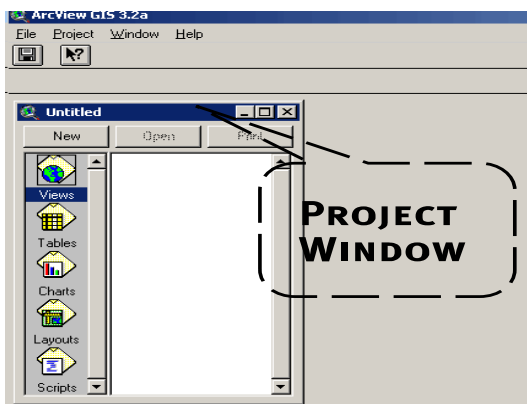


Using ArcView 3.2a A Brief Introduction

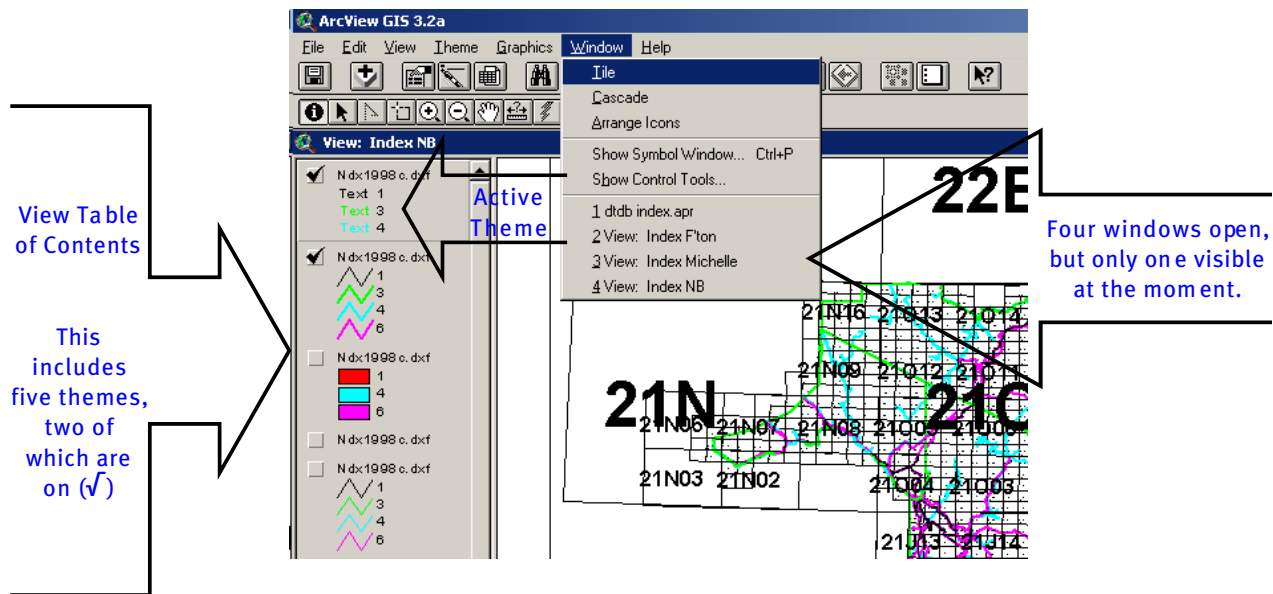
With any software application, understanding very general theory goes a long way toward maintaining sanity. Following this very brief introduction, then, will be step by step instructions for commonly performed tasks. First and foremost, it is important to understand the terminology. In ArcView, your practical goal is to build or work with a “project.” A project, denoted by the “apr” extension, is akin to a file folder full of different, but related, information. That is, in my file folder (Project Window), I can have a general map showing features of interest (maybe a little more than I need, who knows?), numerical tables, charts, and even a more specialized map of my particular area of interest. Unlike a true file folder, however, ArcView projects do not contain data, but refer to data on disk. Thus, the same data may be used for multiple projects without being replicated on a machine.



The Project Window is the main control for your project. From this, you may add, open, or print Views, Tables, Charts, Layouts, and Scripts. In fact, you can have more than the above items in your project, but if you're using scripts to make such changes, this guide is way too simple for you.

