

Queries in SuperMap

SuperMap Software Co., Ltd.

Overview

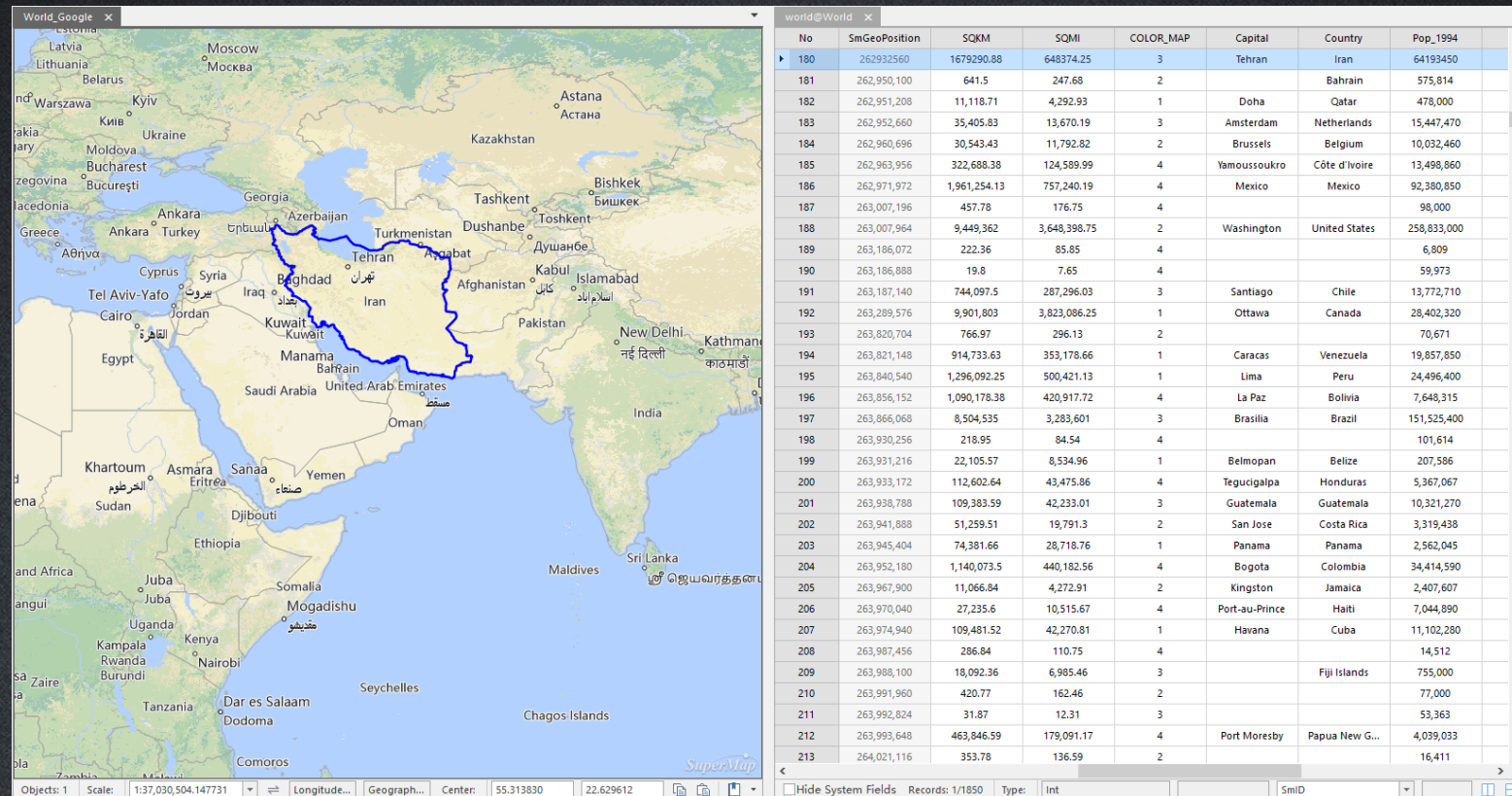
Simple Query

Spatial Query

SQL Query

