

## NPS Theme Manager

The GIS Theme Manager is an ArcView extension that facilitates the organization and use of data themes. The Theme Manager allows users to create lists of themes that are relevant to particular projects, places or management issues. The Theme Manager is a catalogue for these themes, letting a user simply select a theme from a popup list of descriptive names. In the background, the Theme Manager finds the necessary files, adds the theme to the view along with the descriptive title, loads a legend, user-defined hotlinks, help files and links it to metadata.

New or periodic users who do not know what data are available can browse through the theme lists to find data of interest, quickly and easily. They can check the metadata for appropriateness and display the data without having to track down GIS specialists, continually asking "What do we have?" and "Where is it?"

Theme Lists may be created by anyone. GIS specialists can put lists on a network location for all park users, lists may be created by Servicewide programs such as the Inventory and Monitoring Program, or individuals may create their own personal lists for their data and specific projects. The THEME MANAGER wizard steps users through the process, allowing users to easily: create, edit, copy, and delete theme lists.

The Theme Manager also provides extra coordinate handling capabilities. ArcView does not currently store information about underlying theme projections, nor does it provide prebuilt tools for converting projected coordinates to latitude-longitude. By storing default projection values in your project, the THEME MANAGER allows a user to click on the view and return the location in latitude-longitude coordinates. One can also pan the view display to a specific coordinate, and display it as a graphic on the screen.

### What is a Theme List?

A Theme List is simply one list of ArcView themes of interest to a user or users. A single data source (e.g., a shapefile) can be included in any number of theme lists, and theme lists can contain any number of themes. Shapefiles, ARC/INFO coverages and grids, images, imagecatalogs, AutoCAD files, etc., can all be included in theme lists. The underlying theme information (source, name, legend, metadata, etc.) are stored in a dbf table, allowing the themes to be loaded and displayed automatically. The themes within a list can be organized within subcategories defined by the user to help locate similar themes within the list. Example subcategories are: biologic, cultural, historic, USGS quads, etc. You can incorporate definition queries, hotlinks, display scales, metadata, and help files, without having to set them each time you add the theme, they load automatically.

Theme lists can be stored either locally or on a network. The THEME MANAGER makes use of existing directory structures and environment variables to store and retrieve

the list information. Users can access common theme lists of interest to many users over a network, or they can create their own personal lists for local use. Theme lists include pointers to data, not the data files themselves, so multiple lists do not cause problems with disk space and redundant data files.

### What can I do with a Theme List?

A theme list allows you to organize your data or your park's data making it easier to find and display. Once a theme is incorporated into a Theme List, a user can easily locate the data without knowing the filename and location. Users can look for data by reviewing descriptive names rather than deep directory structures and cryptic file names.

Experienced users can create theme lists of the available data for new users or those unfamiliar with data sources. A GIS manager for a park can use theme lists as catalogues for users who are shopping for data. It can present the data in one place for users to scan. It can simply (and repeatedly) answer one of the most basic questions of GIS users -- what data do we have?

Users who are working on several different projects can easily create theme lists to help remember which data are relevant to each project. If a project is being given to another person, a theme list can make all the difference in how effectively the project is continued. Theme lists link available metadata to your themes, allowing users to determine which data are appropriate for their purposes.

Support Offices and Servicewide programs such as the Inventory and Monitoring Program can use it as a distribution mechanism to accompany data CDs. Rather than distributing a stand alone list of new and revised data, they can send a theme list and all users will be able to immediately locate and display the data.

### What information about my themes can I store in a Theme List?

Theme Name - a descriptive name for the theme. A shapefile may be "geopoly.shp", but the theme name could be "Surficial Geology, 1:24,000". This name will be what the user selects in the pick list, and it will also be the name that is used in the view table of contents.

Theme Source - the file name and location of the source data, e.g.,  
d:\gis\smith\geology\geopoly.shp". Variables can be used in directory names.

Feature Class - the type of features: point, arc, poly, image, grid, etc. This determines what ArcView will load when the theme is added to the view.

Definition Query (optional) - Theme definitions allow data to be subsetted - ArcView will only recognize a subset of the data when displaying and analyzing a theme. This definition query is used to load that subset of the theme features. An example definition query could be: ([Area] > 100).

Theme Category (optional) - these can be whatever categories a user finds helpful for organizing themes within a list. "Biology", "archaeology", "historic data", "aerial photos", or even USGS quad names. When the user displays a Theme List, the available themes are organized alphabetically within each category as an aid for finding related data.

