
GETTING TO KNOW ArcGIS[®] d e s k t o p

Errata for ArcGIS Desktop 9.2

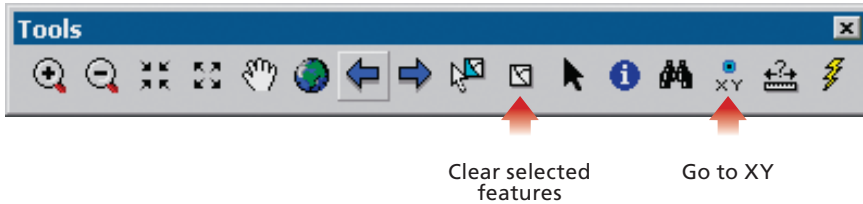
This document provides errata for people who want to perform the exercises in *Getting to Know ArcGIS Desktop, Second Edition* using ArcGIS Desktop version 9.2 software. The errata include changes to the user interface and changes to exercise instructions. A few exercises have been replaced in their entirety because software changes necessitated extensive modifications to exercise steps or workflows.

Errata for ArcGIS 9.2

General – ArcMap

Tools toolbar

Two new tools:

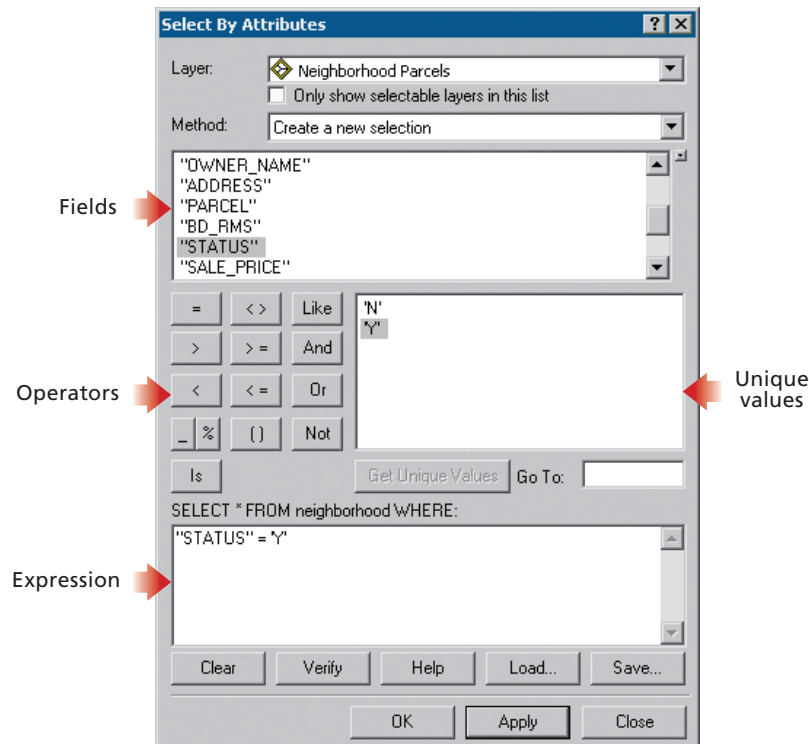


Go To XY—Allows you to type an x,y location and navigate to it.

Clear Selected Features—Deselects all of the currently selected features in the active data frame.

Select By Attributes

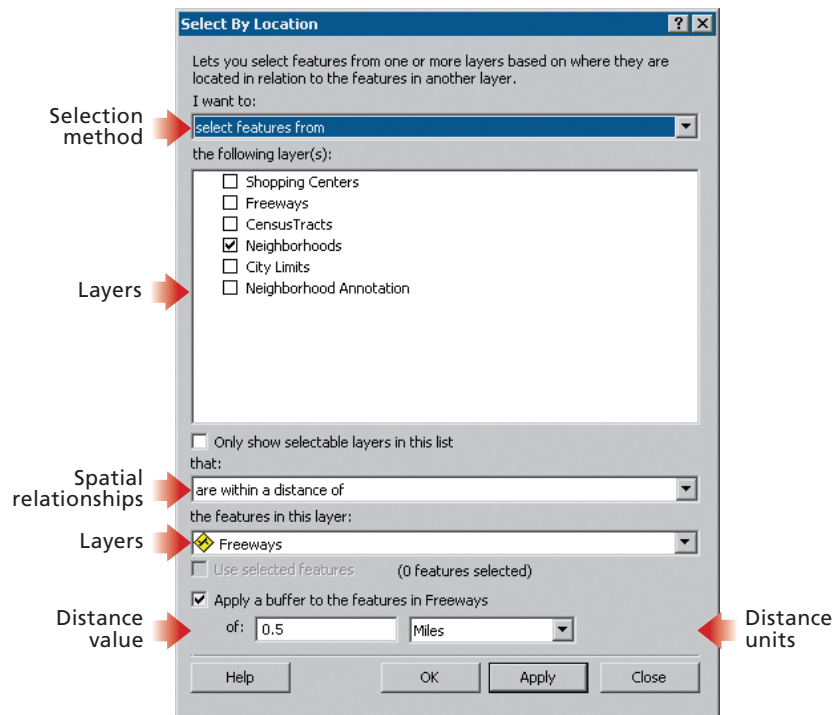
Changed dialog:



Errata for ArcGIS 9.2

Select By Location

Changed dialog:



Chapter 8: Exercise 8a

Page 200

- 8 Click the Selection menu and click Options.

In the Selection Options dialog, the selection tolerance is set to **5** pixels.

Page 201

- 9 In the Selection tolerance box, replace the value of **5** with 0 as shown in the following graphic, then click OK.

Errata for ArcGIS 9.2

Chapter 10: Exercise 10a

Page 257

- 3** In the list of layers, check Neighborhoods.

Page 264

- 12** In the list of spatial relationships, click the drop-down arrow and click “have their centroid in.”

Chapter 11: Exercise 11d

Page 297

- 8** In the Saving Data dialog, make sure the Save as type drop-down list is set to **File and Personal Geodatabase feature classes**.

Chapter 12: Exercise 12c

Page 327

- 7** Right-click on the field name StandValue and click **Field Calculator**.

Chapter 13

Page 334

Introduction: Last paragraph

For more information about coordinate systems and map projections, click the Contents tab in ArcGIS Desktop Help and navigate to **Mapping and visualization>Using ArcMap>Specifying a coordinate system**.

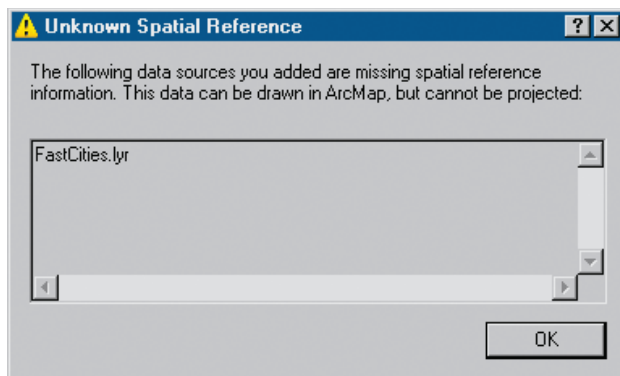
Errata for ArcGIS 9.2

Page 348

Defining a projection: Third paragraph

If ArcMap sees that the coordinate values are big six- or seven-digit numbers, it knows that the data is in a projected coordinate system, but again, it doesn't know which one.

You'll get a message similar to this one:

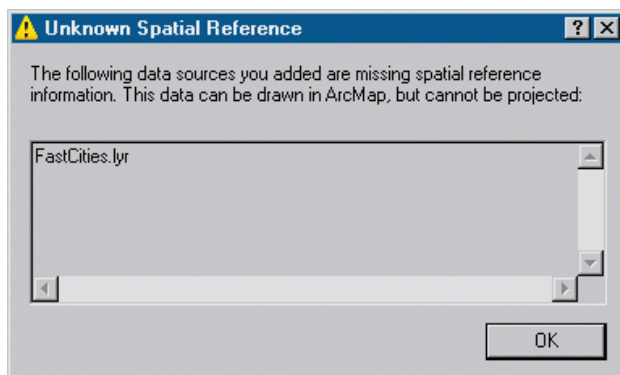


Chapter 13: Exercise 13b

Page 350

- 3** In the Add Data dialog, navigate to **C:\GTKArcGIS\Chapter13\Data** and click **FastCities.lyr**, as shown in the following graphic. Click **Add**.

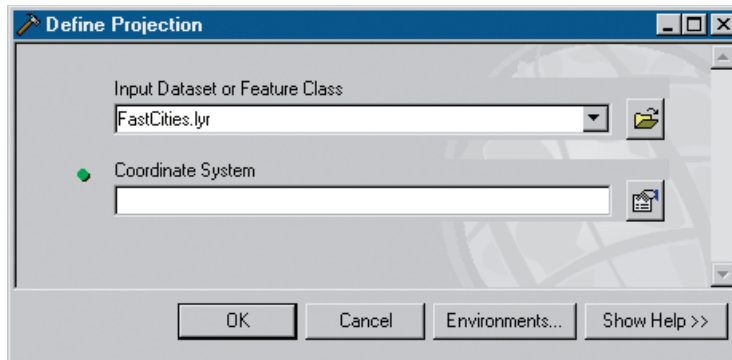
ArcMap warns you that the layer is missing spatial reference information.



Errata for ArcGIS 9.2

Page 352

- 9 Click the Input Dataset or Feature Class drop-down arrow and click FastCities.lyr.



You see that the layer's Coordinate System is **not filled in (unknown)**.

Chapter 14

Page 358

Introduction: Last paragraph

Note: ArcGIS 9.2 introduces an alternative to the personal geodatabase, a new type of single-user geodatabase referred to as the file geodatabase. Its advantages include improved performance, more efficient storage, and no database size limit. For more information about the new file based geodatabase, click the Contents tab in ArcGIS Desktop Help and navigate to *ArcGIS Desktop Help Online > Geodatabases and ArcSDE > An Overview of the Geodatabase > Types of geodatabases* or *What's new in ArcGIS > What's new in ArcGIS 9.2*, then click the link to open the What's New in ArcGIS 9.2 PDF.

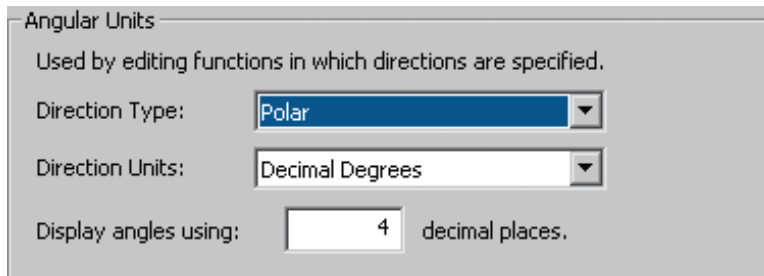
Chapter 15: Exercise 15b

Page 401

- 22 Right-click anywhere on the map display. On the context menu, click Direction. In the pop-up box, replace the current value with **73.4**, as shown in the following graphic, then press Enter.

Errata for ArcGIS 9.2

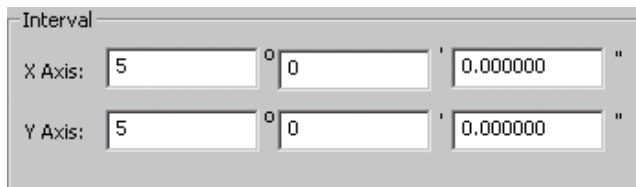
Note: If your Direction pop-up box looks different from the one shown on page 401, your Direction Type may be set incorrectly. To change the setting, on the Editor toolbar, click the Editor menu and click Options. In the Editing Options dialog, click the Units tab. Change the Direction Type to Polar. Make sure your settings match those shown in the following graphic.



Chapter 18: Exercise 18a

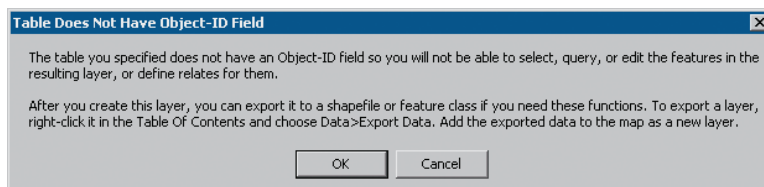
Page 468

- 12** Replace the X Axis Interval value of **10** with **5** and the Y Axis Interval of **10** with **5**, as shown in the following graphic. Click OK, then click OK in the Data Frame Properties dialog.



Page 472

- 6** Click OK in the Display XY Data dialog to display the points on the map. Click OK to dismiss the “Table Does Not Have Object-ID Field” warning message.



A layer called latlong_etang.txt Events is added to the table of contents. (“Events” is a technical term for points created from x,y coordinate values.)

Errata for ArcGIS 9.2

Note: If the table on which an XY event layer is based does not have an ObjectID field, you get the message box shown above and you won't be able to perform certain tasks on the layer.

You'll give the layer a simpler name, then resymbolize the points with a symbol for typhoons.

Chapter 20

Page 519

Introduction: Last paragraph

For more information about spatial modeling and ModelBuilder, click the Contents tab in ArcGIS Desktop Help and navigate to *Geoprocessing >Automating your work with models > Model concepts and terms and Geoprocessing >Automating your work with models > Using ModelBuilder*.

Exercise 11b—Errata for ArcGIS 9.2

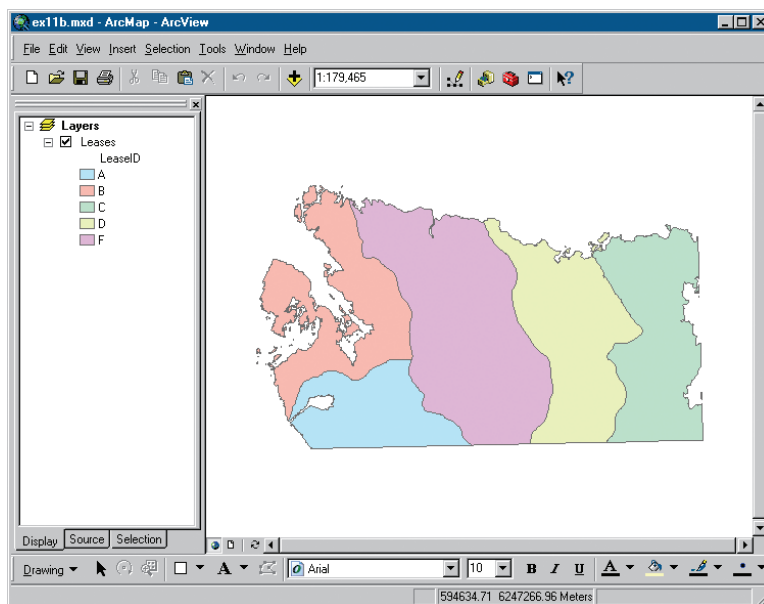
Creating graphs

The ArcGIS Graph Wizard lets you create many different kinds of graphs, including column, pie, area, and scatter graphs. You can set properties for such elements as titles, axes, and graph markers (the bars in a bar graph, for instance). Graphs can be saved with a map document or as files with a .grf extension that can be added to any map document.

Exercise 11b

You have dissolved the forest stands into lease areas and summed their harvestable values. In this exercise, you'll present the values in a graph and add the graph to a map layout.

- 1 Start ArcMap. In the ArcMap dialog, click the option to use an existing map. In the list of existing maps, double-click Browse for maps. (If ArcMap is already running, click the File menu and click Open.) Navigate to C:\GTKArcGIS\Chapter11. Click ex11b.mxd and click Open.

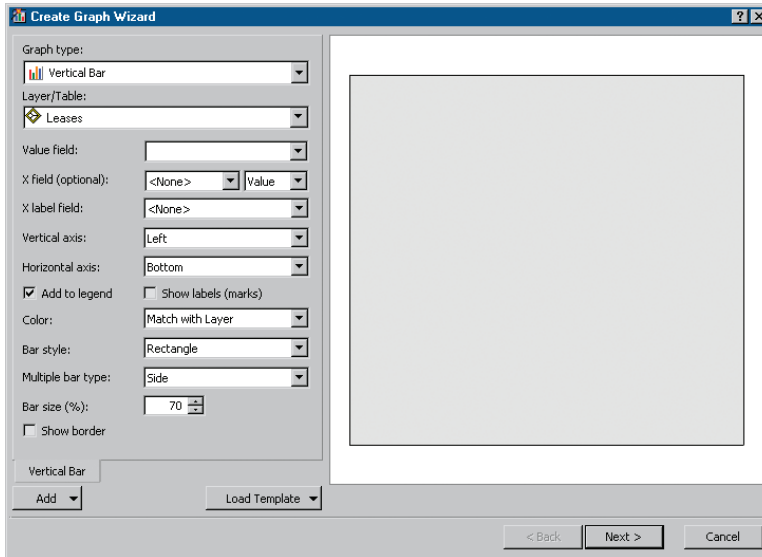


The map shows the lease areas you created in the previous exercise.

Exercise 11b

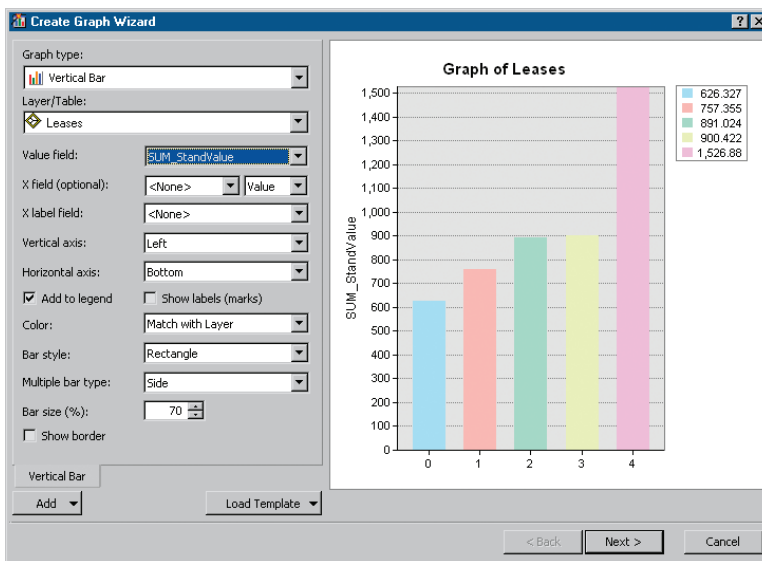
- 2 Click the Tools menu, point to Graphs, and click Create.

The Create Graph Wizard opens.



In the first panel, you'll accept the default graph type (Vertical Bar) and the default Layer (Leases), and choose the attribute you want to graph.

- 3 Click the Value field drop-down arrow and choose SUM_StandValue from the list.



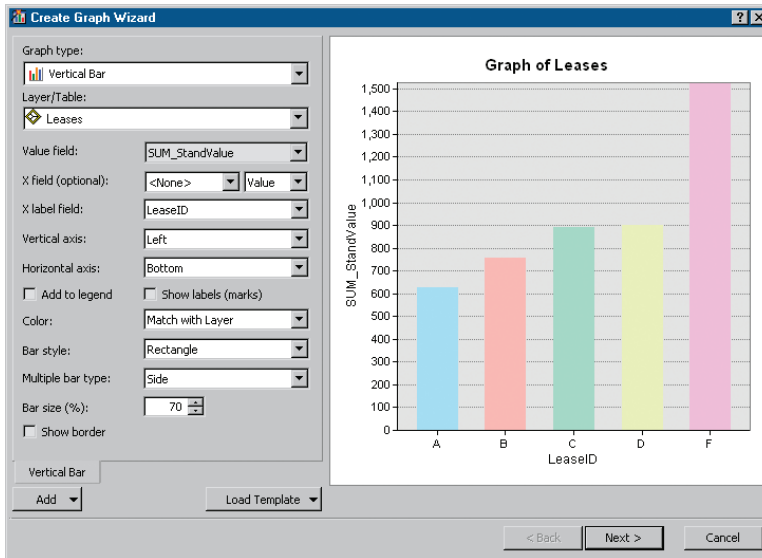
You'll label the x-axis. As you make changes, the graph will update.

