

Pin Mapping

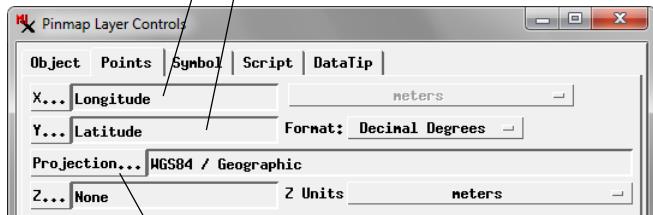
Pinmap Digital Photos

Records in a geotagged photo database table can be pinmapped in any geospatial view using the coordinate field values in the table. The pinmap layer can be overlaid on an image or any other type of geospatial data. The pinmap provides several ways of viewing the stored photo images. You can view thumbnails of the photos as pin symbols and/or as pop-in DataTips, and open resizable views of the photos from the database table.

You can choose to use either graphic symbols or image thumbnails as the photo pin symbols. The size of the image thumbnails (which you can set when you create the geotagged photo table in the Geotag process; see the Technical Guide entitled *Create Geotagged Image Database*) determines the size of each image symbol in the view. The screen size of the image symbol in pixels always matches the thumbnail size in raster cells.

When you hover the mouse over a photo location pin, a thumbnail view of the photo also automatically pops in as a DataTip by default. The DataTip may also include text or numeric attributes from elements in other layers in the view if DataTips are set up for those layers and an attributed element coincides with a photo pin location. If you are using image thumbnails as pin symbols, you might want to select another attribute from the photo table (such as the photo description) to show in the DataTip.

Records in a geotagged photo table can be pinmapped using the values in the spatial coordinate fields (Latitude and Longitude or Northing and Easting).



Press [Projection] to set the Coordinate Reference System for the pinmap layer if necessary.

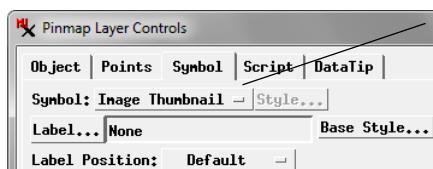
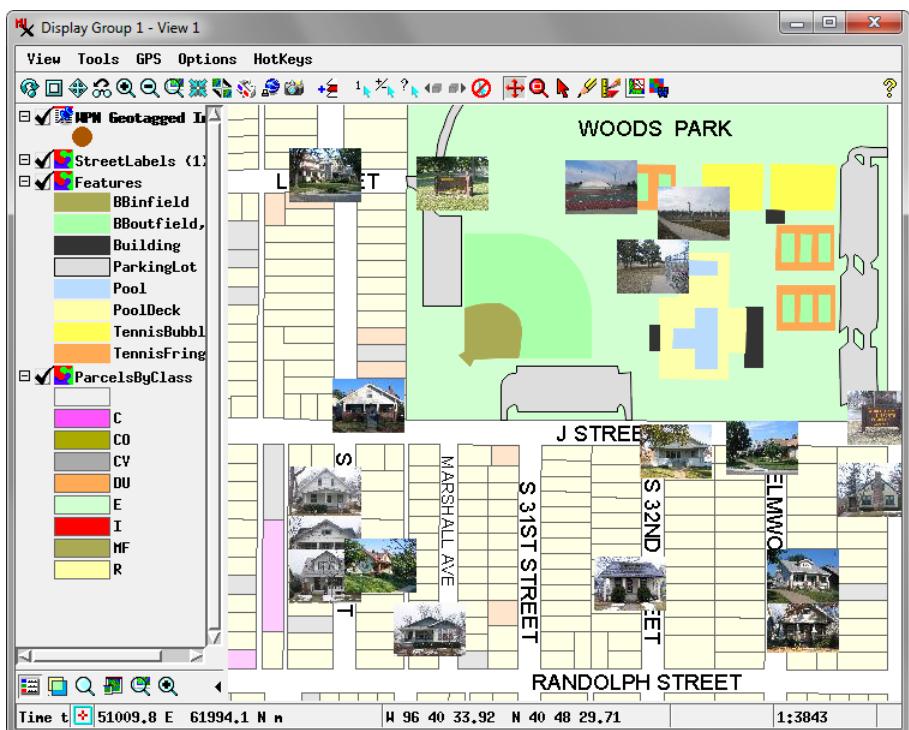


photo as its pin symbol. You can also choose All Same as the symbol choice and select from a set of simple point symbols, or design your own custom pin symbols.

