The CEDRA Corporation's

COMMAND OF THE MONTH

A monthly information bulletin   **April 2006**
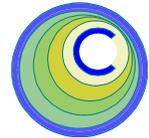
Application Description

When creating a map it is sometimes desirable to place upon the map a descriptive or informative note, which points to a location on the map, with the note enclosed in a shaded or filled polygon, such as a rectangle. This type of note, in the ArcView® GIS and ArcGIS® environments, is referred to as a Callout.

Callouts can come in different styles, such as, balloons, leaders and banners. They also can appear in different colors and line styles.

Callouts are generally used to highlight a specific point or points on a map and are very effective when used in meetings and exhibitions.

The CEDRA Solution

Within the ArcView® GIS environment, the user can employ one of the three Callout tools within the Text tool dropdown list, see Figure 1, to create a Callout. However, for some reason and to date, ArcGIS® users do not have an out of the box toolbar that offers such functionality.
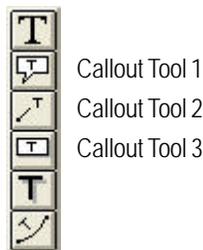
Figure 1
ArcView GIS Text Tool Drop-Down

To address this issue, the CEDRA-AVcad software offers the CEDRA-Callout-Tools toolbar, see Figure 2, which provides the capability to create various types of Callouts from within ArcMap.

Figure 2
CEDRA-Callout-Tools Toolbar

CEDRA Callout Tools

The CEDRA-Callout-Tools toolbar, as seen in Figure 2, contains three tools with the first two offering the ability to create a Callout with user defined text, while the third tool generates a Callout from existing graphic text elements.

Command Of The Month bulletin

This month's issue discusses the process of creating different types of Callouts from within the ArcGIS environment using the CEDRA-Callout-Tools toolbar.

It is important to note that a Callout in the ArcMap environment is a graphic text element and not an annotation feature. An annotation feature is stored in a geodatabase, while a graphic text element is stored in the ArcMap document file.

The first tool, 🗩 , creates a Rectangle or Line Callout by enabling the user to:

- pick the anchor point of the Callout,
- pick the low left corner of the text, which is to appear in the Callout, and finally,
- specify the desired Callout parameters including the text string to appear in the Callout.

The second tool, 🗔 , creates a Banner Callout by enabling the user to:
- pick the low left corner of the text, which is to appear in the Callout, and,
- specify the desired Callout parameters including the text string to appear in the Callout.

The third tool, **T** , creates a Rectangle or Line Callout by converting existing graphic text elements into a Callout. This is accomplished by having the user:
- select the existing graphic text elements to be processed,
- selecting this tool and,
- specify the desired Callout parameters.

CEDRA Callout Tool #1

In using the first Callout tool, 🗩 , the user, after selecting this tool, will make two picks in the map area. The first pick identifies the anchor point of the Callout. The anchor point is the location that is pointed to by the Callout. Once the two picks have been made, the command will prompt the user to enter the various Callout parameters, see Figure 3.
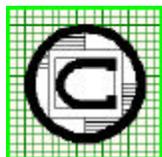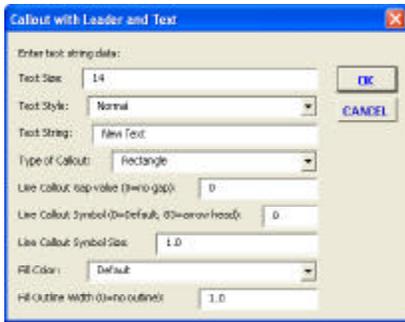
Figure 3
Callout Tool 1 Multi-Input Dialog Box

As can be seen from Figure 3, the user has a great deal of control over how the Callout is generated. Beginning at the top of the dialog box, the user is able to control:

Data Line 1 - Text Size

The text size is expressed in points and must be a value greater than zero.

Data Line 2 - Text Font Style

The font style that should be assigned to the text string which appears in the Callout. Shown in Figure 4 are a list of the available font styles.

The user simply selects the desired style from the choice list.
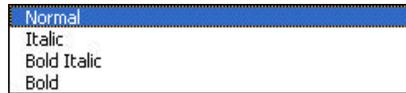
Figure 4
Available Font Styles

Data Line 3 - Text

The text string which appears in the Callout. Should the user wish to enter a multi-line text string, the keycode || can be entered in the position where a new line is to inserted. These two characters, ||, denote that the new line/carriage return characters are to be inserted in the text string thereby resulting in multi-line text being created.

Data Line 4 - Callout Type

The type of Callout that is to be created. Shown in Figure 5 is a list of the available Callout styles.

