



MapLogic

MAPLOGIC CORPORATION

GIS Software Solutions

Getting Started

With MapLogic Layout Manager

Getting Started with MapLogic Layout Manager

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Introduction

Welcome to *Getting Started with MapLogic Layout Manager*. This book is intended to help you get started using the *MapLogic Layout Manager* extension for ESRI's ArcMap™, and to illustrate the different procedures and methods involved with using the extension.

What Can You Do With The MapLogic Layout Manager?

“Create map books” is the simplest way to describe what you do with the *MapLogic Layout Manager*! Of course it does all kinds of other things which we will talk about later.

Map books are all around us. Most of us have used a road atlas at one point or another in our life. Many small and large government organizations and private companies create custom map books regularly. Many municipalities need regularly updated street maps for their emergency and police vehicles.

In the past, the process of creating a map book was a particularly tedious affair. Each page of a map book had to be created separately. Creating an index of where things are in the map book (for example, Main Street...Page 9) was a very long and difficult process.

The *MapLogic Layout Manager* automates many of the steps in this process, to the point that creating a professional looking map book is not much harder than creating a single sheet map in ArcMap.

A map book is, basically, a large map that has been broken down into smaller, more manageable sheets. But it is more than just a collection of small maps. Each page in a map book knows its relationship to the other pages in the book (you've seen those little notes on the edge of a page that says “continued on page...”).

Map books usually have a key map. A key map is kind of an overview map of the entire area covered by the map book showing what page covers each area of a map.

And, of course, map books usually have indexes. Indexes list where you can find a feature on the map (for example, Main Street...Page 9).

The *MapLogic Layout Manager* brings all the parts of a map book together in a single product. Each part of the book is aware of the other parts. For example, if you insert map into your map pages, all the page numbers are automatically corrected, the map key will automatically update itself, the listings in the index will correct themselves to accommodate the new page and so on.

But lets not get ahead of ourselves; we will explain how you do all this further along in the book.

Tasks You Perform With The MapLogic Layout Manager

The *MapLogic Layout Manager* is an extension to ESRI's ArcMap desktop GIS application. It enhances ArcMap by providing tools to allow you to:

1. Create and store multiple page layouts in a single ArcMap document (Mxd)
2. Create map series in ArcMap
3. Create map books in ArcMap

As part of creating a map book, the *MapLogic Layout Manager* allows you to:

1. Create map series – a map that is broken into multiple pages

2. Create locator maps – an overview map that highlights the location of the current page in a series
3. Create key maps – an overview map that lists the page number where you can see the detailed map of an area
4. Create indexes – a listing of features on the map and what page they are located on

Of course, there are many more details to each of these steps, which we will explore later on.

Tips On Learning How To Use The MapLogic Layout Manager

This book is intended to help you learn the basics of making page layouts, map series and map books using the *MapLogic Layout Manager* and ArcMap. For more detailed information about the options and parameters in each of the many tools in this extension, refer to the *MapLogic Layout Manager User's Manual* as well as the online help.

The *MapLogic Layout Manager* has 4 different license levels; Viewer, Basic, Advanced and Pro. Depending on the license level that you have purchased, you will have different tools and capabilities available to you. At each section in this book, you will see notation which will tell you what license you will need to perform the task being described. The following table will give you a quick overview of what you can do at each license level. Don't worry if you aren't sure what some of the items listed in the table mean as we will provide plenty of explanation as we get further into the book.

License Level:	Viewer	Basic	Advanced	Pro
View different Layouts in ArcMap document (Mxd)	Yes	Yes	Yes	Yes
Preview map series and map books	Yes	Yes	Yes	Yes
Print single layouts	Yes	Yes	Yes	Yes
Print maps series and map books	No	Yes	Yes	Yes
Create/edit layouts and map series	No	Yes	Yes	Yes
Create/edit map books	No	No	Yes	Yes
Create location listings in map books (i.e. Main street, page 1)	No	No	Yes	Yes
Create multi-column location listings in map books	No	No	No	Yes
Create multi-template sections in map books (i.e. Page 9 in a map series uses a different template from the rest)	No	No	No	Yes

The *MapLogic Layout Manager* is an extension of ArcMap. We are assuming that you are reasonably familiar with ArcMap and have already learned the basics of making maps using ArcMap. So if you aren't quite comfortable with ArcMap, we would suggest that you spend a little time finding your way around ArcMap. Once you have mastered the process of composing and printing a map layout, it's a good time to get started with the *MapLogic Layout Manager*.

Some Basic Terminology

If you have been using ArcMap, you are used to some of the basic terminology such as layers, maps, layouts, etc. The *MapLogic Layout Manager* adds some new objects to ArcMap, which we need to become familiar with:

Page Layouts: A page layout is a single page map. Up to now, whenever you have been putting together a map in ArcMap, you have been working on a page layout. An ArcMap

document (Mxd) normally has a single page layout. With the *MapLogic Layout Manager* you can have multiple page layouts in the ArcMap document.

Map Series Layouts: A map series layout is a layout that prints over multiple pages. It looks just like a page layout except that you can print or preview multiple maps using the same template. As you go from page to page in a map series, it automatically updates the map by moving the visible area of the map, updating page numbers, etc. This allows you to create a single layout for a map series that can be tens, hundreds, or thousands of pages long.

Book Layouts: Book layouts can contain multiple page layouts, map series layouts, key maps, location listings, etc. A map book is organized into sections, each containing different parts of a map book (for example, a cover, a key map, some map pages, a road index, etc.).

Active Layout: Although you can have multiple page layouts, maps series layouts and book layouts in your ArcMap document, only one layout can be visible at any time. The layout that is visible is called the active layout.

Map Series Frame, Locator Frame, and Key Frame: In ArcMap, the basic window that shows map information in your layout is called a data frame. With the *MapLogic Layout Manager*, we add 3 new frames to ArcMap. These frames look just like data frames but add more capabilities to the data frame. For example, a map series frame is a data frame that knows how to print over multiple pages. We will talk more about each frame later.

Series Text: Series text is just like any other piece of text that you place on your page layout, except that it knows how to update itself as you move from page to page in a map series. A good example of a series text is a label showing the page number.

Page Index: A page index is a tabular listing of where features are on a single map (i.e. Main Street, B3). A page index is placed next to the map.

Series Index: A series index is a tabular listing of where features are in an entire map series (i.e. Main Street, Page 9 B3). A series index is placed before or after the entire map series.

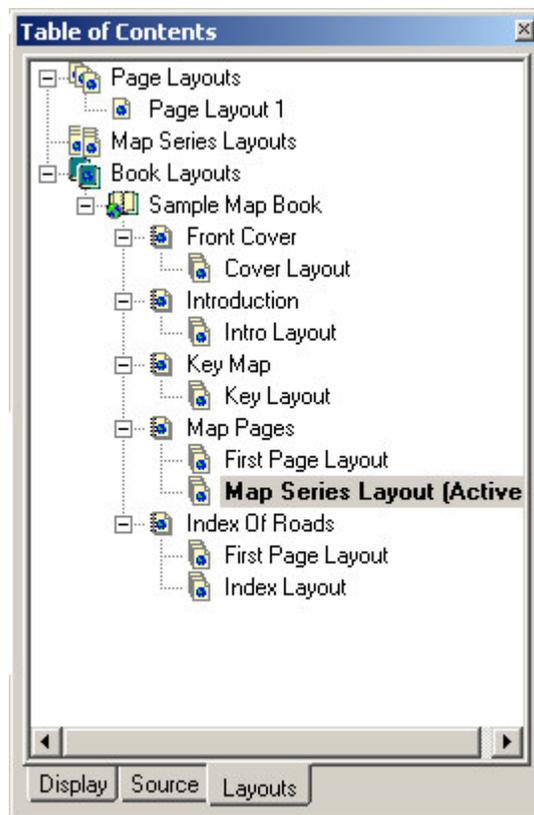
Exploring The MapLogic Layout Manager

Everything you need to get to in order to use the *MapLogic Layout Manager* extension is in one of three locations:

- The “Layouts” tab in the ArcGIS Table of Contents
- The “MapLogic Layout Manager” toolbar
- The properties of different layout elements and data frames

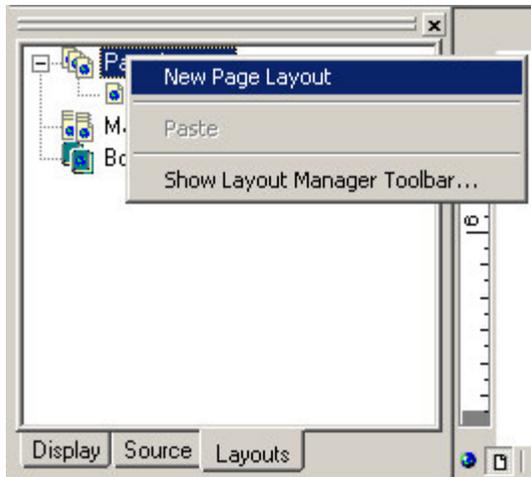
The Layouts Tab

The Layouts Tab is a new tab that is added to the ArcMap Table of Contents by the *MapLogic Layout Manager*. If the Layouts tab is not visible after you install the extension, you can make it visible by selecting Tools>Options... in ArcMap’s main menu. Go to the TOC Tab, make sure Layouts is checked and press the OK button.



This tab is where you move around the different layouts contained in the Mxd. Double-clicking on any layout will activate it (make it visible). You can only have one layout active at any time.

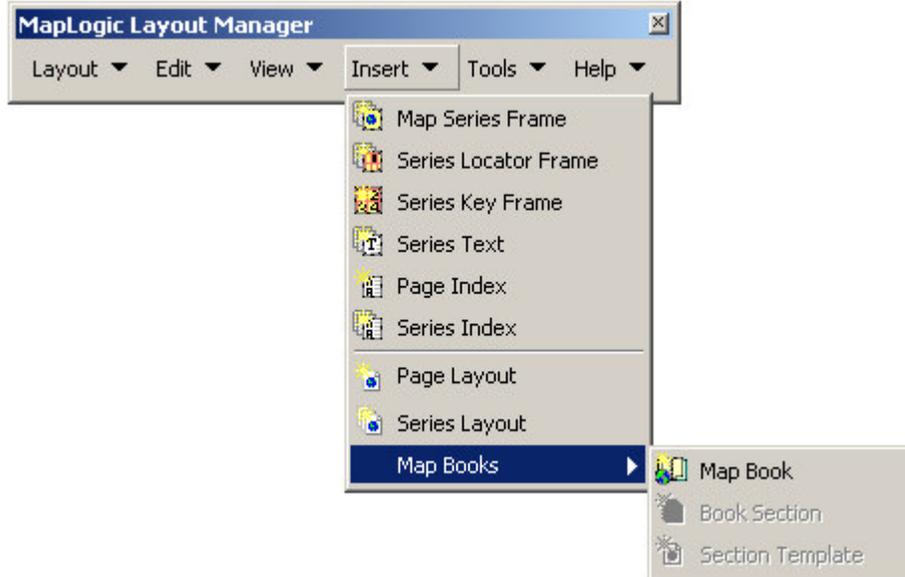
Click on any item listed in the Layouts Tab using your right-mouse button and you will see a menu of things you can do with that item.



This is where you will do most of the work of managing layouts, map series and map books (adding/removing new books and layouts, changing the order of sections, etc.). Different commands on these menus are enabled and disabled based on what kind of *MapLogic Layout Manager* license you have (Viewer, Basic, Advanced or Pro).

The MapLogic Layout Manager Toolbar

The *MapLogic Layout Manager* toolbar is a new toolbar that is added to ArcMap by the extension. It is where you will find all of the tools needed to put together a map book. If the toolbar is not visible after you install the extension go to View>Toolbars>MapLogic Layout Manager on ArcMap's Main Menu to display the toolbar.



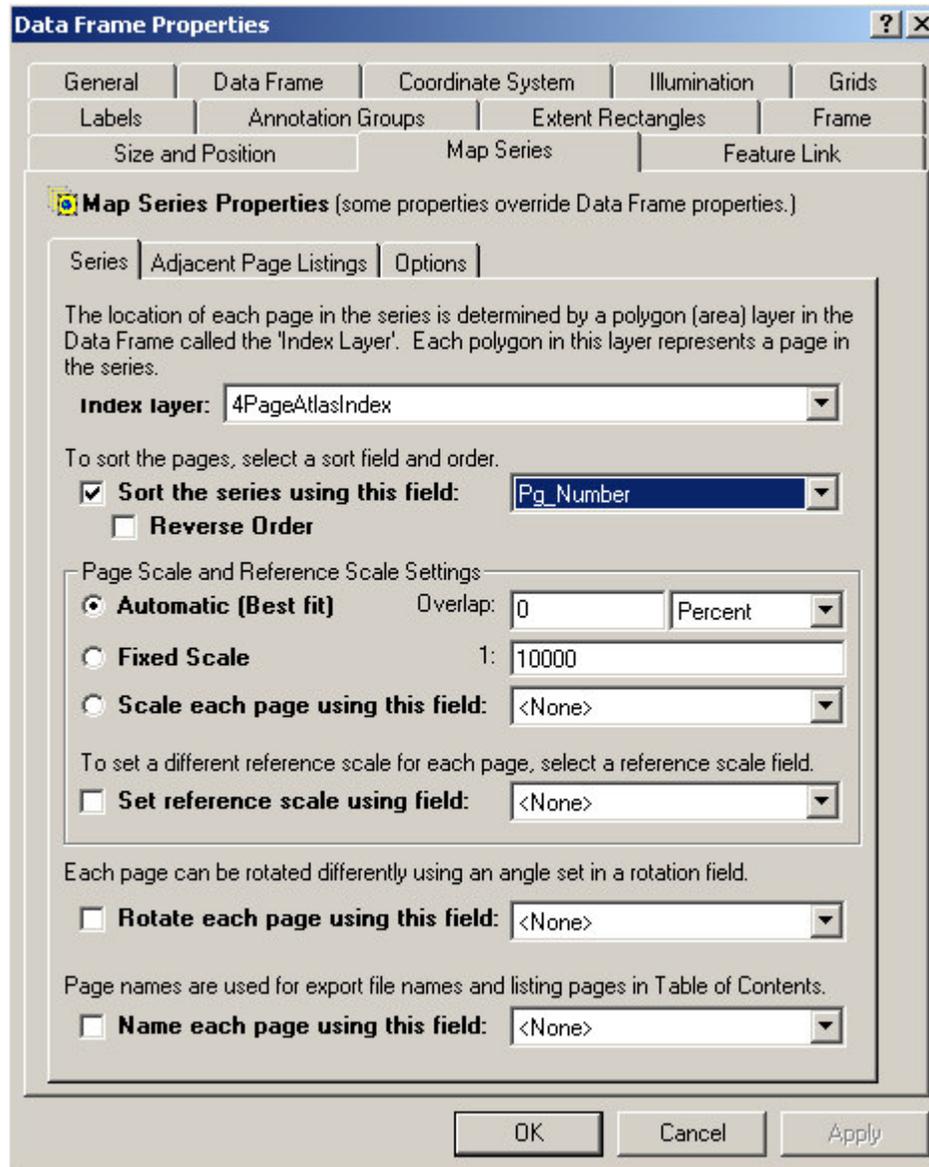
You will notice that the toolbar layout is very similar to ArcMap's Main Menu. This helps you to quickly find the right commands in the extension based on where you would expect to find similar commands in ArcMap.

Different commands in the toolbar are enabled and disabled based on:

1. What kind of layout is currently active (page layout, map series layout or book layout)
2. What kind of element is currently selected in the layout
3. What kind of *MapLogic Layout Manager* license you have (Viewer, Basic, Advanced or Pro)

Element Properties

When you insert a new *MapLogic Layout Manager* element (for example a Map Series Frame), the element is added to the active page layout just as in ArcMap's Insert Menu. To set the properties of the element, select it, click the right mouse button and then select "Properties..." on the popup menu. You can also just double-click on the element.



You will notice that the element will have all the normal properties you would expect for that type of element with an added tab for properties specific to our extension. Modify the element properties just like you would with any other element in ArcMap.

Working With The MapLogic Layout Manager

In the next chapters we will go through the basic tasks that you can perform using the *MapLogic Layout Manager*. Here is what we are going to do in the next chapters:

1. Create a new page layout in ArcMap
2. Create a new map series layout in ArcMap
3. Create a new map book layout in ArcMap

As you will see we are going to start with some pretty simple tasks and gradually build up to creating a complete map book.

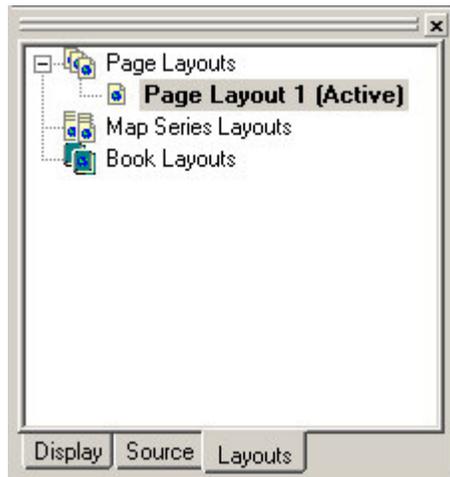
Creating A Page Layout In ArcMap

(Basic, Advanced and Pro)

In this section we are going to perform a very simple task of creating a new layout using the *MapLogic Layout Manager*. Up to now, whenever you have been using ArcMap, you have been working with a single map layout. With the *MapLogic Layout Manager*, the ArcMap document (Mxd) becomes a multi-layout document. This allows you to store multiple page layouts, map series layouts and map books inside the document. So the first task we need to become familiar with is how to create these new layouts in ArcMap.

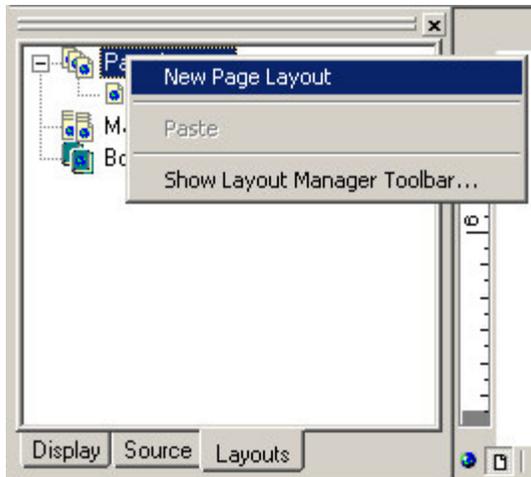
To begin this task open ArcMap. It doesn't matter if you create a new map or open one that you have worked on before.

The very first time you open an ArcMap document after you have installed the *MapLogic Layout Manager* you will notice a new tab added to your Table of Contents, called "Layouts". Click on the tab so you can see its contents. You will notice a list showing your Page Layouts, Map Series Layouts and Book Layouts. To begin with the only layout you see in the list is one called "Page Layout 1 (Active)".



By default you always have one page layout in ArcMap. When you see "(Active)" in front of the name of that layout, it means that it's the one that is currently visible.

So lets go ahead and create a new page layout. In order to do this right-click your mouse on where it says "Page Layouts" and select "New Page Layout" from the menu that pops up.

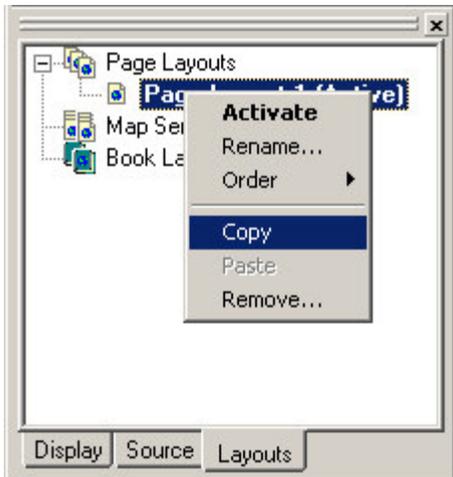


You will notice a new item added to the list of Page Layouts called "Page Layout 2". And that's how you add a new page layout in your ArcMap document.



Copying An Existing Layout

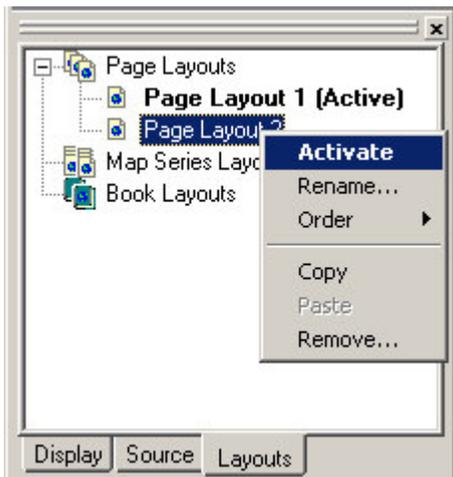
What if we don't want to work on a layout from scratch? If you want to make a copy of an existing layout and modify it, you can Copy/Paste an existing layout. To do this, right-click on the layout you want to copy and select "Copy" from the popup menu. Then right-click again and select "Paste" from the popup menu.



Some other things you might want to do once you've created a new layout:

Moving Back And Forth Between Layouts

Now that we have created the new layout, we need to be able to see it. We call this “activating a layout”. In order to activate a layout, all you need to do is double-click on its name in the list or right click on its name and select “Activate” from the pop-up menu. You will notice that Page Layout 1 will disappear and Page Layout 2 will appear. The page layout list will also update to show which layout is active.



Renaming Layouts

Of course, you probably want to name your layouts something that is more descriptive than “Page Layout 1”. To do this, right-click on a layout and select “Rename...”.

Removing (Deleting) Layouts

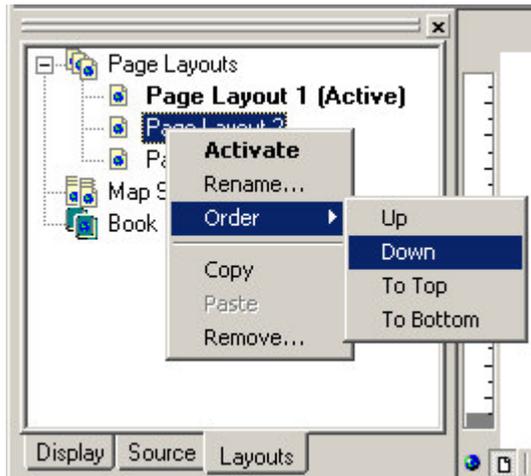
If you would like to remove a layout from your ArcMap document, right-click on the layout you would like to delete and select “Remove...” from the popup menu.

Once you have created a new page layout, you can edit and print it just like you have been doing so in ArcMap in the past.

In the next chapter we are going to create a new type of layout called a Map Series Layout. A map series layout is very similar to a page layout, except that it prints out a series of map sheets instead of just one sheet.

Rearranging Layouts

You can always rearrange the positions of a layout in the list of page layouts by right-clicking on the name of the layout and then going to the “Order” menu.



Creating A Map Series Layout

(Basic, Advanced and Pro)

Now that we have learned how to create, copy/paste, activate, edit and delete layouts, let's go to the next level and create a Map Series Layout.

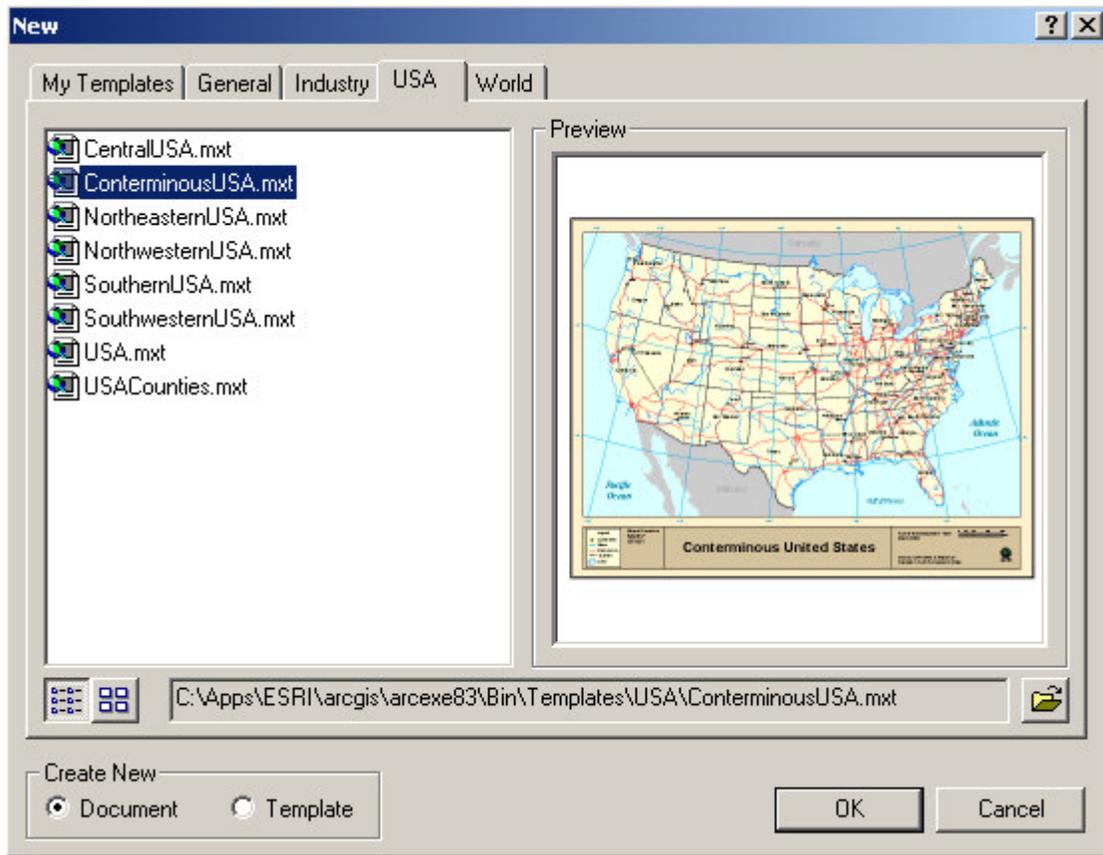
A map series is always driven by a polygon layer that we call the Index Layer. Each polygon in the Index Layer represents the boundary of a page in the map series. In this chapter we are going to use an existing polygon shapefile as the Index Layer. We explain how you can use the extension to create new Index Layers later in this manual in a chapter called **Creating An Index Layer For A Map Series**.

