

ArcInfo version 9.x from [ESRI](#) now uses different user interface application to support the wide variety of task common in today's GIS. ArcCatalog is the interface that helps you organize, track, and find the data you need. Our first task will be to be clear about the type of data that ArcCatalog manages.

ArcMap Maps and Layers:

Maps and layers are documents created by using the ArcMap interface (or application). These documents may contain elements in addition to geographic data items such as titles, north arrows, a legend. etc. The combination of these items constitute a "map". ArcCatalog links you to those maps you may use often.

Layers are documents which contain "shortcuts" to the location of data, but not the data themselves. The classic example is that a user has three coverages each of unique types of roads. By creating a "ROADS LAYER" the data is "grouped into a single data object and can be treated that way, but the data is not duplicated. A simple layer document contains the path to each coverage which combines to make the layer.

Folders

Folder connections are icons representing directories where data are stored. These folder access specific directories on local drives, network shared resources or CD's. They are quick ways to access workspaces. This same approach is used for the Database connections. A special type of folder connection, the database connection allow you to create and store content on external databases

Shapefiles and associated dBase Files

Shapefile are the standard of ESRI's ArcView software. These files use dBase files to maintain attribute information and other characteristics of the shapefile. In it's default settings ArcCatalog will not display ArcView projects. Even when you change the settings to display the project file, ArcCatalog will start ArcView for you. Arc/Info does not read ArcView project files.

Coverages

Coverages are files where the topological encoding of the vector data model are completely realized. As a vector data model file, a coverage can consist of point, line, or polygon features. Because polygons are constructed from lines, polygon coverages will have both feature types. ArcCatalog will display all feature type available within a coverage.

TIN and Raster files

TIN (Triangulated Irregular Network) and Raster files (grids), are data files which describe continous space. The TIN consist of X,Y, Z data points (such as elevations) and a set of lines which connect these points into irregularly shaped triangles making a surface. The Raster file (many people still call them grids) encode for each unit of X and Y space a Z value. In that way the raster file is also a surface. The raster file is uniform in how it divides space while the TIN is irregular.

CAD files

Computer assisted drawing/design files come from programs popular to the design professionals. I'm not going to deal with them here.

Geodatabases

As the new file format, geodatabases have confused most people. The geodatabase is a relational database that contains spatial information. The idea is to record the relationship between features, such as between State boundaries and County boundaries. Then when you select a county in a query you get all the information about the state as well.

Coordinate Systems

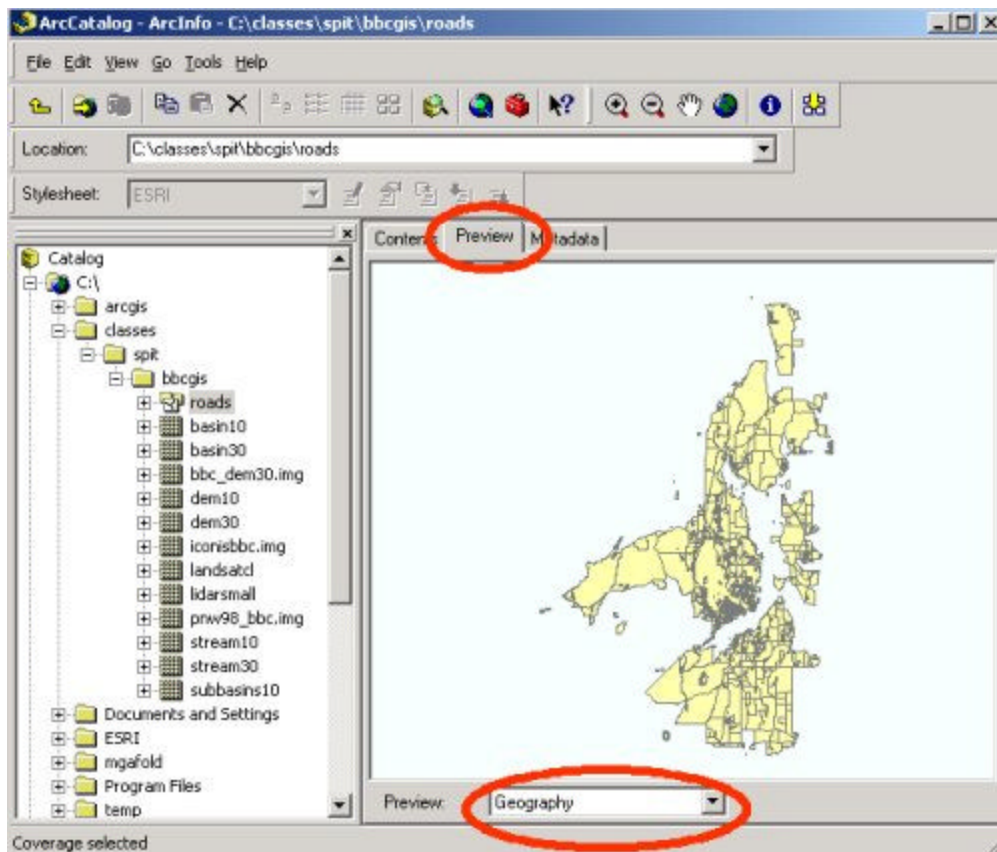
A coordinate systems folder is hidden from being displayed (you can go to OPTIONS > Customize to change this). This defines the projection and coordinate system related to spatial dataset.