Legend File or Single Color (optional) - this can be an ArcView legend (.avl) file, or one of about 18 colors available from a dropdown list. If a legend file is specified it will be loaded automatically. If a color is specified, the theme legend will be set to single symbol in that color. Like theme source and metadata, a legend directory can contain variables.

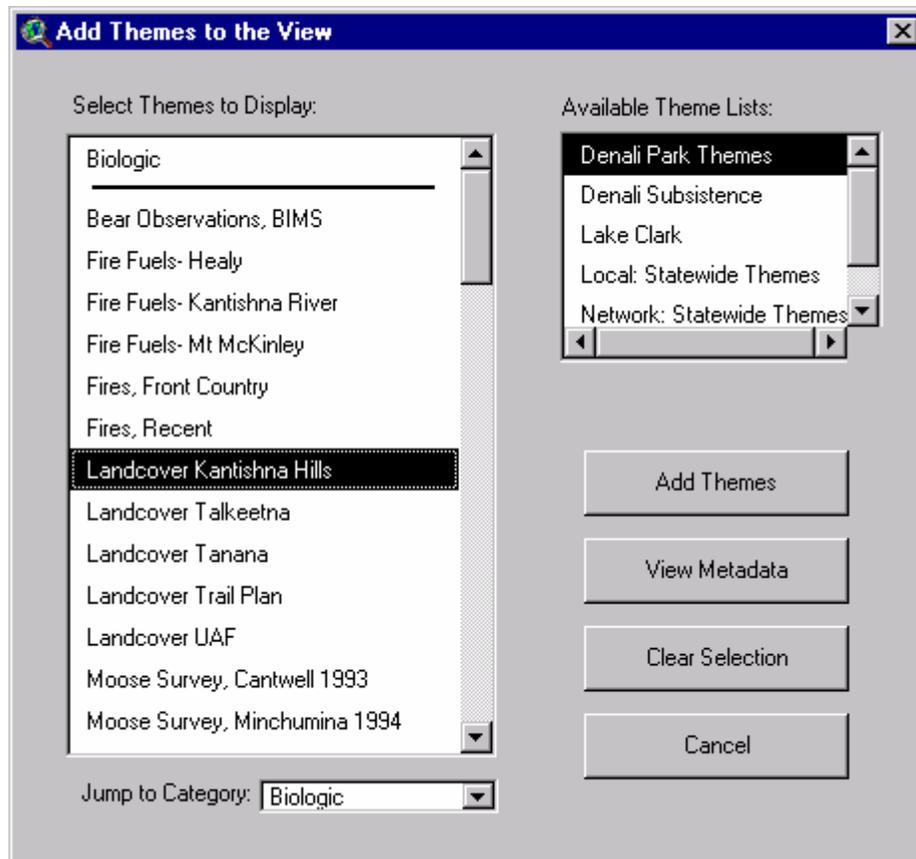
Metadata (optional) - the path and filename of a text file containing information about the theme. When a theme is added to the view with the THEME MANAGER, the metadata file source is linked to that theme. A user can then retrieve the metadata automatically for any such theme in the view. Like theme source and legend file, a legend directory can contain variables.

Linked Document (optional) - the path and filename of a MS Help (.hlp) file or HTML file whose topics/sections can be linked to feature attributes. A user can then click on theme features and read descriptive information about that feature type, for instance what constitutes a "mixed conifer vegetation class" in a vegetation theme, or definition of a particular soil or geology formation. Like Theme Source and Metadata, a legend directory can contain variables. Like theme source and legend file, a helpfile directory can contain variables.

### How do I use a Theme List?

Theme Lists can be created by individual users, park GIS managers, regional offices, or Servicewide programs. If you have been provided with Theme Lists, you can access themes by clicking the NPS Add Themes button. This will open a dialog box showing the available theme lists and the themes within each list. Simply choose from the Available Theme Lists, then select one or more themes of interest and click Add Themes. They will be added in with all of the stored information (legends, definitions, etc.) automatically. You can also read the metadata about themes before loading, to ascertain whether the data are relevant or not.





### How do I create and manage my own Theme Lists?

The extension includes a Manage Theme Lists menu option. This brings up a wizard that steps you through the process of working with theme lists. You can create a new list, edit, copy or delete an existing list. You can also set environment variables, and use them variables in the source directory paths. This will allow for easier sharing of theme lists where the data may be on different drives on different machines.