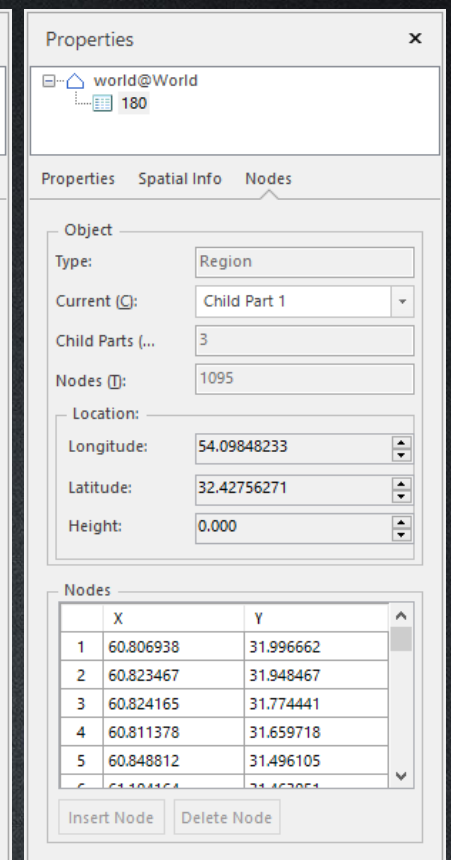
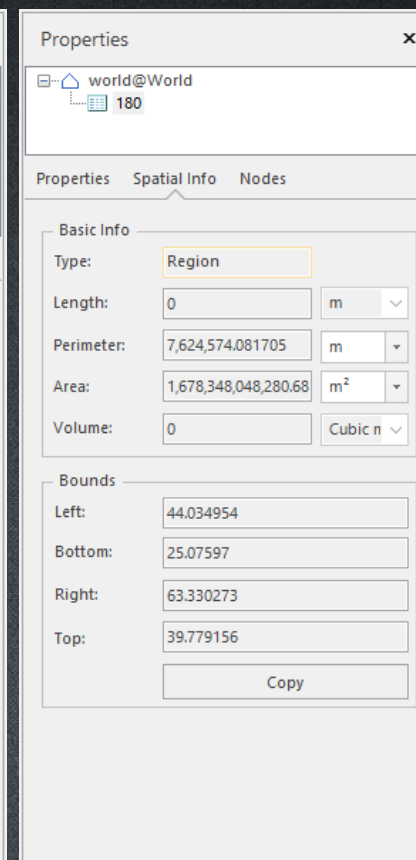
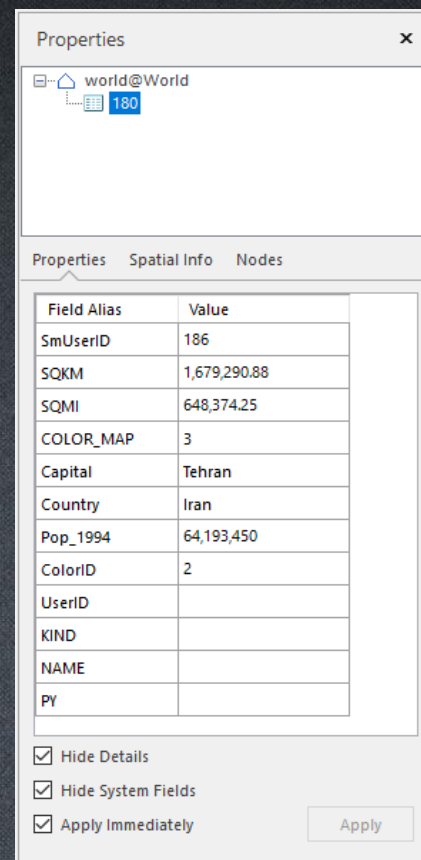
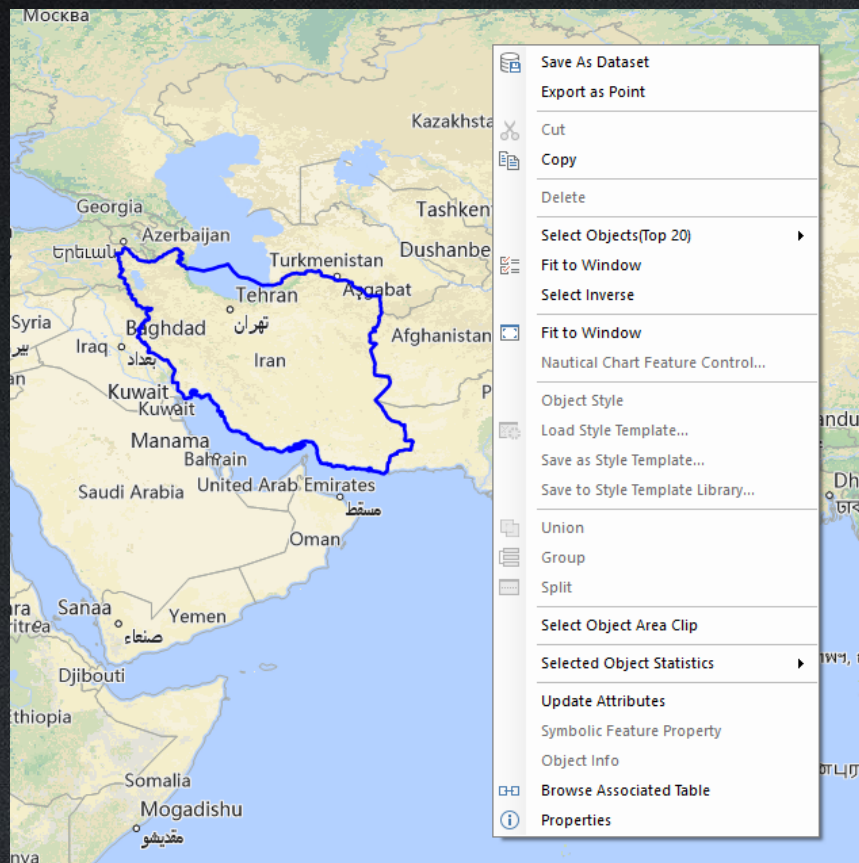
Simple Query

