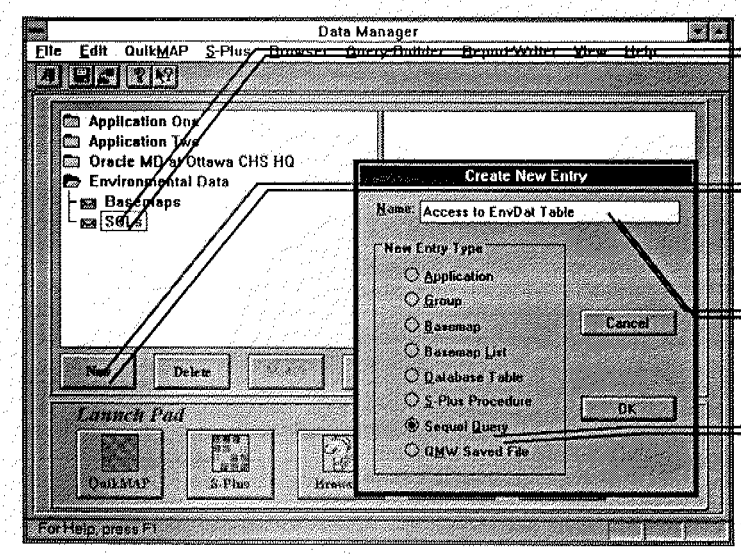
Type in the name of the basemap

Select "Basemap"

Step 3: Create a new Basemap reference



Step 4: Specify the reference to a BMF file.



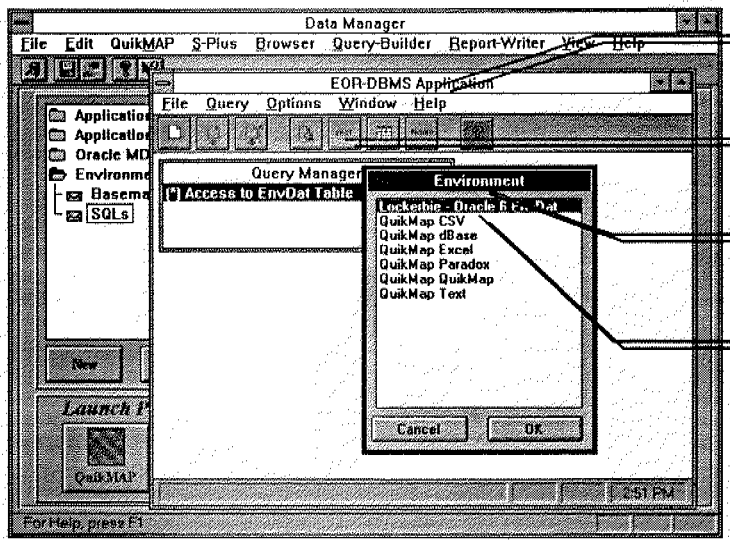
Select group in which a new SQL statement will be created.

Click on "New" to define a new data item.

Type in the name of the SQL.

Select "Sequel Query"

Step 5: Create a new SQL



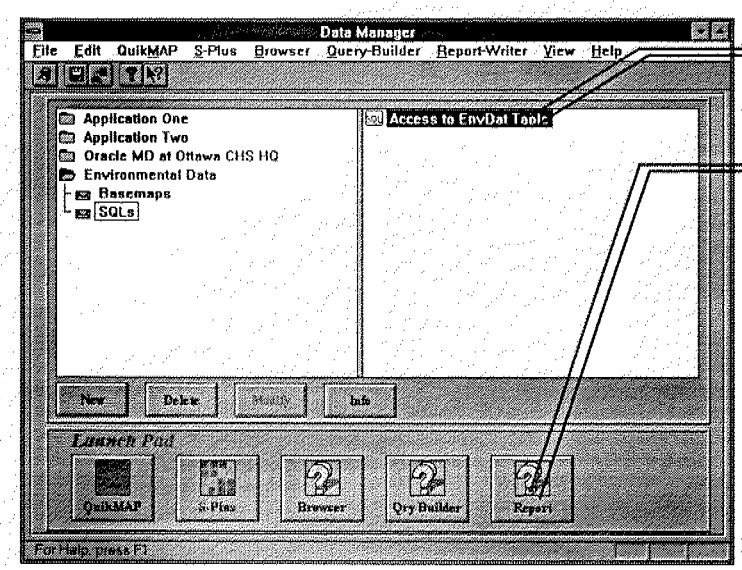
Query Builder is launched automatically.

Click "Edit" to start query building.

Data Source selection will be provided to identify source of connection.

Select desired data source.

