Using ArcCatalog™

GIS by ESRI™

DATA CREDITS

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Quick-start tutorial

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ArcCatalog lets you explore and manage your data. After connecting to your data, use the Catalog to explore its contents. When you find the data you want to use, you can add it to a map. Often when you get data for a project, you can't use it right away; you may need to change its projection or format, modify its attributes, or link geographic features to attributes stored in another table. When the data is finally ready, you should document its contents and the changes you have made. These data management tasks can all be accomplished using tools that are available in the Catalog.

The easiest way to find out what you can do with ArcCatalog is to complete the exercises in this tutorial.

- Exercise 1 shows you how to build your own catalog of geographic data by adding data to and removing data from the Catalog.

- Exercise 2 illustrates how to explore and search for data and how to add it to a map.

- Exercises 3 and 4 show you how to define a data source's coordinate system, modify its contents, join attributes in another table to the data, and symbolize features based on the joined attributes. Exercise 3 is for ArcView® and ArcEditor™ users, while Exercise 4 is targeted for ArcInfo users.

This tutorial is designed to let you work at your own pace. You'll need between two and four hours of focused time to complete the tutorial. However, you can also perform the exercises one at a time if you wish.

# Exercise 1: Building a catalog of geographic data

When you build a catalog, you're choosing the data you want to work with. You might use several folders of data to complete your project, while someone else might use data stored in a geodatabase. For this tutorial, you'll be working with data from Yellowstone National Park, which is located in the northwestern part of the United States.

In this exercise, you'll add the folder containing the tutorial data to the Catalog. Because you modify this data in later exercises, you'll create a working copy of the folder and then remove items that you don't need from the Catalog.

Start ArcCatalog

Before you can complete the tasks in this tutorial, you must start ArcCatalog.

1. Click the Start button on the Windows taskbar.

2. Point to Programs.

3. Point to ArcGIS.

4. Click ArcCatalog. The ArcCatalog window appears.
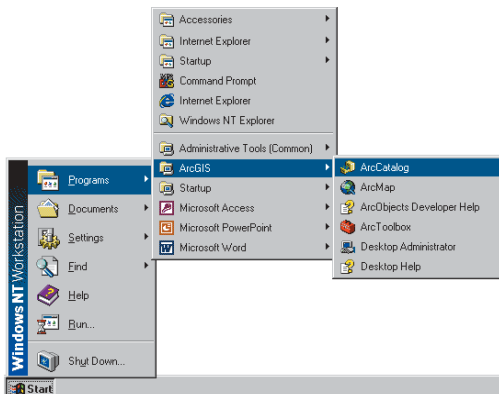
What's in the Catalog?

On the left of the ArcCatalog window, you see the *Catalog tree*; it gives you a bird's-eye view of how your data is organized. On the right are tabs that let you explore the contents of the selected item in the Catalog tree.
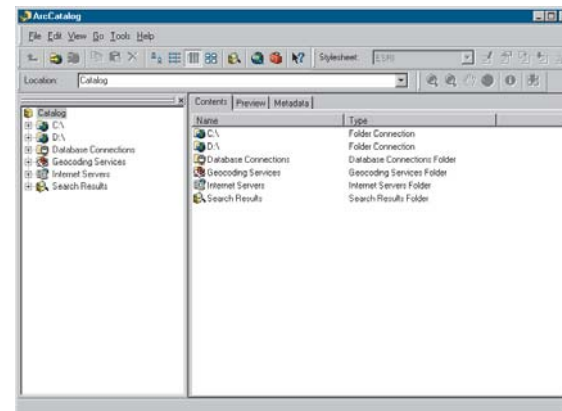
The first time you start ArcCatalog, it contains *folder connections* that let you access your computer's hard disks. The Catalog also contains folders that let you create and store connections to databases and Internet servers and manage geocoding services and search results.
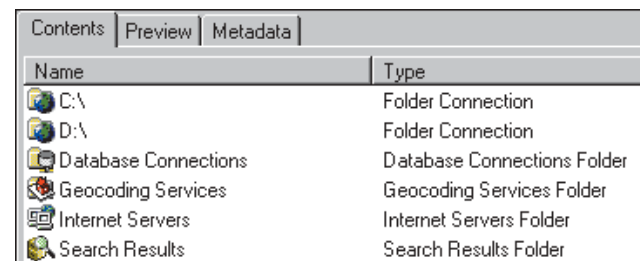
When you select a connection, you can access the data to which it's linked. Folder connections let you access *folders*, or directories, on local disks or shared folders on the network. Database connections let you access the contents of a database. When you remove folder or database connections from the Catalog, you are only removing the connection, not deleting the data.

Together, your connections create a catalog of geographic *data sources*. Individual folders and data sources are *items* in that catalog. If you use ArcInfo Workstation, you're accustomed to using the term "item" when referring to a coverage's attributes; in this book, "item" refers only to an element in the Catalog tree.

Look in a folder connection

When you select a folder connection in the Catalog tree, the Contents tab lists the items it contains. Unlike Windows Explorer, the Catalog doesn't list all files stored on disk; a folder might appear empty even though it contains several files. Folders containing geographic data sources have a different icon to make your data easier to find.

Look in a folder connection in your catalog.

1. Click a folder connection in the Catalog tree. The items it contains appear in the Contents tab. Here, the work folder doesn't contain geographic data; it has a plain folder icon. The icon used by the Workspace folder shows that it contains geographic data.
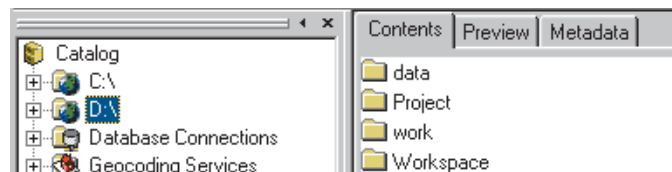
2. Double-click a folder in the Contents list. That folder is selected in the Catalog tree, and the Contents tab lists the folders and geographic data it contains.

Using this method, you can browse through the contents of disks looking for geographic data.

Locate the tutorial folder

Before you can start exploring the data for this tutorial, you must select the folder where the tutorial data is located. In the Catalog, you can quickly select any folder on your computer or on the network as long as you know its path.

1. Click in the Location text box.

2. Type the path to the ArcGIS\ArcTutor folder on the local drive where you installed the tutorial data; for example, type "C:\ArcGIS\ArcTutor".

   If the data was installed by your system administrator in a shared folder on the network, the path to the tutorial folder includes the names of the computer and the share through which the folder is accessed; for example, "\\dataserver\public\ArcGIS\ArcTutor".
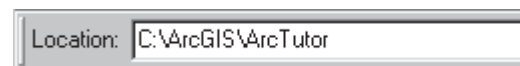
3. Press Enter. The folder is selected in the Catalog tree.
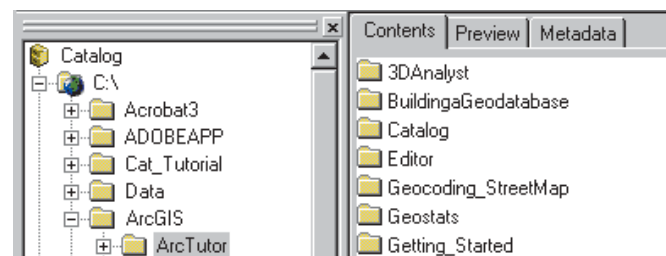
When the Catalog already contains a folder connection that can access the ArcGIS\ArcTutor folder, that connection expands and the tutorial folder is selected in the Catalog tree. Otherwise, a new folder connection is added to the Catalog that directly accesses the ArcGIS\ArcTutor folder.

The path you typed above is added to the Location list after you press the Enter key. To access the ArcGIS\ArcTutor folder again in the future, you can choose its path from the list by clicking the Location dropdown arrow.

Create a working copy of the tutorial data

In Exercises 2, 3, and 4, you will create new items and modify the data provided for this tutorial. When processing data, it is best to work on a copy so that your original data will remain unmodified. To prepare for those exercises, use ArcCatalog to copy the ArcGIS\ArcTutor\Catalog folder to a location where you have write access. You will need 15 MB of free disk space to store the tutorial data.

1. If the Catalog doesn't have a connection to the place where you want to store the tutorial data, type its name into the Location combo box and press Enter; for example, type "C:\". A new folder connection will be added to the Catalog. Substitute the name of your folder connection for "C:\" in the following steps.

2. Click the ArcGIS\ArcTutor folder or folder connection in the Catalog tree.

3. Click the Catalog folder in the Contents tab.

4. Click the Copy button.

Copy   Paste
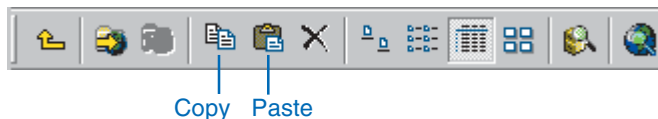
5. Click the C:\ folder connection in the Catalog tree.

6. Click the Paste button. A new folder called Catalog will appear in the Contents list for the C:\ folder connection.

7. Click the new Catalog folder in the Contents tab.

8. Click the File menu and click Rename.

9. Type "Cat_Tutorial" and press Enter.

   If you type another name for the folder, that name must have 13 characters or less and cannot use spaces. Because the tutorial data includes coverages, the folder's name must satisfy these requirements for ArcInfo workspaces. For the rest of the tutorial, substitute the name of your folder for "C:\Cat_Tutorial".
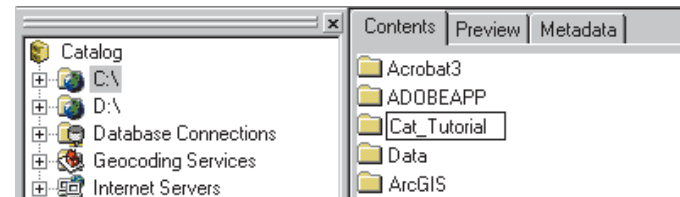
Now that you have a working copy of the tutorial data, you can connect directly to it in the Catalog.

Connect directly to your copy of the tutorial data

Folder connections in the Catalog can access specific folders on disk. You might establish several connections to different folders on the same disk. You don't have to see all the data on your C:\ drive, for example, just because you want to use data in two of the folders it contains.

To create a connection that directly accesses a folder, you can use a shortcut provided by the Catalog.

1. Click the Cat_Tutorial folder in the Contents list.

2. Scroll to the top of the Catalog tree.

3. Drag the Cat_Tutorial folder from the Contents tab and drop it on the Catalog at the top of the Catalog tree.
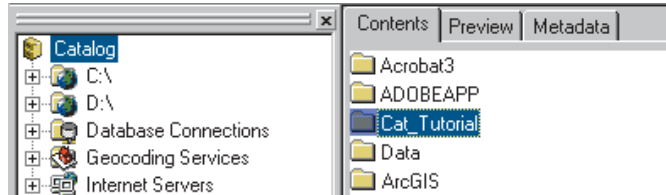
A new folder connection is added to the Catalog.

Creating folder connections using this shortcut is handy when you're browsing through local disks that contain many folders, some of which contain geographic data.

Remove folders that you don't need

For the remaining tasks in this tutorial, you only need to use the folder connection that accesses your working copy of the tutorial data. You can remove all other folder connections from the Catalog. To hide folders such as Database Connections, you must change the settings in the Catalog's Options dialog box.
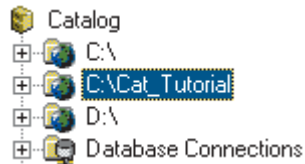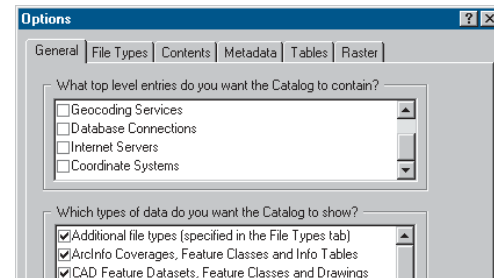
1. Click the C:\ folder connection.

