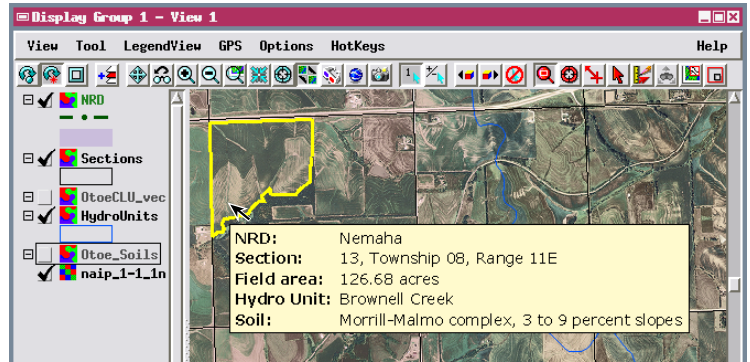# Design DataTips using HTML

You can use text formatting to enhance the readability of DataTips for groups and layouts and to add emphasis to data from particular layers. Use of MicroImages text formatting codes for this purpose has been described in previous Technical Guides (*Spatial Display: Designing Complex DataTips* and *Add Styling to DataTips*), but you can also use standard, widely-documented HTML markup and Cascading Style Sheet (CSS) Level 2 style methods to format DataTips. Using HTML markup gives you flexible control over font selection, styling, color, and alignment within the DataTip. If you are preparing atlases for TNTserver, using HTML DataTip formatting has the added advantage that it can be directly used by many web-based WMS clients, so your DataTip information will appear as you intended.

In an HTML-formatted DataTip, such as the example illustrated on this page, the DataTip information is contained in a <table> element. Each line in the DataTip constitutes a table row (<tr>) element. The prefix and value components of each DataTip entry are contained in separate table data (<td>) elements that define the columns of the table (see green text lines in the HTML sample below). When you set up DataTips for the individual layers to provide the enclosing <tr> and <td> tags for their components (as described subsequently), during each DataTip event these HTML elements are automatically detected and the DataTip text is parsed as a virtual HTML "document". Opening and closing <body> and <table> tags are generated automatically for this virtual document (as shown in red text below).

DataTip with text formatting set using HTML markup.

layers in the associated group or layout. Using a predefined function that is called each time a DataTip is requested, the script can create the <head> element of the virtual HTML DataTip "document" and include CSS style definitions within it (cyan text in the HTML sample). In the example shown on this page, the predefined "tr" CSS type selector is used to first define the font and font size used for every <tr> element (every DataTip line). A second user-defined "prefix" class selector is then defined to make text bold within the <td> elements containing the prefix text; the HTML markup for these <td> elements must list this class as a property to apply the style.

In this DataTip example, each layer's DataTip text (with HTML markup) is created in a string expression field in an attached data-

(over)

A Display Control Script allows you to use CSS styles to easily define text formatting for all or part of every DataTip entry from all

Virtual HTML Document Generated for the DataTip Shown Above

```
<html>
  <head>
    <style>
      tr {
        font-family: Verdana,Helvetica,sans-serif;
        font-size: 12pt;
      }
      .prefix {
        font-weight: bold;
      }
    </style>
  </head>
  <body>
    <table>
      <tr><td class="prefix">NRD: </td><td>Nemaha</td></tr>
      <tr><td class="prefix">Section: </td><td>13,Township 08, Range 11E</td><tr>
      <tr><td class="prefix">Field Area: </td><td>126.68 acres</td><tr>
      <tr><td class="prefix">Hydro Unit: </td><td>Brownell Creek</td><tr>
      <tr><td class="prefix">Soil: </td><td>Morrill-Malmo complex, 3 to 8 percent slopes</td><tr>
    </table>
  </body>
</html>
```
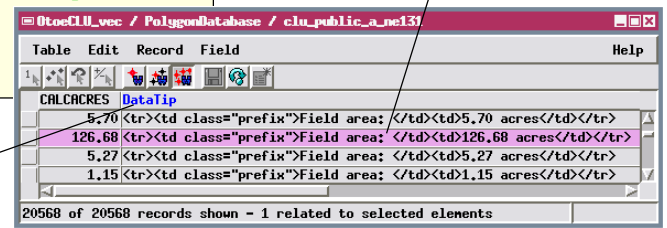
HTML head with style definitions provided by Display Control Script