Before we get into the steps for creating a map series layout, we need to show you another part of the *MapLogic Layout Manager* extension. In the previous chapter we became familiar with the "Layouts" tab in the ArcMap Table of Contents. In order to get into some of the more advanced tasks, we need to become familiar with the *MapLogic Layout Manager* toolbar.

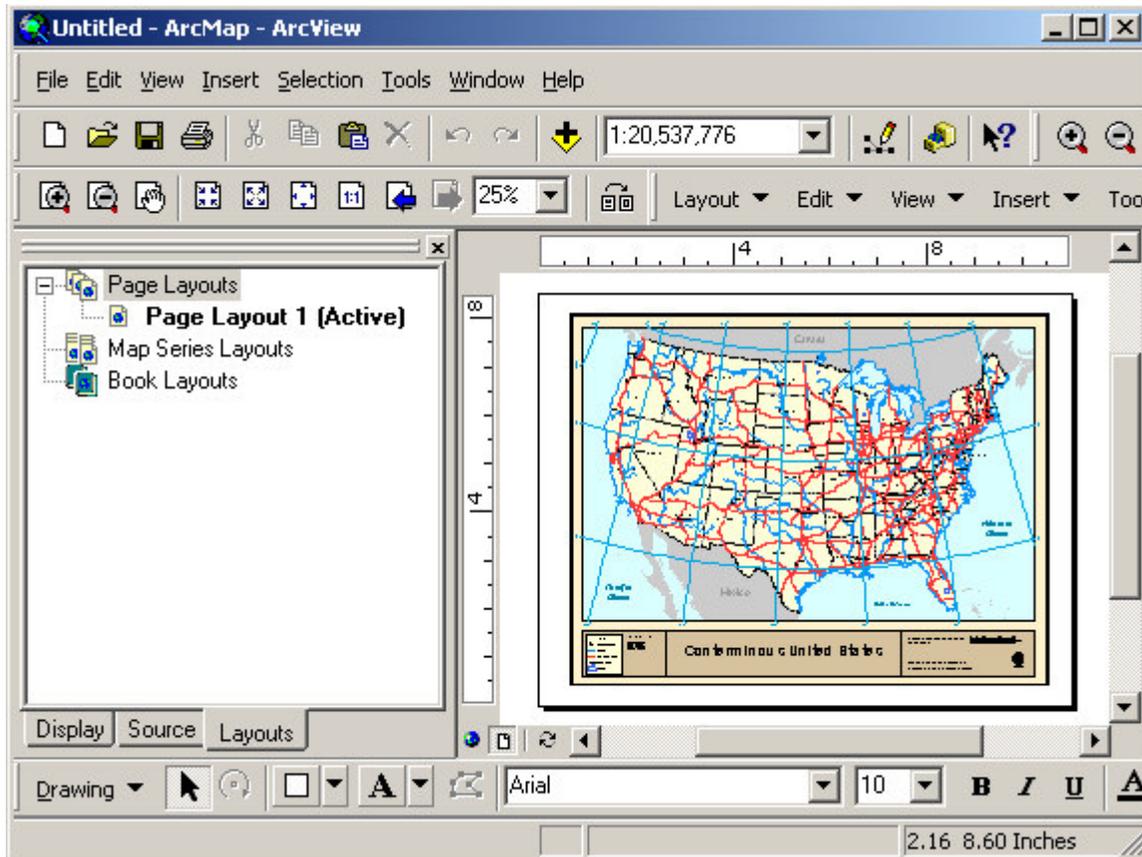


If you don't already have the toolbar visible, you can display it by going to View>Toolbars>MapLogic Layout Manager on ArcMap's Main Menu.

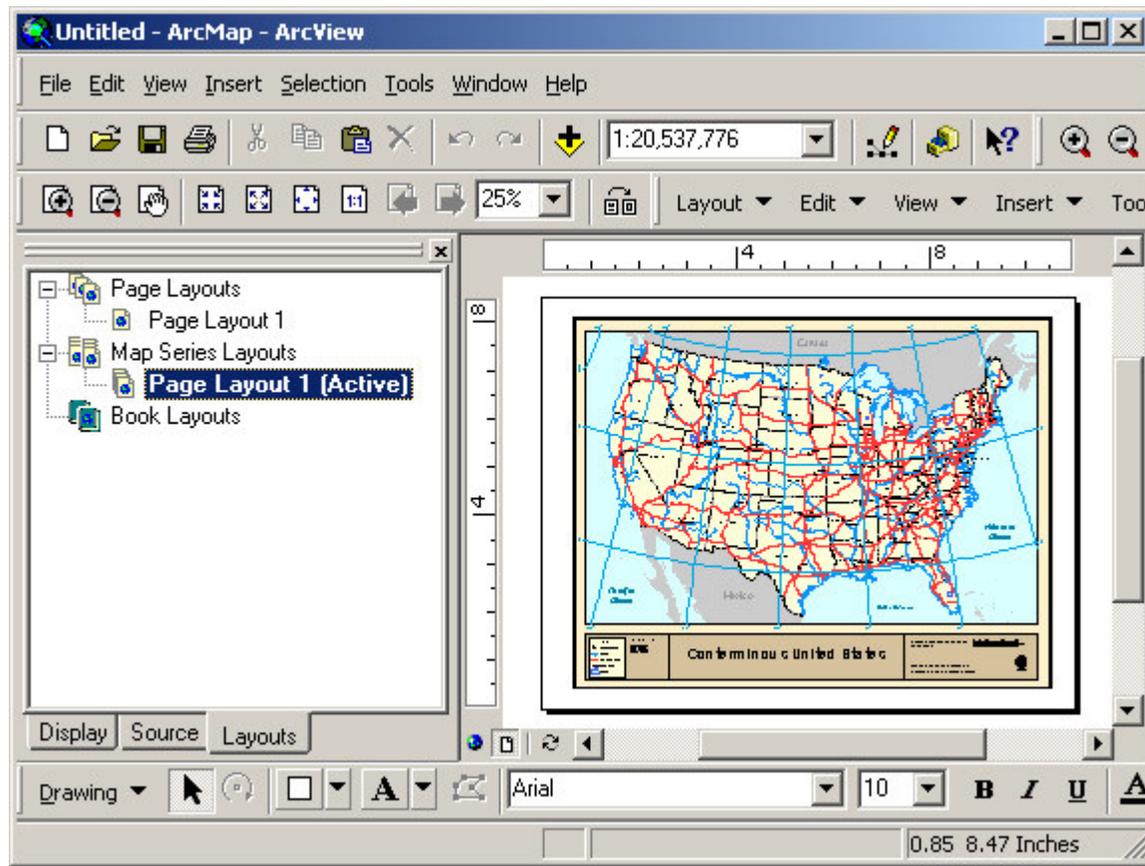
Now that you know where the toolbar is, let's get started on making a map series. To begin with, we are going to make a map series of US States using one of ArcMap's Templates. We are going to use a template so we don't have to spend time setting up our layers, colors, labels, etc. This is also a good example of how easily you can take an existing layout and turn it into a map series. So let's get started by opening a new ArcMap session using the "ConterminousUSA.mxt" template:



Once you have the template loaded, your ArcMap session should look something like the following:



Since we are going to make a map series, we need to Copy/Paste the layout from the page layouts area to the map series layouts area. Just as we showed you in the previous chapter, right-click the mouse on the layout's name and select Copy, then move the mouse down to the Map Series Layouts, right-click the mouse and select Paste. Now that you have a new map series layout, double-click on its name in the Table of Contents to activate it. If you don't see the new Map Series Layout that you have just created, click the little "+" sign next to the Map Series Layouts area on the Table of Contents to expand the tree. When you are done, your ArcMap Session should look something like:



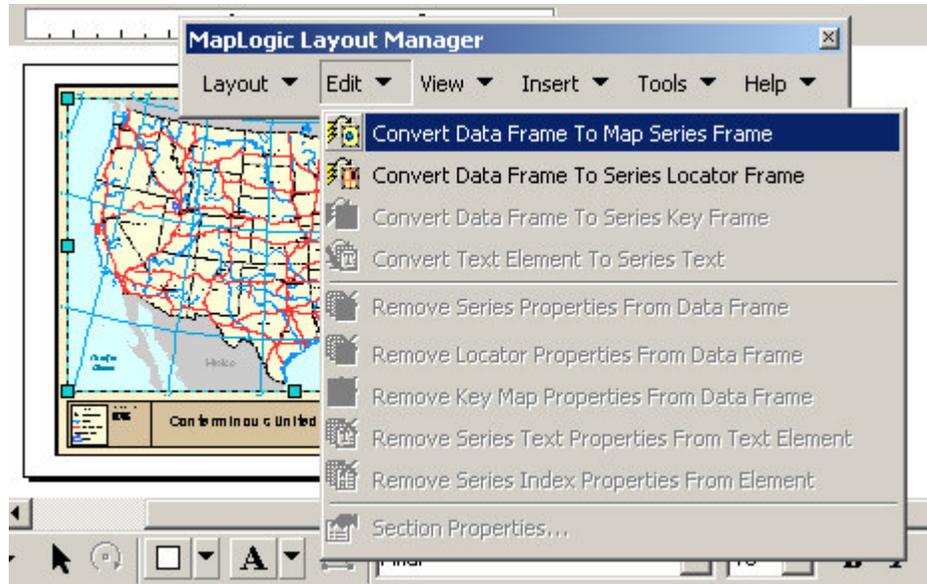
At this point we have created a new Map Series Layout, but the layout is just a single sheet layout. We need to tell the extension how to print this layout over a number of pages.

To complete this task we need to do two things:

1. We need to tell the extension that the map is a map series.
2. We need to set the parameters of the map series.

Converting A Data Frame To A Map Series Frame

To convert the map from a regular map to a map series, we need to select the map frame (data frame) and then select **Edit\Convert Data Frame to Map Series Frame** on the *MapLogic Layout Manager* toolbar.



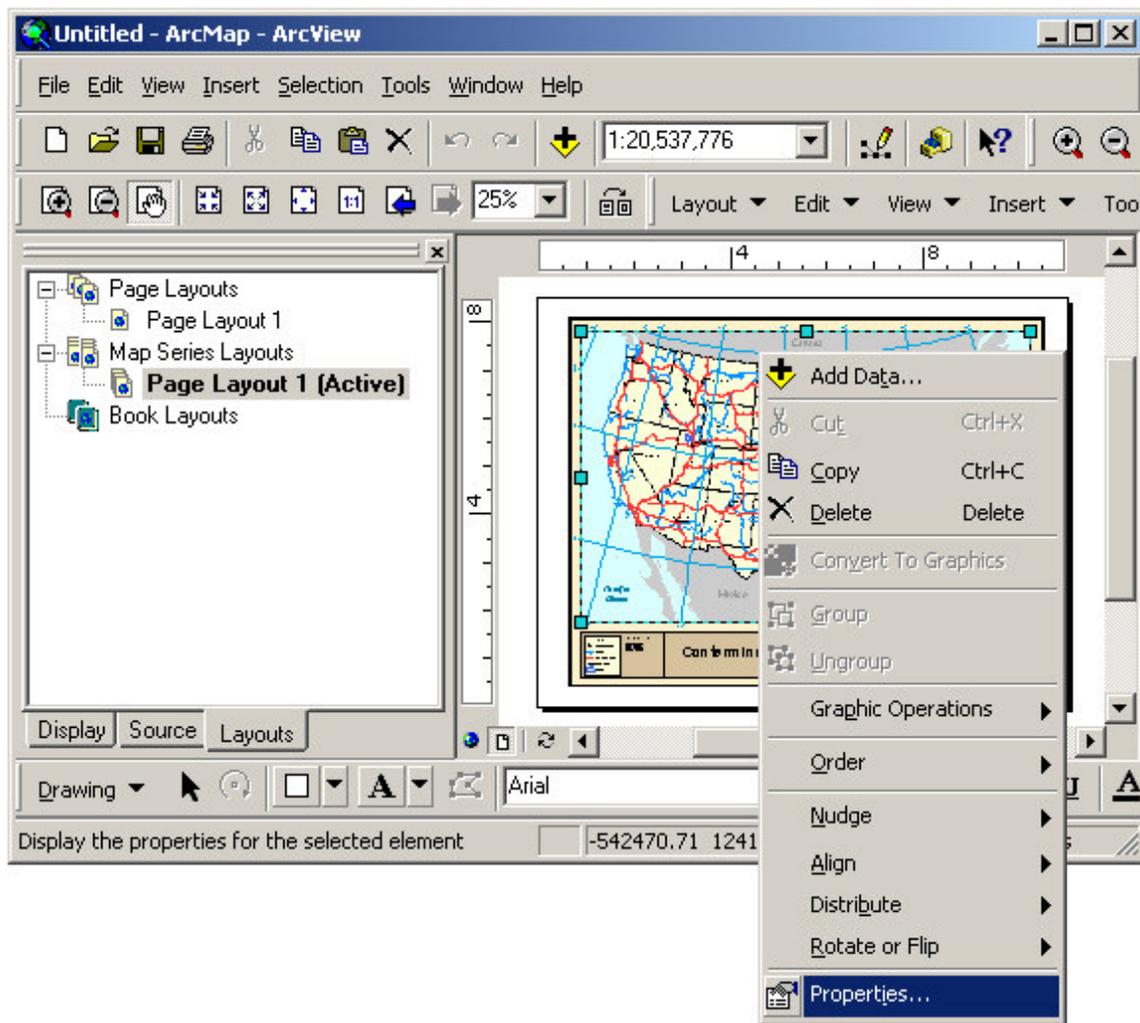
By converting the data frame to a map series frame, we are telling the extension that this map is going to have multiple pages. However, we still haven't told the extension where the pages are.

Also note that we could create a new map series frame by using the Insert menu on the toolbar.

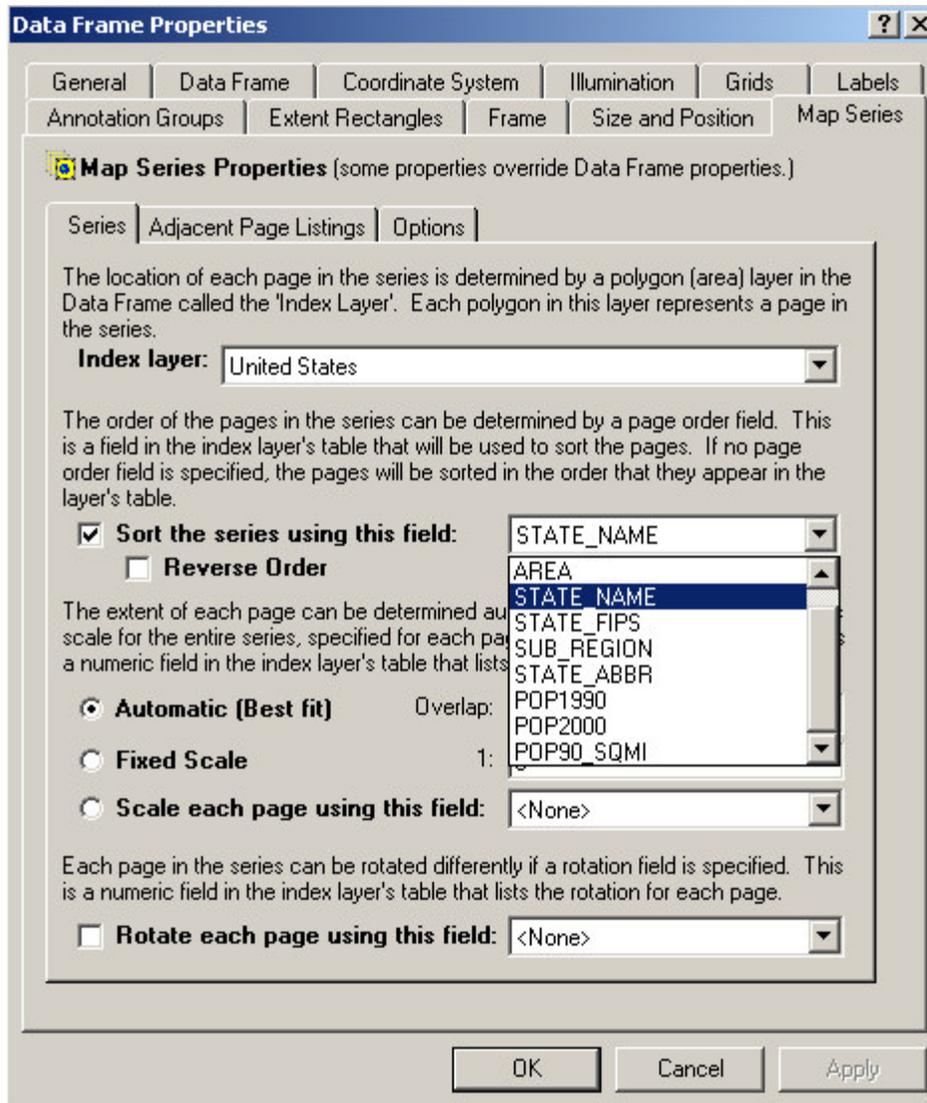
Setting Map Series Properties

To allow a map series to print over multiple pages we need to set the Index Layer for the frame. The Index Layer is a polygon (area) layer in your map where each polygon represents a page in your map series. Since we are creating a map series of US States, we want to set the boundary of each state to be a page in the series. The *MapLogic Layout Manager* will then know to zoom to the boundary of each state as it moves from page to page.

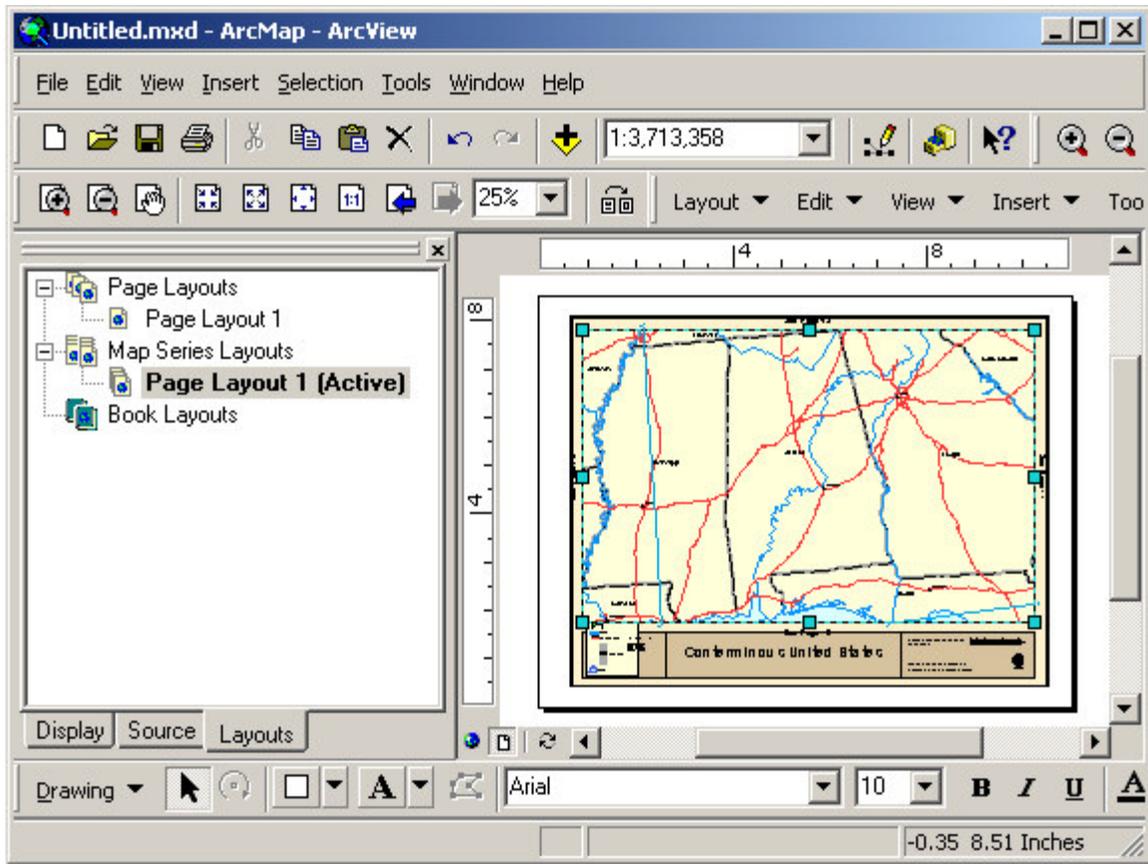
How do we tell the extension where the Index Layer is? When we converted the data frame to a map series frame, a new tab was added to the properties of the frame. To set the Index Layer, we need to edit the properties of the frame. To edit the map series frame's properties, double-click on the frame or right-click on the frame and select "Properties..."



You will notice that there is a new tab on the properties window called “Map Series”. Click over to this tab and from the Index Layer drop down list select “United States”. This is the minimum amount of information that the extension needs to make a map series. However, we don’t want just a random set of state maps. Let’s order the series by state name. To do this check the “Sort the series using this field:” option and then select STATE_NAME from the list of available fields. Once you have done that, click the OK button to exit the dialog.



You will notice that the map will change to show the state of Alabama, the first state in our map series.

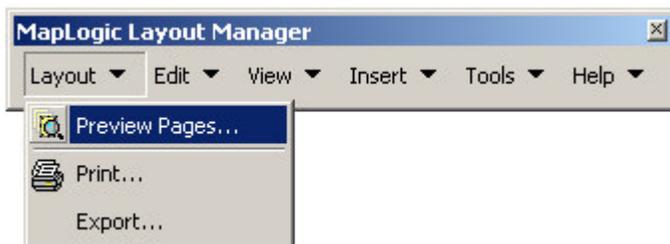


We have just created a 51 page map series. Of course there are plenty of options and settings on the map series properties tab that we have not looked at. There is more information further in this book about further modifying the map series in a chapter titled "Creating A Better Looking Map Series". Here we are just looking at the basics.

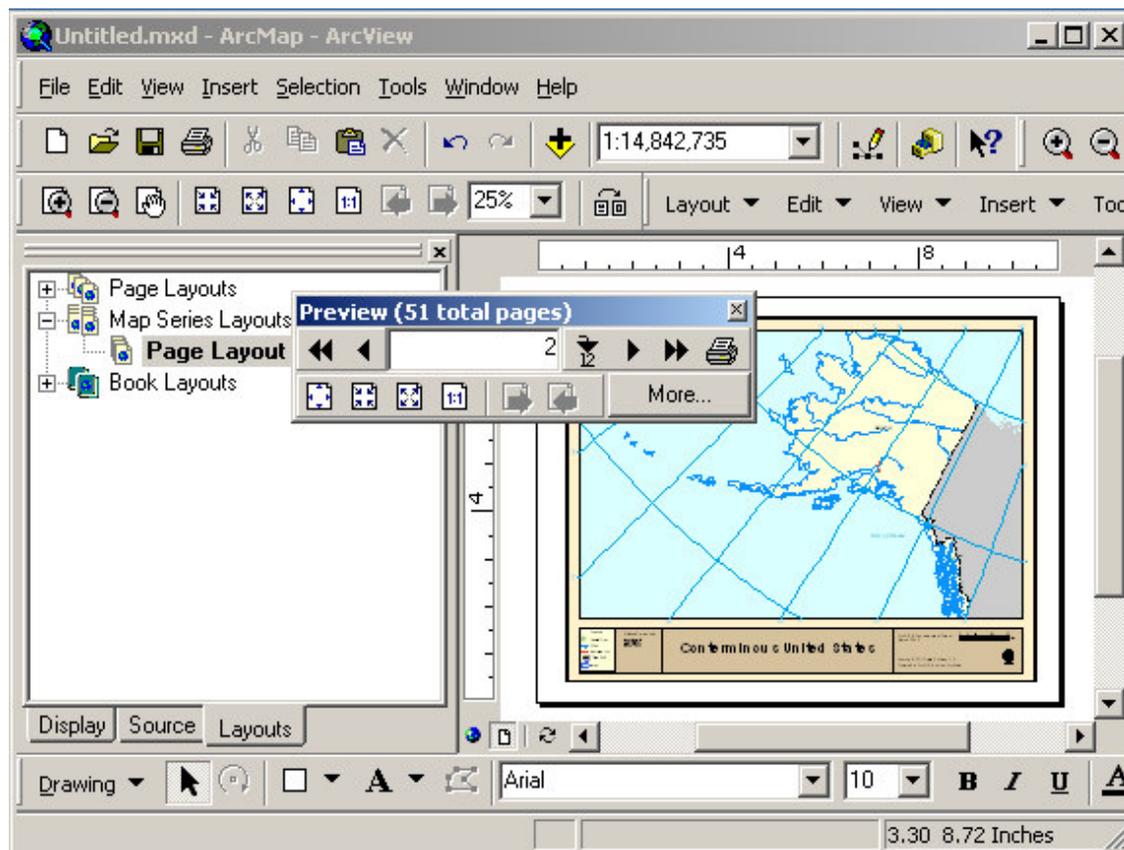
Previewing Pages In A Map Series

So, we have a 51 page map series, but how can we look at the rest of the pages in the series? Well, there are two ways that you can do this. If you have enabled individual page listings in the Layouts Tab (see **View\Series and Book Pages in Table of Contents** on the *MapLogic Layout Manager* toolbar) a list of pages will be added to the Table of Contents. You can go to any page in the map series by double clicking on the page (Basic, Advanced and Pro licenses only).