2. Click the Disconnect From Folder button. The connection is removed from the Catalog.

Disconnect From Folder

3. Repeat steps 1 and 2, removing each folder connection in turn, except for the C:\Cat_Tutorial folder connection.

4. Click the Tools menu and click Options.

5. Click the General tab.

6. In the top level entries list, uncheck Database Connections, Internet Servers, and Geocoding Services. Coordinate Systems is unchecked by default.

7. Click OK.

Only the C:\Cat_Tutorial folder connection and the Search Results folder remain in the Catalog. Now you can explore the tutorial data without seeing folders and data that aren't essential to the task at hand.

You can continue on to Exercise 2 or stop and complete the tutorial at a later time. If you do not move on to Exercise 2 now, do not delete your working copy of the tutorial data and do not remove the folder connection that accesses the working copy of the tutorial data from the Catalog.

# Exercise 2: Exploring data and adding it to a map

Each of the Catalog's three tabs provides a different way to explore the contents of the selected item in the Catalog tree. Within each tab there are different views that let you change the appearance of the selected item's contents.

The Contents tab lists the items contained by the selected item in the Catalog tree, for example, the items in a folder. When a data source such as a shapefile is selected, the Preview tab lets you see the geographic or attribute data it contains. The Metadata tab lets you see documentation describing the item's contents.

ArcCatalog and ArcMap work together to make it easy to build maps. For your project you are mapping the forest resources in the southeastern corner of Yellowstone National Park. In the Yellowstone folder is a map of the study area; it is incomplete. In this exercise, after exploring the data in the folder, you'll add more data to the map.

The Contents tab

When you select items such as folders or geodatabases in the Catalog tree, the Contents tab lists the items they contain. To change the appearance of the Contents list, use the appropriate buttons on the Standard toolbar.
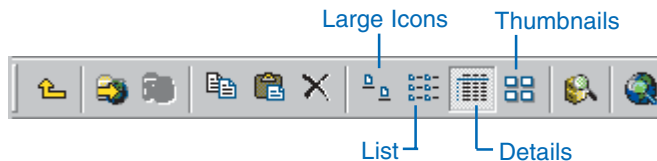
Large Icons view represents each item in the list with a large icon. List view uses small icons. Details view shows properties of each item in columns; you can sort the list by the property values. Thumbnails view displays a snapshot for each item in the list, providing a quick illustration of the item's geographic data.

Items such as maps, shapefiles, and tables don't contain other items. When you select them in the tree, the Contents tab lists the item's properties and its thumbnail.

Explore the contents of the Yellowstone folder

Each type of geographic data has its own set of icons in the Catalog. The Yellowstone folder contains a personal geodatabase, coverages, shapefiles, raster datasets, a TIN dataset, a dBASE® table, and an ArcMap map document. Geodatabases let you store spatial data inside a relational database; personal geodatabases can be accessed by only one person at a time. For more information, see Chapter 3, 'Catalog basics'.

The Yellowstone folder also contains two layers. A *layer* includes a shortcut to geographic data and information such as the symbology used to draw geographic data on a map, the query used to select which features the layer represents, and properties defining how those features are labeled.

Use the Contents tab to find out about the data in the Yellowstone folder.

1. Double-click the C:\Cat_Tutorial folder connection in the Catalog tree.

2. Click the Yellowstone folder in the Catalog tree.

3. Click the Large Icons button.
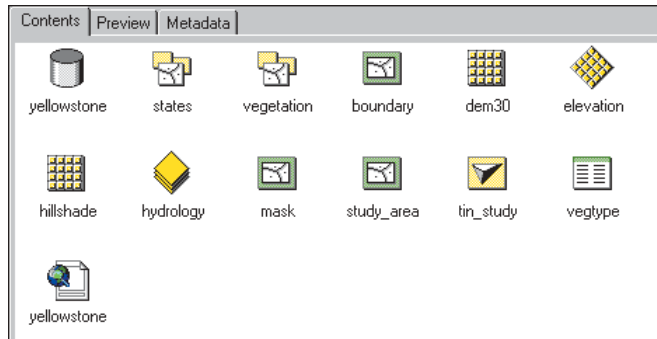
4. Click the List button.

5. Click the Details button. The Type column in Details view will help you learn which icon represents which type of data. You can find more information about data types and their icons in Chapter 4, 'What's in the Catalog'.

6. Click the heading of the Type column to sort the items by type.

7. Click the heading of the Name column to sort the items by name.

Items that contain other items, such as geodatabases and coverages, always appear at the top of the Contents list. They are grouped by type.

8. Click the Thumbnails button and scroll down through the snapshots. Items that are not geographic data sources, such as the yellowstone geodatabase, can't have thumbnails; their icons appear on a gray background.
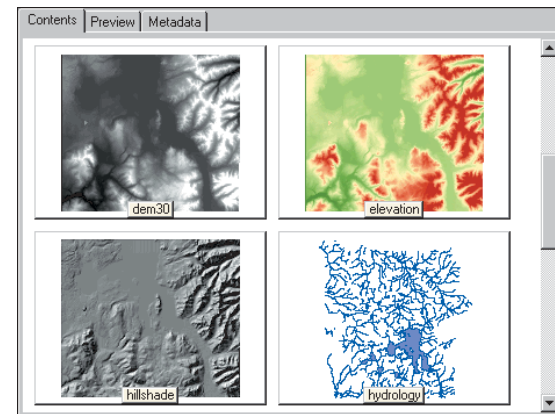
9. Click the Details button.

10. Double-click the yellowstone personal geodatabase in the Contents tab. It contains a feature dataset called water and a feature class called roads.

11. Double-click the water feature dataset in the Contents tab. It contains three feature classes called lakes, rivers, and streams, respectively.

12. Click the states coverage in the Catalog tree to list the feature classes it contains.
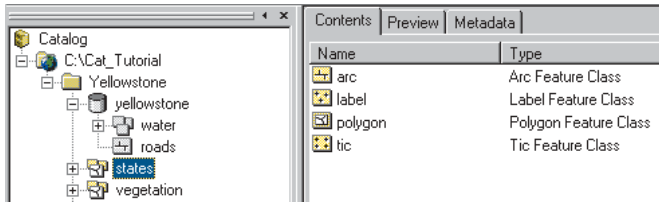
13. Click the tin_study TIN dataset in the Catalog tree. This surface represents the terrain of the study area. Because a TIN dataset doesn't contain other items, the Contents tab lists its properties and thumbnail instead.
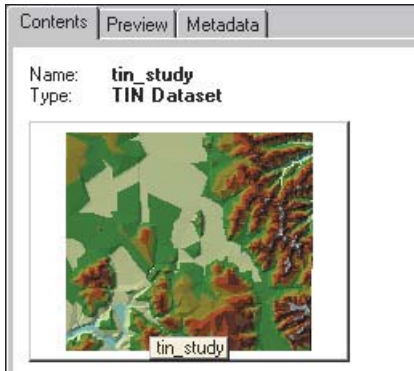
Thumbnails give you a quick look at an item's geographic data; they're useful when browsing through folders. However, you must often see the data in more detail to determine whether or not you want to use it.

The Preview tab

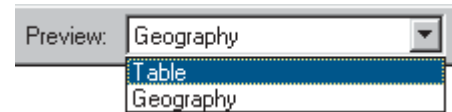The Preview tab lets you explore the selected item's data in either Geography or Table view. For items containing both geographic data and tabular attributes, you can toggle between the Geography and Table views using the dropdown list at the bottom of the Preview tab.

Geography view draws each feature in a vector dataset, each cell in a raster dataset, and each triangle in a TIN dataset. When drawing geographic data, the Catalog uses a default set of symbology. When drawing a layer's contents, the Catalog uses the symbology stored in the layer. You can explore the selected item's geographic data using the buttons on the Geography toolbar.

Table view draws all rows and columns and the value for each cell in the selected item's table. You can explore the values in the table using the scroll bars, the buttons at the bottom of the table, and the context menus that are available from the column headings.

Look at the Yellowstone data in Geography view

Use Geography view to look at the data contained by the items in the Yellowstone folder. When using Geography view, the Geography toolbar is enabled. You can use the Zoom In, Zoom Out, Pan, Full Extent, and Identify buttons on the toolbar to explore geographic data.
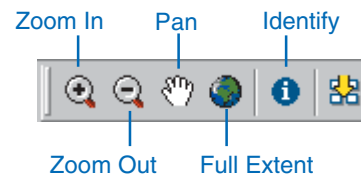
While you look at the Yellowstone data, you may wish to see the geographic features in more detail using these tools.

For more information about how these buttons work, see Chapter 7, 'Exploring an item's geography'.

1. Click the dem30 raster dataset in the Catalog tree. This dataset contains elevation information for the study area within the park.

2. Click the Preview tab. The raster draws using the default grayscale color ramp.

3. Click the elevation layer in the Catalog tree. The raster draws using the symbology stored in the layer—a green to red color ramp.
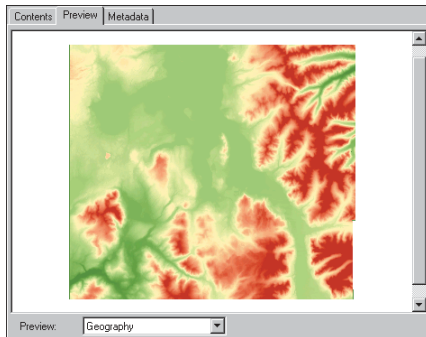
4. Click the study_area shapefile in the Catalog tree. It represents the study area for this project, which lies in the southeastern corner of the park.

5. In the Catalog tree, click the plus sign next to the vegetation coverage. The coverage's feature classes are listed in the Catalog tree.

6. In the Catalog tree, click each feature class in the vegetation coverage in turn and look at their contents in Geography view. This polygon coverage represents the different types of vegetation within the study area.
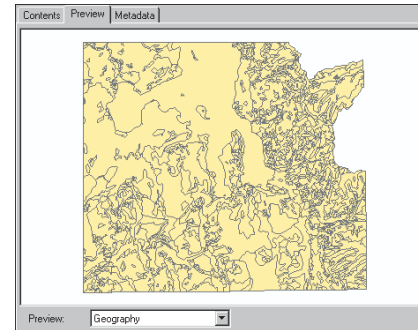
7. Click the Preview dropdown arrow at the bottom of the Preview tab and click Table.

8. In the Catalog tree, click each feature class in the vegetation coverage in turn and look at their contents in Table view.

   All feature classes in a coverage have FID and Shape columns. They may also have several *pseudo items* whose names begin with a dollar sign ($), which are maintained by ArcInfo. Because topology only exists for the polygon feature class, it's the only one that has a feature attribute table and therefore additional attributes.

9. Click the Preview dropdown arrow at the bottom of the Preview tab and click Geography.

10. In the Catalog tree, click the plus sign next to the water feature dataset in the yellowstone geodatabase. The feature classes it contains appear in the Catalog tree.

11. In the Catalog tree, click each feature class in the water feature dataset in turn and look at their contents in Geography view. The feature dataset groups feature classes that contain different types of water features throughout the park: lakes, rivers, and streams.

12. Click the lakes feature class in the Catalog tree.

13. Click the Identify button on the Geography toolbar and click one of the larger lakes in the Preview tab. Its attributes appear in the Identify Results window. Only the larger lakes in this feature class have names.
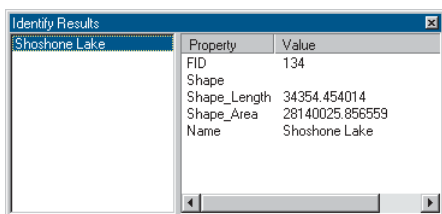
All features within three pixels of where you clicked are selected; each feature is listed on the left of the Identify Results window. If a data source has no text attributes, a numeric attribute will be used to identify the features.

