ESRI's ArcExplorer® version 1.1 can be used in conjunction with the *Digital Environmental Atlas of Georgia* to perform many geographic information system (**GIS**) tasks. As a stand-alone application, ArcExplorer is a relatively complete data explorer, allowing users to display and query a wide variety of standard data sources. With ArcExplorer you can utilize ARC/INFO® coverages and image-formatted data (.TIF extensions) located in the \DATA directories on the CD-ROMs to pan and zoom through the multiple map layers, display data using classifications, symbols and labeling, and identify and query geographic and attribute data. Other features provide for the use of legends, the inclusion of overview maps, the creation of multiple views, saving and retrieving views, and the printing of maps.

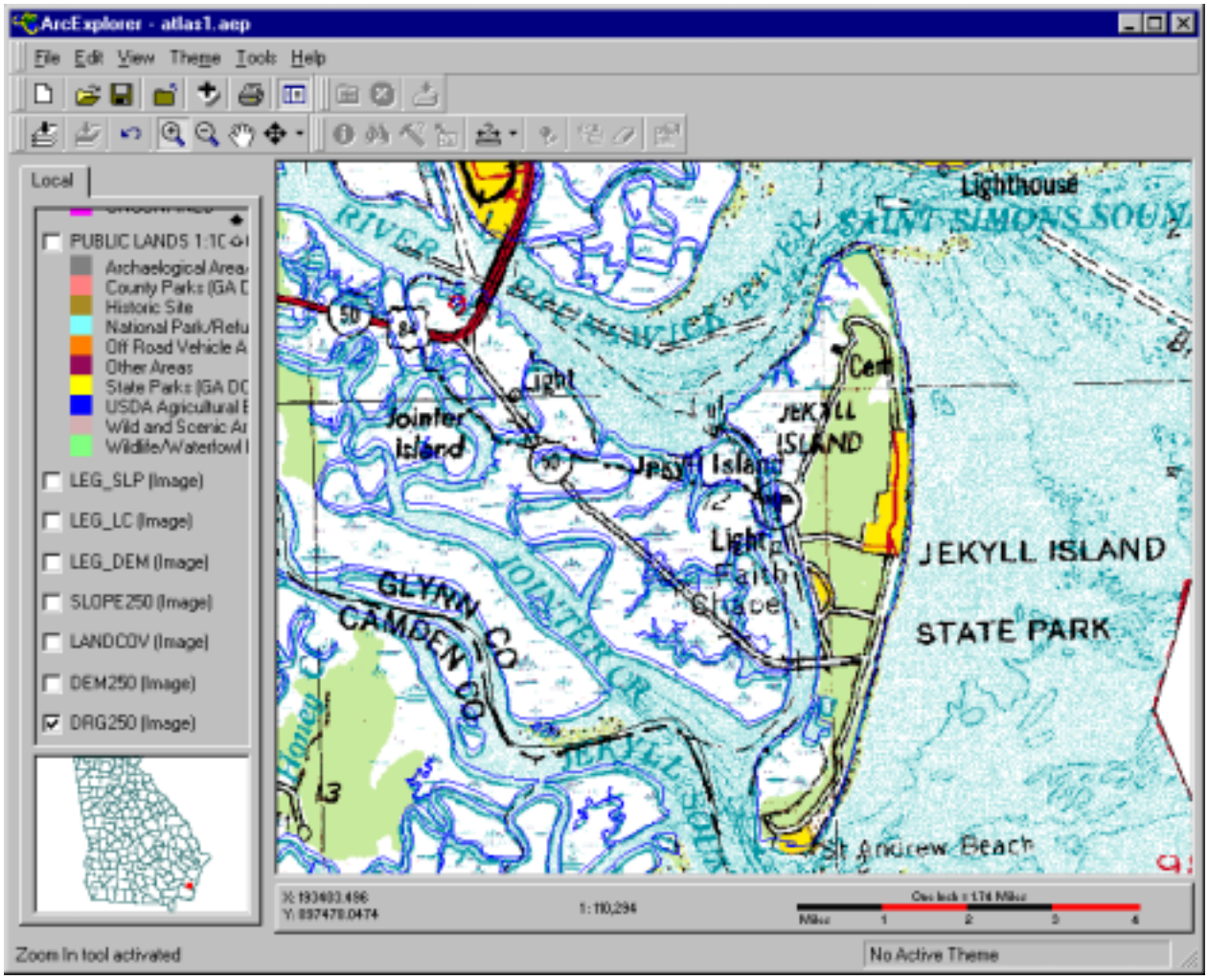
ArcExplorer's **GIS** features can be grouped as follows:

- OVERLAY
- FIND
- QUERY
- RESOURCE INVENTORY
- CUSTOM MAPS
- TABLES
- MAP SCALE, COORDINATES AND MEASUREMENTS

OVERLAY

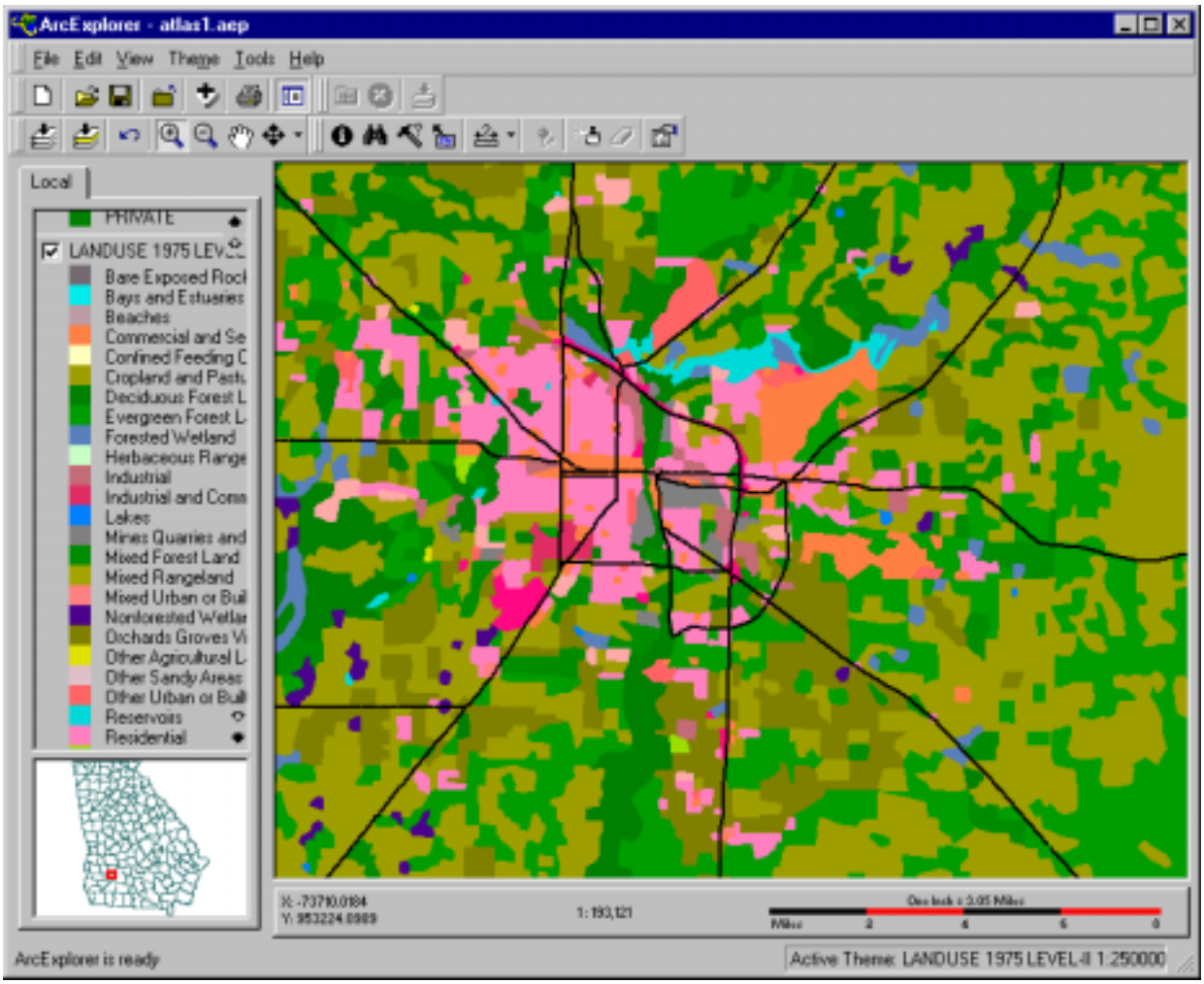
1. The example shown below shows a simple overlay of vector **Shoreline** data over raster **1:250,000 Scale Digital Raster graphic**.

