

Queries in SuperMap

SuperMap Software Co., Ltd.

The SuperMap logo features the word "SuperMap" in a white, italicized serif font. A white dot is positioned above the letter "a", and a white arc curves over the letters "e" and "r". A thin white horizontal line is located directly beneath the text.

SuperMap

TO BE THE GLOBAL LEADING GIS

Overview

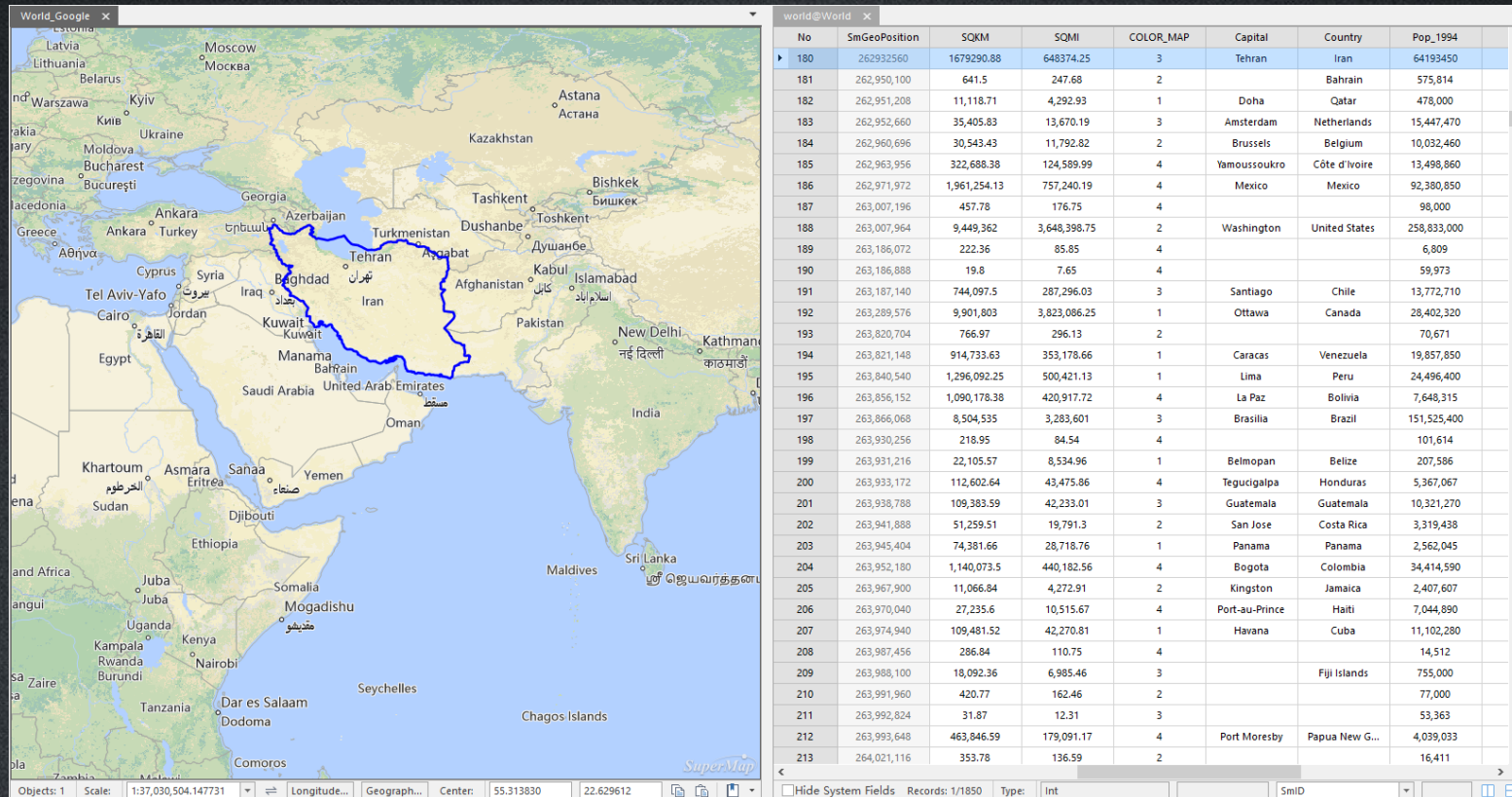
Simple Query

Spatial Query

SQL Query

Simple Query

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

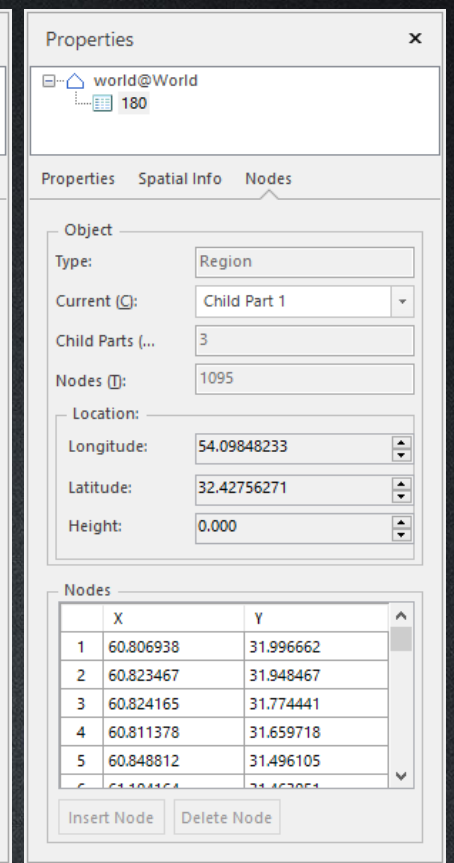
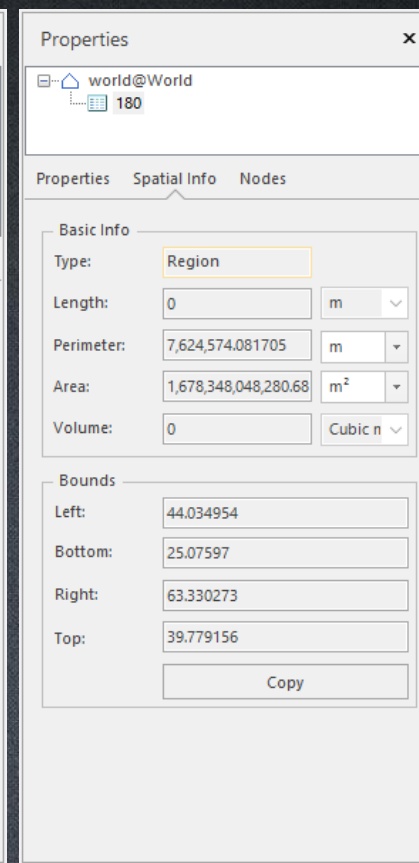
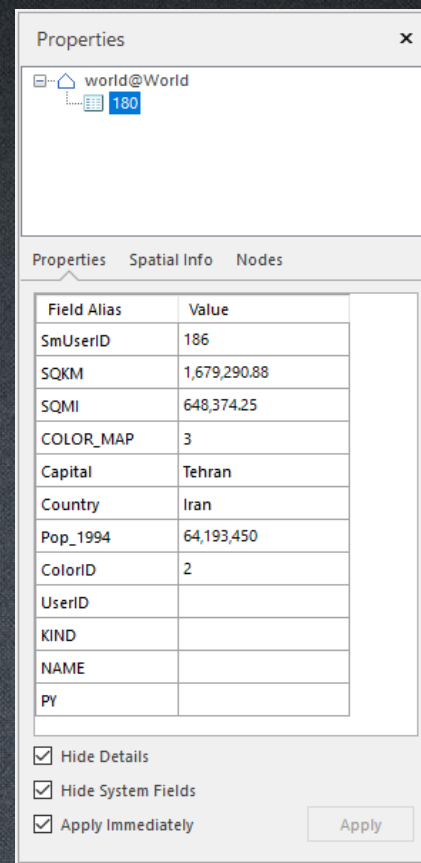
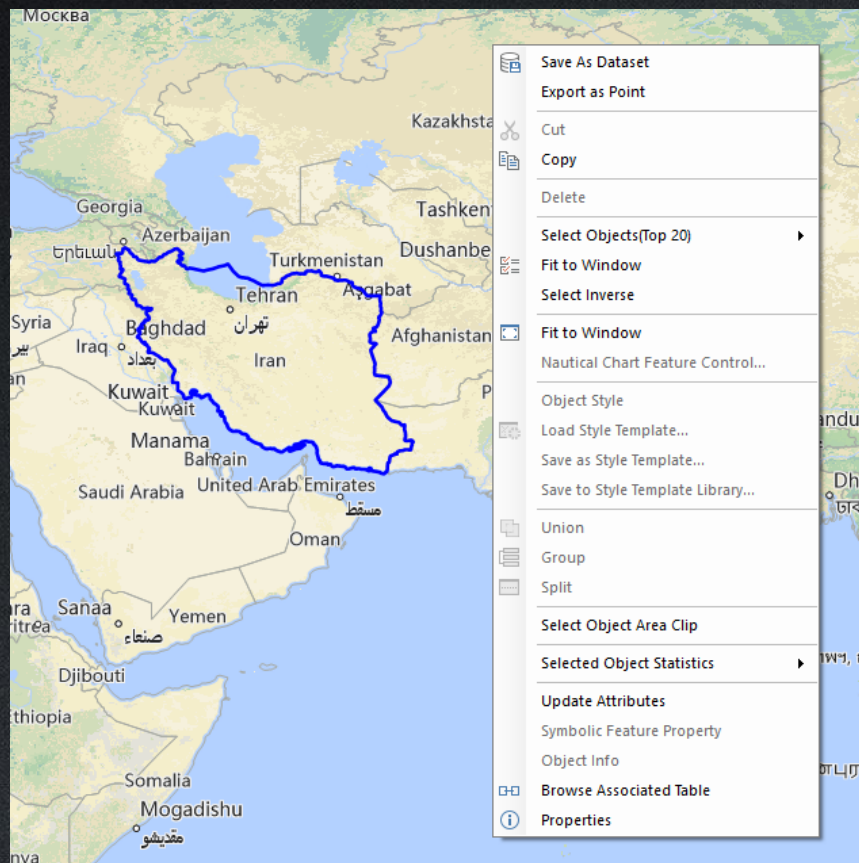