Another method is to display the Preview dialog and flip through the pages using the dialog. Select **Layout\Preview Pages...** from the *MapLogic Layout Manager* toolbar. Viewer licenses must always use the Preview dialog to look at the pages in a map series.



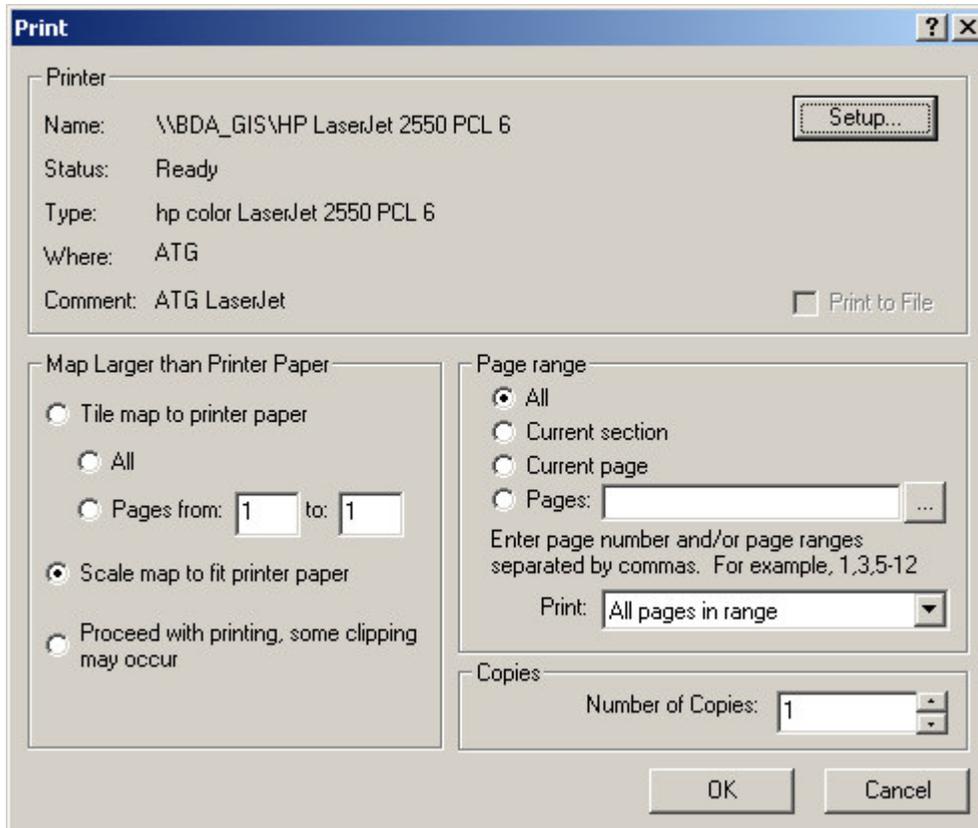
This will popup the preview dialog which will allow you to flip through the pages of the map series.



Printing A Map Series

If you would like to print the map series, select **Layout\Print...** from the *MapLogic Layout Manager* toolbar. You will be presented with a dialog similar to the ones you see in any word processor which will allow you to print the entire series or just a list of pages.

Alternatively, you could select **Layout\Export...** from the *MapLogic Layout Manager* toolbar to export the maps in all the export formats available in ArcMap.



That is the basic process of creating a map series. Take some time to look at the other properties you can set for a map series frame. You will see that there are a lot of options for refining your series to get the results you need.

In the next chapter we will take map series that we just created and convert it into a map book.

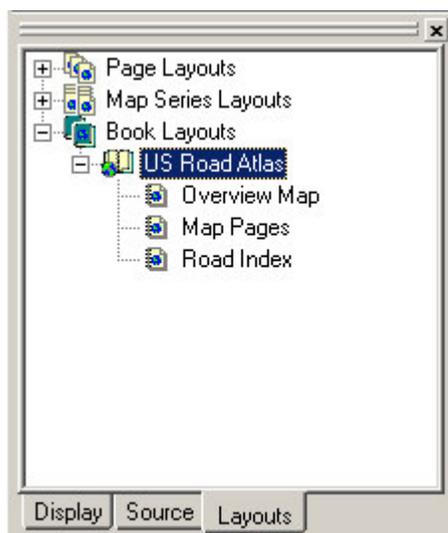
Creating A Map Book

(Advanced and Pro)

In the previous chapters we learned how to create page layouts and map series layouts using the *MapLogic Layout Manager*. In this chapter we will go to the next step in the process which is creating a map book. Notice that an Advanced or Pro license is required to create a map book.

How is a map book different from a map series? Well, as we learned in the last chapter, a map series is a layout that prints over multiple pages. A map book takes a map series and adds to it all of the other pieces that make it a book. Let's take the example of a road atlas. A road atlas has a series of pages detailing the roads of a selected region. However, the atlas will have an overview map on the front or back cover showing what page the detailed map of an area is. It also usually has an index of road names and what page they are located on. If you just took these map pages and threw away the rest of the atlas, you would be left with a map series.

The *MapLogic Layout Manager* organizes a map book as a collection of sections. Each section contains one or more layouts defining the contents of that section. You may want to think of sections as chapters in a book.

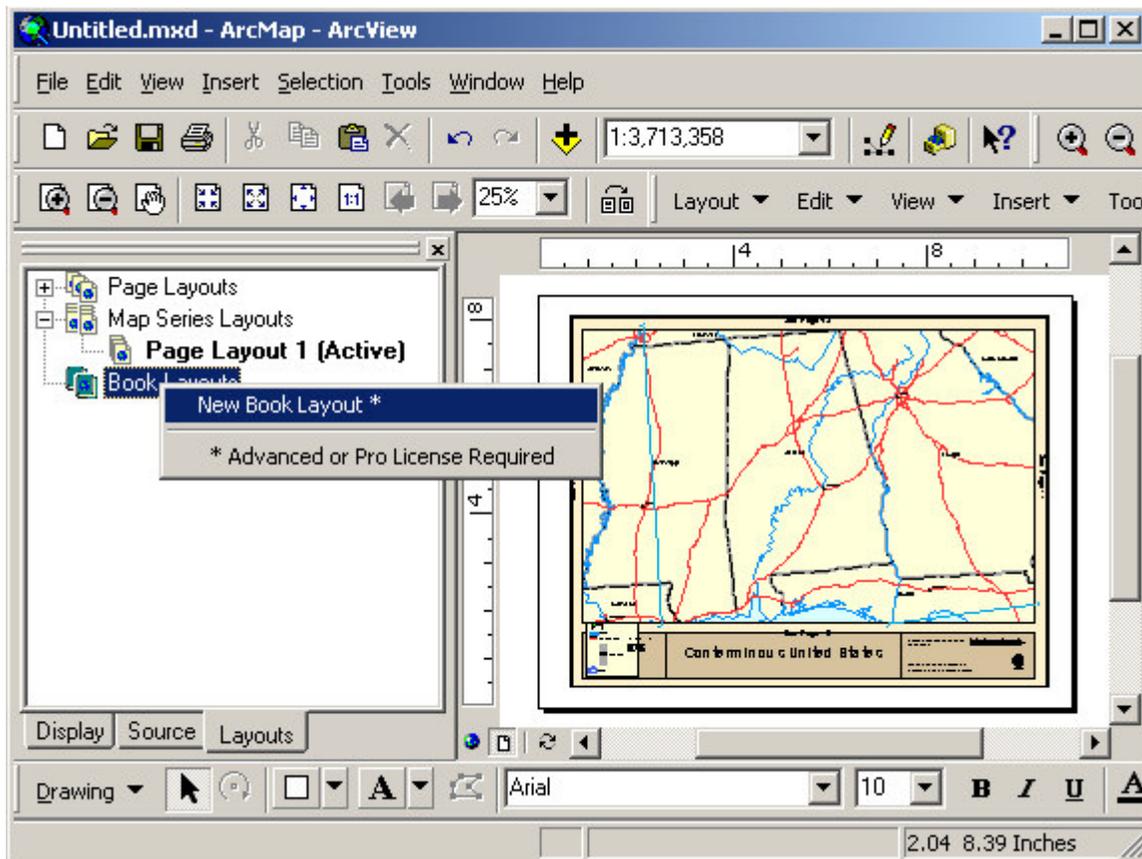


The order in which these sections appear in the map book is the order in which they will be printed. Just like a word processing document, the extension will automatically figure out the page numbering of the sections based on where they are located in the map book.

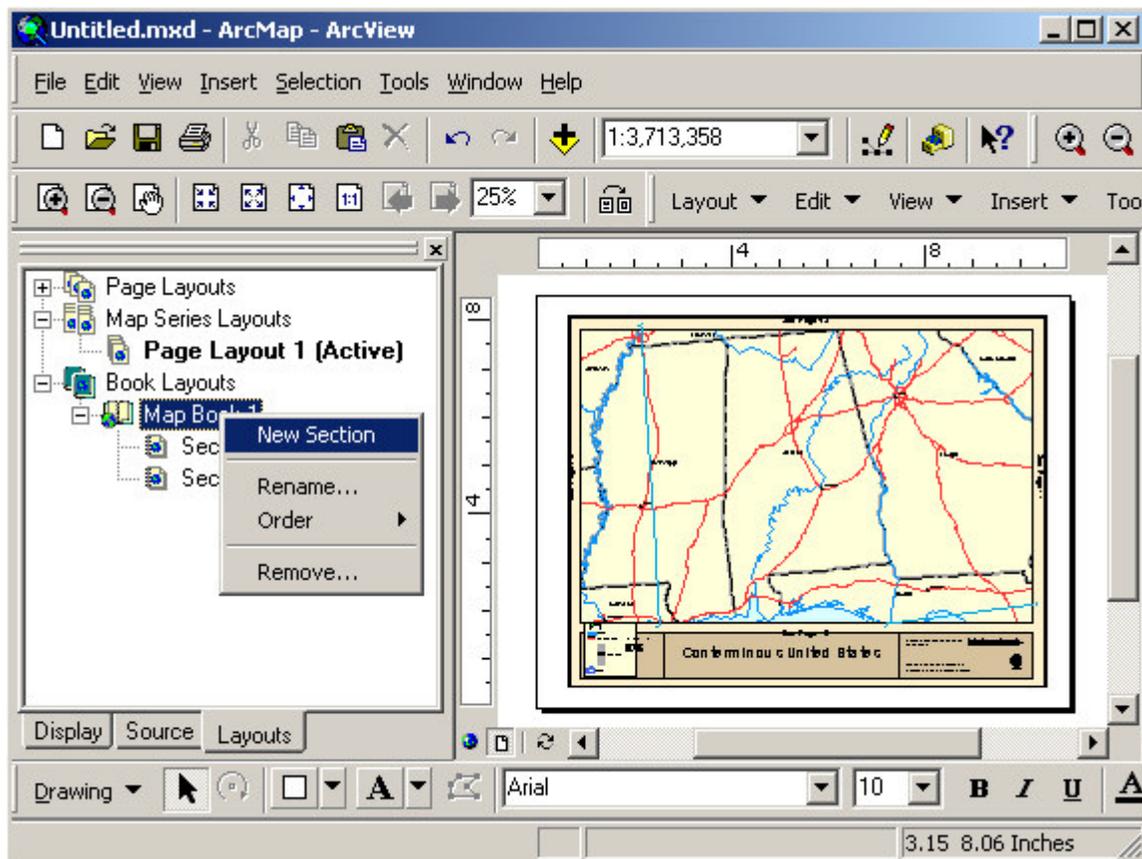
Now that we have an overview of how map books are stored in ArcMap, let's go get started on putting together a map book. We are going to build on what we have done in the previous chapters by creating a map book of US states.

Setting Up The Structure Of A Map Book

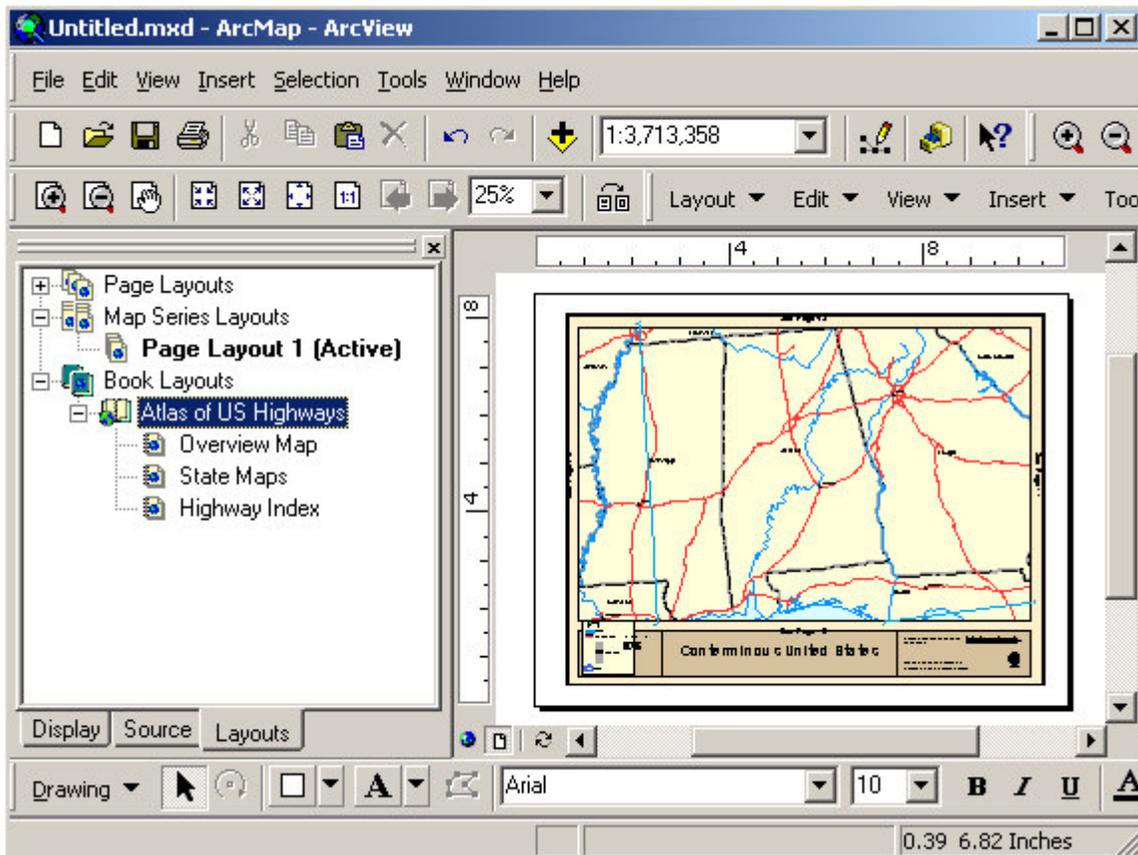
To begin with, let's create a new map book. You do this by right-clicking on Book Layouts in the Table of Contents and selecting New Book Layout.



Let's say we want our map book to have three sections; the first containing a key map (an overview); the second containing our map pages; and, finally, an index of interstate highways and their locations. To add 3 sections to the map book, right-click on our newly created map book and select New Section three times.



Just so as not to confuse ourselves, right-click on each section and give it a more appropriate name. While we are at it, we might as well re-name the map book too.



At this point we have the general structure of our map book, but the sections are empty. So we need to define the contents of each section.

Adding A Map Series To A Map Book

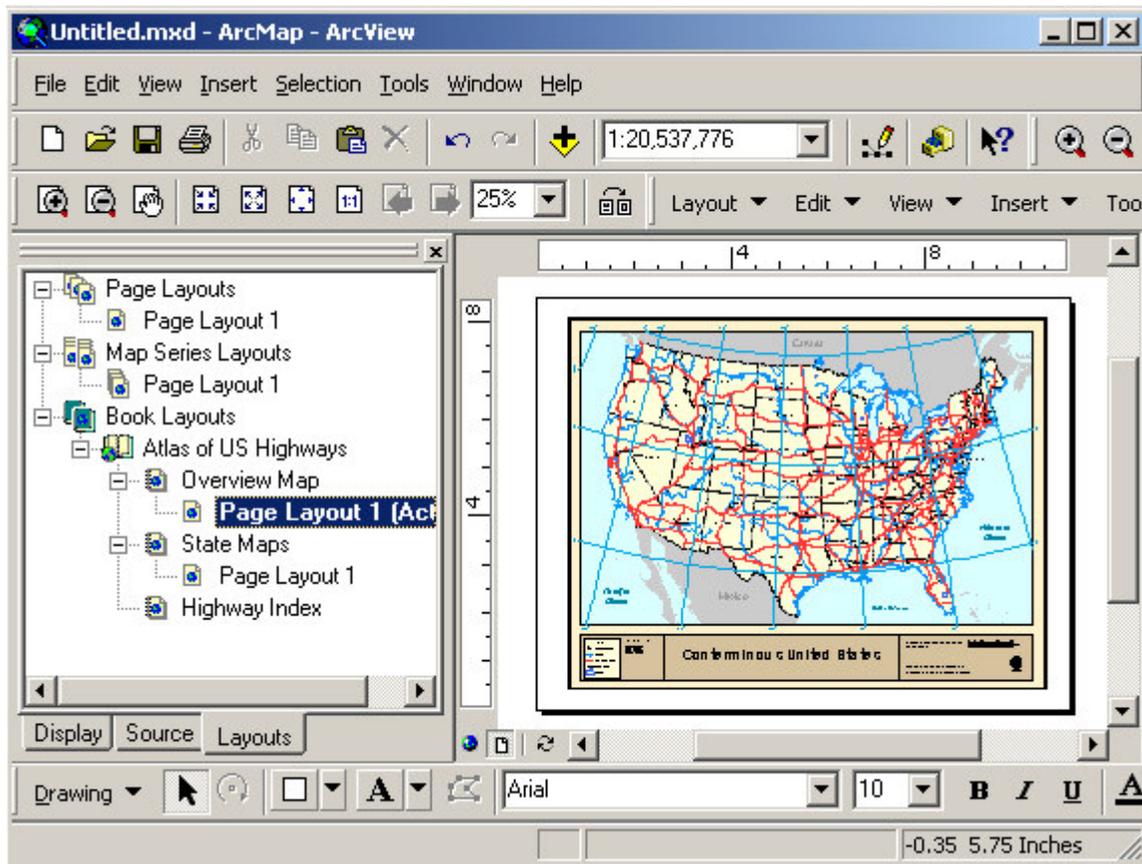
Normally, you would create a new layout and setup its map properties to add a new map series to a book. However, the steps are the same setting a map series layout. So let's make use of the work we did in the previous chapters by copying our US States map series and pasting it into the State Maps section. As before, right-click on the layout we want to copy and select Copy from the popup menu, then right-click on the appropriate section and select Paste.

Since we have already setup the map series properties of the layout, we don't need to do anything more to the template for this section.

Adding A Key (Overview) Map To A Map Book

Now lets work on creating an overview map. If you remember, back at the beginning of this whole process we started with a page layout which had a map of the conterminous United States. In order to simplify our work, lets go back to that layout and copy it to our Overview Map section. Once you have copied the layout into the Overview Map section, activate it so we can modify its settings.

At this point, your ArcMap section should look something like this:

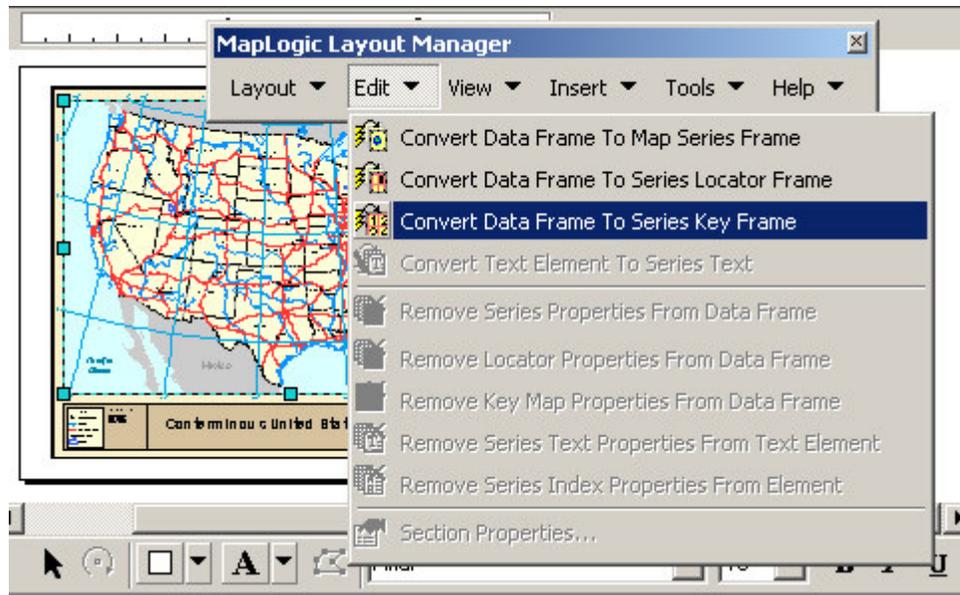


Now that we have a layout for our overview (key) map, let's go ahead and setup its properties so it will display the page numbers in our map book.

To complete this task we need to do two things:

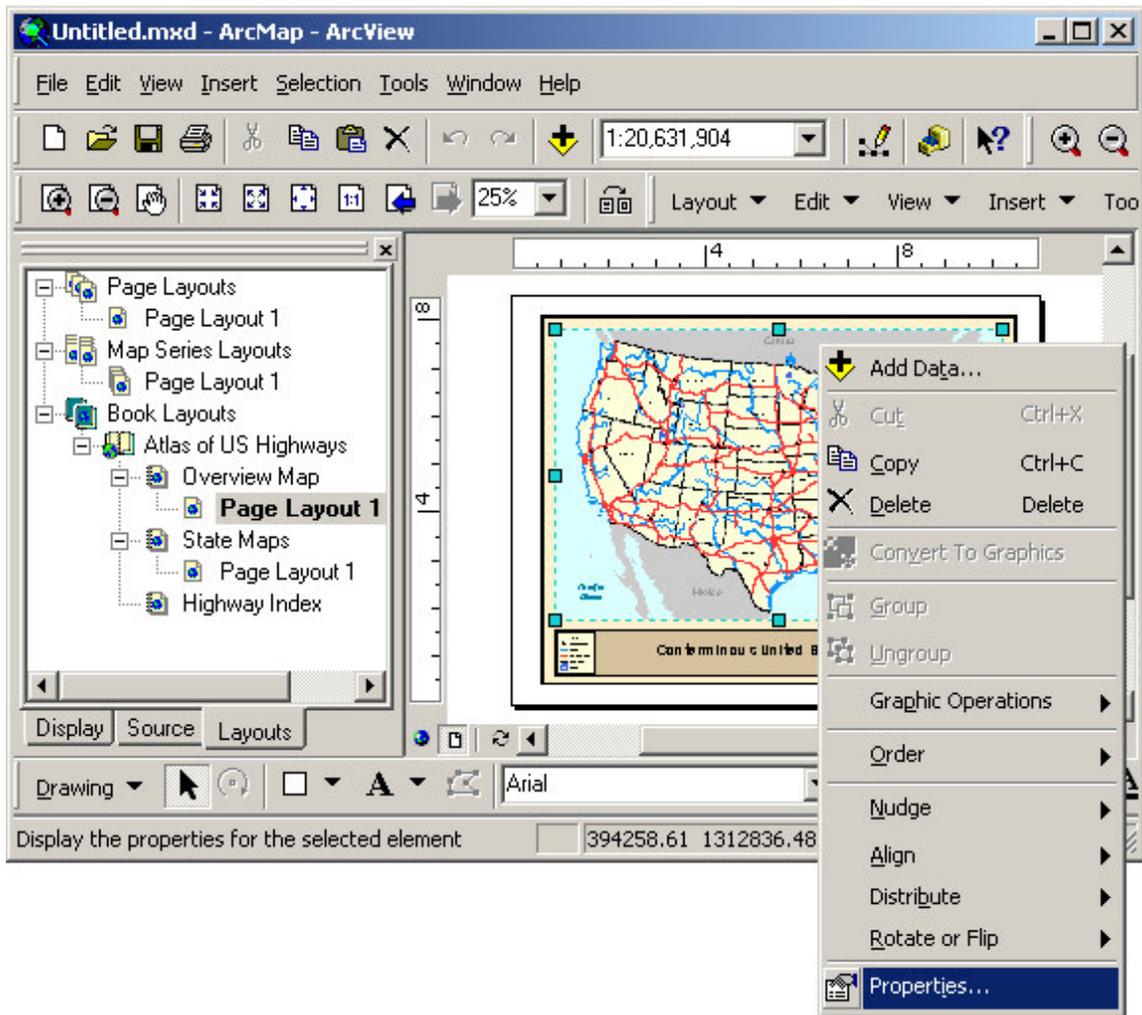
1. We need to tell the extension that the map is a key map.
2. We need to set the parameters of the key.