- Browse Associated Attributes Table
 - Build a linkage between spatial data and attribute data
 - Dynamic and simultaneous



Simple Query

- Query objects' Attribute values & Spatial Info & Nodes



Simple Query

- Query the nodes' spatial information of an polygon object.



The screenshot displays a map of the Middle East with a green polygon boundary around Oman. A 'Properties' window is open, showing the 'Nodes' tab. The 'Object' section indicates the type is 'Region' and the number of nodes is 387. The 'Nodes' table lists the following coordinates:

	X	Y
128	52.812279	17.28553
129	52.782169	17.34973
130	51.99929	18.999344
131	55	20
132	55.422203	21.267506
133	55.666107	21.999722
134	55.199165	22.699718
135	55.217773	22.800554
136	55.218605	22.820553
137	55.217216	22.851665
138	55.213333	22.894165

Buttons for 'Insert Node' and 'Delete Node' are visible at the bottom of the 'Nodes' section.

Spatial Query

- Application Example
 - Which countries are located on the equator?
 - The yellow river passes through which provinces?
 - If a road needs to be widened, which houses should be removed?
 - ...
- Query among datasets by various conditions
 - Cross, Contain, Within, Overlap, Disjoint, Touch, Identity, and Intersect.

Exercise:

- Find the world countries located at the equator.

Spatial Query

☒ ☒ Searching Layer: grids@World (1 selected)

☐	Type	Layer Name	Spatial Query Condition	Attribute Query Condition
☐	✓	grids@World		
☒	📍	world@World	Cross_LineRegion Cross_LineRegion Disjoint_LineRegion Intersect_LineRegion Touch_LineRegion Within_LineRegion	

Operator

 Cross. Return line or region objects in the searched layer crossed by the searching line object.