Exercise 11b

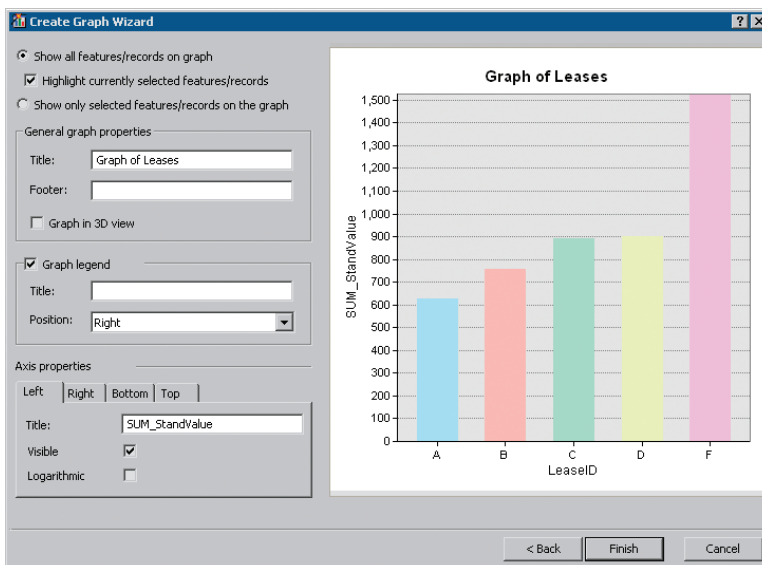
- 4 Click the drop-down arrow for X label field and choose LeaseID from the list.

The LeaseID values display on the x-axis.

- 5 Uncheck Add to legend. Make sure your dialog matches the following graphic.



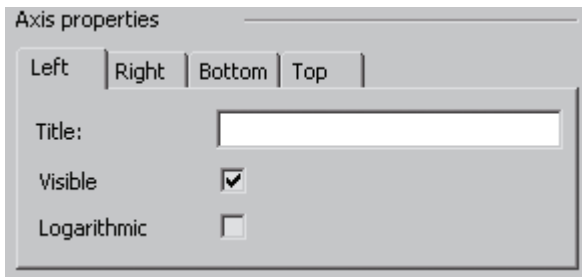
- 6 Click Next.



Exercise 11b

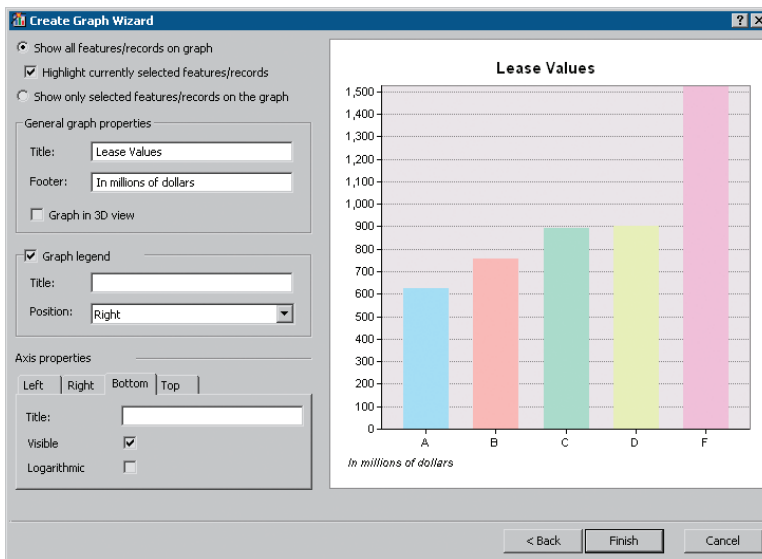
In the second panel, you'll change the default graph title, add a footer, and remove the axis titles.

- 7** In the Title box under General graph properties, replace Graph of Leases with **Lease Values**. In the Footer box, type **In millions of dollars**.
- 8** In the Axis properties panel (near the bottom of the wizard), make sure the Left tab is selected. Delete **Sum_StandValue** from the Title box, leaving it blank. Make sure Visible is checked.



The left axis values display on the graph but the title “Sum_StandValue” does not. You'll make the same change to the bottom axis.

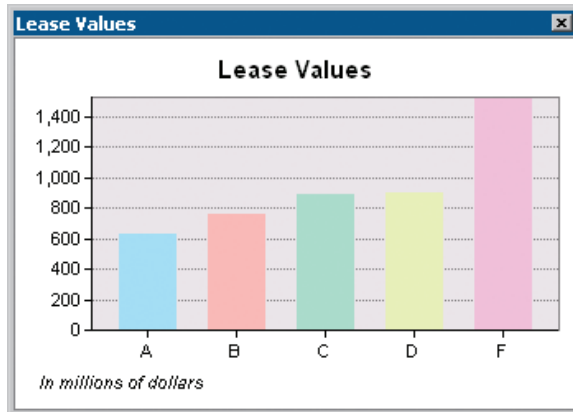
- 9** Click the Bottom tab. In the Title box, delete **LeaseId**. Make sure Visible is checked.
- 10** Make sure your dialog matches the following graphic, then click Finish.



Exercise 11b

The graph displays in a window that floats on the application window. The graph makes it easy to compare the lease area values. Lease F, the most valuable, is worth about 1.5 billion dollars.

NOTE: If you resize the graph window, values displayed along the left axis may change.

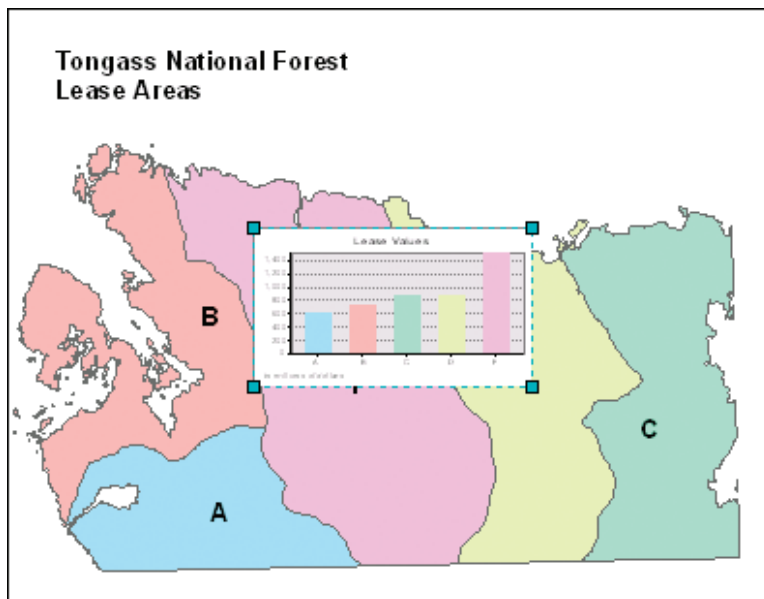


You'll add the graph to the map layout.

- 11** Right-click on the graph title bar. On the context menu, click Add to Layout.

ArcMap switches to layout view.

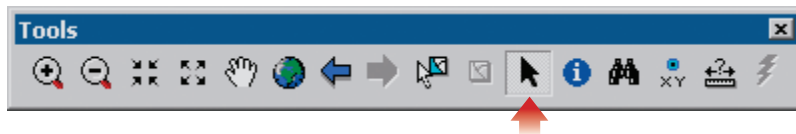
- 12** Close the graph window.



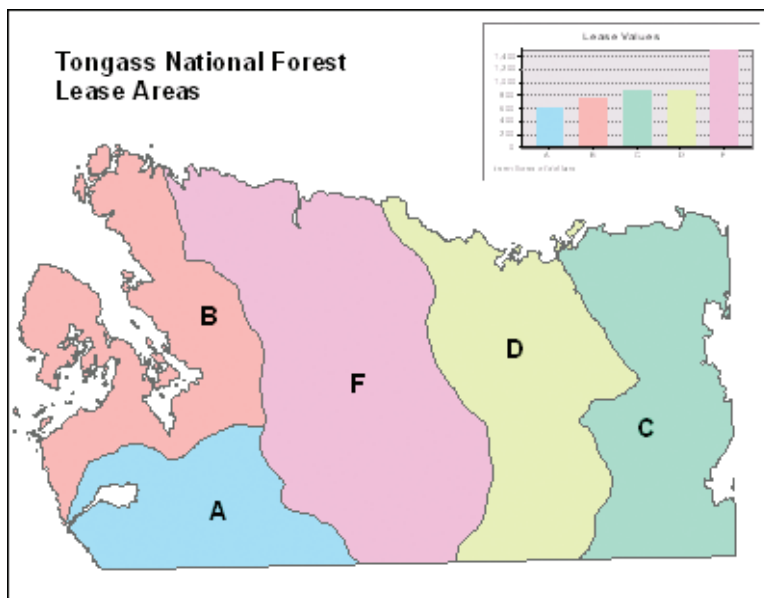
Exercise 11b

The graph displays in the middle of the layout page, marked with blue selection handles. (Other layout elements, such as the map title and lease labels, have been added for you.)

- 13** On the Tools toolbar, make sure the Select Elements tool is selected.



- 14** Drag the graph to the upper right corner of the layout, as shown in the following graphic. Click outside the layout page to unselect the graph.



- 15** Close the Layout toolbar.
- 16** If you want to save your work, click the File menu and click Save As. Navigate to **C:\GTKArcGIS\Chapter11\MyData**. Rename the file **my_ex11b.mxd** and click Save.
- 17** If you are continuing with the next exercise, leave ArcMap open. Otherwise, click the File menu and click Exit. Click No if prompted to save your changes.

Exercise 14b—Errata for ArcGIS 9.2

Creating feature classes

When you imported data in the previous exercise, you accepted the spatial properties of the existing data. When you create a new feature class, you have to define these properties yourself. This means specifying the feature class geometry—point, line, or polygon—and the spatial reference.

A spatial reference is made up of a coordinate system, a spatial domain, and a precision. As you learned in chapter 13, a coordinate system is a framework for locating features on the earth's surface using either latitude-longitude or x,y values. A spatial domain defines the bounding coordinates for a feature class, beyond which features cannot be stored. Precision defines the smallest measurement that can be made in the coordinate system. For example, if the coordinate system units are feet, a precision of 12 allows you to make measurements as small as an inch. If the coordinate system units are kilometers, a precision of 1,000 allows you to make measurements as small as a meter.

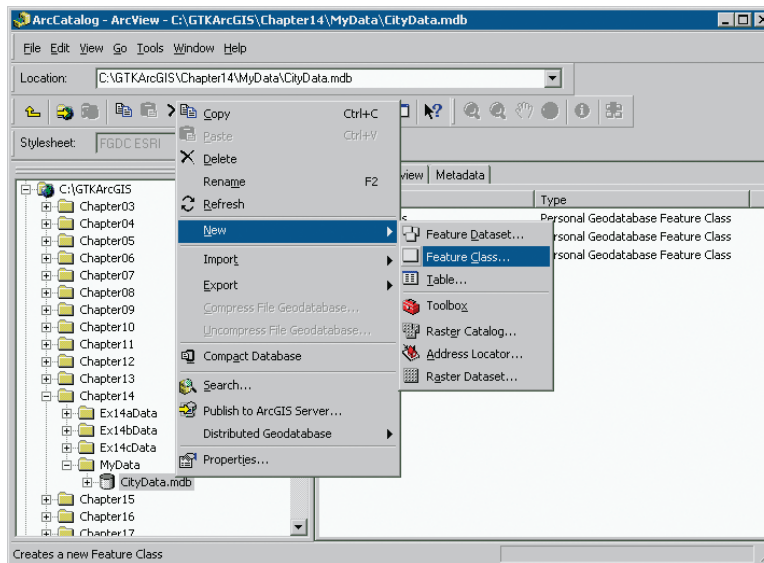
The task of defining a spatial reference is simplified by the fact that you can select from a list of coordinate systems. ArcCatalog will set default domain and precision values for you. You can also import the spatial reference from another data set and modify it or use it as is.

Exercise 14b

You now know that you can convert the city's existing spatial data to a geodatabase. You also need to know how to create new data in the geodatabase format. In this exercise, you will make a feature class for water lines, although you won't put any features in it until the next chapter.

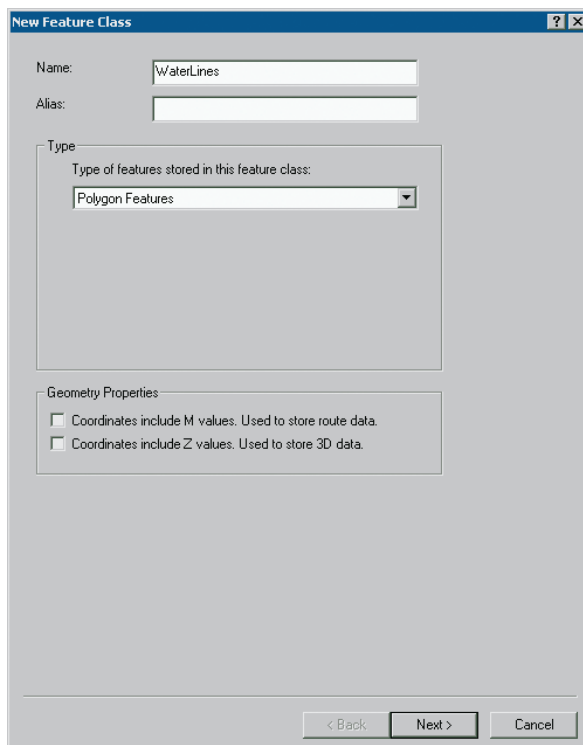
- 1** If you have completed exercise 14a, skip to step 2. Otherwise, start ArcCatalog. In the ArcCatalog tree, double-click **C:\GTKArcGIS**. Double-click **Chapter14**. Double-click **Ex14bData**. Right-click **CityData.mdb** and click Copy. Right-click **MyData** and click Paste.
- 2** Start ArcCatalog, if necessary. In the ArcCatalog tree, double-click **C:\GTKArcGIS**. Double-click **Chapter14**, then double-click **MyData**. Right-click the CityData personal geodatabase, point to New, then click Feature Class.

Exercise 14b



The first panel of the New Feature Class wizard opens.

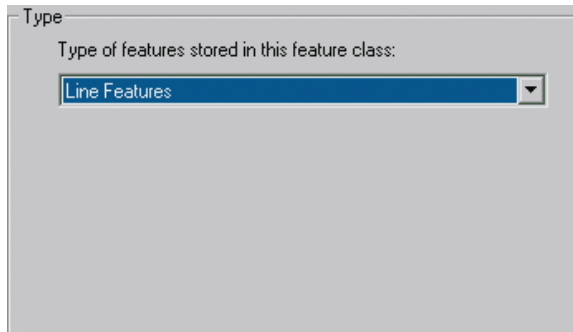
3 In the Name box, type **WaterLines**.



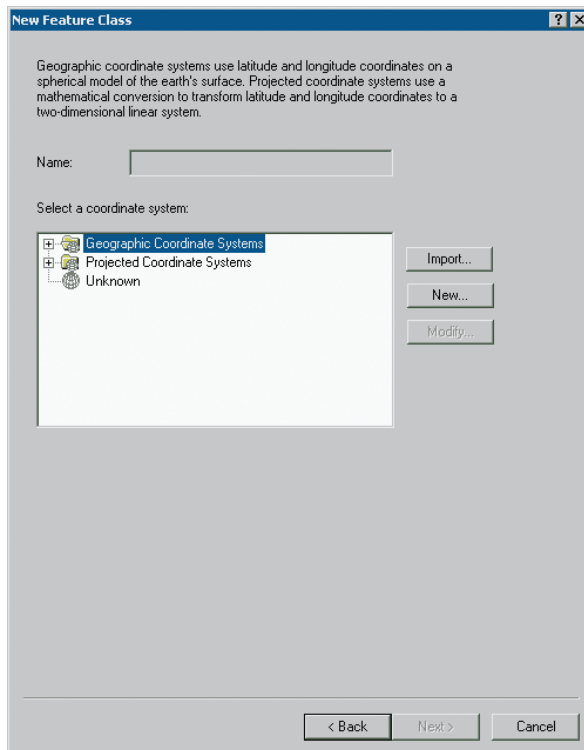
The default Type is Polygon Features. Since you are creating a feature class of water lines, you'll change this to Line Features.

Exercise 14b

- 4 Click the Type drop-down arrow and click Line Features.



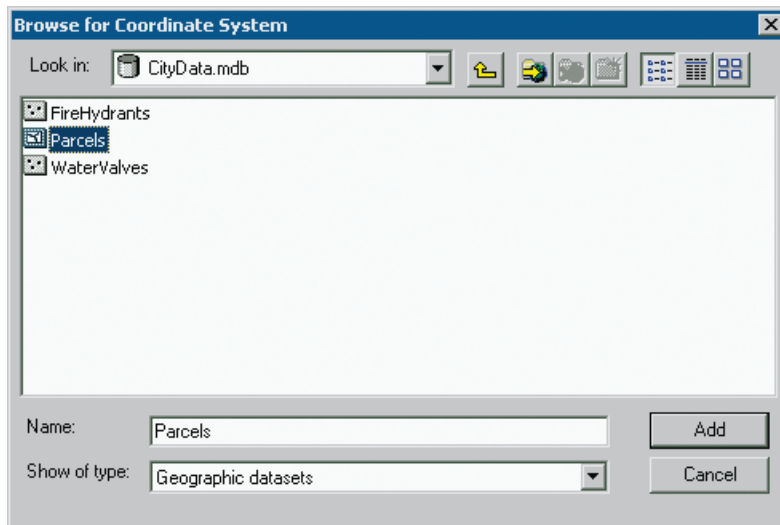
- 5 Click Next.



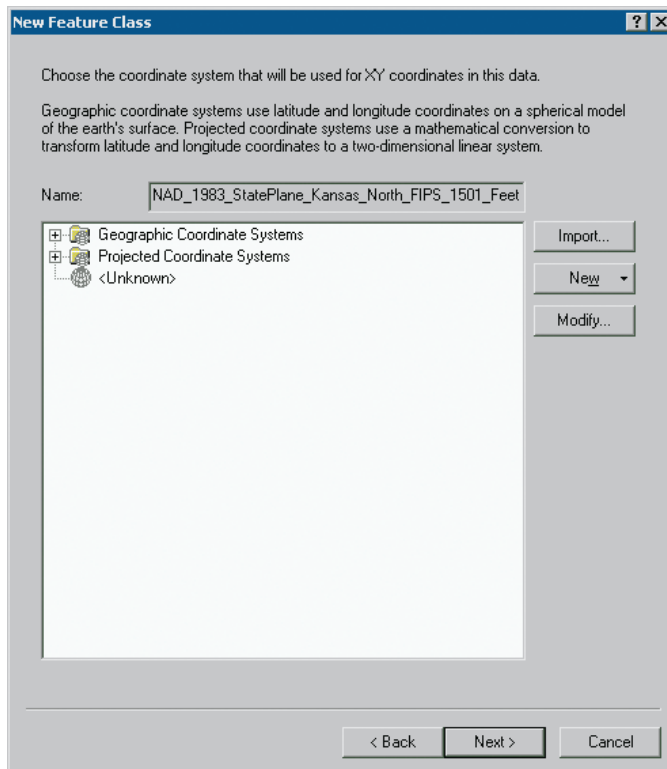
As no coordinate system has been selected, the Name is unknown and the Name box is empty.

Exercise 14b

- 6 Click Import.
- 7 In the Browse for Coordinate System dialog, navigate to **C:\GTKArcGIS\Chapter14\MyData**. Double-click on **CityData.mdb** and click Parcels. Make sure that the dialog matches the following graphic, then click Add.



The name of the coordinate system you imported appears in the Name box.