   *Use the **zoom tool***  *to enlarge (click and hold the left mouse button over lower left corner of the area to be enlarged, drag the mouse to the upper right corner and release the mouse button) an area on the coast of Georgia, near Glynn County. Click*  *on **Shoreline** and **1:250,000 Scale Digital Raster graphic** to display these layers.*



2. The example below shows a view of Albany, Georgia displaying the **Landuse, Hydrography and Major Road** layers.

   Use the zoom tool  *to enlarge (click and hold the left mouse button over lower left corner of the area to be enlarged, drag the mouse to the upper right corner and release the mouse button) an area around Albany, Georgia, in southwestern Georgia. Click*  *on **Landuse, Hydrography** and **Major Roads** to display these layers.*

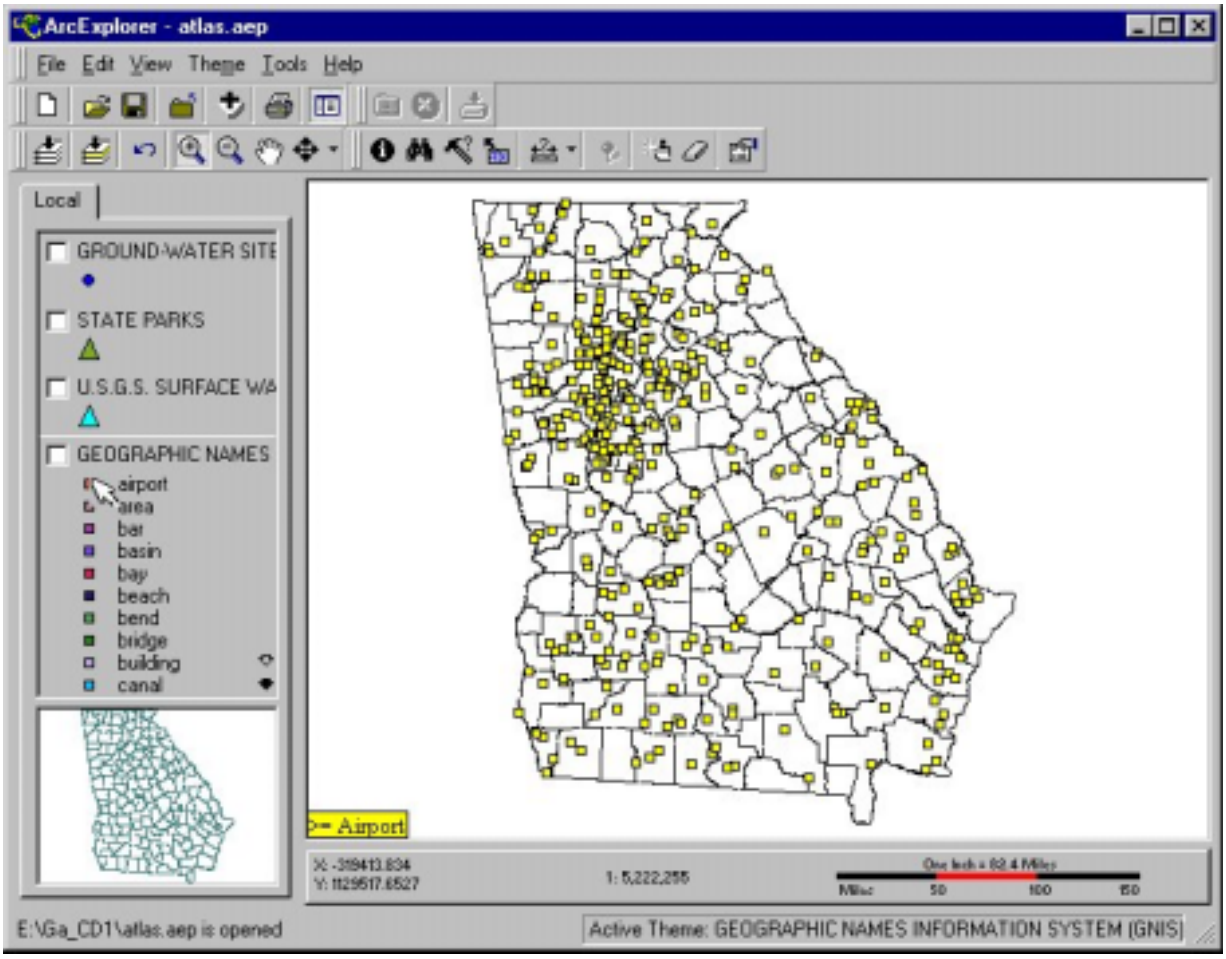


FIND

1. In the example below, the item **airport** under the Active Theme, **Geographic Names Information System (GNIS)** is clicked to produce the following map showing airports in Georgia.

   *Make the **Geographic Names Information System (GNIS)** theme active by clicking on the theme name. Click on the **County Boudaries** to display the layer.*

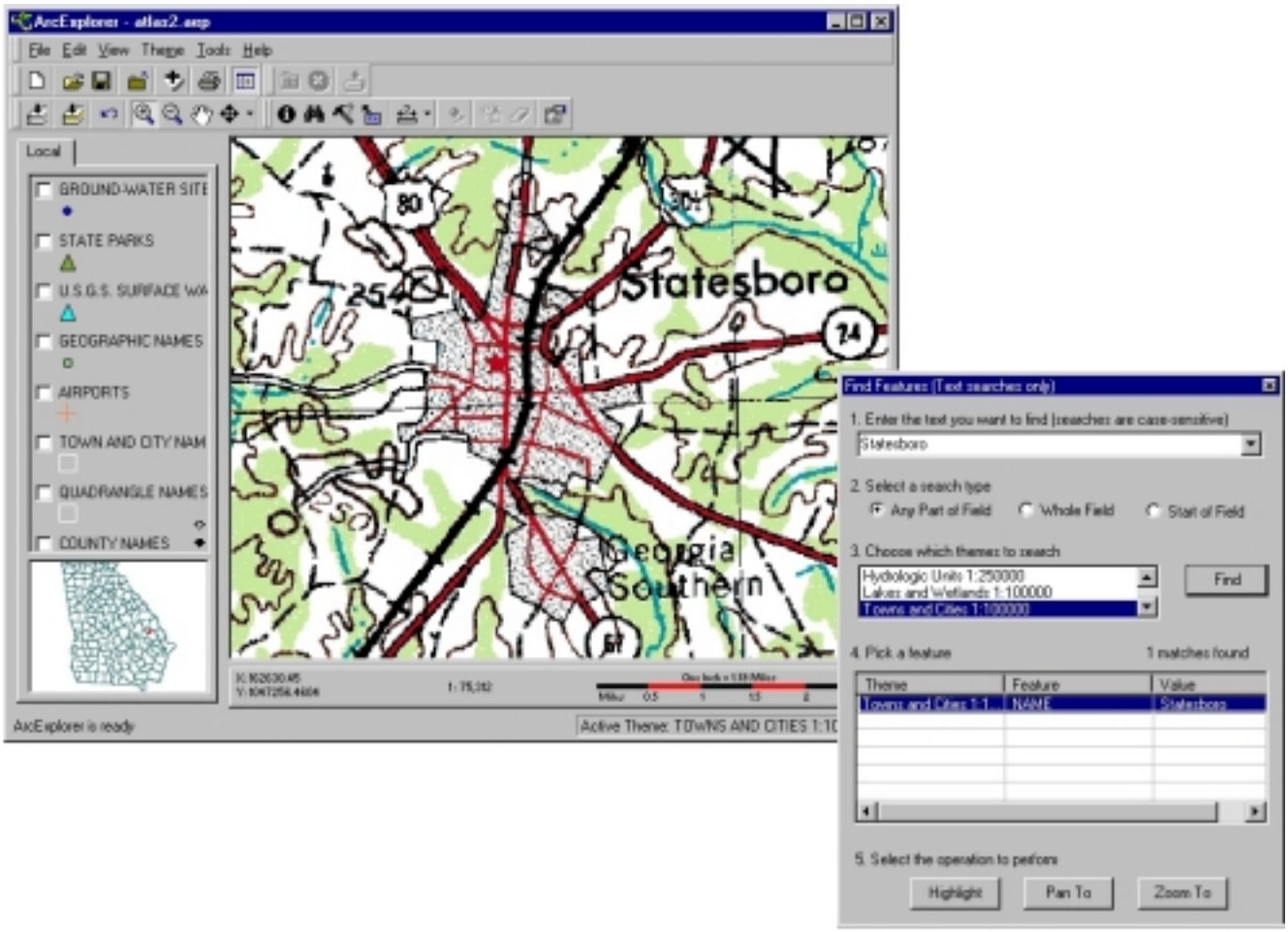
   *Click on the legend (as shown below) for airports in the **Geographic Names** entry to find and display all airports in the active theme.*



2. In the example below, the **Find Tool** is used to **find** the town name **Statesboro** in the Active Theme, **Towns and Cities,** zoom to its location and display the **1:250,000 Scale Digital Raster Graphic Map** showing Statesboro.