☐ Save Results

Datasource: World

Dataset: SpatialQuery.1

☐ Only Save Spatial Info

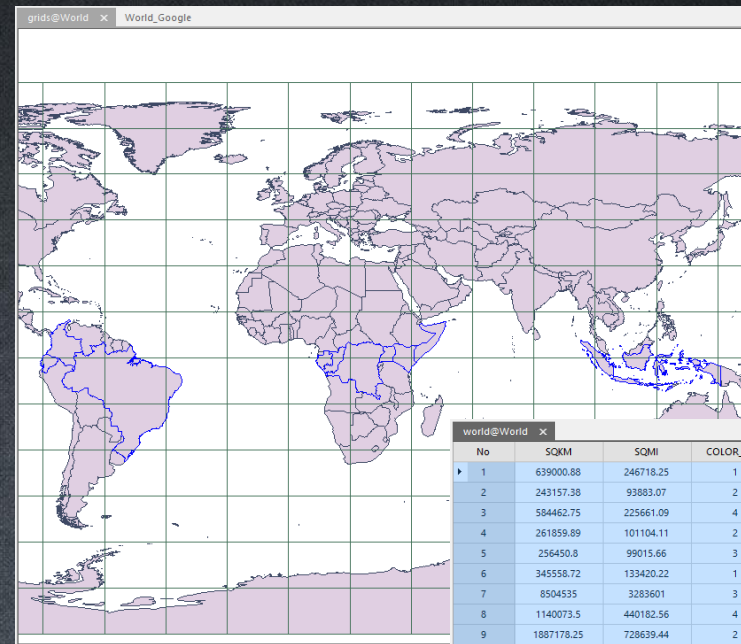
☒ Auto close when finish

Show Results

☒ Browse in Attribute Table

☒ Highlight in Map

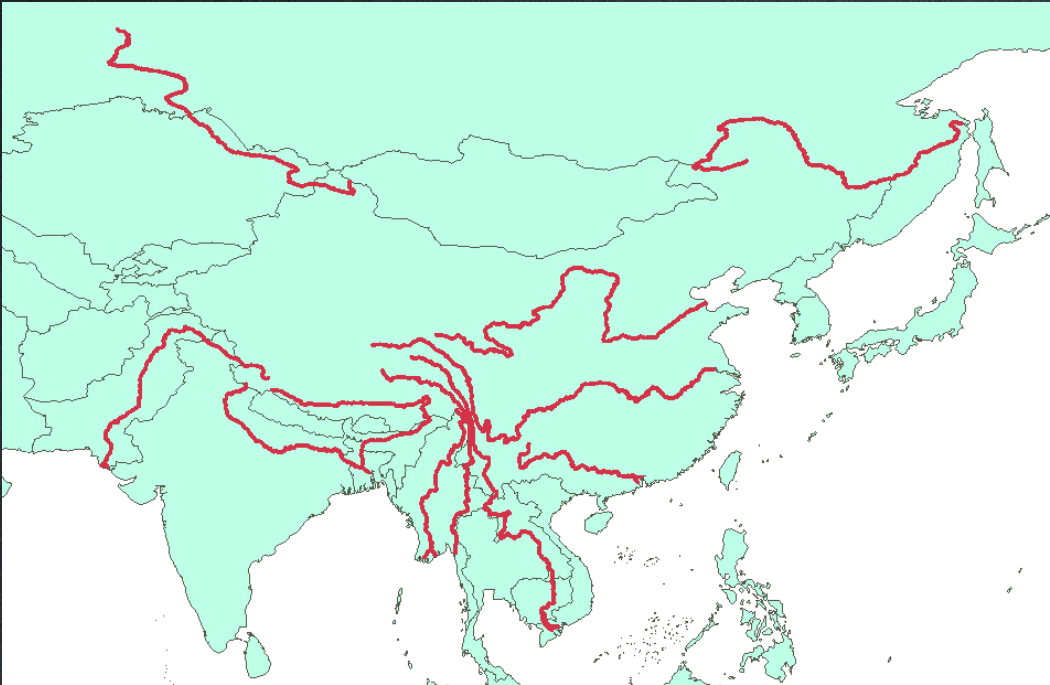
☐ Highlight in Scene



No	SQKM	SQMI	COLOR_MAP	Capital	Country	Pop_1994	ColorID	UserID
1	639000.88	246718.25	1	Mogadishu	Somalia	9951515	4	
2	243157.38	93883.07	2	Kampala	Uganda	18144360	2	
3	584462.75	225661.09	4	Nairobi	Kenya	25835250	1	
4	261859.89	101104.11	2	Libreville	Gabon	1561195	3	
5	256450.8	99015.66	3	Quito	Ecuador	10541820	1	
6	345558.72	133420.22	1	Brazzavi	Congo	2318276	2	
7	8504535	3283601	3	Brasilia	Brazil	151525400	1	
8	1140073.5	440182.56	4	Bogota	Colombia	34414590	3	
9	1887178.25	728639.44	2	Jakarta	Indonesia	188474200	2	
10	2336840.5	902254.31	4	Kinshasa	Zaire	41025920	1	