The screenshot displays the SuperMap software interface. On the left, a map shows the Middle East region with a blue outline highlighting a specific area. On the right, a data table is visible, showing a list of countries and their attributes. The table has the following columns: No, SmGeoPosition, SQKM, SQMI, COLOR_MAP, Capital, Country, and Pop_1994. The data is as follows:

No	SmGeoPosition	SQKM	SQMI	COLOR_MAP	Capital	Country	Pop_1994
180	262932560	1679290.88	648374.25	3	Tehran	Iran	64193450
181	262,950,100	641.5	247.68	2		Bahrain	575,814
182	262,951,208	11,118.71	4,292.93	1	Doha	Qatar	478,000
183	262,952,660	35,405.83	13,670.19	3	Amsterdam	Netherlands	15,447,470
184	262,960,696	30,543.43	11,792.82	2	Brussels	Belgium	10,032,460
185	262,963,956	322,688.38	124,589.99	4	Yamoussoukro	Côte d'Ivoire	13,498,860
186	262,971,972	1,961,254.13	757,240.19	4	Mexico	Mexico	92,380,850
187	263,007,196	457.78	176.75	4			98,000
188	263,007,964	9,449,362	3,648,398.75	2	Washington	United States	258,833,000
189	263,186,072	222.36	85.85	4			6,809
190	263,186,888	19.8	7.65	4			59,973
191	263,187,140	744,097.5	287,296.03	3	Santiago	Chile	13,772,710
192	263,289,576	9,901,803	3,823,086.25	1	Ottawa	Canada	28,402,320
193	263,820,704	766.97	296.13	2			70,671
194	263,821,148	914,733.63	353,178.66	1	Caracas	Venezuela	19,857,850
195	263,840,540	1,296,092.25	500,421.13	1	Lima	Peru	24,496,400
196	263,856,152	1,090,178.38	420,917.72	4	La Paz	Bolivia	7,648,315
197	263,866,068	8,504,535	3,283,601	3	Brasilia	Brazil	151,525,400
198	263,930,256	218.95	84.54	4			101,614
199	263,931,216	22,105.57	8,534.96	1	Belmopan	Belize	207,586
200	263,933,172	112,602.64	43,475.86	4	Tegucigalpa	Honduras	5,367,067
201	263,938,788	109,383.59	42,233.01	3	Guatemala	Guatemala	10,321,270
202	263,941,888	51,259.51	19,791.3	2	San Jose	Costa Rica	3,319,438
203	263,945,404	74,381.66	28,718.76	1	Panama	Panama	2,562,045
204	263,952,180	1,140,073.5	440,182.56	4	Bogota	Colombia	34,414,590
205	263,967,900	11,066.84	4,272.91	2	Kingston	Jamaica	2,407,607
206	263,970,040	27,235.6	10,515.67	4	Port-au-Prince	Haiti	7,044,890
207	263,974,940	109,481.52	42,270.81	1	Havana	Cuba	11,102,280
208	263,987,456	286.84	110.75	4			14,512
209	263,988,100	18,092.36	6,985.46	3		Fiji Islands	755,000
210	263,991,960	420.77	162.46	2			77,000
211	263,992,824	31.87	12.31	3			53,363
212	263,993,648	463,846.59	179,091.17	4	Port Moresby	Papua New G...	4,039,033
213	264,021,116	353.78	136.59	2			16,411