   Make the theme, ***Towns and Cities*** *active by clicking on the theme name. Click on* ***1:250,000 Scale Digital Raster Graphic*** *to display the layer.*

   Click on the Find Tool and the ***Find Features Dialog*** *window will appear. Enter Statesboro in the text field (**1**.), choose any part of the field (**2**.), choose the* ***Town and Cities*** *theme to search (**3**.), and click on* ***Find****. Highlight the feature found (**4**.) and click on* ***Zoom To****.*

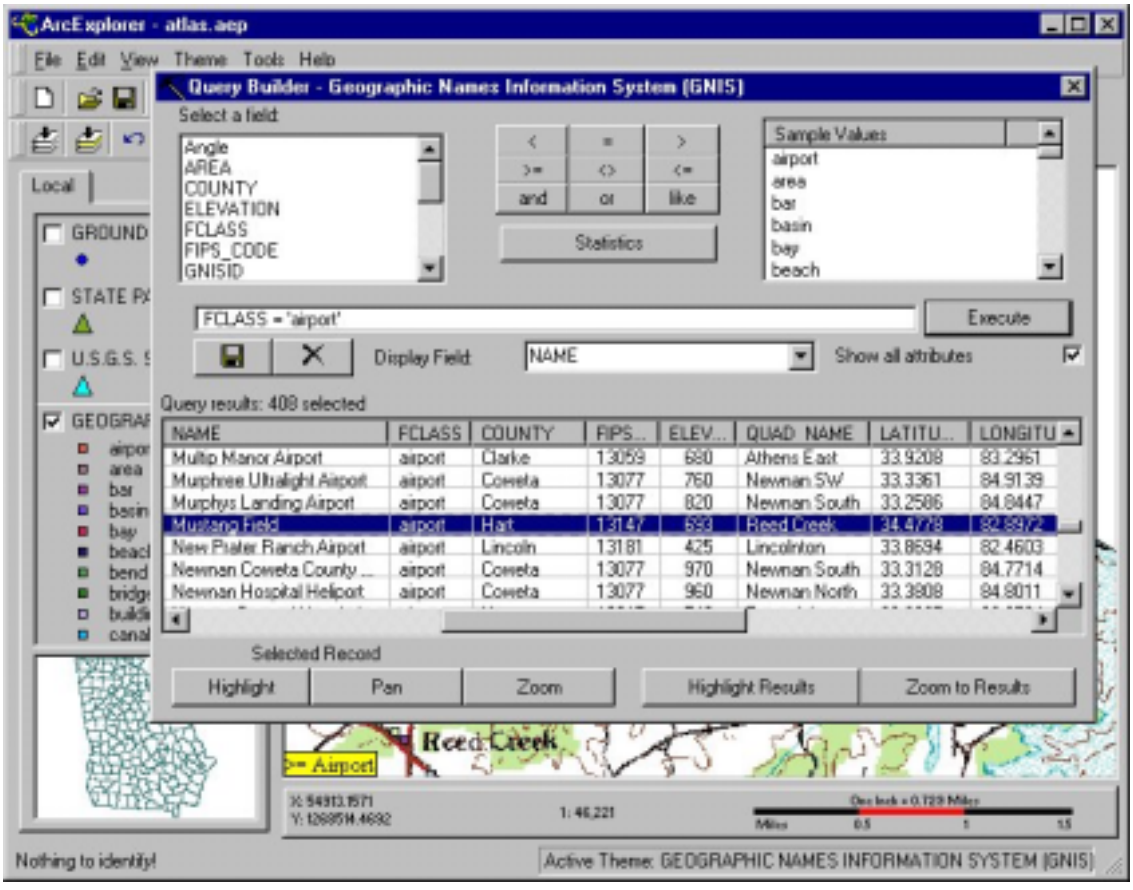


QUERY

1. In the example below, the **Query Tool**  is used to **query** the Active Theme, **Geographic Names Information System (GNIS)** for the item **Fclass = 'airport'** and display the results in the table.

   *Make the **Geographic Names Information System (GNIS)** theme active by clicking on the theme name.*

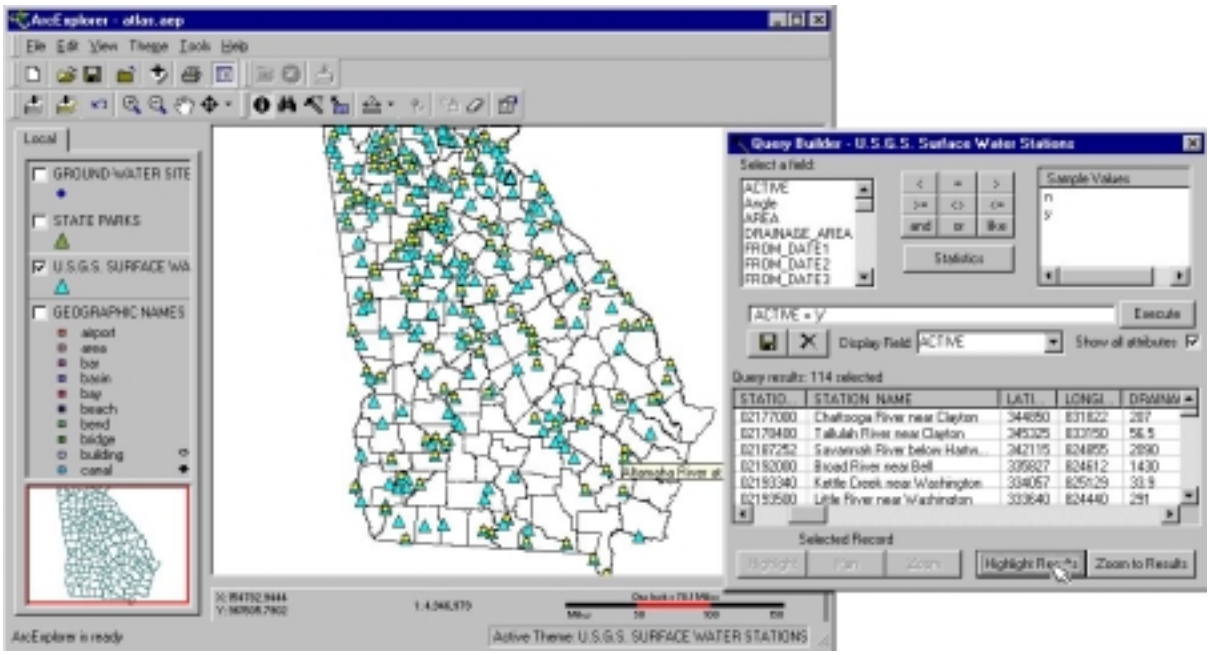
   *Click on the **Query Tool**  and the **Query Builder Dialog** window will appear. From **Select a field**, click on **FCLASS**, click on =, and from **Sample Values**, click on **airport**. Finally, click on **Execute**. You can highlight any of the **Query results** and Highlight, Pan or Zoom to the selected record or records.*



2. In the example below, **query** is used to select from the Active Theme**, USGS Surface Water Monitoring Sites**, all the active gages (**active = 'y'**) and then display and highlight (in yellow) the selected sites.

*Make the **USGS Surface Monitoring Sites** the active theme by clicking on the theme name. Click*  *on **County Boundaries** and **USGS Surface Monitoring Sites** to display these layers.*

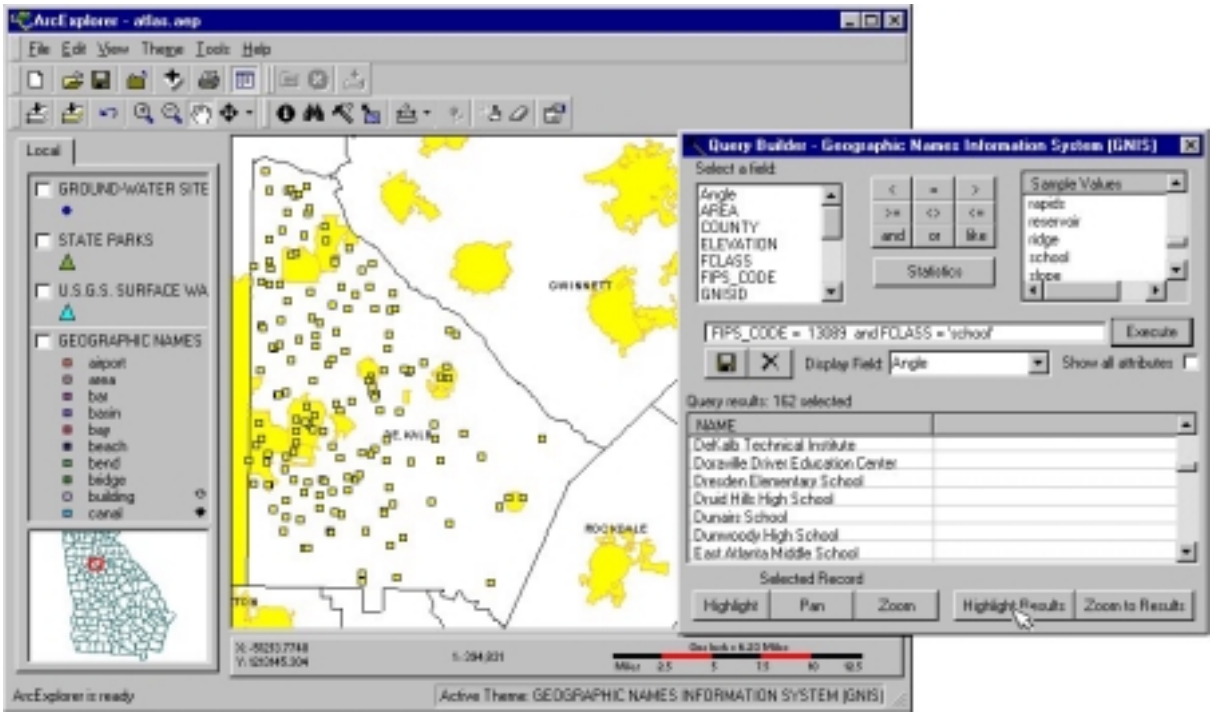
Click on the Query Tool  *and the **Query Builder Dialog** window will appear. From **Select a field**, click on **ACTIVE**, click on =, and from **Sample Values**, click on **y**. Finally, click on **Execute**. You can highlight any of the **Query results** and Highlight, Pan or Zoom to the selected record or records.*