XML files

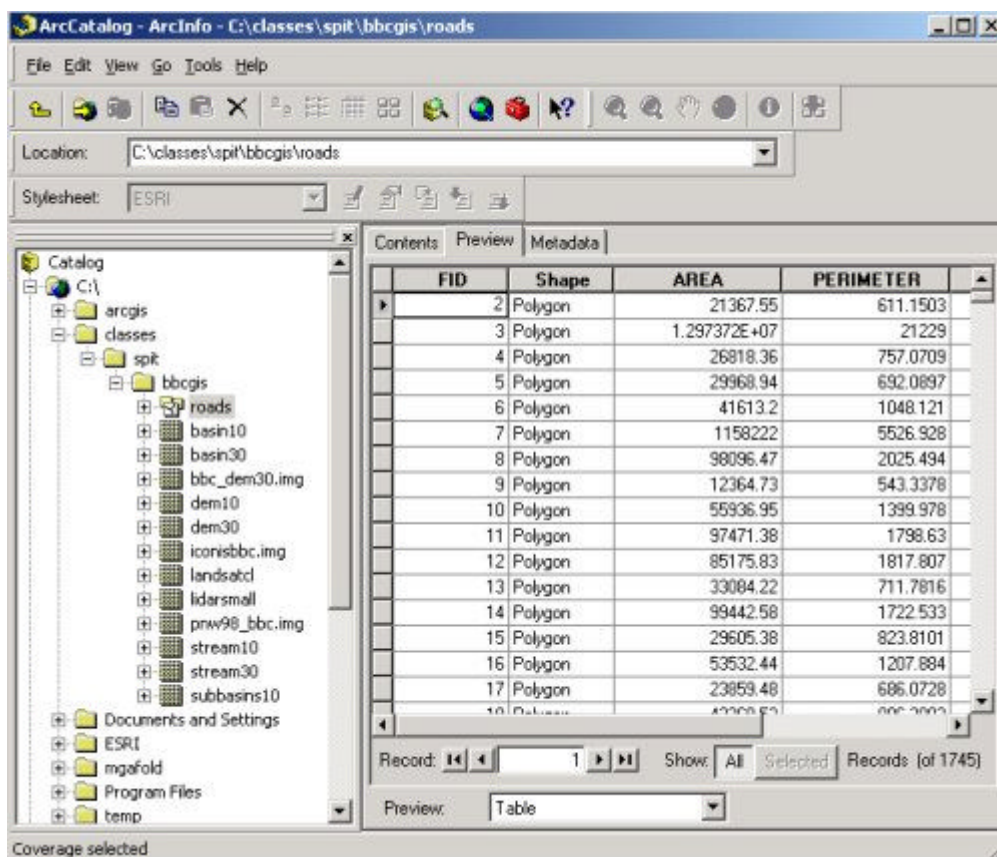
XML (Extensible Markup Language) is a high level scripting or programming language similar to HTML. The metadata (data about data) is displayed and edited by ArcCatalog using XML. Knowing that this type of language scripting file is available is useful to more advance users.