14. Click the Close button to close the Identify Results window.

15. Click the hydrology layer in the Catalog tree. This group layer presents all features in the lakes, rivers, and streams feature classes using symbology stored in the layer. When added to a map, a group layer only has one entry in the table of contents.
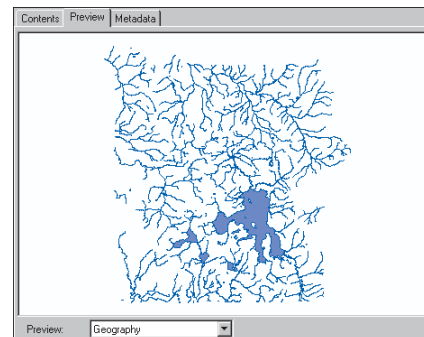
By exploring a data source's data in Geography view, you can find out if it has the features you need and if those features have the correct attributes. This information can help you decide whether or not to add the data to a map.

Explore the contents of a table

With the table exploration tools available in the Catalog, you can learn a great deal about a table's contents. You can search for values in the table and sort records according to the values in one or more columns.

The vegetation coverage represents areas with distinct types of vegetation. The vegtype table contains both general information, such as whether or not the area is forested, and detailed information such as which plant species live in each area. Throughout the park, 67 vegetation groups have been defined. Some areas, such as open water or rocky peaks, may not have any vegetation at all.

Use the tools available in Table view to explore the contents of the vegtype table.

1. Click the vegtype dBASE table in the Catalog tree.

2. Explore the table's values using the buttons at the bottom of the table. Once you click in the table you can also use the arrow keys on the keyboard.

Beginning of table   Current record
Number of records in the table
Previous record   Next record   End of table
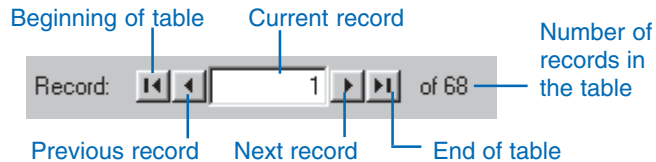
3. Type "10" into the Current record text box and press Enter. The Current record icon appears next to the tenth row in the table. The Object ID value for this record, which is located in the OID column, is nine; the OID values begin at zero.

4. Scroll horizontally through the table until you see the column named "Primary".

5. Right-click the heading of the Primary column and click Freeze/Unfreeze Column. The Primary column is frozen in position at the left of the table, and a heavy black line appears to its right.
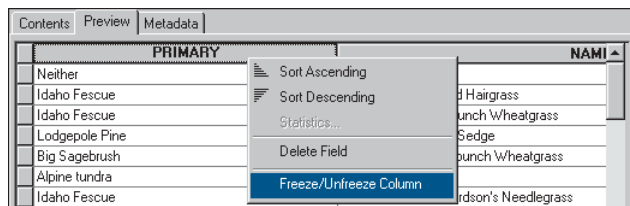
6. Scroll horizontally through the table. The Primary column stays in place while the other columns scroll normally. Place the Type column to the right of the Primary column.

7. Position the mouse pointer over the right edge of the Primary column's heading. The mouse pointer changes.

8. Click and drag the edge of the Primary column's heading to the left. The red line indicates the edge's original position, while the black line shows its new location. Drop the edge of the column. The column is narrower.

9. Right-click the heading of the Type column and click Freeze/Unfreeze Column. The heavy black line is now to the right of the Type column. Scroll horizontally through the table. Both the Primary and Type columns stay in place while the other columns scroll normally.

10. Click the Type column's heading. The column is highlighted in light blue.

11. Click and drag the Type column's heading to the left of the Primary column. The red line indicates the Type column's new position. Drop the column in the new location.

The Type column now appears to the left of the Primary column, and the heavy black line appears to the right of the Primary column.

12. Hold down the Ctrl key and click the Primary column's heading. Both columns are now selected.

13. Right-click the heading of the Primary column and click Sort Descending.

The rows in the table are sorted alphabetically in descending order, first by the values in the Type column, then by the values in the Primary column. In this format, the table presents vegetation information from general to detailed as you look at the columns from left to right.


After exploring the contents of the vegtype table, you have a better idea about the forest resources that are available in the study area. However, you may not know what some column names in the table mean. For that information, you must look at the table's metadata.

The Metadata tab

The Metadata tab shows descriptive information about the selected item in the Catalog tree. Metadata includes properties and documentation. Properties are derived from the data source, while documentation is information provided by a person.

Metadata is stored as *extensible markup language (XML)* data in a file with the data or in a geodatabase. The Catalog uses an *extensible stylesheet language (XSL)* stylesheet to transform the XML data into a *hypertext markup language (HTML)* page. You can change the metadata's appearance by changing the current stylesheet using the dropdown list on the Metadata toolbar.
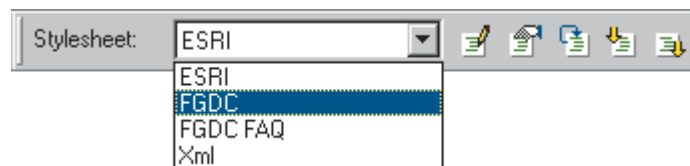
You can browse through the available metadata just as you would browse through any Web page in a browser.

Explore metadata for the tutorial data

The metadata for the Yellowstone folder provides an overview of the data it contains. By looking at metadata for the study_area shapefile and vegetation coverage, you can find out when and why the data was created and look at the data's properties.

1. Click the Yellowstone folder in the Catalog tree.

2. Click the Metadata tab. A metadata HTML page describing the contents of the Yellowstone folder appears.
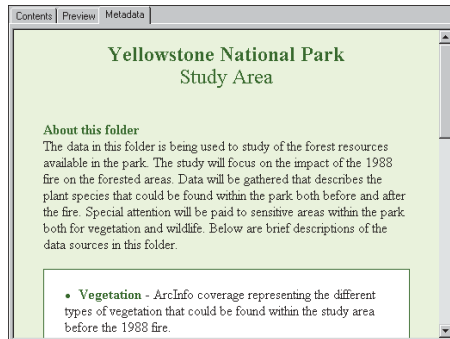
3. Click the study_area shapefile in the Catalog tree. Metadata is presented with the ESRI stylesheet by default.
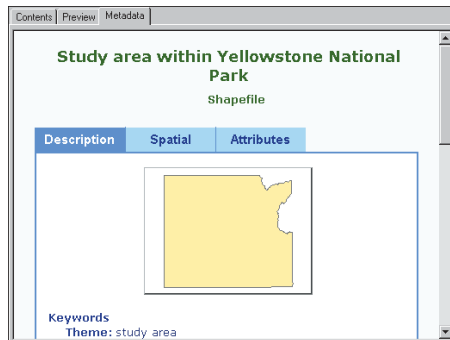
The Catalog automatically adds the item's current property values to the metadata when you view it in the Metadata tab.

4. Click the Stylesheet dropdown arrow on the Metadata toolbar and click FGDC. Click the Stylesheet dropdown arrow again and click FGDC FAQ. Different stylesheets present the same body of metadata in different ways.
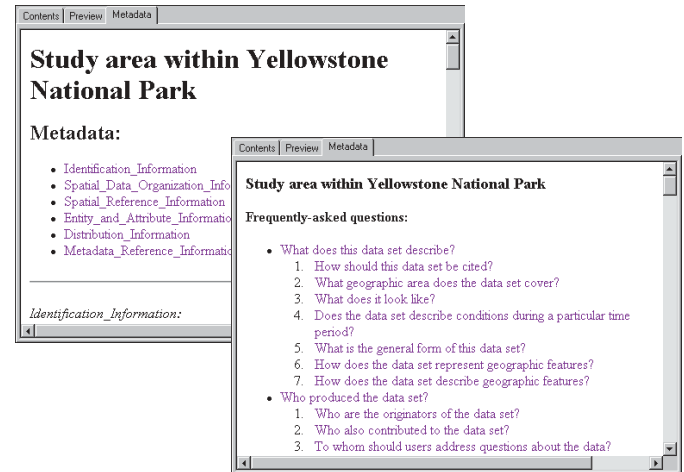
5. Click the Stylesheet dropdown arrow on the Metadata toolbar and click ESRI.

6. Click the Spatial tab in the metadata.

7. Underneath the name of the coordinate system used by the data, click Details. The coordinate system's properties appear. Click Details again to hide the information.

8. Scroll down to see the shapefile's extent. Its bounding coordinates are presented both in the actual coordinates of the data and in decimal degrees.

9. Click the boundary shapefile in the Catalog tree.

10. Click the Spatial tab in the metadata. No coordinate system information is available because the shapefile's projection hasn't yet been defined. Scroll down to see the data's extent in projected coordinates.

Because there is no coordinate system information, the Catalog cannot calculate the extent in decimal degrees. If you have ArcView or ArcEditor, you'll define the shapefile's coordinate system in Exercise 3.
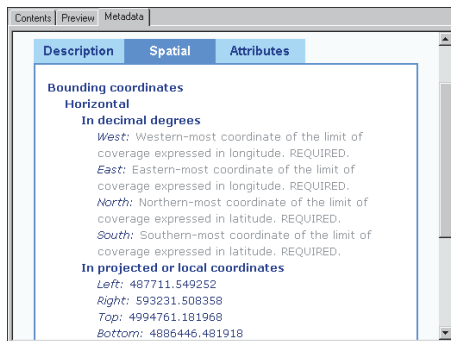
By default, when you look at metadata in the Metadata tab, the Catalog automatically creates metadata if it doesn't already exist. On creation, it adds the current property values along with hints about the type of documentation you should provide. These hints appear as gray text when using the ESRI stylesheet.

While metadata isn't required to meet any standard, the metadata created by the Catalog will follow the Federal Geographic Data Committee (FGDC) *Content Standard for Digital Geospatial Metadata*. If all the suggested documentation is completed, your metadata will meet the FGDC standard's minimum requirements.

11. Click the vegetation coverage in the Catalog tree.

12. Click the Spatial tab in the coverage's metadata. Like the boundary shapefile, this coverage's projection hasn't been defined, and the data's extent in decimal degrees hasn't been calculated. If you have ArcInfo, you'll define its coordinate system in Exercise 4.

13. Click the Attributes tab in the metadata. Attributes are listed for each coverage feature class that has them.

14. Scroll down to and click the CODE attribute. You can see a description of its data type and values.
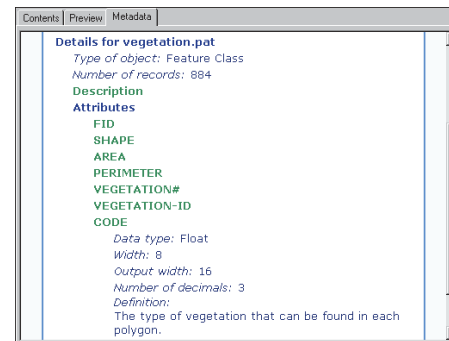
15. Click the Contents tab in the ArcCatalog window.

Now that you've familiarized yourself with the data, you can create a map describing the study area within Yellowstone National Park.

Add a layer to a map

The Yellowstone folder contains a map document. The map already has data from the roads feature class and the hillshade raster dataset. You must still add the water features in the park to the map.

Adding data to a map is easy—all you have to do is drag data from the Catalog and drop it on the map. When you drop a layer onto a map, a copy of the layer is created and stored inside the map document. In this way, you can create a layer once and use it in many different maps. Before you can add more data to the yellowstone map, you must open the map document in ArcMap.