3. In the example below, **query** is used to select from the active theme**, Geographic Names Information System (GNIS),** all the schools in DeKalb County (**fips_code = 13089 and fclass = 'school'**) and then zoom to and highlight (in yellow) the selected sites.

*Make the **Geographic Names Information System (GNIS)** the active theme by clicking on the theme name. Click*  *on **County Boundaries** and **Towns and Cities** to display these layers.*

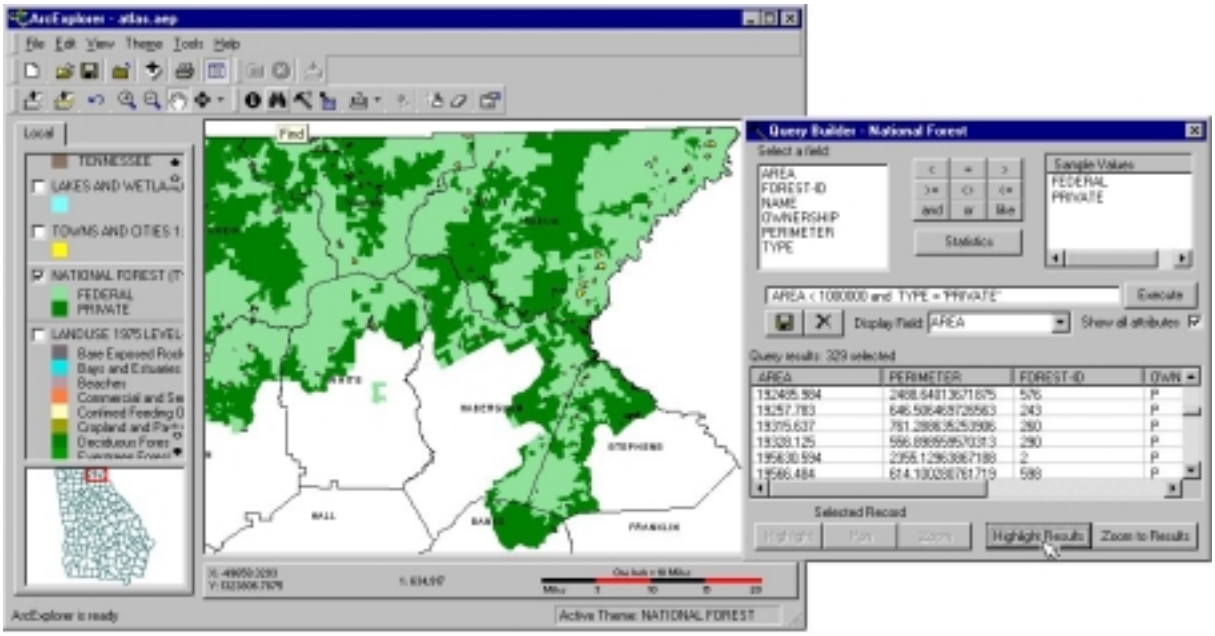
Click on the Query Tool  *and the **Query Builder Dialog** window will appear. From **Select a field**, click on **FIPS_CODE**, click on =, and from **Sample Values,** click on **13089**. Next, click on **and**, from **Select a field** click on **FCLASS**, click on =, and from **Sample Values**, click on **school**. Finally, click on **Execute**. (Note: You may also enter the equation **FIPS_CODE = 13089 and FCLASS = 'school'** directly into the **Query Builder** and click on **Execute.) Zoom to Results**, then **Highlight Results** to display the selected records.*



4. In the example below, **query** is used to select from the Active Theme, **National Forests**, all the individual Privately-owned sites larger than 1,000,000 square meters (**area > 1000000 and type = 'private'**) and then display and highlight (in yellow) the selected sites.

*Make **National Forests** the active theme by clicking on the theme name. Click on **County Boundaries** and **National Forests** to display these layers.*

*Click on the Query Tool and the **Query Builder Dialog** window will appear. From **Select a field**, click on **AREA**, click on >, and type in **1000000**. Next, click on **and**, from **Select a field** click on **TYPE**, click on =, and from **Sample Values**, click on **PRIVATE**. Finally, click on **Execute**. **Zoom to Results**, then **Highlight Results** to display the selected records.*



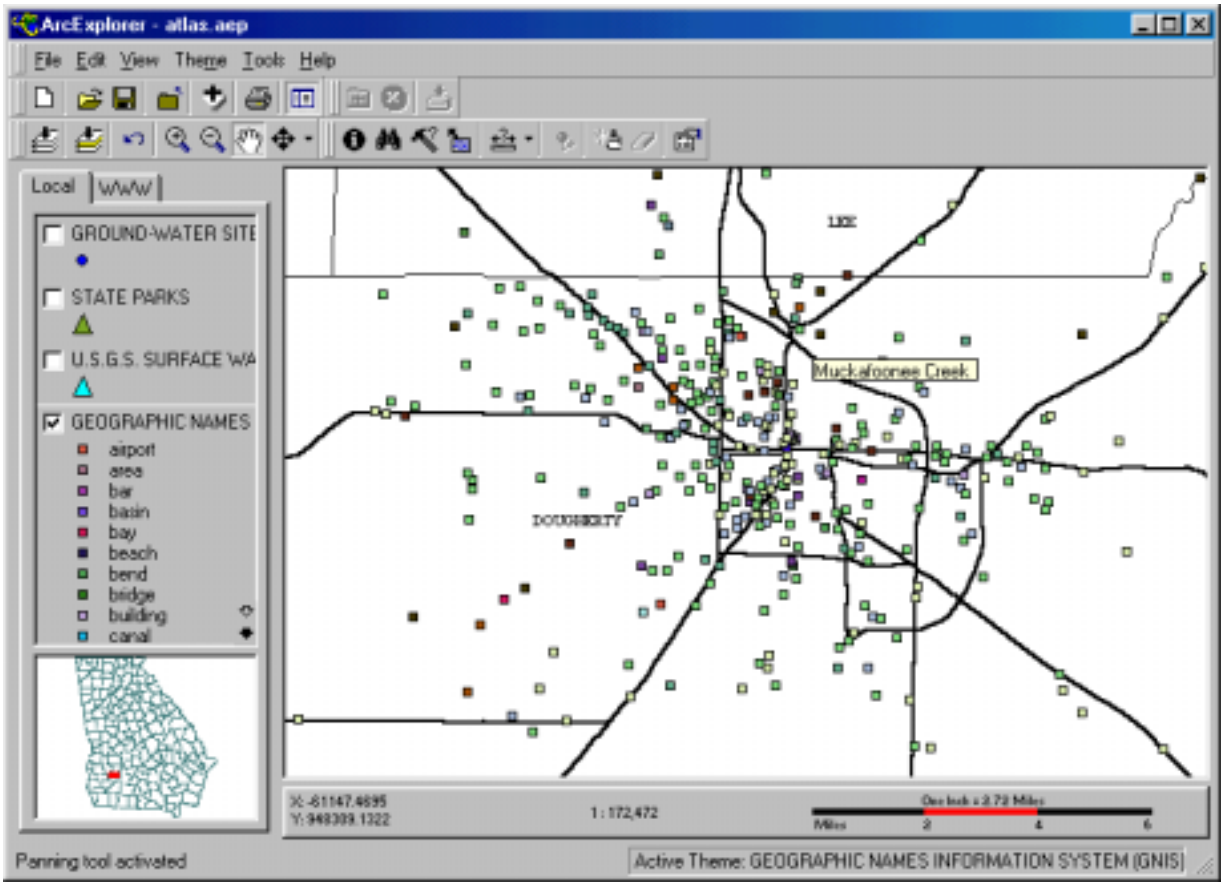
RESOURCE INVENTORY

1. There are several ways to directly identify resource information in the Active Theme. The example below is created by moving the cursor over a selected map feature. Information specified by the ***maptip tool*** is then displayed.

