

# ArcGIS<sup>®</sup> 9

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Using ArcReader<sup>™</sup>



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### **CONTRIBUTING WRITERS**

Mark Bockenbauer and Katherine Dalton

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# Welcome to ArcReader

# 1

## IN THIS CHAPTER

- Viewing maps
- Exploring data
- Printing maps
- Tips on learning ArcReader

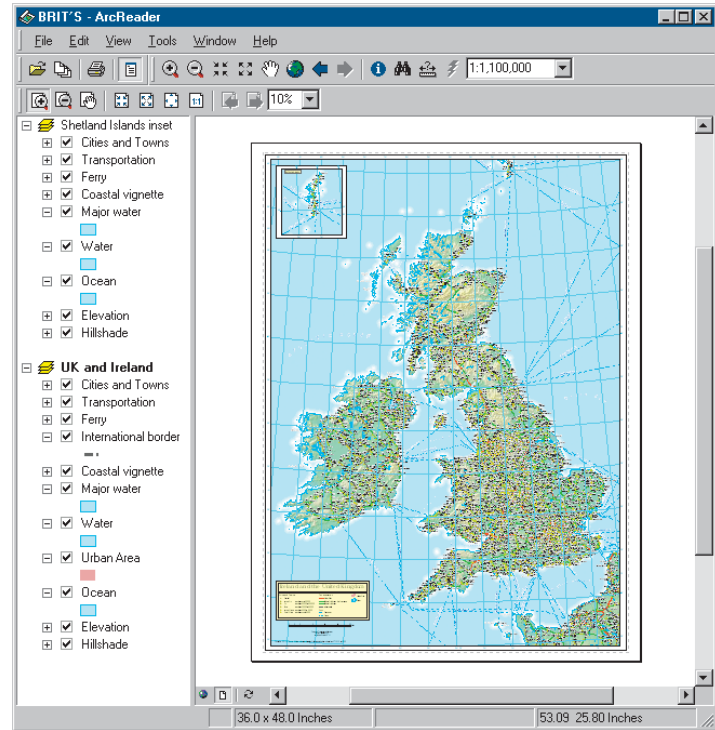
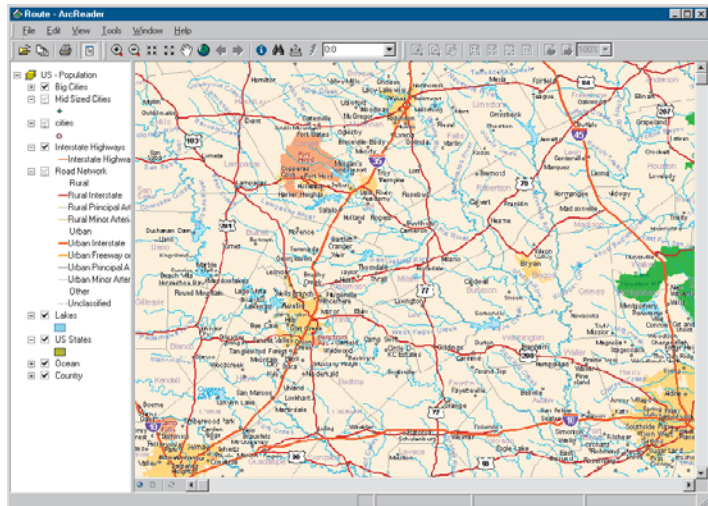
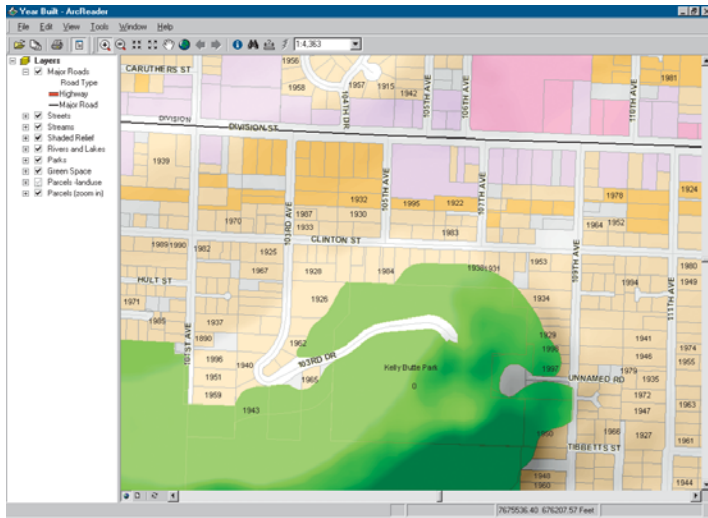
Welcome to ESRI® ArcReader™—a tool for using maps designed in ArcMap™ and published with the ArcGIS® Publisher extension. This book shows you how ArcReader can be used to view, explore, and print published maps. With ArcReader, you can:

- View published maps
- Explore data
- Experience dynamic mapping
- Print maps

This chapter provides an introduction to ArcReader. Refer to Chapter 2, ‘Quick-start tutorial’, to gain a quick understanding of how to use ArcReader. Chapter 3, ‘ArcReader basics’, outlines how to use ArcReader.

# Viewing maps

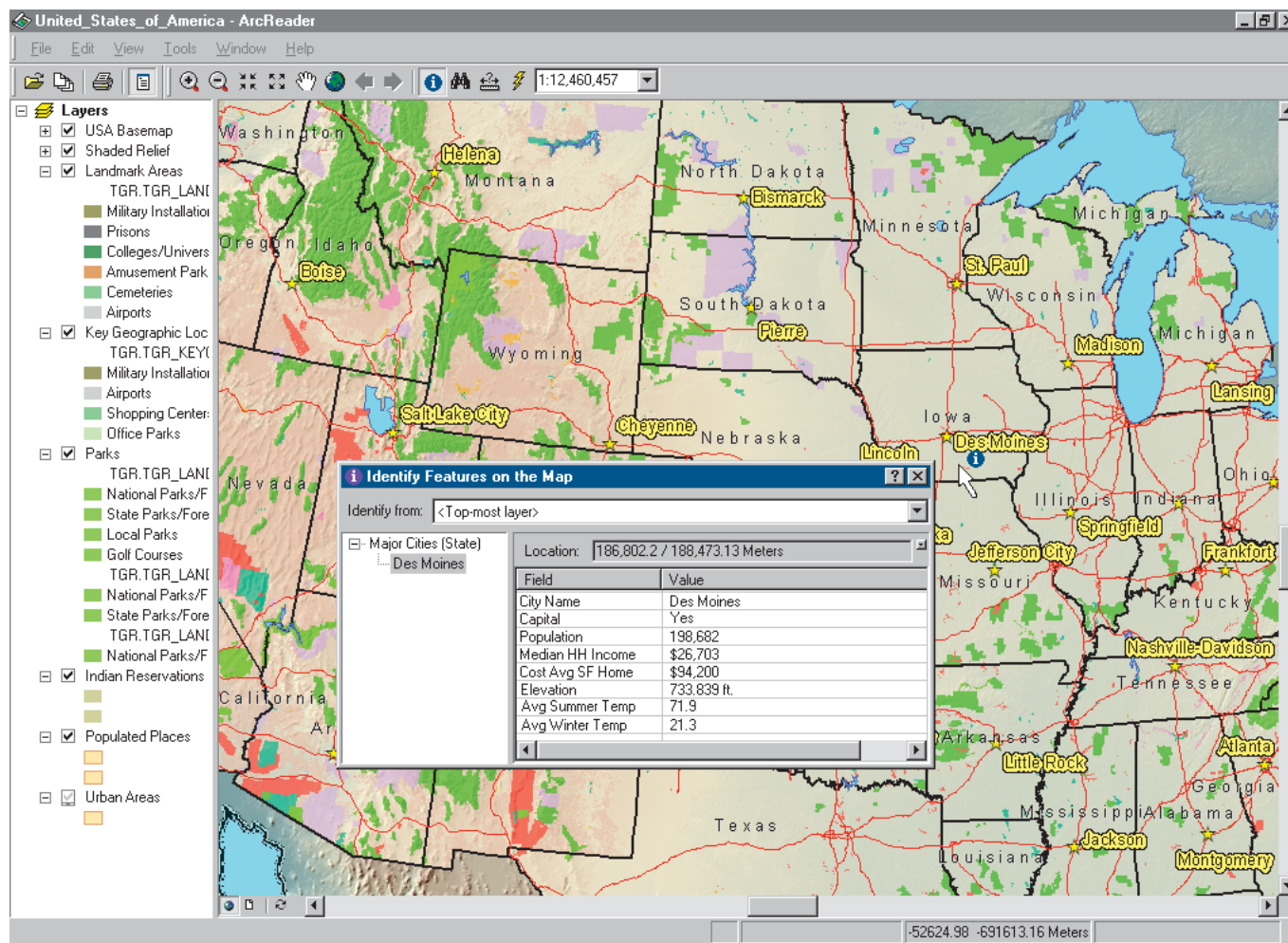
Sometimes just looking at a map will tell you what you want to know. Well-designed maps not only tell you where things are but also what's special about them. ArcReader displays maps as they appear in ArcMap, with the same high-end cartographic symbols and map elements geographic information system (GIS) professionals are accustomed to.



*Being able to share well-designed maps, such as these, greatly increases the map's value.*

# Exploring data

Maps are not static displays; they're interactive. You can browse a map—taking a closer look at a particular area—and point at features to find out more about them.



*You can identify features to see their attributes.*





# Tips on learning ArcReader

If you're new to GIS and maps, remember that you don't have to learn everything about ArcReader to get immediate results. Begin learning ArcReader by working through Chapter 2, 'Quick-start tutorial'. This chapter shows you how quickly and easily ArcReader lets you explore a map and obtain valuable information from it. ArcReader comes with the map used in the tutorial, so you can follow along step by step at your computer. You can also read the tutorial without using your computer.

This book provides information about ArcReader. After going through the quick-start tutorial, you can quickly learn the basics of using the ArcReader extension by working through the exercises in Chapter 3, 'ArcReader basics'.

## Finding answers to questions

Like most people, your goal is to complete your tasks while investing a minimum amount of time and effort on learning how to use software. You want intuitive, easy-to-use software that gives you immediate results without having to read pages of documentation. However, when you do have a question, you want the answer quickly so you can complete your task. That's what this book is all about—getting you the answers you need when you need them.

## Getting help on your computer

In addition to this book, the ArcGIS Desktop Help system is a valuable resource for learning how to use the software. To learn how to get help for your questions, see Chapter 3, 'ArcReader basics'.

## Contacting ESRI

If you need to contact ESRI for technical support, refer to 'Contacting Technical Support' in the 'Getting more help' section of the ArcGIS Desktop help system. You can also visit ESRI on the Web at [www.esri.com](http://www.esri.com) and [support.esri.com](http://support.esri.com) for more information on ArcReader and ArcGIS.

## ESRI education solutions

ESRI provides educational opportunities related to geographic information science, GIS applications, and technology. You can choose among instructor-led courses, Web-based courses, and self-study workbooks to find education solutions that fit your learning style. For more information, visit [www.esri.com/education](http://www.esri.com/education) on the Web.



# Quick-start tutorial

# 2

## IN THIS CHAPTER

- **Exercise 1: Viewing a map**
- **Exercise 2: Querying a map**
- **Exercise 3: Printing a map**

The best way to learn ArcReader is to try it yourself. This tutorial guides you through some basic ArcReader skills as you explore a map of Canada.

Exercise 1 introduces various ways that you can view a map in ArcReader.

Exercise 2 shows you how to query a map in ArcReader to get the most information possible from it.

Exercise 3 walks you through printing a map from ArcReader.

Each exercise in this tutorial takes between 15 and 20 minutes to complete. You can either work through the entire tutorial at once or complete each exercise one at a time.

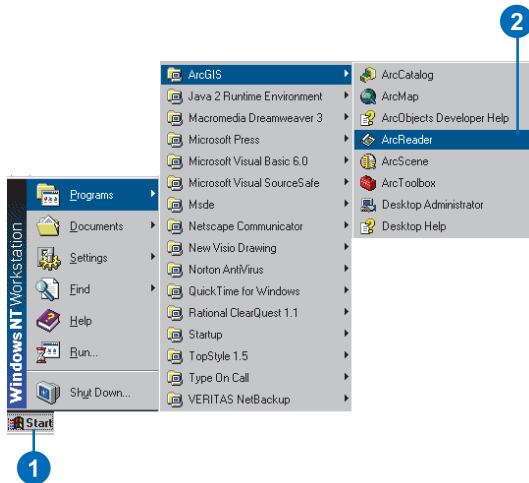
Before you begin the exercises in this tutorial, install the ArcReader tutorial data. To install the data, run the Tutorial setup during the ArcReader installation. You also have the option of running the Tutorial setup independently of the ArcReader installation.

## Exercise 1: Viewing a map

In this exercise, you will open and explore a published map with ArcReader. You will also use ArcReader to query data on the map.

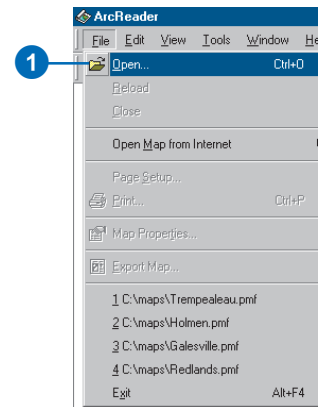
### Starting ArcReader

1. Click Start on the Windows taskbar.
2. Click Programs, point to ArcGIS, and click ArcReader.  
ArcReader opens.

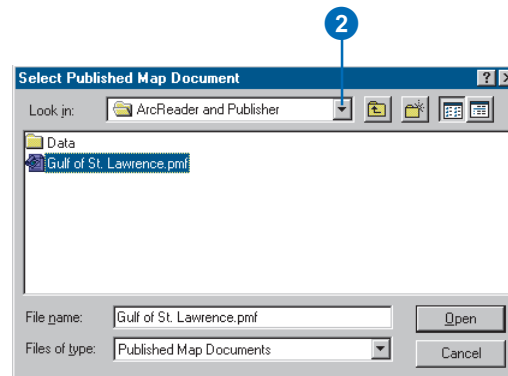


### Opening an existing published map

1. Click File and click Open.

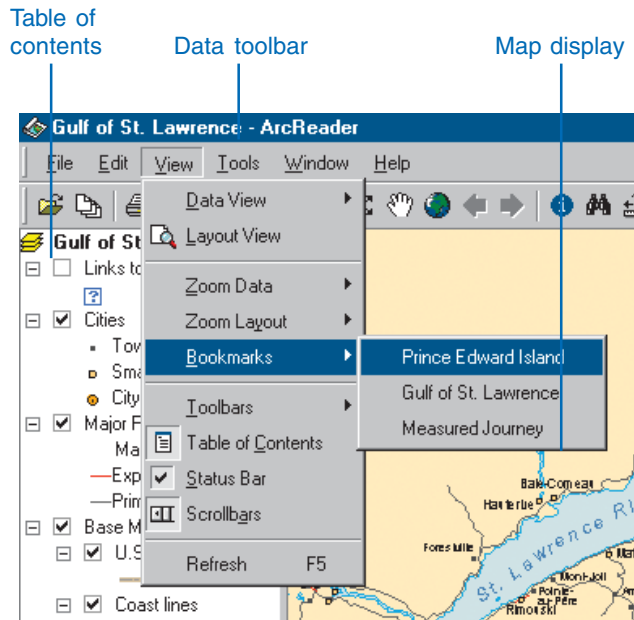


2. Click the Look in dropdown arrow and navigate to the map folder on the local drive where you installed the tutorial. (C:\arcgis\arcexe82\ArcTutor is the default location.)



3. Double-click Gulf of St. Lawrence.pmf.  
ArcReader opens the map.

ArcReader can open published map files (.pmf) that have been created in ArcMap using Publisher. These published maps do not actually store the data shown on the map, but rather reference the data, which may be stored on a local disk, on another computer, or on the Internet. The map document stores map elements, such as titles, scalebars, and North arrows.



This is an example of a .pmf—the Gulf of St. Lawrence.pmf.