style definition for table row elements using type selector "tr"

style definition for user-defined class selector "prefix"

tags generated automatically as DataTip text is read

"prefix" style applied to first column

one table row for each layer

tags generated automatically

Sample Display Control Script Defining DataTip Styles

```
func OnViewDataTipShowRequest (
  class GRE_VIEW view,
  class POINT2D point,
  class TOOLTIP datatip
) {
  datatip.String = '<html><head><style>
    tr {
      font-family: Verdana,Helvetica,sans-serif;
      font-size: 12pt;
    }
    .prefix {font-weight: bold;}
  </style></head>';

  return 0;
}
```

function called before retrieving DataTips for all layers in the view

set beginning of DataTip string with head of HTML document; enclose in single quotes to allow line breaks in string

function returns 0 to allow DataTip text for each layer to be appended to the string created here

For each layer in this example, DataTip text with HTML markup is created in a string expression field in an attached database table; this field is set as the source for the DataTip for the layer in its Layer Controls window.

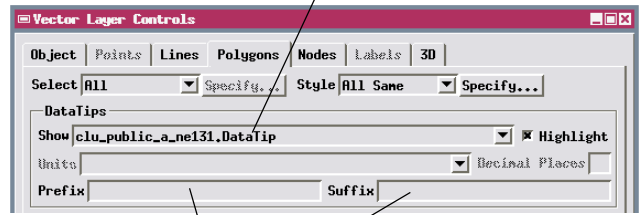String expression for the DataTip field shown to the right:

```
'<tr><td class="prefix">Field area: </td><td>' +
    clu_public_a_ne131.CALCACRES + '</td></tr>';
```

OtoeCLU_vec / PolygonDatabase / clu_public_a_ne131

Table   Edit   Record   Field   Help

CALCACRES   DataTip

5.70	<tr><td class="prefix">Field area: </td><td>5.70 acres</td></tr>
126.68	<tr><td class="prefix">Field area: </td><td>126.68 acres</td></tr>
5.27	<tr><td class="prefix">Field area: </td><td>5.27 acres</td></tr>
1.15	<tr><td class="prefix">Field area: </td><td>1.15 acres</td></tr>

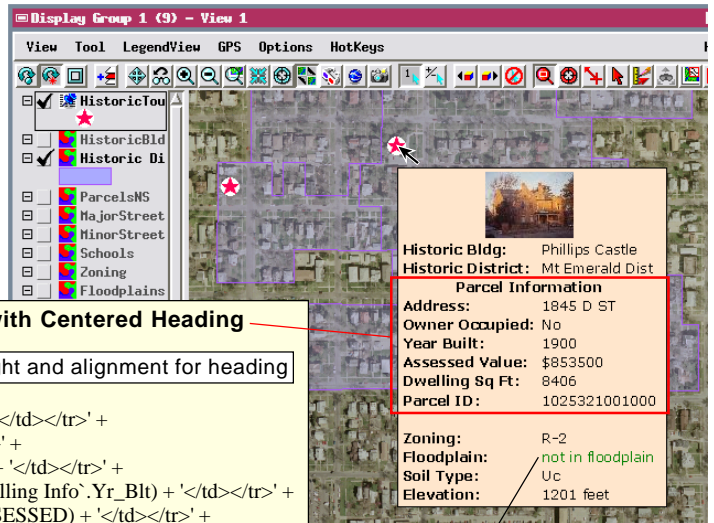20568 of 20568 records shown – 1 related to selected elements

base table. This field is then set as the source for the DataTip in the Layer Controls window for the layer. The string expression defines the text to be used for the prefix, the database field containing the values, the suffix text (if applicable), and it encloses these within the required HTML tags. It also assigns the <td> element containing the prefix text to the "prefix" style class defined by the Display Control script. This method allows you to use the Query Editor for the string expression field to compose the entire DataTip text for the layer and preview the resulting text string in the corresponding field in the table to check for typographical errors. Make sure that you have set in the Table Properties window a large enough width for the string expression field to accommodate the length of the text string to be generated by the expression. If the width is too small, the end of the text string is truncated and the HTML markup will not parse properly, preventing DataTip entries from this and subsequent layers from appearing. In addition, when using this method make sure that the Prefix and Suffix fields in the Layer Controls window are blank; text in these fields also interferes with parsing of the HTML markup for the DataTip.

