

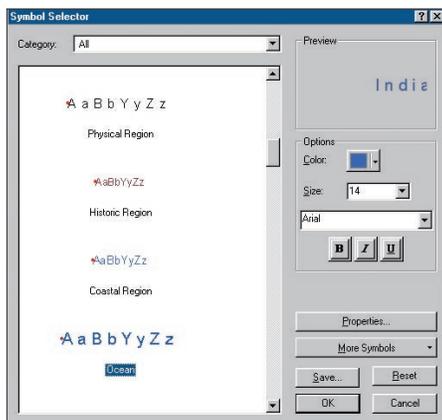
# Getting Started with ArcGIS

## Labeling Features in ArcMap

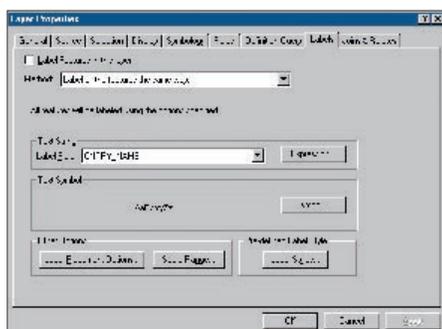
By Monica Pratt, ArcUser Editor

A label is any text that identifies a feature on a map and helps the map reader interpret a map. In ArcMap, you can use labeling or annotation to identify features. The choice of annotation or labeling depends on how much control you need over text display and how you would like to store text in ArcMap. See “Labeling Options in ArcMap,” another article in this issue, for a discussion of the pros and cons of each method for identifying features.

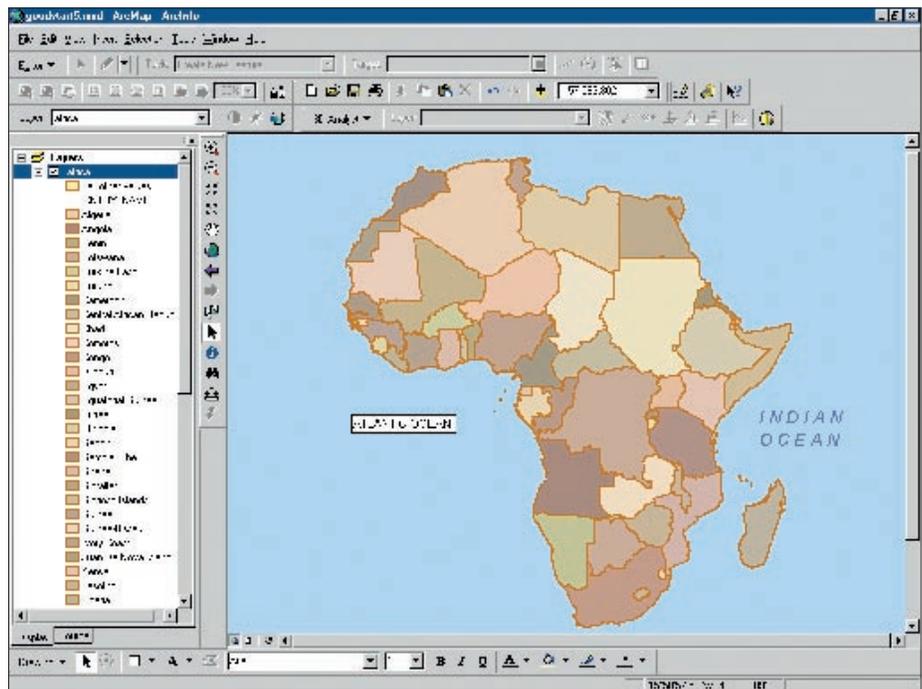
If you are using labeling, the features you will label will depend on the type of data being displayed and how the map will be used. These considerations will help you decide which labeling method to use in a given situation. You can use the Text tool to label a few features, or you can take advantage of the functionality built into ArcMap to label features—interactively or dynamically—based on attribute data associated with a layer.



In the Symbol Selector dialog box, scroll through the available label styles to locate an appropriate style, select it, and click OK.



Specify the layer and field that ArcMap will use for labeling in the Layer Properties dialog box.



Labels can be added without referencing an attribute table by using the Text tool.

### One by One

Although a value stored in an attribute table typically supplies the information for a label (e.g., the name Angola could be a value for a field that contains the names of countries), labels can be added without referencing an attribute table by using the Text tool. This can be useful when you want to label a feature such as an ocean that will help orient map readers but lack a layer containing a field with the name of that feature.

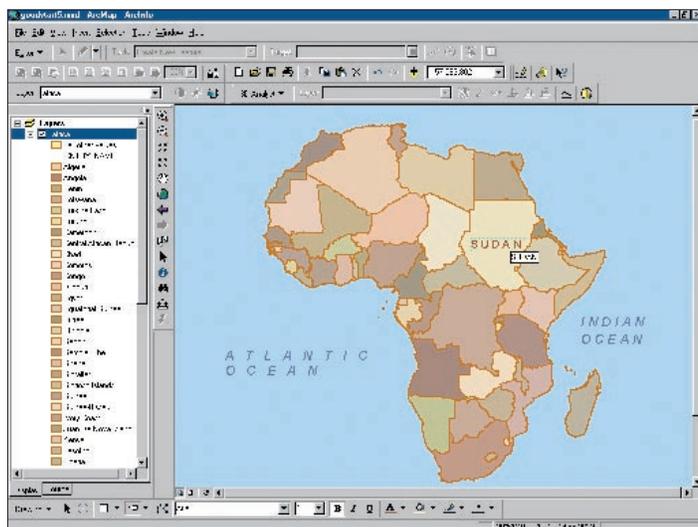
1. Click on the New Text tool from the Drawing toolbar.
2. Move the mouse cursor over the area to be labeled. The cursor becomes a crosshair with a “T.”
3. Click on the map. A text box appears. Type the name of the feature in the text box and press Enter.
4. To apply an existing label style to this text, right-click on the feature name and choose Properties from the context menu.
5. In the Properties dialog box, click on the Text tab, then click on the Change Symbol button to bring up the Symbol Selector dialog box.
6. The label styles that come with ArcMap are grouped by the type of feature (e.g., ocean, highway, or city). In the Symbol Selector dialog box, scroll through the available label styles to locate an appropriate style, select it, and click OK. In the Properties dialog box, click on OK again to apply the new style.