This particular map contains the following layers in a data frame named Gulf of St. Lawrence:

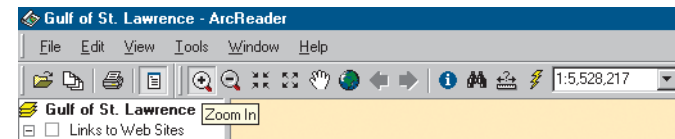
<u>Layers</u>	<u>What layers contain</u>
Links to Web Sites	Internet addresses
Cities	Locations of population centers
Major Roads	Locations of expressways and primary highways
Base Map	Land and coastline layers

A *data frame* is a frame on the map that displays layers in the same geographic area.

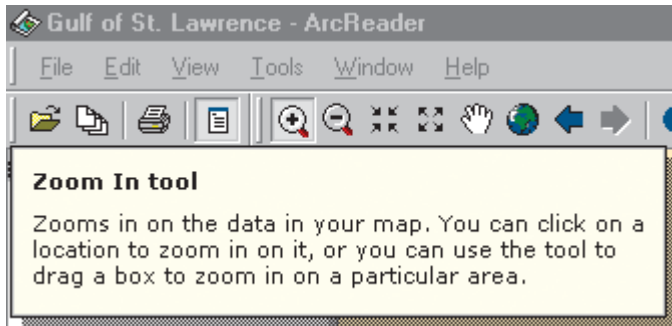
The map portrays the Gulf of St. Lawrence and the surrounding region. Notice that there are check boxes next to each layer name in the table of contents. All layers that are checked are drawn in the map display area.

## Moving around a map

The Data toolbar has tools to move around the map and query features on the map. Point to each icon, without clicking, to see the name of each tool displayed in a ToolTip. This tutorial will use these names to refer to specific buttons and tools. When you interact with the map, one of these tools will be active and the pointer will change to the active tool when moved over the map.

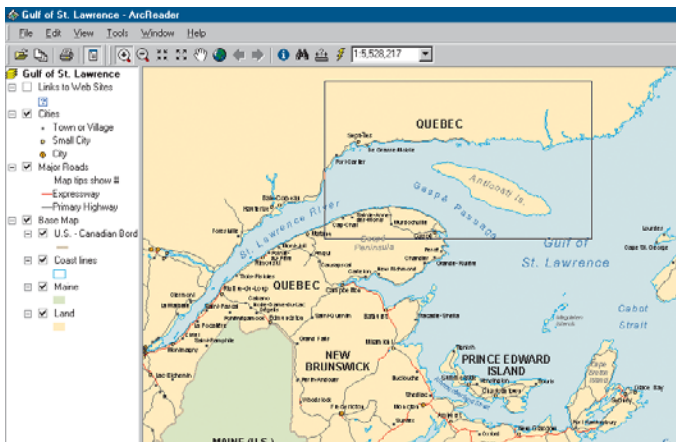


If you need more information about how a tool or command works, you can quickly access the context-sensitive help that is available for most tools. Press Shift + F1 on your keyboard while pointing to the tool.



*Context-sensitive help for the Zoom In tool is shown above.*

1. Click the Zoom In tool, then click and drag a box around Anticosti Island and a portion of the St. Lawrence River. This will make it easier to read the labels and see where the cities and roads are located.

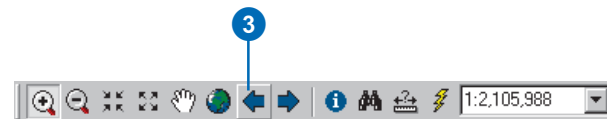


2. Using the Pan tool you can interactively manipulate the map. Click the Pan tool, then click the map and hold down the left mouse button to drag the display in any direction.



Pan tool

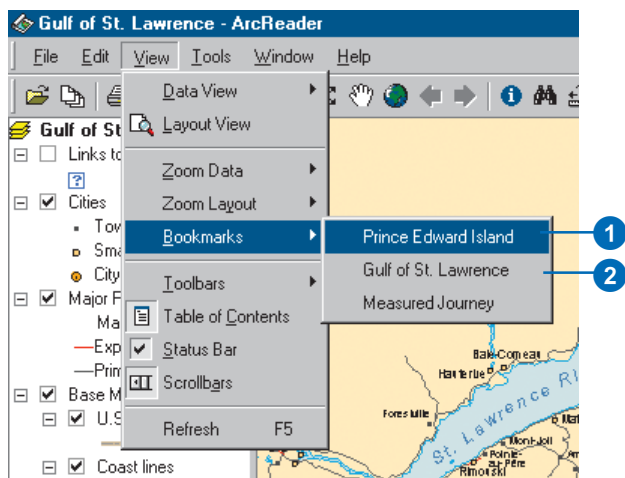
3. The Go Back and Go Next buttons can be used to revisit any of the places to which you have previously zoomed or panned. Click the Go Back button now to view the previous map extent.



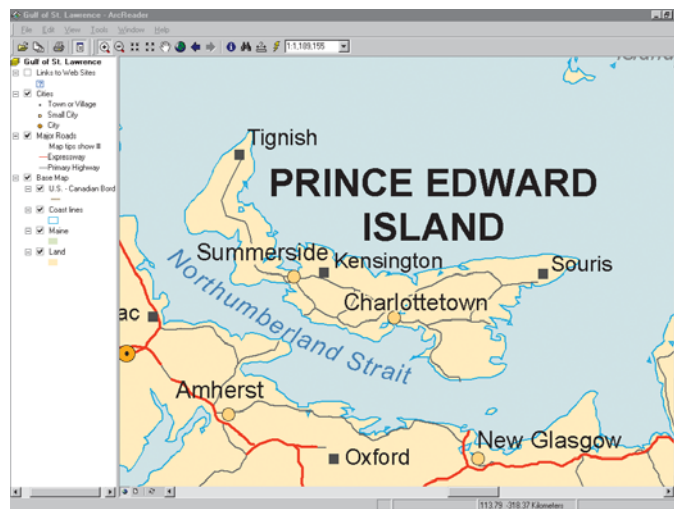
## Using bookmarks

Bookmarks are named map extents created by the publisher of the map. The publisher zooms to a specific view of the map and saves it for future use. You can access the publisher's saved extents by selecting Bookmarks.

1. Click the View menu, point to Bookmarks, then click Prince Edward Island.



The map now shows Prince Edward Island.



2. Click the View tab, point to Bookmarks, then click Gulf of St. Lawrence to reset the map to its original display.
- To learn how to set bookmarks, see *Using ArcMap*.

## Turning layers on and off

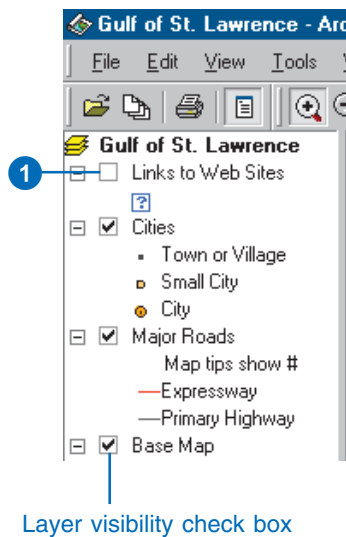
The table of contents is where you turn map layers on and off. To display a layer, check the Layer visibility check box next to its name. To turn the layer off, uncheck the box.

1. Check Links to Web Sites.

Notice the blue question mark symbols now draw on the map.

2. Uncheck the Links to Web Sites.

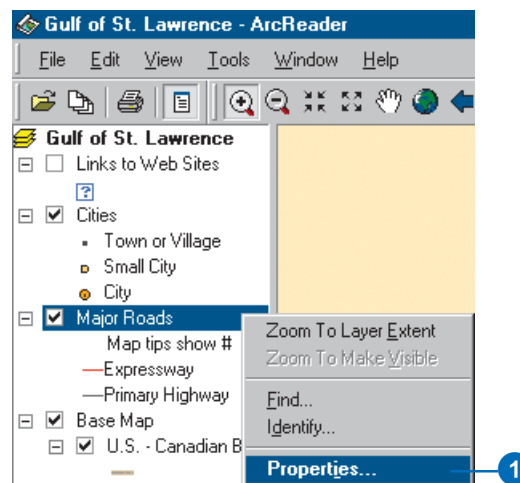
Notice that the layer is turned off and no longer displays on the map.



## Getting information about layers

Each of the layers in a map has a set of properties that can be viewed, allowing you to learn which features are available for that layer.

1. In the table of contents, right-click Major Roads and click Properties.
2. Click the General tab.

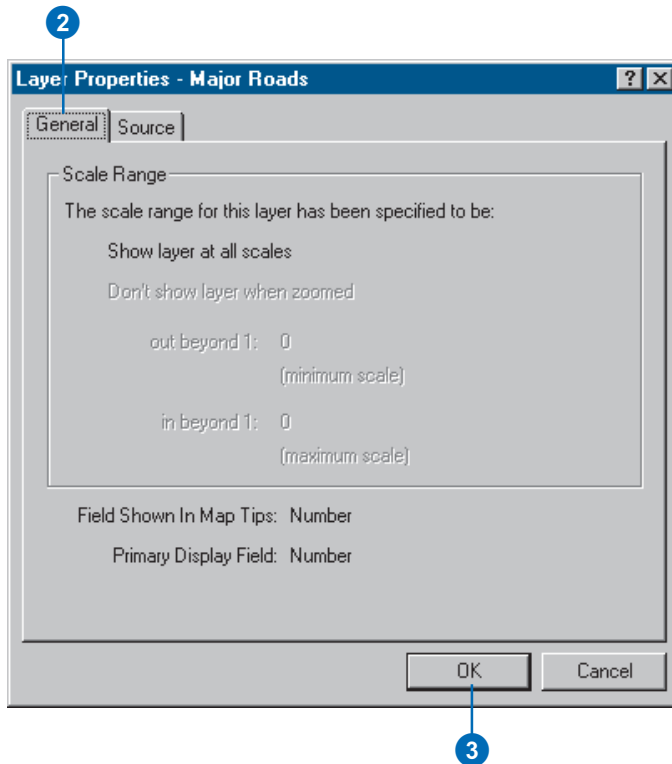




You can see whether the layer is displayed at all scales or only within a specific range of scales and whether Map Tips have been enabled for the layer. Map Tips are onscreen descriptions of map features that appear when you point to a feature. Later in this tutorial you will use Map Tips from this layer.

3. Click OK to close the Layer Properties dialog box.

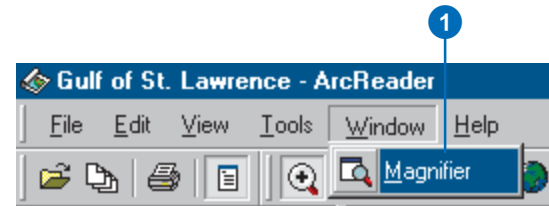
## Using the Magnifier Window



There are times when you may not want to change the location displayed on the map but still need to see more detail. The ArcReader Magnifier Window allows you to do this.

1. Click Window and click Magnifier.

The Magnifier Window opens.



2. Click the title bar of the Magnifier Window and drag it over the map. While you are dragging it, the Magnifier Window will show crosshairs to indicate which part of the display will be magnified.
3. When the crosshairs are over the portion of the map you would like to magnify, release the mouse button. You will see a magnified view of the location under the magnifier.

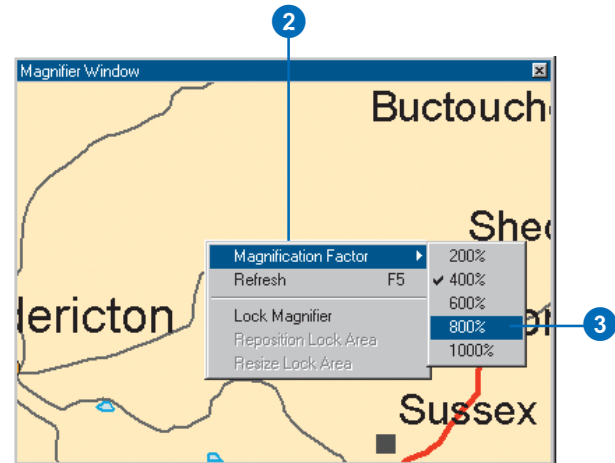
## Changing the Magnifier Window properties



You can change several properties of the magnifier window, such as the magnification factor and what the magnifier window displays.

1. Move your cursor near the edge of the Magnifier Window, then click and drag the cursor in the direction you want to resize the window (make it a little larger).
2. Place your cursor in the middle of the Magnifier Window and right-click.

3. Point to Magnification Factor and click 800%. This will scale the data displayed in the Magnifier Window by the percentage chosen.
4. Right-click the Magnifier Window and click Lock Magnifier. Move the Magnifier Window somewhere



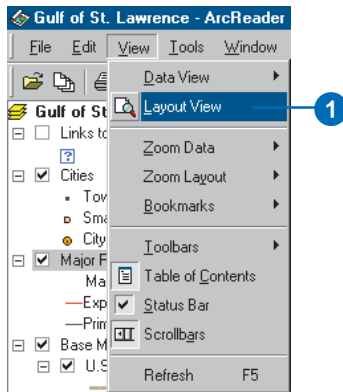
else; notice that the picture doesn't change, but instead keeps your snapshot.

5. To reenable the magnifier, right-click the magnifier window and click Lock Magnifier again. The window redraws to magnify the section of the map it is over. When you have finished experimenting with the Magnifier Window, click the Close button to close it.

## Data view and Layout view

ArcReader is capable of displaying a map in either Data view or Layout view. Up to this point this tutorial has been using Data view. Data view shows the contents of a data frame. Layout view shows the map as it would appear on a printed page. Layout view also shows map elements that aren't contained within the data frame, such as the map title, legend, scalebar, and North arrow.

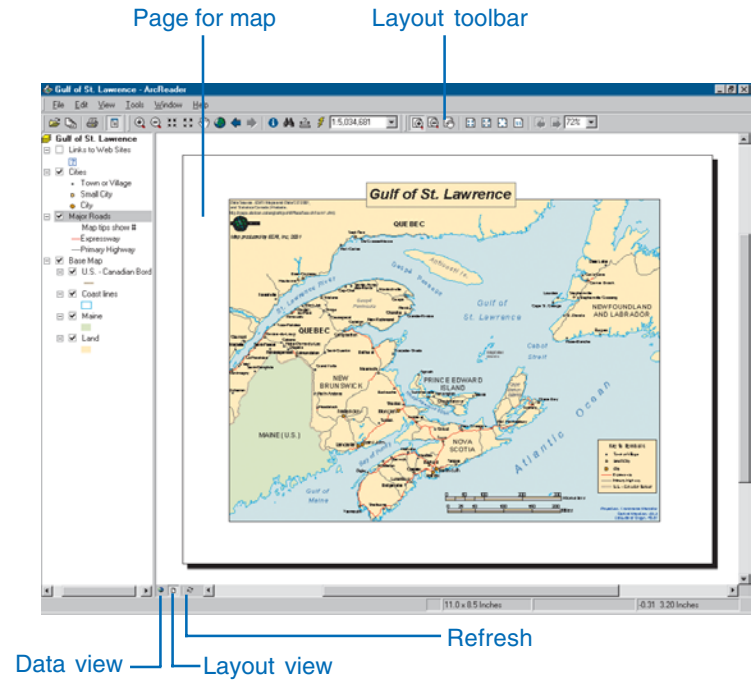
1. Click the View tab and click Layout View.



The map displays in Layout view. Notice the page includes a title, legend, scalebars, and some supporting text. Also displayed is the Layout toolbar, which contains tools for navigating in Layout view. Point to each icon, without clicking, to see the name of each tool.

The Layout tools in the Layout toolbar are used like the tools in the Data toolbar. They allow you to change the way the page is displayed. Notice that the data tools are still accessible for changing the view of the data within the data frame.

There is a shortcut for switching between Data and Layout view. In the scrollbar near the bottom of the map, there are three small buttons. Clicking the globe icon switches to Data view, clicking the page icon switches to Layout view, and clicking the arrow icon refreshes the map.




In this exercise, you learned various ways to view a published map in ArcReader. In the next exercise, you will learn how to query a map in ArcReader.

## Exercise 2: Querying a map

A map in ArcReader typically contains more information than you initially see. For example, a feature may hold attribute information that is not labeled or displayed on the map. With ArcReader you can query that information or use Map Tips to find a feature on the map.

### Using Map Tips

The most readily accessible kind of map attribute information comes in the form of Map Tips. Map Tips contain an attribute chosen by the map author that displays whenever you hover any data tool over a feature on the map. Map Tips are only visible while in Data view.