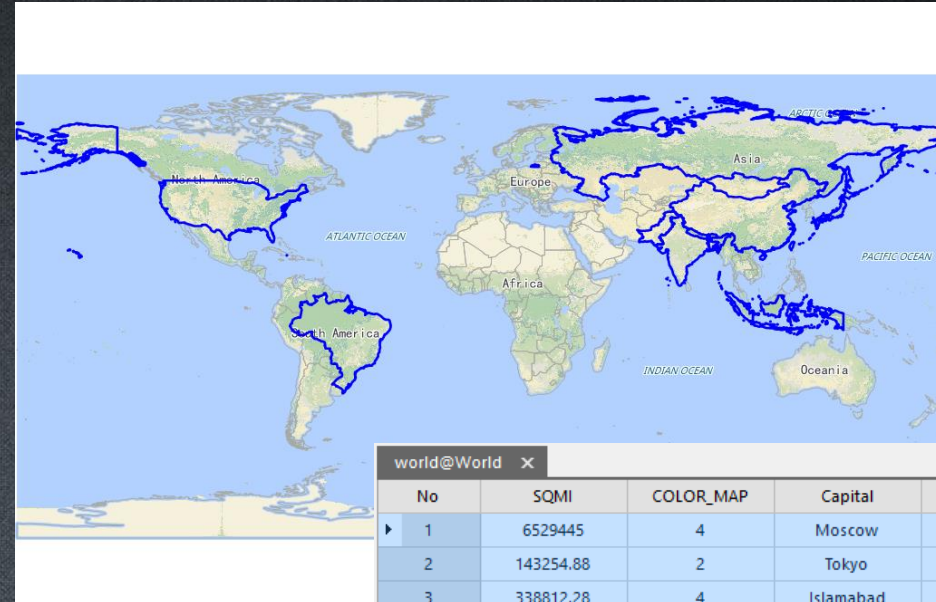
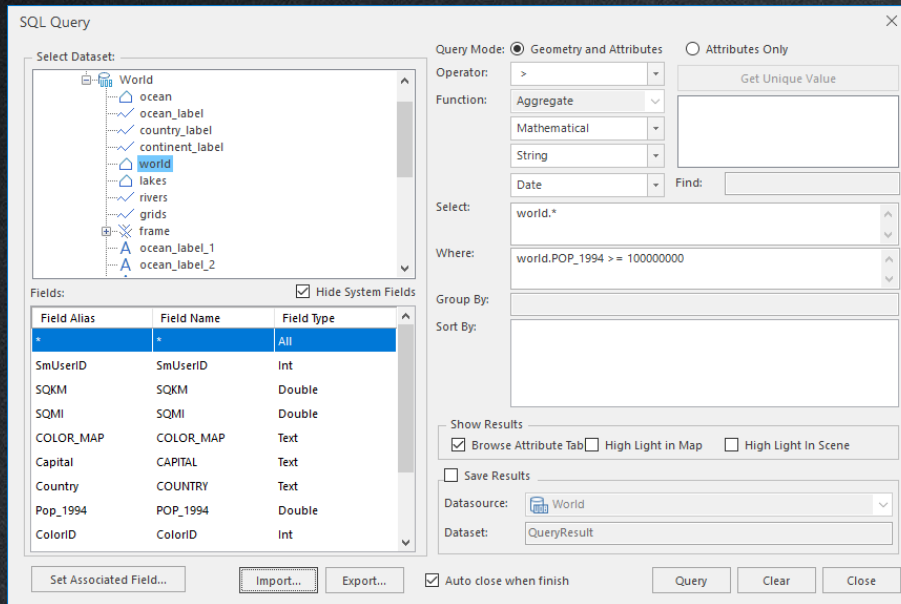
Exercise:

- The combined length of all rivers in China.
 - Step1: query which rivers intersect with China
 - Step2: to get those rivers in China by overlay analysis
 - Step3: to sum the length of Chinese river by statistic function



SQL Query

- Construct a SQL expression to query spatial and non-spatial data.
 - Query the countries which population is more than 100 million and store the query results in a new dataset.



No	SQMI	COLOR_MAP	Capital	Country	Pop_1994
1	6529445	4	Moscow	Russia	151827600
2	143254.88	2	Tokyo	Japan	125746300
3	338812.28	4	Islamabad	Pakistan	126693000
4	53356.74	1	Dhaka	Bangladesh	120732200
5	3648398.75	2	Washington	United States	258833000
6	3283601	3	Brasilia	Brazil	151525400
7	728639.44	2	Jakarta	Indonesia	188474200
8	1219954.75	2	New Delhi	India	894608700
9	3616707.25	1	Beijing	People's Rep...	1128139689

SQL Query Parameters

- Query Mode
- Select: Query result fields.
- Where: Query condition.
- Sort by: Query result would be ordered by this field.
- Group by:
 - Specifies the fields to be used to group the query results. The records with the same value in the specified field will be grouped together.
 - Use “Attribute Only” query mode, and the “group by” field would divide the table into several types, such as using “State_Name” as group by field, “SmID” field is not recommended to use.
- Show Result:
 - open the dataset in a map window before querying in order to use “highlight geometry”.