   *Use the **zoom tool** to enlarge (click and hold the left mouse button over lower left corner of the area to be enlarged, drag the mouse to the upper right corner and release the mouse button) an area around Albany, Georgia, in southwestern Georgia. Click on **County Boundaries, County Names, Major Roads** and **Geographic Names Information System** to display these layers.*

   *Make the **Geographic Names Information System (GNIS)** the active theme by clicking on the theme name.*

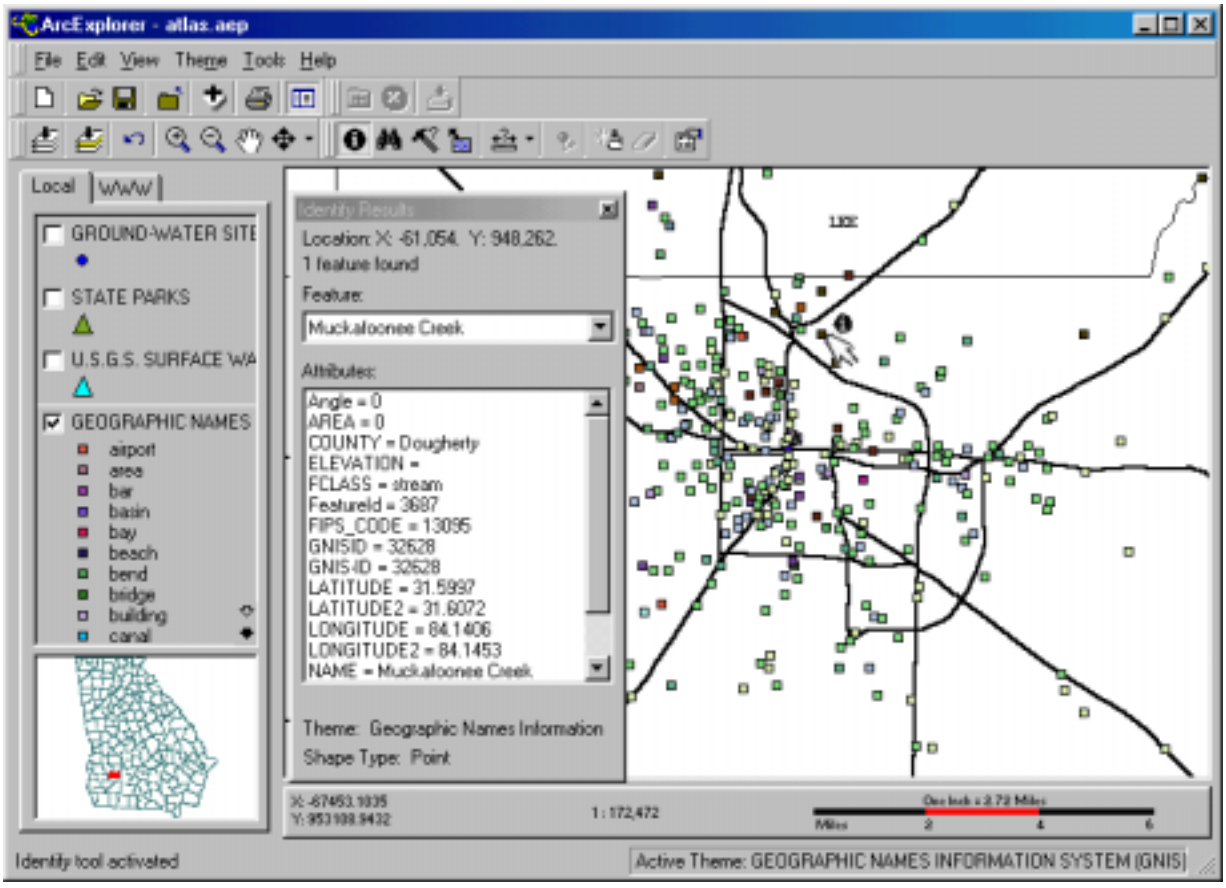
   *Place the **maptip tool** over any of the **GNIS** sites to identify it.*



2. In the example below, the **Identify Tool** is used to **identify** and display information about features in the Active Theme, **Geographic Names Information System (GNIS)**.

   *Make the **Geographic Names Information System (GNIS)** the active theme by clicking on the theme name.*

   *Click on the **Identify Tool** and place the cursor over the feature of the **Geographic Names Information System (GNIS)** you wish to identify. **Click** the left mouse button. The **Identify Results** window will appear with all attribute information on the selected feature.*

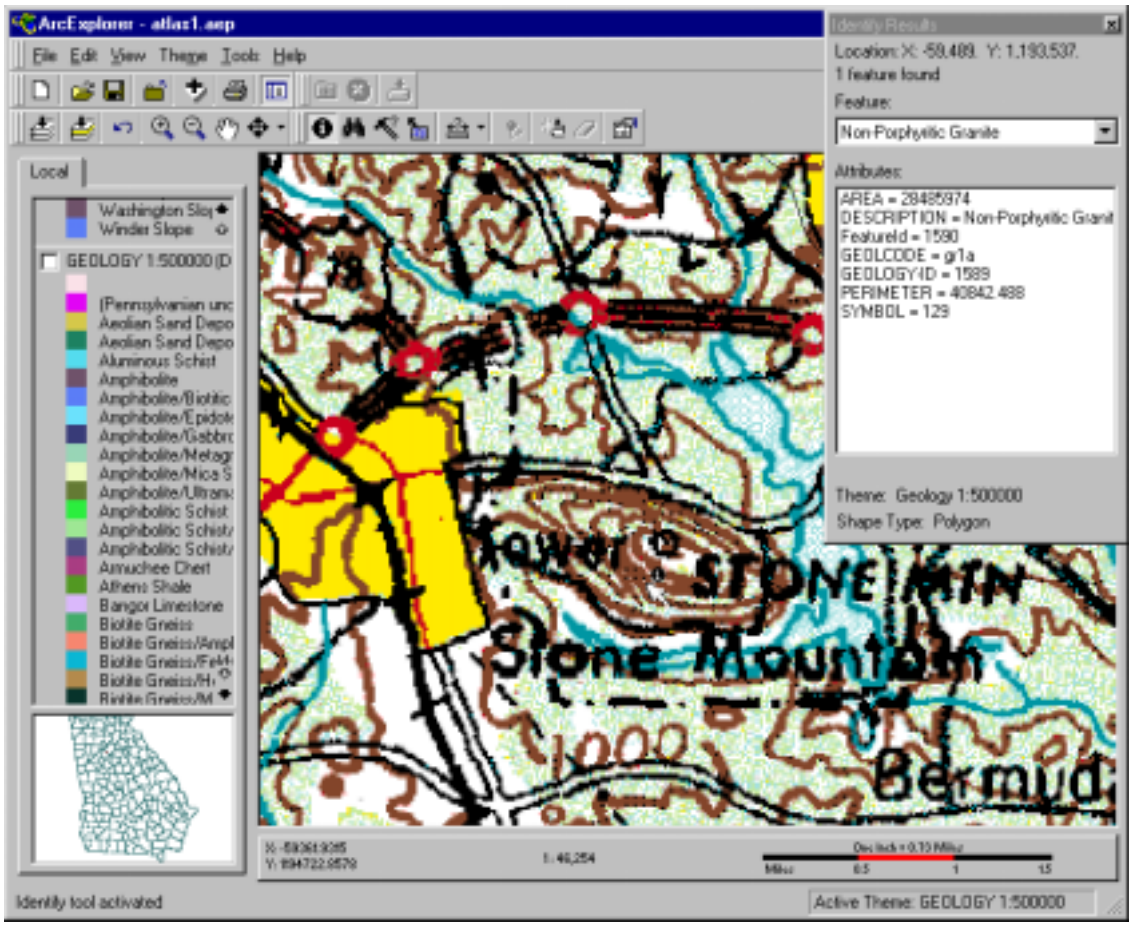


3. In the examples below, **identify** is used to query the Active Themes of **Geology** and **Soils**, respectively, over the 1:100,000 Scale Digital Raster Graphic depicting an area near Stone Mountain, and display information about the features.