1. Click the Yellowstone folder in the Catalog tree.

2. Double-click the yellowstone map document in the Catalog; it opens in ArcMap.
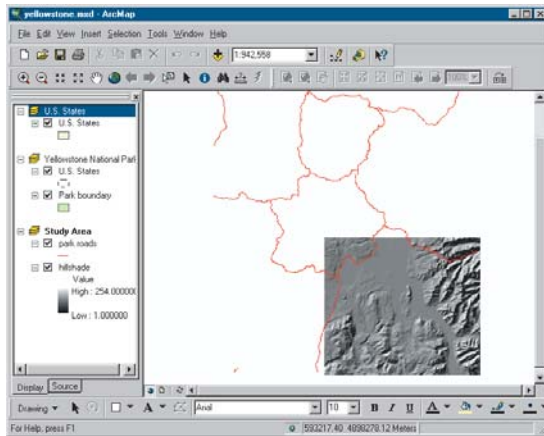
In the ArcMap window, you see the contents of the Study Area data frame in Data view; the name of the active data frame appears in bold in the table of contents. The map has two other data frames as well: Yellowstone National Park and United States.

3. Arrange the ArcMap and ArcCatalog windows so you can see the table of contents in ArcMap and the Catalog tree at the same time.
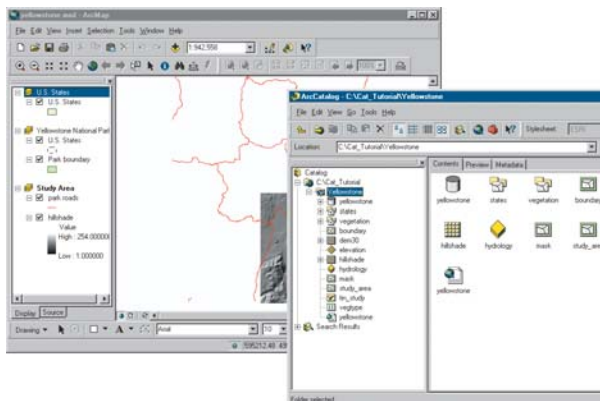
Water features must be added to the map; they should draw underneath the park roads layer but above the hillshade layer. The map's table of contents reflects the order in which layers are drawn.

4. Click and drag the hydrology layer from the Catalog and drop it in the map's table of contents below park roads in the Study Area data frame's list of layers.
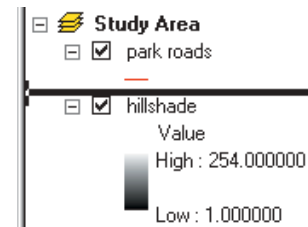
5. In the ArcMap window, click the Save button.

The water features draw underneath the road features and above the hillshade image in the map.

Create layers

The features in the park roads and hydrology layers cover the entire park, but you only want to map the study area. The mask shapefile represents the area outside the study area. You can create a layer from this shapefile in the Catalog and add it to the map to hide features that extend beyond the study area.

If you add data directly to a map rather than creating a layer first, ArcMap creates a new layer in the map document. After modifying the layer's symbology and other properties, you can save it as a layer file outside the map document so you can reuse it in other maps.

In this task, you will first save the park roads layer to a file, then create a new layer representing the mask shapefile.

1. Right-click the park roads layer in the map's table of contents and click Save As Layer File.
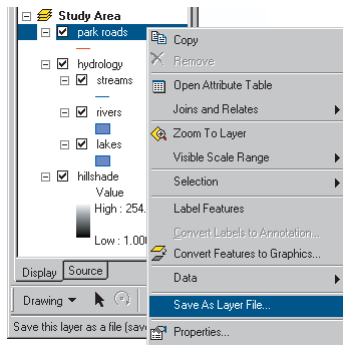
2. In the Save Layer dialog box, navigate to the Yellowstone folder. Type a name for the new layer, for example, "park roads", then click Save.
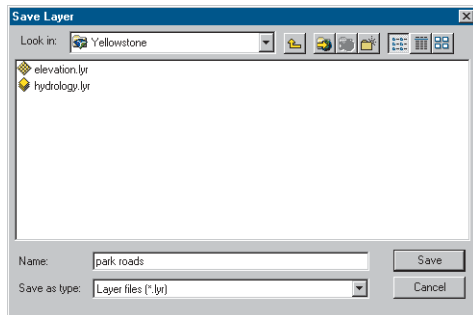
3. In the Catalog tree, click the Yellowstone folder.

4. Click the View menu and click Refresh. The park roads layer now appears in the Contents list.

5. Right-click the mask shapefile and click Create Layer.
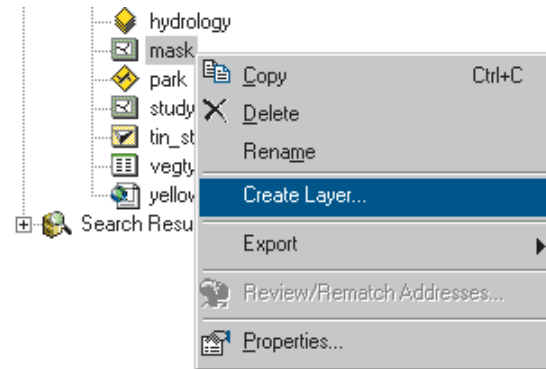
6. Navigate to the Yellowstone folder in the Save Layer As dialog box. Type a name for the new layer, for example, "feature mask", then click Save. The layer appears in the Contents list for the Yellowstone folder.

7. Right-click the feature mask layer and click Properties. The Layer Properties dialog box appears.
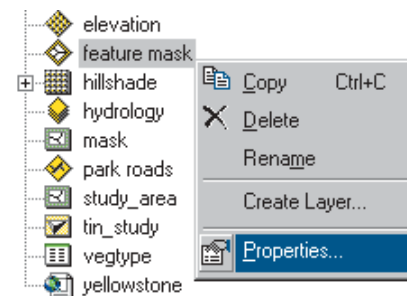
8. Click the Symbology tab.

9. Click the button showing the current symbol for the layer. A symbol is assigned at random when the layer is created.
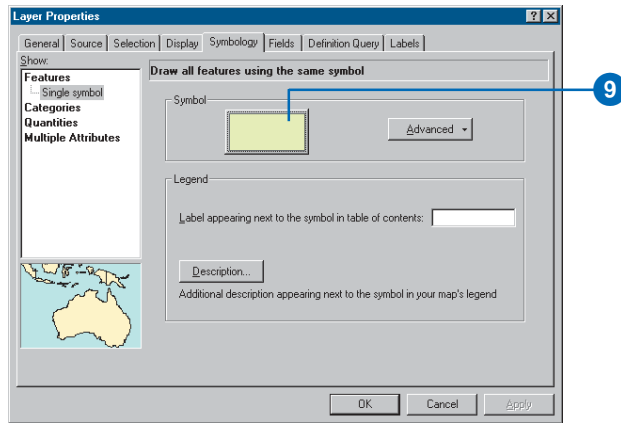
10. Click the dropdown arrow next to the Fill Color symbol and click white.

11. Click the dropdown arrow next to the Outline Color symbol and click black.

12. Click OK in the Symbol Selector dialog box and click OK in the Layer Properties dialog box.

Now that you've finished creating the feature mask layer, you should document its contents. Before adding it to the map, you can import metadata, which has already been created for the layer.

Import metadata

There is a text file in the Yellowstone folder containing metadata describing the feature mask layer. By importing this metadata it will become part of the layer itself; it will be copied and moved with the data and updated automatically by ArcCatalog. This is useful because when metadata is maintained separately, it is easy to let it get outdated.

1. Click the feature mask layer in the Catalog tree.

2. Click the Metadata tab. By default, ArcCatalog automatically creates metadata for the feature mask layer. Information such as the name of the layer file will be included automatically along with documentation hints.

3. Click the Import metadata button on the Metadata toolbar.

Import metadata

4. Click the Format dropdown list and click FGDC CSDGM (TXT). The metadata in the text file is structured following the format, which is supported by the FGDC's metadata parser, mp.

5. Click Browse and navigate to the Yellowstone folder.

6. Click the Files of type dropdown arrow and click All files (*.*). Click the file "feature_mask.met" and click Open.
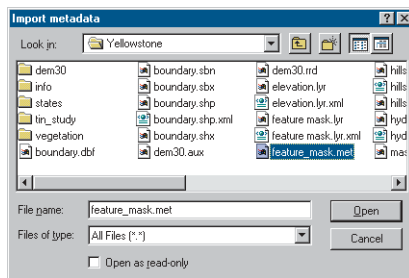
7. Click OK in the Import Metadata dialog box.

The documentation in the feature_mask.met file has been added to the layer's metadata, replacing the Catalog's documentation hints.

Now there is just one thing missing from the layer's metadata—a thumbnail describing how the layer will appear when added to a map. Creating thumbnails for data sources and layers is a manual process.

8. Click the Contents tab. Instead of a thumbnail, the layer's icon appears on a gray background.

9. Click the Preview tab.

10. Click the Create Thumbnail button on the Geography toolbar.

Create Thumbnail
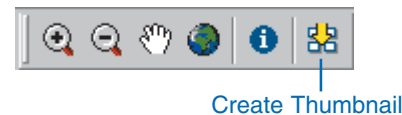
11. Click the Contents tab. You can see the thumbnail both here and in the layer's metadata.
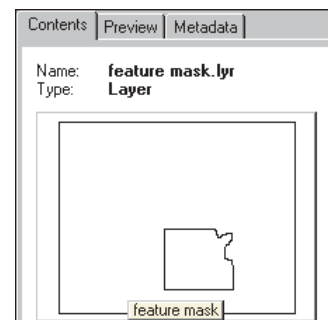
After adding or removing features from a data source or changing a layer's symbology, you may wish to update the item's thumbnail.

Search for items

You've explored the contents of the Yellowstone folder and created the new feature mask layer, and soon you'll add it to your map. However, often you know what data you need to use but not where it's located. The Catalog lets you search for data by its name, type, and geographic location. You can also search for data using dates and keywords that reside in the data's metadata. When metadata exists, its name, type, and geographic location are derived from the metadata as well.

Suppose you didn't know the feature mask layer existed. You need to add a data source to the yellowstone map that shows the boundary of the study area within the park.

1. Right-click the Yellowstone folder in the Catalog tree and click Search. The Search dialog box appears, and the location in which the search will begin looking is automatically set to the Yellowstone folder.

2. Click the Advanced tab.

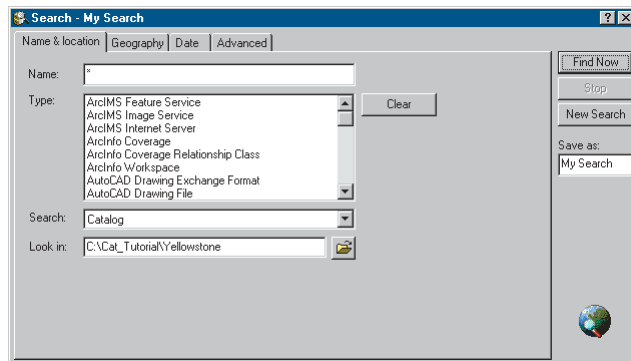3. Click the Metadata element dropdown arrow, scroll down, and click Theme Keyword in the list.

4. Click the Condition dropdown arrow and click equals.

5. Click in the Value text box and type "boundary".

6. Click Add to List.
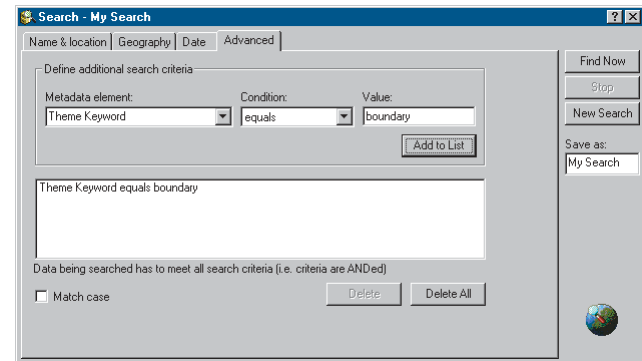
With this search, ArcCatalog will look in the Yellowstone folder for items whose metadata includes the theme keyword "boundary".