1. Click the Data View button , located at the bottom-left part of the map.
2. Click any data tool and point to a road to see its name.



The Major Roads layer is the only layer in this map that has Map Tips enabled. You can tell if Map Tips are enabled for a layer by right-clicking the layer name in the table of contents and clicking the General tab on the Properties dialog box.

## Identifying a location

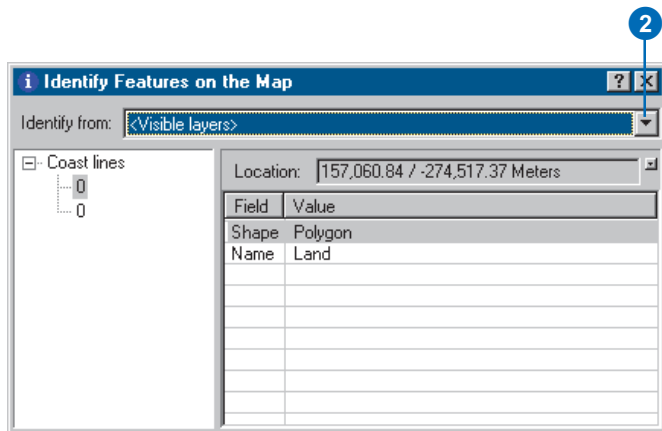
You can use the Identify tool to get two kinds of information—you can see which features are at a specific location and also investigate the attributes of each feature.

1. Click the Identify tool.

The Identify window opens.

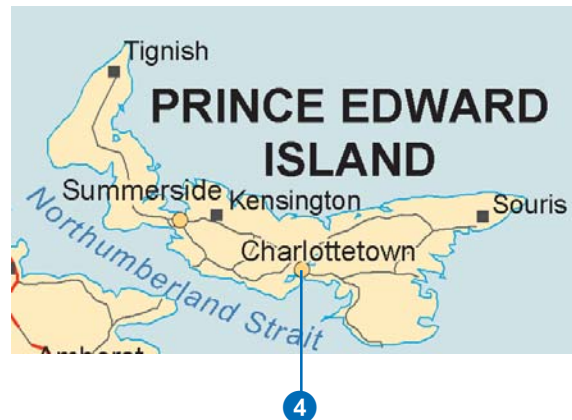


2. Click the Identify from dropdown list and click <Visible layers>.

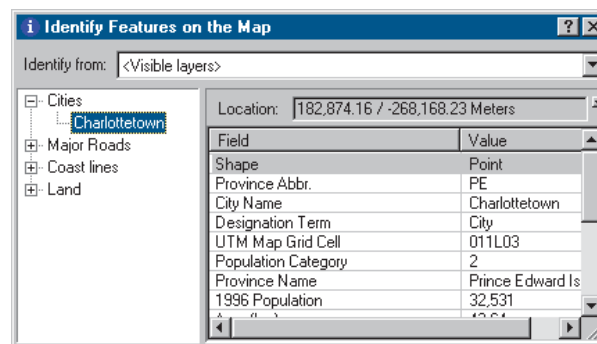


3. Click the View menu, click Bookmarks, then click Prince Edward Island.

4. Click the dot that represents the city of Charlottetown.

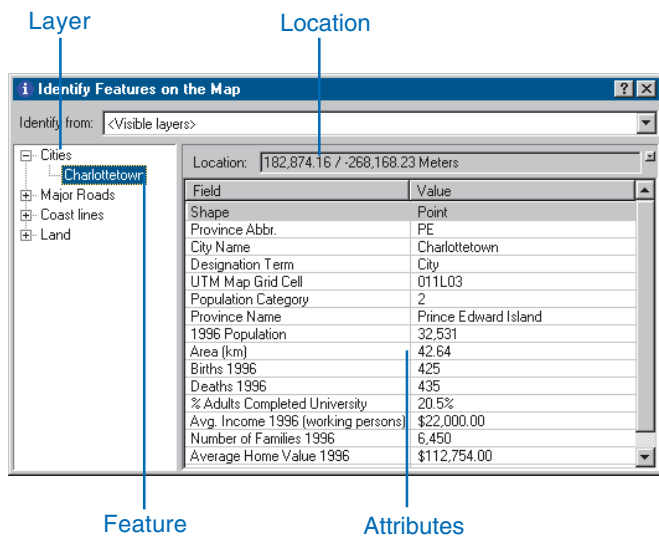


Notice that the Identify tool located not only information about Charlottetown but also information about the Major Roads, Coast lines, and Land. The identify results include all visible layers.

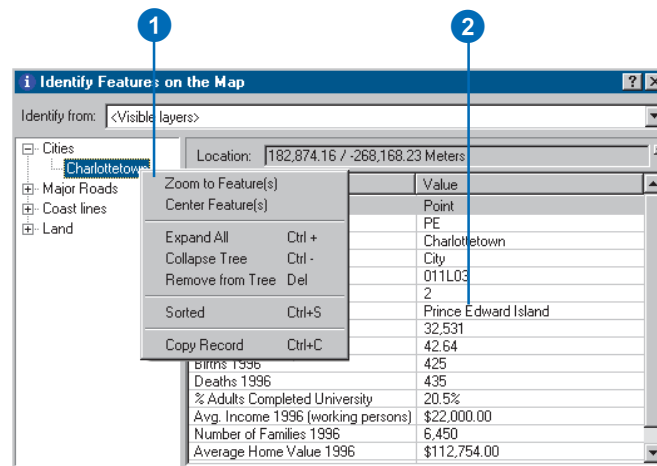


## Identify window commands

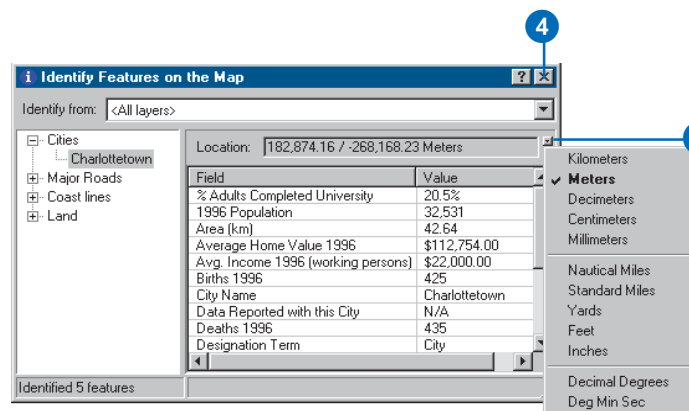
Right-clicking features, layers, or their attributes in the Identify window opens a context menu with options for working with the fields for that feature or layer.



1. Right-click a layer or feature. The options in the context menu allow you to zoom to features, center features, expand all the fields, collapse the Identify tree, sort the fields, or copy a record.
2. Right-click an item in the Value column. The options in the context menu allow you to organize the Field values. You can hide or show all the fields, select all the fields, change the order of the fields (inverse selection), or copy all the fields. If you click Copy, you can then paste the information into another application, such as a text editor or a spreadsheet.



3. Click the small dropdown button to the right of the Location text box to open a menu that will allow you to display the location of the city in the units of your choice. Click Meters.
4. Close the Identify window.

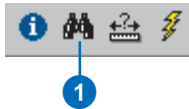


## Finding a location

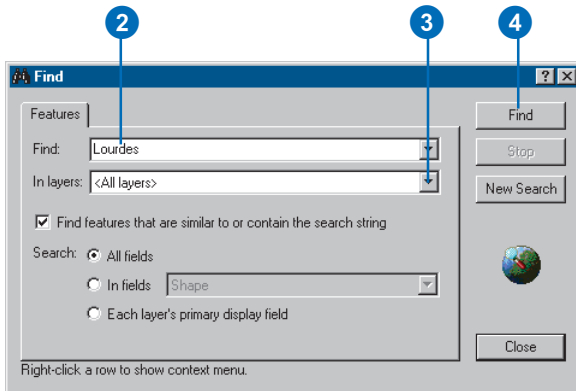
In ArcReader it is easy to find a feature based on a name or value using the Find tool.

1. Click the Find tool.

The Find dialog box appears.

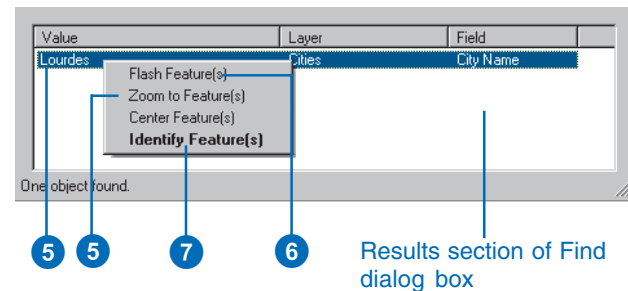


2. In the Find text box, type “Lourdes”.
3. Click the In layers dropdown arrow and click <All layers>.
4. Click Find. ArcReader locates the city called Lourdes and shows it as a row in the Results section of the window.



Once you’ve found a place, you can use the Find dialog box to navigate to or learn more about the feature.

5. In the Find dialog box, right-click Lourdes and click Zoom to feature(s). ArcReader zooms to the city of Lourdes.
6. Make sure the Find dialog box does not cover the city of Lourdes. In the Find dialog box, right-click Lourdes and choose Flash feature. Lourdes will flash.
7. Right-click Lourdes and click Identify feature(s). The Identify Features on the Map dialog box, which contains all the attribute information for the city of Lourdes, appears.

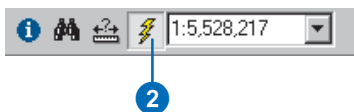


8. Close the Identify Features on the Map dialog box and the Find dialog box.

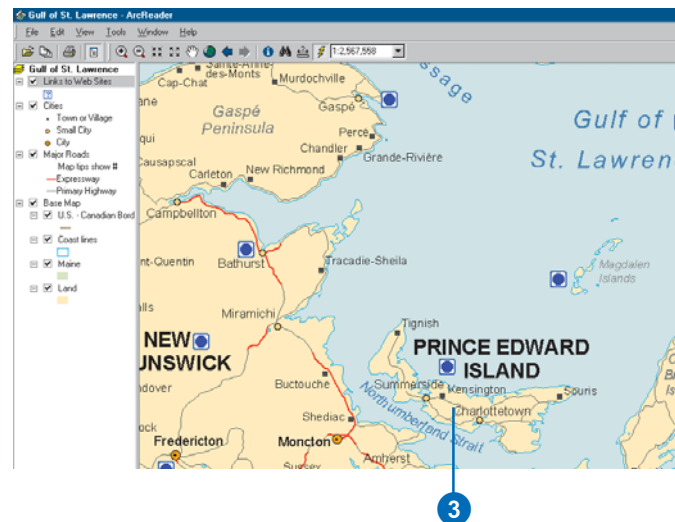
## Using hyperlinks

Maps viewed with ArcReader may have hyperlinks to provide additional information about certain features. The Gulf of St. Lawrence map contains hyperlinks in the Links to Web Sites layer. Hyperlinks are only available in Data view, and you will need an Internet connection to use this tool. Click the View menu, point to Bookmarks, click Prince Edward Island, then continue with the exercise.

1. Check the Links to Web Sites layer in the table of contents. You should see a blue question mark appear on the screen. If the question mark does not appear, zoom out until it becomes visible.
2. On the Data toolbar click the Hyperlink tool to activate it. Notice that a blue dot appears over the question mark. The Links to Web Sites layer is the only layer with hyperlinks in this map.



3. Point the Hyperlink tool at the center of the blue dot hyperlink. The cursor changes to a pointing hand. Click to open your default Internet browser. The official Web site of the Government of Prince Edward Island, Canada, where you can learn more about Prince Edward Island, displays.





## Measuring distance

You can measure distances in ArcReader. The ArcReader Measure tool allows you to see how far apart two places are or even plot a route and check its distance.

1. Click the View menu, point to Bookmarks, then click Measured Journey.
2. Click the Measure tool on the Data toolbar.

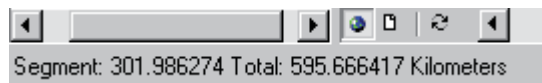


Measure tool

3. Click Port-Cartier, then plot a course through the Gaspé Passage and on to Cape St. George by clicking each time you want to change directions.
4. Double-click on Cape St. George to finish measuring.  
The line you drew disappears.



There are a few things to notice as you do this. First, on the ArcReader status bar in the lower left, you will see the current segment's length. Second, you will see the total distance you have measured.



In this exercise, you learned various ways to query a published map to get more information from it. You learned about Map Tips and the various tools that let you investigate more closely the information a map contains. In the next exercise, you will learn how to print a map in ArcReader.

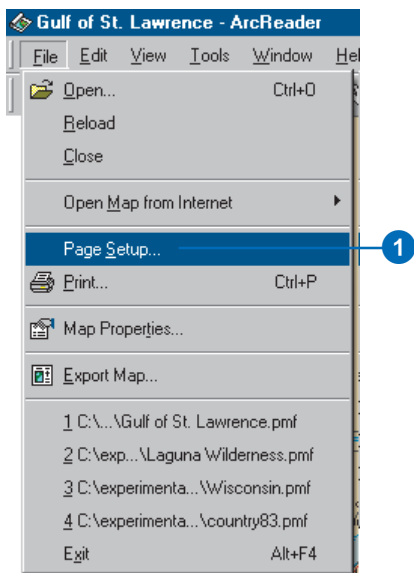
## Exercise 3: Printing a map

To perform the following exercise, you will need to have a printer available. The printer should be able to print a letter size (or A4) sheet of paper and can be either a black-and-white or color printer.

1. Click the ArcReader File menu and click Page Setup.

The Page Setup dialog box opens. This dialog box contains options that let you change which printer you are using or change the settings for that printer.

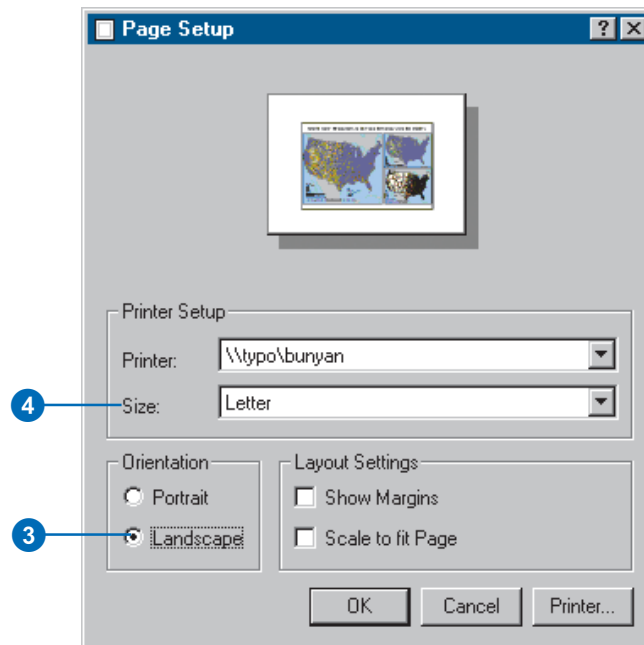
2. If the printer you want to print from is set as your default printer, skip to Step 3. Otherwise, click Printer in the Page Setup dialog box and choose the printer to which you want to print your map.



3. Click Landscape.
4. In the Printer Setup box, click the Size dropdown arrow and click Letter (or A4).

Note that it is possible to print this map to a larger or smaller paper size by checking the Scale to fit Page check box in the Page Setup dialog box. The map will scale up or down to fit the page.

5. Click OK.

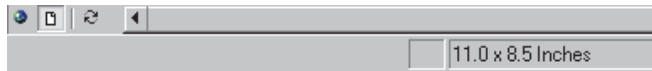


## Printing a map

1. Click the Layout View button.

It's important to switch to Layout view because your printing results can vary depending on what view you are in. Printing in Data view will print the currently displayed data frame at the current extent to the selected paper size. The printed data will be scaled to fit the page size selected in Page Setup. When printing from Layout view, however, the entire published page is printed.

