Georeferencing

Use Web Layers as Reference Layers

The TNT products let you geo-reference raster and geometric layers by entering known coor-dinates for specific locations or by using a reference layer(s) to provide the coordinates for cor-responding locations. The ob-jects to be georeferenced can be any raster or geometric layer in Project File format or any other format supported for direct use, such as MrSID, JPEG2000, DWG, and shapefiles (for addi-tional information see the Tech-nical Guide entitled *System: Direct Use of Geodata Files*). Reference layers can be in any of these formats and may also be Web Map Service (WMS) and/or ArcIMS layers.

There are more than one million WMS and about half that number of ArcIMS layers available world-wide on the web for selection as reference layers to georeference your data. MicroImages also main-tains 1- and/or 2-meter statewide image coverage available from a WMSfor the conterminous United States. This data was downloaded as individual counties originally acquired by the United States Department of Agriculture (USDA) as part of its National Agricultural Imagery Program (NAIP). All available counties for a given year were then mosaicked in TNTmips and are available for use as reference layers from http://www.microimages.com/geodata/StateOrtho.htm.

You can also use WMS and ArcIMS layers for interpretation of new geo-metric layers using TNT's Spatial Edi-tor (see the TechGuide entitled *Spatial Editor: Using Web Layers as Refer-ence Layers*).

1939 airphoto in MrSID format

A WMS layer (below) obtained from the catalog of seamless state coverages created from NAIP imagery by Micro-Images was used as reference for an historic, scanned airphoto from Rhode Island (left) available from the Rhode Island Geographic Information System (RIGIS).

2008 WMS layer from MicroImages' web site

Open the Layer Manager to add a WMS or ArcIMS layer for reference.

note match at edge

Input and reference layers shown in overlay in TNT's Georeference process. The 1939 airphoto is shown with 50% transparency to better illustrate the fit between the two images. The enlargement shows that despite the lack of identified control points in the southeast part of the image because of changes, a very good fit can be obtained.