Let's take a look at ArcCatalog. If you don't remember how to start the ArcCatalog application take a look at the [ArcGIS introduction](#).

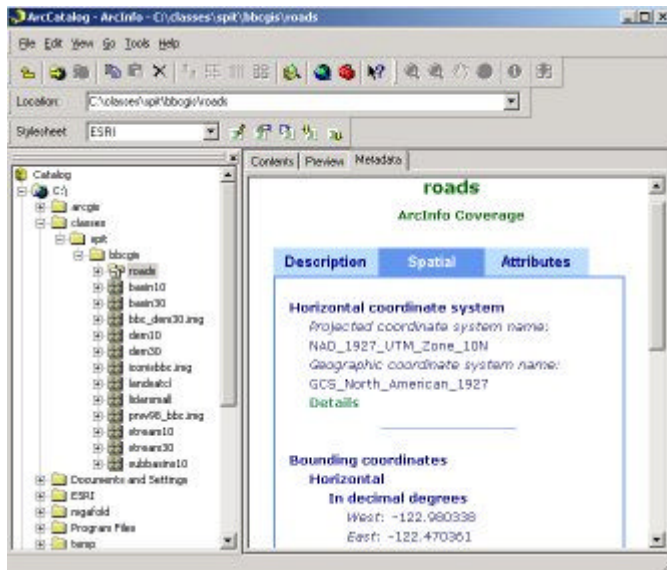
1. I have no idea where in the drive directory of your machine ArcCatalog will open. The software is smart enough to remember where it last was asked to do something and it will open to that locations. Use the file directory window on the left to select the folder associated with your C:/ drive. Continue to select the directories which take you to the data for our class. (c:/classes/spit/bbcgis). The coverages and raster files will be display. If you have the "CONTENT" tab in the view window select you will see the content of each folder, if the PREVIEW tab is selected you will get a message that the selection can not be previewed. We'll save the METADATA tab for later. Select the PREVIEW tab and display the ROADS coverage. Note the PREVIEW tab in the graphic below.



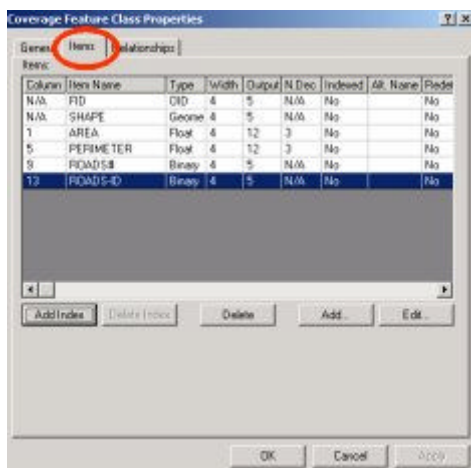
2. Use the scrollable window box at the bottom of the view to PREVIEW the TABLE data associated with this coverage rather than the geographic data.



3. Now click on the METADATA tab. While I haven't done that much in terms of providing metadata, view the information available under the description link, spatial link, and attribute link. These links on this page are generated by the XML files that access this information from the coverage itself. That way all changes to the data is dynamically updated.



4. Spend some time selecting the other datasets and move between the CONTENT, PREVIEW, and METADATA tabs. One very nice thing is that the CONTENT tab will display the feature types available for vector coverages and shapefiles. You can click on a feature type in the view window (when the CONTENT tab is selected) and explore the attribute items and relationships that have been established. Click on ROADS in the left hand directory tree, select the CONTENT tab in the right hand view, click on the poly feature class icon, and the PROPERTIES of that feature class is displayed. Look at the information available from each tab on this dialog box.