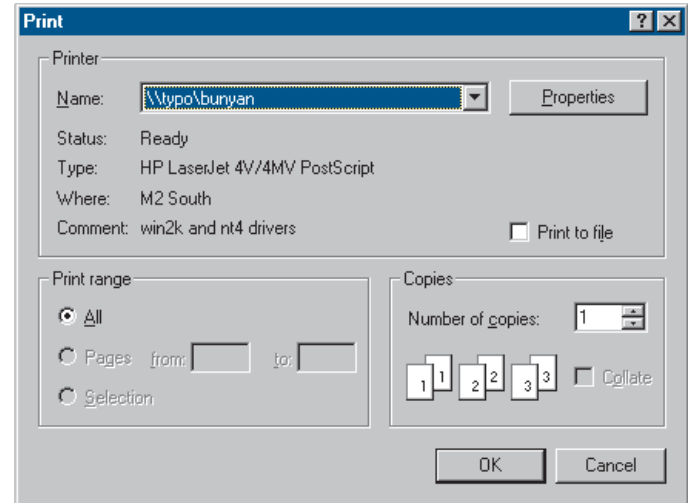
2. Click the File menu and click Print.



In Layout view the original page size is displayed on the status bar.

3. Click OK.

In this tutorial you have been introduced to viewing, querying, and printing published maps with ArcReader. The next chapter provides more detail about these tasks as well as information about published maps and their uses in ArcReader.





# ArcReader basics

## IN THIS CHAPTER

- Starting ArcReader
- Opening a map
- The ArcReader window
- The table of contents, data frames, and layers
- Looking at a map in Data view and Layout view
- Using spatial bookmarks
- The Magnifier Window
- Exploring and working with data on a map
- Printing
- Getting help

In ArcReader you work with published maps. Maps help you visualize geographic data by showing you where things are, telling you what they are, and helping you understand why they are that way.

Published maps serve a variety of purposes. Some maps are interactive and meant to be browsed, others are formatted for printing, and some are created for both purposes. Every map can have a unique look—including both its graphic layout and interface—tailored to those who will ultimately use the map.

## Starting ArcReader

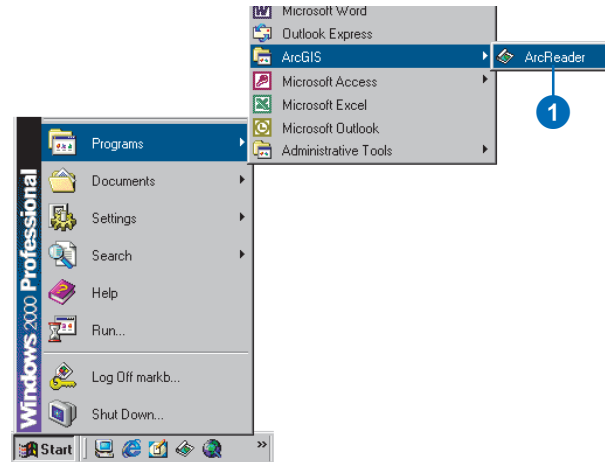
Starting ArcReader is the first step to exploring a published map.

Before you can start, ArcReader must be installed on your computer.

Once the software is installed, you can access ArcReader from the Start button on the Windows taskbar. Each ArcReader session can display one map at a time. You can work with several maps by starting additional ArcReader sessions.

### Starting ArcReader from the Start menu

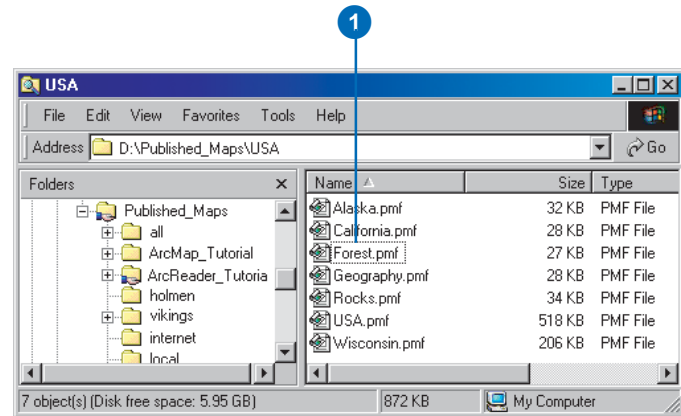
1. Click Start on the Windows taskbar, click Programs, point to ArcGIS, then click ArcReader.



### Starting ArcReader from Windows Explorer

1. Navigate to the folder where your published map (.pmf extension) is saved, then double-click the published map.

ArcReader launches and the map displays.



## Opening a map

To work with a map, open it in ArcReader. You can also navigate to the map using Windows Explorer and double-click it.

A map doesn't store the spatial data displayed on it. Instead, it stores references to the location of these *data sources*—for example, geodatabases, coverages, shapefiles, and rasters—on disk or on the Internet. When you open a map, ArcReader checks the links to the data. If it can't find some data—for instance, if the source data for a layer has been deleted or renamed, a network drive is not accessible, or a Web server is down, a red exclamation point displays next to the layer name. The layer will still be part of the map and listed in the table of contents, but it won't display.

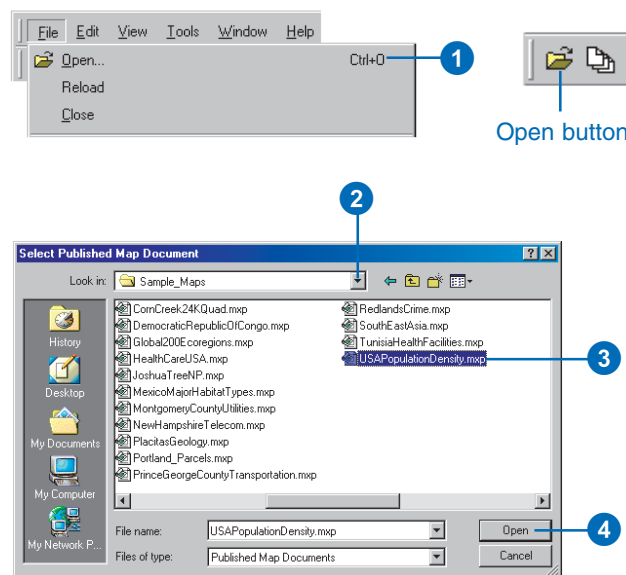
### Tip

#### Setting the number of files in the recent file list

You can control the number of files displayed in the recent file list in the Options dialog box. To adjust how many files appear, click the Tools menu, click Options, then click the General tab. Adjust the number of files to show in the menu.

## Opening a map from ArcReader

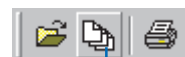
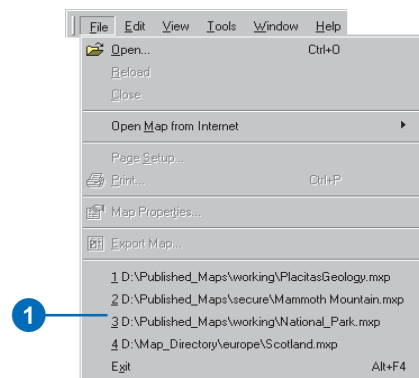
1. Click the Open button or click the File menu and click Open.
2. Click the Look in dropdown arrow and navigate to the folder that contains the map.
3. Click the map you want to open.
4. Click Open.



## Opening a recently opened map

1. Click File and click a map from the list of recently opened maps.

You can also use the Recent Files button on the File toolbar.

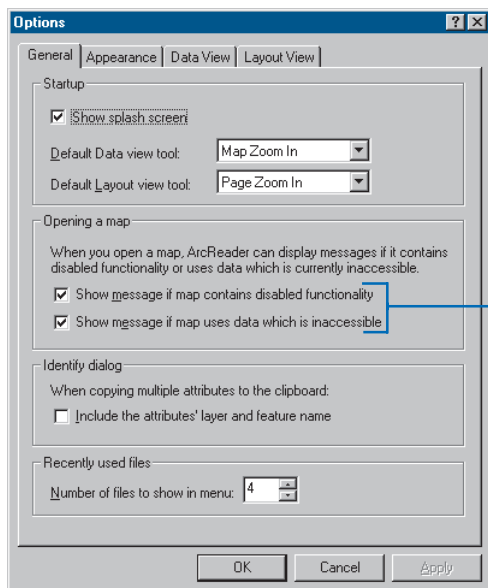


Recent Files button

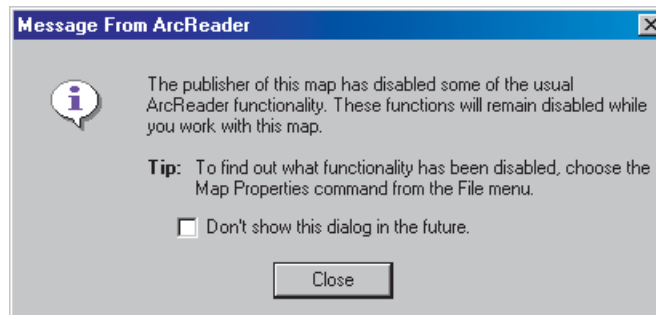
# Interpreting the ArcReader information warning messages

Sometimes when you open a map, you get a message from ArcReader telling you that ArcReader functionality has been disabled by the map author or that data is inaccessible.

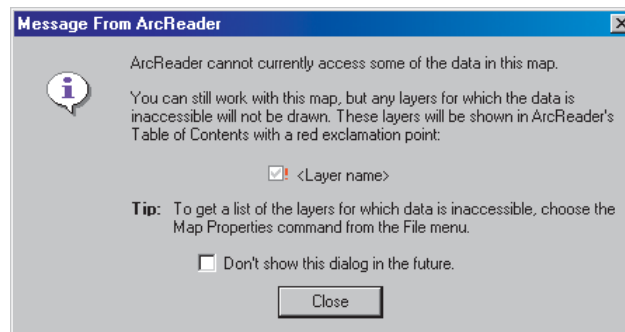
The messages from ArcReader contain the option to not show the messages in the future. If you check this check box and decide later that you would like the messages to appear, you can turn them back on in the Options dialog box. To do this, click the Tools menu, click Options, click the General tab, and check both check boxes in the Opening a map section of the dialog box.



*Check the check boxes to turn the messages about functionality in ArcReader on and off.*



*When you see this message, some functionality is not available in the map.*

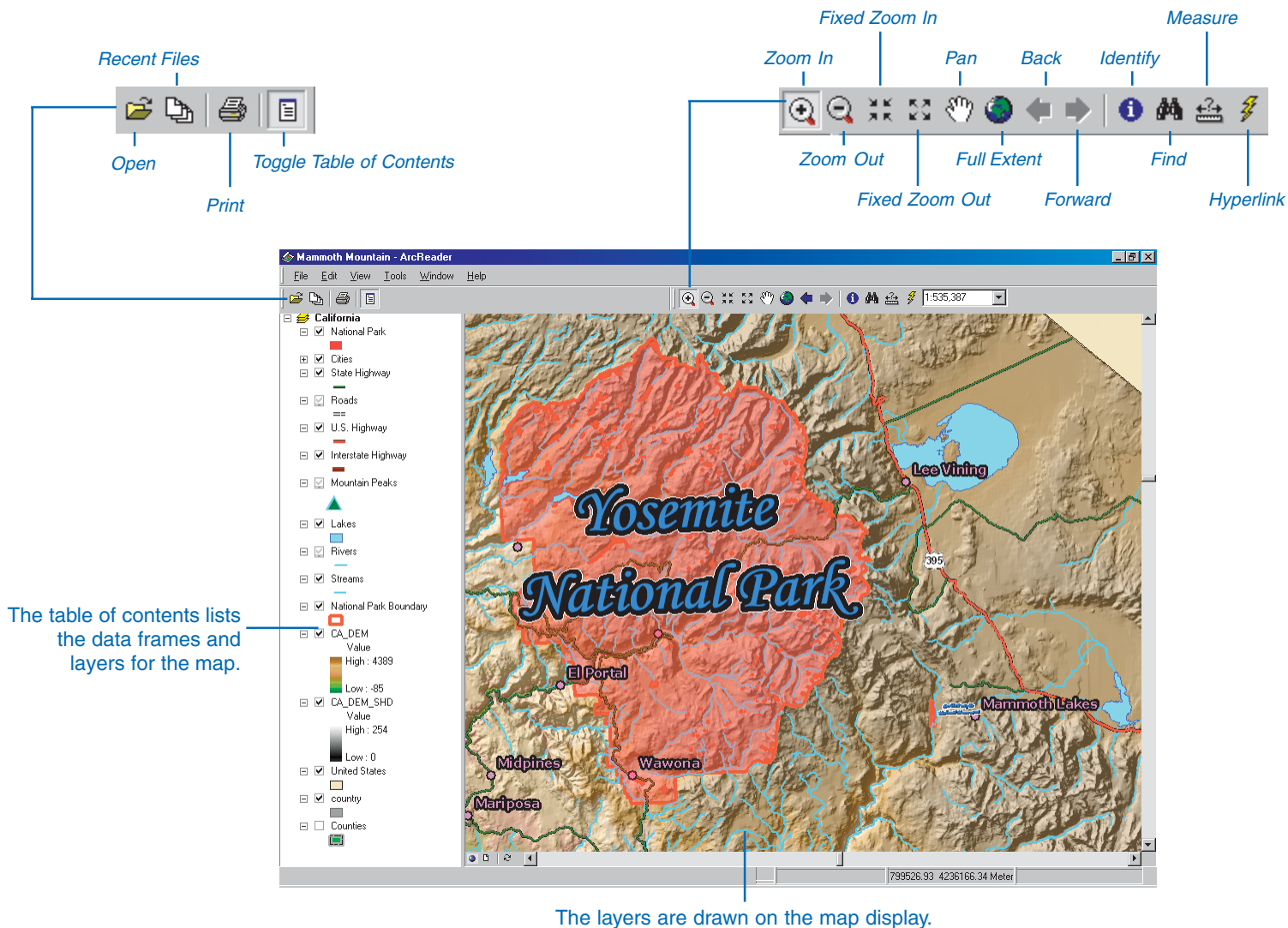


*When you see this message, the data is unavailable for display.*

The map author decides how the map will display in ArcReader and what functionality will be available for use with the map. To find out if the map was published with special settings, you can use the Map Properties dialog box. To access the Map Properties dialog box, click the File menu and click Map Properties.



# The ArcReader window

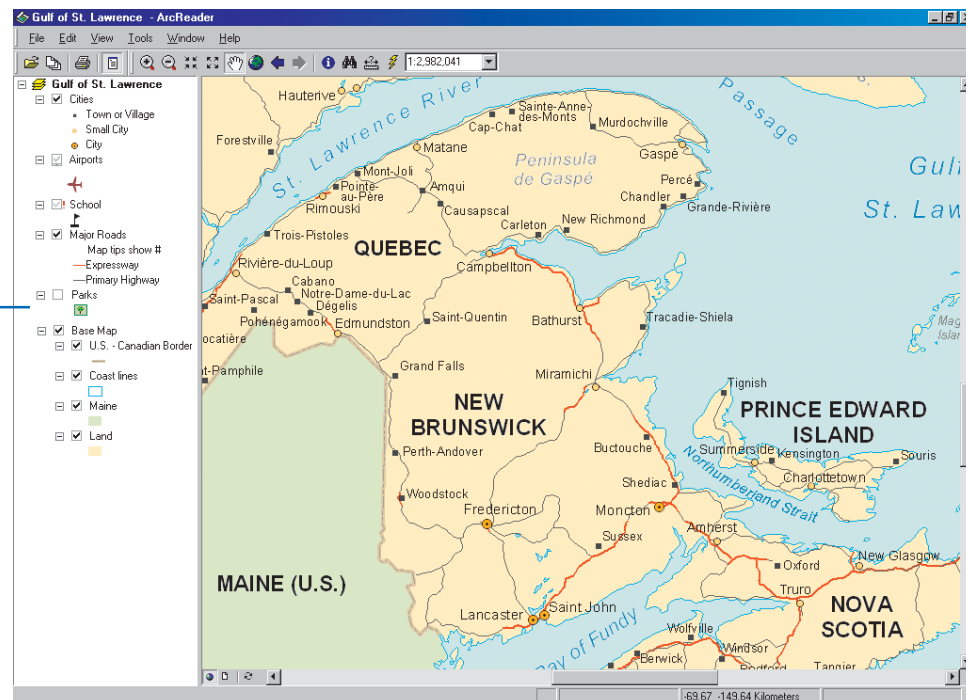


## The table of contents, data frames, and layers

A published map is a graphical representation of geographic data. Geographic information on a map is displayed as *layers*, where each layer represents a particular type of *feature*, such as a stream, lake, highway, political boundary, or wildlife habitat. A layer doesn't store the actual geographic data; instead, it references data stored on a computer. Referencing data in this way allows the layers on a map to automatically reflect the most up-to-date information in a GIS database.