Exercise 14b

8 Click Next.

The dialog box titled "New Feature Class" contains the following text and fields:

All coordinates stored in a feature class are snapped to an underlying coordinate grid. Resolution is the cell size of this grid. Decreasing the resolution may reduce data storage needs but may reduce coordinate accuracy.

The coordinate range or domain extent defines the minimum and maximum coordinate values which can be stored.

XY
XY Resolution: Foot_US
Max Y:
Min X: Max X:
Min Y:

Buttons: < Back, Next >, Cancel

The XY resolution defines the minimum distance between two coordinates before they are considered identical. The maximum and minimum XY values define the bounding coordinates for the feature class. You will accept the default values.

9 Click Next.

The dialog box titled "New Feature Class" contains the following text and fields:

Field Name	Data Type
OBJECTID	Object ID
SHAPE	Geometry

Click any field to see its properties.

Field Properties
Alias: OBJECTID

Import...

To add a new field, type the name into an empty row in the Field Name column, click in the Data Type column to choose the data type, then edit the Field Properties.

Buttons: < Back, Finish, Cancel

Exercise 14b

The fourth panel displays the field names, data types, and field properties that belong to the new feature class. OBJECTID and SHAPE are required fields, automatically added by the software. The OBJECTID field stores a unique ID number for every feature in the class. The SHAPE field stores each feature's shape and location.

Depending on the type of feature class created, ArcGIS also creates and maintains measurement fields. A SHAPE_Length field is created for line feature classes. A SHAPE_Length and a SHAPE_Area field are created for polygon feature classes. (The SHAPE_Length attribute for polygons stores perimeter lengths.) These measurement fields appear only after the feature class is created.

- 10 In the Field Name column, click SHAPE. The field properties for the SHAPE field are displayed.

Notice that the geometry type is set to Line.

- 11 Click Finish.

The screenshot shows the 'New Feature Class' dialog box. It contains a table with two columns: 'Field Name' and 'Data Type'. The first row is 'OBJECTID' with 'Object ID' as the data type. The second row is 'SHAPE' with 'Geometry' as the data type. Below the table, there is a section titled 'Field Properties' for the selected 'SHAPE' field. This section contains a table with the following properties:

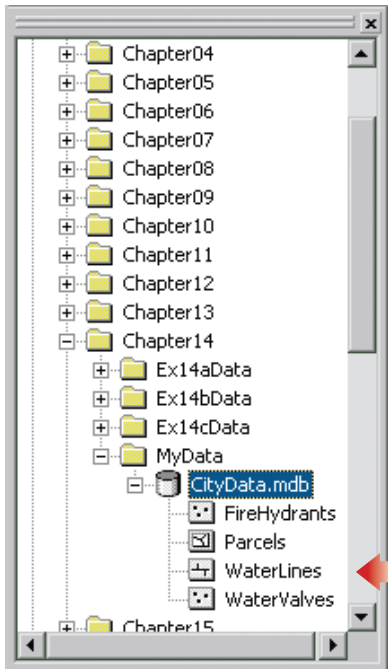
Property	Value
Alias	SHAPE
Allow NULL values	Yes
Geometry Type	Line
Grid 1	0
Grid 2	0
Grid 3	0

At the bottom of the dialog, there are three buttons: '< Back', 'Finish', and 'Cancel'. An 'Import...' button is also visible next to the Field Properties table.

Exercise 14b

- 12** In the ArcCatalog tree, if necessary, click the plus sign next to CityData.mdb.

WaterLines has been added to the list of feature classes.



In the next exercise, you will add two new attributes to the WaterLines feature class: one for the date water lines are installed and one for the type of water line.

- 13** If you are continuing to the next exercise, leave ArcCatalog open. Otherwise, click the File menu and click Exit.

Exercise 17a—Errata for ArcGIS 9.2

Creating an address locator

Geocoding starts with creating an address locator. Address locators come in different styles, each appropriate to reference data with different attributes. For example, the style called “Single Field” is used with reference data that contains only a single attribute of geographic information. In a reference map of the United States, for instance, this would probably be a state name field. The data to be geocoded could be located in the correct state, but no more precisely than that.

The address locator style called “ZIP” is used with reference data that has a ZIP Code attribute. A table of U.S. addresses could be located within the correct ZIP Codes.

The “US Streets” style is used with street reference data that contains a street name attribute and beginning and ending address ranges for each side of a street. A table of U.S. addresses could be geocoded to their approximate positions along the length of a street and on the correct side of the street.

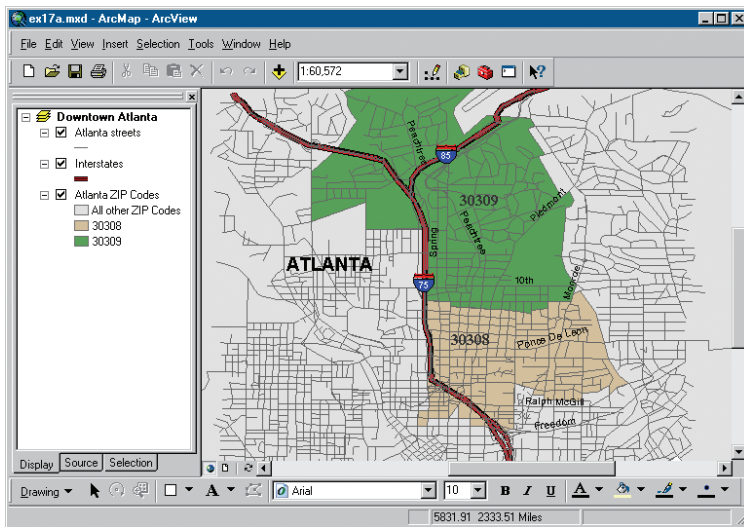
Each address locator style requires that certain attributes be present in the address table as well. For more information about address locator styles, click the Contents tab in ArcGIS Desktop Help and navigate to Geocoding and address management > Preparing for geocoding > Preparing reference and address data.

Exercise 17a

You work for an online Yellow Pages company that sells advertising—everything from listings and banner ads to interactive storefronts. A new service you plan to offer is a digital map that displays the location of a client’s business. Your job is not to create the Internet map service itself but rather to test the technology for converting customer addresses to map points. Being inexperienced with geocoding, you’ll work with a small sample of your potential customer base.

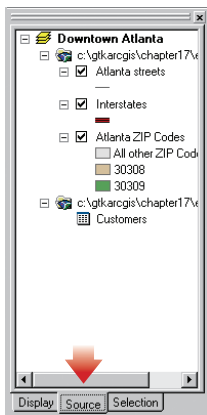
- 1** Start ArcMap. In the ArcMap dialog, click the option to use an existing map. In the list of existing maps, double-click Browse for maps. (If ArcMap is already running, click the File menu and click Open.) Navigate to C:\GTKArcGIS\Chapter17. Click ex17a.mxd and click Open.

Exercise 17a



The map shows a portion of downtown Atlanta, Georgia, with layers of streets, interstate highways, and ZIP Codes.

2 At the bottom of the table of contents, click the Source tab.



When the Source tab is selected, the table of contents shows nonspatial tables, such as dBASE® files, that belong to the map document. In this case, you see a table of customers, which contains a sample of your customer database. This is the address table you'll geocode in the next exercise.

The address locator style you choose depends on the attributes in your reference layer (the Atlanta streets layer) and in your address table. You'll open the two tables to look at this information.

Exercise 17a

- 3 In the table of contents, right-click the Customers table and click Open.

OID	CUST_ID	NAME	ADDRESS	ZIP	TYPE
0	840367	Accessories Inc	725 LAKEVIEW AVE NE	30309	Retail Clothing
1	291063	Antiques Inc	491 BISHOP ST NE	30308	Retail
2	520746	Damar Sales	388 7TH ST NE	30308	Car Dealer
3	197302	Eastern Graphics	150 6TH ST NE	30308	Printing
4	914582	Gelroy Associates	762 ARGONNE AVE NE	30308	Real Estate
5	107892	Homes For Sale	500 RANKIN ST NE	30308	Real Estate
6	308574	Industrial Supply Co	751 JUNIPER	30308	Wholesale
7	489041	Leonard Associates	555 10TH ST NE	30309	Stockbroker
8	734173	Lomer-Lockler Beauty College	220 6TH ST NE	30308	Trade School
9	227309	Dar Clothing Co	400 7TH ST NE	30308	Retail Clothing
10	197842	Ron's Food Mart	844 MIRTEL ST NE	30308	Retail Food
11	216438	S and S Industrial Products	711 KENNESAW AVE NE	30308	Wholesale
12	189628	Shawly and Company	911 MONROE DR NE	30308	Restaurant
13	913007	Sound Concepts	400 PONCE DE LEON AVE NE	30308	Retail Entertainment
14	166732	Southern Properties	699 JUNIPER ST NE	30308	Real Estate
15	318592	J & R Bookkeeping	42 NORTH NE	30308	Bookkeeping

The attributes include customer ID, name, street address, five-digit ZIP Code, and business type. For geocoding, the relevant attributes are ADDRESS and ZIP.

- 4 Close the Attributes of Customers table. In the table of contents, right-click the Atlanta streets layer and click Open Attribute Table.

FID	Shape*	L_F_ADD	L_T_ADD	R_F_ADD	R_T_ADD	PREFIX	PRE_TYPE	NAME	TYPE	SUFFIX
0	Polyline	800	898	801	899			Drummond	St	SW
1	Polyline			173	199			Hunter	St	SW
2	Polyline	100	128	101	129			Jones	Ave	NW
3	Polyline	130	158	131	159			Jones	Ave	NW
4	Polyline	160	166	161	167			Jones	Ave	NW
5	Polyline	168	214	169	215			Jones	Ave	NW
6	Polyline	216	262	217	263			Jones	Ave	NW
7	Polyline	264	324	265	325			Jones	Ave	NW
8	Polyline	326	372	327	373			Jones	Ave	NW
9	Polyline	374	402	375	403			Jones	Ave	NW
10	Polyline	404	452	405	453			Jones	Ave	NW
11	Polyline	454	478	455	479			Jones	Ave	NW
12	Polyline	480	528	481	529			Jones	Ave	NW
13	Polyline	530	588	531	589			Jones	Ave	NW
14	Polyline	590	634	591	635			Jones	Ave	NW
15	Polyline	636	688	637	689			Jones	Ave	NW
16	Polyline	690	738	691	739			Jones	Ave	NW
17	Polyline	740	798	741	799			Jones	Ave	NW
18	Polyline	300	322	301	323			Oliver	St	NW

The four address range attributes are: L_F_ADD (left “from” address), L_T_ADD (left “to” address), R_F_ADD (right “from” address), and R_T_ADD (right “to” address). These are the beginning and ending street numbers on each side of a street segment.

There are several other address attributes:

PREFIX is a direction that precedes a street name, like the “N” in 139 N. Larchmont Blvd.

PRE_TYPE is a street type that precedes a street name, like “Avenue” in 225 Avenue D.

Exercise 17a

ZIPL and ZIPR are the ZIP Codes for the left and right sides of a street segment.

CITYL and CITYR are the city names for the left and right sides of a street segment.

NAME, TYPE, and SUFFIX direction are the familiar attributes of a street address.

The attributes in the Atlanta streets table most closely match the “U.S. Streets with Zone” address locator style.

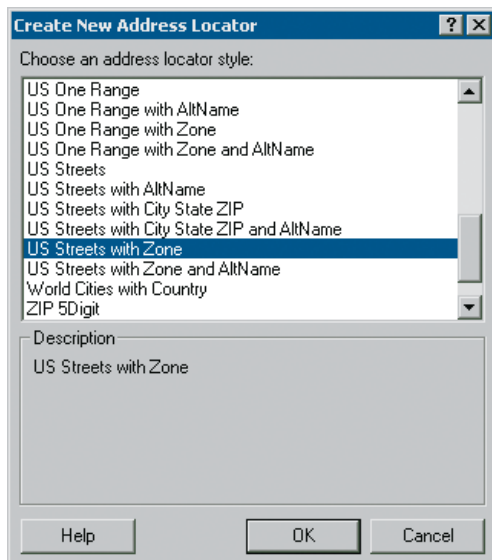
- 5** Close the table. On the Standard toolbar, click the ArcCatalog button.



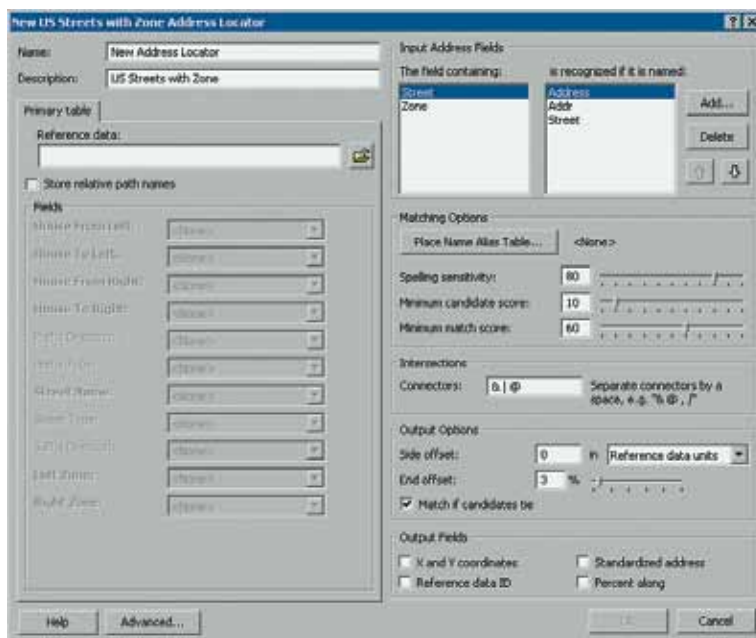
- 6** In the catalog tree, navigate to C:\GTKArcGIS\Chapter17\MyData. Right-click My Data, point to New, and click Address Locator.

Exercise 17a

- 7 Scroll through the list to US Streets with Zone and click on it.



- 8 Click OK.



The new US Streets with Zone Address Locator dialog opens.

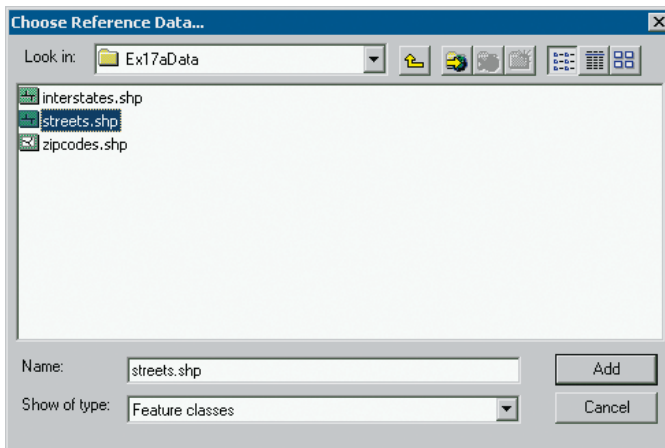
You've already chosen an address locator; now you'll specify the reference data that will be used with it.

Exercise 17a

- 9 In the Name text box, highlight the name New Address Locator and type **Atlanta customers**.
- 10 On the Primary table tab, click the Browse button next to the Reference data box.

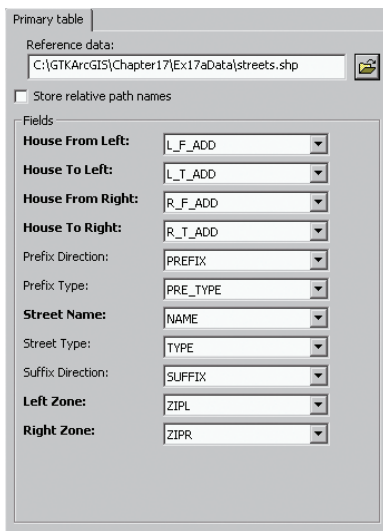


- 11 In the Choose Reference Data dialog, navigate to **C:\GTKArcGIS\Chapter17\Ex17aData** and click on streets.shp. (Streets.shp is the file name of the Atlanta streets layer.) Make sure your dialog matches the following graphic, then click Add.



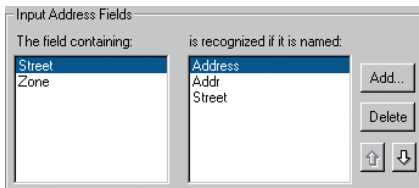
The path to the reference data is added to the Reference data box.

Exercise 17a



The Fields list shows the types of address information in the reference data that the address locator style can use. Required information is boldfaced. The values in the corresponding drop-down lists show the reference data attributes that contain this information. In each case, ArcGIS has already selected the correct field name. If it hadn't, you could use the drop-down arrows to choose the right fields.

In the Input Address Fields frame, you specify the fields from the address table (Customers) that contain address information.

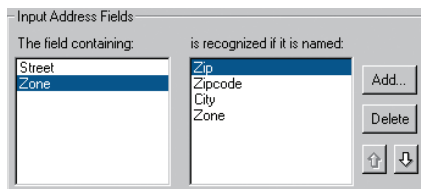


The box on the left lists the two kinds of input address information required by the address locator style: Street (for the street address) and Zone (for the ZIP Code). The box on the right lists the field names that, by default, ArcGIS recognizes as containing this information.

Exercise 17a

In step 3, you saw that the street address information in the Customers table is contained in a field called ADDRESS. Since this is a recognized name, you don't have to do anything. (If your customer street address information was stored in a field with an unrecognized name, such as Cust_Addr, you would click Add to include it.)

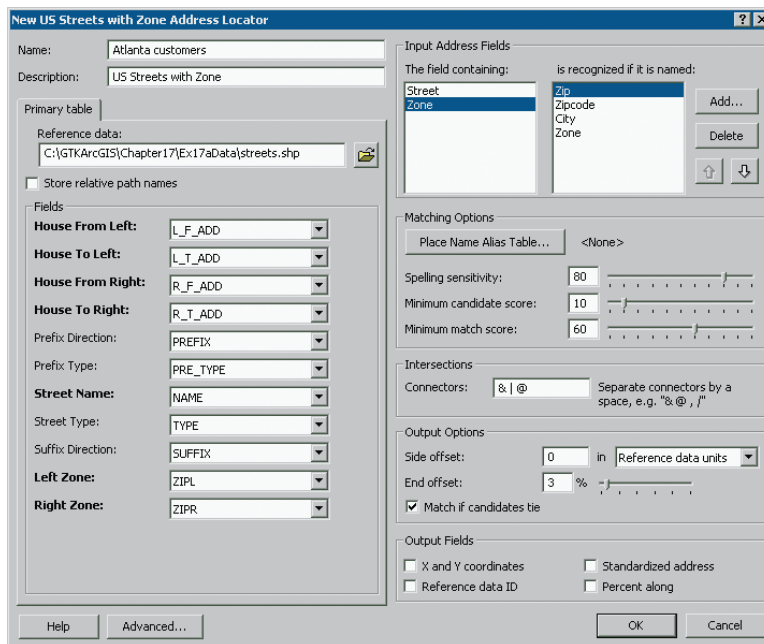
12 In the box on the left, click on Zone.



In the Customers table, the zone information is contained in a field called ZIP. Again, this is a field name recognized by ArcGIS. (It doesn't matter whether it's upper or lowercase.)