Simple Query

- Query objects' Attribute values & Spatial Info & Nodes



Simple Query

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

The screenshot shows a map of the Middle East region with a green polygon boundary around Oman and the United Arab Emirates. A 'Properties' window is open, displaying the 'Nodes' tab for a selected region. The 'Nodes' table lists X and Y coordinates for nodes 128 through 138, with node 133 highlighted.

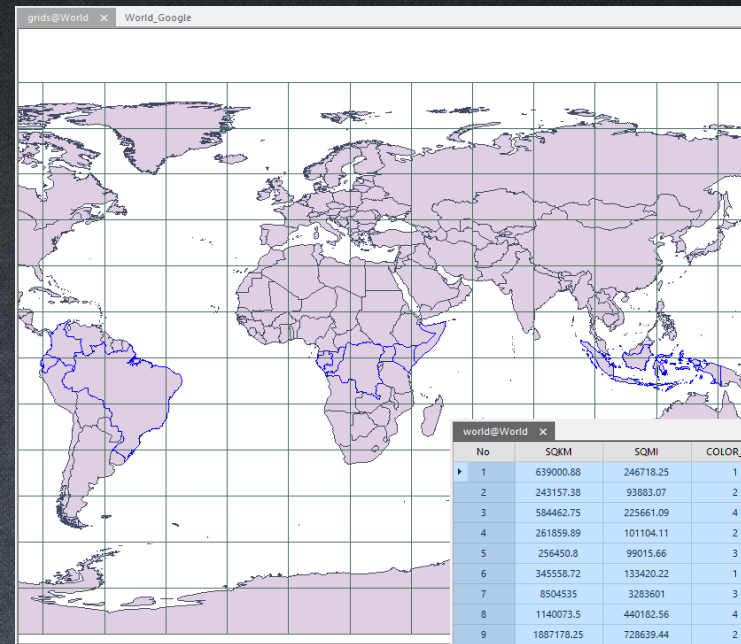
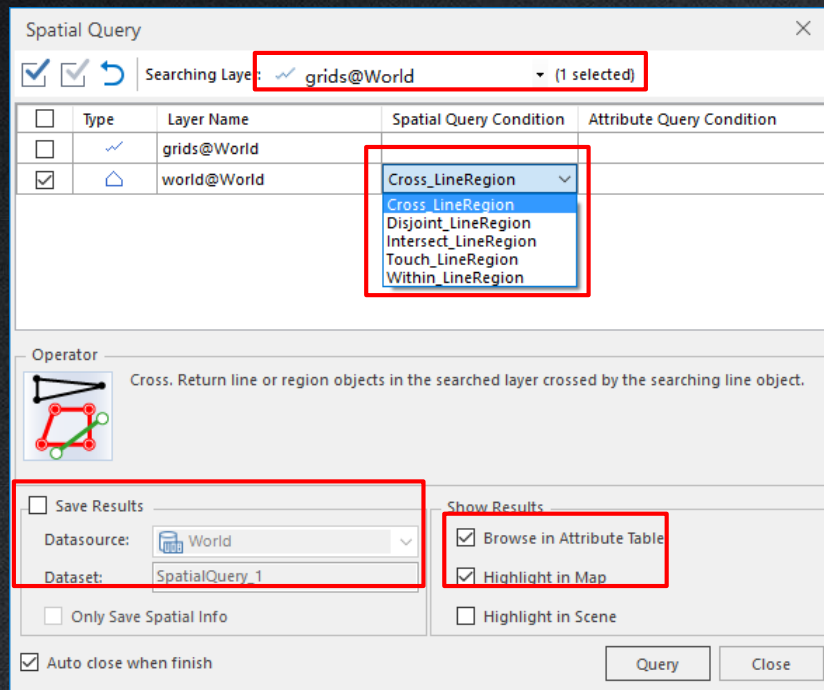
	X	Y
128	52.812279	17.28553
129	52.782169	17.34973
130	51.99929	18.999344
131	55	20
132	55.422203	21.267506
133	55.666107	21.999722
134	55.199165	22.699718
135	55.217773	22.800554
136	55.218605	22.820553
137	55.217216	22.851665
138	55.213333	22.894165