7. To adjust the position of a label, place the cursor over the label, hold down the left mouse key, and drag the label to a new location.

### Label Specific Features

Labeling features interactively lets you label just the features you want. You can place each label exactly where you want or you can let ArcMap choose the placement. This method can use any field in the attribute table associated with the feature to be labeled. Once a feature is labeled, the label can be selected, moved, or individually modified.

1. Before labeling any features, specify the layer and field that ArcMap will use for labeling by right-clicking on the layer in the table of contents. Choose Properties from the context menu.
2. In the Layer Properties dialog box, click on the Labels tab. Make sure the box next to Label Features in This Layer is unchecked. Click the drop-down box next to Label Field: and scroll down to select the field in the layer’s attribute table that you want to use to label features. Changes to the label style can be made at this time by clicking on the Symbol button, which invokes the Symbol Selector dialog box. When finished, click Apply and OK to apply the changes and dismiss the dialog box.
3. In the Drawing toolbar, click on the drop-down box next to the New Text



Click on the features you want to label with the Label tool.



In the Labeling Options dialog box specify whether you will position each label individually or let ArcMap determine the best placement. You can also specify the text appearance by using the properties for the layer or clicking on the radio button next to Choose a Style to select a new label style from the list.

tool. In the New Text palette, click on the Label tool. This invokes the Labeling Options dialog box.

- In the Labeling Options dialog box, you can specify whether you will position each label individually or let ArcMap determine the best placement. This dialog box also lets you modify how text appears. You can use the properties for the layer or you can click on the radio button next to Choose a Style to select a new label style from the list.
- Click on the features you want to label with the Label tool. Delete an unwanted label by right-clicking on it and selecting Delete from the context menu. To adjust the position of a label, place the cursor over the label, hold down the left mouse key, and drag the label to a new location.
- After placing a label, modify its size, color, or other characteristics by double-clicking on it with the Select Element tool to invoke the Properties dialog box. In the Properties dialog box, click on the Size and Position tab and the Change Symbol button to access the Symbol Selector.

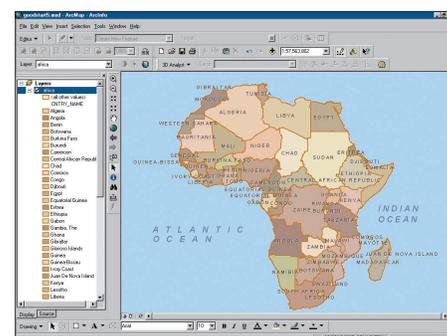
### Label All the Features All at Once

Sometimes you need to label many features in a layer. Dynamic labeling lets you label all the features in a layer at the same time using a field in the layer's attribute table. Dynamic labels behave as a group. You can change the font or other label characteristics for all the labels at the same time. You can set guidelines that help ArcMap determine where to place labels. This method of labeling is most useful when the precise location of labels is not critical and many labels will be placed. If additional control over label placement is required,

dynamically placed labels can be converted to annotation. This process converts dynamic labels to text graphics that can be manipulated individually and stored in a geodatabase.

- In the table of contents, right-click on the layer to be labeled and choose Properties from the context menu.
- In the Layer Properties dialog box, click on the Labels tab. Check the box next to Label Features in This Layer. Click on the drop-down box next to Label Field: and scroll down to select the field in the layer's attribute table that you want to use to label features. Changes to the label style can be made at this time by clicking on the Symbol button, which invokes the Symbol Selector dialog box.
- Because these labels were applied dynamically, they can be turned off and on as a group. Right-click on the layer in the table of contents and select Label Features from the context menu. Toggle this feature on or off by clicking on it.

As you zoom and pan a map with dynamically placed labels, ArcMap adjusts the placement of the labels based on the space available. By default, ArcMap does not let labels overlap. Although duplicate labels are automatically removed, in some cases duplicate labels may be desirable. Right-click on the layer and click on the Labels tab of the Layer Properties dialog box. Click on the Layer Placement Options button, click on the Placement Properties dialog box, and click on the Place One Label Per Feature Part radio button.



Dynamic labeling is most useful when the precise location of labels is not critical and many labels will be placed.

### Conclusion

This article provides a basic overview of labeling methods. ArcMap gives you great flexibility in labeling features. You can control how dynamically placed labels display by prioritizing layers and specifying the positioning of labels around point features. By using a SQL Query, you can label a subset of the features in a layer. Different text symbols can be used for each subset. For example, a layer containing data on cities can be displayed with different fonts for cities with large and small populations. Label text can also be generated with a script that can be used to do a variety of things such as round numbers or make text all uppercase or all lowercase.

Learn more about labeling by reading Chapter 7 in *Using ArcMap*, one of the manuals that comes with ArcGIS, and accessing the ArcGIS online help. *Getting to Know ArcGIS Desktop*, a workbook that is available online from the GIS Store at [www.esri.com/gisstore](http://www.esri.com/gisstore), contains tutorials covering labeling and annotation as well as other aspects of using ArcGIS. **AU**