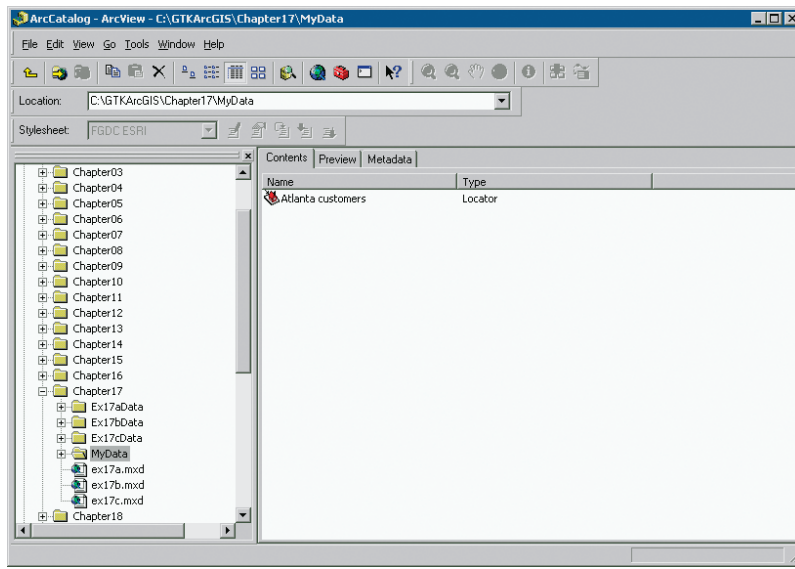
You'll accept the default settings in the rest of the dialog.

13 Make sure your dialog matches the following graphic, then click OK.



ArcGIS creates the new address locator.

Exercise 17a



In the next exercise, you'll add the Atlanta customers address locator to ArcMap and use it to match addresses.

- 14** Make sure ArcCatalog is the active application. Click the File menu and click Exit.
- 15** If you're continuing with the next exercise, leave ArcMap open. Otherwise, click the ArcMap File menu and click Exit. Click No when prompted to save your changes.

Exercise 17b—Errata for ArcGIS 9.2

Matching addresses

Now that you've created an address locator, you can compare the table of addresses to the reference data attributes and look for matches.

The first step in address matching is standardizing the addresses in the address table; that is, dividing them into their component parts. This is done by the address locator. For example, the address "500 Rankin Street NE" has four parts: the street number (500), the street name (Rankin), the street type (Street), and a suffix (NE). The reference data is already standardized—each address part is a separate attribute.

ArcGIS takes each standardized address from the address table and looks for features in the reference data with matching parts. For each address, it generates a list of probable or possible matching locations, called candidates, in the reference data. Each candidate gets a score that rates its likelihood of being the correct location. For ArcGIS to make a match and create a point feature, a candidate's score must reach a certain level. You can choose both the score that defines a location as a candidate and the score that defines a candidate as a match. By default, the minimum candidate score is 10, on a scale of 100, and the minimum match score is 60.

When ArcGIS has made as many matches as it can, it creates a new data set, which has a point feature for each address, whether matched or not. Features that have unmatched addresses are not assigned spatial coordinates, and therefore do not display. You can adjust the geocoding options and try to find matches for unmatched addresses.

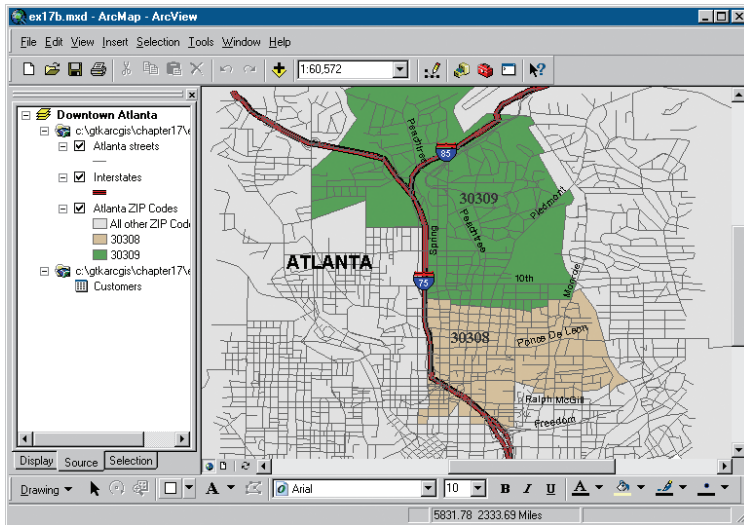
Most of the time, geocoding is done from a table of addresses, but as long as you have created an address locator, you can also geocode by typing address information into the Find dialog. Geocoding this way does not create new features, but will flash a matching location on the map or place a graphic there. It's useful in situations where you need to locate a single address or a few addresses quickly—for example, to make immediate deliveries.

Exercise 17b

Before geocoding your customer table, you'll test the address locator by locating the address of the Ace Market, a downtown Atlanta business.

- 1** Start ArcMap. In the ArcMap dialog, click the option to use an existing map. In the list of maps, double-click Browse for maps. (If ArcMap is already running, click the File menu and click Open.) Navigate to `C:\GTKArcGIS\Chapter17`. Click `ex17b.mxd` and click Open.

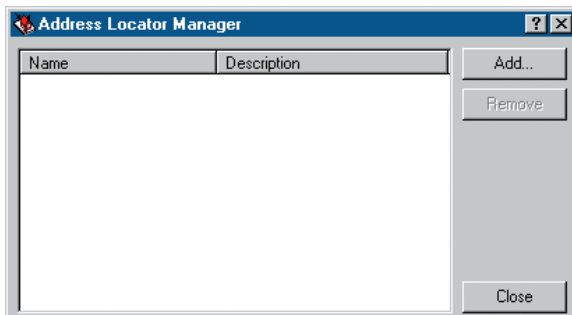
Exercise 17b



The map shows the layers of Atlanta streets, interstate highways, and ZIP Codes. The Customers table is at the bottom of the table of contents. (If you don't see it, click the Source tab at the bottom of the table of contents.)

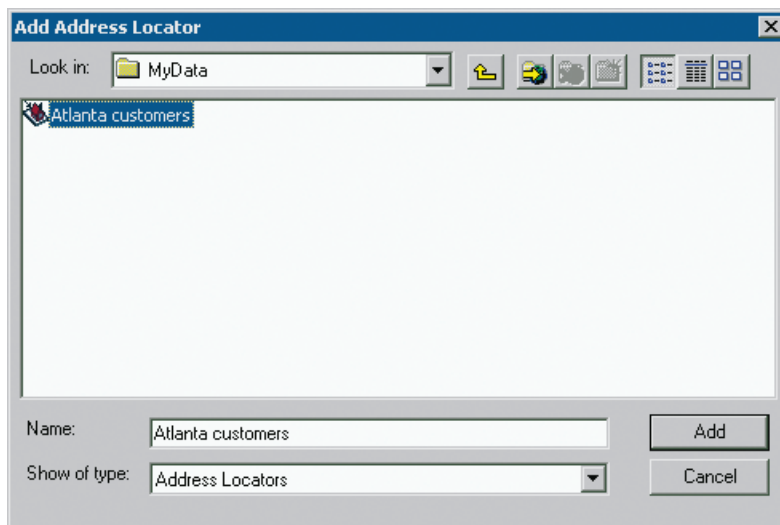
You'll add the address locator to the map document.

- 2 Click the Tools menu, point to Geocoding, and click Address Locator Manager.



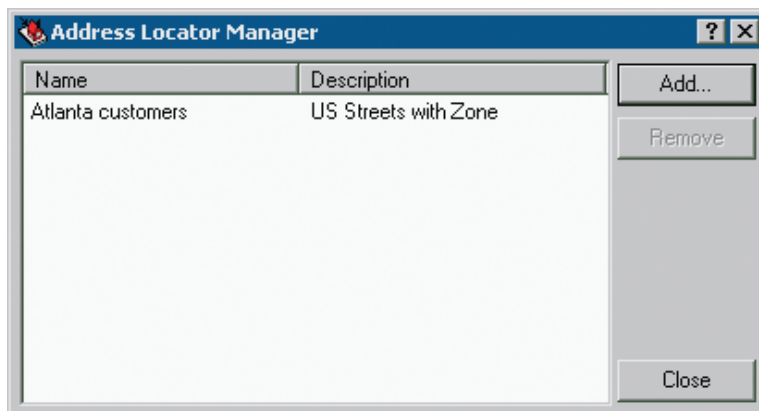
- 3 Click Add. In the Add Address Locator browser, navigate to **C:/GTKArcGIS/Chapter17/MyData** folder. Click on the Atlanta customers address locator. Make sure your dialog matches the following graphic, then click Add.

Exercise 17b



The name of the address locator and a description of the style appear in the Address Locator Manager dialog.

- 4 Make sure your dialog matches the following graphic, then click Close.



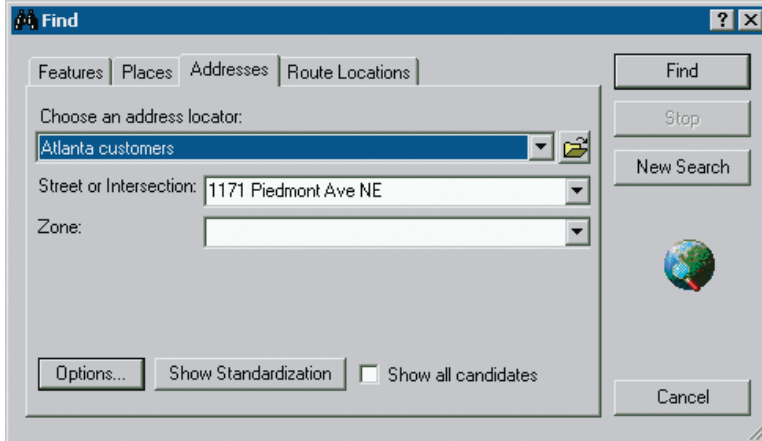
Now that the address locator has been added to the map document, you can find addresses on the map.

- 5 On the Tools toolbar, click the Find button.

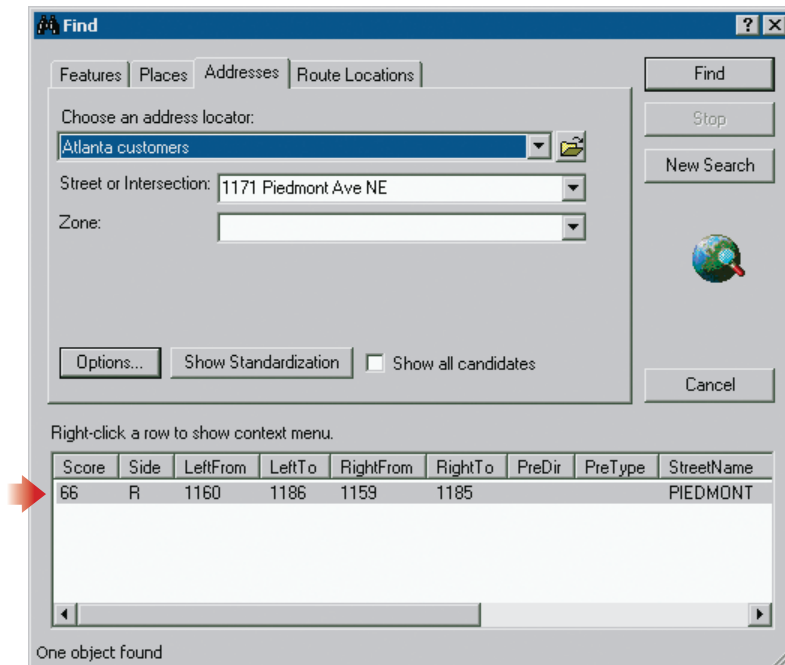


Exercise 17b

- 6** In the Find dialog, click the Addresses tab. The Atlanta customers address locator should be displayed in the Choose an address locator drop-down list. If it isn't, click the drop-down arrow and select it.
- 7** In the Street or Intersection box, type 1171 Piedmont Ave NE, the address of the Ace Market. Make sure your dialog matches the following graphic, then click Find.



One candidate street segment appears at the bottom of the dialog. Its score is 66.



Exercise 17b

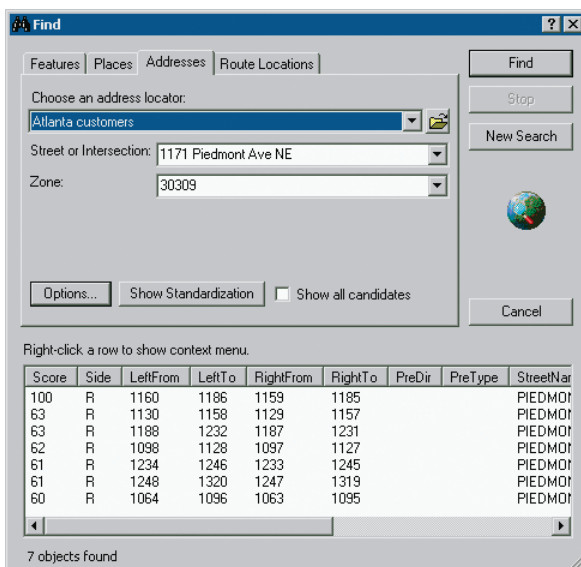
By default, only the candidate with the highest score is displayed. If you wanted, you could display additional candidates by checking the Show all candidates check box.

8 Scroll across the dialog and look at the candidate's address information.

The address range for odd street numbers, RightFrom and RightTo, is correct because it includes the street number 1171. The street name, street type, and suffix directions are also correct.

It seems as if the candidate should have scored higher, but, as you may recall from the previous exercise, your address locator needs an address and a zone for input. When you typed the Ace Market address, you didn't include its ZIP Code.

9 In the Find dialog, click in the Zone box and type **30309**. Click Find.



The candidate, listed first, now gets a perfect score. Additional candidates with a score of at least 60 are also displayed. You could display candidates with scores below 60 by checking the Show all candidates check box.

10 Click on the first candidate to highlight it. Right-click anywhere on the highlighted candidate. On the context menu, click Add Point. Close the Find dialog.

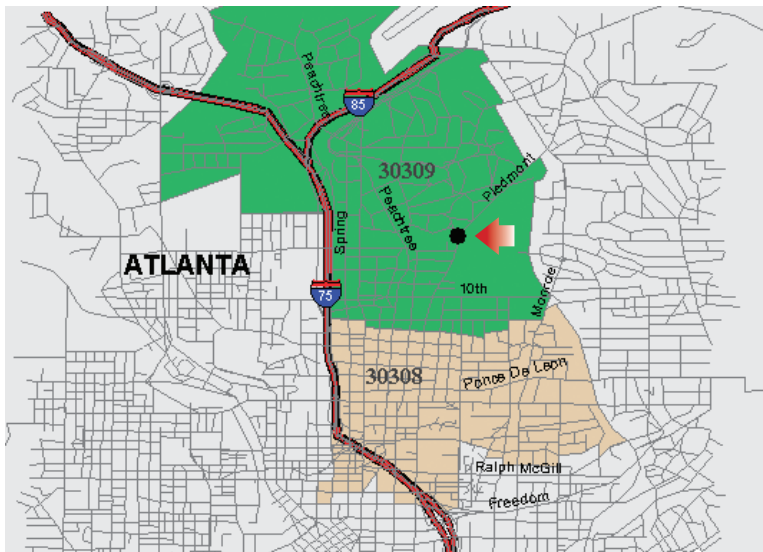
Exercise 17b

Score	Side	LeftFrom	LeftTo	RightFrom	RightTo	PreDir	PreType	StreetName
100	R	1160						PIEDMONT
63	R	1130						PIEDMONT
63	R	1188						PIEDMONT
62	R	1098						PIEDMONT
61	R	1234						PIEDMONT
61	R	1248						PIEDMONT
60	R	1064						PIEDMONT

Flash
Zoom To
Pan To
Create Bookmark
Add Point
Add Labeled Point
Add Callout
Add to My Places
Manage My Places...
Find Nearby Places...
Add as Stop to StreetMap Route
Add as Barrier to StreetMap Route

7 objects found

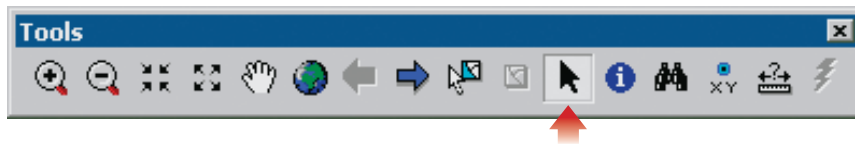
ArcGIS places a black dot on the map at the location of the candidate.



Since you geocoded the Ace Market only to make sure that the address locator was working, you can now delete the graphic.

Exercise 17b

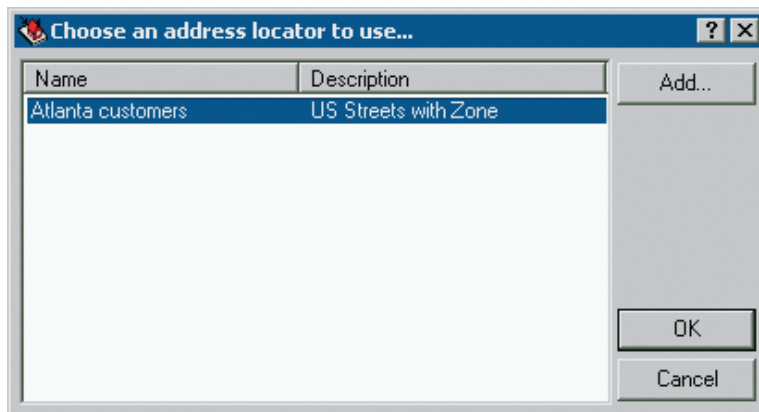
- 11** On the Tools toolbar, click the Select Elements tool.



- 12** Click on the graphic to select it. (Blue selection handles appear.) Press the Delete key on your keyboard.

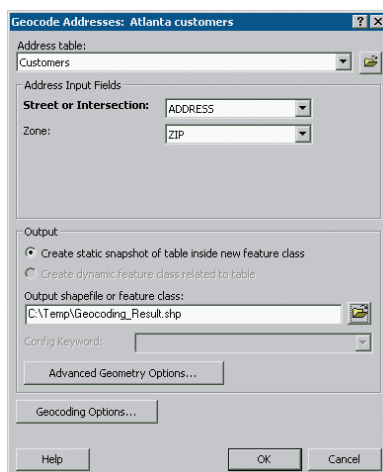
Now you'll geocode the customer table.

- 13** In the table of contents, with the Source tab still selected, right-click on the Customers table and click Geocode Addresses.



In the Choose an address locator to use dialog, the Atlanta customers address locator is highlighted.

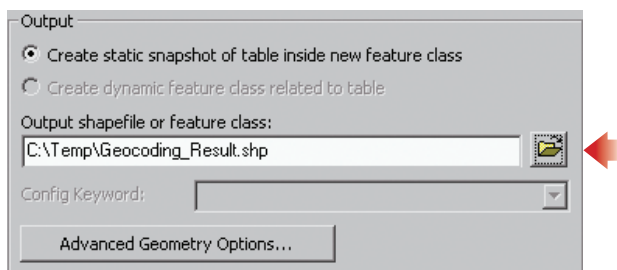
- 14** Click OK to open the Geocode Addresses dialog.



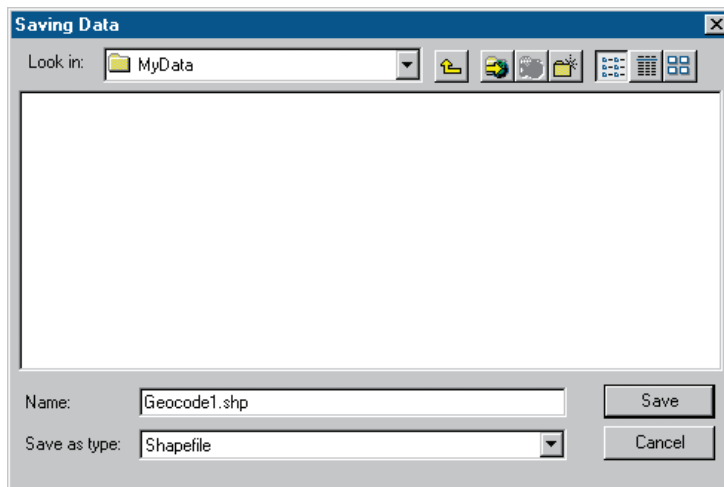
Exercise 17b

Geocoding creates a point feature for every address. The points can be saved as a shapefile or as a geodatabase feature class. Your Atlanta data is in shapefile format, so you'll save the address points as a shapefile, too.