To convert the map from a regular map to a map series, we need to select the map frame (data frame) and then select **Edit\Convert Data Frame to Series Key Frame** on the *MapLogic Layout Manager* toolbar.

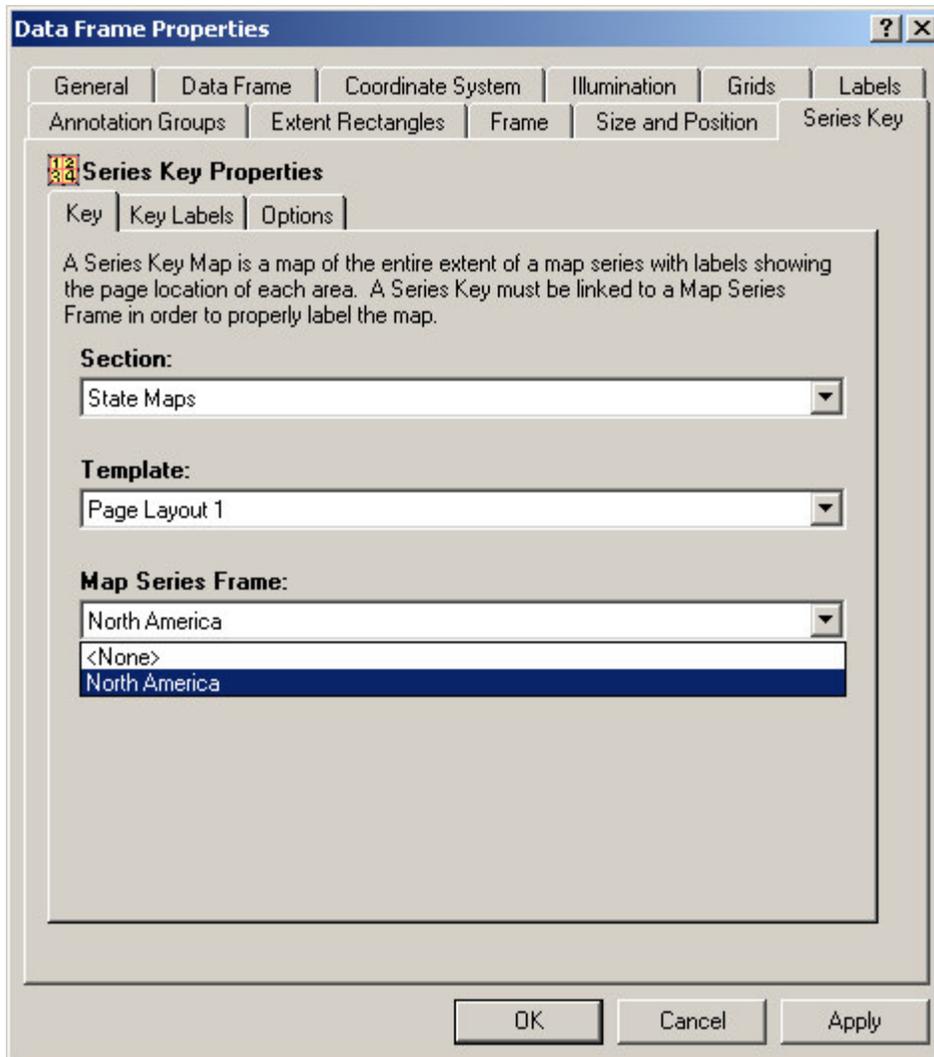


By converting the data frame to a series key frame, we are telling the extension that this map is going to show on what page a detailed map of each state can be found. However, we still haven't told the extension what map series this key map belongs to.

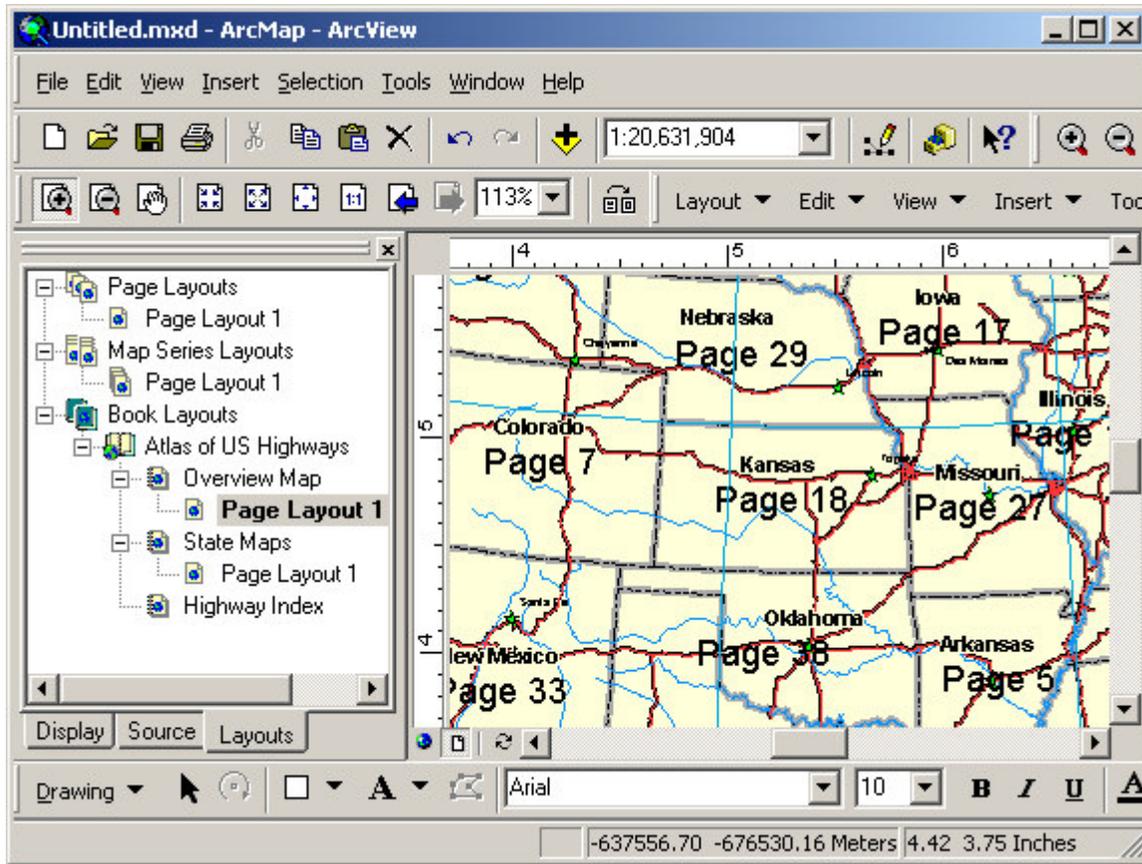
How do we tell the extension what map series this key belongs to? When we converted the data frame to a series key frame, a new tab was added to the properties of the frame. We need to edit the properties of the key frame and link it to our map series of state maps. To edit the series key frame's properties, double-click on the frame or right-click on the frame and select "Properties...".



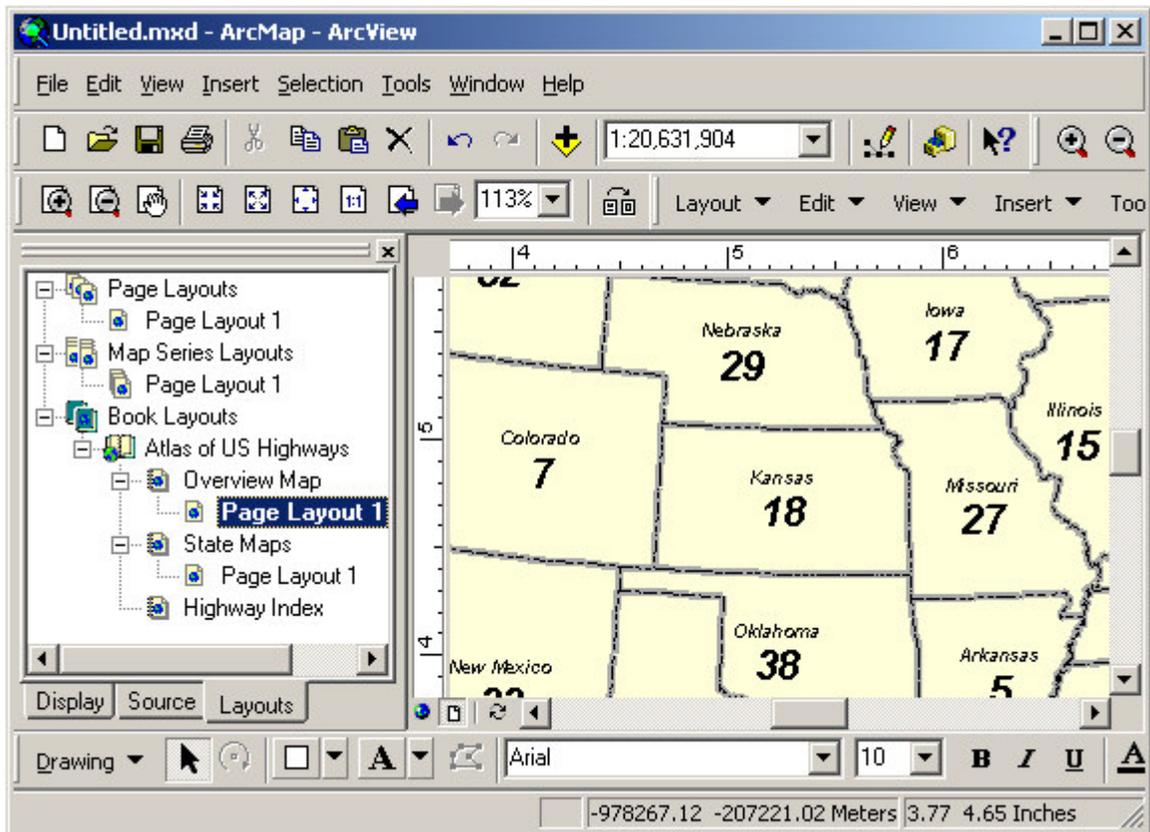
Once the properties dialog is visible, click on the Series Key tab to modify the properties of the key map. Select the appropriate Section, Layout and Map Series to link the key map to and click OK.



After clicking OK, you will notice that labels have been added to the map depicting the page location of each state. You might need to zoom in on the map to see this a little better.



At this point, we have created an overview or key map for our map book. However, the map needs some clean up to give it a more professional look. Some of the unnecessary layers and labels should be removed. The key label text and font might be modified. We will leave these changes for you to explore. For example, after we cleaned up the map we ended up with a map that looks like this:



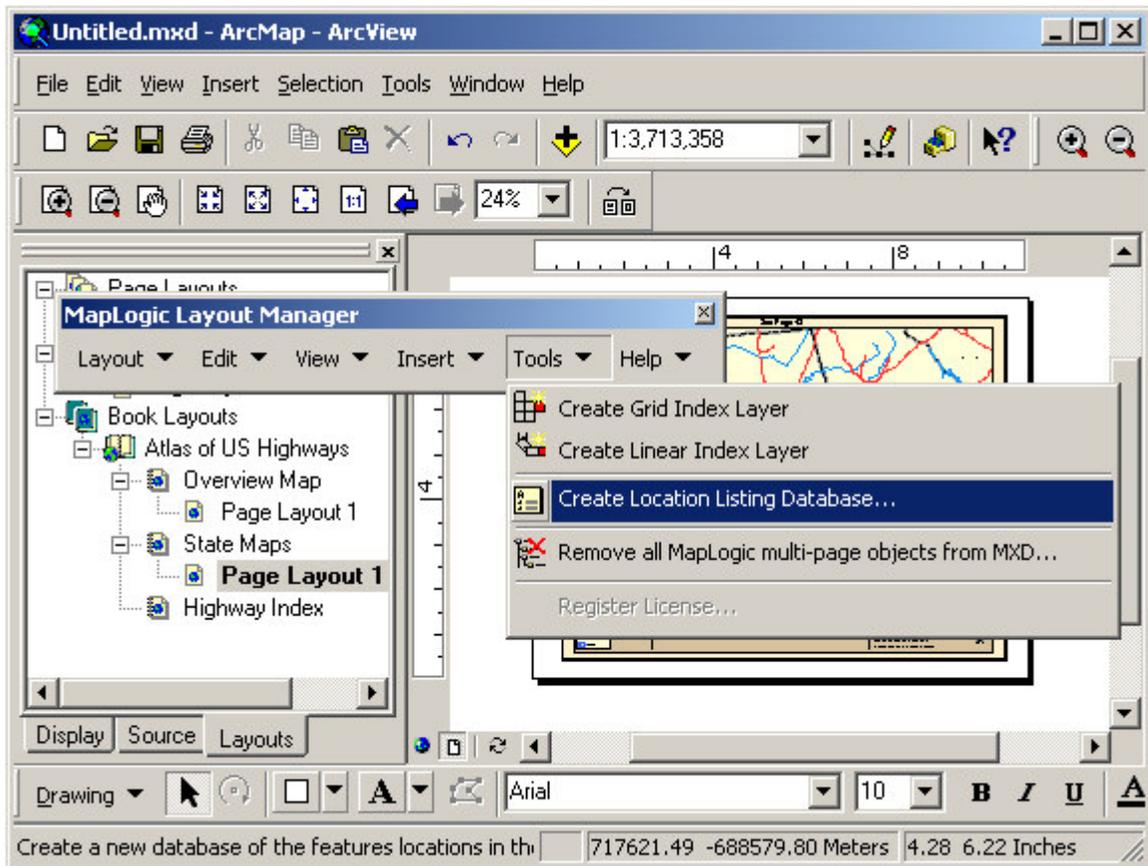
Now that we have our map series and key map, we will next explore the process of creating an index of US highways.

Creating A Series Index

The last step in our example map book is to create an index of US highways. This is a two step process. First we need to create a database of highways and the pages they appear on. We call this a Location Listing Database. The second step is to take that database and put its contents in a layout for printing.

Creating A Location Listing Database

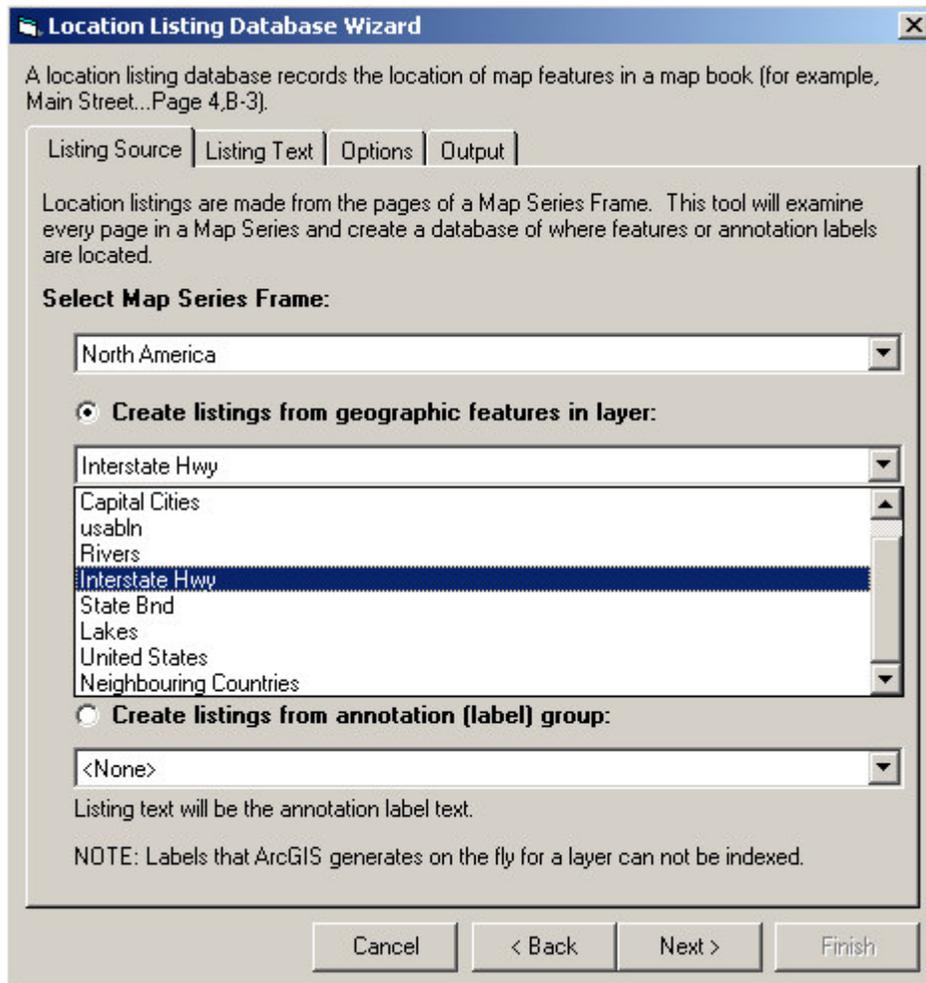
To begin the process we need to activate the section in our map book containing the map series we are going to index. Once the layout is active select **Tools>Create Location Listing Database...** from the *MapLogic Layout Manager* toolbar.



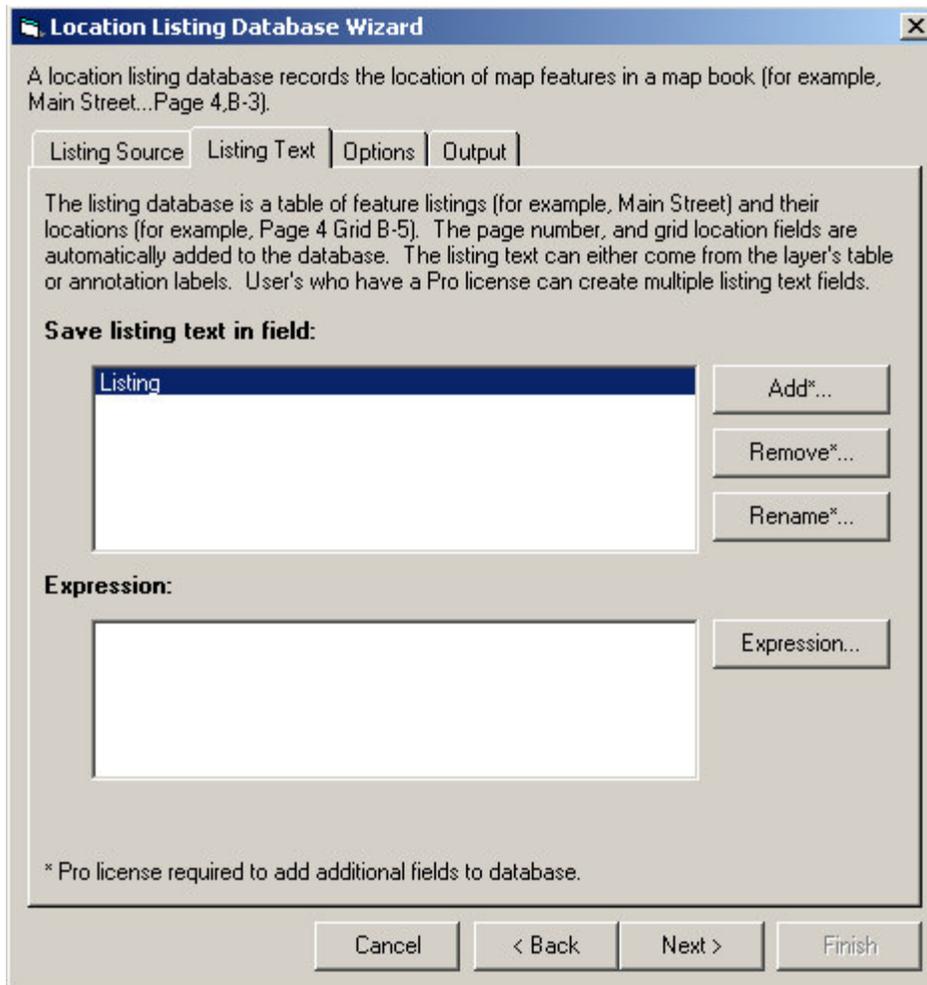
This will bring up the Location Listing Database Wizard dialog. In this dialog we are going to setup the process for creating the database. We need to define the following parameters:

1. The source for the listings. This will include the map series that we are indexing as well as the layer inside the series containing the map features we would like to index.
2. The expression for the listing text. We need to tell the tool where the text for the listings can be found.
3. Any option that we may choose to implement.
4. A file name where the results should be stored.

The first tab in the Wizard allows us to set the source of our index. Select the North America map series and the Interstate Hwy layer for indexing.

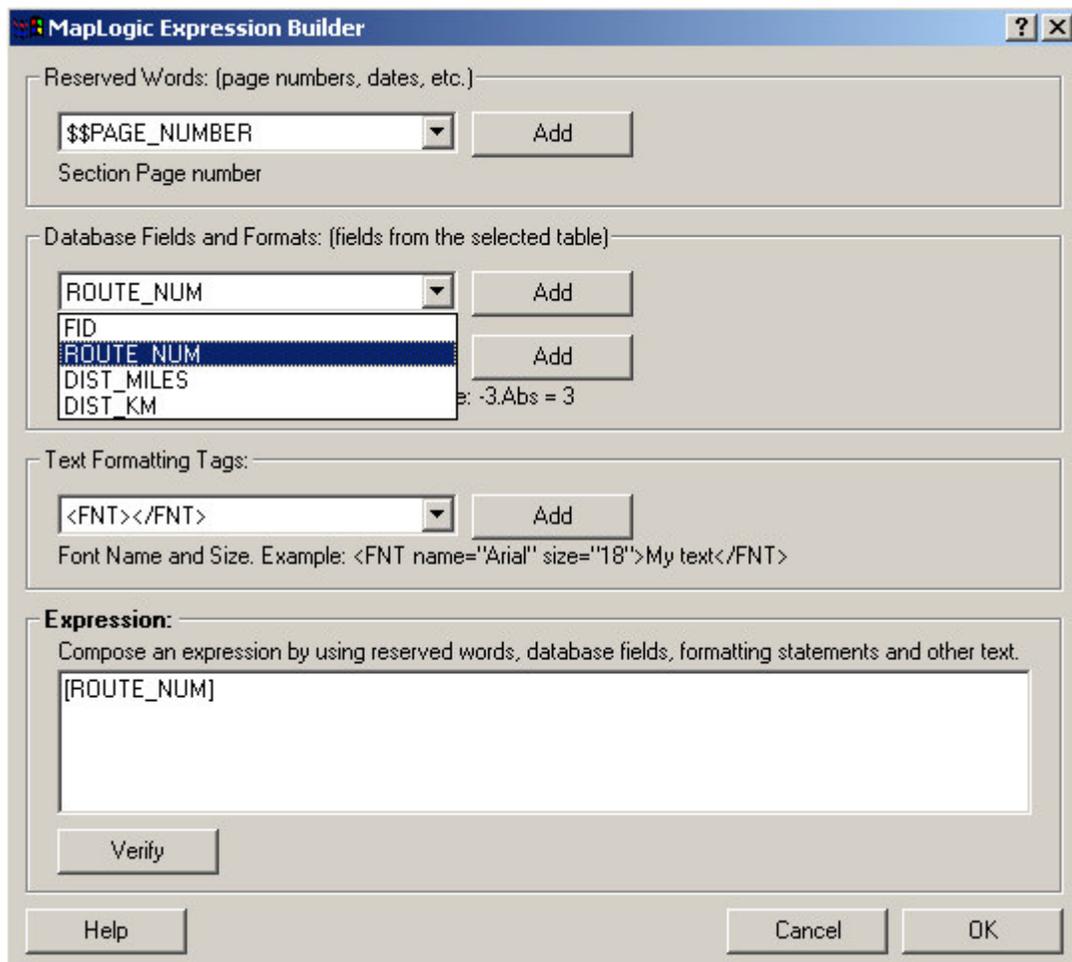


Next we need to setup the expression which determines the text of the listing. Click the next button to go to the Listing Text tab.