Use the Symbol menu in the Pinmap Layer Controls window to set the image thumbnail for each

photo as its pin symbol. You can also choose All Same as the symbol choice and select from a set of simple point symbols, or design your own custom pin symbols.



Pinmap of digital photo locations (above) using the image thumbnail as the pin symbol. The pinmap layer overlays several reference vector layers. Below, pinmap of digital photo locations using a custom pin symbol overlaying an orthophoto, and also showing the pop-in DataTip with the photo thumbnail for the highlighted pin. Image thumbnail pin symbols stand out when displayed over simpler background data; graphic pin symbols are more readily visible over more visually complex backgrounds.



You can see larger views of the pinmapped photos by opening the geotagged photo database table from the Display Manager. A Single Record View of the table automatically shows the photo for the current record at the bottom of the attribute field list. A Tabular View provides access to a separate Image Viewer, (continued)



If DataTips are set up for other layers in the view, the image in a pin's DataTip may be accompanied by attribute information for elements in these other layers. Here the photo thumbnail is shown with property information from a vector polygon layer below the background orthoimage.

which can be opened by right-clicking on the Image or Thumbnail fields in the table and selecting View Image (see the Technical Guide entitled *Digital Photos: Viewing Geotagged Image Tables*). The Image Viewer shows the date, time, and description of the current photo in its title bar, and that photo's record in the table is highlighted in color. The viewer also provides Next Photo and Previous Photo icon buttons that allow you to step through the set of photos in the table. If the pin symbol for the photo record you step to is not currently visible in the geospatial View window, that window is panned and redrawn to show that pin symbol (and center it in the view unless the symbol is close to the edge of the group extents).

When you pinmap digital photos you can use a script to limit the photos mapped to those meeting specific date/time, spatial, or other criteria using the By Script option on the Records menu (Object tabbed panel of the Pinmap Layer Controls). Below are two examples of such selection scripts with illustrations of the results. These scripts are available in the PinMap folder in the sample script collection provided with TNTmips.

Select Photos by Date and Time: PinDateTime.qry



Pins selected by date and time.

The DATETIME class members and methods can be used in a script to select photos taken on a particular date or before or after a certain date and time. The photos in the sample table were taken from 14 November 2004 through 7 July 2005. The sample script selects photos taken after 12 noon on 1 June 2005.

```
class DATETIME dt;           class for storing and converting date/time information
set target date 2005/06/01 and time 12 noon for comparison
dt.SetDateYYYYMMDD(20050601);
dt.SetTime(12, 0, 0);        set time in hours, minutes, seconds
the Date-Time field value is returned as a Julian date, so must use DATETIME
class method to convert target date-time to Julian for comparison
if ('WPN Geotagged Images`Date and Time` > dt.GetDateTimeJulian() ) then
    return true;            selects records meeting criterion
```

Select Photos by Spatial Proximity: PinDistance.qry

This script selects photos taken within 200 meters distance of a reference location, in this case the center of the pitcher's

mound in the baseball diamond (red dot in illustration). Because photo locations are in latitude/longitude coordinates, a predefined function is used to get the projected distance between points in the specified coordinate reference system.

```
numeric distance = 200;          specified distance in meters
class POINT2D refpt, photo;     reference and photo points
class SR_COORDREFSYS crs;       set coordinate reference system
crs.Assign("Geographic2D_WGS84_Deg");
refpt.x = -96.6767763;          refpt.y = 40.8087643;      set longitude / latitude coordinates
                                of reference point
photo.x = `WPN Geotagged Images`.Longitude;   get coordinates of
photo.y = `WPN Geotagged Images`.Latitude;       current photo from table
call function that returns distance in meters between two points
in specified map projection and compare to target distance
if (ProjDistanceToMeters(crs, photo.x, photo.y, refpt.x, refpt.y) <= distance )
    return true;            selects records meeting criterion
```



Pins selected by proximity to reference point (red dot).