- 15 Click the Browse button next to the Output shapefile or feature class box.



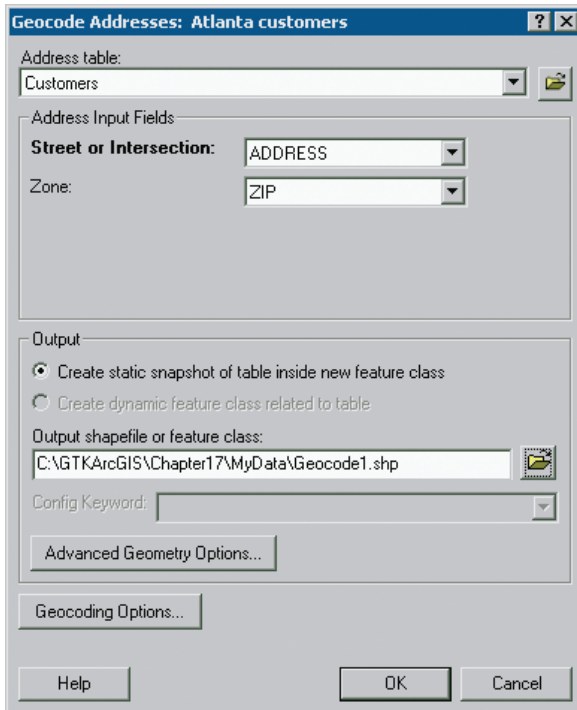
- 16 In the Saving Data dialog, navigate to **C:\GTKArcGIS\Chapter17\MyData**. Make sure the Save as type drop-down list is set to Shapefile. In the Name box, highlight the default name of Geocoding_Result.shp and type Geocode1.shp. Make sure that your dialog matches the following graphic, then click Save.



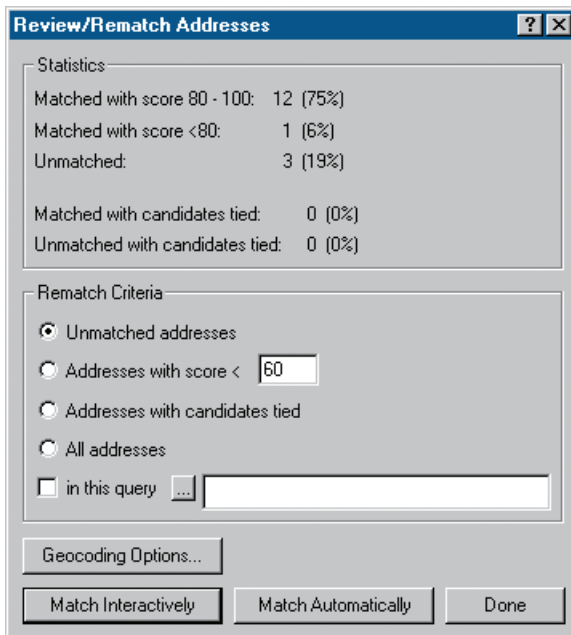
The Geocode Addresses dialog updates with the new path.

Exercise 17b

- 17** Make sure your dialog matches the following graphic, then click OK.



ArcMap geocodes the addresses and creates the output shapefile. When the process is done, the Review/Rematch Addresses dialog displays.

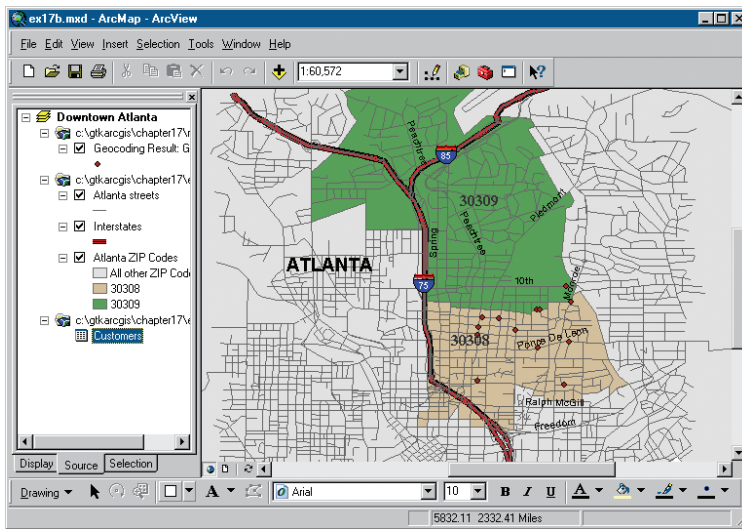


Exercise 17b

Of the sixteen addresses in the Customers table, twelve were matched with a score from 80 to 100. One was matched with a score less than 80. Three addresses are unmatched. You'll match the unmatched addresses in the next exercise. For now, you'll look at the attributes of the geocoded shapefile.

18 In the Review/Rematch Addresses dialog, click Done.

The Geocoding Result: Geocode1 layer is listed at the top of the table of contents. There are thirteen point features displayed on the map, representing the locations of the matched addresses.



19 In the table of contents, right-click the Geocoding Result: Geocode1 layer and click Open Attribute Table.

FID	Shape	Status	Score	Side	ARC_Street	ARC_Zone	CUST_ID
0	Point	U	0		725 LAKEVIEW AVE NE	30309	840367
1	Point	M	100	R	491 BISHOP ST NE	30308	291063
2	Point	M	100	L	388 7TH ST NE	30308	520746
3	Point	M	100	L	150 6TH ST NE	30308	197302
4	Point	M	100	L	762 ARGONNE AVE NE	30308	914582
5	Point	M	100	L	500 RANKIN ST NE	30308	107892
6	Point	M	61	R	751 JUNIPER	30308	308574
7	Point	M	100	R	555 10TH ST NE	30309	489041
8	Point	M	100	L	220 6TH ST NE	30308	734173
9	Point	M	100	L	400 7TH ST NE	30308	227309
10	Point	U	0		844 MIRTEL ST NE	30308	197842
11	Point	M	100	R	711 KENNESAW AVE NE	30308	216438
12	Point	M	100	R	911 MONROE DR NE	30308	185628
13	Point	M	100	L	400 PONCE DE LEON AVE NE	30308	913007
14	Point	M	100	R	699 JUNIPER ST NE	30308	166732
15	Point	U	0		42 NORTH NE	30308	318592

Exercise 17b

The table contains sixteen records, one for each address in the Customers table. The Status attribute tells you whether or not each address was matched (M), unmatched (U), or tied (T) with another address for the highest score. Point geometry is created only for records with the status M. The Score attribute contains the match score and the Side attribute tells you whether an address is on the right or left side of the street.

The next two attributes, ARC_Street and ARC_Zone, contain the information from the ADDRESS and ZIP fields in the Customers table. The remaining attributes are the same as those in the Customers table.

Although the ARC_Street and ARC_Zone attributes contain the same values as ADDRESS and ZIP, they serve a different purpose. When you rematch unmatched addresses, you can edit the values in ARC_Street and ARC_Zone to make matches. You would do this, for example, if you found mistakes in the Customers table. The ADDRESS and ZIP attributes, on the other hand, preserve the original information from the Customers table.

20 Close the table. You have already saved the geocoded shapefile. There is no need to save the map document.

21 If you're continuing with the next exercise, leave ArcMap open. Otherwise, click the File menu and click Exit. Click No when prompted to save your changes.

Exercise 17c—Errata for ArcGIS 9.2

Rematching addresses

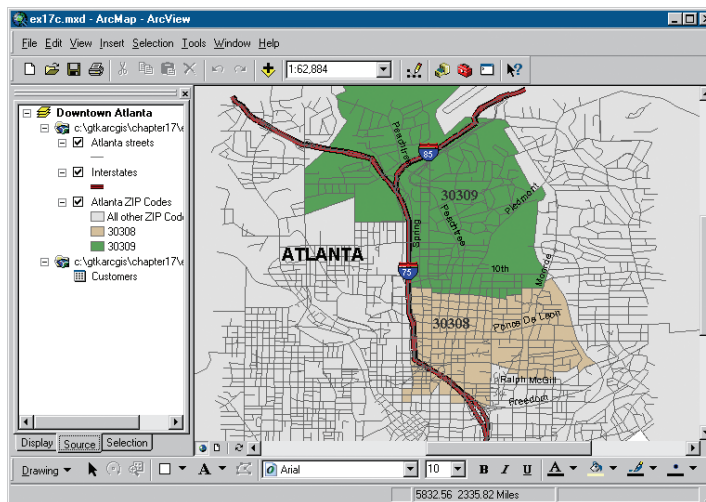
When you geocode at the street address level, it's common to have addresses that aren't matched. Occasionally, this is the result of reference data that has errors or is incomplete. For instance, an address may belong to a subdivision that is newer than the reference data. More often, there is a mistake, such as a spelling error, in the address table. In some cases, the problem is with the way ArcGIS has standardized an ambiguous address.

Unmatched addresses can be rematched automatically (ArcGIS does all of them at once) or interactively (you do them one at a time). If you rematch automatically, you need to adjust the matching options, particularly the minimum match score and the spelling sensitivity, or your results won't change. If you rematch interactively, you have additional options. You can edit the way ArcGIS has standardized an address and you can match a candidate with a score below the minimum match score.

Exercise 17c

So far, the address locator has found matches for thirteen addresses in the Customers table, leaving three unmatched. In this exercise, you'll match these three. First, you'll modify the address locator's settings to generate more candidates. Then you'll interactively match each address.

- 1 Start ArcMap. In the ArcMap dialog, click the option to use an existing map. In the list of maps, double-click Browse for maps. (If ArcMap is already running, click the File menu and click Open.) Navigate to **C:\GTKArcGIS\Chapter17**. Click **ex17c.mxd** and click Open.

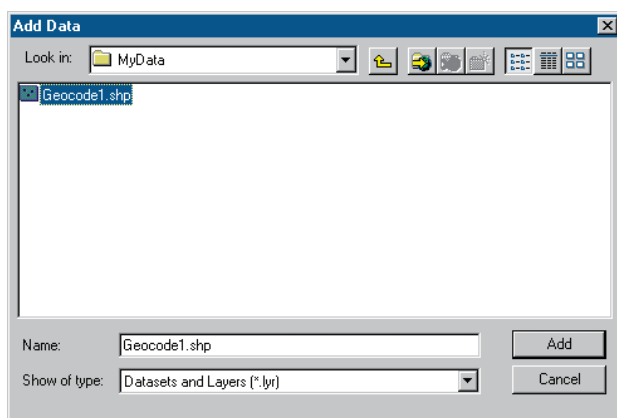


Exercise 17c

The map layers include the familiar streets, interstate highways, and ZIP Codes of downtown Atlanta. If necessary, click the Source tab at the bottom of the table of contents.

Now you'll add the layer of geocoded addresses you created in the previous exercise.

- 2** On the Standard toolbar, click the Add Data button.
- 3** In the Add Data dialog, navigate to **C:\GTKArcGIS\Chapter17\MyData**. Click **Geocode1.shp** as shown in the following graphic, then click **Add**.

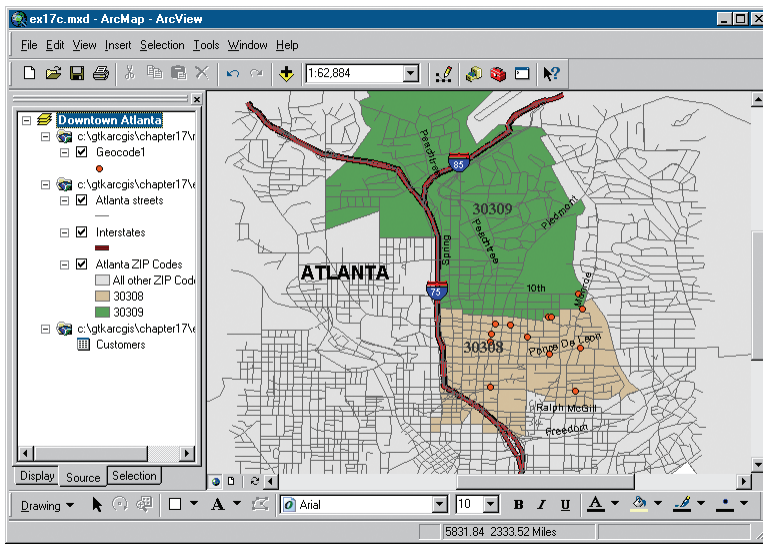


ArcMap warns you that the layer is missing spatial reference information.

- 4** Click **OK** on the warning message.

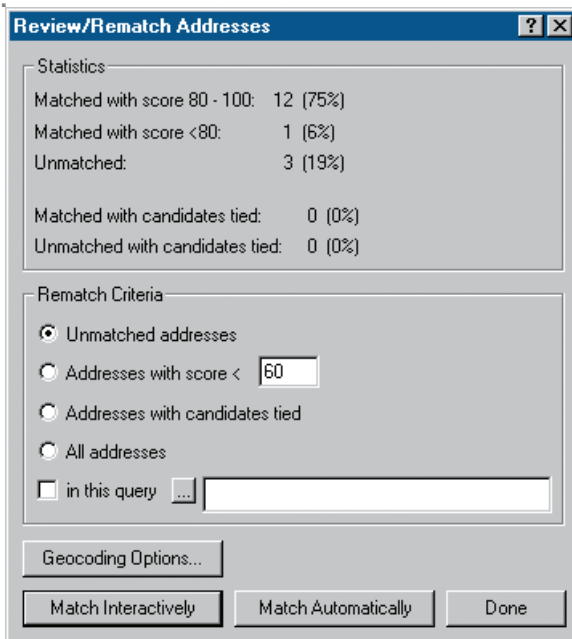
The Geocode1 layer is added to the table of contents. It is symbolized with the default ArcMap point symbol in a random color. If you like, you can change the symbol to make it easier to see. In the following graphics, the point symbol has been set to Circle2, Fire Red, 7 points.

Exercise 17c



Now you'll rematch the unmatched addresses.

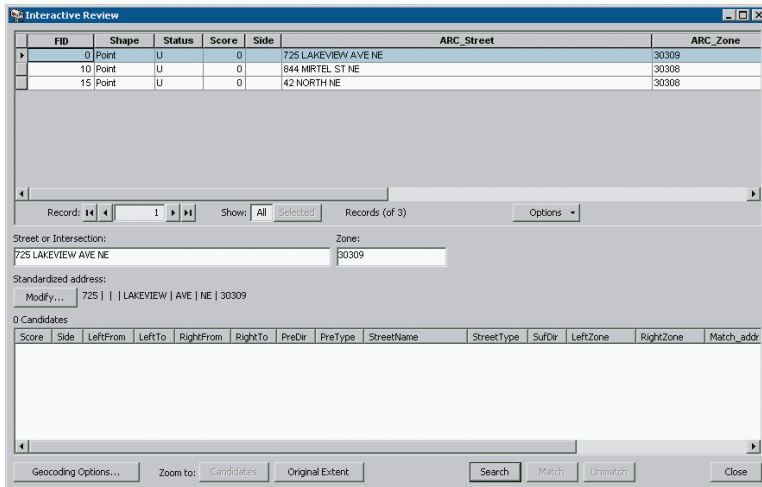
- 5 Click the Tools menu, point to Geocoding, point to Review/Rematch Addresses, and click Geocode1. The Review/Rematch Addresses dialog opens



In the Statistics frame, you see the results from the last exercise. The Rematch Criteria frame has options for specifying which addresses you want to rematch. You'll accept the default option of Unmatched addresses.

Exercise 17c

- 6** At the bottom of the dialog, click Match Interactively. The Interactive Review dialog opens.



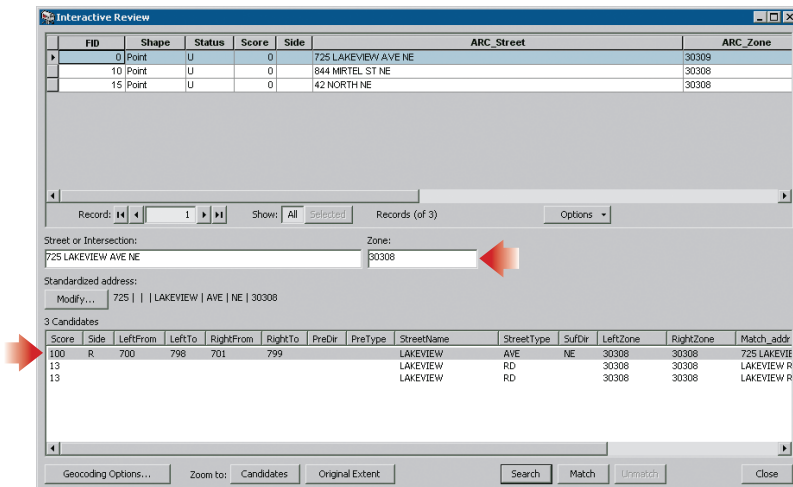
The top of the dialog displays the three unmatched records. The first one is highlighted in blue. In the middle of the dialog, the Street or Intersection box and the Zone box contain the current address information for the highlighted record. Edits to this information will be written to the ARC_Street and ARC_Zone fields of the Geocode1 table.

The Standardized address field shows how ArcGIS has divided the address into parts. The bottom of the dialog displays match candidates for the highlighted record. There are no match candidates for the first record.

Notice that the ZIP Code for the first record, 30309 is different from the ZIP Codes for the other records. It is possible that the wrong ZIP Code was entered in the Customers table. You will edit the ZIP Code to see if this produces any candidates.

In the Zone box in the middle of the dialog, highlight the value 30309 and type **30308**. Press Enter.

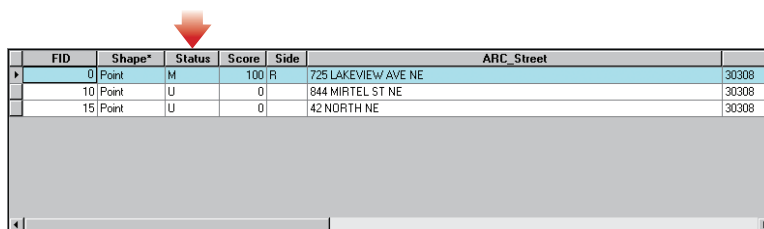
Exercise 17c



Three match candidates appear at the bottom of the dialog. The top candidate has a perfect score of 100.

- At the bottom of the dialog, make sure the first candidate is highlighted in gray. Click Match.

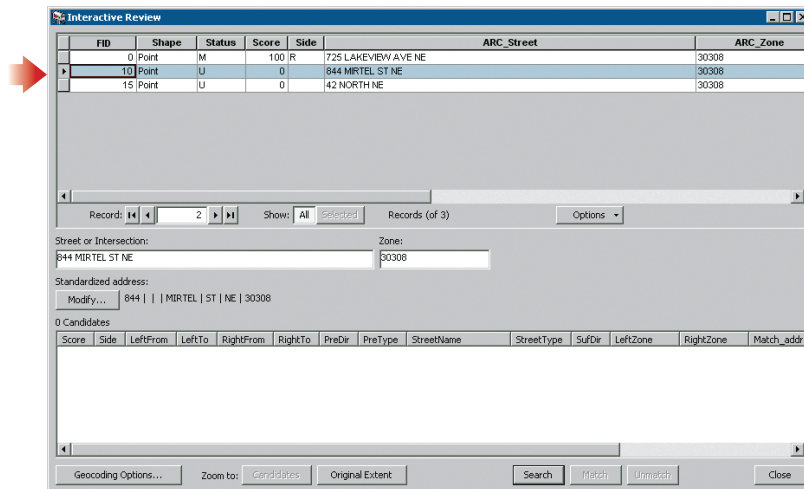
The candidate is matched. At the top of the dialog, the record's Status value changes from U to M and its ARC_Zone value changes from 30309 to 30308. (Its ZIP field value remains 30309).



Now you'll match the other two addresses.

- At the top of the Interactive Review dialog, click the gray tab to the left of the second record to select it.