*Use the **zoom tool***  *to enlarge (click and hold the left mouse button over lower left corner of the area to be enlarged, drag the mouse to the upper right corner and release the mouse button) the area of DeKalb County (you may wish to click on the **County Names** layer to assist in locating the county). Click*  *on **1:250,000 Scale Digital Raster graphic** to display the layer.*

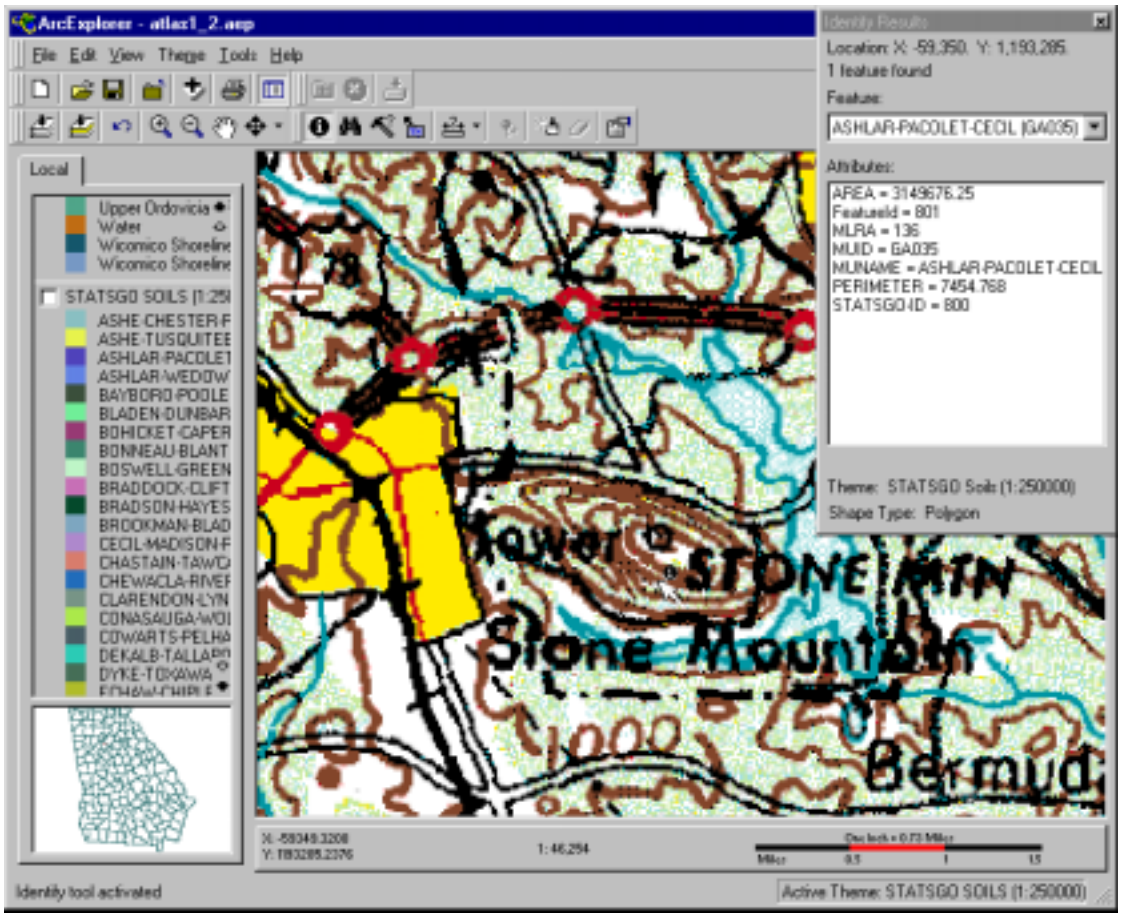
*Make **Geology** the active theme by clicking on the theme name.*

*Click on the **Identify Tool***  *and place the cursor over the feature (in this **case Stone Mountain**), whose geology you wish to identify. **Click** the left mouse button. The **Identify Results** window will appear with all attribute information on the selected feature.*



*Make **Soils** the active theme by clicking on the theme name.*

*Click on the **Identify Tool** and place the cursor over the feature (in this case Stone Mountain), whose soils you wish to identify. **Click** the left mouse button. The **Identify Results** window will appear with all attribute information on the selected feature.*



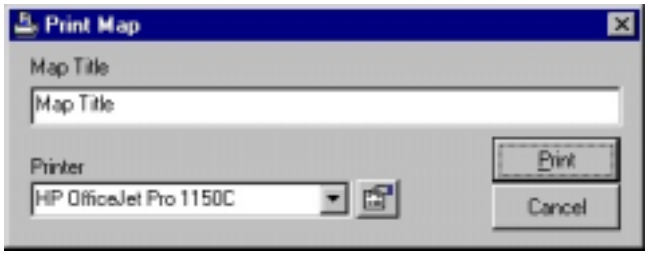
CUSTOM MAPS

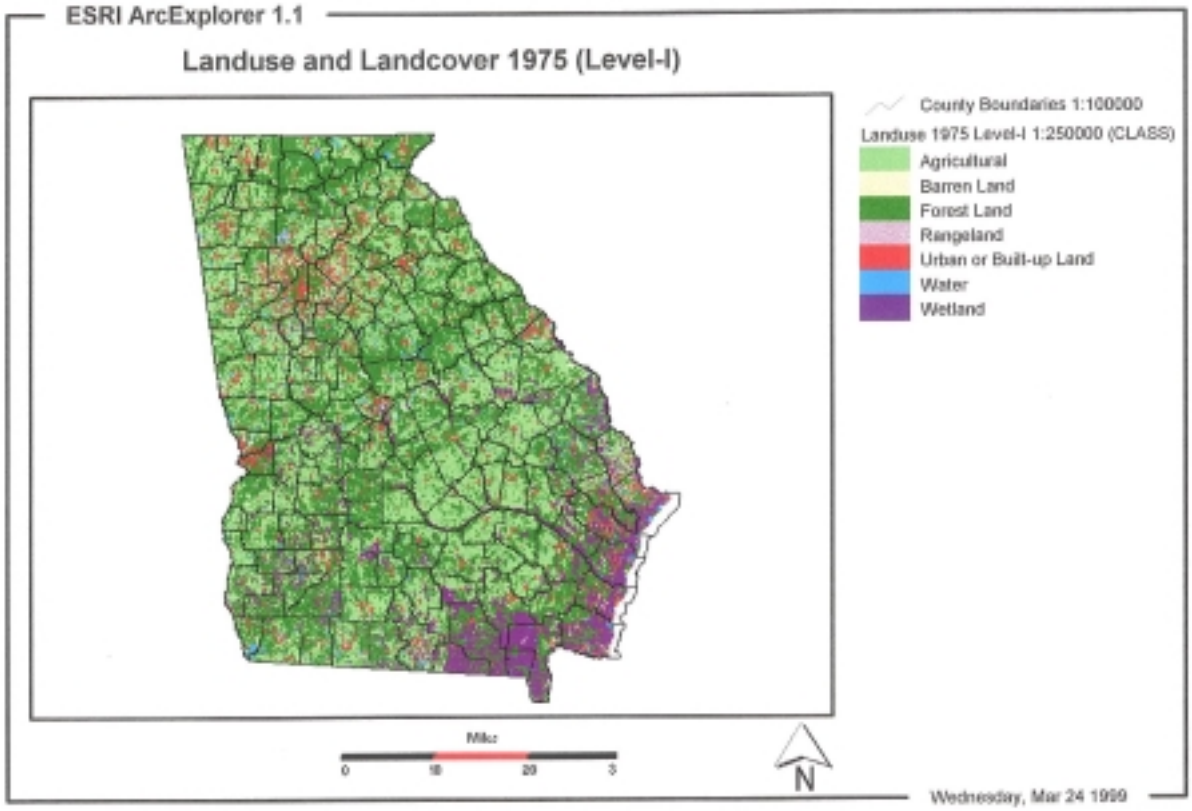
1. In the example below, the **Print Tool** is used to create a custom map comprised of the **County Boundary** and the **Landuse and Landcover** layers.