7. Click Find Now.

The search is saved in the Search Results folder and is selected in the Catalog tree. As the items are found that satisfy the search criteria, shortcuts to those items are added to the search's list of results. When a Search is complete, the message "Catalog search finished" appears in the status bar of the ArcCatalog window and the Stop button becomes unavailable in the Search dialog box.

8. Click the Close button in the upper-right corner of the Search dialog box.
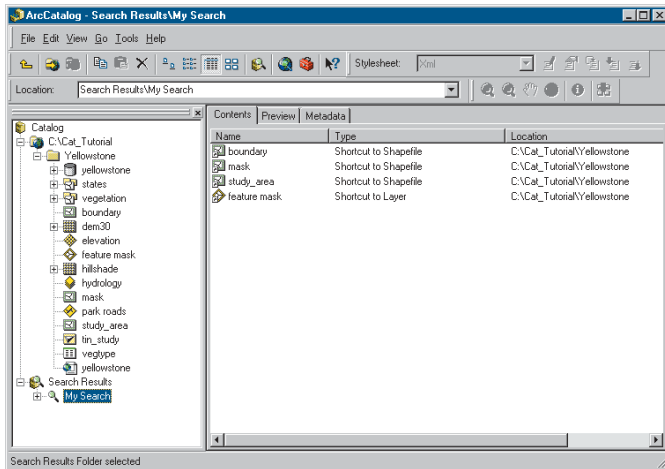
The Catalog has found four items in the Yellowstone folder that satisfy the search criteria: three shapefiles and the feature mask layer. Shortcuts to these items appear in the Contents tab. In the Catalog, you can work with shortcuts the same way you would work with the items themselves.

9. Click the shortcut to the feature mask layer in the Contents tab.

10. Click the Preview tab to draw the layer.

11. Click the Metadata tab to see the layer's metadata.

    This is the data you want to add to your map.

12. Click and drag the shortcut to the feature mask layer from the Catalog and drop it in the map's table of contents above park roads in the Study Area data frame's list of layers. Now you only see features inside the study area on the map.
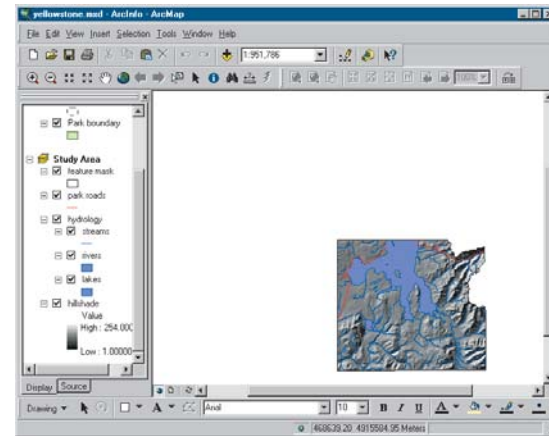
13. Click the Save button.

The yellowstone map now contains all the basic data needed to represent the study area. Now all you need to do is add a few finishing touches to the map's layout.

Complete the map

The purpose of the yellowstone map is to illustrate the different types of vegetation within the study area. Currently, the Study Area data frame shows most of the park. You need to zoom in on the study area; do this in layout view to make sure you're zoomed in as far as possible but still able to see the entire study area in the layout. When you switch to layout view, you'll see the Yellowstone National Park and United States data frames as well.

1. Click the View menu and click Layout view. You can see all the data frames and the map's title and scale bar in the layout.

In the Yellowstone National Park data frame, there is an orange rectangle representing the area that you can see within the Study Area data frame. Similarly, in the United States data frame there is a green rectangle representing the area that you can see within the Yellowstone National Park data frame.

When you zoom farther in to the features in the Study Area data frame, the extent rectangle on the Yellowstone National Park data frame decreases in size and the scale bar increases in size.
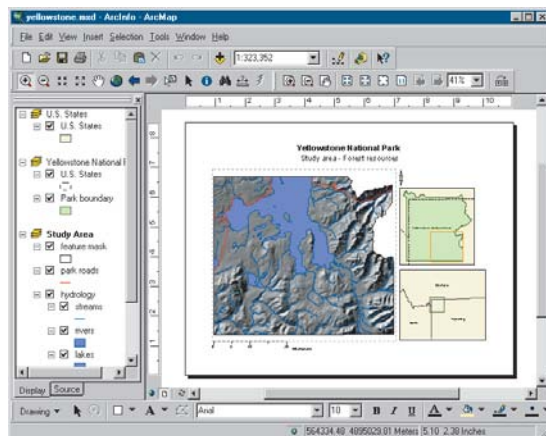
2. In ArcMap, click the Zoom In button on the Tools toolbar and draw a rectangle around the study area in the Study Area data frame.

Zoom In   Go Back To Previous Extent

If you zoom in too close, you can return to your previous extent by clicking the Go Back To Previous Extent button.

3. When the study area fills the Study Area data frame, click the Save button.

4. Click the File menu and click Exit to stop ArcMap.

5. In ArcCatalog, click the Contents tab and click the Yellowstone folder in the Catalog tree.

In this exercise, you saw how to explore your data in the Catalog, create layers, import metadata, search for items, and add them to maps. In the next exercise, you'll create a layer illustrating the different types of vegetation that can be found within the study area. This requires changing a data source to a different format and modifying its values.

If ArcView or ArcEditor is installed on your computer, you should continue on to Exercise 3; you'll define a shapefile's coordinate system, modify its contents, and then use it to create the vegetation type layer. If ArcInfo is installed on your computer, you should continue with Exercise 4; you'll define a coverage's coordinate system, modify its contents, and then use it to create the vegetation type layer. The title bar of the ArcCatalog window shows you which version of the ArcGIS™ software you have installed on your computer.

You can continue on to the next exercise or stop and complete the tutorial at a later time. If you do not move on to the next exercise now, do not delete your working copy of the tutorial data. Also, do not remove the folder connection that accesses the working copy of the tutorial data from the Catalog.

Exercise 3: Managing shapefiles

Assembling data for a project often requires significant data management work. In this exercise, ArcView and ArcEditor users will create a layer representing the different types of vegetation in the study area and add it to the yellowstone map. In doing so, you'll learn how to define a shapefile's coordinate system, modify attributes, join a table's attributes to a shapefile, and update their metadata using tools that are available in the Catalog. If ArcInfo is installed on your computer, skip to Exercise 4.

Define a shapefile's coordinate system

In the previous exercise, when you looked at metadata for the boundary shapefile you found that its coordinate system was not defined. The features in the shapefile are projected, but the Catalog doesn't know which map projection was used. Without that information, the Catalog can't determine where on the earth's surface the features are located.

A shapefile's Properties dialog box lets you modify its attributes, create spatial and attribute indexes, and define its projection.

1. In the Contents list, right-click the boundary shapefile and click Properties.

2. Click the Fields tab.

3. Under Field Name, click Shape. This column contains the feature geometry. The shapefile's spatial properties appear in the Field Properties list below.

    At the bottom of the list is the Spatial Reference property. The shapefile's coordinate system is unknown.
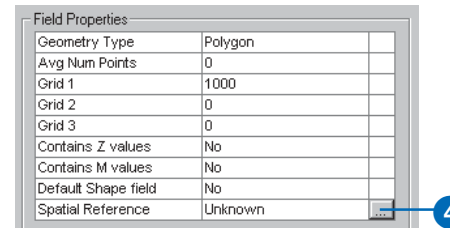
4. Click the ellipses (...) button to the right of the Spatial Reference property.

    All data sources in the Yellowstone folder except for the states coverage use the same projection. You can copy coordinate system information from any data source in the folder except states to this shapefile.

5. Click Import in the Spatial Reference Properties dialog box.
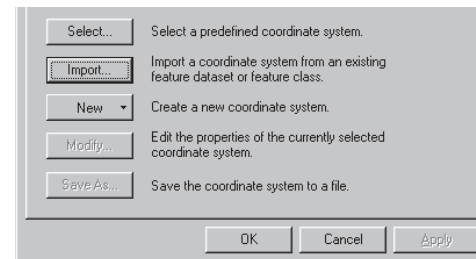
6. Navigate to the Yellowstone folder, click the dem30 raster dataset, then click Add. The projection parameters from the dem30 raster dataset appear in the Spatial Reference Properties dialog box.

7. Click OK. The shapefile's coordinate system appears in the Shape column's Spatial Reference property.

8. Click OK.

A shapefile's coordinate system information is stored in a .prj file with the data—for example, boundary.prj. Now you can update the shapefile's metadata with the new coordinate system information.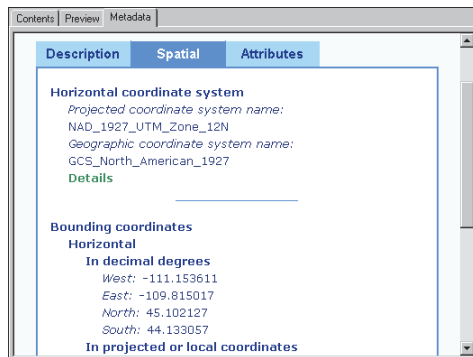 By default, every time you look at metadata in the Metadata tab, the Catalog automatically updates the metadata with the data source's current properties.

9. Click the Metadata tab.

10. Click the Spatial tab in the metadata.

The Catalog has updated the coordinate system in the metadata and has calculated its extent in decimal degrees.

Modify attributes in dBASE tables

A layer can join or relate attributes in a table of any format to its geographic data source as long as they share a column of values. The only requirement is that the columns have the same data type. You must look at the vegetation coverage's attributes and the vegtype dBASE table's columns to see if modifications are required before they can be joined together.

Using Table view, you can see that the vegtype dBASE table has two columns that contain no values and that the attribute named "CODE" in the vegetation coverage's polygon feature class and the column named "VEGID" in the vegtype table contain the same values. Use the coverage's metadata to see the data type of the CODE attribute, then use the table's Properties dialog box to modify its columns appropriately.

1. Click the vegetation coverage in the Catalog tree.

2. Click the Attributes tab in the metadata.

3. Scroll down to and click the CODE attribute. Its data type is Float.

4. Click the Contents tab in the ArcCatalog window.

5. Right-click the vegtype table in the Catalog tree and click Properties.

6. Click the Fields tab. The table's columns and their data types are listed. You can see that the VEGID column's data type is Long Integer.

The values in the VEGID column in the dBASE table are integers, while the CODE column in the coverage contains floating point values. To join the table to the coverage, the values in both columns must have the same data type. Therefore, you must add a floating point column to the table.

7. Scroll to the bottom of the list of column names. Click in the empty row under the name of the last attribute and type "VEGTYPE".

8. Click under Data Type to the right of the new column's name, click the dropdown arrow that appears, then click Float.

9. In the Field Properties list below, click to the right of Precision, click again, then replace the zero with "4".

10. Click to the right of Scale and replace the zero with "1".
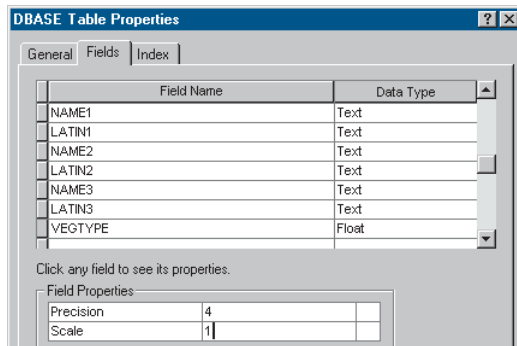
The new attribute has been defined. Now you can remove the empty columns from the table.

11. Point at the gray button to the left of the NAME3 column; the mouse pointer changes to an arrow. Click to select the column.
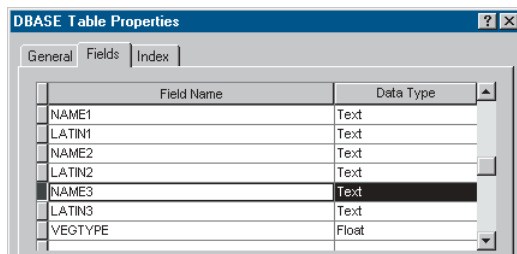

12. Press Delete. The column is removed from the list.

13. Repeat steps 11 and 12 for the LATIN3 column to delete it from the table.

14. Click OK.

Now that the vegetation shapefile has a new integer attribute, you must copy the values in the original VEGID attribute to the new VEGTYPE attribute. To edit the values in a table, you must use ArcMap.

