GEOGRAPHIC INFORMATION SYSTEMS (GIS)
TERMINOLOGY AND DEFINITIONS

GIS technology links geographic information (where things are) with descriptive information (what things are). A GIS map can present many layers of different information. Each layer represents a particular trait of the map. These traits can be layered on top of one another creating a unique view of the geographic area. Layers can be added and removed to build each map.

LEGEND

The legend shows color and line details for a GIS map. In the example below, shoreline borders display as a blue line, dark green shading represents a city, and a community is highlighted using light green shading. The county border is seen as a thick black line.

TABLE OF CONTENTS (LAYERS)

The Table of Contents represents the layers of the map. Each layer can be visible or hidden. Only one layer can be designated the **Active** layer. This layer, as mentioned below, defines the result set when you click on the **Identify** button.

Visible   Place a checkmark next to a layer to be viewed. More than one Visible Layer can be selected.

Active   Click on a button to choose an Active layer. Only one Active Layer can be selected at any time.

When you select the **Identify** mode, the result set will be defined based on the selected Active Layer.

TOOLBAR DESCRIPTIONS

The buttons displayed on the toolbar above are universal to all geographic information system (GIS) applications. Not all buttons may be used in every GIS application. These buttons operate as either Modal (relating to movement of the cursor) or as performing an Action.

Button	Name	Description
	Toggle Overview Map	Adds or removes the overview map from the map display area
	Zoom In	Zooms in to the area of the map that the user clicks or defines by drawing a box
	Zoom Out	Zooms out from the area of the map that the user clicks or defines by drawing a box
	Zoom to Full Extent	Zooms to the full extent of the map
	Zoom Active	Zooms to the full extent of the active layer
	Previous Extent	Zooms to the last map view. Inactive until the user has changed extents.
	Pan	Moves the map in the direction the user drags the mouse pointer
	Pan One Direction	Moves the map in one direction (north, south, east, west)
	Identify	Displays the attributes of a feature clicked by the user. When you select the Identify mode, your result set will be defined based on the selected active layer.
	Stored Query	Search for features based on information the user enters
	Find	Finds map features with an attribute value matching a user-specified value
	Measure	Measures distances on the map from point to point
	Set Units	Sets the units for the measure tool, scale bar, and buffer area
	Buffer	Creates a buffer zone around a feature or features. A buffer, or buffer zone, graphically encloses an area within a specified distance from a feature.
	Select by Rectangle	Selects the group of features contained by or in contact with a rectangle the user draws on the map
	Select by Line/Polygon	Selects the group of features contained by or in contact with a line or polygon the user draws on the map
	Clear Selection	Clears what is currently highlighted

Button	Name	Description
	Print	Send the display to the default printer. **Note**: You may have to print several samples before finding the right size paper and the exact map configurations that will work for your specific needs. (Print should be OK, but is set to print on landscape layout…)

GLOSSARY

Active Layer
Designates the layer that the *Stored Query*, *Identify* and *Buffer* functions will process. Only one layer can be active at a time. When a thematic map is generated based on a specific attribute, it is displayed using the specified Active Layer.

Attribute
An attribute is a characteristic of a geographic feature and is described by numbers or text. Examples: the attributes of a river might include its name, length, average depth, etc.

Class
Data are grouped according to the range of values of a specific characteristic or attribute.

Classification Method
An algorithm used to classify data into groups. Specific classification methods are described below:

- **Equal Interval**
  This method divides the range of attribute values of the features into equal sized classes. For example, if the attribute values range from 60 to 180, the total range is 120. If you classify these features into four classes, each class will represent a range of 30 and the class value ranges will be 60-90, 91-120, 121-150 and 151-180.

- **Quantile**
  This method is a modification of **True Quantile** where all features with attribute values of zero are assigned to the first class and the features with non-zero attributes are assigned in equal numbers to the remaining classes. For example, if you have 20 features and classify these into four classes and 11 have an attribute value of zero, these are put the first class. The remaining nine features with non-zero attributes are assigned to the remaining classes; the lowest three are put in the second class, the next three in the third class and the last three in the fourth class.

- **True Quantile**
  This method assigns the same number of features to each class. For example, if you have 20 features and classify these into four classes, the lowest five are put in the first class, the next five in the second class and so on. If the first ten features have the same attribute value, they will fall into two classes.

Extent
Extent is a spatial reference to boundaries. For example, **Zoom to Full Extent** will display the image of the entire map.

Feature
A geographic phenomenon that can be represented spatially on a map. Features can be roads, fire stations, hospitals or land use (zoning) designations.

GIS
Geographic Information Systems technology connects information about where things are with information about

what things are like. When you use a paper map, the statement "what you see is what you get" is true. A GIS map can combine many layers of information. GIS information is stored in a database and appears on a map only if the user opts to show it.

Layers
Layers are groups of features. Layers can be boundaries such as roads, waterways, elevation contours or zip codes.

Thematic map
A map that displays the geographic patterns and spatial relationships in statistical data.
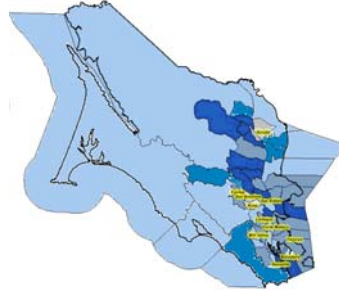
Visible Layer
Designates a layer that can be seen on the map. Many layers may be visible on a map.