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:

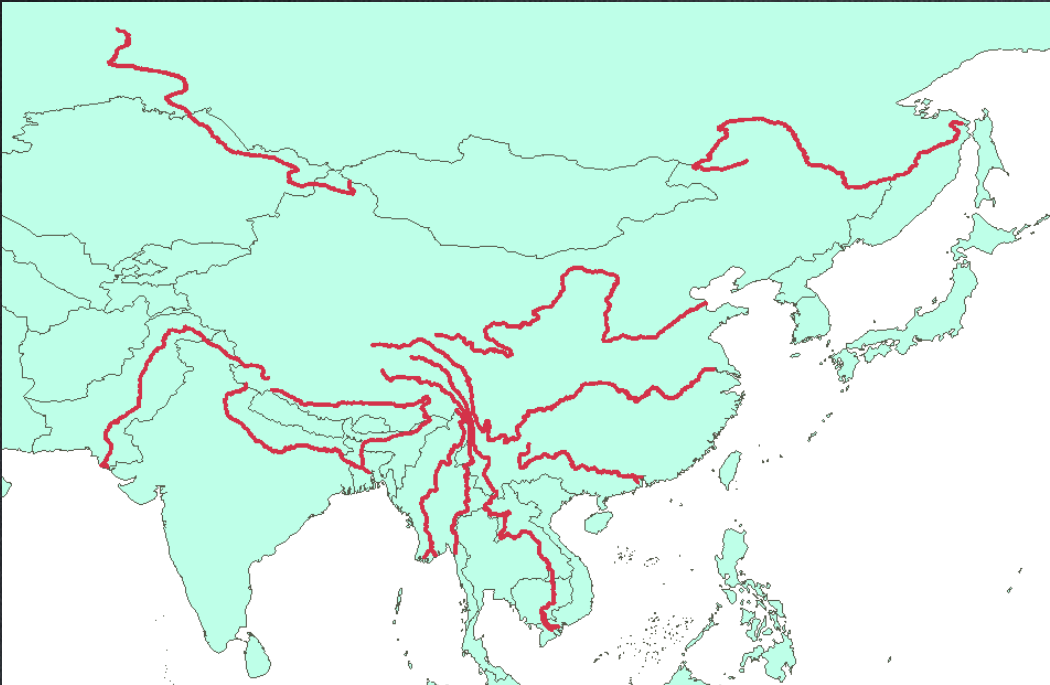
- Find the world countries located at the equator.