The *table of contents* lists all the layers on the map and shows what the features in each layer represent. You can turn each layer on or off by checking and unchecking the check box next to the layer. When the layer is on, it draws on the map. The order of layers within the table of contents is also important; the layers at the top draw on top of those below them.

An unchecked layer will not be drawn in the display window.



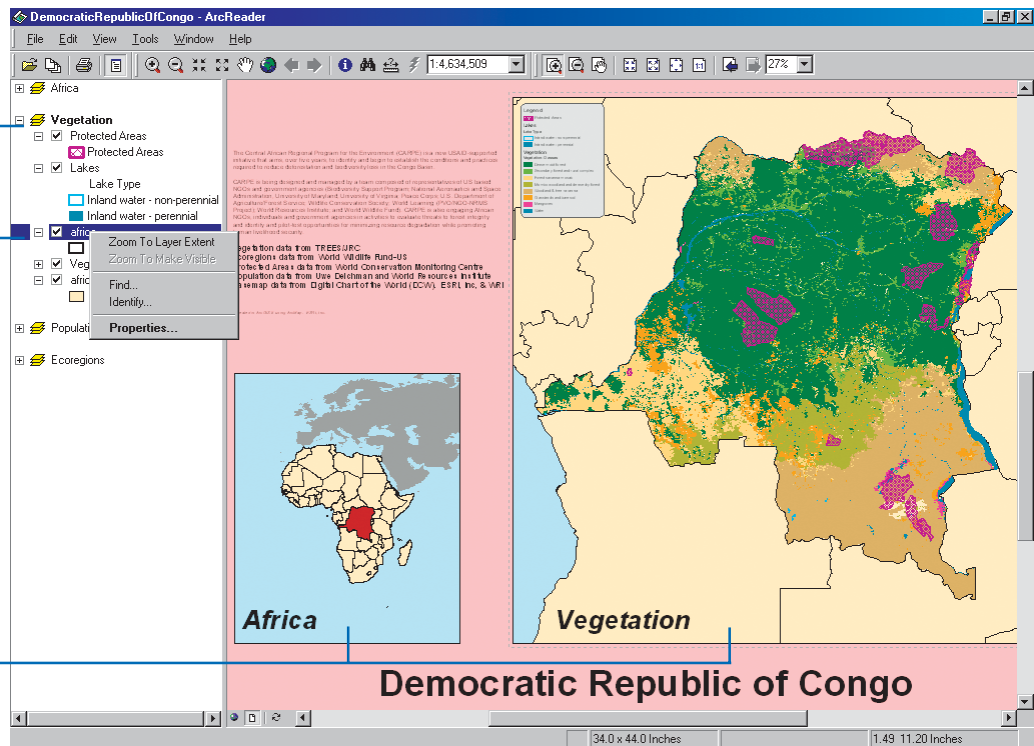
Layers in the table of contents can be further organized into *data frames*. A data frame simply groups, in a separate frame, the layers that are displayed together.

You may want to add more data frames when you want to compare layers side by side or create insets and overviews. When a map has more than one data frame, one of them is the *active data frame*. The active data frame is the one you're currently working with. You can always tell which data frame is active because it's highlighted on the map with a hatched frame and its name is shown in bold text in the table of contents. Of course, if a map has only one data frame, it's always the active one.

Layers are organized in data frames, similar to files in a directory. The active data frame name is displayed in bold in the table of contents.

Right-click the layer to zoom to it, find data in it, identify a feature within it, or see its properties.

Additional data frames display layers in separate frames on the map.



## Using the table of contents

Every map has a table of contents. The table of contents shows you what layers the map contains and also how the map symbolizes the geographic features in those layers.

Some maps display all the layers in one data frame. Others, such as those with insets and overviews, have more than one data frame. The table of contents shows how the layers are organized into data frames.

When viewing a map, you'll use the table of contents primarily to turn layers on and off.

### Tip

#### No table of contents?

The map author may have published the map with the table of contents turned off. To find out what other functionality may have been disabled by the map's author, look at the Map Properties dialog box. Click the File menu and click Map Properties.

### Tip

#### Interrupting the drawing of the layer

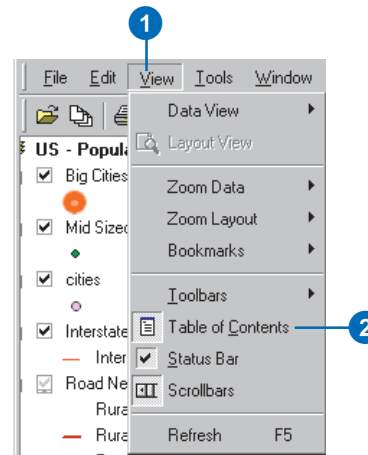
You can click anywhere in the ArcReader window or the table of contents to stop the drawing process.

## Showing the table of contents

1. Click the View menu.
2. Click Table of Contents.

This command is used to toggle the table of contents on and off.

If the table of contents was disabled by the map's author, it cannot be turned back on.

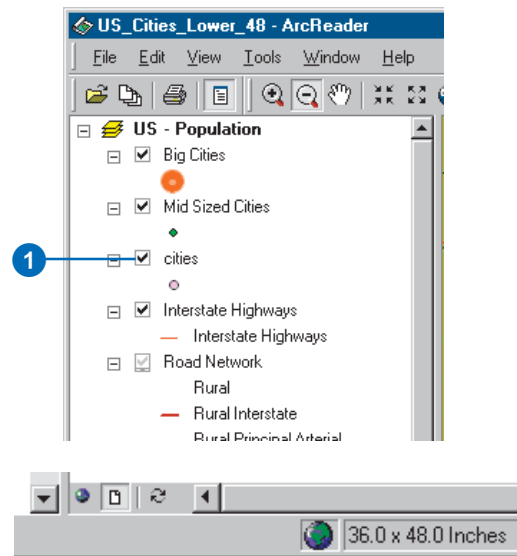


## Turning a layer on or off

1. Check the box next to the layer's name in the table of contents.

The layer should appear on your map. If you can't see the layer, it may be hidden by another layer or may be set to display only at a particular scale.

The spinning globe on the ArcReader status bar indicates the map is drawing.



## The data frame

A data frame is a frame on the map that displays layers in the same geographic area. A map may have one or many data frames. For instance, one data frame might highlight a detailed road network, while another might provide an overview of where the detailed road network is within a larger geographic area.

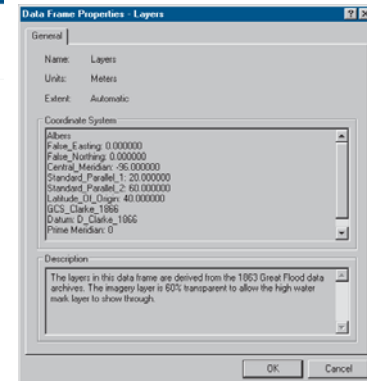
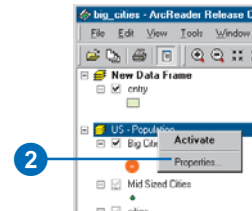
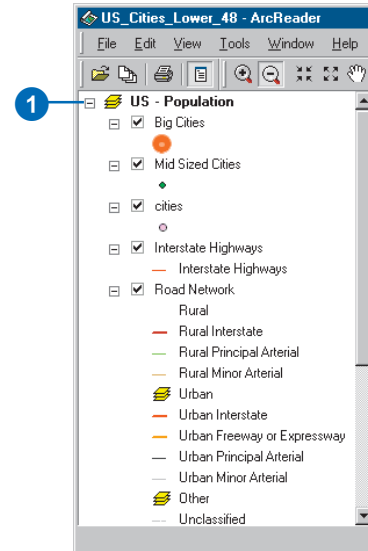
Data frames and layers are listed in the table of contents. The layers listed under a data frame in the table of contents are contained within the data frame on the map. Only one data frame can be viewed at a time in Data view. The data frame name appears in bold text in the table of contents when the data frame is active. All data frames in a map are visible in Layout view. Layout view shows all of the data frames as they appear on a page. The active data frame appears in bold text in the table of contents.

## Showing the contents of a data frame in the table of contents

1. Click the plus or minus sign to the left of the data frame in the table of contents to show or hide the list of layers it contains.

The active data frame is shown in bold.

2. Right-click the data frame name and click Properties. The Data Frame Properties dialog box shows information about the coordinate system and notes from the map author.



## Tip

### Why isn't my layer drawing?

The layer may have a visible scale range set. If you see a gray scalebar underneath the layer's check box in the table of contents, it's not drawing because it's outside of a visible scale range. You'll need to zoom in or out to see it.

If you see a red exclamation point next to the layer name, the link to the layer's data source is broken. The map is unable to connect to the data.

## Viewing a layer's properties

1. Right-click the layer name and click Properties.

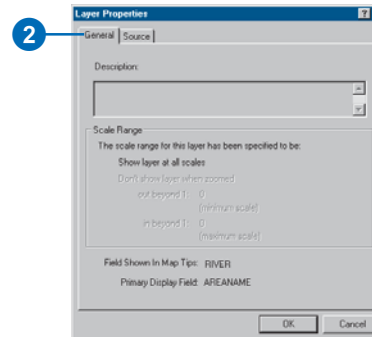
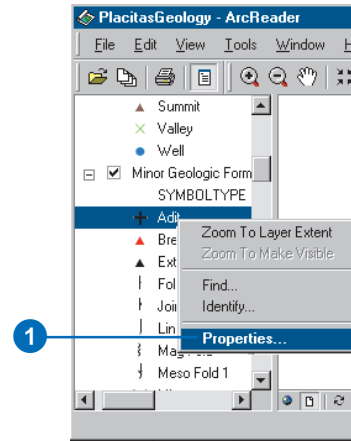
The Layer Properties dialog box opens.

2. Click the General tab.

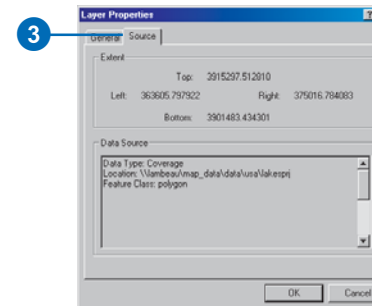
The General tab contains information about scale dependency. Scale dependency is used to draw features at various scales. Some data is too dense to show at small scales. In this case, the data will draw at all scales.

3. Click the Source tab.

The Source tab displays information about the type, name, location, and coordinate system of the data source referenced by this layer. If the layer has a red exclamation point next to it in the table of contents, ArcReader is unable to connect to the source data.



A Map Tip shows a text attribute for the Holston River.



The Source tab shows the data type and location.

## The General tab

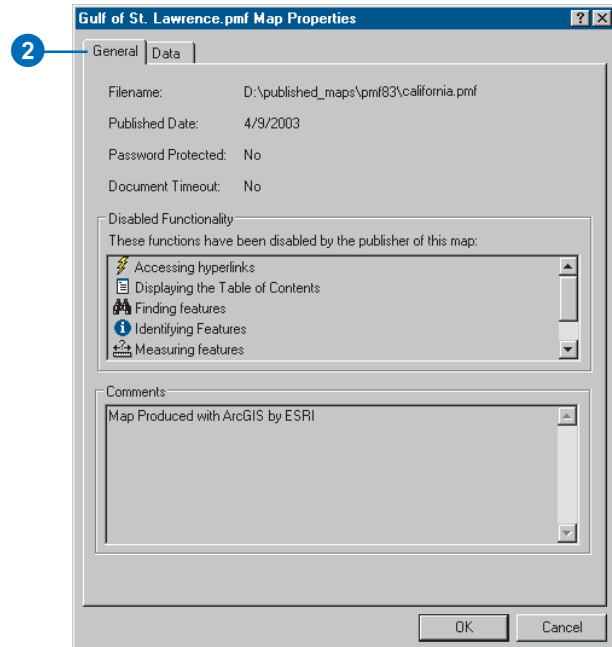
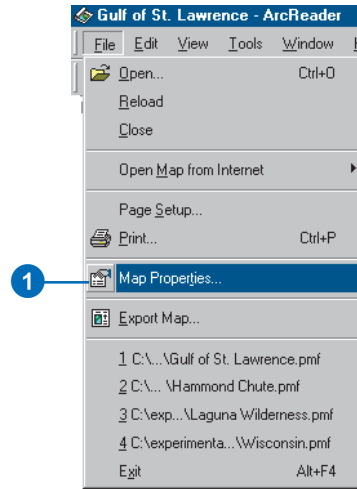
The General tab on the Map Properties dialog box can be useful to find out what tools and commands have been disabled by the map author or to read the comments that the map author has provided. Sometimes when a map is published, the map author disables some functionality or includes comments and information about the map. Disabled functionality is listed on the General tab. Any tools or commands that have been disabled will not be available for use with the map.

## Accessing the General tab on the Map Properties dialog box

1. Click File and click Map Properties.

The Map Properties dialog box opens.

2. Click the General tab.



## The Data tab

The Data tab in the Map Properties dialog box lists layers that are inaccessible. Check here to see the names of broken layers. Since a broken layer cannot be published in a map, something has happened to the data, or ArcReader is unable to connect to the data.

### Tip

#### Broken data links

If you see a red exclamation point next to the layer name in the table of contents, the link to the layer's data source is broken. The map is unable to connect to the data.

### Tip

#### Repairing broken layers

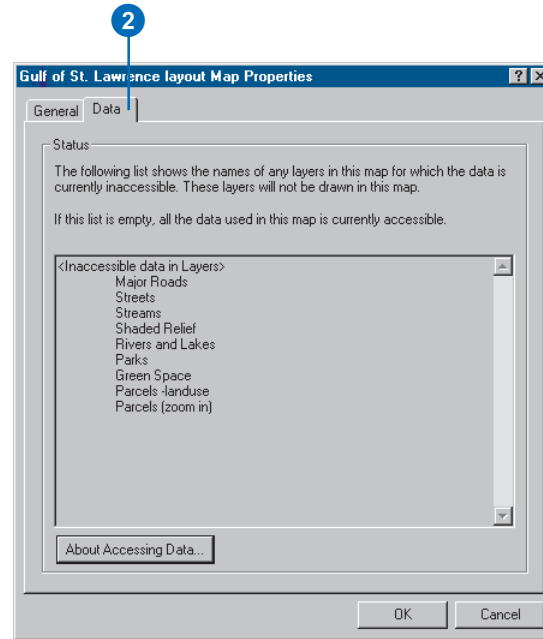
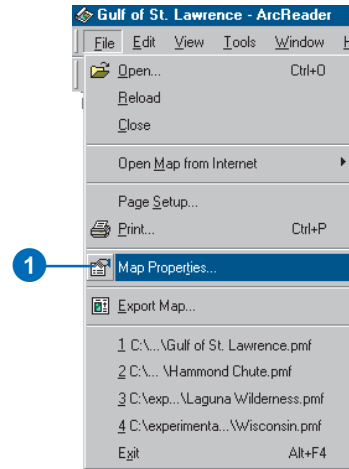
Clicking the *About Accessing Data* button on the Data tab of the Map Properties dialog box gives you more information about broken layers as well as suggestions about how to fix them.

## Finding the status of the data for layers in the map

1. Click File and click Map Properties.

The Map Properties dialog box opens.

2. Click the Data tab.



Click *About Accessing Data* on the Data tab to learn more about broken layers and data access.



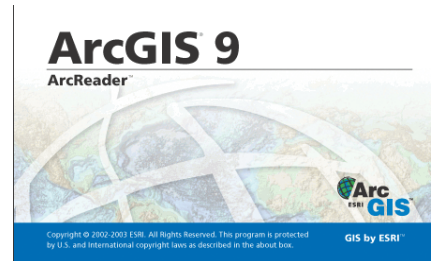
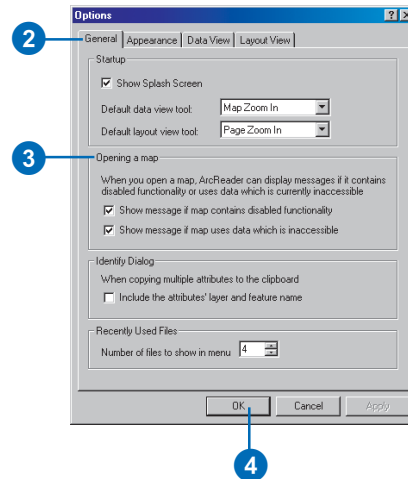
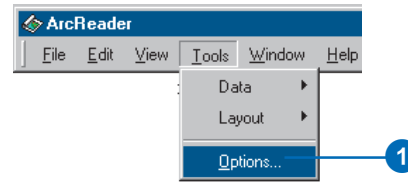
## The Options dialog box

The General tab on the Options dialog box lets you control how ArcReader initially opens. In this dialog box, you can specify how to display information messages, decide whether or not you want the splash screen to appear when you first open ArcReader, and set default tools.