Calculate attribute values in ArcMap

To edit a table's values you must add the table to a map. With the Editor toolbar visible and the table opened, you can start editing its values. Use the field calculator to copy values from the CODE attribute to the VALUE attribute.

1. Click the Launch ArcMap button in ArcCatalog.

Launch ArcMap
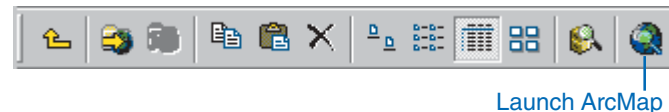
2. Click OK to start using ArcMap with a new, empty map.

3. Drag the vegtype table from the Catalog and drop it onto the table of contents or the canvas in the ArcMap window.

4. Click the Source tab in the map's table of contents. The table's data is available within the map.
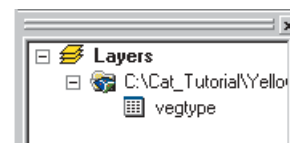
5. Click the Editor Toolbar button; the Editor toolbar appears.

Editor Toolbar

6. On the Editor toolbar, click the Editor menu and click Start Editing.

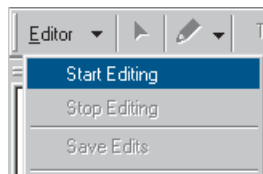7. Right-click the vegtype table and click Open. The table's values appear in a table window. The headings of the columns whose values you can change have a white background.

8. Right-click the heading of the VEGID column and click Freeze/Unfreeze Column. It is now positioned at the left of the table with a heavy black line to its right.

9. Scroll horizontally in the table until you see the VEGTYPE column.

10. Right-click the heading of the VEGTYPE column and click Freeze/Unfreeze Column. It is now positioned to the right of the VEGID column at the left of the table with the heavy black line to its right.

11. Right-click the heading of the VEGTYPE column and click Calculate Values.
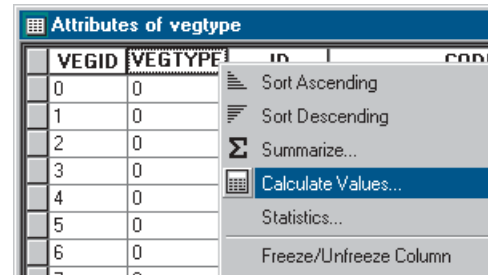
12. Scroll down and double-click VEGID in the Fields list. "[VEGID]" appears in the text box below "VEGTYPE =". ArcMap reads this as VEGTYPE=[VEGID]; all values in the VEGTYPE column will be set equal to the values stored in the VEGID column.
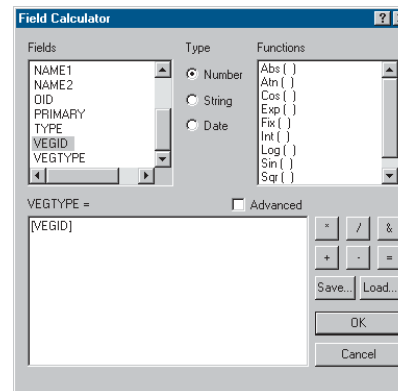
13. Click OK.

As ArcMap calculates the new values in each record, you can see how many records have been completed at the bottom of the Field Calculation dialog box.

14. Look at the VEGTYPE column in the table; its contents are the same as the VEGID column.

15. Click the Close button in the top-right corner of the table window.

16. Click the Editor menu on the Editor toolbar and click Stop Editing. Click Yes to save your changes.

17. Click the File menu and click Exit to stop ArcMap. Click No when prompted to save the map.

Now that the vegetation coverage and the vegtype table have matching columns, you can create a layer that links the two together.

Create a layer using the related attributes

Through a layer you can join the attributes stored in the vegtype table to the vegetation coverage and use the table's values to query, label, and symbolize the coverage's features.

1. Click the Yellowstone folder in the Catalog tree.

2. Click the File menu, point to New, then click Layer.

3. Type a name for the layer such as "vegetation type".

4. Click the Browse button, navigate to the Yellowstone folder, click the vegetation coverage, then click Add.

5. Check Store relative path name, then click OK. Relative path names let you continue using the layer even after moving or renaming the Yellowstone folder.
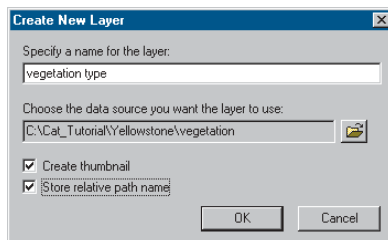
6. Right-click the vegetation type layer and click Properties.

7. Click the Joins & Relates tab in the Layer Properties dialog box.

8. Click the Add button next to the Joins list.

9. Click the first dropdown arrow to specify what you want to join to this layer, then click Join attributes from a table.

10. Under step 1, click the dropdown arrow and click the CODE attribute.

11. Under step 2, click the Browse button.

12. Navigate to the Yellowstone folder, click the vegtype table, and click Add.

13. Under step 3, click the dropdown arrow and click the VEGTYPE column.
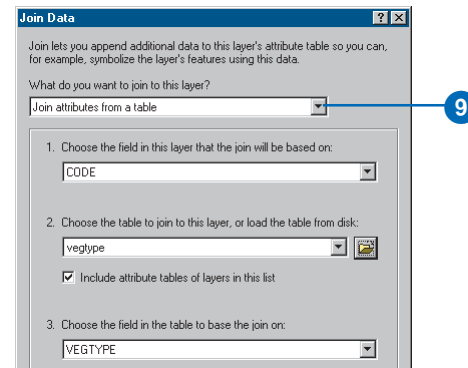
14. Click OK in the Join Data dialog box. The vegtype table is added to the list of tables that have been joined to the coverage.
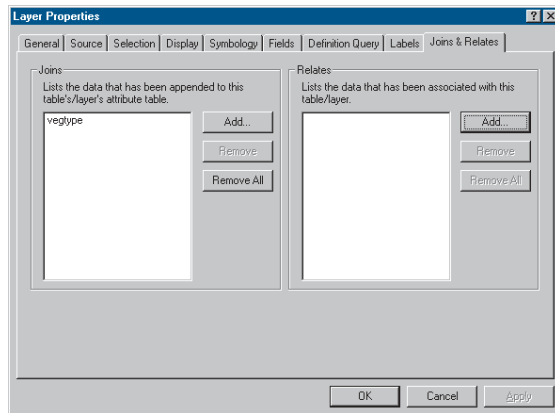
15. Click the Symbology tab.

16. Click Categories in the Show list.

17. Click the Value Field dropdown arrow and click vegtype.TYPE.

18. Click the Color Scheme dropdown arrow and click a different color palette, if desired.

19. Click Add All Values.
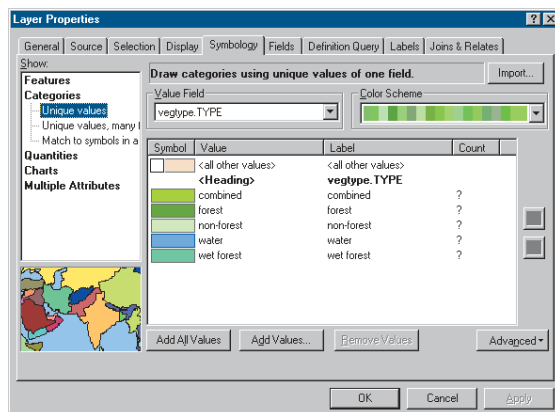
To change the color of individual values, for example, to make the water polygons blue, double-click the patch of color to the left of the value. Set the fill and outline colors in the Symbol Selector dialog box and click OK.

20. Click OK in the Layer Properties dialog box.

The vegetation type layer represents the forest resources in the study area.

Add the vegetation type layer to the map

Now that the vegetation layer has been created, you can add it to the yellowstone map.

1. Double-click the yellowstone map in the Catalog.

2. Click and drag the vegetation type layer from the Catalog and drop it in the map's table of contents below park roads and above hydrology in the Study Area data frame's list of layers.

   A message appears indicating that the vegetation type layer is missing spatial reference information. ArcInfo users define the vegetation coverage's coordinate system in Exercise 4.

3. Click OK to add the vegetation type layer to the map. Because the vegetation coverage's features share the same projection as the other data sources in the Study Area data frame, the vegetation features draw on the map in the proper location even though their coordinate system hasn't yet been defined.
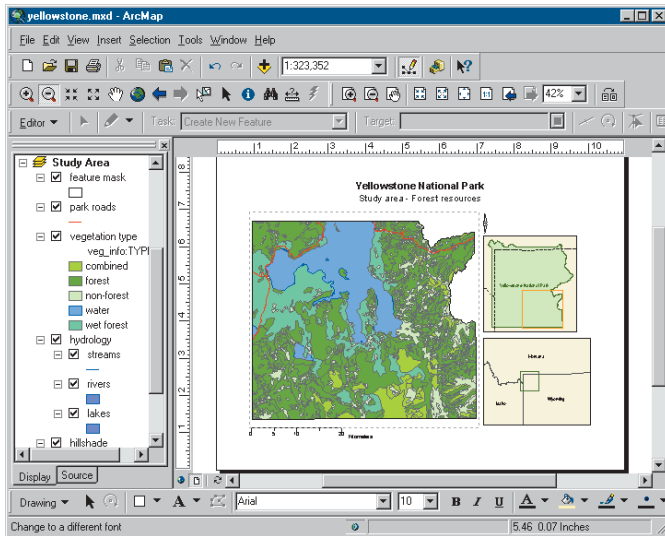
4. Click the Save button in ArcMap.

5. Click the File menu and click Exit to stop ArcMap.

The yellowstone map is now complete.

You're now finished with the Quick-start tutorial. This exercise showed how to use ArcCatalog to manage your shapefiles and dBASE tables. You saw how to define a shapefile's coordinate system, add and remove attributes, calculate attribute values, and symbolize features using attributes stored in another table.

Overall, this tutorial has introduced you to a wide range of tasks. Whether you are looking for data, building maps, or managing data for your project or an entire organization, the Catalog plays a pivotal role in getting the job done. The remaining chapters in this book look in detail at the variety of tasks you can accomplish with the Catalog.

Exercise 4: Managing coverages

Assembling data for a project often requires significant data management work. In this exercise, ArcInfo users will create a layer representing the different types of vegetation in the study area and add it to the yellowstone map. In doing so, you'll learn how to define a coverage's coordinate system, add and delete attributes, update metadata, and link a coverage and an associated INFO table using tools that are available in the Catalog.

In addition to ArcInfo Desktop, you must have ArcInfo Workstation or a geoprocessing server installed on your computer to be able to complete this exercise. ArcView and ArcEditor users must follow Exercise 3 instead.

Set a coverage's coordinate system

In Exercise 2, when you looked at metadata for the vegetation coverage you found that its coordinate system was not defined. The features in the coverage are projected, but the Catalog doesn't know which map projection was used. Without that information, the Catalog can't determine where on the earth's surface the features are located.

In addition to creating topology and setting tics, extents, and tolerances for a coverage, you can define its coordinate system using the Coverage Properties dialog box. You can copy coordinate system information to and from coverages, *grid*-based raster datasets, and TIN datasets. The dem30 and the tin_study data sources in the Yellowstone folder use the same projection as the vegetation coverage.