Figure 5
Available Callout Styles

The user simply selects the desired style from the choice list. If the Line option is selected, parameters 5, 6 and 7 can be used to customize the Line Callout that is created. These parameters do not apply when the Rectangle or Rounded Rectangle options are selected

Data Line 5 - Line Callout Gap Value

The gap value to be used when creating a Line Callout. This value is expressed in points and represents the spacing between the anchor and the text background. This value must be greater than or equal to 0.

The top most Callout in the second column of Figure 6 is an example of a Line Callout with a gap value of 5 assigned to it. The remaining Callouts in the second column of Figure 6 are examples of Line Callouts with a gap value of 0.

Data Line 6 - Line Callout Symbol

The line symbol to be used when creating a Line Callout. The default value is 0 and indicates use the default line (a thin black line) when creating the anchor.

A value greater than 0 indicates the index into the line symbol selector list for the line symbol to be used in the anchor. For example, the value, 83, denotes the line style with the arrow at the end of the line, see Figure 6.
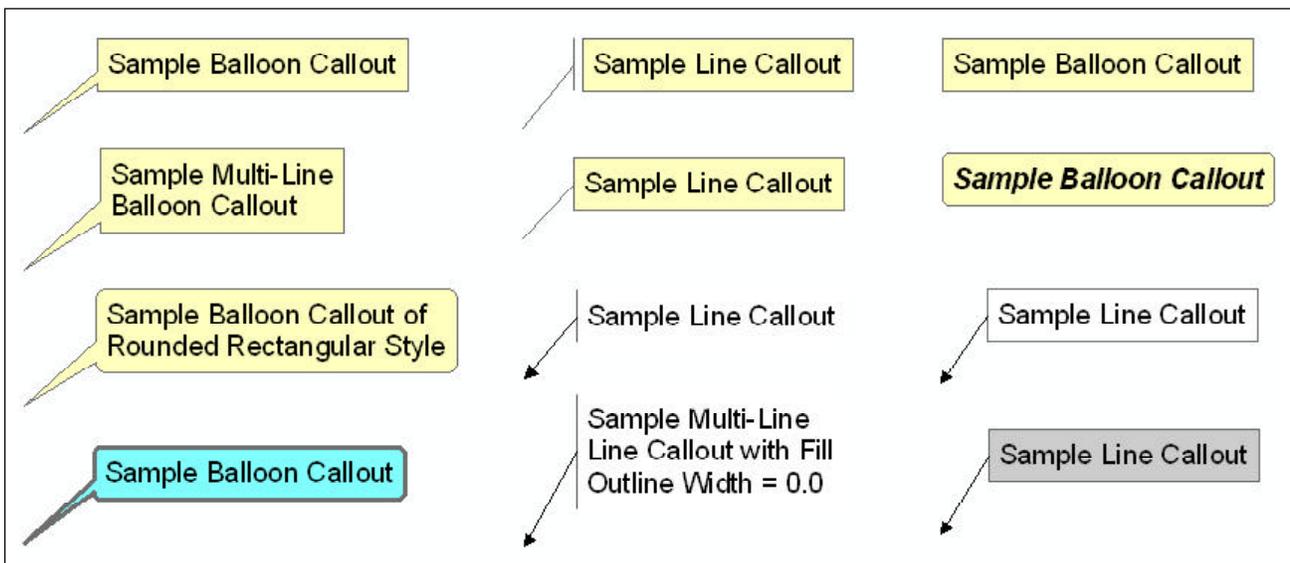
Figure 6 - Sample Callouts created with the CEDRA-Callout-Tools

Data Line 7 - Line Callout Symbol Size

The line symbol size to be used when creating a Line Callout. This value controls the width of the line used in drawing the anchor. This value must be larger than zero.

Data Line 8 - Callout Color

The color to be used when creating the Callout. Shown in Figure 7 is a list of the available colors.

Figure 7
Available Colors

The user simply selects the desired color from the choice list. The option, Default, indicates use the default Callout color, which is an off yellow.

Data Line 9 - Callout Width

The outline width to be used when creating the Callout. Entering a value of 0 will indicated that no outline is to be used. The larger the value, the thicker the outline of the Callout.

The bottom most Callout in the first column of Figure 6 is an example where the Callout Width value has been set to 2, while the third Callout from the top in the second column illustrates a Callout with a Callout Width of 0 assigned to it.

Callout Creation

Once all of the parameters have been specified, the user can select the OK button to begin the generation of the Callout or the Cancel button to abort the command.