### Controlling the look and feel of ArcReader using the Options dialog box

1. Click the Tools menu and click Options.
2. Click the General tab.
3. Set the startup options.
4. Click OK.

The changes will be in effect for current and future ArcReader sessions.



*The appearance of the ArcReader splash screen and other settings can be controlled in the Options dialog box.*

## Looking at a map in Data view and Layout view

ArcReader provides two different ways to view a map: Data view and Layout view. Each view lets you look at and interact with the map in a specific way.

When you want to browse geographic data on your map, choose Data view. *Data view* displays the contents of a data frame.

A data frame can be thought of as a container that holds a map's data. A map can have one or many data frames. Data view only shows one data frame at a time. The displayed data frame is referred to as the active data frame. This view also hides all the map elements on the layout, such as titles, North arrows, and scalebars.

When you want to see the entire map page, use Layout view. In *Layout view*, you'll see a virtual page showing all the map elements and data frames.

### Tip

#### Not all maps have Data view and Layout view

*The map author may create the map with only one view. To see if both views are available, use the Map Properties dialog box.*

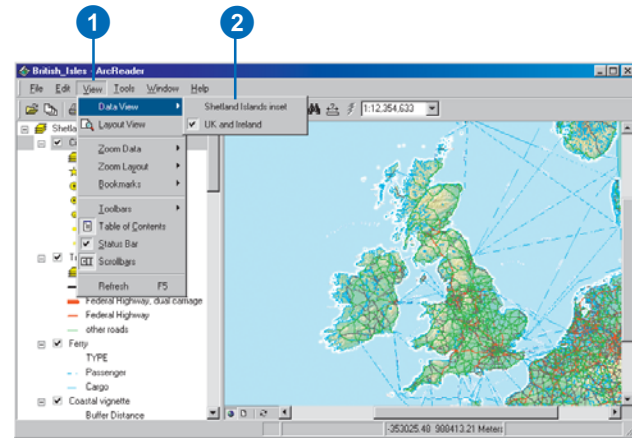
## Switching to Data view

1. Click View and point to Data View.

The checked data frame is the active data frame.

2. Click a data frame.

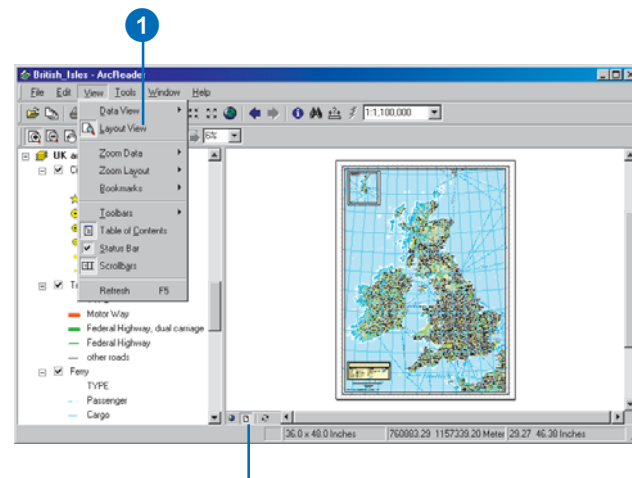
The selected data frame will become the active view.



## Switching to Layout view

1. Click View and click Layout View.

ArcReader shows the entire layout.



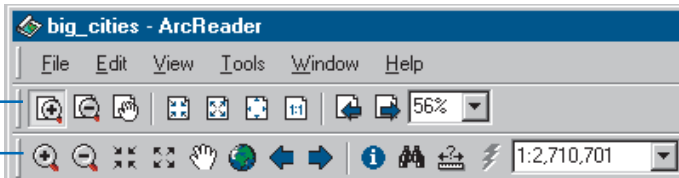
You can also use these buttons to quickly switch between Data view and Layout view.

# Moving around on the map

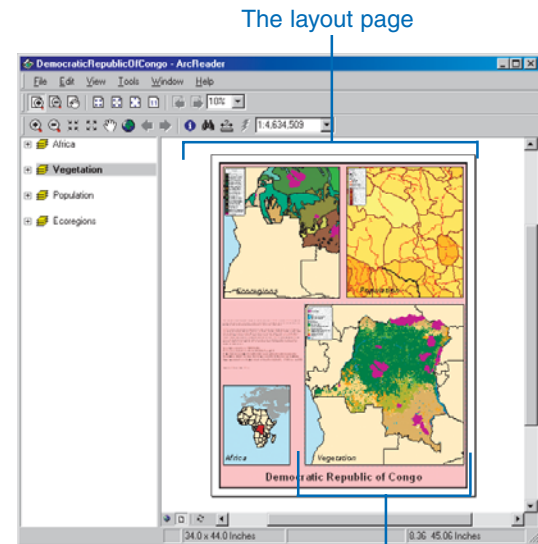
As you work with a map, you can easily change how you view the data it contains. When browsing a map, you might want to pan and zoom around the data to investigate different areas and features.

There are two sets of tools for navigating the map: those on the Data toolbar and those on the Layout toolbar. Data tools are used for navigating the active data frame and layout tools are used to navigate the page. These tools are also available by clicking the View menu or Tools menu.

The Layout toolbar



The Data toolbar



The layout page

A data frame on the page

Use the data tools to interact with the data displayed in the active data frame.

Use the layout tools to interact with the data frame and map elements on the page. There are two toolbars available for browsing the map in Layout view. One set of commands is for browsing the data within the data frame, and the other set is for browsing the data frames and graphics on the layout page.

The following tasks outline how you can move around on the map using various tools.

## Tip

### Using the Pan and Zoom tools on the Data toolbar

In addition to being able to access the Pan and Zoom tools from the Tools menu, you can also click the tools on the Data toolbar.



Zoom In  
Zoom Out

Pan

## Tip

### Using Pan in the data frame

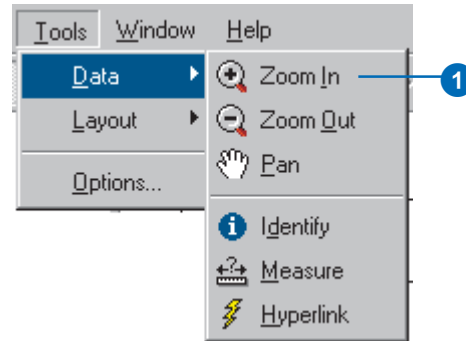
In addition to being able to zoom in and out to manipulate how you view the map or a data frame, you can also pan around the map. Click the Pan button or click Tools and click Pan, then click and drag the map around to adjust the view of the data.

## Using Zoom in the data frame

1. Click Tools, point to Data, and click Zoom In.
2. Drag a box over the area to which you want to zoom in the data frame.

The area will be centered and enlarged on the screen.

You may also click a location to zoom in. You can use Zoom Out to see more of the data in a data frame.



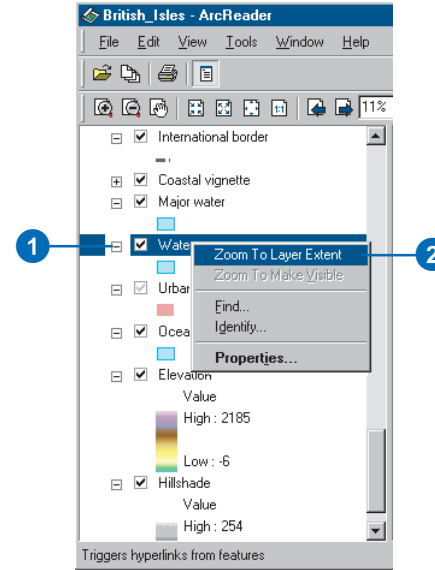
## Tip

### Why doesn't a layer draw when I move around the data frame?

The layer probably has a scale range set that prevents the layer from displaying on the map at certain scales. Right-click the layer and click *Properties* or *Zoom To Make Visible* to determine what the scale range is set to.

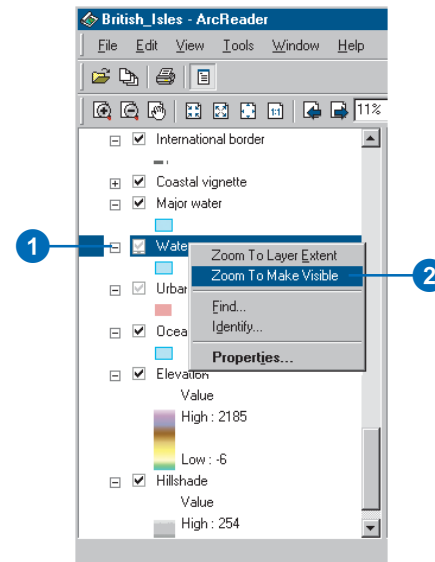
## Zooming to the extent of a layer

1. Right-click the layer to which you want to zoom.
2. Click *Zoom To Layer Extent*.  
ArcReader redraws to show the entire layer.



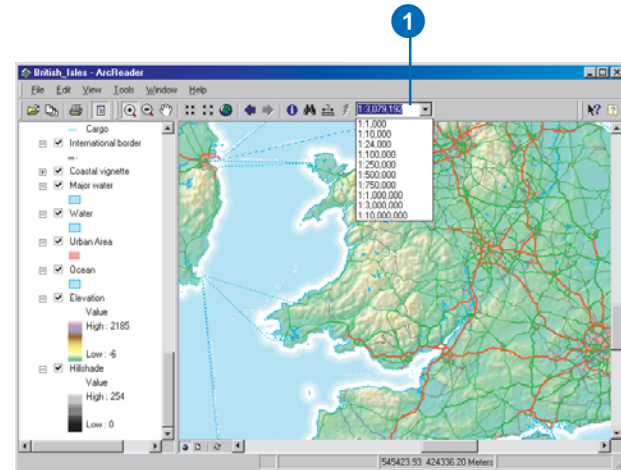
## Zooming to make a scale-dependent layer visible

1. Right-click the scale-dependent layer to which you want to zoom.  
Scale-dependent layers only draw at specific map scales.
2. Click *Zoom To Make Visible*.  
ArcReader zooms to a scale that will make the layer draw.



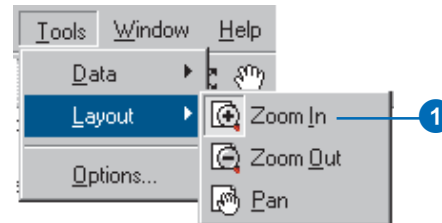
## Zooming to a specific scale in the data frame

1. Type the desired scale in the text box or click a scale from the dropdown list.



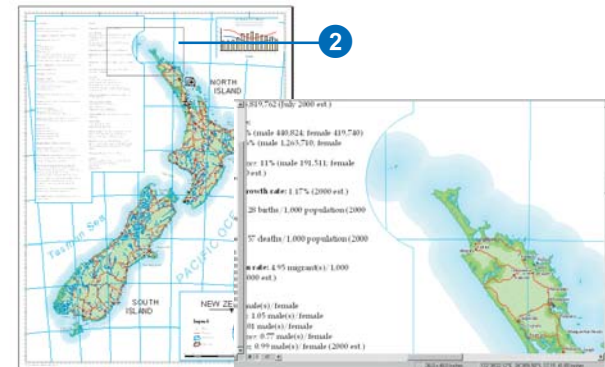
## Zooming the layout

1. Click Tools, point to Layout, and click Zoom In. This allows you to zoom in on the map page.
2. Using the Zoom In tool, drag a box around the area of interest. The area will be centered and enlarged in the display window.



The extent of the data frame remains unchanged, and map elements appear larger.

Layout tools are only available while in Layout view. To see more of the page, use Zoom Out.



## Using spatial bookmarks

A spatial bookmark identifies a predefined geographic location. Clicking on a bookmark zooms to that location. Bookmarks allow you to easily navigate to the areas of interest that have been defined by the map's author.

All bookmarks for the map are displayed in the bookmark list. If there are multiple data frames on the map, they will also be listed.

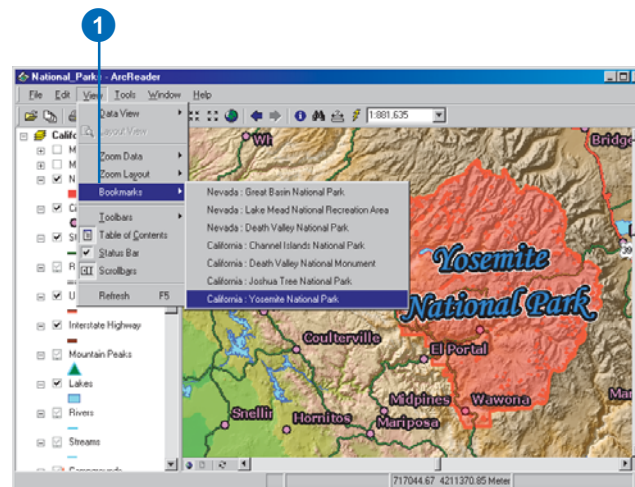
### Tip

#### Reloading the map

*Click the File menu and click Reload to see the map as it was originally published.*

1. Click the View menu, point to Bookmarks, and click the name of the bookmark you want to use.

The predefined area displays.



# The Magnifier Window

When you don't want to adjust your map display but you want to see things in greater detail, open the Magnifier Window.

The Magnifier Window works like a magnifying glass: as you pass the window over the data, you see a magnified view of the location under the window. Moving the window around does not affect the current map display.

Right-click the Magnifier Window to adjust the magnification.

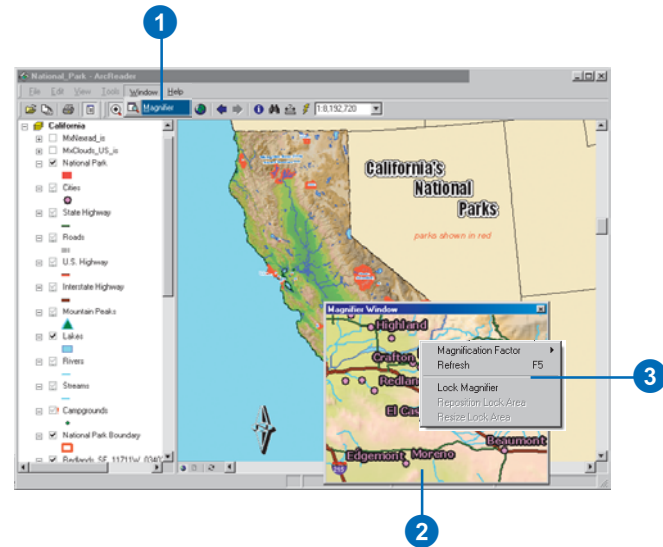
## Tip

### The Magnifier Window updates when you switch between Data and Layout view

*The Magnifier Window is available in both Data and Layout views. When you switch views while the Magnifier Window is open, it will redraw to show the current view. Redrawing occurs even if the window is set to Lock Magnifier.*

## Opening the Magnifier Window and setting the view

1. Click the Window menu and click Magnifier.  
The Magnifier Window appears.
2. Drag the Magnifier Window over the data to see a magnified view.
3. Right-click inside the Magnifier Window to access different options.





# Exploring and working with data on a map

Sometimes just looking at a map doesn't give you enough information to answer your question. You need to query the data to solve problems. ArcReader lets you explore the data on the map and get the information you need.

You can find features that have a particular characteristic or attribute, examine all the attributes of a particular layer, measure distances on the map, point to features to find out what they are, or follow a hyperlink to more information.

## Tip

### Finding features faster by narrowing the search

Use the Find tool, which has a search field, if you know exactly what you are looking for. The fewer fields you have to search, the quicker you will get results.