   *Make the **County Boundaries** theme active by clicking on the theme name. Use the **zoom to full extent tool** to enlarge the map to cover the entire state.*

   *Click on **County Boundaries** and **Landuse 1975 Level-1** to display these layers.*

   *Click on the Print Tool and the **Print Map** window will appear. Fill in the Map Title, select the Printer and click on **Print.***

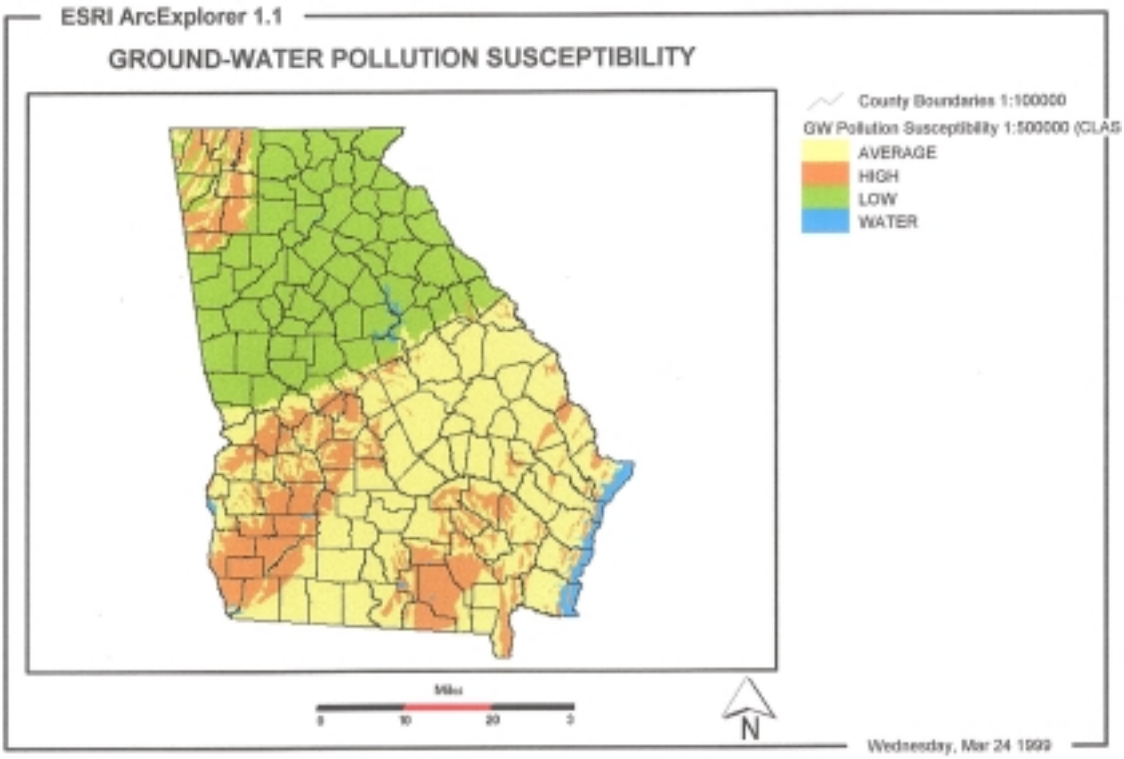




2. In the example below, **print** is used to create a custom map comprised of the **County Boundary** and the **Ground-Water Pollution Susceptibility** layers.

   *Make the **County Boundaries** theme active by clicking on the theme name. Use the **zoom to full extent tool** to*  *enlarge the map to cover the entire state.*
   Click  *on **County Boundaries** and **GW Pollution Susceptibility** to display these layers.*

   Click on the Print Tool  *and the **Print Map** window will appear. Fill in the Map Title, select the Printer and click on **Print.***

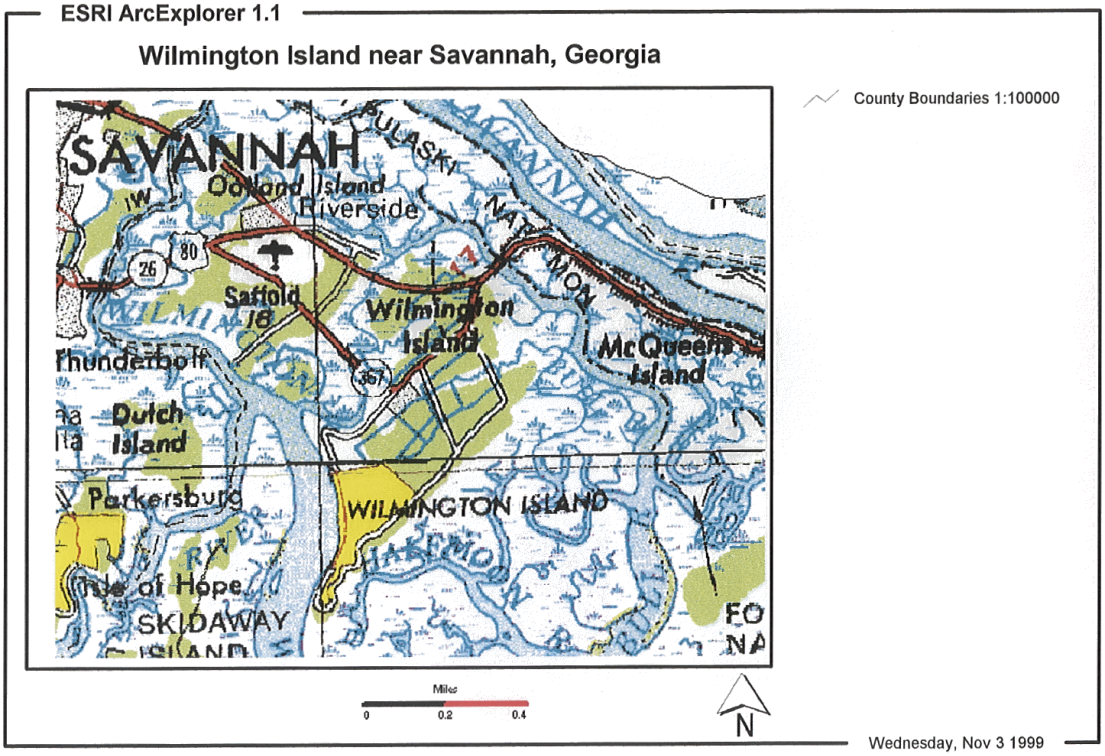


3. In the example below, **print** is used to create a custom map comprised of the **County Boundary** and the **1:250,000 Scale Digital Raster graphic** layers zoomed in on an area around Wilmington Island, near Savannah, Georgia.

*Use the **zoom tool***  *to enlarge (click and hold the left mouse button over lower left corner of the area to be enlarged, drag the mouse to the upper right corner and release the mouse button) an area off the coast of Georgia, near Chatham County.*

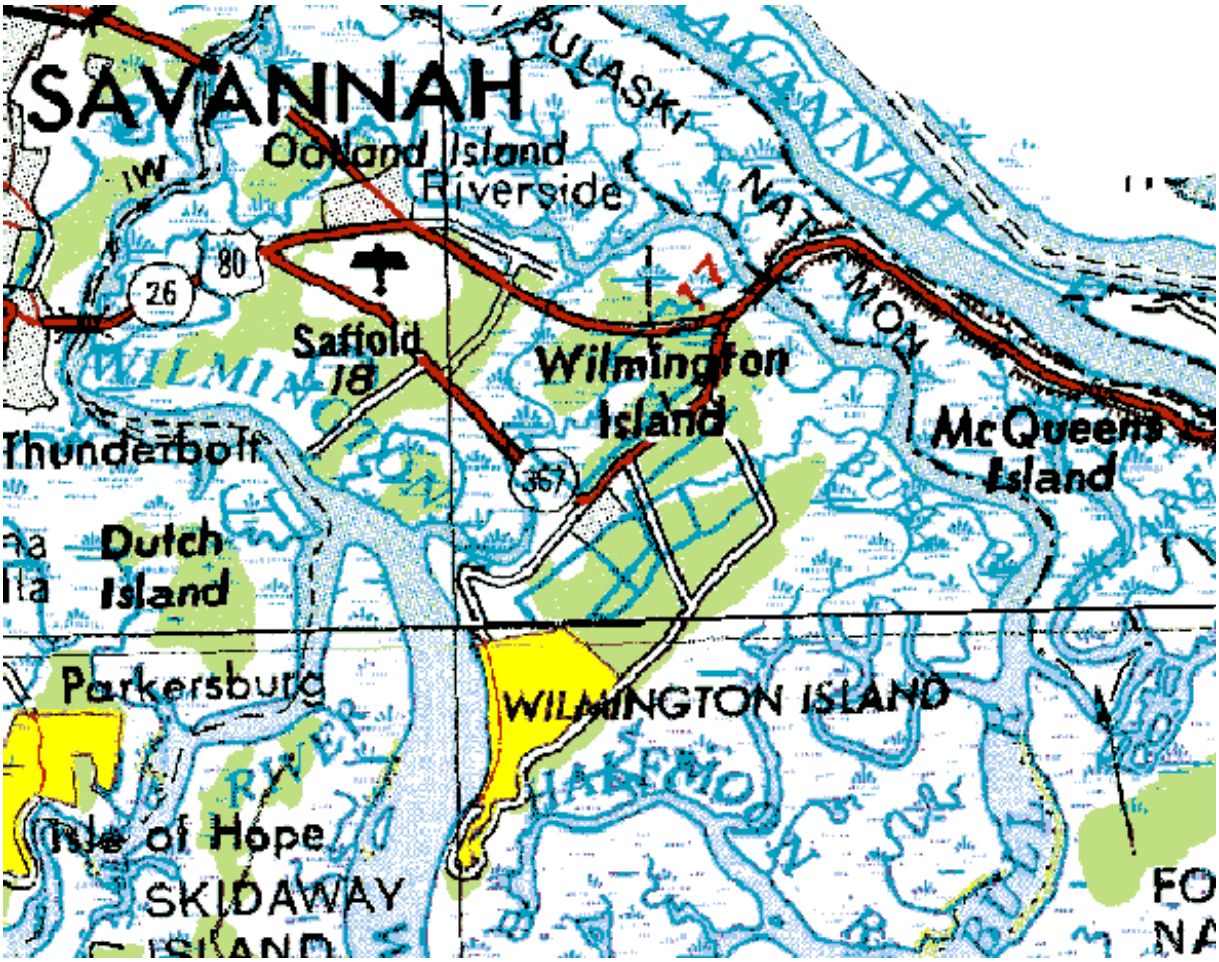
Click  *on **County Boundaries** and **1:250,000 Scale Digital Raster graphic** to display these layers.*