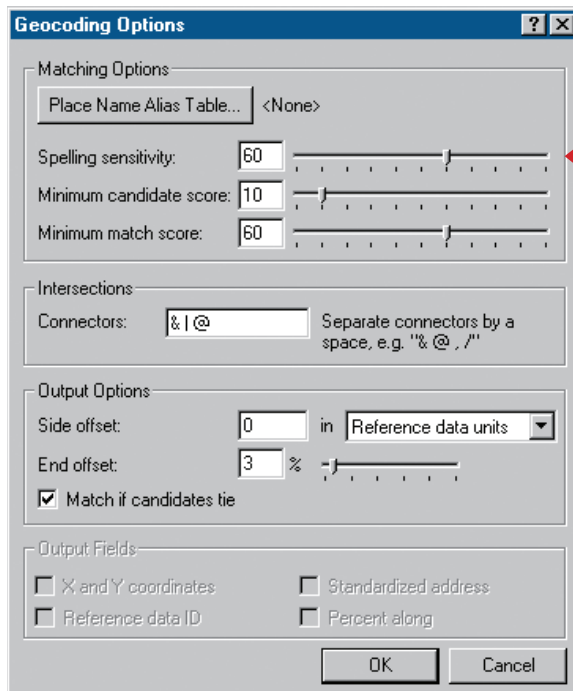
Exercise 17c



There are no match candidates. Notice the odd spelling of the street name, MIRTEL. You'll lower the spelling sensitivity to make it easier to find candidates.

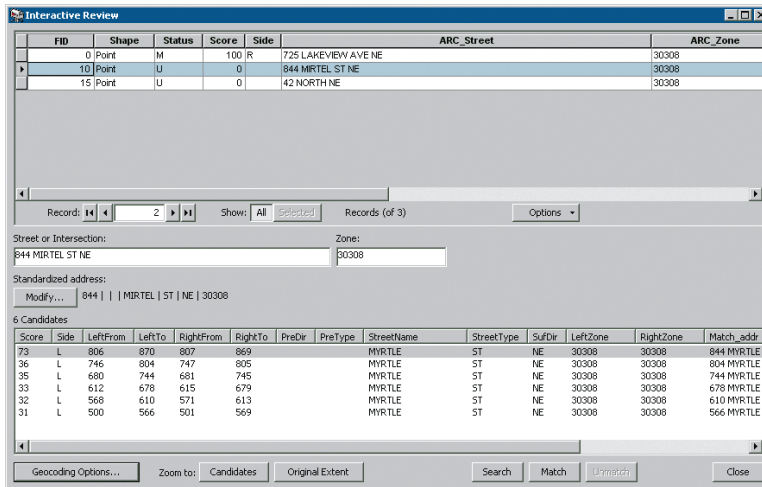
9 At the bottom of the dialog, click Geocoding Options. The Geocoding Options dialog opens.

10 Drag the Spelling sensitivity slider to 60, as shown in the following graphic, then click OK.



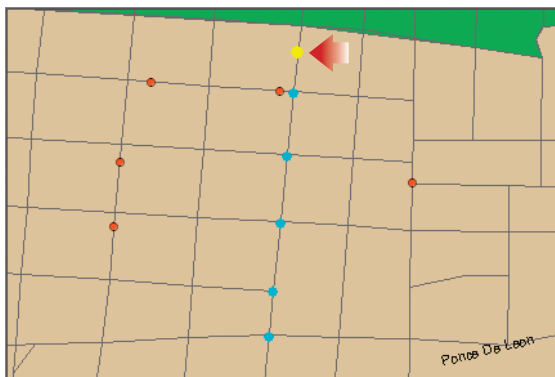
Exercise 17c

Six match candidates display at the bottom of the Interactive Review dialog.



The first of the six candidates for 844 MIRTEL ST NE has a score of 73. It has the correct address range because 844 falls between the LeftFrom of 806 and the LeftTo of 870. The street type, suffix direction, and ZIP Code all match. Only the spelling of the street name is different. For the other five candidates with lower scores, the address ranges don't match.

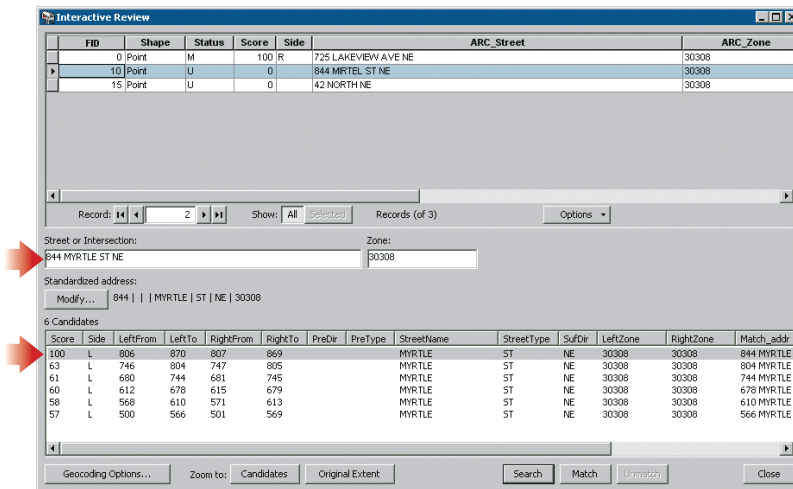
- 11 At the bottom of the Interactive Review dialog, click Zoom to: Candidates. Minimize the dialog. The map is zoomed to the extent of the six candidates.



The candidate that is highlighted in the dialog is yellow, the other candidates are cyan. Common sense suggests that the top candidate is the correct address location and that a spelling error was made when this address was entered in the Customers table.

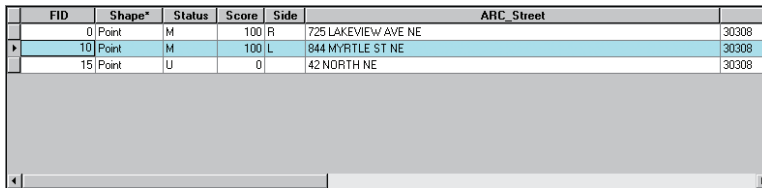
- 12 In the Street or Intersection box, highlight MIRTEL and type MYRTLE . Press Enter.

Exercise 17c



The scores of the original candidates are adjusted. The top candidate now has a score of 100.

- 13** At the bottom of the dialog, make sure that the top candidate is highlighted in gray. Click Match.

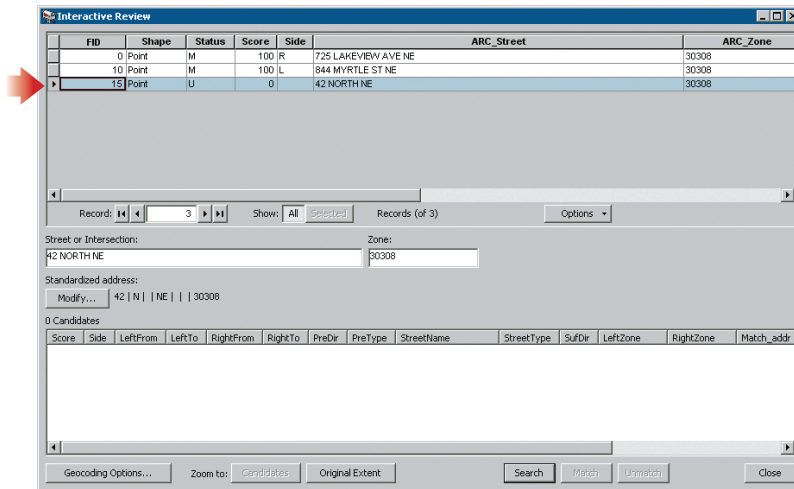


The record's status changes from U to M and its name is changed in the ARC_Street field.

Finally, you'll match the third address.

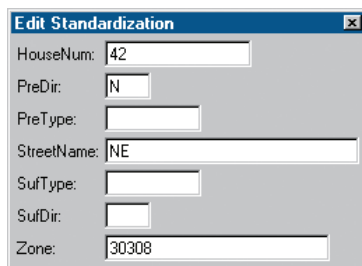
Exercise 17c

- 14** At the top of the Interactive Review dialog, select the third record.



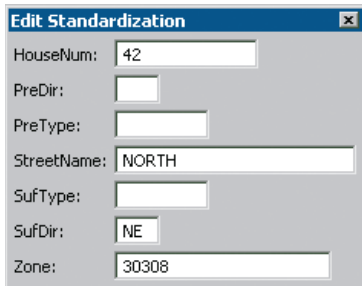
There are no candidates for this record. You could try lowering the spelling sensitivity still further, but the problem appears to be something else. It looks like the address, 42 NORTH NE, has been incorrectly standardized. The street name (NORTH) has been interpreted as a prefix direction (N) and the suffix direction (NE) has been taken for the street name. The street type (ST or AVE) is missing.

- 15** Next to the standardized address, click Modify. The Edit Standardization dialog opens.



Exercise 17c

- 16** In the PreDir box, highlight the value N and press Delete on your keyboard. In the StreetName box, highlight the value NE and type **NORTH**. Click in the SufDir field and type NE. Press Enter.



Dialog box titled "Edit Standardization" with the following fields:

- HouseNum: 42
- PreDir: (empty)
- PreType: (empty)
- StreetName: NORTH
- SufType: (empty)
- SufDir: NE
- Zone: 30308

The Standardized address is updated and 24 candidates appear.

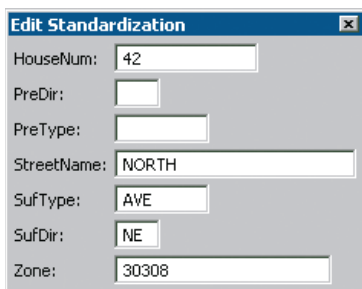
- 17** Move the Edit Standardization dialog out of the way so you can see the candidates at the bottom of the Interactive Review dialog.

Score	Side	LeftFrom	LeftTo	RightFrom	RightTo	PreDir	PreType	StreetName	StreetType	Suff
81	L	30	58	45	55			NORTH	AVE	NE
61	L	2	46	3	49			NORTH	AVE	NW
44	R	2	28	1	43			NORTH	AVE	NE
44	L	60	90	57	115			NORTH	AVE	NE
43	L	92	122	117	123			NORTH	AVE	NE
42	L	124	142	125	131			NORTH	AVE	NE

None of the candidates has a perfect score. This is because all of the candidates have a street type (AVE), but there is no street type in the record to be matched. When an address component is missing from either the address or the candidate, it isn't possible to get a match score of 100.

It is likely that AVE is the missing street type. You could add AVE to the address by typing it in the Street or Intersection box, but instead you'll simply type it in the Edit Standardization dialog.

- 18** In the Edit Standardization dialog, click in the SufType box and type **AVE**. Press Enter. Make sure your dialog matches the following graphic, then close the dialog.

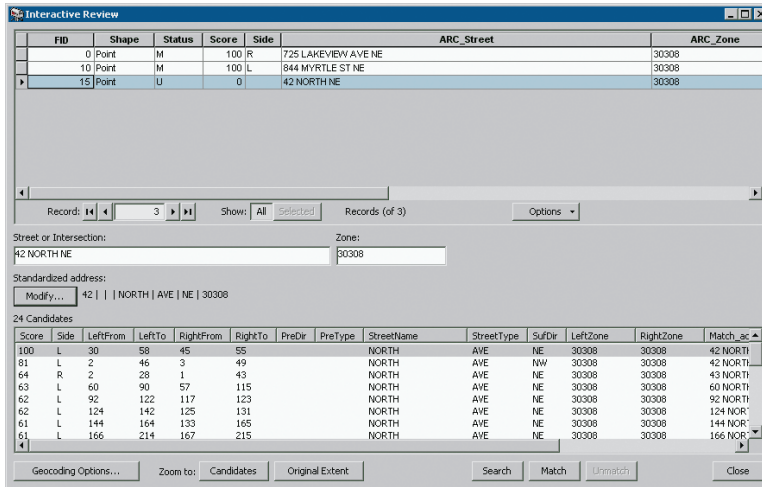


Dialog box titled "Edit Standardization" with the following fields:

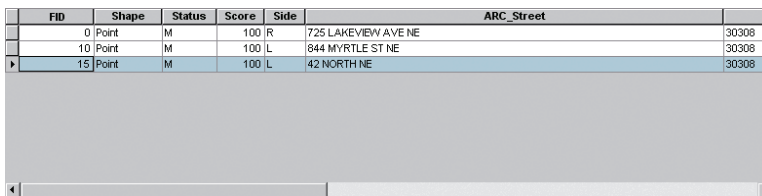
- HouseNum: 42
- PreDir: (empty)
- PreType: (empty)
- StreetName: NORTH
- SufType: AVE
- SufDir: NE
- Zone: 30308

Exercise 17c

Again, the Standardized address is updated. The top candidate now has a perfect match score of 100.



- Make sure that the top candidate, with a score of 100, is highlighted. Click Match.

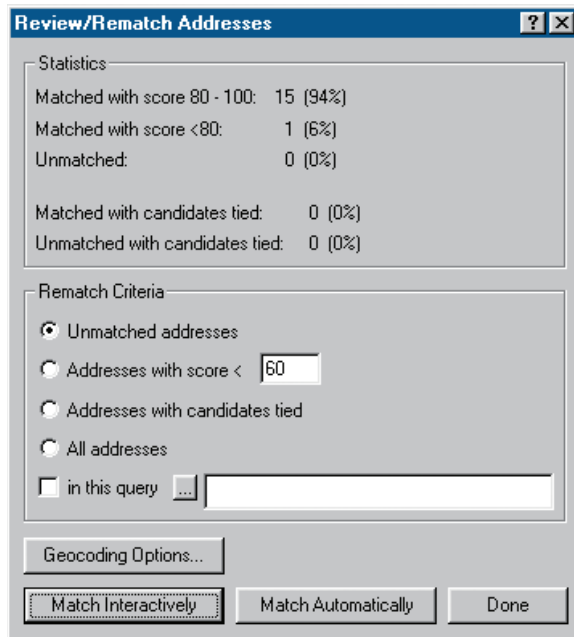


The candidate is matched. The record's status changes from U to M. Its ARC_Street value remains 42 NORTH NE. (Editing the standardization does not update the ARC_Street or ARC_Zone fields.)

You've matched all the addresses in your customer table.

Exercise 17c

- 20** At the bottom of the Interactive Review dialog, click Close to return to the Review/Rematch Addresses dialog.

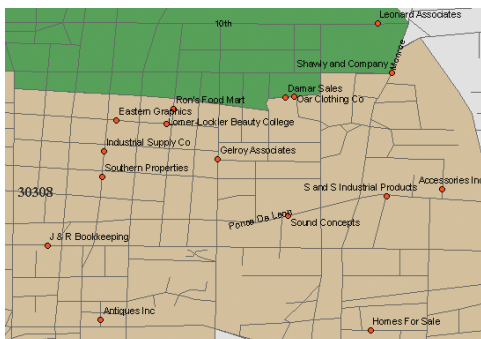


The Statistics frame shows you that fifteen addresses were matched with scores of 80 or better. One was matched with a score of less than 80.

- 21** In the Review/Rematch Addresses dialog, click Done.

On the map there are now sixteen geocoded points.

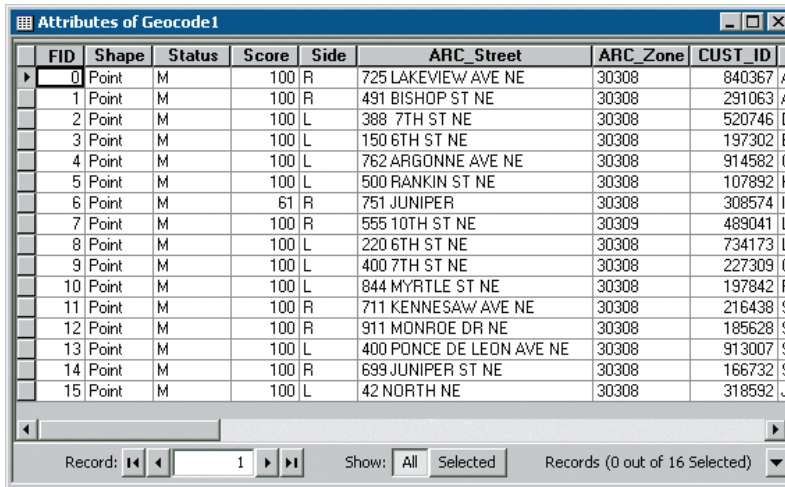
- 22** In the table of contents, right-click the Geocode1 layer and click Zoom to Layer. Right-click the layer again and click Label Features.



The points are labeled with the names of your customers' businesses.

Exercise 17c

- 23** In the table of contents, right-click the Geocode1 layer and click Open Attribute Table.



FID	Shape	Status	Score	Side	ARC_Street	ARC_Zone	CUST_ID
0	Point	M	100	R	725 LAKEVIEW AVE NE	30308	840367
1	Point	M	100	R	491 BISHOP ST NE	30308	291063
2	Point	M	100	L	388 7TH ST NE	30308	520746
3	Point	M	100	L	150 6TH ST NE	30308	197302
4	Point	M	100	L	762 ARGONNE AVE NE	30308	914582
5	Point	M	100	L	500 RANKIN ST NE	30308	107892
6	Point	M	61	R	751 JUNIPER	30308	308574
7	Point	M	100	R	555 10TH ST NE	30309	489041
8	Point	M	100	L	220 6TH ST NE	30308	734173
9	Point	M	100	L	400 7TH ST NE	30308	227309
10	Point	M	100	L	844 MYRTLE ST NE	30308	197842
11	Point	M	100	R	711 KENNESAW AVE NE	30308	216438
12	Point	M	100	R	911 MONROE DR NE	30308	185628
13	Point	M	100	L	400 PONCE DE LEON AVE NE	30308	913007
14	Point	M	100	R	699 JUNIPER ST NE	30308	166732
15	Point	M	100	L	42 NORTH NE	30308	318592

All the records have the value M in the Status field. Edits that you made during re-matching (“Mirtel” to “Myrtle” for example) are reflected in the ARC_Street and ARC_Zone fields.

Now that you know how to geocode addresses, the project to offer digital maps as one of your company’s advertising services can move forward.

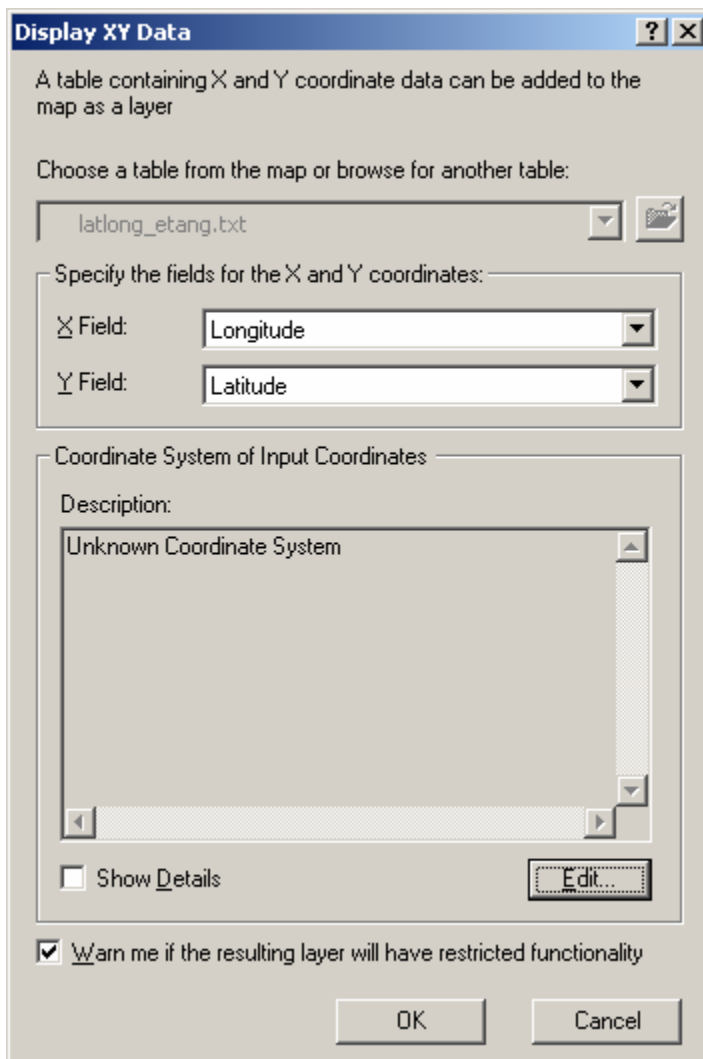
- 24** Close the table.
- 25** If you want to save your work, click the File menu and click Save As. Navigate to C:\GTKArcGIS\Chapter17\MyData. Rename the file **my_ex17c.mxd** and click Save.
- 26** If you are continuing to the next chapter, leave ArcMap open. Otherwise, click the File menu and click Exit. Click No when prompted to save your changes.