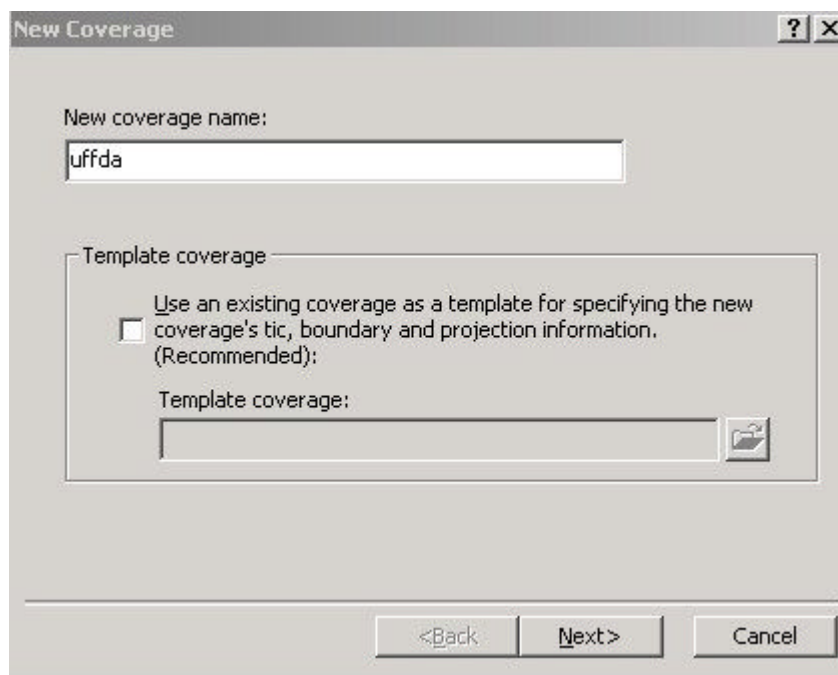


5. Let's now use ArcCatalog to manage our data by making a new folder for you own data. Go to the folder named SPIT in the left hand file directory tree. (the view window should not display anything if the PREVIEW tab is selected). Right click on the directory SPIT and select the NEW > FOLDER. Name the new folder with "your name" (don't type the letters "y" "o" "u" ... etc. like they did last year).

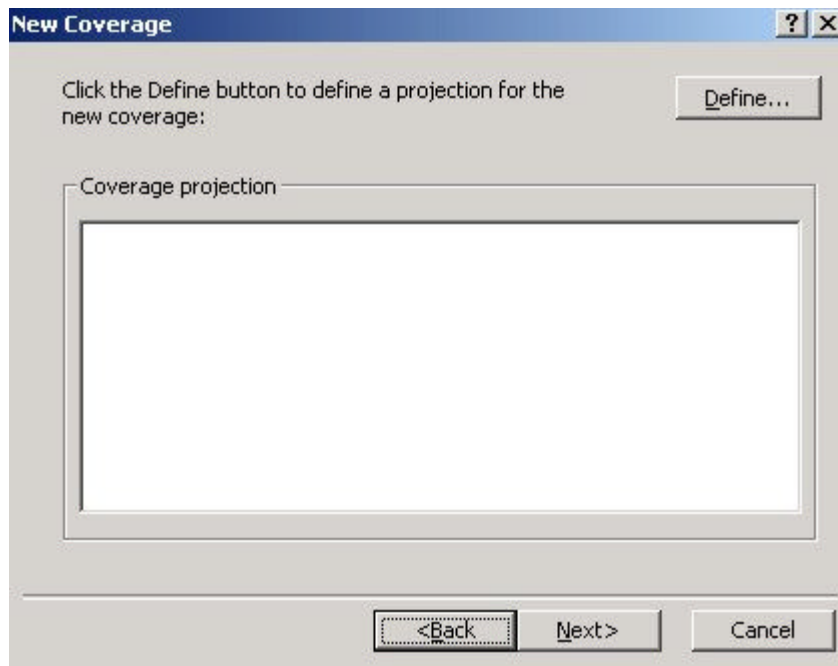
6. To copy and/or move data you have to be careful. If you "drag" a dataset between folders you MOVE it, but if you right-click you can copy (then move to your new folder) and paste. Do that. Copy the raster datafile dem30 to your new folder, and PREVIEW the data. The rename and delete work the way you would expect. Just remember there is no "undo" with ArcCatalog.