Click on the Print Tool  *and the **Print Map** window will appear. Fill in the Map Title, select the Printer and click on **Print.***



4. In the example below, the same image is **Copied to the Clipboard** as a **Bitmap** (**BMP)** file.

   Use the same instructions as the previous example, but instead of the Print Tool, use the ***Copy to Clipboard (BMP)*** *option located under the* ***Edit*** *menu.*

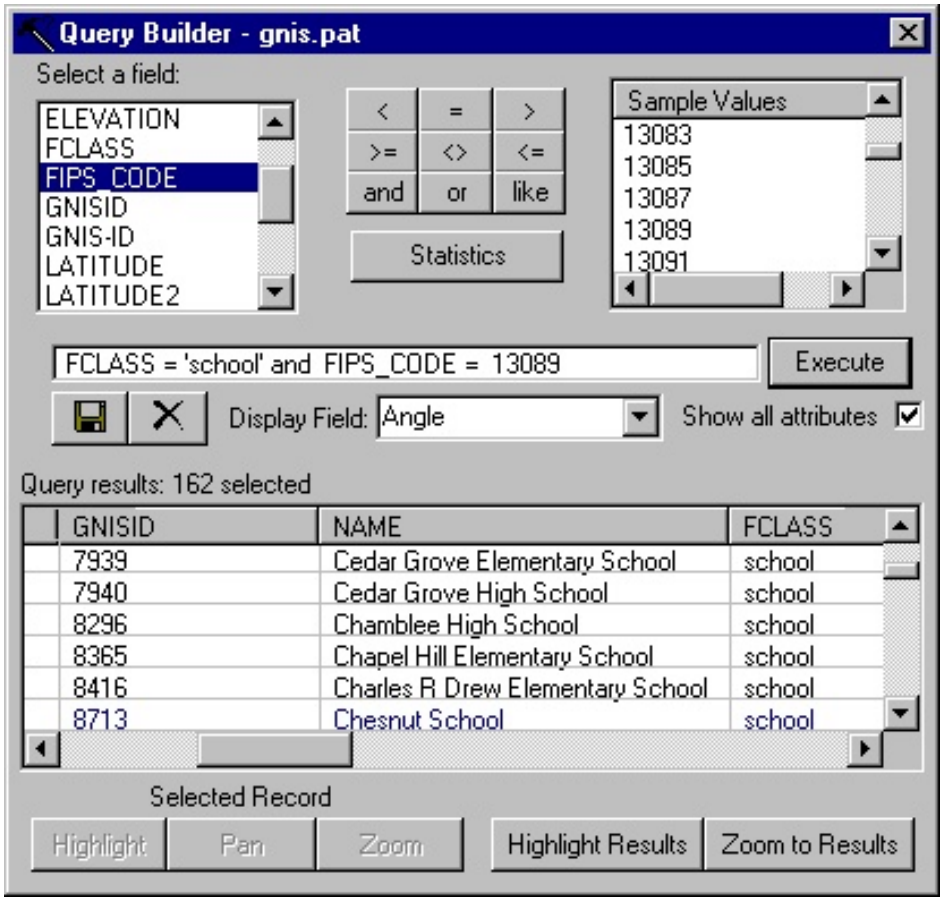


TABLES

1. In the example below, a **table** of schools in DeKalb County from the active theme **Geographic Names Information Systems (GNIS)**, extracted using **query,** can be saved as a text file (individual fields delineated by |) and later inserted into a spreadsheet.

   *Make the **Geographic Names Information System (GNIS)** theme active by clicking on the theme name.*

   *Click on the **Query Tool**  and the **Query Builder Dialog** window will appear. From **Select a field**, click on **FIPS_CODE**, click on =, and from **Sample Values,** click on **13089**. Next, click on **and**, from **Select a field** click on **FCLASS**, click on =, and from **Sample Values**, click on **school**. Check **Show all Attributes** and finally, click on **Execute**. Click on the **Save tool**  of the **Query Builder Dialog** window (save as ASCII text file delimited by "|") and enter a file name and location and click on **Save**.*



You can then use a commercial spreadsheet software package to open the ***"|" delimited ASCII text file****.*

	D	E	F	G	H	I	J	K	L
1	GNISID	NAME	FCLASS	COUNTY	FIPS_CODE	ELEVATIC	QUAD_NAME	LATITUDE	LONGITUDE
2	245	Adult Education Center	school	DeKalb	13089	1029	Stone Mountain	33.8053	84.2381
3	264	Agnes Scott College	school	DeKalb	13089		Northeast Atlanta	33.7689	84.2942
4	554	Allgood School	school	DeKalb	13089		Stone Mountain	33.7794	84.2117
5	1370	Ashford Park Elementary School	school	DeKalb	13089		Northeast Atlanta	33.8742	84.3222
6	1468	Atherton School	school	DeKalb	13089		Redan	33.7425	84.2233
7	1517	Atlanta School for the Deaf	school	DeKalb	13089	1000	Stone Mountain	33.8025	84.2397
8	1623	Austin Elementary School	school	DeKalb	13089		Chamblee	33.9594	84.3358
9	1689	Avondale High School	school	DeKalb	13089		Northeast Atlanta	33.7794	84.2661
10	1692	Avondale School	school	DeKalb	13089		Northeast Atlanta	33.7869	84.2556
11	2060	Baptist University of America	school	DeKalb	13089		Southeast Atlanta	33.7278	84.2814
12	3841	Biffle Road Elementary School	school	DeKalb	13089		Redan	33.7422	84.1739
13	4717	Bob Mathis Elementary School	school	DeKalb	13089		Redan	33.6894	84.2411
14	4934	Boulder Crest School	school	DeKalb	13089		Southeast Atlanta	33.6886	84.3167
15	5362	Briar Vista Elementary School	school	DeKalb	13089		Northeast Atlanta	33.8097	84.3383
16	5363	Briarcliff High School	school	DeKalb	13089		Northeast Atlanta	33.8256	84.3256
17	5374	Briarlake Elementary School	school	DeKalb	13089		Northeast Atlanta	33.8389	84.2697
18	5570	Brockett School	school	DeKalb	13089	1040	Stone Mountain	33.8372	84.2219
19	5907	Bruce Street School	school	DeKalb	13089		Conyers	33.7147	84.0983
20	6352	Burgess School	school	DeKalb	13089		Southeast Atlanta	33.7406	84.3317
21	7170	Canby Lane Elementary School	school	DeKalb	13089		Redan	33.7222	84.2206
22	7655	Cary Reynolds School	school	DeKalb	13089		Chamblee	33.8931	84.2717
23	7939	Cedar Grove Elementary School	school	DeKalb	13089		Southeast Atlanta	33.6758	84.2969
24	7940	Cedar Grove High School	school	DeKalb	13089		Southeast Atlanta	33.6761	84.2942
25	8296	Chamblee High School	school	DeKalb	13089		Chamblee	33.8978	84.3064
26	8365	Chapel Hill Elementary School	school	DeKalb	13089		Redan	33.6789	84.2186
27	8416	Charles R Drew Elementary School	school	DeKalb	13089		Southeast Atlanta	33.745	84.3147
28	8713	Chesnut School	school	DeKalb	13089		Chamblee	33.9275	84.2961

MAP SCALE, COORDINATES and MEASUREMENTS

1. In the example below, the **measurement tool** is used to measure, in miles, the distance by of the Olympic Trail between Clarkston, Georgia and Stone Mountain, Georgia.

   *Use the **zoom tool** to enlarge (click and hold the left mouse button over lower left corner of the area to be enlarged, drag the mouse to the upper right corner and release the mouse button) the area of DeKalb County (you may wish to click on the **County Names** layer to assist in locating the county). Click on **Trails and Greenways, County Boundary, City and Towns, City and Town Names** to display these layers.*

   *Make **Trails and Greenways** the active theme by clicking on the theme name.*

   *Click on the **button** to the right of the **measurement tool** and select the units. Place the cursor at the beginning of the **Olympic Trail** in Clarkston, Georgia, press and hold down the left mouse button (click and drag) as you trace the trail toward Stone Mountain. **Total length** and **Segment length** will be displayed in the upper left hand corner of the map view.*