This document provides revised instructions for exercise 18b because the procedures documented in the original text book do not work. Also, there is no revision of this exercise in the errata published by ESRI for the textbook (GTKAD9.2Updates.pdf): from: gis.esri.com/esripress/shared/images/87/GTKAD9.2_Updates.pdf

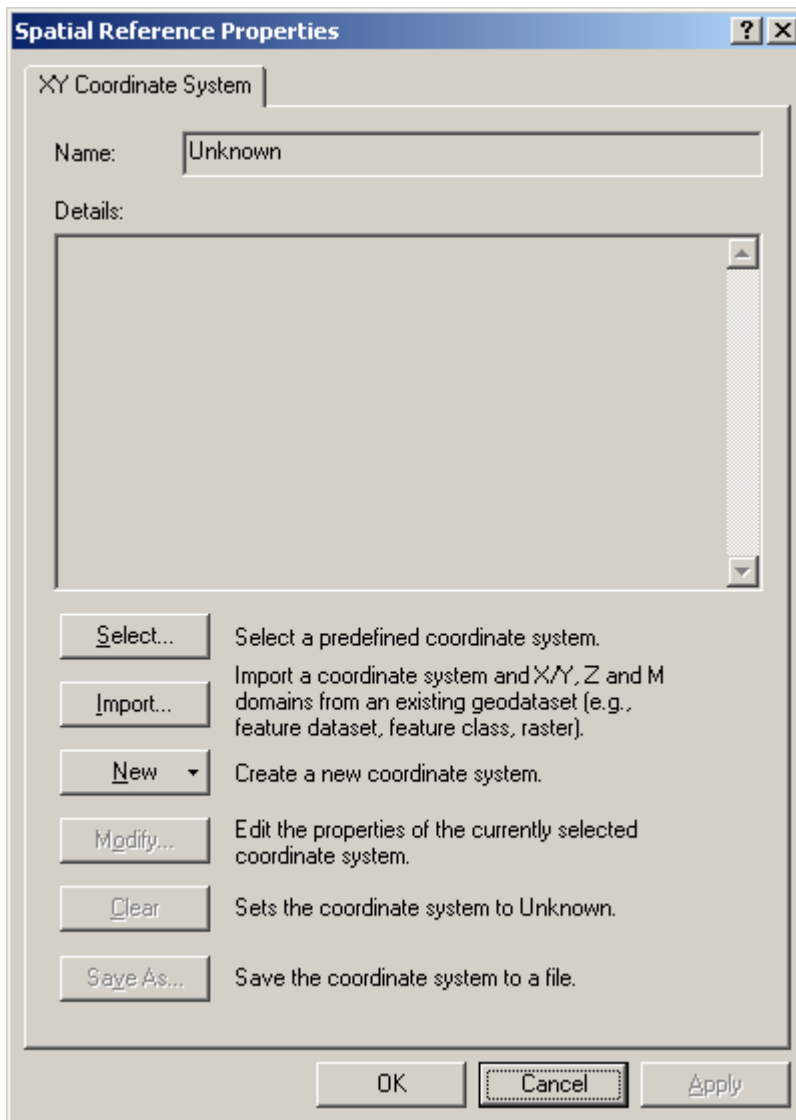
Chapter 18: Exercise 18b

Page 471

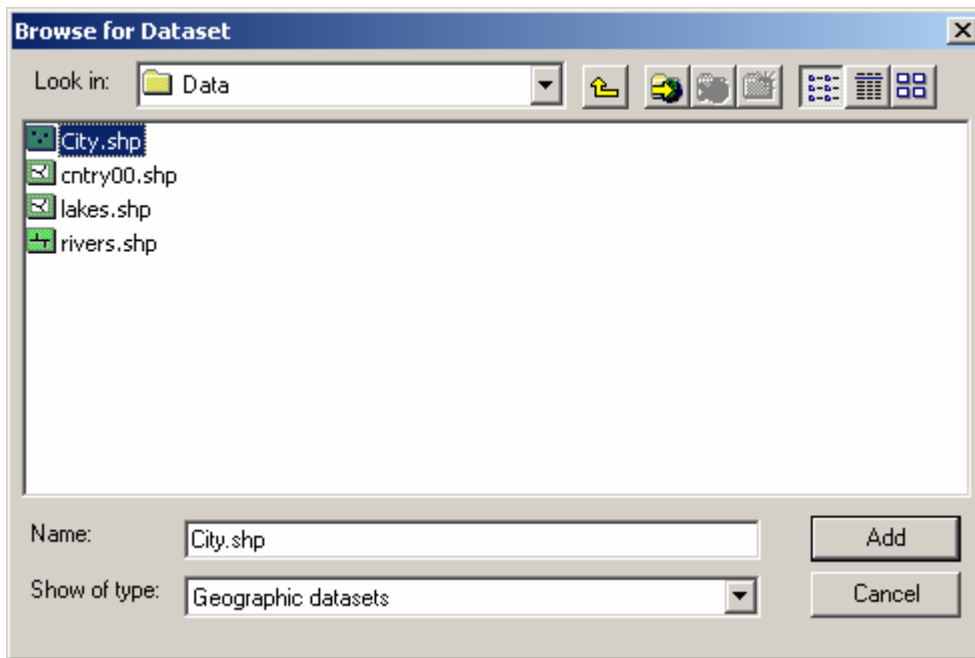
Item 5 EXISTING: Close the table. In the table of contents, right-click on latlong_etang.txt and click Display XY Data



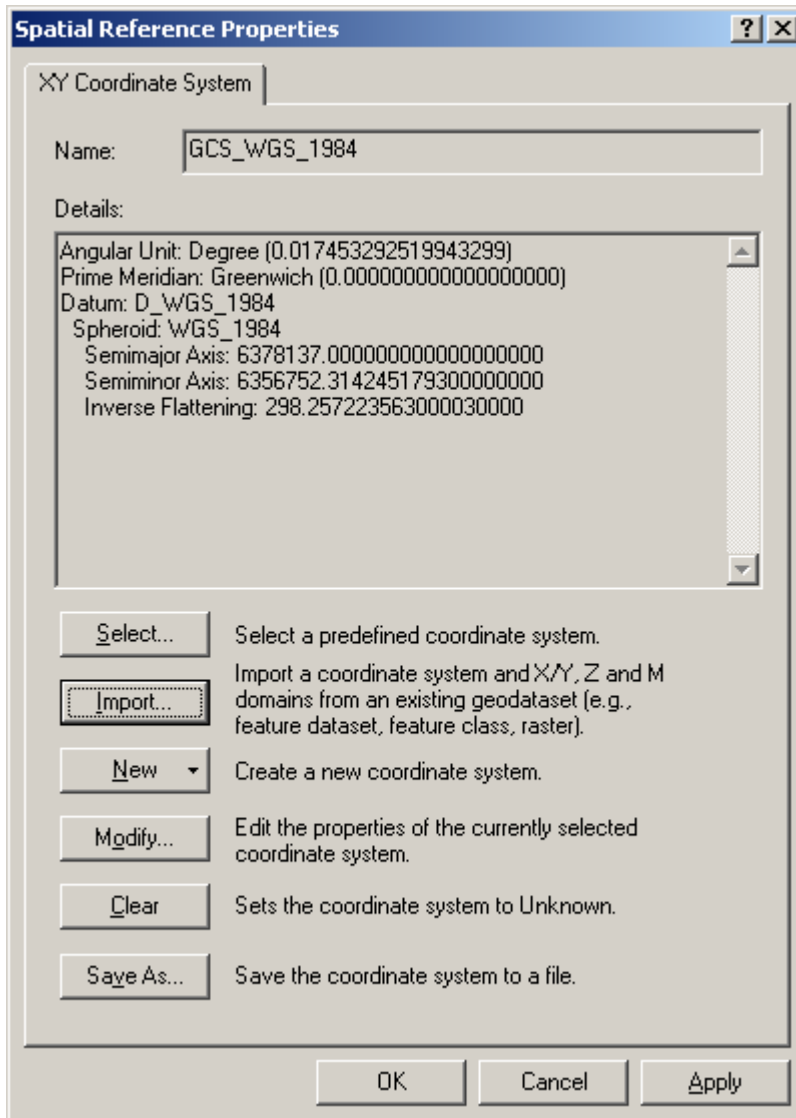
Item 5b NEW: Click Edit under the Description window.



Item 5c. Click Import under the XY Coordinate System window.

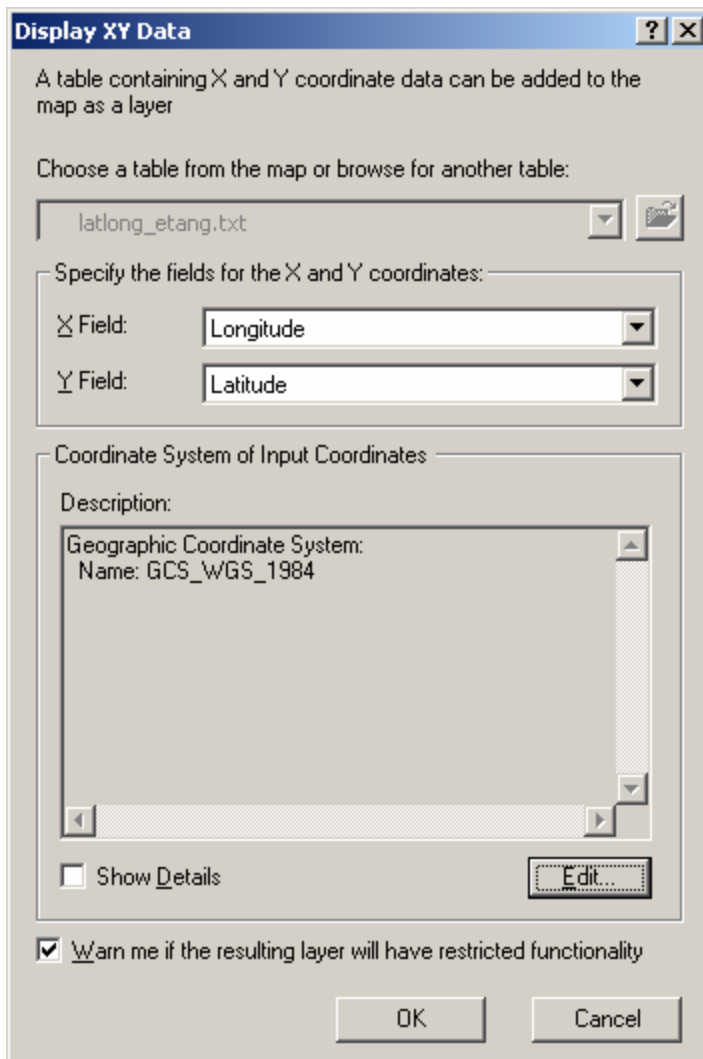


Item 5d. Navigate to the data folder for Exercise 18b. Click City.shp, click Add. Note, any of the shapefiles in this folder could have been used, all have identical contents in their .prj files.



Item 5e. Click OK.

Exercise 18b - Errata for ArcGIS Desktop 9.2 sp 4



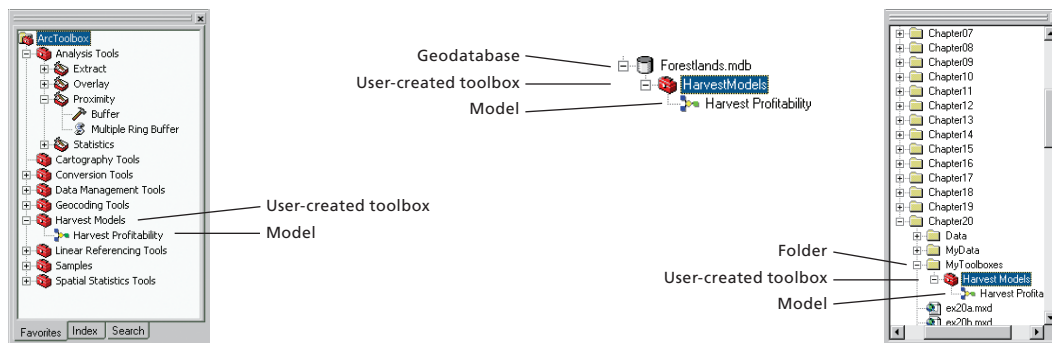
Item 5f. Verify your window appears as in the figure above. Then continue with Item 6 on page 472 in the text book, i.e., “Click OK ...”

Exercise 20a—Errata for ArcGIS 9.2

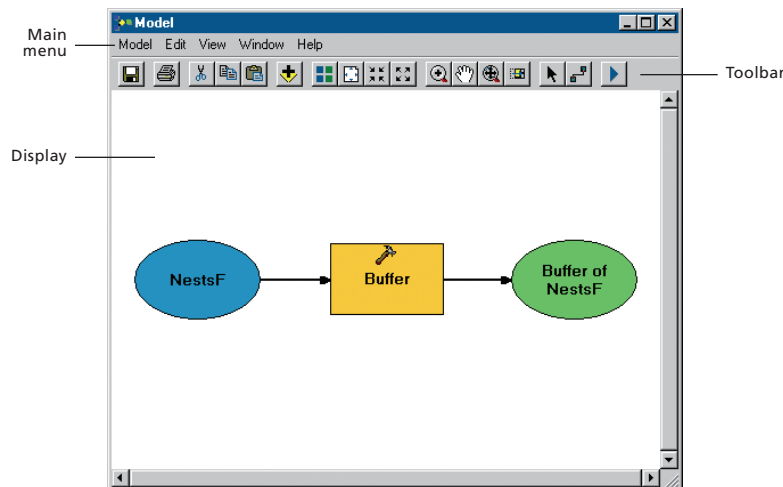
Starting a model

ModelBuilder is not a free-standing software application like ArcMap or ArcCatalog, but it's more than just a geoprocessing tool: it's a design environment for creating workflow diagrams called models. Like tools, however, models are stored in a toolbox. In earlier chapters, you used some of the tools and toolboxes that come with ArcMap. In this exercise, you will learn how to create a new toolbox and put a model inside it.

A new toolbox can be created in ArcToolbox, or in an ordinary file folder, or in a geodatabase. Since models are stored in toolboxes, these are also the three locations in which models can be created.



The ModelBuilder window has its own menu and toolbar. Many of the controls have the same icons and functions as ArcMap controls.



Exercise 20a

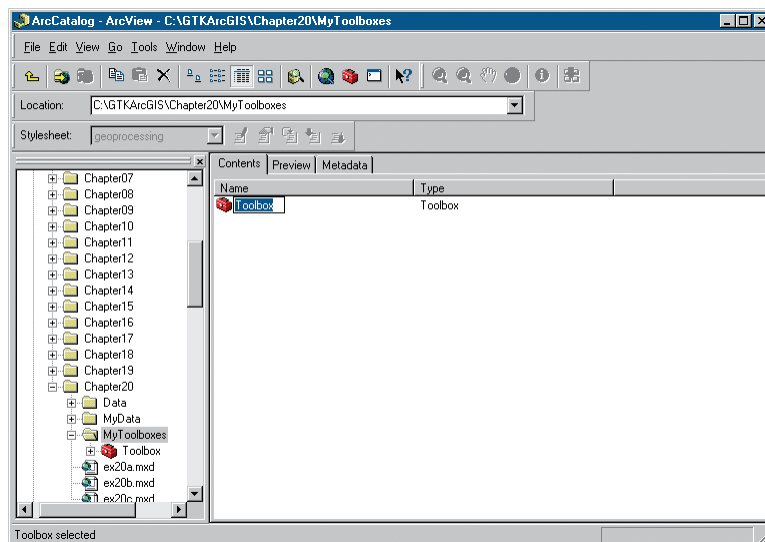
Exercise 20a

In the next three exercises, you will create a model of the harvest profitability analysis from chapter 12. (The data preparation you did in chapter 11 is assumed to be complete, although you could include those operations in your model as well.)

The logic of the analysis is not repeated in detail here. If you feel unsure about the order of the steps or the reasons behind them, you can refer back to chapter 12. The focus of this chapter is mainly on how to diagram the analysis in ModelBuilder.

In this exercise, you'll make a new toolbox to store your model. Then you'll create a model and add one process to it.

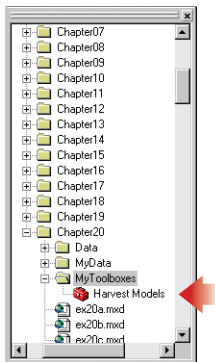
- 1 Start ArcCatalog. In the catalog tree, navigate to **C:\GTKArcGIS\Chapter20\MyToolboxes**. Right-click on **MyToolboxes**, point to **New**, and click **Toolbox**.



A new toolbox is added with its default name highlighted.

- 2 In the catalog display, change the new toolbox name to **Harvest Models** and press Enter. In the catalog tree, expand the **MyToolboxes** folder if necessary.

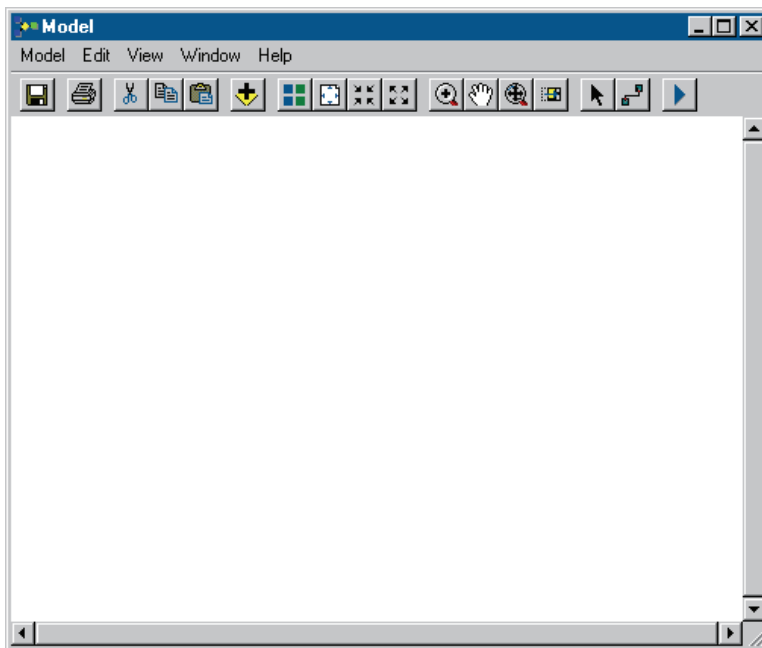
Exercise 20a



You have created a toolbox in an ordinary file folder. If you look at the toolbox with a file browser, such as Windows Explorer, it appears with a .tbx extension.

Now you will create a model within the toolbox.