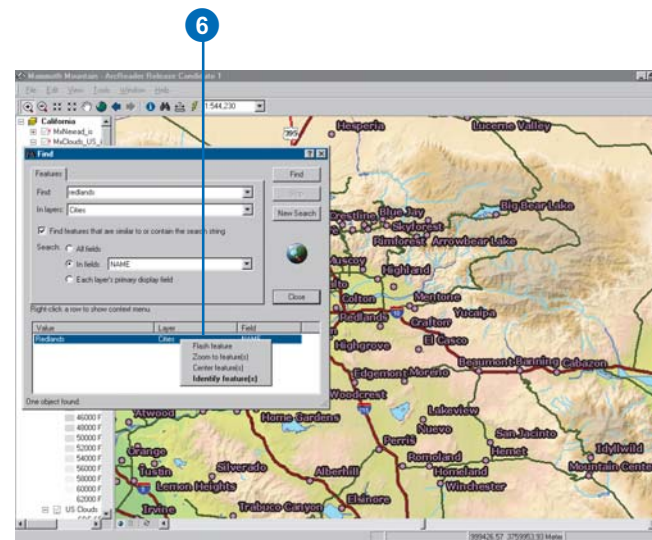
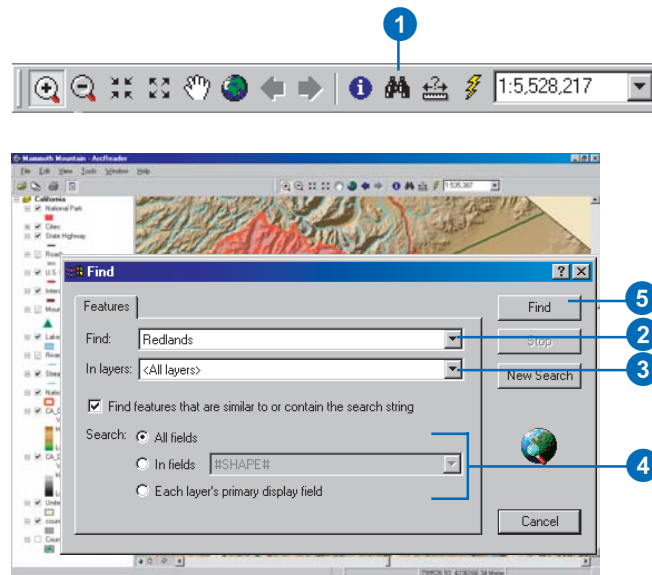
## Tip

### Accessing the Find tool

You can access the Find tool by right-clicking a layer in the table of contents, clicking the Find tool on the Data toolbar, or clicking the Edit menu and clicking Find.

## Finding features with attribute values

1. Click the Find button.
2. Type the attribute value of interest in the Find text box.
3. Click the In layers dropdown arrow and click the layer you want to search.
4. Search for the attribute in all fields, in a specific field, or in the primary display field.
5. Click Find.
6. Right-click the found feature listed in the results window to Flash, Zoom to, Center, or Identify the feature.



## Tip

### Accessing the Identify tool

The Identify tool can be accessed by right-clicking a layer in the table of contents and clicking Identify or by right-clicking the results in the Find dialog box. You can also click the Tools menu, point to Data, then click Identify.

## Tip

### Identifying a location

Identify shows the location of the mouse click. The Location box shows the feature location if you click a feature in the Identify tree. The x,y location is the inside centroid for polygons, midpoint for lines, and the actual location for points.

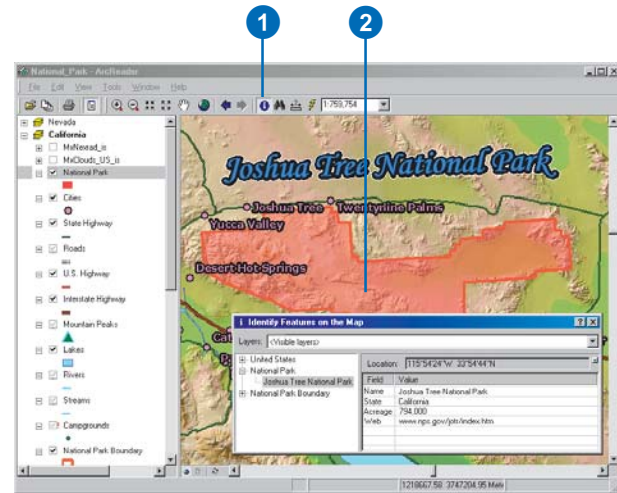
## Tip

### Identifying multiple features at once

You can identify multiple features at once by clicking and dragging a box around the features you want to identify. The Identify tool will identify the first 500 features encountered per layer.

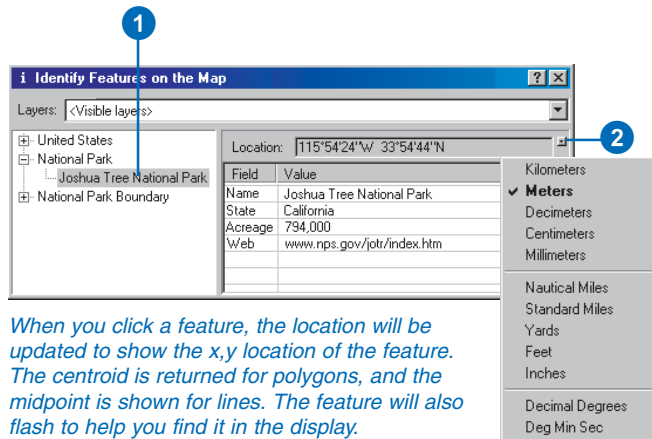
## Identifying features by pointing at them

1. Click the Identify button.  
An empty Identify dialog box appears.
2. Click the map feature you want to identify or drag a box around multiple features.  
By default, information about the topmost layer will be shown in the Identify window.
3. Click the Identify from dropdown arrow to identify a feature in a specific layer.  
Only features in that layer will show up in the Identify results window.



## Getting the location of the identified feature

1. Click a feature in the Identify tree.  
The location text box is updated.
2. Click the small dropdown arrow to the right of the Location text box to select the location units of your choice.



When you click a feature, the location will be updated to show the x,y location of the feature. The centroid is returned for polygons, and the midpoint is shown for lines. The feature will also flash to help you find it in the display.

## Tip

### Copying the field values

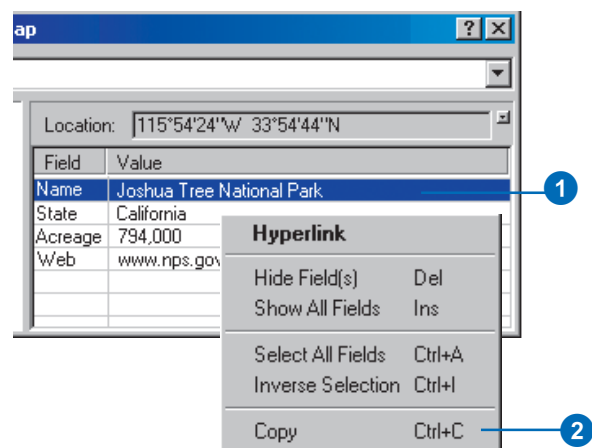
Right-click the feature in the Identify tree to copy the record. The layer name and its attributes will be copied.

Use the Options dialog box to control whether the layer name is included in the Copy command. The copied records can then be pasted into another application.

### Copying attributes from the Identify window

1. Click an attribute in the Identify window.
2. Right-click the field and click Copy.

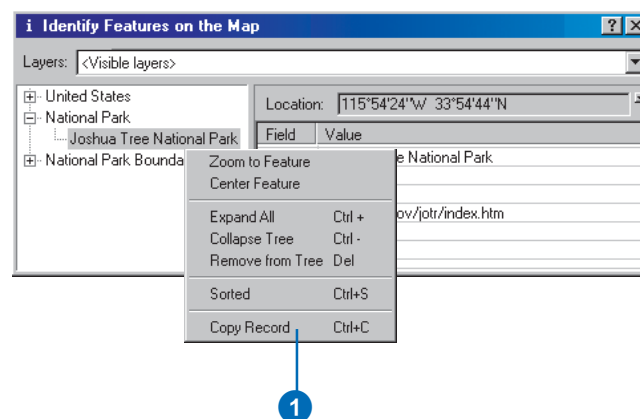
You can now paste the attribute into another software application.



### Copying the entire record

1. Right-click the feature in the Identify tree and click Copy Record to copy the entire record.

The feature's record can now be pasted into another application.



## Tip

### The Measure tool

The Measure tool displays distance in the units of the data frame. These units are set by the map author and cannot be changed in ArcReader.

## Tip

### The Hyperlink tool

This tool will be unavailable if no hyperlinks have been defined by the map author.

There are three types of hyperlinks:

**Document:** When you click a feature with the Hyperlink tool, a document or file will be launched using the application with which that file type is currently associated.

**URL:** When you click a feature with the Hyperlink tool, a Web page will launch in the default browser.

**Macro:** Microsoft® Visual Basic® macros are not supported in ArcReader. The macros will not be available in the published map.

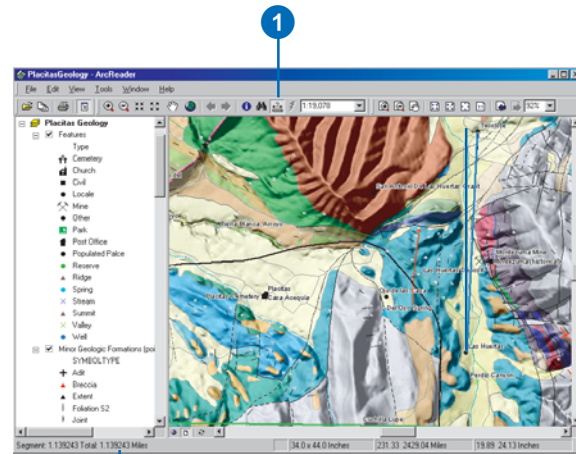
## Tip

### Controlling whether hyperlinks are drawn

You can control whether or not hyperlink symbols draw in ArcReader. Click the Tools menu, then click the Appearance tab. Check and uncheck the Draw Symbol check box to cause the hyperlinks to draw or not.

## Measuring distance

1. Click the Measure button on the Data toolbar.
2. Click the map at the location you want to start measuring.
3. Move the pointer to the point to which you want to measure. If you would like to measure along the curve of a line, click along the line to add vertices.
4. Double-click to end the line.



The measurement displays here on the status bar.

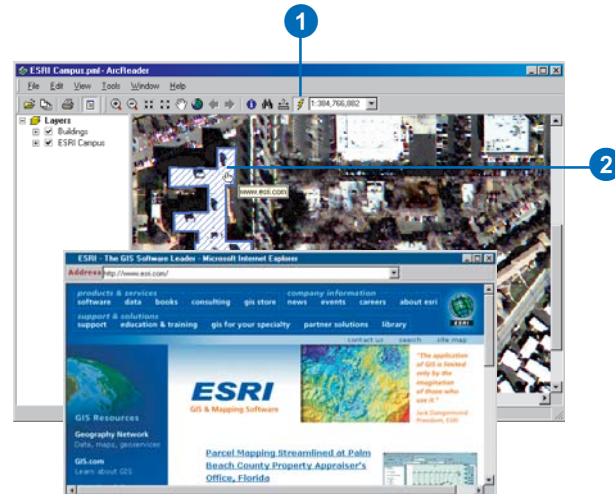
## Accessing hyperlinked features

1. Click the Hyperlink button on the Tools toolbar.

Hyperlinked features are outlined in blue when using the Hyperlink tool. When you point to the feature, the icon will change to a hand and you will see a popup tip with the name of the target.

2. Click a hyperlinked feature.

The hyperlink will open. In this case, the hyperlink is an Internet Web page.



# Printing

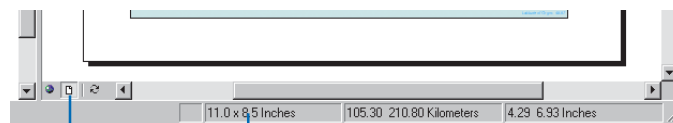
There are a few things to consider when printing from ArcReader. When printing from Layout view, the entire page layout will be printed. If you are printing from Data view, the data will be printed just as it appears in the ArcReader display. The data will be scaled to fit the specified printer page.

The following pages outline some things that you should be aware of when printing, such as how to use Page Setup to determine the appropriate paper size, how to print a large map on a small page, and how to print from Data view.

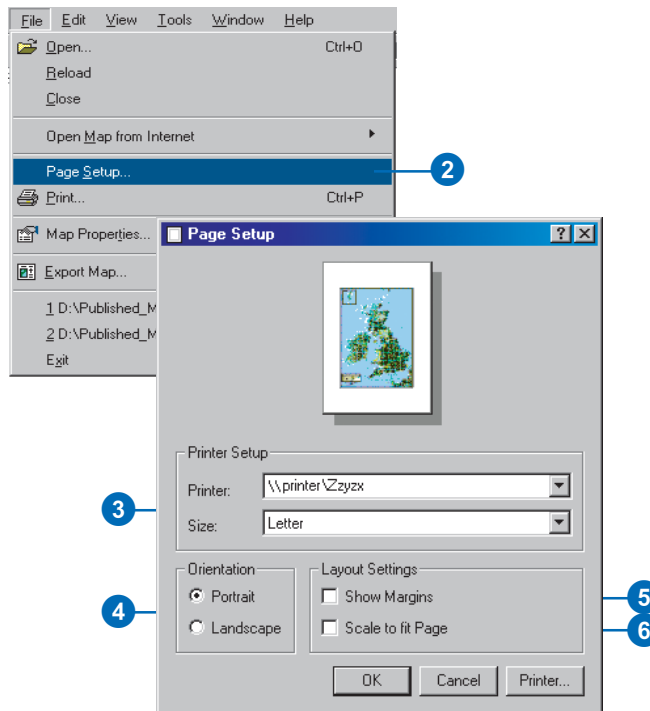
## Showing margins

Before printing, it is important to know the published page size of the map you are working with.

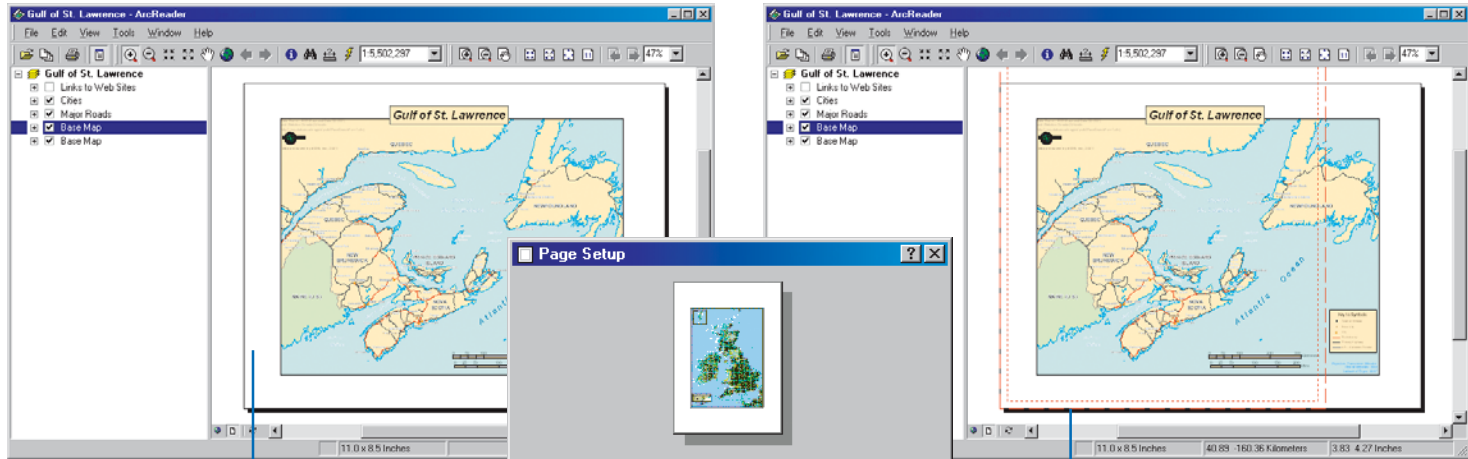
1. Click the Layout button.
2. Click the File menu and click Page Setup.
3. Choose your printer and the paper size.
4. Choose the desired orientation—Portrait or Landscape—for your map.
5. Check the Show Margins check box to see the printer margin in Layout view if you are unsure about the chosen paper size and orientation settings.
6. Check the Scale to fit Page check box if the map you are working with has a page size that is too large for your printer, allowing you to print the map to the paper size of your choice.