7. The ArcInfo WORKSPACE. A workspace is unique to arcinfo. It "means" something more than a working directory. A workspace is a folder which has a sub-folder (sub-directory) named "info". The ArcInfo software must create this directory and sub-directory itself by the user selecting that option. You CAN NOT create it from the window file manager (it just won't work the same). Workspaces can be created and then have data moved into them, or you can make a workspace from a directory by copying a coverage into it. Using ArcCatalog to create a workspace automatically sets up an Info directory. Select the SPIT folder and select FILE > NEW > ArcInfo Workspace.

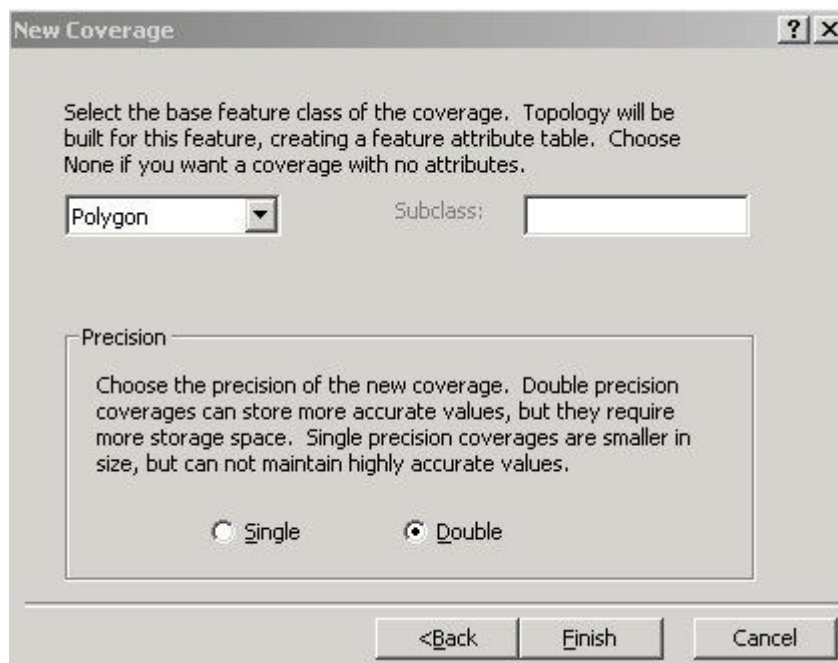
8. You can create a new coverage almost the same way. First select the folder or workspace where you want the new coverage then FILE > NEW > Coverage. The dialog box will ask for a name (I'm using uffda) and the option to use a template coverage for the supporting information, such as the projection file. Without a projection file the coverage can not be mapped to the correct space. To overlay any two spatial data the two coverages must have the same projection defined. We're not going to use this so just click on NEXT



The coverage really wants a projection. We could use the PROJECTION WIZARD at this point by clicking on the DEFINE button, or we could write our own projection file in the space provided (if we knew the correct format for the information.). Just click NEXT and move on.



Now select the feature type (class) for the new coverage (this is a "coverage" not a raster grid, so the feature types available are going to be Point, Line, or Polygon ... RIGHT)? So why are there all those other options? Because objects like annotation do have relationships (to the left of, above, to the left of) which are a topological relationship (remember, no matter what you do the relationship doesn't change) and therefore they too can be a "coverage" (i.e. a coverage of annotations, of routes along streets - 3rd street may move but route 3 doesn't have to.). Click FINISH and let move on.



My final ArcCatalog looks like this when I select the CONTENT tab and click on the SPIT folder.