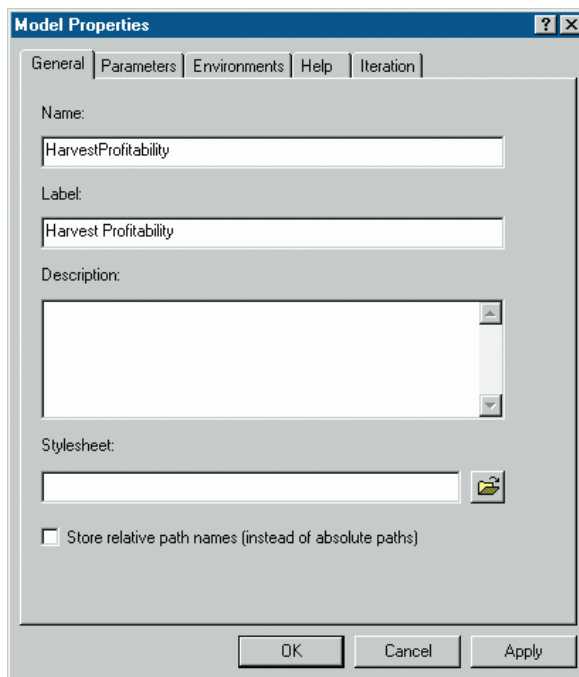
- 3** In the ArcCatalog tree, right-click the Harvest Models toolbox, point to New, and click Model.



The model window opens. You'll change the name in the title bar to something more meaningful.

Exercise 20a

- 4 In ModelBuilder, click the Model menu and click Model Properties. In the Model Properties dialog, the General tab is selected. In the Name box, replace Model with **HarvestProfitability** (the model name cannot contain any spaces). In the Label box, replace Model with **Harvest Profitability** (the model label may contain spaces). Make sure the dialog matches the following graphic, then click OK.



Now you will save and close the model so you can work with it in ArcMap.

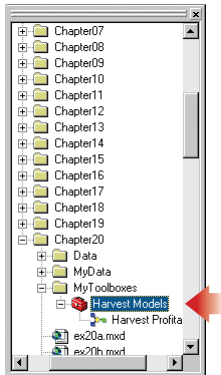
- 5 On the ModelBuilder toolbar, click the Save button.



- 6 Click the Model menu and click Close.

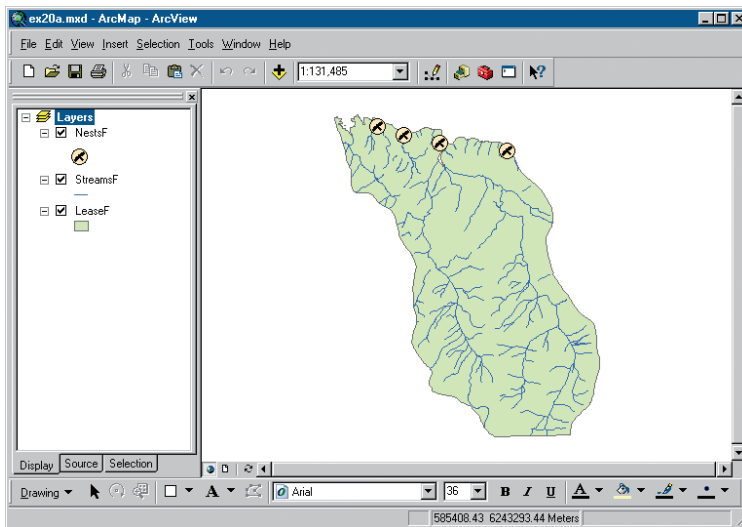
Exercise 20a

- 7 In the ArcCatalog tree, click the plus sign next to the Harvest Models toolbox.



The new toolbox is not automatically added to new ArcMap documents. To work with the Harvest Profitability model, you must first add the Harvest Models toolbox to ArcToolbox from within ArcMap.

- 8 In the catalog tree, double-click **ex20a.mxd** to launch ArcMap and open the map document. (If ArcMap is already running, click the File menu and click Open. Navigate to **C:\GTKArcGIS\Chapter20**. Click **ex20a.mxd** and click Open.)

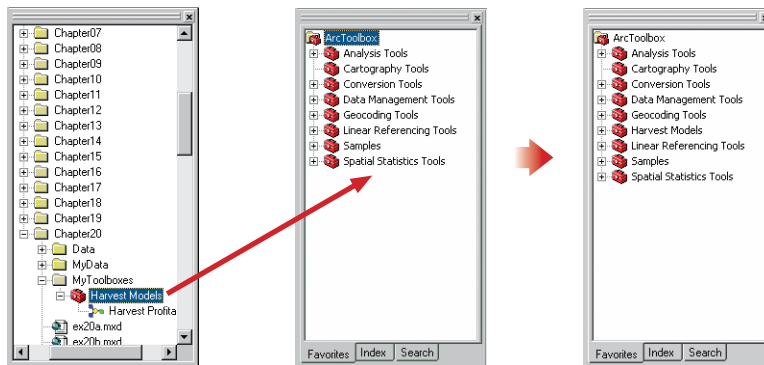


The map contains layers for lease F, goshawk nests, and streams. It should look familiar as it has the same data and symbology as ex12a.mxd.

Now you will open the ArcToolbox window and add the Harvest Models toolbox to it.

Exercise 20a

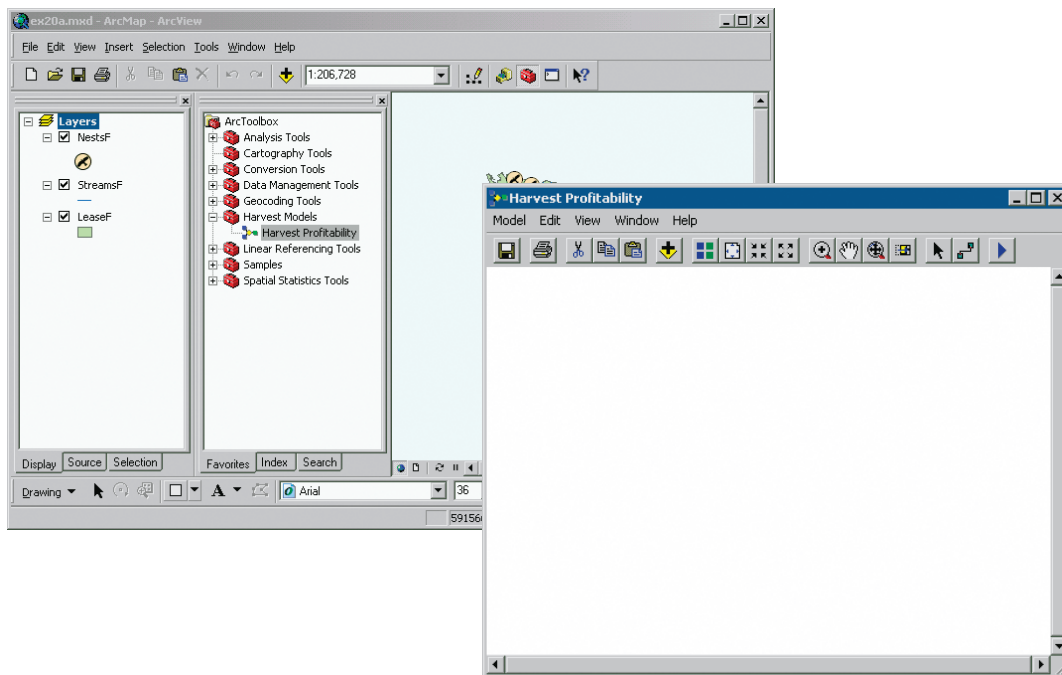
- 9 On the Standard toolbar, click the Show/Hide ArcToolbox Window button to open ArcToolbox.
- 10 Position ArcMap and ArcCatalog so that the ArcToolbox window and the catalog tree don't overlap. Make ArcCatalog the active application. In the catalog tree, click the Harvest Models toolbox and drag it to the bottom of the ArcToolbox window.



The Harvest Models toolbox is automatically put in alphabetical order with the other toolboxes.

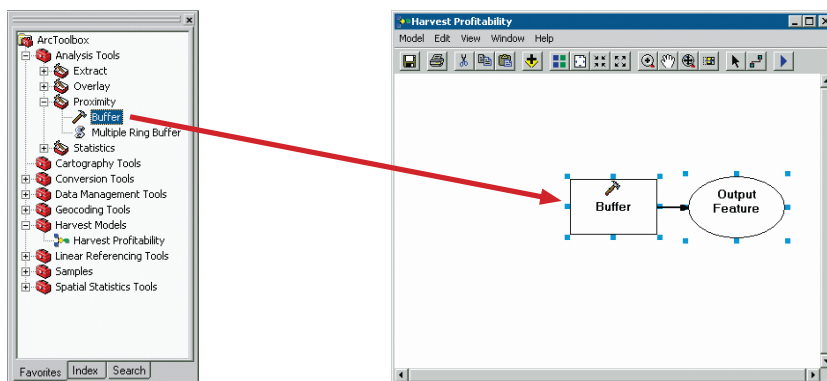
- 11 Make ArcCatalog the active application. Click the File menu and click Exit.
- 12 In ArcMap, in the ArcToolbox window, click the plus sign next to Harvest Models to expand it. Right-click the Harvest Profitability model and click Edit. When the ModelBuilder window opens, move it so that it doesn't overlap either the ArcToolbox window or the ArcMap table of contents.

Exercise 20a



Now you will create a process to buffer the goshawk nests. You will drag and drop the Buffer tool from ArcToolbox and the NestsF layer from the ArcMap table of contents.

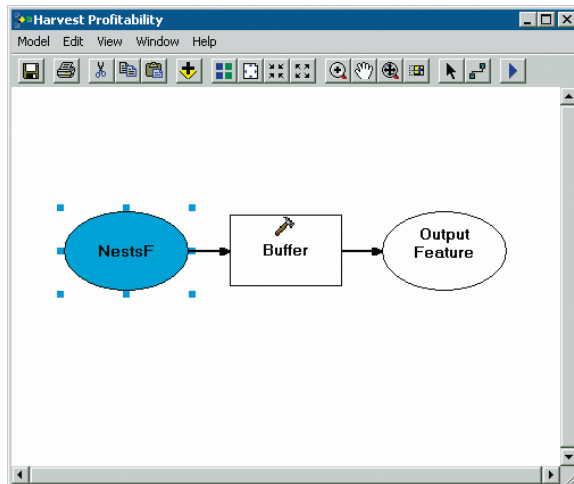
- 13** In the ArcToolbox window, click the plus sign next to Analysis tools, then click the plus sign next to Proximity.
- 14** Click the Buffer tool and drag it to ModelBuilder. Drop it in the center of the ModelBuilder window.



The Buffer tool, represented by a rectangle, is added to the model. An arrow connects the tool to its output data, represented by an oval. Blue selection handles indicate that the elements are currently selected. The fact that they are not colored in means that they are incomplete—they are waiting for input data to be attached.

Exercise 20a

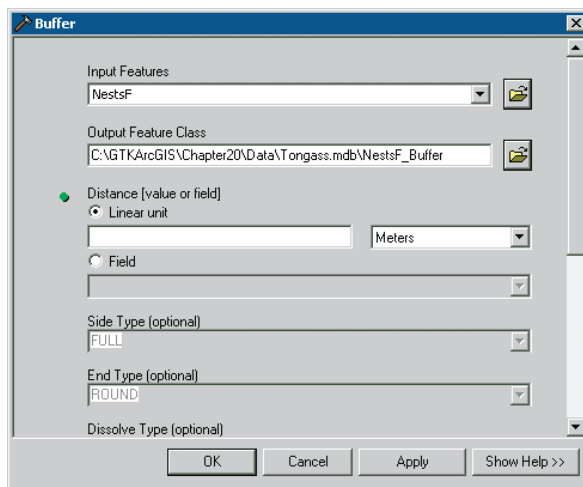
- 15** In the ArcMap table of contents, click the NestsF layer. Drag it to the ModelBuilder window and drop it directly on top of the Buffer tool rectangle.



The NestsF layer, represented by an oval, is automatically connected to the tool it was dropped onto.

Before running the process, you will change the tool and output data settings.

- 16** In the model, double-click the Buffer tool rectangle.



The Buffer dialog opens—exactly as if you had double-clicked the Buffer tool in Arc-Toolbox. You will fill in the tool’s parameters just as you did in chapter 12.

By default, the output feature class is set to the Tongass.mdb file in the chapter 20

Exercise 20a

Data folder. To keep the model data separate from the book's exercise data, you will change the output location to the MyData folder.

- 17 Click the Browse button next to the Output Feature Class box. In the Output Feature Class dialog, navigate to **C:\GTKArcGIS\Chapter20\My-Data** and double-click on **MyTongass.mdb**.
- 18 In the Name box, type **NestBuf**, then click Save.

The output feature class information is updated in the Buffer dialog.

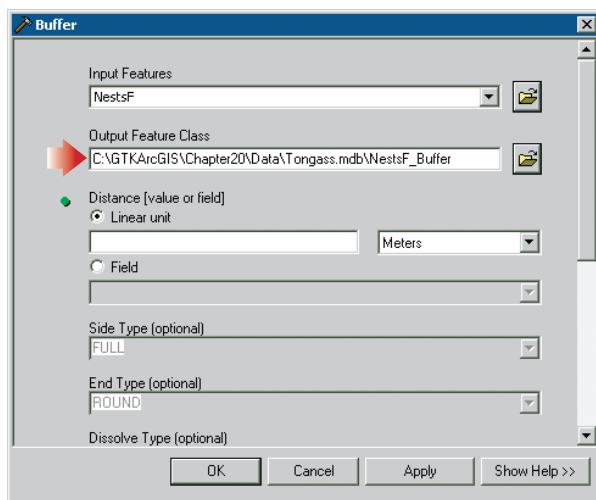
- 19 For the buffer distance, make sure the Linear unit option is selected. In the Linear unit box, type **800**.

The distance units are correctly set to meters. Trees cannot be harvested within 800 meters of a goshawk nest.

- 20 Click the Dissolve Type drop-down arrow and click All.

Overlapping buffer polygons will be dissolved to make a single feature.

- 21 Make sure the dialog matches the following graphic, then click OK to close the tool.



Clicking OK here does not run the tool, it just closes the dialog. In ModelBuilder, you can double-click a tool whenever you like to view or change its parameters. The elements are colored in now, which means that the process is ready to run.

Exercise 20a

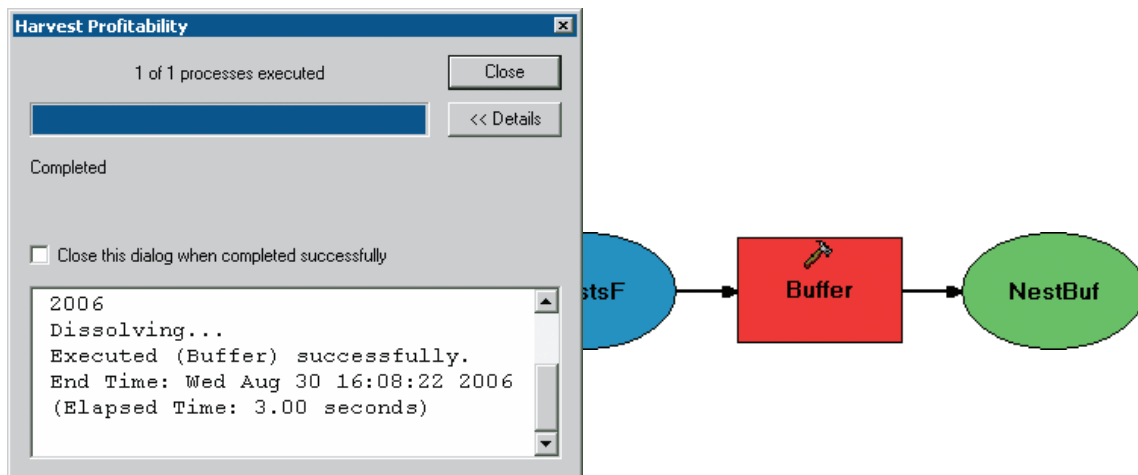
When you run the process, a new feature class will be created and saved to disk. The output data is not automatically added as a layer to ArcMap, however. If you want the data added to the map, you have to set a property on the output data element.

22 In the model, right-click on the NestBuf oval and click Add To Display to check it on.

23 On the ModelBuilder toolbar, click the Run button to run the model.

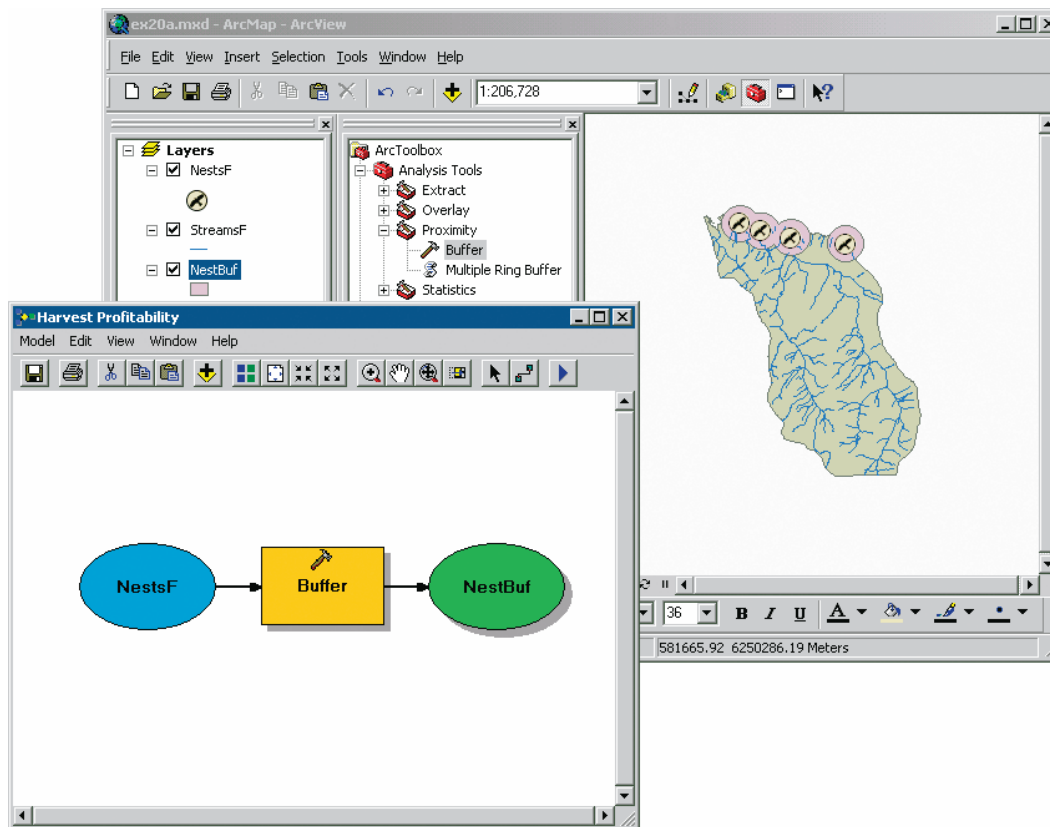


As a model runs, each of its tools turns red. Your model has only one tool, so if you weren't watching closely (or if the progress report covered the model), you may not have seen it. When the tool is finished, it turns yellow again.



Exercise 20a

- 24** Click Close to close the progress report.



The NestBuf layer is added to ArcMap. (You may need to move the ModelBuilder window to see it.)

In ModelBuilder, drop shadows behind the tool and output data elements indicate that the process has been run. Once a process has been run, it does not run again unless you change a parameter, or choose Run Entire Model or Validate Entire Model from the Model menu.

- 25** On the ModelBuilder toolbar, click the Save button to save the model.

- 26** Click the Model menu and click Close to close the model. In ArcMap, close the ArcToolbox window.

The model and all its settings are stored in the Harvest Models.tbx file you created at the beginning of this exercise. There is no need to save changes to the map document.

Exercise 20a

- 27** If you are continuing with the next exercise, leave ArcMap open. Otherwise, click the File menu and click Exit. Click No if prompted to save your changes.