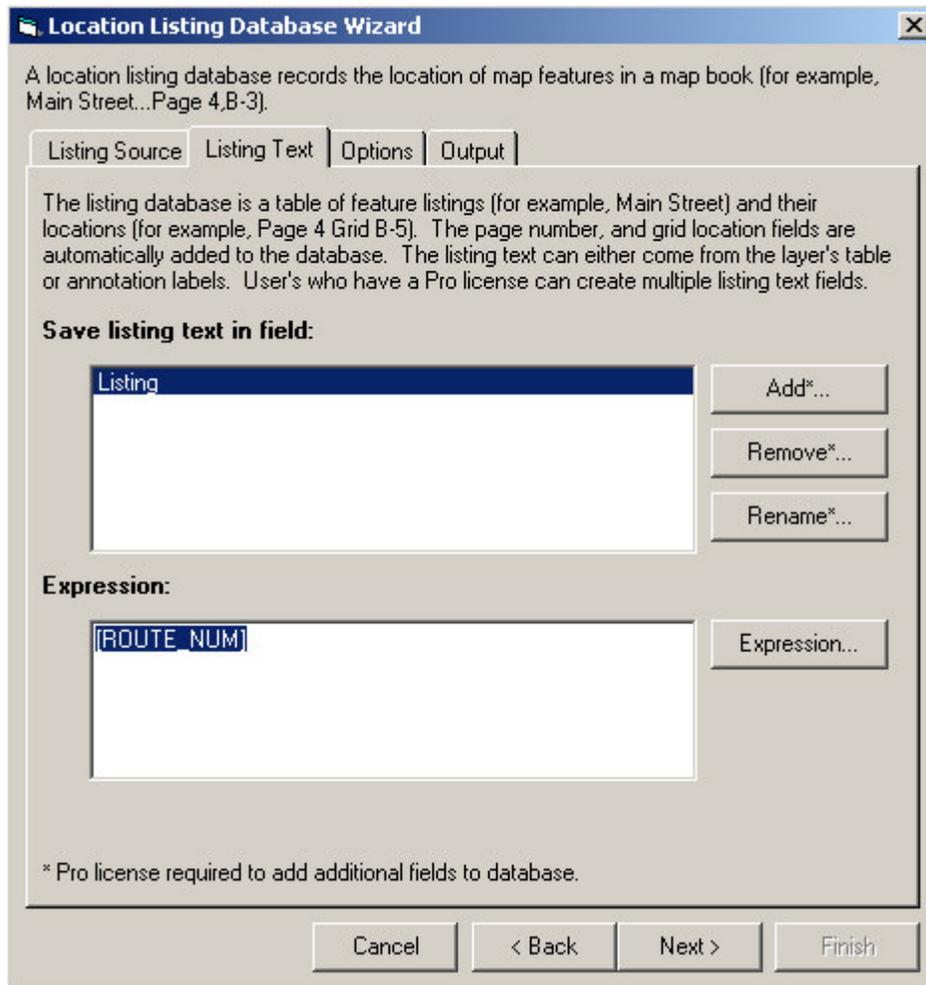


As you can see, the tool is going to save the listing text in a field called Listing. However, we do not have an expression for the text of the listing. Click the Expression button to continue. You will be presented with the MapLogic Expression Builder dialog. As you will find out the more you use the extension, this dialog appears in many locations. Whenever we need to define the text of a label on the map, a column in our index or any other text that changes from page to page, we use the MapLogic Expression Builder.

In our indexing example, we want to use the highway route number in our index. Select ROUTE_NUM from the list of available database fields and click the Add button to add it to the expression.

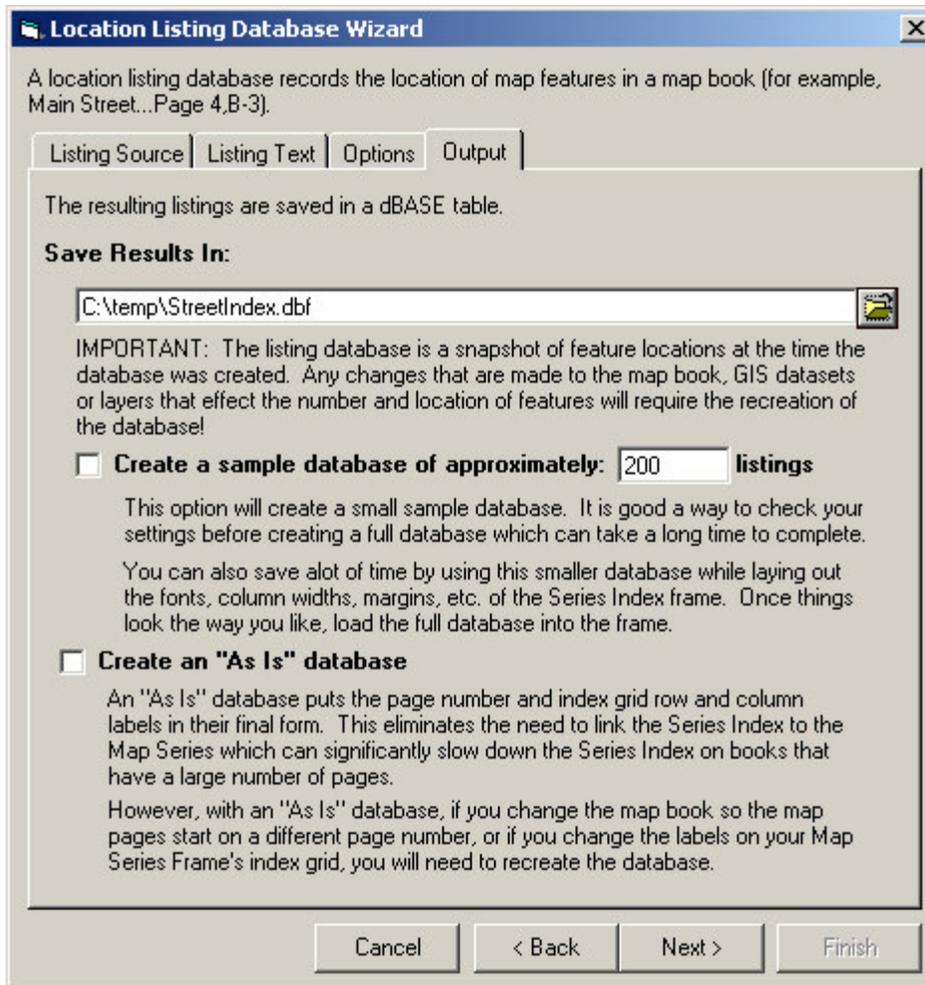


As you can see from the dialog, you can create an expression that combines multiple fields and other information. However, in our example we are done with the expression. Click OK to close the expression builder dialog. You should now see the newly created expression in the Wizard.



We are not going to modify any of the default options on the dialog, so click Next twice until you get to the Output tab. We need to tell the dialog where to save the results of our indexing. Click the folder button and select a name and location to save the database file. Don't forget where you put this file, since we are going to have to get to it later in the process.

Also, notice that you have the option of creating a small test index to make sure you have set up everything the way you want. Indexing can be a very long process. The Wizard needs to examine every page of the map series to determine what features need to be indexed, so it's a good idea to always run a test before you create the final index. In our example, we are creating a pretty small index so there is no need to create a test version.



Once you have selected the database file, the Finish button should become enabled. Click Finish to begin indexing. Note the progress of the indexing on your ArcMap status bar. Once the process has ended, you will see a table of listings and their page locations.

	OID	Listing	Page
▶	0	I10	1
	1	I110	1
	2	I12	1
	3	I124	1
	4	I16	1
	5	I165	1
	6	I185	1
	7	I20	1
	8	I220	1
	9	I24	1
	10	I24 N	1
	11	I240	1
	12	I26	1
	13	I285	1
	14	I295	1
	15	I310	1
	16	I359	1
	17	I385	1
	18	I40	1
	19	I459	1

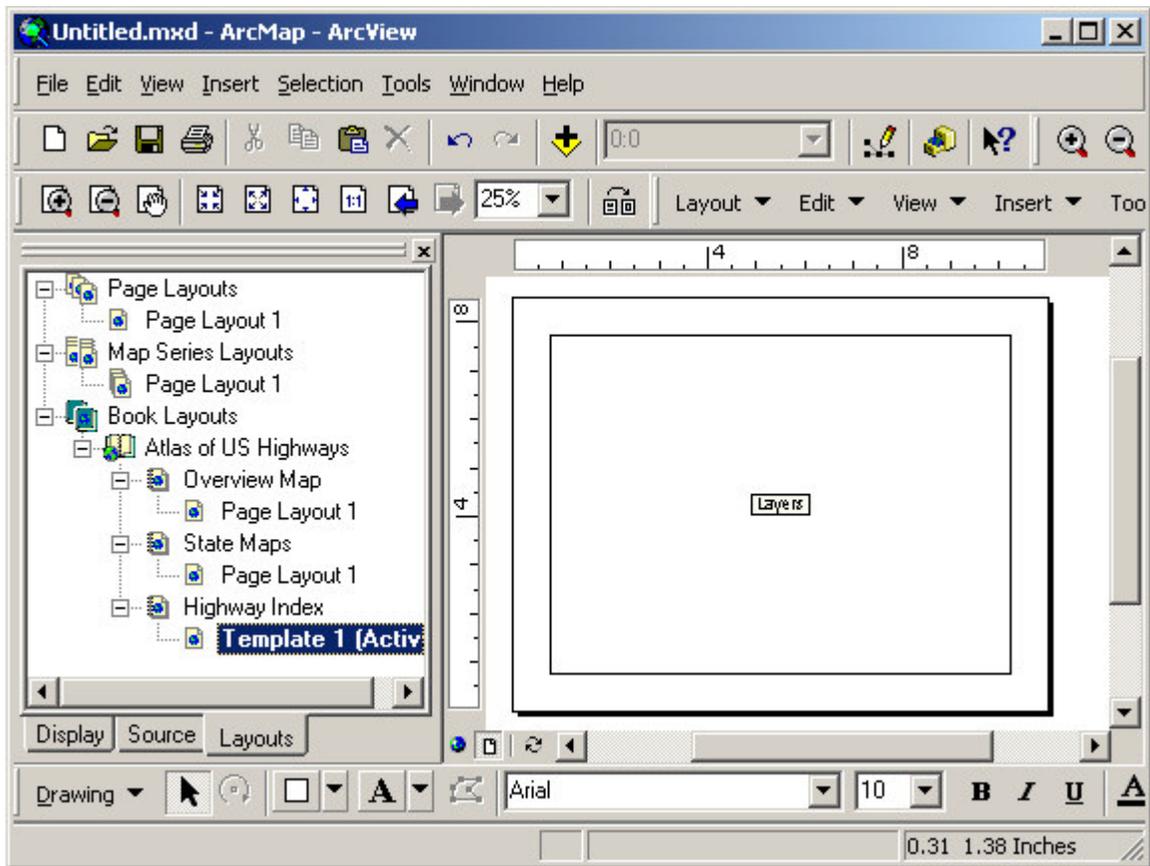
Record: Show: Records (0 out of 1314 Selected.)

You have probably noticed that there are a lot more listings than you expected. You may also notice that many listings are duplicates, but don't worry. Once we put the database in a layout, these duplicates will automatically be removed.

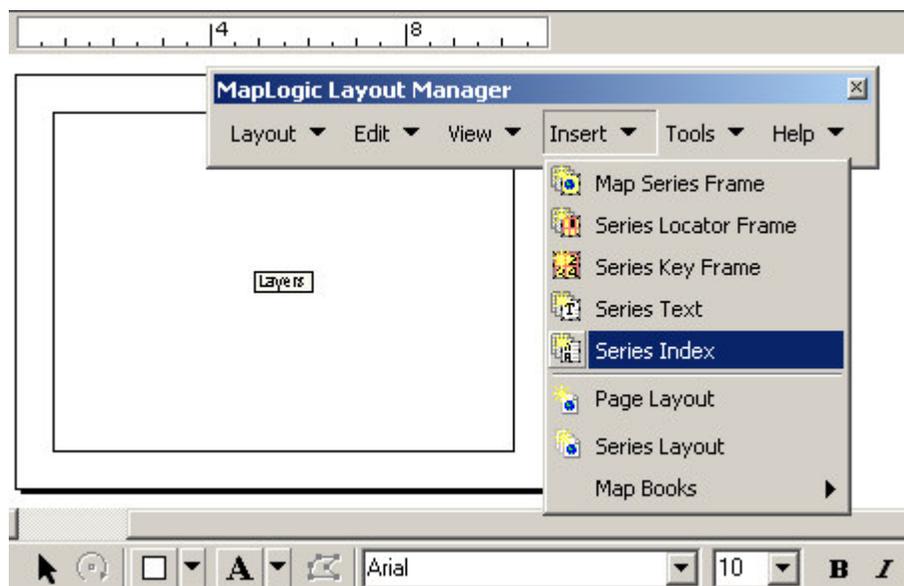
Now that we have our database, we can go to the next step which is including it as part of our map book.

Creating A Series Index Frame

To start the process, let's go to the Highway Index section of our map book. Right-click the mouse and select New Template. Once the template has been created, go ahead and activate the template.



Now that we have created our empty layout, we need to add a Series Index to the layout so that we can display the contents of our listing database. Select **Insert\Series Index** from the *MapLogic Layout Manager* toolbar.



Once the index has been added to the layout, go ahead and resize it to cover most of the page.

You have probably noticed that ArcMap adds a data frame to every layout. Even though we aren't going to be using this data frame, there is no way to delete it. If you delete the frame, ArcMap will create another. However, don't worry, as long as we leave the data frame empty, it won't be displayed at print time. If you would prefer, you can drag the data frame off to the side so that it doesn't get in the way when you are setting up your Series Index.

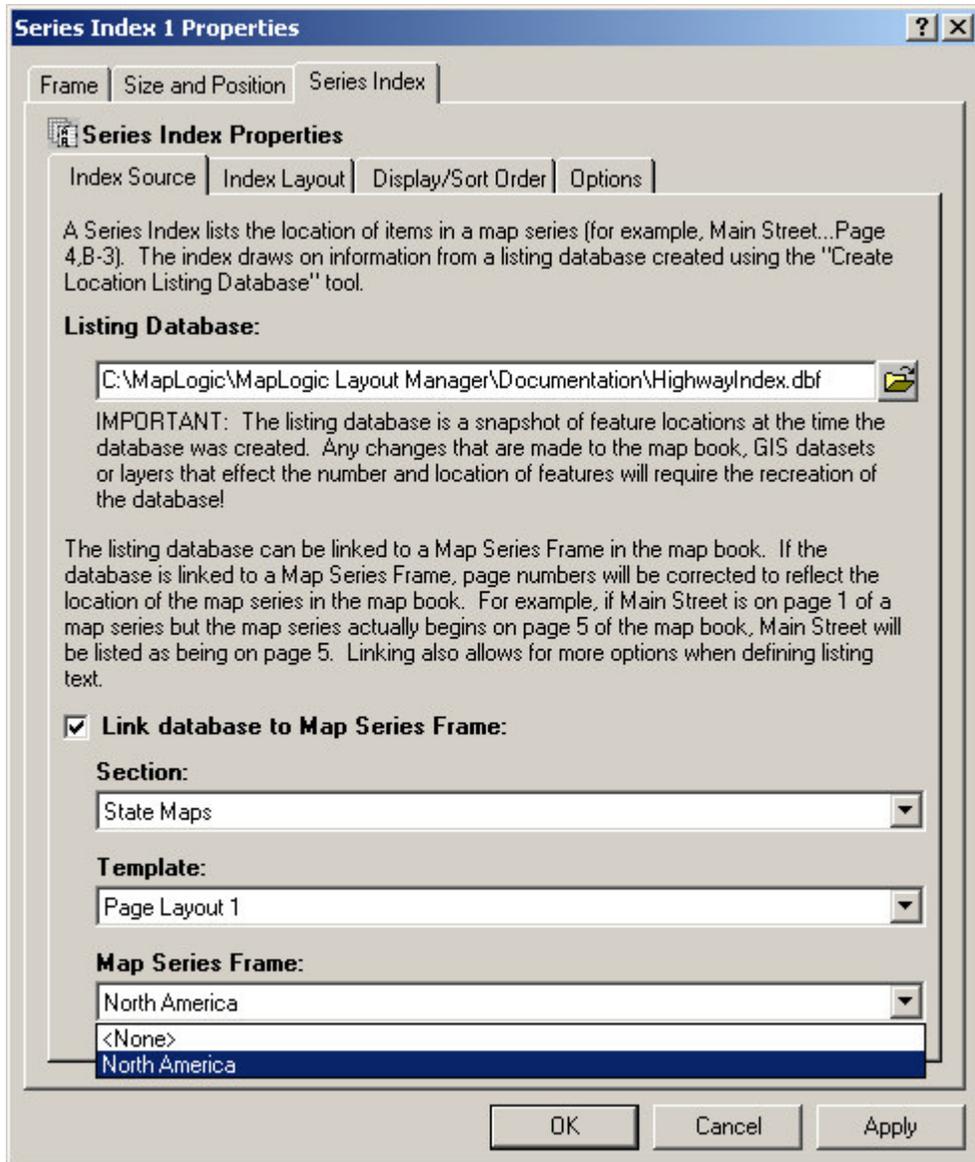
Now that we have resized the Series Index, let's modify its properties. To do this, double-click on the frame, or right click and select Properties... After the properties dialog is displayed, click on the Series Index tab to modify the properties of the index.

The first thing we need to do is to tell the index where the Location Listing Database is located. Click on the folder icon and select the database file we created in the previous step. Once a file is selected, the dialog examines the contents of the database to make sure it is valid and also populates most of the parameters in the dialog based on what it finds.

Once we have selected the database file, the next step is to link the index to its parent map series. Although linking the database to the map series isn't required, by linking the two, the extension will correct the page numbers to reflect the position of the map series in the map book.

For example, suppose Main Street is located on the first page in a map series. In the Location Listing Database Main Street will be listed as being on page 1. However, suppose that the map series doesn't start on the first page of the map book. In our example, we have a key map on page 1 of our map book, so the map series actually begins on page 2 of the book. By linking the index to the map series, the extension will realize this and correct the listing so that Main Street is listed as being on page 2 of the book.

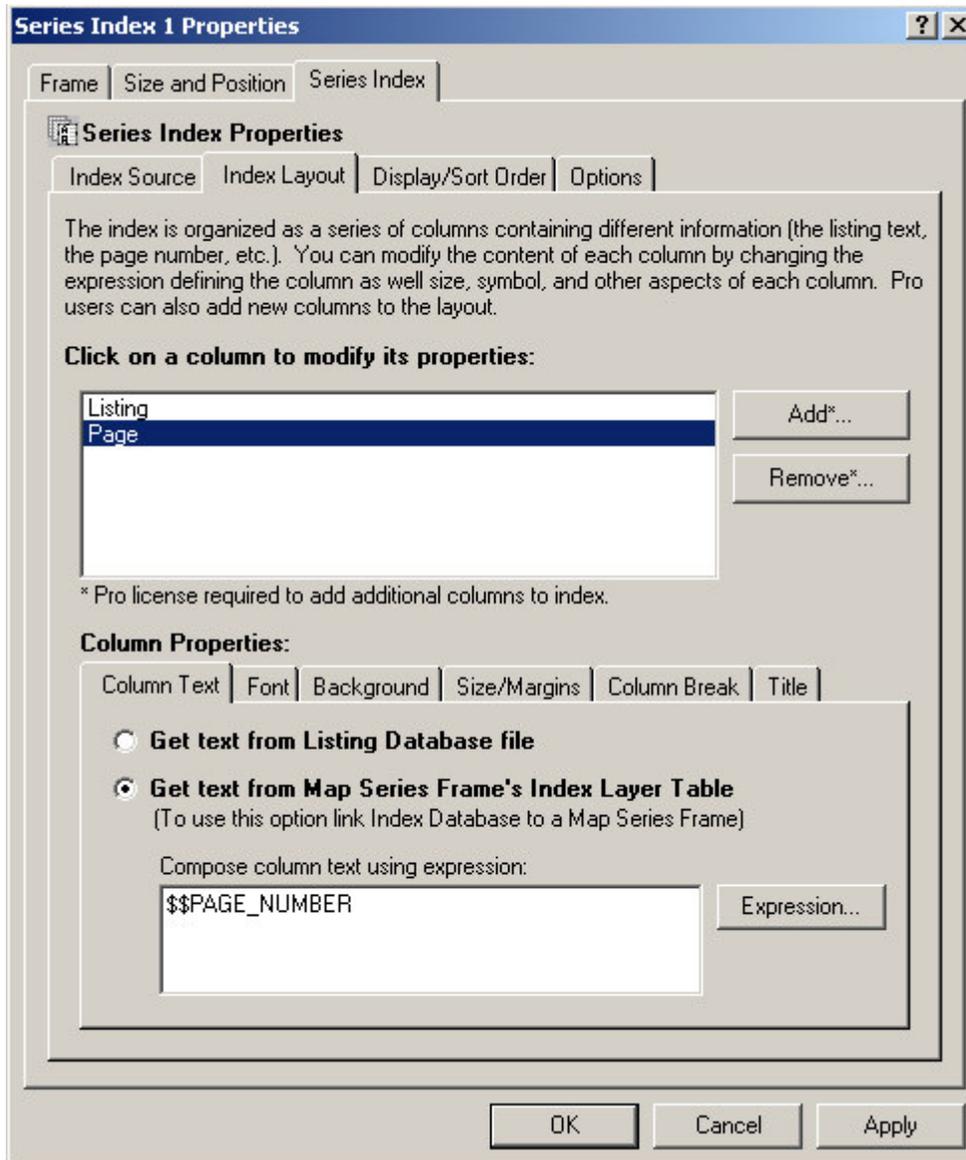
To link the Series Index to the Map Series Frame, check the Link Database to Map Series Frame option and then select the appropriate, Section, Template and Map Series Frame from the drop-down lists.



Next, we need to modify the index layout. The index is displayed as a series of columns containing the listings and their corresponding page numbers. For each column, you can define the column width, the font, the background color and many other parameters. In our case we are only going to modify one item and accept the default values for all the other settings.

To modify the index layout, click on the Index Layout tab.

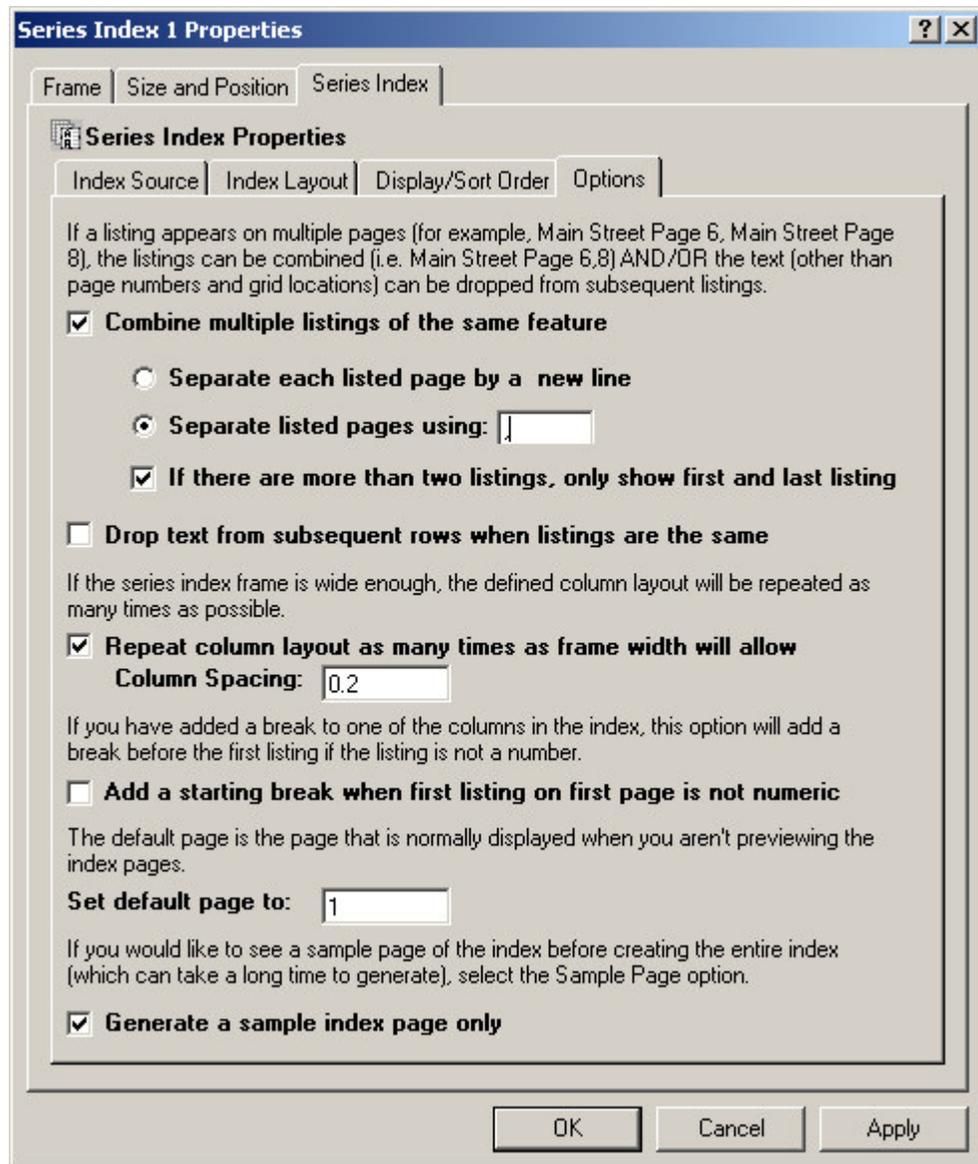
The only property we are going to modify on this tab is that we are going to set the page number so that it is corrected for the location of the map series frame. In order to do this, click on Page in the list of columns and then set the Get Text from Map Series Frame's Index Layer Table option.