SQL Query

SQL Query

Select Dataset:

- continent_common
- continent_image
- continent_google
- China_boundary_unsettling
- China_boundary_nanghai
- China_island
- China_province_boundary
- capital
- capitals
- airline
- China_Boundary
- QueryResult

Fields:

Field Alias	Field Name	Field Type
*	*	All
SmUserID	SmUserID	Int
SQKM	SQKM	Double
SQMI	SQMI	Double
COLOR_MAP	COLOR_MAP	Text
Capital	CAPITAL	Text
Country	COUNTRY	Text
Pop_1994	POP_1994	Double
ColorID	ColorID	Int

Query Mode: ☒ Geometry and Attributes ☐ Attributes Only

Operator: >

Function: Aggregate

Mathematical

String

Date

Select: world.*

Where: world.POP_1994 >= 100000000

Group By:

Sort By: world.POP_1994 Sort Descendi...

Show Results

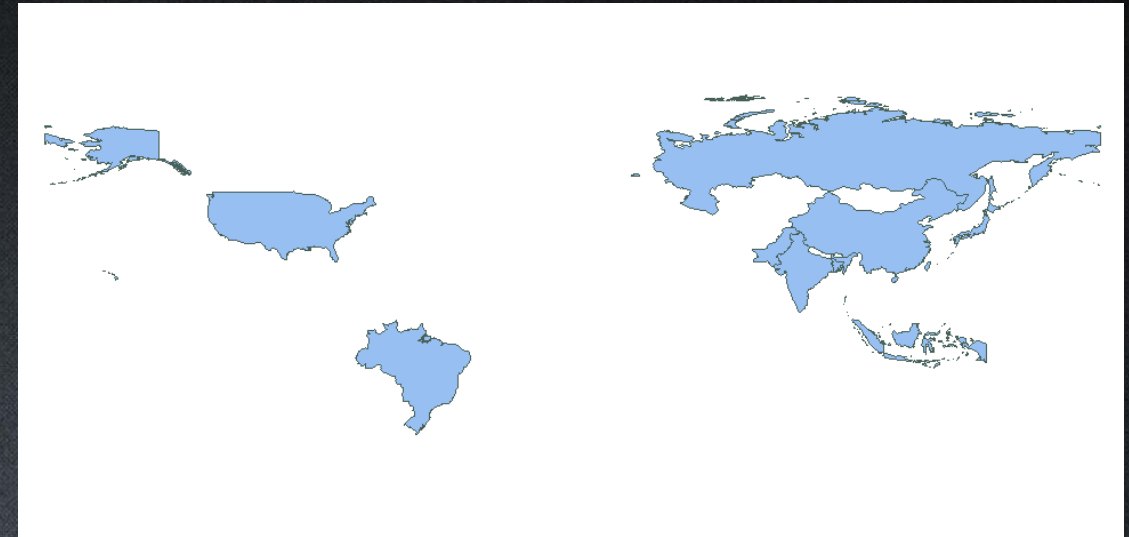
☒ Browse Attribute Tab ☐ High Light in Map ☐ High Light in Scene

☒ Save Results

Datasource: World

Dataset: QueryResult

☒ Auto close when finish



QueryResult@World						
No	SQKM	SQMI	COLOR_MAP	Capital	Country	Pop_1994
1	9,367,281	3,616,707.25	1	Beijing	People 's Rep...	1,128,139,689
2	3,159,685.5	1,219,954.75	2	New Delhi	India	894,608,700
3	9,449,362	3,648,398.75	2	Washington	United States	258,833,000
4	1,887,178.25	728,639.44	2	Jakarta	Indonesia	188,474,200
5	16,911,282	6,529,445	4	Moscow	Russia	151,827,600
6	8,504,535	3,283,601	3	Brasilia	Brazil	151,525,400
7	877,524.69	338,812.28	4	Islamabad	Pakistan	126,693,000
8	371,030.5	143,254.88	2	Tokyo	Japan	125,746,300
9	138,194.09	53,356.74	1	Dhaka	Bangladesh	120,732,200

Related Query

-Linked Table SQL Query

- Query data from more than one table based on the relationship between certain fields in these tables.
 - Relate dataset “latoR” with tabular dataset “agetable” using field “SmID”
 - Then select “latoR.NAME, latoR.STATE_NAME, latoR.POPU1999, agetable.AGE_5_17, agetable.AGE_18_29 ” where “agetable.AGE_18_29>10000”.