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	

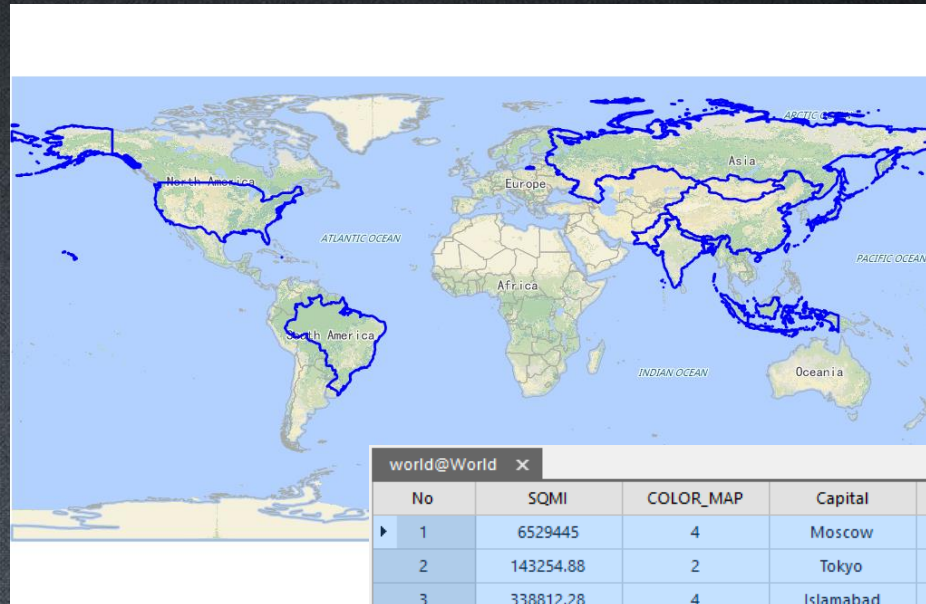
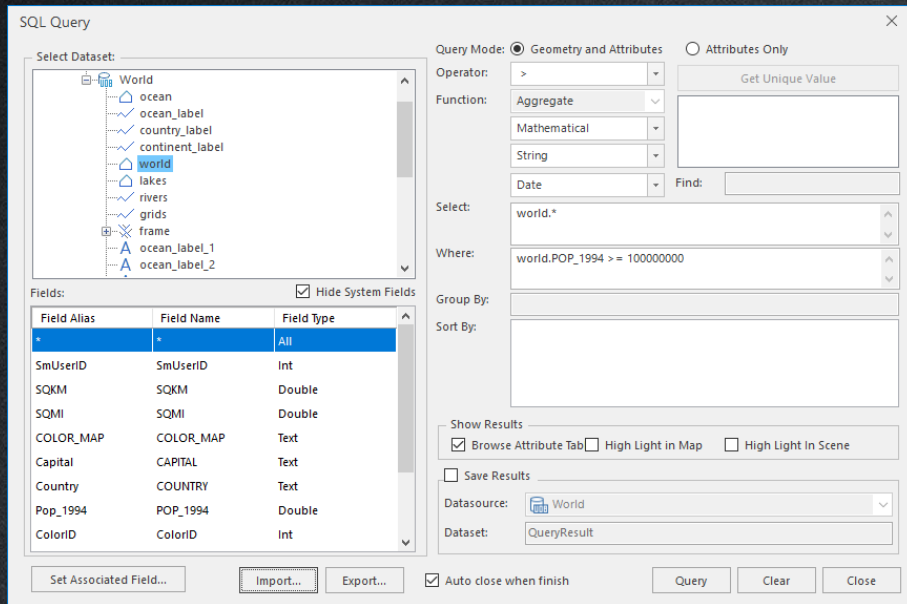
Exercise:

- 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: > Get Unique Value

Function: Aggregate

Mathematical

String

Date

Select: world.*

Where: world.POP_1994 >= 100000000

Group By:

Sort By: world.POP_1994 Sort Descendi...

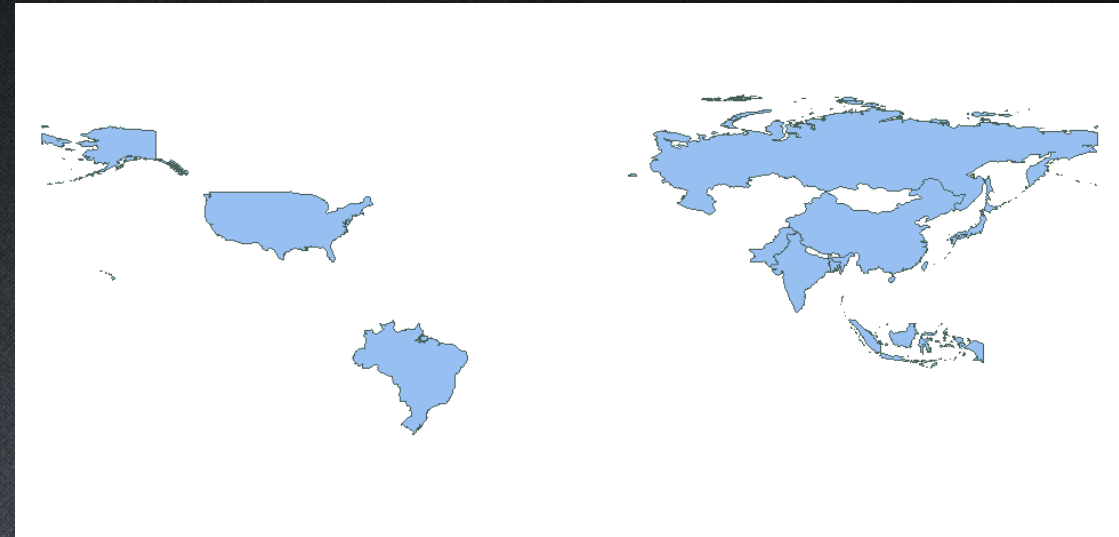
Show Results: Browse Attribute Tab High Light in Map High Light In Scene

Save Results:

Datasource: World

Dataset: QueryResult

Buttons: Set Associated Field..., Import..., Export..., Query, Clear, Close



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”.