This is the only modification we are going to make to the Index Layout. However, you may wish to explore the different tabs for the column properties to see all the changes you can make to the column.

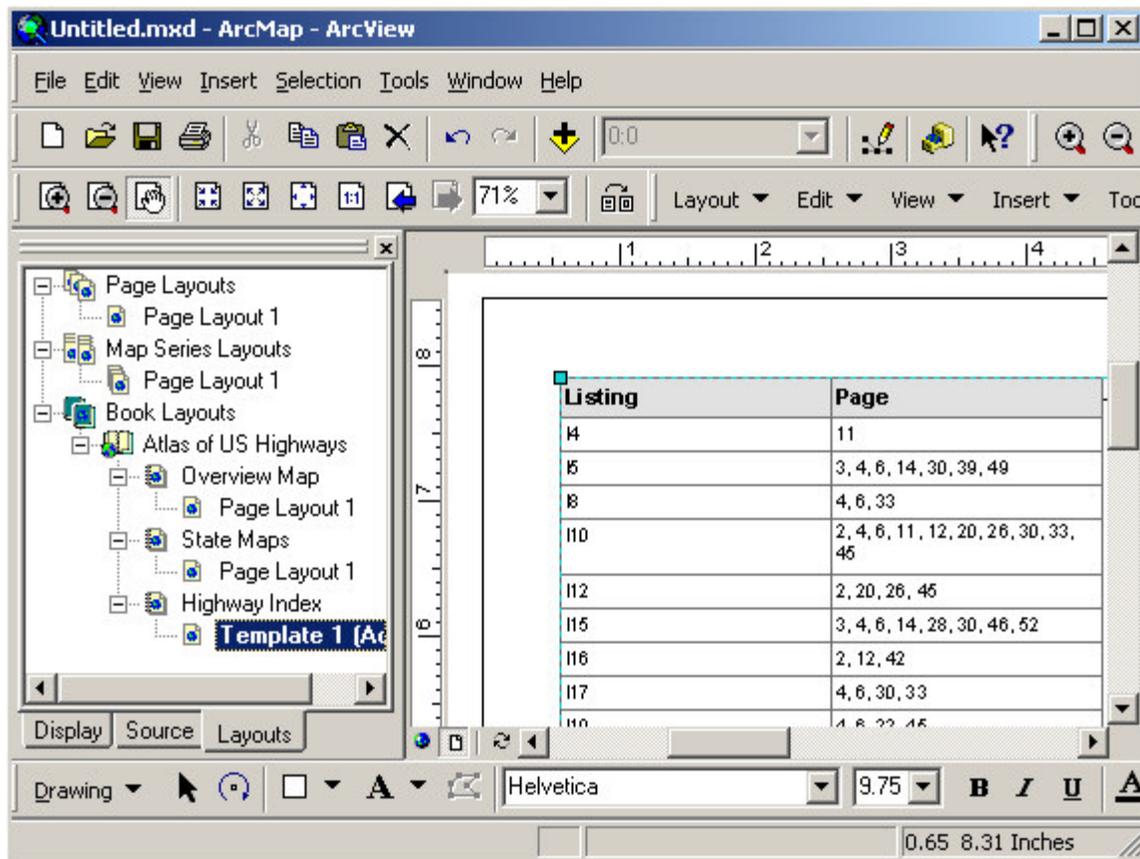
The next tab is the Display/Sort Order tab. This is where you determine how the listings will be sorted and the order in which the columns appear in the index. We are not going to make any changes to this area.

The final tab is the Options tab. Since we know each highway is going to appear on many pages in our map book, we are going to make combine the listings to save some space in the index. Make sure the “Combine multiple listings of the same feature” option is checked and then select “Separate listing pages using:”. By default, the page numbers are separated with a comma (“,”) which is what we will use.



These are the only modifications we are going to make to the Series Index.

Click OK to accept the settings. At this point, the extension is figuring out the appropriate text for each listing in the index, removing duplicate listings, sorting the listings, and then laying out each page of the index. The extension also determines how many pages will be required to print the index. Note the progress of the process on the ArcMap Status Bar. Once the process is complete, you will see your index in the layout.



Just as a map series, you can preview the rest of the pages in the index by selecting **Layout\Preview Pages...** from the *MapLogic Layout Manager* toolbar. To print the map book, select **Layout\Print...** from the toolbar.

This completes our map book creation example. To review our work, we first created a new map book and added 3 sections to our book. We copied a map series to one of the sections in our map book. We then created a key map in another section which showed the location of each page in the book. Finally, we created a database of highway locations and added it to the last section in our map book.

There are many options for each step of this process that we didn't cover. For more information about these options, refer to the *MapLogic Layout Manager User's Manual*.

Creating An Index Layer For A Map Series

(Basic, Advanced and Pro)

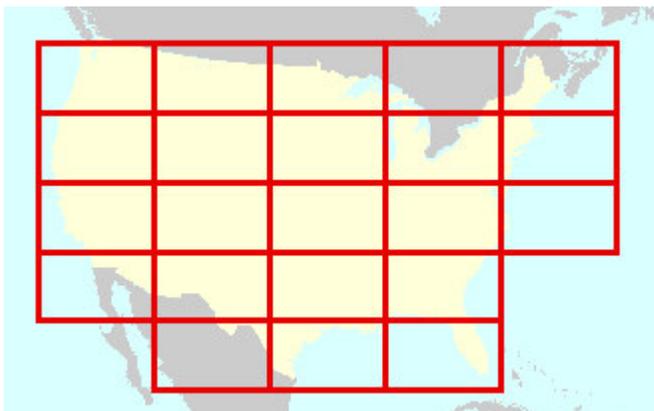
In the previous chapters we created a map series of US states. In order to do this, we selected the state boundaries as our Index Layer. The index layer is a polygon (area) layer in your map where each polygon represents a page in your map series.

Here are some characteristics about an Index Layer:

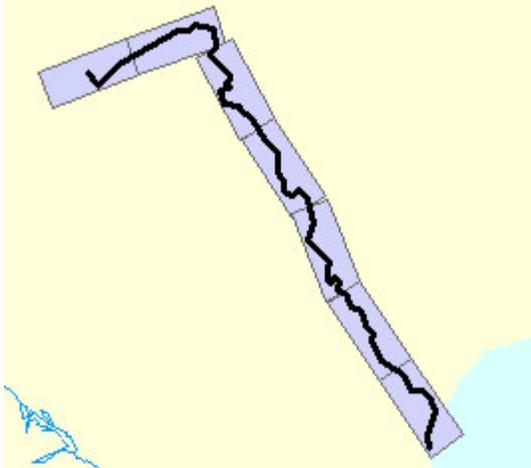
- It must be a polygon layer.
- The polygons don't have to be rectangles. For example, we used the boundary of each state as the Index Layer for an atlas of the United States. However, rectangular indexes often provide the best results.
- The polygons don't have to be the same size or the same shape.
- Not every polygon in the layer has to be a page in the map book.

The *MapLogic Layout Manager* can use any polygon layer as an Index Layer. But what if we don't already have an index layer? The extension provides you with some tools that will create grid and linear index layers for you. If the tools provided by the extension don't meet your requirements, you can always create your own index layer using the layer creation and editing tools provided by ArcMap.

A grid index layer is a grid of rectangles covering an area.



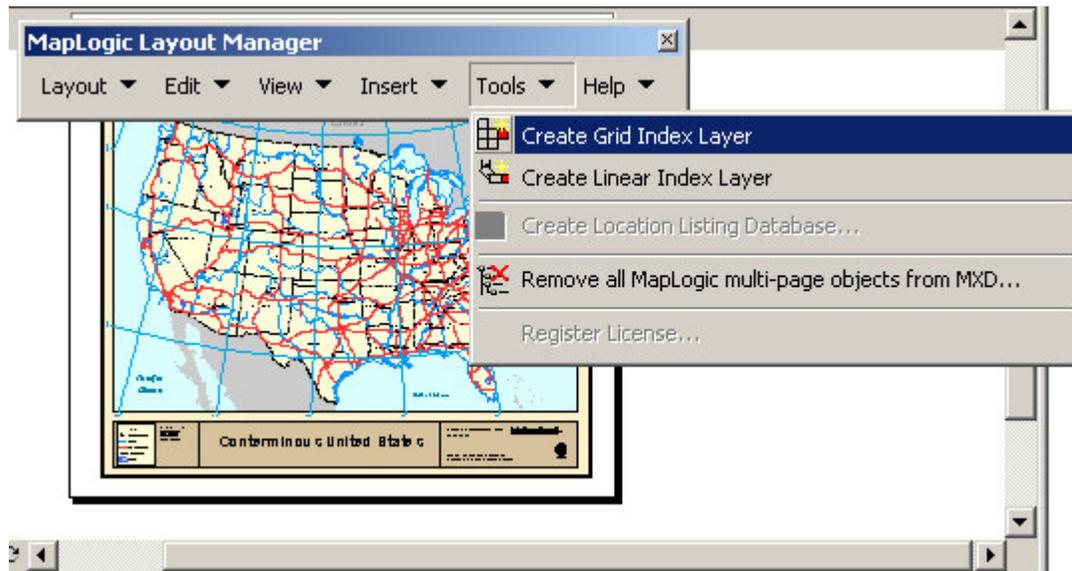
A linear index layer is a series of rectangles following the path of a linear feature.



In this chapter we will go through the process of creating a grid index layer. Creating a linear index layer is similar to creating a grid index layer.

To begin the process, let's go back to the US map that we have been working with throughout this book. We are going to create a grid over the continental United States similar to the one displayed above.

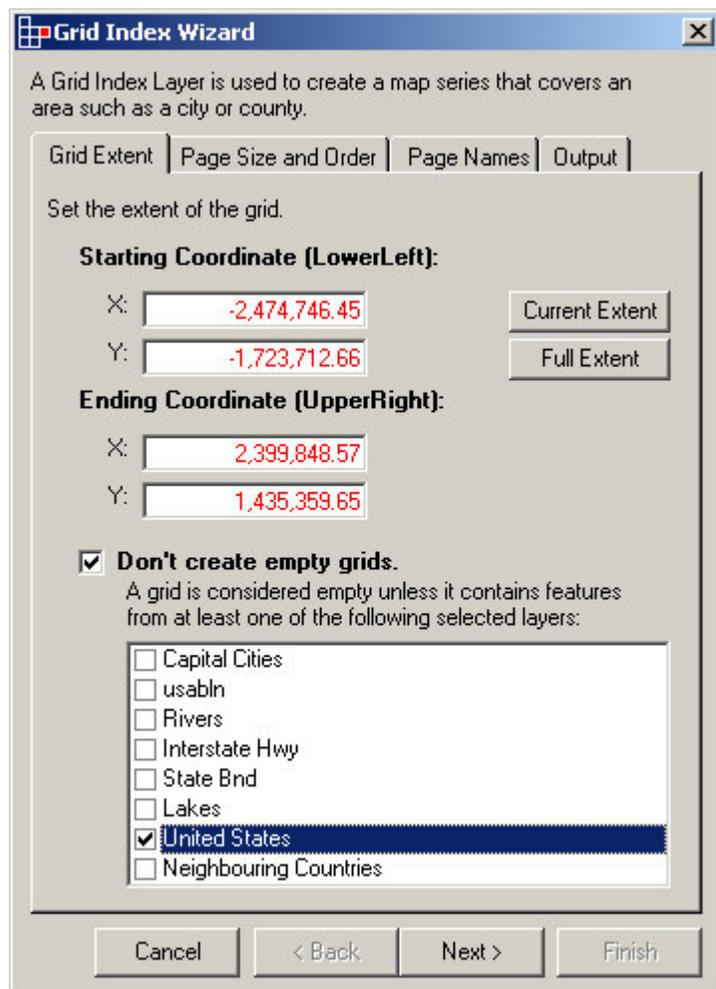
Once you have the map open, let's zoom out so we can see the entire boundary of the continental United States. Select **Tools\Create Grid Index Layer...**



This will display the Grid Index Wizard dialog. In the dialog we must set the limits of where we would like to create a grid for (the grid extent), the size of each grid rectangle, and the file that we would like to store the results in.

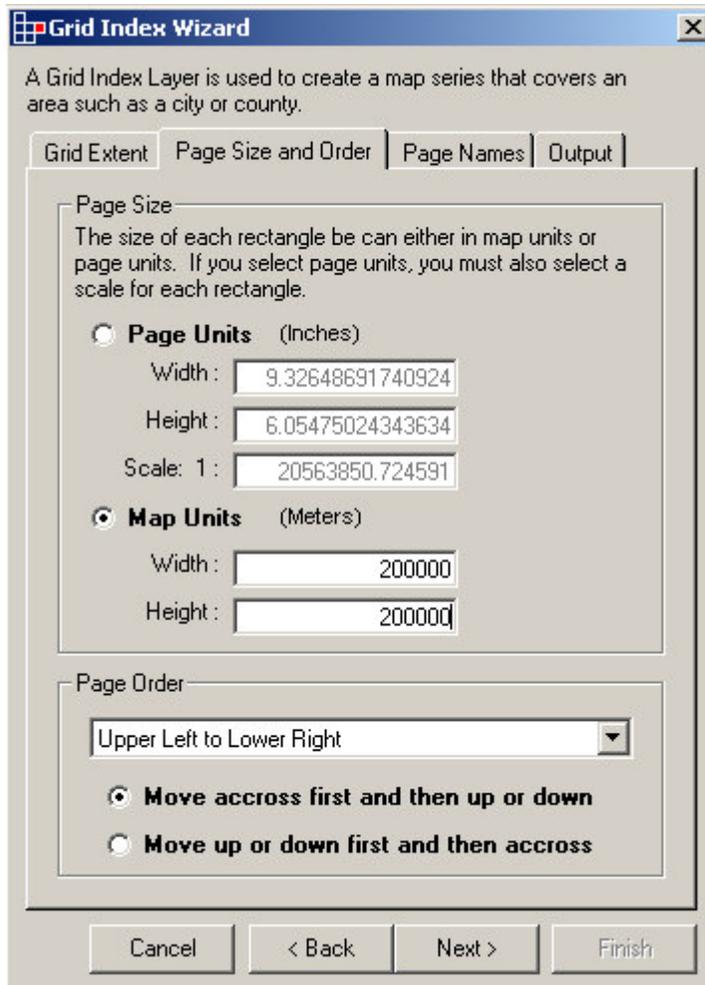
In our example we are going to use the visible area of the map for our grid extent. Click on the Current Extent button. You will notice that the starting and ending coordinates for the grid have now been set to the visible area of the map.

Since we are creating a grid that covers the continental United States, we don't want any grid cells that are entirely outside US Boundaries. To accomplish, this click on the Don't Create Empty Grids option and then select the United States layer.



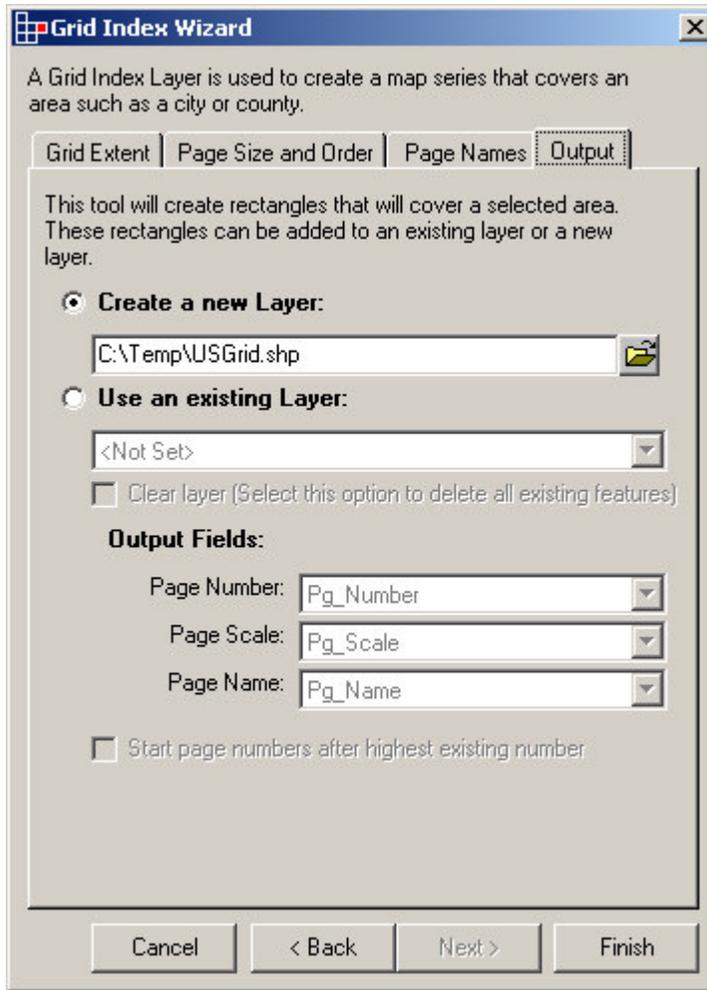
The next step in the process is to set the size of each grid cell and the order that they will appear in the series. Since our map units are in meters, let's make cells that are 200-kilometer squares to keep things simple.

Click the Next button to go to the Page Size and Order tab. Select Map Units and enter 200,000 for both the width and height of our grid. We are going to use the default order of the grid pages which is Upper Left to Lower Right.

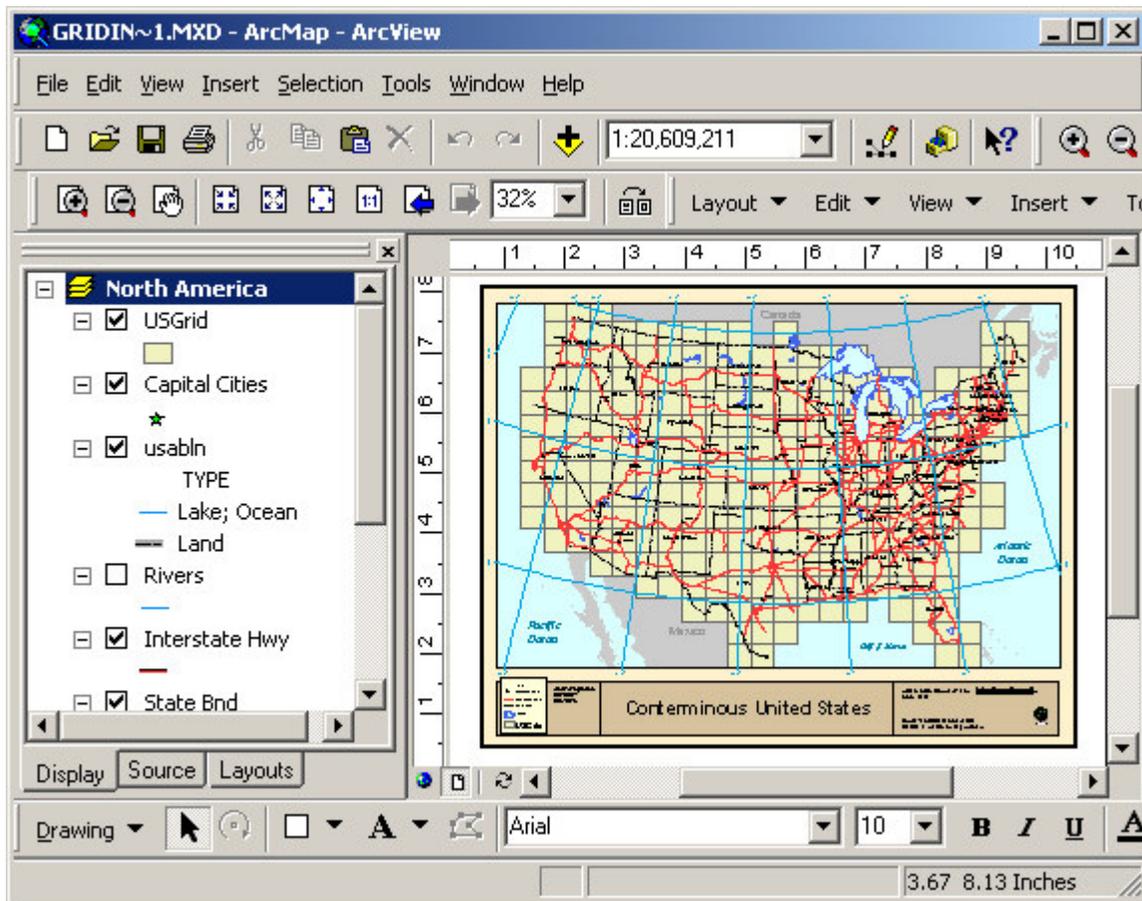


The next step in the process is to assign page names to each cell in our grid. This is an optional step and we are just going to take the default values in the dialog. So click the Next button twice to go to the Output tab.

The Output tab is where we choose a file to store our results in. Notice that you can either create a new file or update an existing layer with the grid. In our example we are going to create a new file. Click the folder button and select a file to store the resulting grid.



Once you have selected an appropriate output file, the Finish button is enabled. Click Finish to create the grid. After the process has ended, you will notice a new layer in your map displaying the resulting grid.



This completes the process of creating a grid index.