SQL Query

Select Dataset: World > Datasources > World > Query > latoR

Query Mode: ☒ Geometry and Attributes ☐ Attributes Only

Operator: >

Function: Aggregate

Select: latoR.NAME,latoR.STATE_NAME,latoR.POPU1999,agetable.AGE_5_17,agetable.AGE_18_29

Where: agetable.AGE_18_29 > 10000

Fields:

Field Alias	Field Name	Field Type
*	*	All
SmUserID	SmUserID	Int
NAME	NAME	Text
STATE_NAME	STATE_NAME	Text
STATE_FIPS	STATE_FIPS	Text
CNTY_FIPS	CNTY_FIPS	Text
FIPS	FIPS	Text
AREA	AREA	Double
POP90_SQMI	POP90_SQMI	Int

Set Associated Field... Import... Export... Auto close when finish Query Clear Close

Relate

Name	Related Dataset	Field	Related Field	Expression	Join Type
JoinItem0	agetable	SmID	SmID	latoR.SmID=agetable.SmID	Inner Join

Source Table

Source Field	Field 2
1	1A
2	2B
3	3C
4	4D

Related Table

Related Field	Field 3
1	10
2	20
3	30
5	50

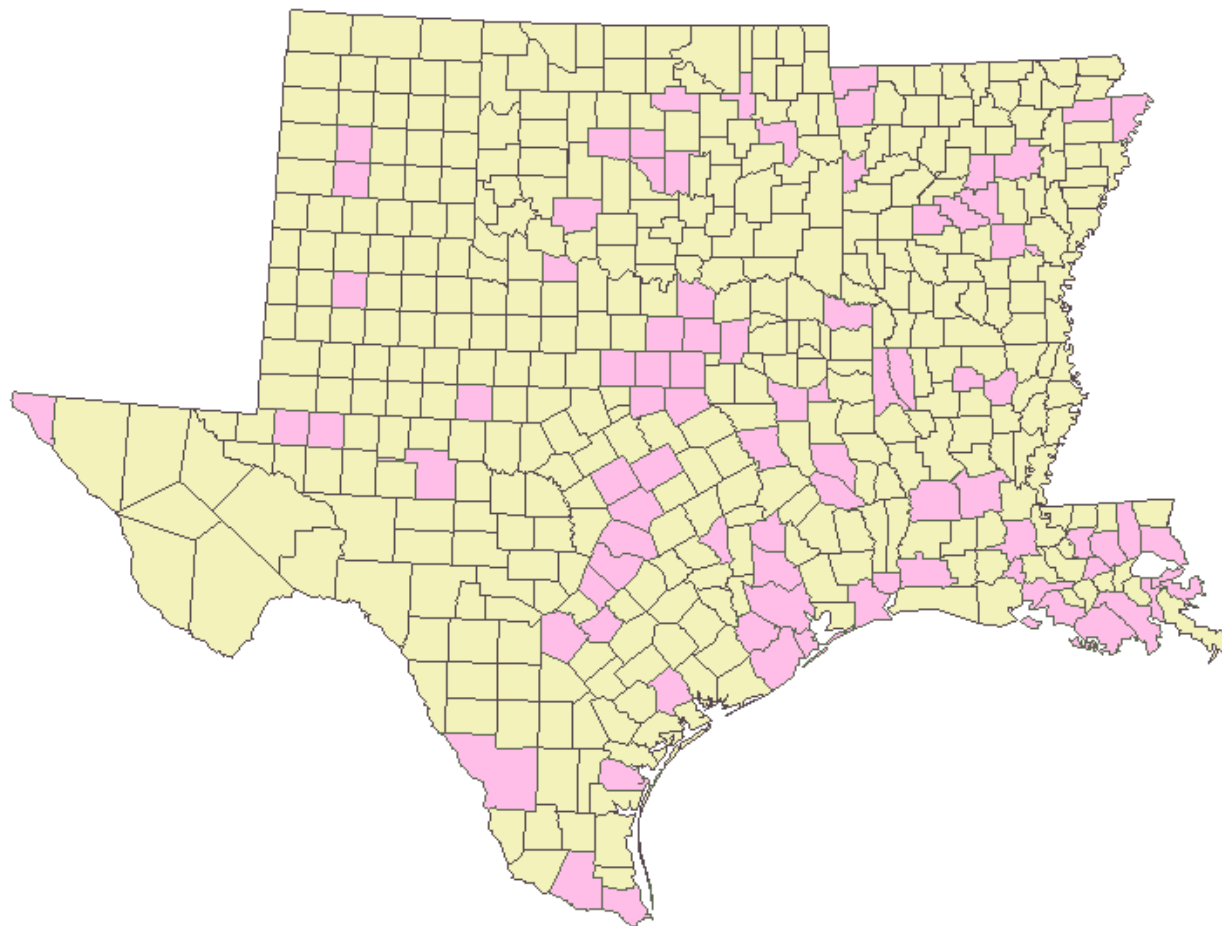
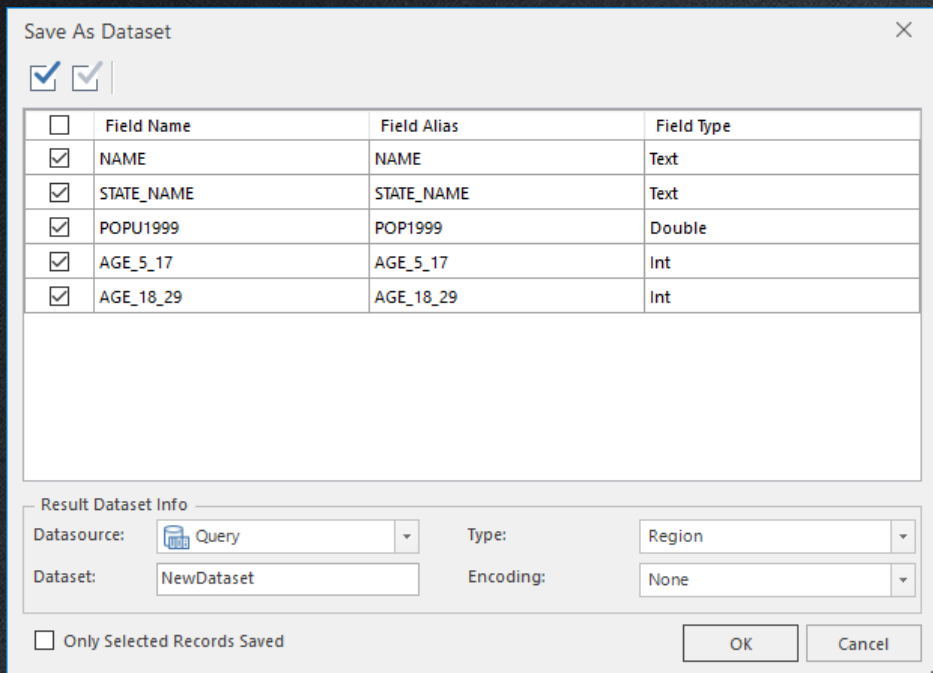
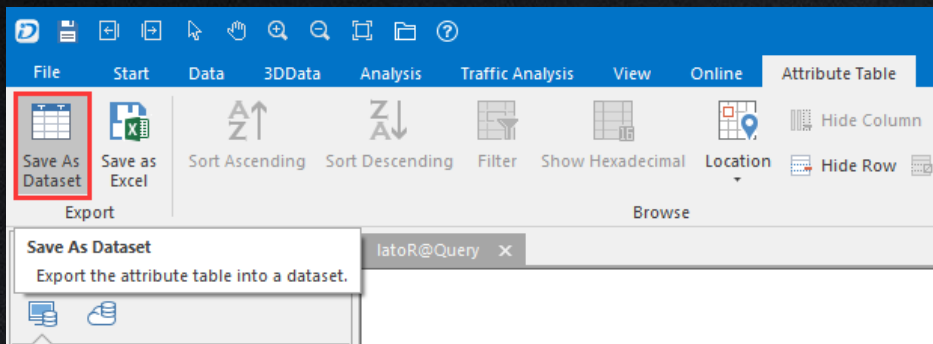
Left Join Results

Related Field:	Field 2	Field 3
1	1A	10
2	2B	20
3	3C	30
4	4D	

Inner Join Results

Related Field:	Field 2	Field 3
1	1A	10
2	2B	20
3	3C	30

Save As Dataset



Thank You!

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SuperMap

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