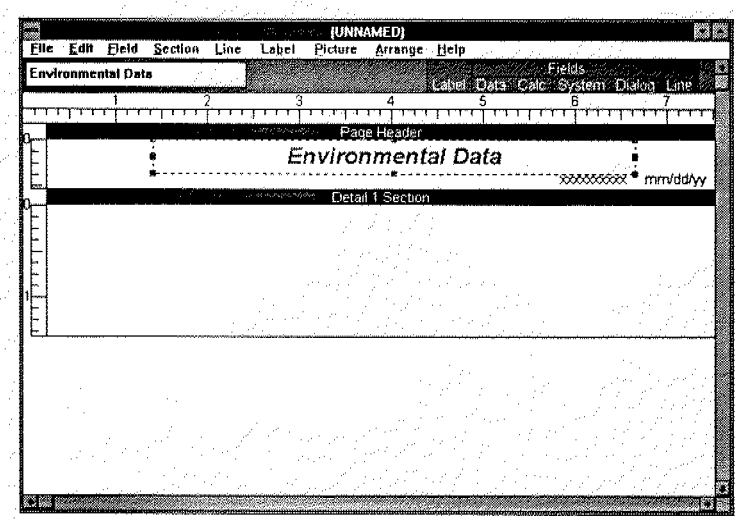
Step 6: Construct SQL



Select a SQL or Table for which a report will be generated.

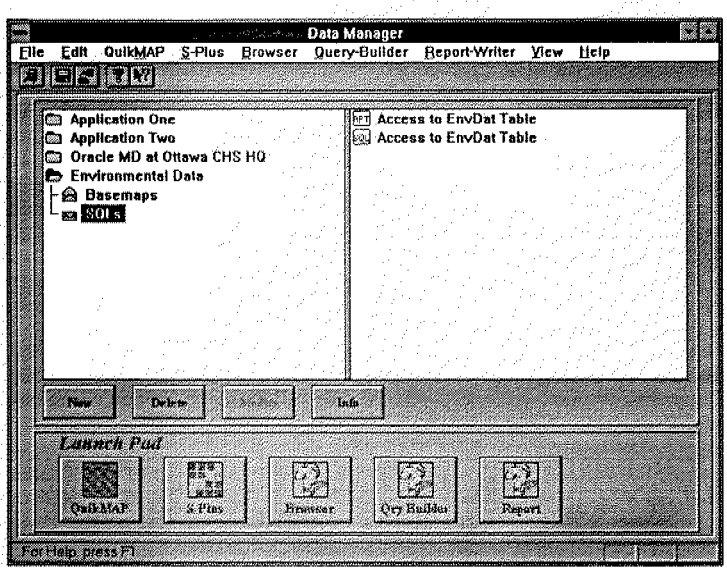
Click on the "Report" button to initiate Report Writer tool.

Step 7: Create a report



Report templates are used to print the results of a query and or contents of a database

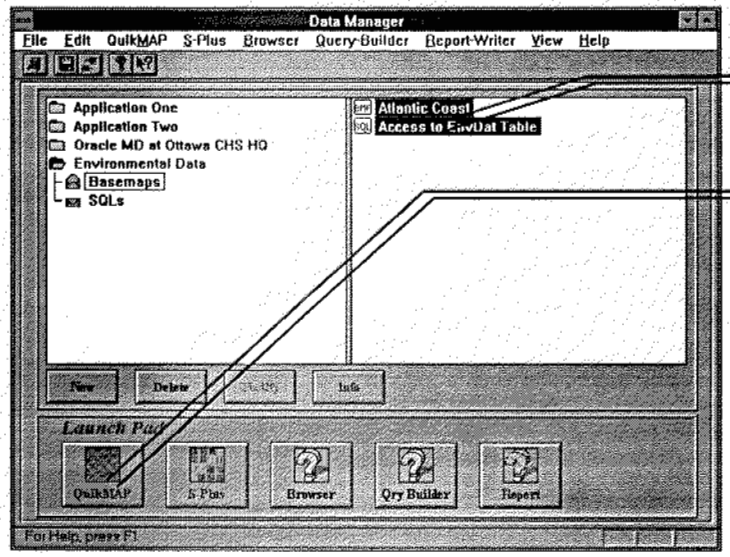
Step 8: Construct a report template



Step 9: Report created and added to list.

Tutorial Part 4

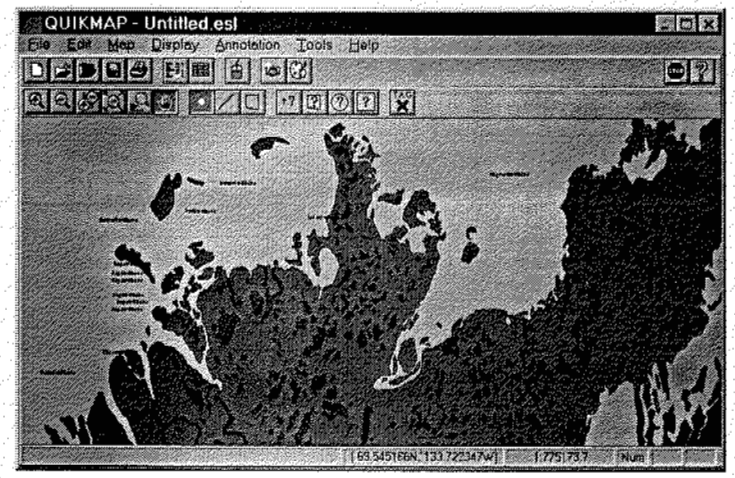
Visualization of maps and data using QMW



Select the desired item(s) to view.

To launch QuikMap for Windows - Click on QuikMap button or Drag and drop onto QuikMap button.

Step 1: Select datasets to be visualized



Step 2: Viewing maps and data in QuikMap

Tutorial Part 5

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