Creating A Better Looking Map Series

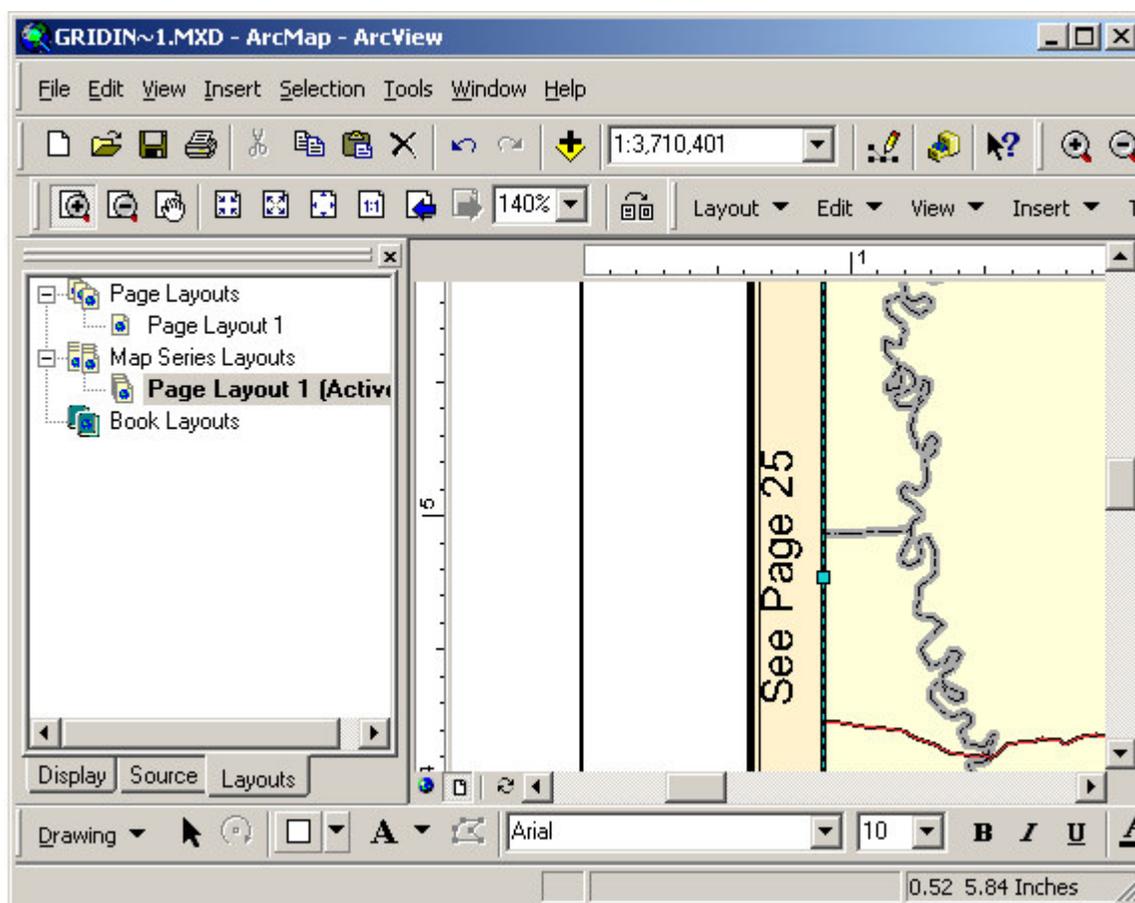
(Basic, Advanced and Pro)

In the previous chapters we created a quick map series using the US state boundary. However, we spent little time on the details of each page in the series. In this chapter we are going to explore some of the tools provided by the *MapLogic Layout Manager* that allow you to further customize the map series. In particular, we are going to learn how to:

1. Add adjacent page labels to each map in the series
2. Add page numbers to the map series
3. Add a locator map to the map series

Adding Adjacent Page Numbers To A Map Series

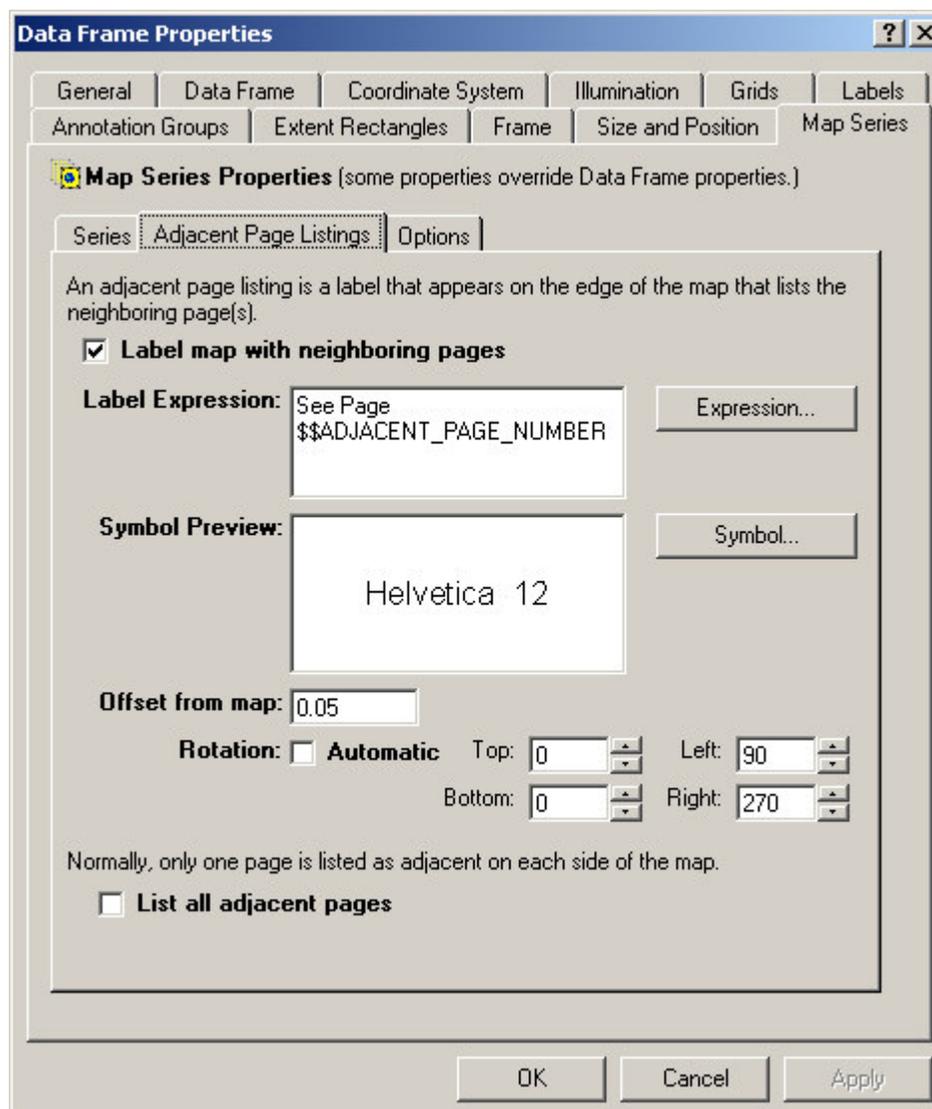
Adjacent page numbers are labels on the edge of the map that tell users what page to go to if the map feature they are looking for goes beyond the current page in the map series. The *MapLogic Layout Manager* automatically adds these labels to a map series. In fact if you look closely to the map series that we created earlier, you will notice the labels on the edge of the map.



Now let's take a closer look at the options available to us when creating these labels. The properties of the adjacent page labels are part of the properties of the map series frame. As we

learned in previous chapters, we edit the properties by double clicking on the Map Series Frame or right-clicking and selecting Properties...

Once you have the properties dialog visible, select the Map Series tab. You will notice that the Map Series tab has three sub-tabs. Click on the Adjacent Page Label tab so that we can see its contents.



As you can see, we have a number of choices when placing adjacent page labels. The first option is the text for the label. As we have seen before, the text of a label is determined by an expression. The *MapLogic Layout Manager* translates this expression into an appropriate label.

By default, the adjacent page label expression is "See Page \$\$ADJACENT_PAGE_NUMBER". Anytime you see something in an expression that starts with \$\$, you are looking at a reserved word. This is a word that the extension understands and substitutes for an appropriate value. For example, in our case, the actual label might look like "See Page 3".

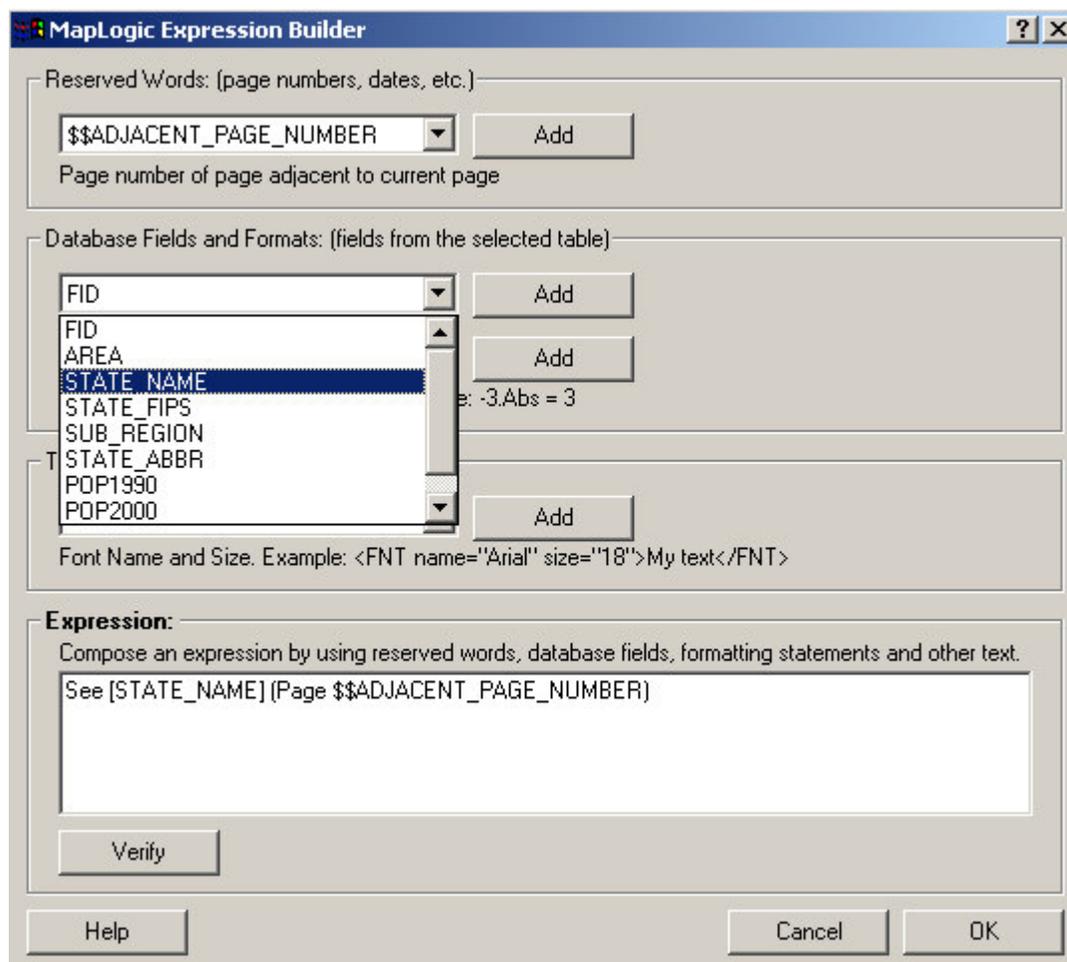
Why use an expression? Well, this allows you to have total control over what the label says. Suppose you prefer the label to say "Go To 3". All you would need to do is to change the expression to say "Go To \$\$ADJACENT_PAGE_NUMBER".

Now, let's suppose that for our US State map series we would like the label to say something like "See Mississippi (Page 25)". In this case, we need to create an expression that not only has the page number, but also the state name. In order to create this expression we need to extract information from our index layer which has the boundaries of each state.

In our case the expression that we need will look like:
See [STATE_NAME] (Page \$\$ADJACENT_PAGE_NUMBER)

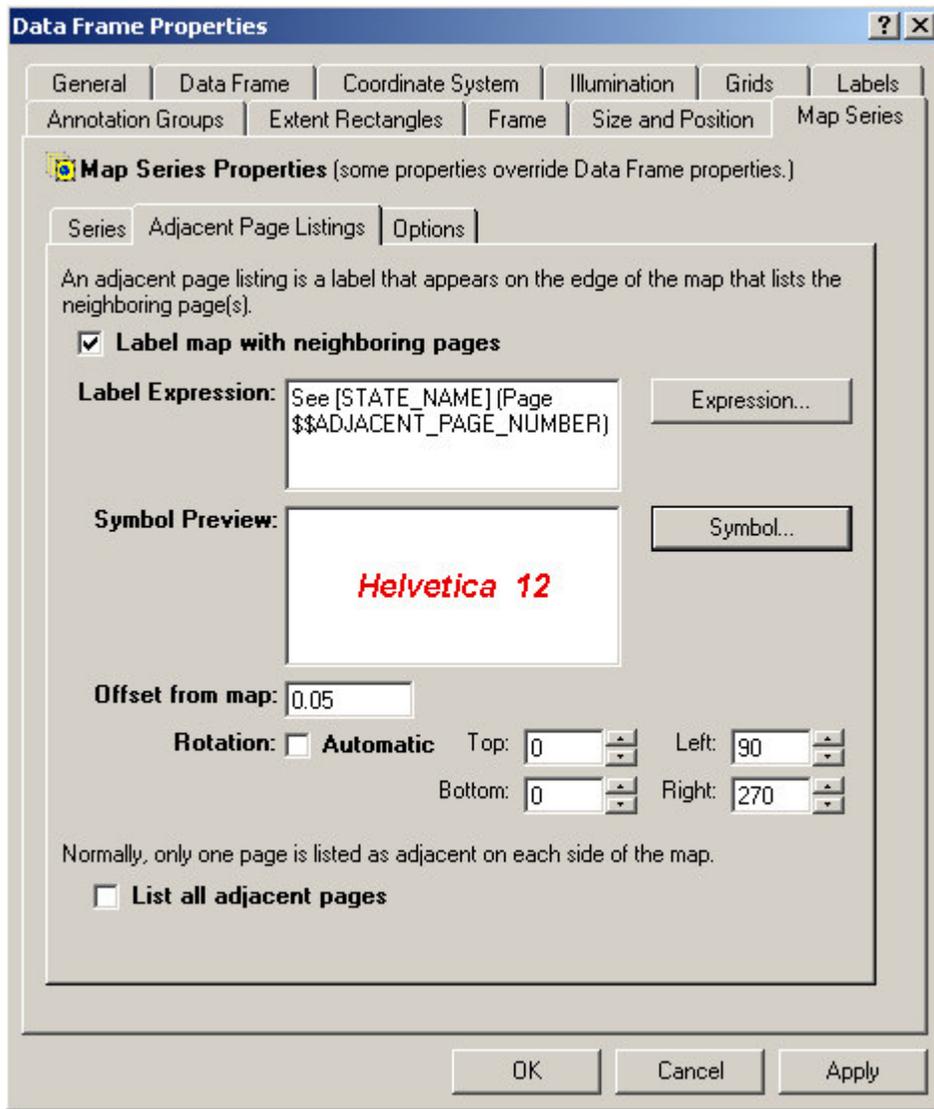
Anytime we use brackets "[]" around a word, the extension interprets this as being the name of a field in the table. So, in this case we, are telling the extension to look in the STATE_NAME field in the index layer's table.

We are going to leave further explanation on building expressions to the User's Manual. Fortunately, the extension provides you with an expression builder that makes building expressions much easier. To display the expression builder click the Expression button.

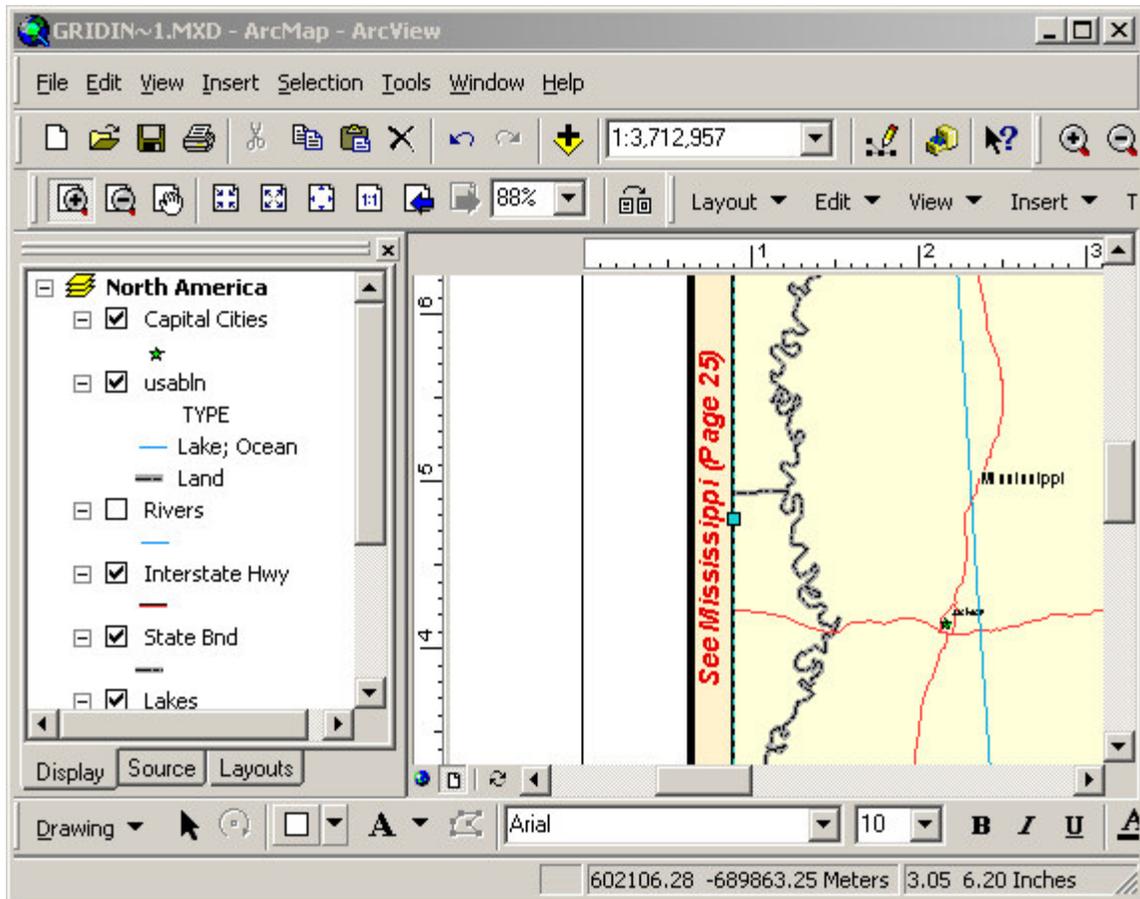


The expression builder presents you with a list of reserved words and database fields that you can drop down into the expression by selecting each item and clicking the Add button. Once you are done composing the expression, click the OK button to accept the expression.

We can also change the text symbol used for the adjacent labels. To change the label symbol, click the Symbol button and select the symbol. In our example, we have selected a red bold/italic label.



There are also some options about the distance of the label from the map as well as the label angle. We aren't going to make any changes to these options. Click OK to apply the label properties.

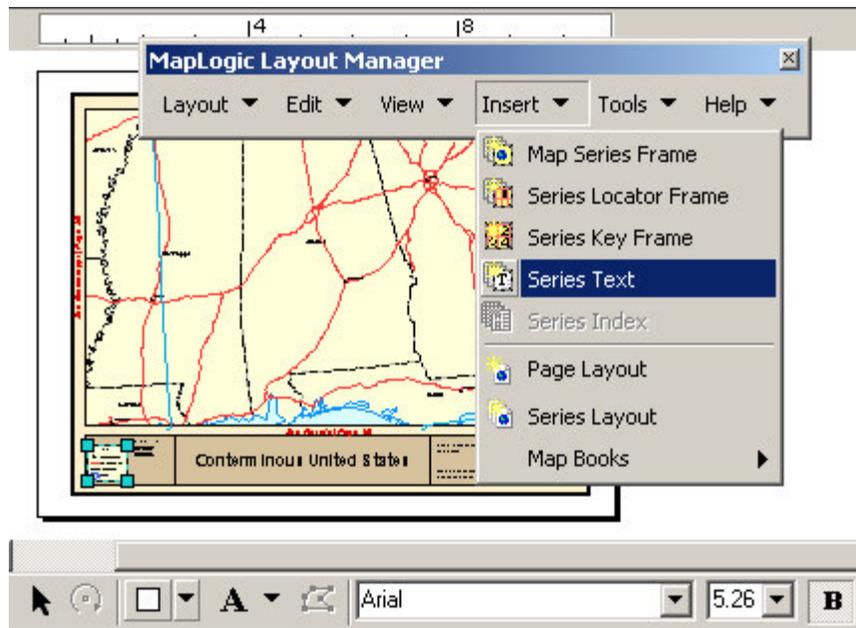


As you can see, the adjacent labels have changed to reflect the new settings.

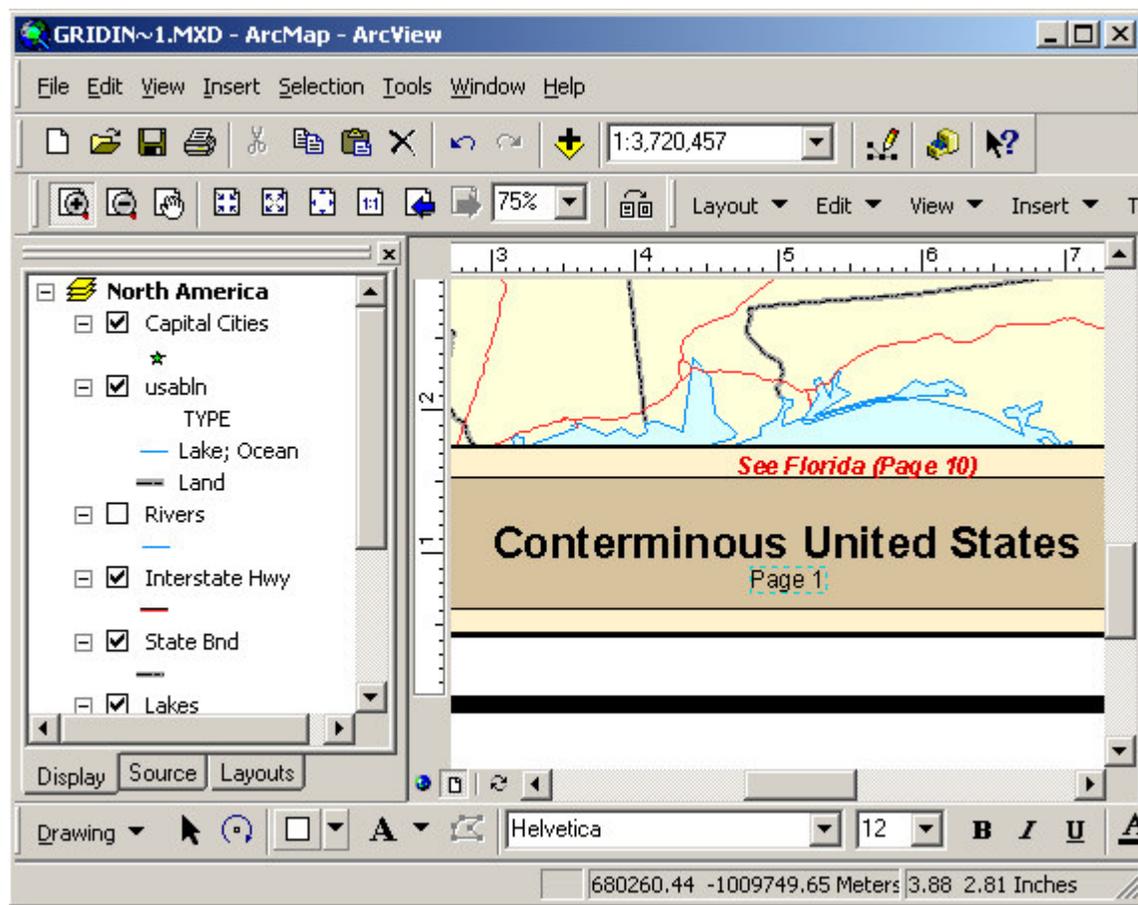
Adding Page Numbers To A Map Series

In this section we will learn how to add a page number label to our map series or map book. We accomplish this by adding a Series Text Element to our map. A Series Text element is a text label that changes from page to page.

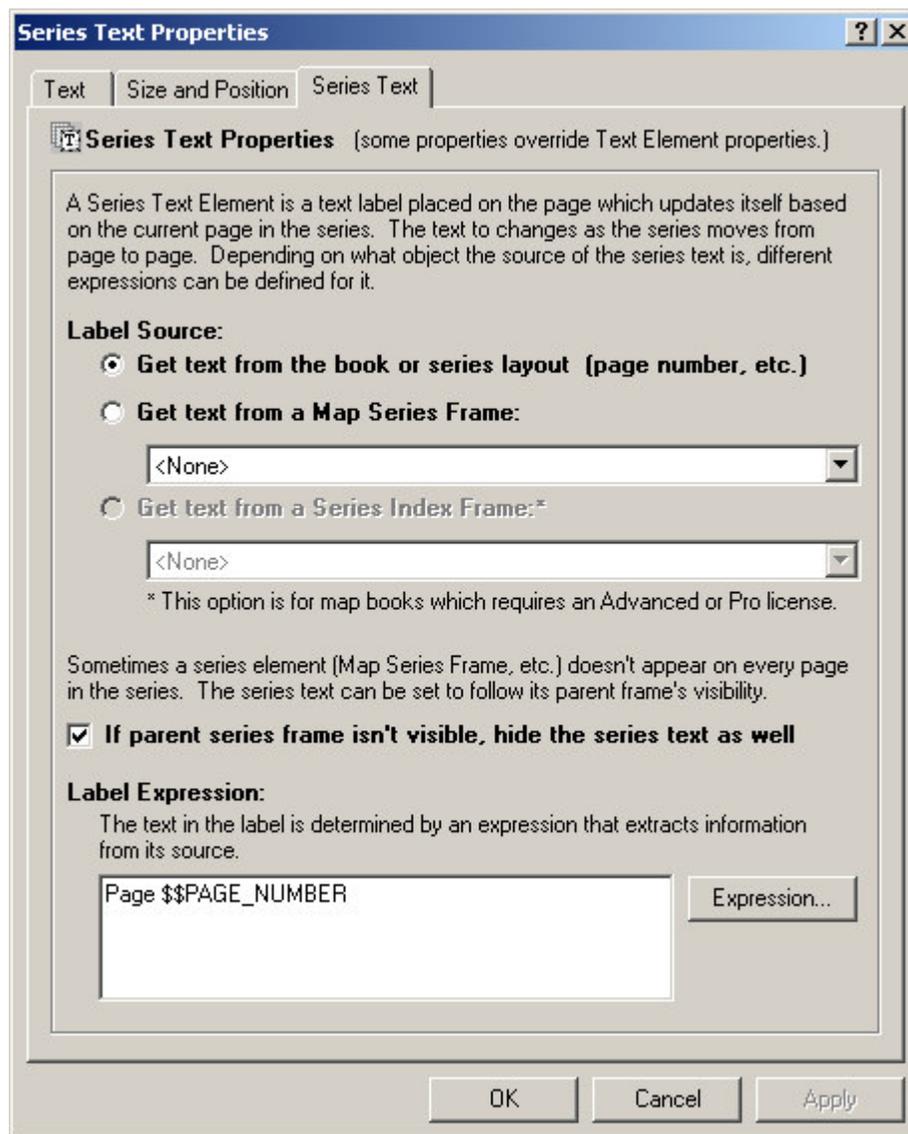
To begin the process, lets add the Series Text element to our map series. Select **Insert\Series Text** from the *MapLogic Layout Manager* toolbar.