The page size is shown on the ArcReader status bar.



## Using Page Setup to determine the appropriate paper size



What you see before checking the Show Margins check box in Page Setup

What you see after checking the Show Margins check box in Page Setup

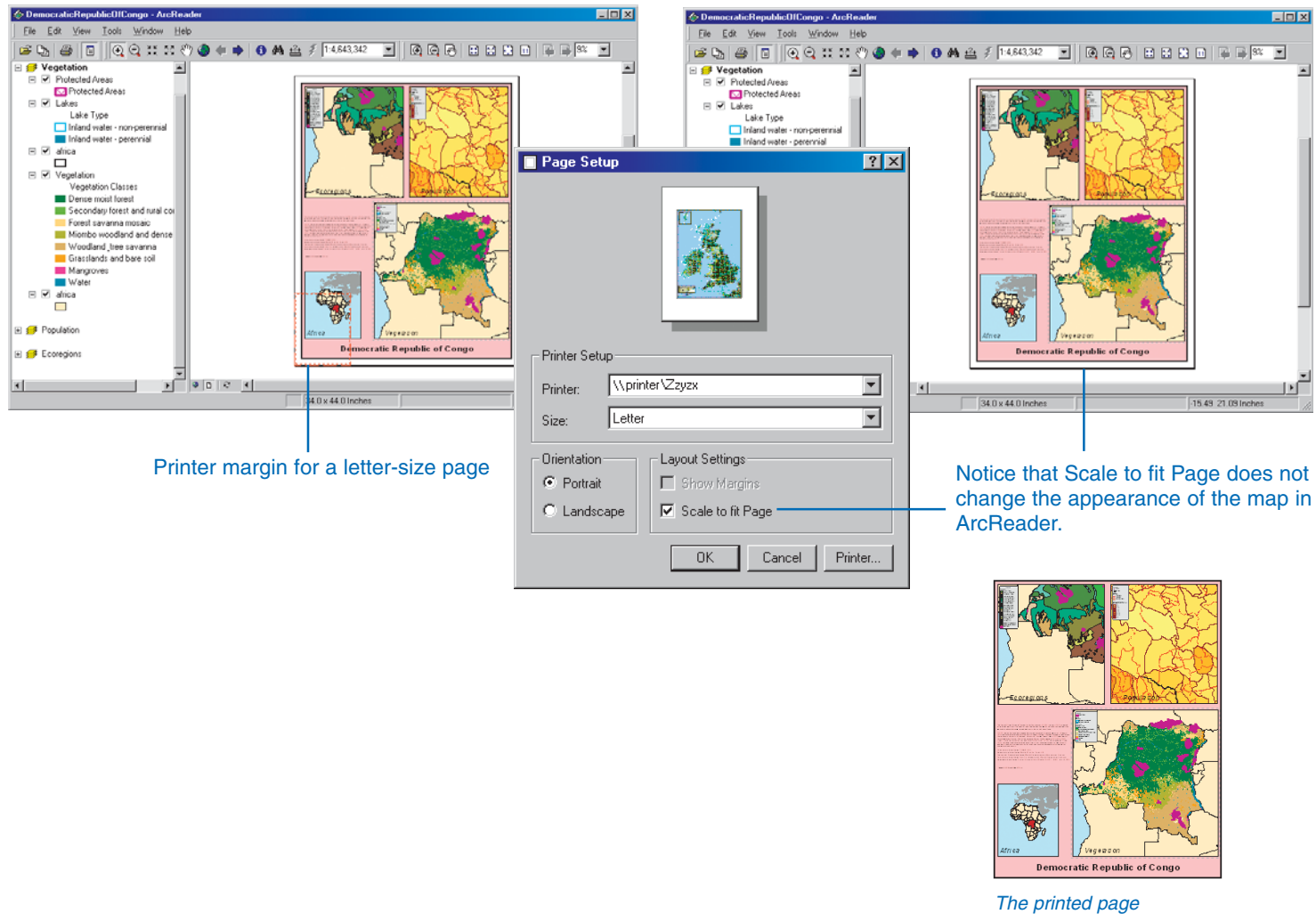
*Notice that Landscape would be a more appropriate setting for this map. Only the portions of the map within the red rectangle will print on the printer page (as shown on the lower right).*



*The printed page*

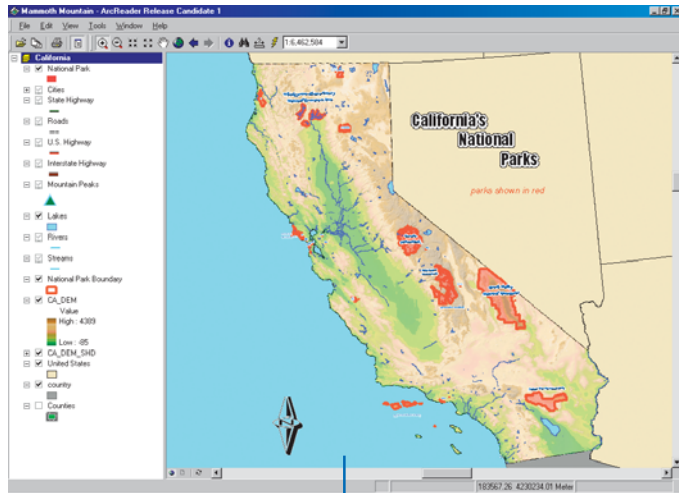
## Printing a large map on a small page

Check Scale to fit Page on the Page Setup dialog box when the published map size is too large to fit on the available printer.



## Printing from Data view

The portion of the map in the display area will be scaled to fit the selected printer page. Printing from Data view always scales the map to fit the page.



The map displayed in Data view



Printing from Data view scales the data in the ArcReader display window to fit the printer page.

## Printing from Layout view

You can print your map from Layout view, but it is important to keep in mind that the map will not automatically scale to fit the printer page. If you are going to print from Layout view, you need to click the File menu, click Page Setup, and check Scale to fit Page.



# Getting help

You can quickly get help with the buttons and menu commands you see on the interface in ArcReader. Point to a command or button with the mouse pointer and press Shift+F1 on your keyboard.

You can also get help in some dialog boxes. When you click the What's This? button in the upper-right corner of the dialog box and click an item in that dialog box, a description of the item pops up.

Much of the information in this book is also available in the ArcGIS Desktop Help system. The Help topics are organized around the main tasks you want to complete as well as the concepts behind the tasks.

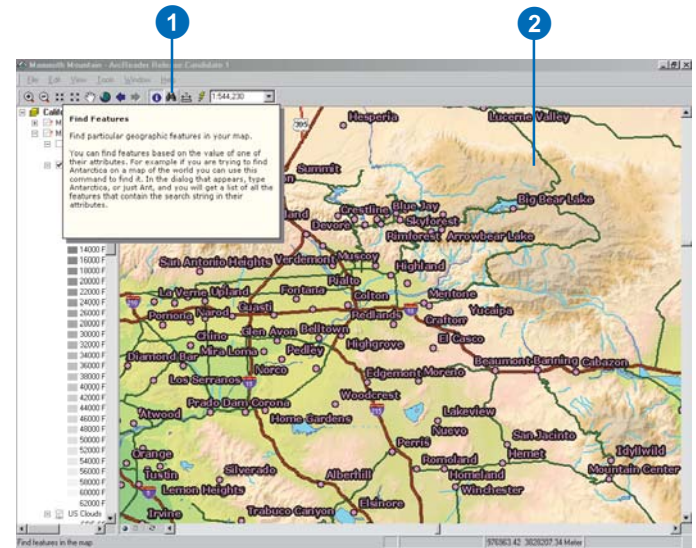
To access the ArcGIS Desktop Help system for ArcReader, click the Help menu and click ArcReader Help, or press F1.

## Getting help in the ArcReader window

1. Point to a button or command and press Shift + F1 on your keyboard.

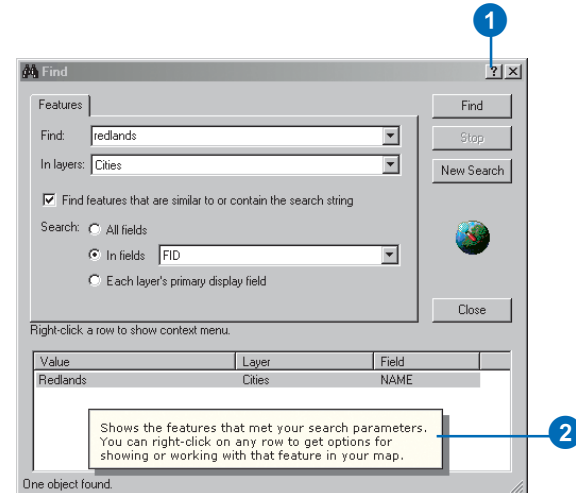
Help text appears.

2. Click anywhere on the screen to close the Help description box.



## Getting help in a dialog box

1. Click the What's This? button.
2. With the Help pointer, click the item in the dialog box about which you want more information.
3. Click anywhere on the screen to close the Help description box.



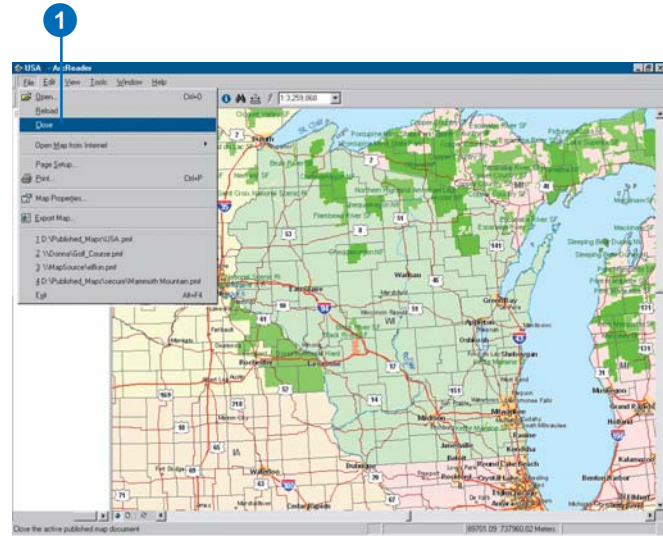
# Closing and exiting

To remove the currently loaded map from ArcReader, close the map. To close the map and exit ArcReader, use the Exit command on the Tools menu.

## Closing an opened map

1. Click the File menu and click Close.

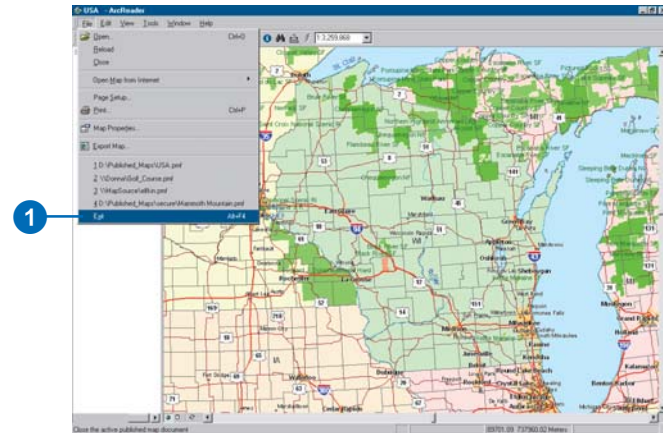
Opening a new map also closes the current map.



## Closing ArcReader

1. Click the File menu and click Exit.

The ArcReader session is ended.



# Glossary

## **active data frame**

The data frame you're currently working with—for example, the one to which you are adding layers. The active data frame is shown in bold in the table of contents.

## **attribute**

A characteristic of a map feature. Attributes of a river might include its name, length, average depth, and so on.

## **attribute table**

Information about features on a map, stored in rows and columns. Each row relates to a single feature, while each column contains the values for a single characteristic.

## **data frame**

A frame on the map that displays layers occupying the same geographic area. You may have one or more data frames on your map depending on how you want to organize your data. For instance, one data frame might highlight a study area, and another might provide an overview of where the study area is.

## **data source**

Any geographic data, such as a coverage, shapefile, raster, or geodatabase.

## **Data view**

An all-purpose view for exploring, displaying, and querying geographic data. This view hides all map elements, such as titles, North arrows, and scalebars. See also Layout view.

## **display units**

The units—for example, feet, miles, meters, or kilometers—ArcReader uses to report measurements, dimensions of shapes, and distance tolerances and offsets.

## **feature**

A representation of a real-world object in a layer on a map.

## **feature class**

1. A classification describing the format of geographic features and supporting data in a coverage. Coverage feature classes for representing geographic features include point, arc, node, route system, route, section, polygon, and region. One or more coverage features are used to model geographic features; for example, arcs and nodes can be used to model linear features, such as street centerlines. The tic, annotation, link, and boundary feature classes provide supporting data for coverage data management and viewing.

2. The conceptual representation of a geographic feature. When referring to geographic features, feature classes include point, line, area, and surface. In a geodatabase, an object class that stores features and has a field of type geometry.

## **field**

A column in a table. Each field contains the values for a single attribute.

## **geodatabase**

A geographic database that provides services for managing geographic data. A geodatabase is hosted inside a relational database management system. A geodatabase contains feature datasets.

## **graticule**

A graphic representation on a map of the network of parallels and meridians (latitude and longitude) that subdivide the earth's surface.

## **grid**

A geographic representation of the world as an array of equally sized square cells arranged in rows and columns. Each grid cell is referenced by its geographic x,y location. See also raster.

## **group layer**

Several layers that appear and act like a single layer in the table of contents in ArcReader.

## **image**

Represents geographic features by dividing the world into discrete squares called cells. Examples include satellite and aerial photographs, scanned documents, and building photographs. See also raster.

## **layer**

A collection of geographic features—such as rivers, lakes, counties, or cities—of a particular area or place for display on a map. A layer references geographic data stored in a data source, such as a coverage, and defines how to display it. You can create and manage layers as you would any other type of data in your database.

## **layout**

The design or arrangement of elements—such as geographic data, North arrows, and scalebars—in a digital map display or printed map.

## **Layout view**

The view for laying out your map. Layout view shows the virtual page upon which you place and arrange geographic data and map elements—such as titles, legends, and scalebars—for printing. See also Data view.

## **legend**

A list of symbols appearing on the map; includes a sample of each symbol and text describing which feature each symbol represents.

## **map**

A graphical presentation of geographic information. It contains geographic data along with other elements, such as a title, North arrow, legend, and scalebar. You can interactively display and query the geographic data on the map and also prepare a printable map by arranging the map elements around the data in a visually pleasing manner.

## **map display**

A graphic representation of the map on the computer screen.

## **map document**

The disk-based representation of a map. Map documents can be printed or embedded into other documents. Map documents have a .mxd file extension.

## **map element**

A graphic component, such as a scalebar, North arrow, and title, that helps describe the geographic data on the map.

## **Map Tips**

Displays onscreen descriptions of map features when you point to the feature.

## **map units**

The units—for example, feet, miles, meters, or kilometers—in which the coordinates of spatial data are stored.

## **neatline**

A border commonly drawn around geographic features, often to separate them from other map elements.

## **North arrow**

A map element that shows how the map is oriented.

## **projection**

A mathematical formula that transforms feature locations from the earth's curved surface to a map's flat surface. A projected coordinate system employs a projection to transform locations expressed as latitude and longitude values to x,y coordinates. Projections cause distortions in one or more of these spatial properties: distance, area, shape, and direction.

## **raster**

Represents any data source that uses a grid structure to store geographic information. See also grid and image.

## **scale**

The relationship between the dimensions of features on a map and the geographic objects they represent on the earth, commonly expressed as a fraction or a ratio. A map scale of 1/100,000 or 1:100,000 means that one unit of measure on the map equals 100,000 of the same unit on the earth.

## **scalebar**

A map element that graphically shows a map's scale.

## **shapefile**

A vector data storage format for storing the location, shape, and attributes of geographic features. A shapefile is stored in a folder and contains one feature class.

## **symbol**

A graphic representation of an individual feature or class of features that helps identify it and distinguish it from other features.

## **symbolology**

The criteria used to determine symbols for the features in a layer. A characteristic of a feature may influence the size, color, and shape of the symbol used.

## **table of contents**

Lists all the layers on the map and shows what the features in each layer represent.

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