1. Click the Yellowstone folder in the Catalog tree.

2. In the Contents list, right-click the vegetation coverage and click Properties.

3. Click the Projection tab and click Define.
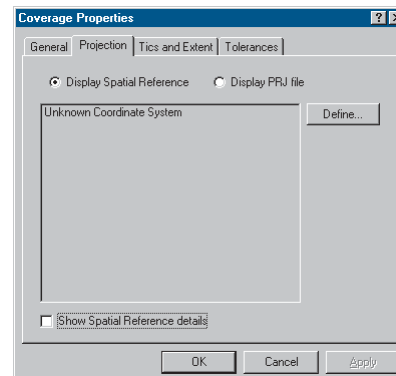
4. Click Define a coordinate system for my data to match existing data and click Next.

5. Click the Browse button to the right of the Dataset text box.

6. Navigate to the Yellowstone folder, click the dem30 raster dataset, then click Open.

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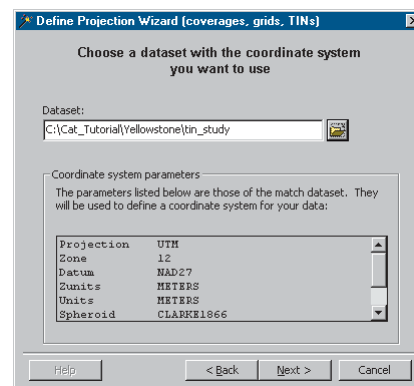
The projection parameters used by the raster dataset appear in the Coordinate system parameters list.

7. Click Next and click Finish.

8. The name of the projection and the *spheroid* or *ellipsoid* it uses appears in the Properties dialog box. To list the projection's parameters, check Show spatial reference details. Click Display PRJ file to see the parameters in ArcInfo Workstation format.

9. Click OK.

Now that the coverage's projection has been defined, you won't have any trouble adding its data to any map, regardless of the map's projection.

Convert your data to a different format

ArcToolbox provides many different tools for converting your data. The most common data conversion tools have been included in the Catalog. If the conversion tool you need isn't listed, start ArcToolbox and look in the Conversion Tools toolset.

1. In the Contents list, right-click the vegtype dBASE table.

2. Point to Export and click dBASE to INFO. The vegtype table is automatically listed as the Input dBASE table.

3. Click the Browse button to the right of the Output INFO table text box.

4. Navigate to the Yellowstone folder. Type a name for the new table—for example, "veg_info"—into the Name text box and click Save.
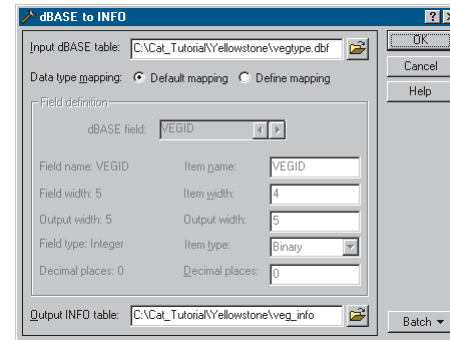
5. Click OK. A dialog box appears showing the progress of the conversion tool. When the tool has finished running, the dialog box disappears and the new veg_info INFO table appears in the Yellowstone folder.

Now you must look at the vegetation coverage's attributes and the veg_info table's columns to see if other modifications are required before they can be linked together.

Modify attributes in coverages and INFO tables

The relationship between the vegetation coverage and the veg_info table is established by creating a coverage relationship class. A relationship class is similar to an ArcInfo *relate,* but it lets you define the relationship more accurately. Once created, a relationship class lets you query, label, and symbolize features in the coverage using attributes in the associated table.

When creating the relationship class, you define which column in the feature class's attribute table and which column in the INFO table share the same values. The columns must also share the same data type.

Using Table view, you could see that the vegetation coverage's polygon feature class has a column named "CODE", and the veg_info table has a column named "VEGID" that contains the same values. Use the Properties dialog box for the feature class and table to see if the columns have the same data type.

1. Right-click the veg_info INFO table in the Catalog and click Properties.

2. Click the Items tab. The columns in the table and their data types are listed. The VEGID column has a data type of Binary and an input width of four.

   Because this column will be used to join the table's values to the coverage, it should be indexed.

3. Click the VEGID attribute and click Add Index. The value in the Indexed column in the Properties dialog box changes from No to Yes.
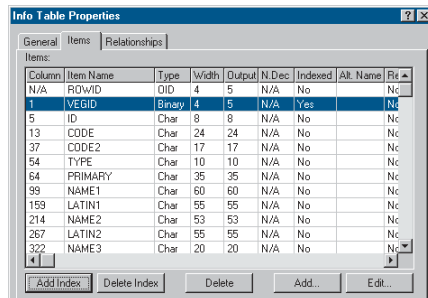
If you looked at the contents of the original vegtype or the new veg_info table, you would see that the NAME3

and LATIN3 columns don't contain any values and can be deleted.

4. Scroll down to and click the NAME3 attribute, then click Delete. Click the LATIN3 attribute and click Delete. The columns are removed from the list.
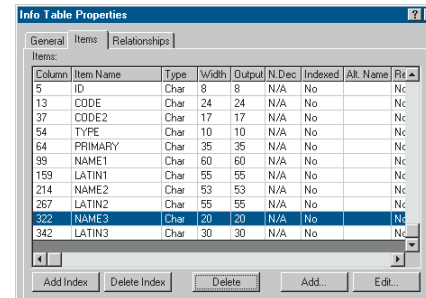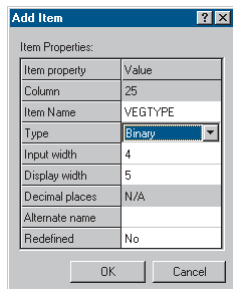

5. Click OK.

6. Click the vegetation coverage in the Catalog tree.

7. Right-click the polygon feature class in the Contents list and click Properties. The Properties dialog box for a coverage feature class is the same as for INFO tables.

8. Click the Items tab. The attributes in the feature class and their data types are listed. The CODE attribute has a data type of Float.

   The values in the VEGID column in the INFO table are binary integers, while the CODE column in the polygon feature class contains floating point values. To create a relationship class the values in both columns must have the same data type. Therefore, you must add a Binary column to the polygon feature class.

9. Click Add.

10. Click next to Item name and type "VEGTYPE".

11. Click next to Type, click the dropdown arrow that appears, then click Binary. The Input width defaults to four, and the Display width defaults to five.

12. Click OK. The new attribute appears in the list of attributes for the feature class.
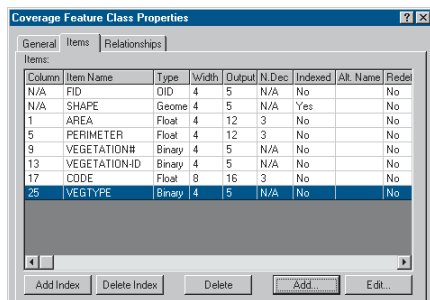
13. Click OK.

Now that the vegetation coverage has a new integer attribute, you must copy the values in the original "CODE" attribute to the new "VEGTYPE" attribute. To edit the features and attributes in a coverage, you must use ArcMap.

## Calculate attribute values in ArcMap

You must add a coverage feature to a map in order to edit its attributes. With the Editor toolbar visible, you can start editing the coverage. Open the feature class's attribute table and then use the field calculator to copy values from the CODE attribute to the VEGTYPE attribute.

1. Click the Launch ArcMap button in ArcCatalog.

Launch ArcMap

2. Click OK to start using ArcMap with a new, empty map.

3. Drag the vegetation coverage from the Catalog and drop it onto the table of contents or the canvas in the ArcMap window. A layer is created for the coverage's polygon feature class and added to the map's table of contents.

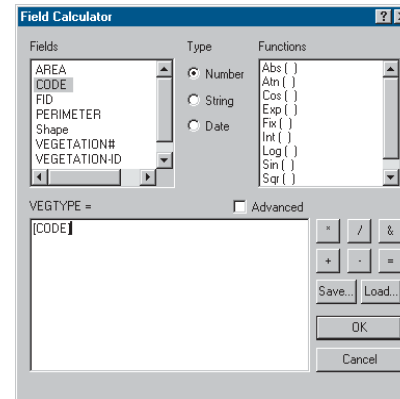4. Click the Editor Toolbar button; the Editor toolbar appears.
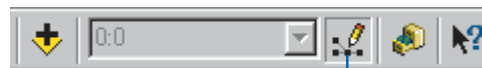
Editor Toolbar

5. On the Editor toolbar, click the Editor menu and click Start Editing.
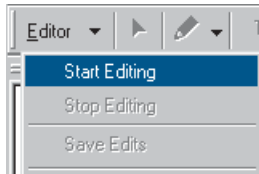
6. Right-click the vegetation polygon layer in the table of contents and click Open Attribute Table. The attributes of the polygon feature class appear in a table window. The headings of the columns whose values you can change have a white background.

7. Scroll horizontally in the table until you see the VEGTYPE column.

8. Right-click the heading of the VEGTYPE column and click Calculate Values.
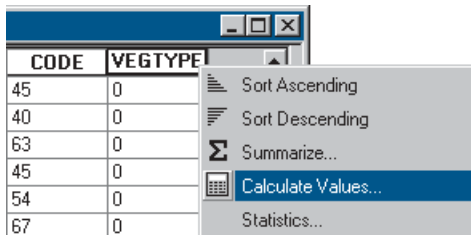
9. Double-click CODE in the Fields list. "[CODE]" appears in the text box below "VEGTYPE =". ArcMap reads this as VEGTYPE=[CODE]; in other words, all values in the VEGTYPE column will be set equal to the values stored in the CODE column. Click OK.

As ArcMap calculates the new values in each record, you can see how many records have been completed at the bottom of the Field Calculator dialog box.

10. Look at the VEGTYPE column in the attribute table; its contents are the same as the CODE column.

11. Click the Close button in the top-right corner of the attribute table window.

12. On the Editor toolbar, click the Editor menu and click Stop Editing. Click Yes to save your changes.

13. Click the File menu and click Exit to stop ArcMap. Click No when prompted to save the map.

Now that the vegetation coverage and the veg_info table have matching columns, you can create a relationship class that links the two together.

Create a relationship class

When creating a relationship class, you must define the properties of the relationship between the coverage and the associated INFO table. One property of a relationship is its *cardinality,* which describes how many features in the

coverage are related to how many records in the attribute table. The cardinality for this relationship is many-to-one; that is, a group of plants defined in the veg_info table may be found in many polygons in the coverage.

Because you're primarily interested in the vegetation coverage's features, the polygon feature class is the *origin* in the relationship. The veg_info table is the *destination*. The columns that link the two are called key attributes. The VEGTYPE attribute in the coverage is the *primary key*; the VEGID column in the veg_info table is the *foreign key*.

Path labels describe the relationship when navigated forward and backward. In this relationship, going forward from the origin to the destination, the vegetation polygons relate to "types of vegetation" in the veg_info table. Going backward from the destination to the origin, the veg_info table relates to "vegetation features" in the coverage.

Now, create a relationship class linking the vegetation coverage's polygon feature class to the veg_info table.