When a Callout is created, it is made the active or selected graphic element. As such, if the user is not pleased with the look of the Callout, the user can simply depress the Delete key on the keyboard to delete the Callout. The command can then be repeated to create another Callout.

Furthermore, since the Callout is selected, the user activate the Select Features tool, , to reposition or resize the Callout.

CEDRA Callout Tool #2

The second tool, , is identical to the first tool with the exception that the user does not need to pick the anchor point of the Callout. The Callout that is created with this tool does not contain an anchor point. This type of Callout is referred to as a Banner Callout. The top two Callouts in the third column of Figure 6 are examples of this type of Callout.

In using this tool, the user, after selecting this tool, will make a pick in the map area identifying the low left corner of the text string to appear in the Callout. Once the pick has been made, the multi-input dialog box of Figure 3 will appear. The user then enters the appropriate information describing the Callout to be created.

CEDRA Callout Tool #3

The third tool, , as stated previously, creates a Callout from existing graphic text elements. In actuality, this tool does not create additional graphics, but rather, assigns a Callout to the existing graphic text element.

Prior to activating this tool, the user must select the graphic text element(s) to be processed. If no graphic text elements are selected when this tool is selected, an appropriate error will be displayed.

If there are selected graphic text elements, the command will display a dialog box similar to the one shown in Figure 8. Using this multi-input dialog box, the user specifies the desired Callout parameter values.
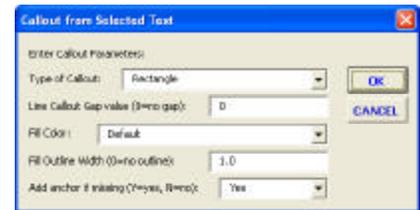
Figure 8
Callout Tool 3 Multi-Input Dialog Box

Beginning at the top of the dialog box, the user is able to control:

Data Line 1 - Callout Type

The type of Callout that is to be created. Shown in Figure 9 is a list of the available Callout styles. This choice list is similar to the list shown in Figure 5 with the exception that an additional option called None is available. Selecting this option provides the user the ability to remove the Callout from the existing graphic text element.
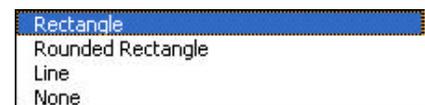
Figure 9
Available Callout Styles

Data Line 2 - Line Callout Gap Value

The gap value to be used when creating a Line Callout. This value is expressed in points and represents the spacing between the anchor and the text background. This value must be greater than or equal to 0.

The top most Callout in the second column of Figure 6 is an example of a Line Callout with a gap value of 5 assigned to it. The remaining Callouts in the second column of Figure 6 are examples of Line Callouts with a gap value of 0.

Data Line 3 - Callout Color

The color to be used when creating the Callout. Shown in Figure 7 is a list of the available colors.

The user simply selects the desired color from the choice list. The option, Default, indicates use the default Callout color, which is an off yellow.

Data Line 4 - Callout Width

The outline width to be used when creating the Callout. Entering a value of 0 will indicated that no outline is to be used. The larger the value, the thicker the outline of the Callout.

The bottom most Callout in the first column of Figure 6 is an example where the Callout Width value has been set to 2, while the third Callout from the top in the second column illustrates a Callout with a Callout Width of 0 assigned to it.

Data Line 5 - Create Anchor

Whether or not an anchor is to be included in the Callout that is created or not. This option only pertains to graphic text elements which do not have a Callout assigned to them. That is to say, this tool will process graphic text elements which are already assigned a Callout.

When an anchor is created it is arbitrarily positioned to the left and below the low left corner of the graphic text element. The user can use native ArcMap functionality to reposition and/or resize the anchor.

Callout Creation

Once all of the parameters have been specified, the user can select the OK button to begin the generation of the Callout(s) or the Cancel button to abort the command.

As with the other Callout tools, this tool will make the graphic text elements which were processed the selected graphics. The user can then post-process the selected graphics using native ArcMap functionality.

Summary

For users who need the ability to create Callouts, the tools contained in the CEDRA-Callout-Tools toolbar provide the requisite functionality to create Callouts in a variety of styles.

Finally, there probably are users out there who are saying, "I never knew this toolbar existed". Well, they are right. This toolbar was recently developed as a result of a suggestion by a user. Being a "relatively" easy to develop tool, The CEDRA Corporation, in a short period of time, created the CEDRA-Callout-Tools toolbar. The point being is if a user has a suggestion or a request for a specific type of functionality, please feel free to bring the suggestion or request to CEDRA's attention. There's a good chance your suggestion/request will be implemented.

If you have a request for Command Of The Month, feel free to phone, fax or e-mail your request to The CEDRA Corporation.