The image shows two dialog boxes from a GIS application. The 'SQL Query' dialog on the left is used to define a query. It shows a tree view of datasets including 'latoR' and 'agetable'. The 'Select' field contains the query: `latoR.NAME,latoR.STATE_NAME,latoR.POPU1999,agetable.AGE_5_17,agetable.AGE_18_29`. The 'Where' field contains the filter: `agetable.AGE_18_29 > 10000`. The 'Relate' dialog on the right shows the relationship between 'latoR' and 'agetable' based on the 'SmID' field. It includes a table for the 'Source Table' and 'Related Table', and two tables for 'Left Join Results' and 'Inner Join Results'. A red arrow points from the 'SQL Query' dialog to the 'Relate' dialog.

SQL Query Dialog:

- 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`
- Buttons: Set Associated Field..., Import..., Export..., Query, Clear, Close

Relate Dialog:

Name	Related Dataset	Field	Related Field	Expression	Join Type
JoinItem0	agetable	SmID	SmID	<code>latoR.SmID=agetable.SmID</code>	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

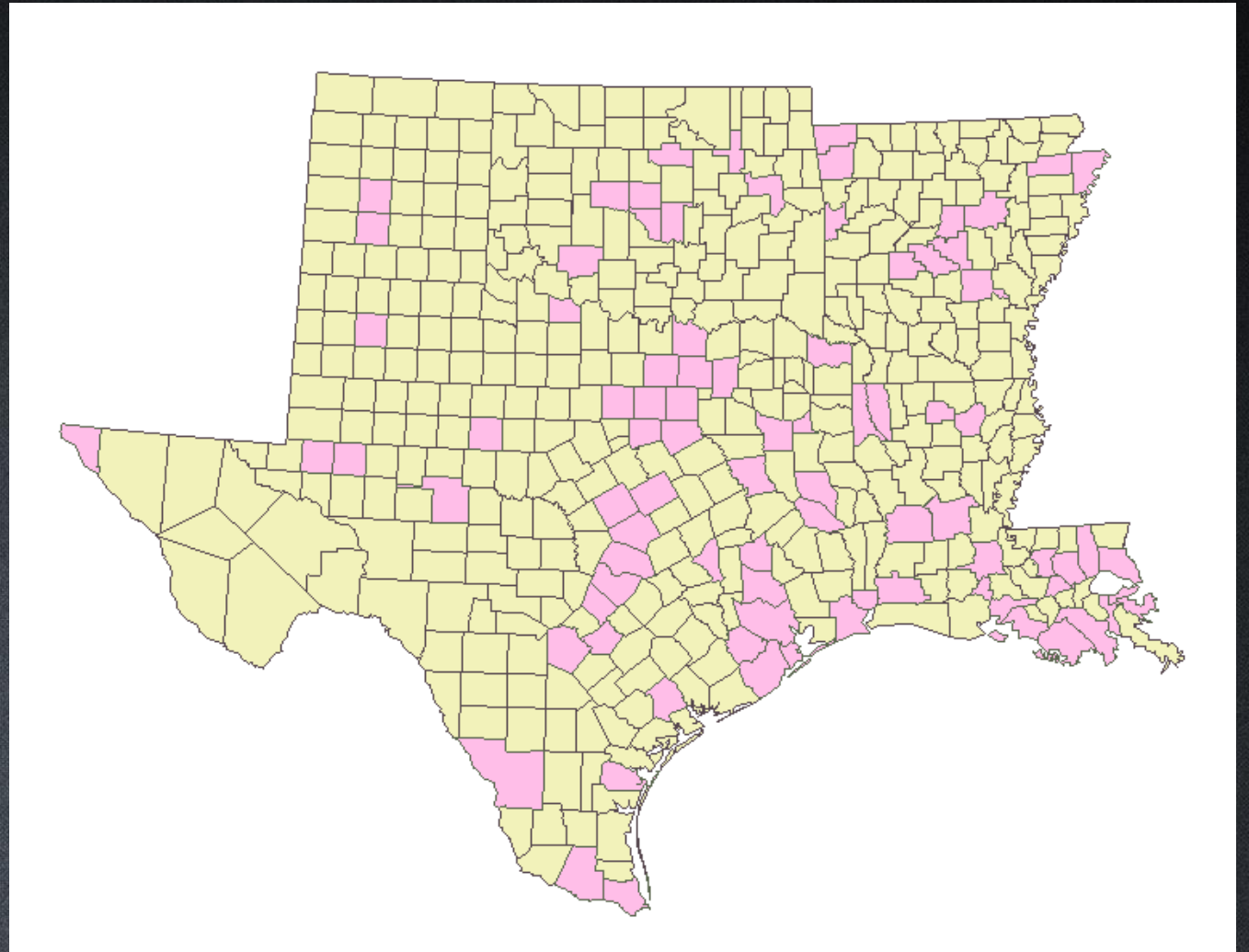
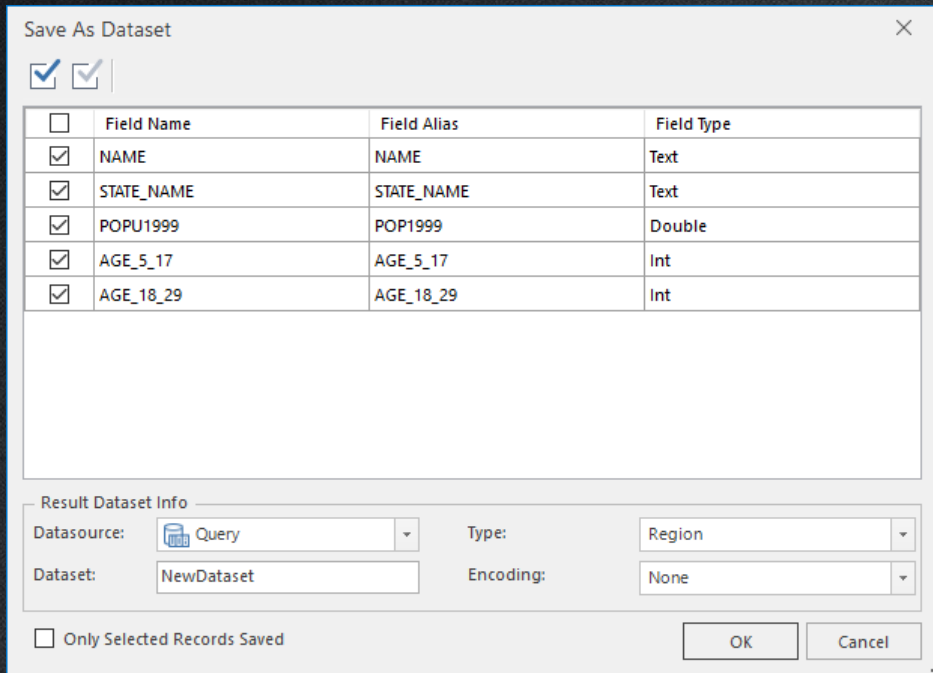
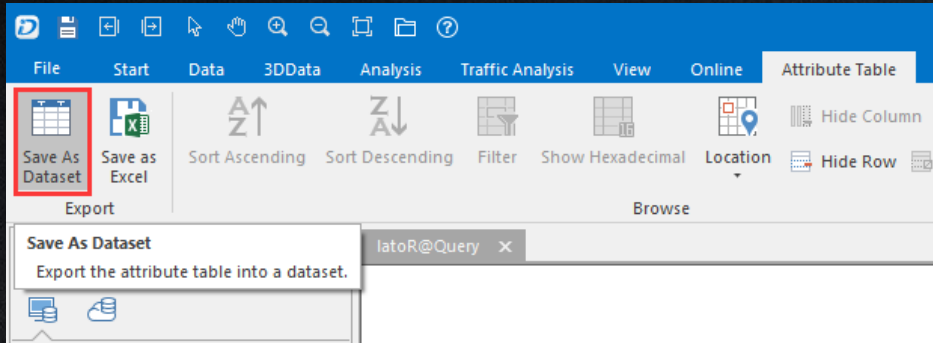
Left Join Results

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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Skype: [supermapsupport](https://www.skype.com/people/supermapsupport)

MSN: globalsupport@supermap.com

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