1. Click the Yellowstone folder in the Catalog tree.

2. Click the File menu, point to New, then click Coverage Relationship Class.

3. Type a name for the relationship class, for example, "vegetation_attributes".

4. In the Origin table/feature class list, click the plus sign next to vegetation and click its polygon feature class.

5. In the Destination table/feature class list, click veg_info.
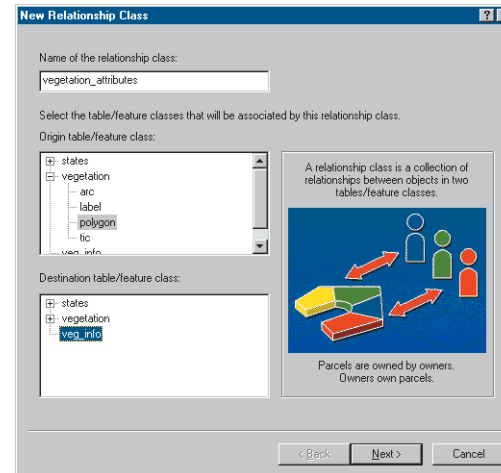
6. Click Next.

7. Click Simple (peer-to-peer) relationship and click Next.

8. In the first text box, type "types of vegetation". In the second text box, type "vegetation features". Click Next.
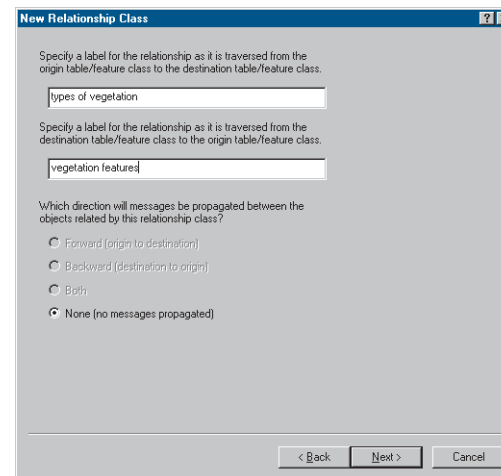
As discussed at the beginning of this task, there is a many-to-one relationship between the polygons in the vegetation coverage and the vegetation types in the veg_info table. In practice, a many-to-one relationship is the same as a one-to-one relationship. Therefore, you will create a relationship with one-to-one cardinality.

9. Click 1-1 (one-to-one) and click Next.

10. Click the dropdown arrow for the primary key field list and click the VEGTYPE attribute.

11. Click the dropdown arrow for the foreign key field list and click VEGID.
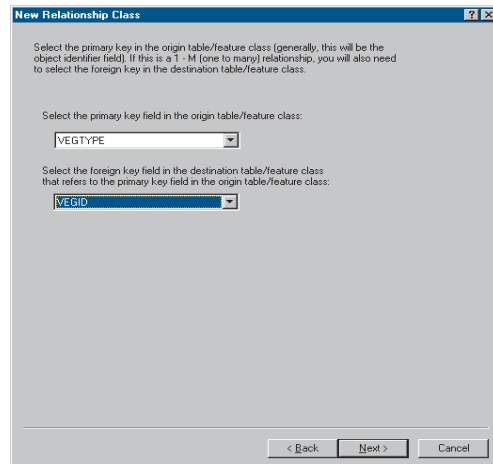
12. Click Next and click Finish. The vegetation_attributes coverage relationship class appears in the Yellowstone folder.
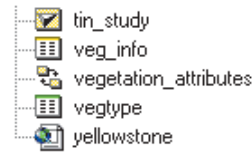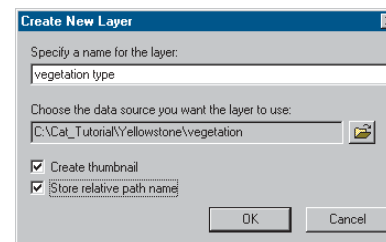

You can find out which relationships a coverage feature class or INFO table participates in by opening its Properties dialog box and clicking the Relationships tab. Now you can create a layer that takes advantage of this relationship.

**Create a layer using the related attributes**

Once a relationship class has been created, a layer can use the attributes in the veg_info table to query, label, and symbolize the vegetation coverage's features.

1. Click the Yellowstone folder in the Catalog tree.

2. Click the File menu, point to New, then click Layer.

3. Type a name for the layer such as "vegetation type".

4. Click the Browse button, navigate to the Yellowstone folder, click the vegetation coverage, then click Add.

5. Check Store relative path name, then click OK. Relative pathnames let you continue using the layer even after moving or renaming the Yellowstone folder.


6. Right-click the vegetation type layer and click Properties.

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7. Click the Joins & Relates tab in the Layer Properties dialog box.

8. Click the Add button next to the Joins list.

9. Click the first dropdown arrow to specify what you want to join to this layer, then click Join data based on a predefined relationship class.
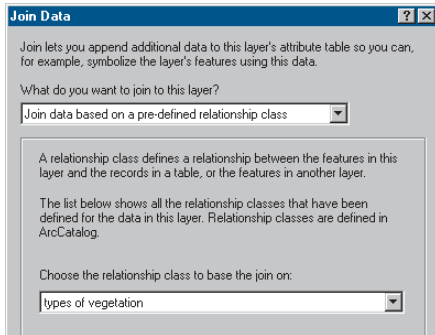
10. Click OK in the Join Data dialog box. The veg_info table is added to the list of tables that have been joined to the coverage.
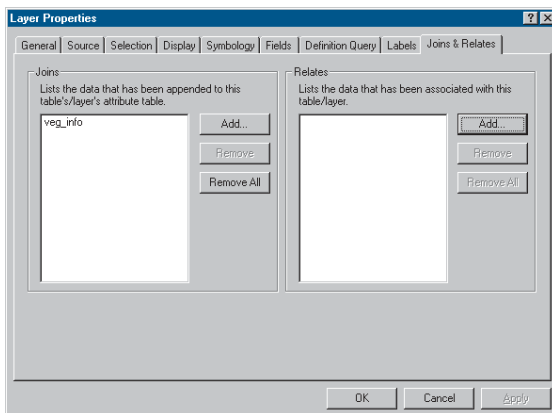
11. Click the Symbology tab.

12. Click Categories in the Show list.

13. Click the Value field dropdown arrow and click veg_info:TYPE.

14. Click the Color Scheme dropdown arrow and click a different color palette, if desired.

15. Click Add All Values.
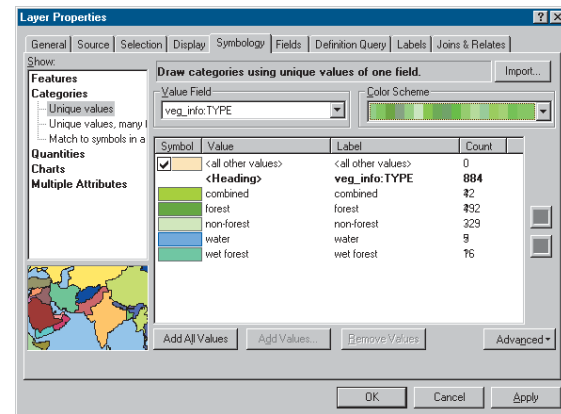
To change the color of individual values—for example, to make the water polygons blue—double-click the patch of color to the left of the value. Set the fill and outline colors in the Symbol Selector dialog box and click OK.

16. Click OK in the Layer Properties dialog box.

The vegetation type layer joins attributes in the veg_info table to the polygons in the vegetation coverage using information from the vegetation_attributes relationship class. Then, it symbolizes them using the table's values. It represents the forest resources, which are available throughout the study area.

Add the vegetation type layer to the map

Now that the vegetation layer has been created, you can add it to the yellowstone map.

1. Double-click the yellowstone map in the Catalog.

2. Click and drag the vegetation type layer from the Catalog and drop it in the map's table of contents below park roads and above hydrology in the Study Area data frame's list of layers.
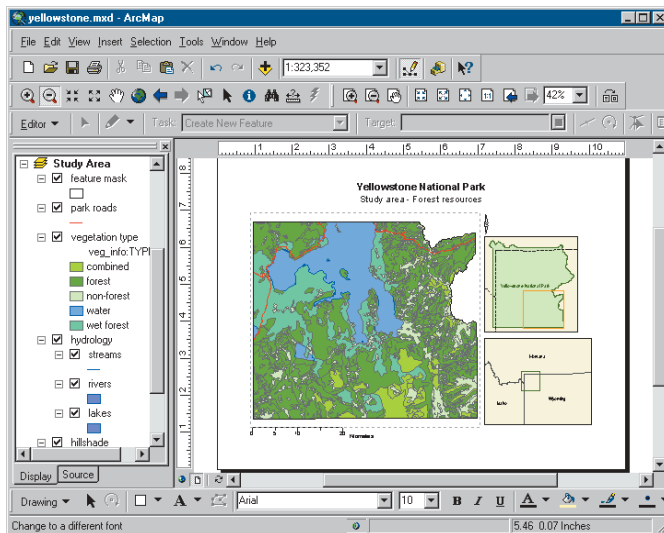
3. Click the Save button in ArcMap.

4. Click the File menu and click Exit to stop ArcMap.

The yellowstone map is now complete.
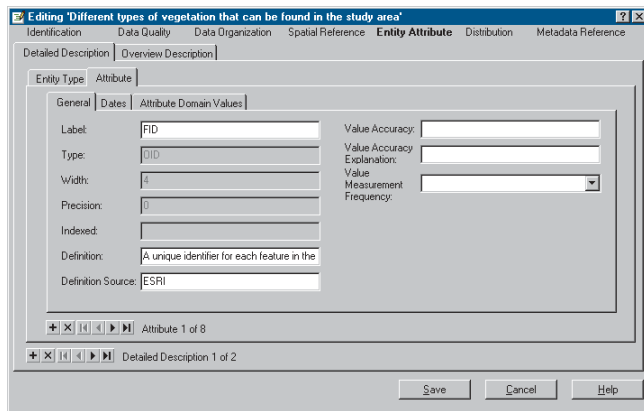
Update the coverage's metadata

Over the course of this exercise, you defined the vegetation coverage's coordinate system, added a new attribute, and created a relationship class linking the coverage to the veg_info table. Now you should update the vegetation coverage's metadata with this information.

1. Click the vegetation coverage in the Catalog tree.

2. Click the Metadata tab. The Catalog has automatically added the coverage's coordinate system to the metadata and has calculated its extent in decimal degrees.

3. Click the Attributes tab in the metadata.

4. Click the VEGTYPE attribute. The Catalog has added this attribute and its data type information to the list.

5. Scroll down to see information about the relationship class in which the coverage participates. Relationship class information isn't included in the FGDC standard; ESRI has defined a profile of that standard that includes additional data properties.

   To add descriptive information, for example, to document the data contained in the VEGTYPE column, use the Catalog's FGDC metadata editor.

6. Click the Edit Metadata button on the Metadata toolbar.

Edit Metadata

7. Click Entity Attribute at the top of the metadata editor. The editor is currently showing you metadata for the polygon feature class.

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8. Within the Detailed Description tab, click the Attribute tab.

The Attribute tab currently shows metadata for the first attribute in the polygon feature class, the FID attribute. The Definition text box shows that this column contains a unique value for each feature in the coverage.

9. In the toolbar at the bottom of the Attribute tab, click the Move next button. The current attribute displayed in the Attribute tab advances to the next one listed in the coverage's metadata—the SHAPE attribute, which contains feature geometry.


Move next   Move last

10. Click the Move last button to see the VEGTYPE attribute.

11. Click in the Definition text box and type, "A number identifying the type of vegetation in each feature. Use this attribute to join this coverage to the veg_info table."

12. Click Save.

13. Click the Attributes tab in the metadata.

14. Click the VEGTYPE attribute. The description has been added to the metadata.
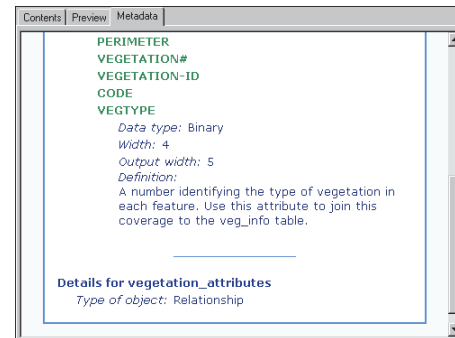
Anyone who uses this coverage in the future will be able to find out what its properties are, what data it contains, and to which tables it is related.

This exercise showed how you can use ArcCatalog to manage your data. You saw how to define a coverage's coordinate system, add and remove attributes, calculate attribute values, symbolize features using attributes in a related table, and use the FGDC metadata editor to document your data.

Overall, this tutorial has introduced you to a wide range of tasks. Whether you are looking for data, building maps, or managing data for your project or an entire organization, the Catalog plays a pivotal role in getting the job done. The remaining chapters in this book look in detail at the variety of tasks you can accomplish with the Catalog.