Using a string expression field as the source for HTML-formatted DataTip text also allows you to construct multiline DataTips to present a set of attributes from a single layer. The sample DataTip shown to

String expression field with HTML markup set as source for DataTip text in Layer Controls window.

Make sure the Prefix and Suffix fields in the Layer Controls window are blank when using a string expression field for the HTML DataTip source.

String Expression for HTML-Formatted Multiline DataTip with Centered Heading

set table cell to span two columns for heading

use CSS style property to set font weight and alignment for heading

```
'<tr><td colspan=2 style="font-weight: bold; text-align: center;">Parcel Information</td></tr>' +
'<tr><td class="prefix">Address: </td><td>' + ca062506.Situs_NoCity + '</td></tr>' +
'<tr><td class="prefix">Owner Occupied: </td><td>' + ca062506.OwnerOccupied + '</td></tr>' +
'<tr><td class="prefix">Year Built: </td><td>' + NumToStr(`Lancaster County Dwelling Info`.Yr_Blt) + '</td></tr>' +
'<tr><td class="prefix">Assessed Value: </td><td>' + sprintf("$%.f", ca062506.ASSESSED) + '</td></tr>' +
'<tr><td class="prefix">Dwelling Sq Ft: </td><td>' + `Lancaster County Dwelling Info`.SqFtna + '</td></tr>' +
'<tr><td class="prefix">Parcel ID: </td><td>' + ca062506.PID + '</td></tr>' +
'<tr></tr>';
```

leave blank table row after multiline DataTip

the right includes multiple lines of information for property parcels. The string expression for this layer (shown above) also shows how you can create a centered heading for the multiline entry by setting a table data element to span two columns, and use the style property to define a CSS style for an individual HTML element. (The group illustrated uses a Display Control Script identical to the one shown on the front side of this page to set most of the DataTip text styling.) You can also use the style property to conditionally change text styling, such as color, for DataTip text, as shown by the string expression for the Floodplain layer in this group.

Using a string expression field as the source for HTML-formatted DataTip text may be impractical for some layers, such as raster layers and pinmapped geotagged photos. In these cases you can use the DataTip Prefix and Suffix fields in the Layer Controls window to provide the appropriate HTML markup, as illustrated in the examples to the right.

String Expression for HTML-Formatted DataTip with Varying Text Color

use CSS style property to set text color

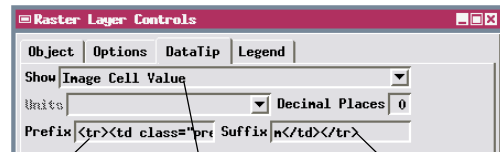```
string flood$;
if (flood.POLY_CODE==5)
    flood$ = '<td style="color: blue;">500 year floodplain</td></tr>';
else if (flood.POLY_CODE==1)
    flood$ = '<td style="color: fuchsia;">100 year floodplain</td></tr>';
else if (flood.POLY_CODE==2)
    flood$ = '<td style="color: red;">floodway</td></tr>';
else
    flood$ = '<td style="color: green;">not in floodplain</td></tr>';
return '<tr><td class="prefix">Floodplain: </td>' + flood$;
```

HTML markup can also be included in the Prefix and Suffix fields in the DataTip controls in the Layer Controls window.
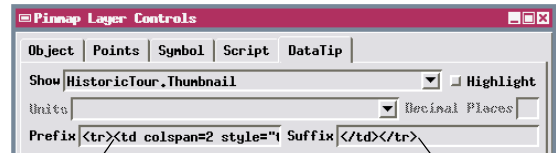


Text entered in Prefix field on DataTip panel of Layer Controls

Value is inserted automatically from designated field

Text entered in Suffix field on DataTip panel of Layer Controls

<tr><td class="prefix">Elevation: </td><td> 2393 m</td></tr>





<tr><td colspan=2 style="text-align: center;">     </td></tr>

Example for centered geotagged photo thumbnail as shown above.