- ☺ **Views (dynamic):** In a view you can display, manipulate, and/or analyse geography and themes of interest (eg. Canadian provinces for a geography theme and Common law status for a demographic theme). Within a view, you work from the TABLE OF CONTENTS.
 - ☺ **TABLE OF CONTENTS:** The table of contents lists themes (layers) by name; shows legends for each theme; allows you to turn on and off the theme; allows you to order each theme (generally polygons on the bottom and lines and points on top); and allow you to select themes to be active. This last action is important because if you want to label streets, for instance, there is no use making a vegetation theme active.
- ☺ **Tables (dynamic):** Theme attribute tables contain descriptive information, and you can add your own data to a project. In order to do this, and have it make sense, however, you need a common element in each of your tables (eg. STC unique identifier).
- ☺ **Charts (dynamic):** As with any chart, those in ArcView allow for a quick visual representation of what might be complex data. Charts can be dynamically linked to maps, making your end result a little more informative (or busy, so beware).
- ☺ **Layout (dynamic or static):** This will generally be the end product for many users – a nicely designed and executed map. Layouts often contain extra graphical information you may not want on your view. The default for a layout is to be dynamically linked to its view; however, this does not have to be the case. If you are interested in the same view being depicted in multiple ways, you can uncheckmark the option for “live link” when you create your map. This is really only useful if you believe you'll not have to redraw a view within a layout. Note: changes made in the view will be reflected in a layout (unless you have chosen to make it static); however, changes in a layout will not be reflected in a view.

Generally speaking, within ArcView you will either open and manipulate an existing project, or create one of your own. Either way, there are common tasks which you may want to perform. Because you may end up moving among views and layouts, it is a good idea to identify each clearly. Within Windows applications, one of the drop-down menus is always Window, which allows you to have more than one window open, and possibly maximize your efficiency. Moving among them can be frustrating if they are all named “Untitled;” hence it is a good idea to identify each by function and name. If a project already has a name, so be it; if not, try to choose one which reflects the nature of the project (similar to normal naming convention requirements). Within a project, you can have views and layouts, which appear to contain similar information, but which serve different purposes; therefore, I always label my views “View: Description,” where description is the name of the view, of course. Likewise, I always name my layouts, “Layout: Description.” This allows for ease of window toggling and is much more descriptive than “View1” or “Layout2.” To edit your view or layout title, ensure that said view or layout is active, choose the drop-down menu View or Layout (the menu bars change when different components of the program are open), click on “Properties...” then change the name.



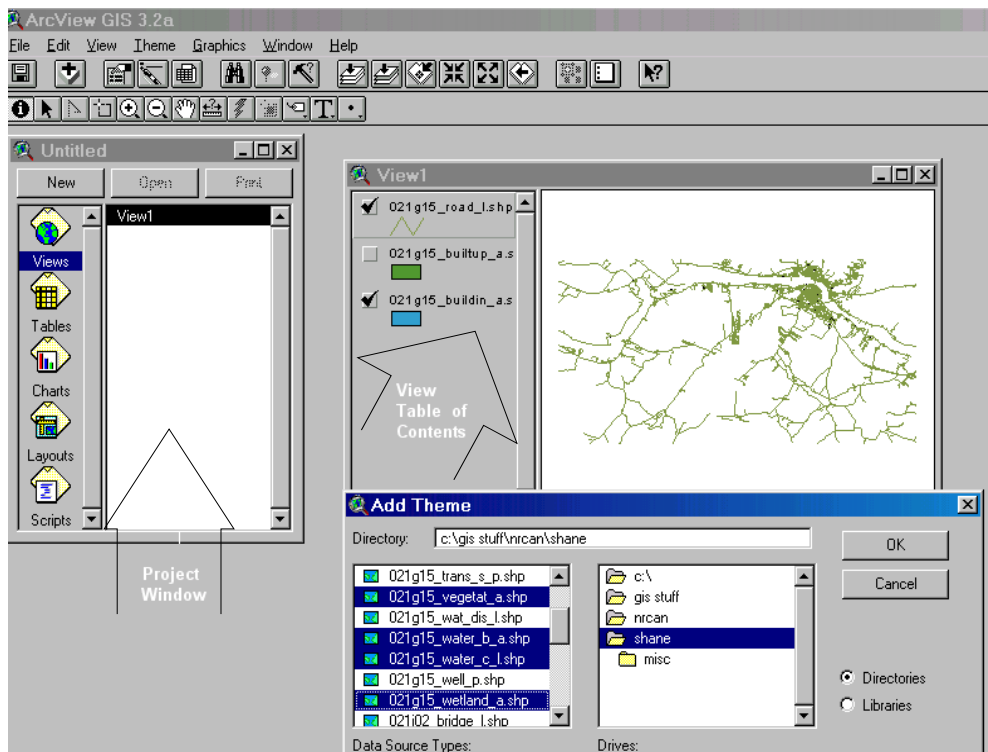
Of particular note: Because projects refer to data source files, if you change your directory structure at any point after you have saved your project, the next time you open it, ArcView will ask for the whereabouts of your files. For example, if you create a project, and all of your data happens to be in a directory called “spatial data” (and any subdirectories thereunder), if you rename that directory (say, to “GIS data”), ArcView will not know the whereabouts of all of the files formerly found in “spatial data.”