You will notice a new text label appearing in the center of the layout with the label "Page 1". Let's grab the label and move it next to the map title.



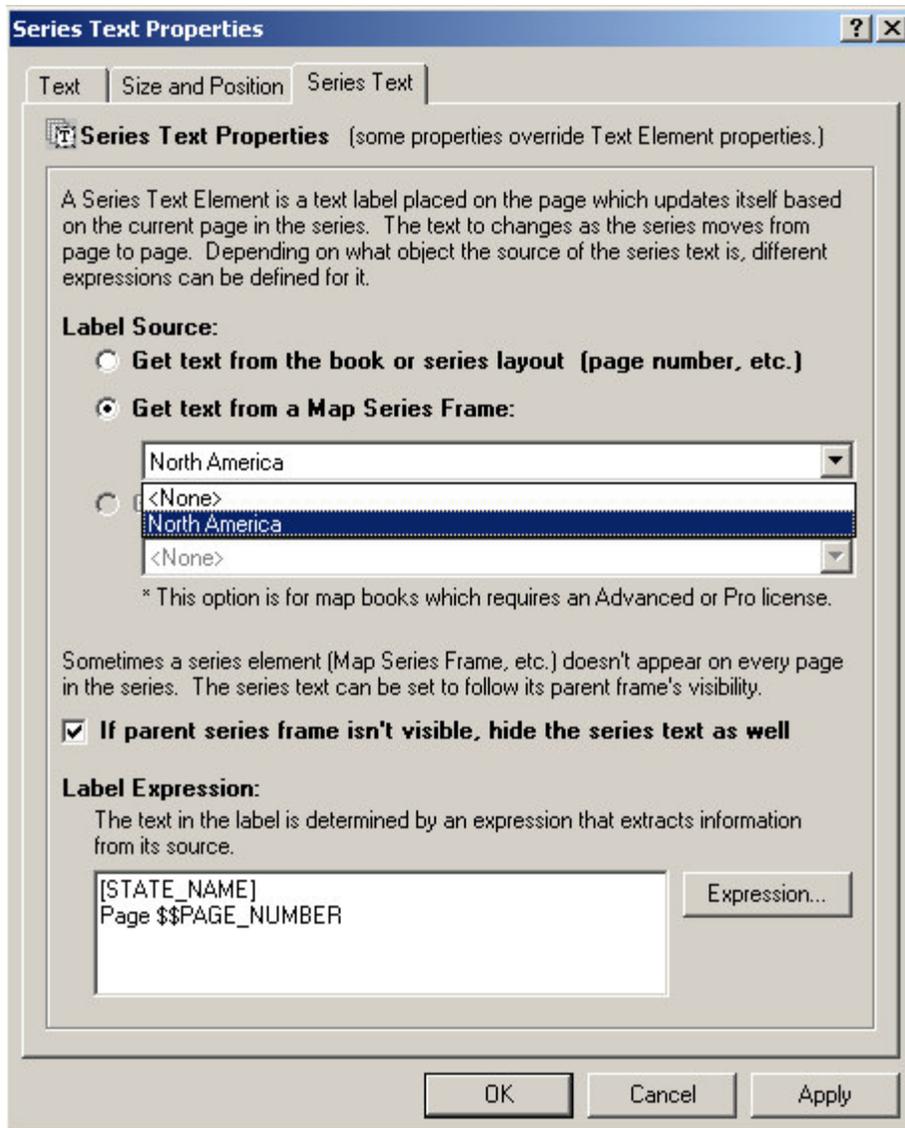
Double click on the label to display its properties. As you can see, there is a new tab on the text label properties called Series Text. Click on this tab.



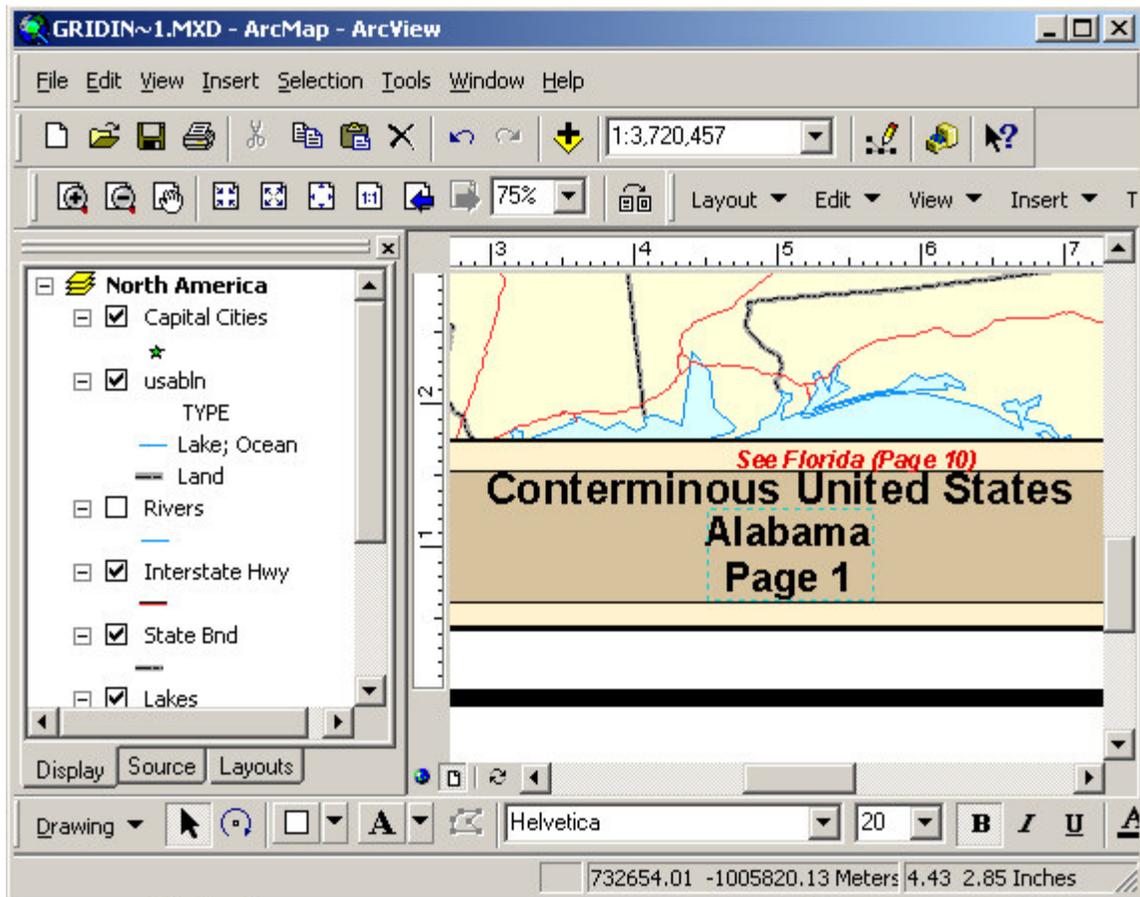
Notice once again that we are using an expression to determine the contents of the text label. The default expression for the label is "Page \$\$PAGE_NUMBER", which will display the page number of the current page in the series.

For our example, let's say that we would also like to display the name of the state along with the page number. In order to accomplish this, we must first set the series text to get its text from the map series. Click the Get text from Map Series Frame option and then select the North America map series. Now click the Expression button and modify the expression to say:

```
[STATE_NAME]  
Page $$PAGE_NUMBER
```



You may also want to modify the label font so that it's a little more prominent on the map layout. Note that we have split the expression over two lines so our label will also be made of two lines. Click OK to apply your changes.



As you can see, we now have a label on our map showing the page number and state name. If you click **Layout\Preview Pages...** on the *MapLogic Layout Manager* toolbar, you will notice that this label changes as you move from page to page in your series.

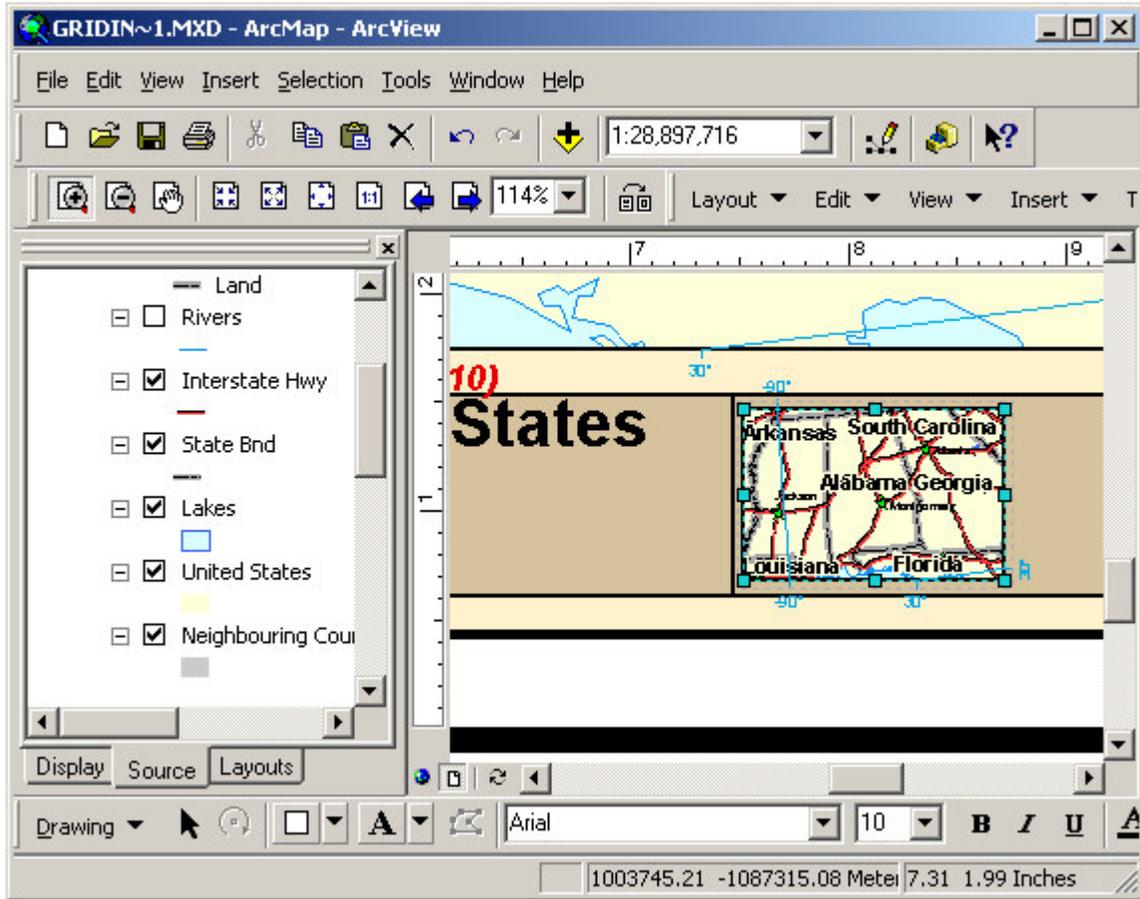
Adding A Locator Map To A Map Series

The last element we are going to add to our map series is a locator map. A locator map is a small map that highlights the location of the current page with respect to the rest of the pages in a map series.



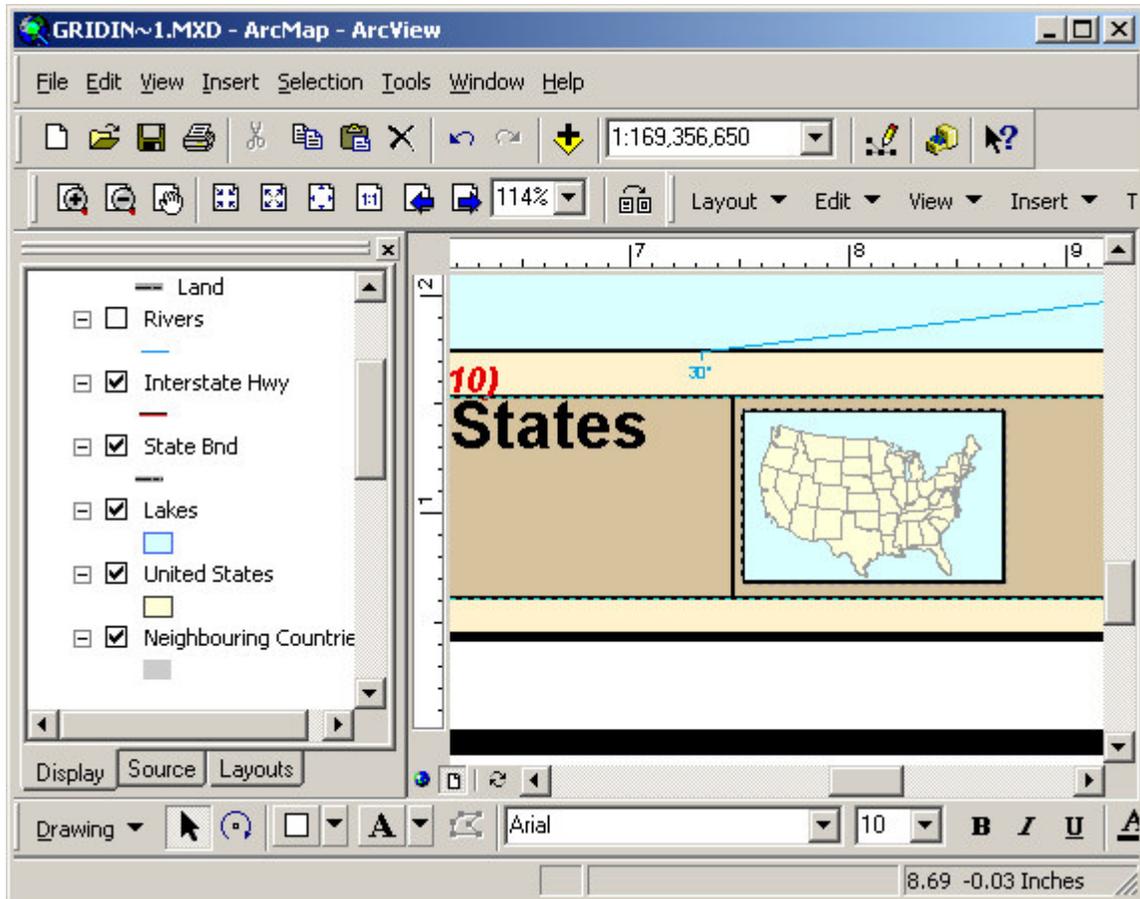
To begin the process of creating a locator frame we are going to Copy/Paste the large map on the layout and then reduce its size and place it on the maps title area. We could also create the

map from scratch, however, this way we don't have to spend time setting up our map layers and symbols.

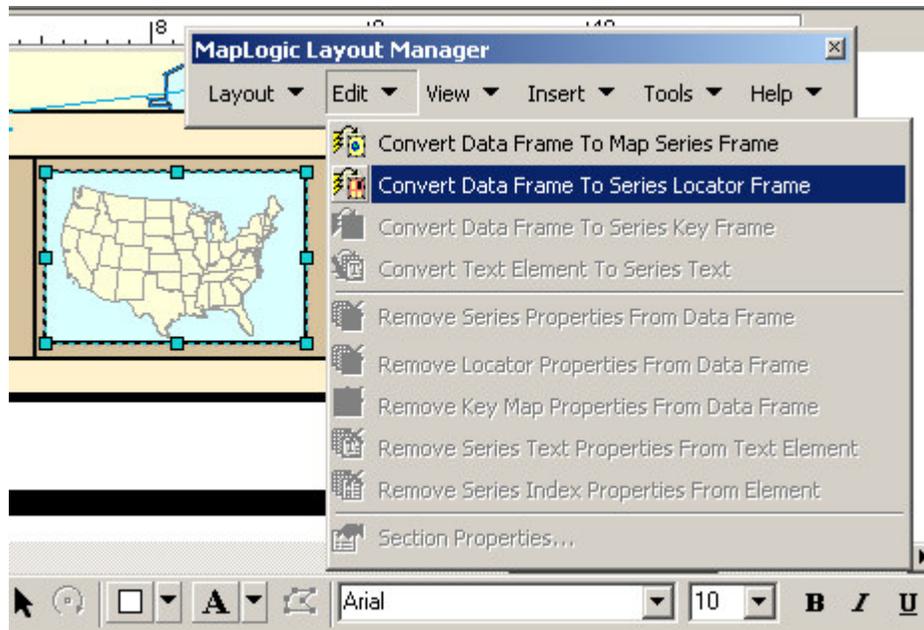


As you can see, the map is currently much too busy for this size. Let's turn off all the layers other than the state boundaries, remove any labels that are on the map and also zoom out to the extent of the continental US.

You should end up with a small map that looks more or less like this:



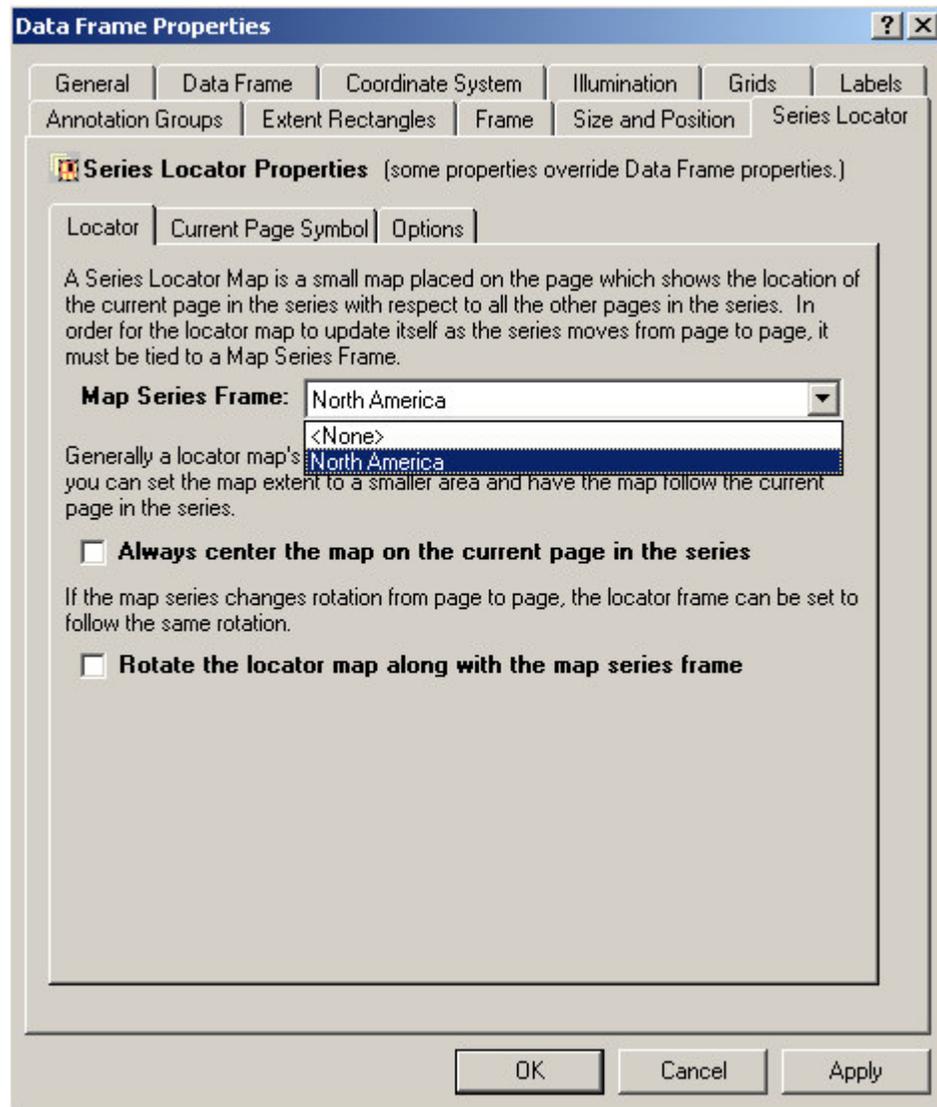
Now that we have cleaned up the map, make sure the map frame is selected and then click on **Edit\Convert Data Frame to Series Locator Frame** on the *MapLogic Layout Manager* toolbar. You will get a warning about converting. Click Yes to making the change.



Now that we have converted the data frame into a series locator frame, we need to set the properties of the locator map. This basically involves telling the locator where the map series frame is, and also setting the symbol it will use to highlight the current page.

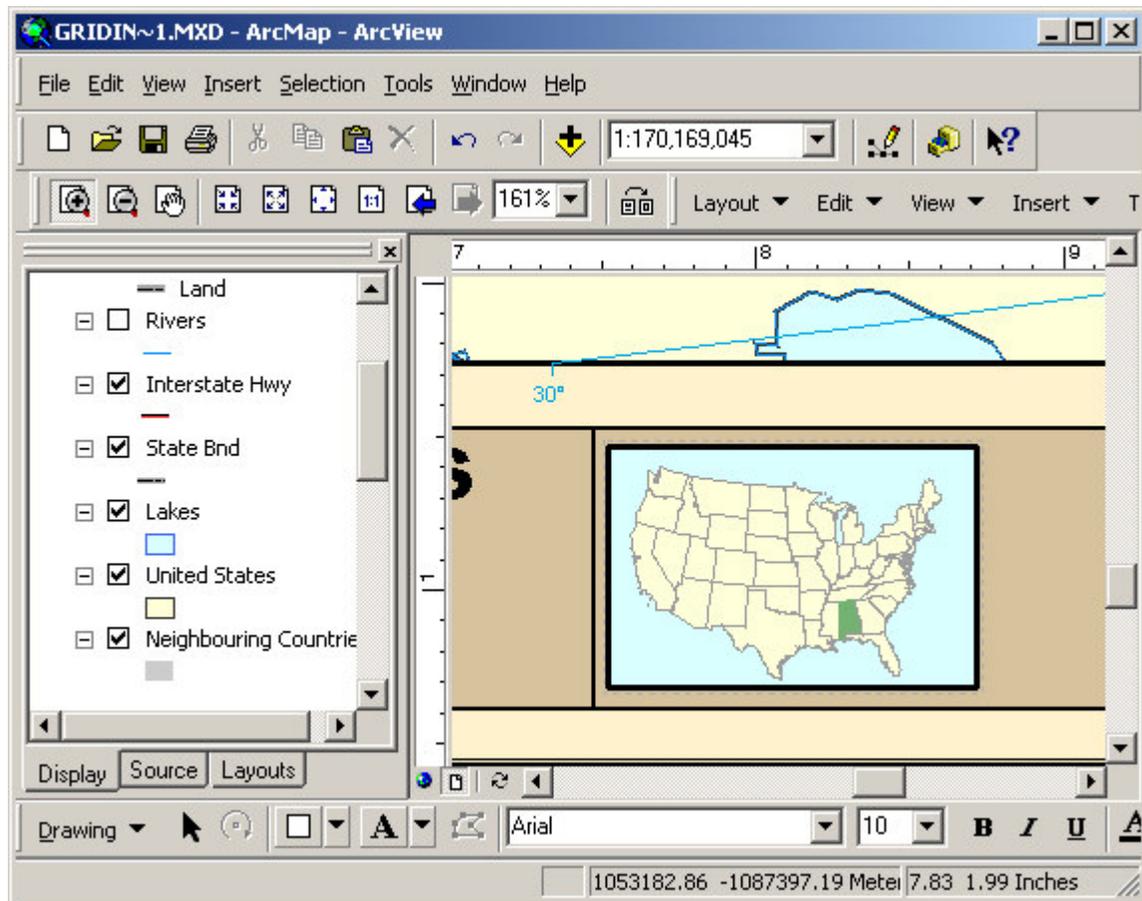
To edit the locator frame properties double click on the locator map or right-click and select properties.

Once the properties dialog is visible, click on the Series Locator tab. Now select the North America map series from the Map Series Frame List.



You may also want to click on the Current Page Symbol tab and modify the symbol used to highlight the current page.

Once you are done with your changes, click OK to apply the properties. Your locator map should now be highlighting the first page in the map series.



As you preview your map series, you will see the highlighted area on the map change as you move from page to page.

This completes our chapter on creating a better looking map series. As you can see, the *MapLogic Layout Manager* provides you with many powerful and flexible tools to create professional looking map books in ArcMap.

Where To Go From Here

This completes our Getting Started manual. At this point, you should have a good understanding of how to create basic layouts, maps series and map books. Of course, the process of creating a quality product that is ready for publication requires much more work.

For further information about the *MapLogic Layout Manager's* tools and properties, refer to the User's Manual and the online help.

If there is one suggestion that we could make about creating map series and map books, it would be to plan your design. You should remember that every modification you make can change tens, hundreds or thousands of pages, so take your time and plan things thoroughly.

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