Another result of referenced data sources is that if you edit shapefiles within one project and save the edits, that shapefile will be changed for all files (even if you do not save the project, itself). If you know you need to edit a theme (rather than simply manipulate it), I recommend that you make a copy of it with a different name, or within the view, select the particular theme of interest by clicking on it, choose the “Theme” drop-down menu, and click on “Convert to Shapefile.” At this point, you will be asked for a name and location (be careful to ensure you know where the file is being saved). You are now able to delete the original theme from the view, and edit the new shapefile without fear of ruining the original. This is a useful trick when you need to edit really large files for distribution to an individual user, but don't want to change the original project (eg, pulling Fredericton from a New Brunswick file, then saving as Fton.apr). Do not panic: it is very difficult to actually edit a shapefile without knowing it (the process involves going to the Theme drop-down menu and selecting “Edit Theme”). Changing the look of the table of contents, or the perspective does not alter the file, simply how it looks within a project.

Step by Step Instructions

Creating and Editing a View:

- 1 Start a new project by clicking on the “New” button while Views is the active option in the Project Window.
- 2 Once you’ve done this, the button bar changes to reflect your new available actions. Add new themes by clicking on the “+” icon, and selecting those of interest from the list provided (use the shift key to select multiple themes).
- 3 In the view Table of Contents, order your themes by prominence. Usually, you’ll want to put polygons on the bottom and lines on the top, so the lines will show against the polygon backdrops. If you do not do this, you will find that some of your themes “disappear.”



- 4 Turn on all views by choosing “Themes On” from the View drop-down menu (for individual themes, click in the little box on each theme in the table of contents).
- 5 You may want to change the look of your legend. For instance, instead of having all vegetation as one colour, you might want it to be described by type. Double click on the legend in the Table of Contents, change the Legend Type to “Unique Value” (or however you truly want it), and select your preferred field from the Values Field. You may also want to change the labels for your legend.
- 6 In the Legend Editor, double click on the symbol to edit its appearance. This will open the symbol palettes, which allows you to change fill, lines, markers, font, and colour. Once you have edited your legends, do not forget to show one of each type for the purposes of your layout.
- 7 If you have many themes, you may clean up the Table of Contents by hiding the legends (the name of the theme and the check mark will remain). This will reduce the size each them takes up in the Table of Contents, but not change the information. Select your themes, choose “Hide/Show Legend” from the Theme drop-down menu (when it is time to add a legend to the table of contents, you must again show the themes you want to be part of the legend).

Creating or Adding a Table:

- 8 Depending on your purpose, you may choose to create a new table from within ArcView or add a table from another source. To create a table, go to the Project Window and click on Tables, then New. You will be asked to give it a name and select where you want to file it; at this point an open window will appear and you are left to fill in the table. To do this, you'll need to add Fields (columns) and Records (rows). Within the Field Definition dialogue box, be careful to specify the correct Type. It is no good to have type "Number" if you intend the column to contain text. Also, be careful to ensure the width of the rows is sufficient to take all text or numbers.
- 9 To add a table created separately from your ArcView project (for instance a dbf file saved in Excel), return to the Project Window and, click on Tables, then "Add." Find the table you created then choose okay. You may edit the records (the rows of information) by selecting "Start Editing" from the Table drop-down menu. In order to actually edit the records, you have to have depressed the little icon with the arrow and cursor (between the arrow and I icons). For the table to appear in the layout (rather than a blank grey window), the table needs to be open in the project. You should also ensure that its window is not significantly larger than it needs to be or you will have very small text and a lot of blank space).
- 10 To merge two tables with a common Field (eg. geography), open the attribute table of the theme which interests you and select the column header for that common field. If the field contains more than one record with the same information, you will need to summarize the file based on first instance of that field (see Help drop-down menu). Now open the table you added from your outside source (or the table you created within ArcView) and select the same common field.
- 11 Click on the Join icon. You should note that the resulting merge will take place in the table which was last active.



NOTE: Charts can be created or added in a somewhat similar fashion.

Creating a Layout:

- 12 Return to the Project Window and select Layouts from the table of contents.
- 13 Ensure that the orientation of the paper is correct, and click on the "View Frame" icon (the little Earth). This will put you in the position to drag a box of any size into the layout. Hold down the left mouse button over the same icon, and other options, including legend and scale bar will appear.
- 14 To edit the legend, left click to select, then right click (hold it down) for options. Choose "Simplify," then double click on each text to make changes. BE CAREFUL: make sure you do not have the view selected when you simplify, or you will have hundreds or thousands of individual graphics in your Layout. To align objects, select them, hold down control and press A. To regroup, use Ctrl G.
- 15 By using the icons which appear in the Layouts open window, add any graphics or text you want for your final product, et voilà, you've had a wonderful learning experience, and have produced a lovely map.

