

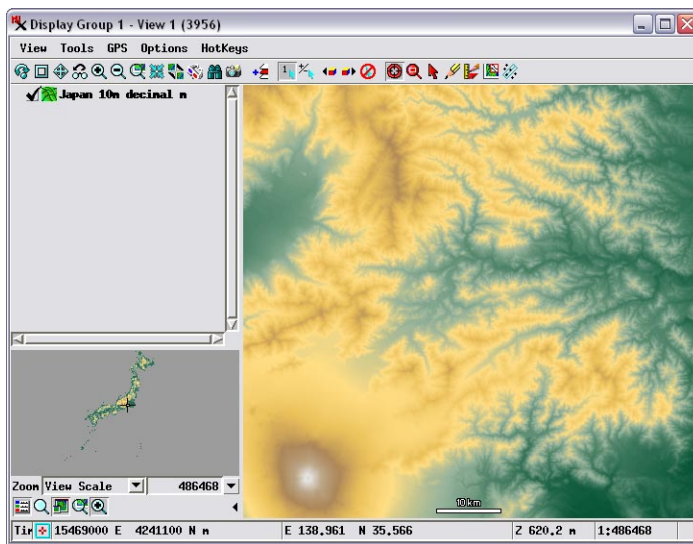
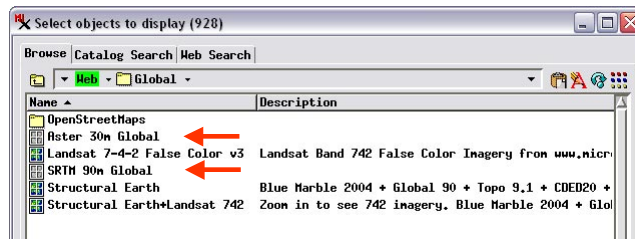
# Web Terrain Structures

Web terrain tilesets contain elevation data in a tiled form that provides local or internet access to actual elevation values for areas of unlimited size. Web terrain tilesets can be used in TNTmips Pro or Basic as terrain surfaces for visualizing satellite or aerial images in stereo, or the surface can be visualized directly (see the Technical Guide entitled *Spatial Display: Visualizing Terrain Layers*). You can also view terrain profiles from web terrain tilesets (see the TechGuide entitled *GeoToolbox: View Raster and Web Terrain Profiles*). MicroImages has created and published a number of sample web terrain tilesets with global, national, and U.S. state coverage that can be used over the web for these purposes (see box to the right). TNTmips Pro also provides processes that allow you to convert any DEM raster or rasters to a custom web terrain tileset and to merge and subset these tilesets (see the TechGuide entitled *Tilesets: Create Web Terrain Structures*).

On-line Web Terrain Tilesets Hosted by Microimages	
<b>Global</b>	
ASTER 30m	SRTM 90m
<b>National</b>	
Brazil 30m	USA 30m
Canada 20m	USA 10m
Japan 10m	USA 30m
<b>U.S. States</b>	
Iowa 3m	West Virginia 3m
Louisiana 3m	
Nebraska 3m	
Pennsylvania 3m	

Web terrain tilesets contain gridded elevation data that has been subdivided into uniformly-sized tile files created at a series of discrete map scales (zoom levels). Web terrain tilesets created in TNTmips Pro conform to the Google Maps tileset structure (see the TechGuide entitled *Tilesets: Google Maps Structure*) and consist of PNG files that are 256 cells square. The elevation values are stored in the tiles in scaled form and can represent integer or decimal values in meters, decimeters, centimeters, or feet.

Web terrain tilesets hosted at microimages.com can be selected as terrain surface layers to display or to use to create stereoscopic views of overlapping imagery. Web terrain tilesets are indicated in the Select Objects dialog by gray-colored tileset icons as shown in the illustration to the left.



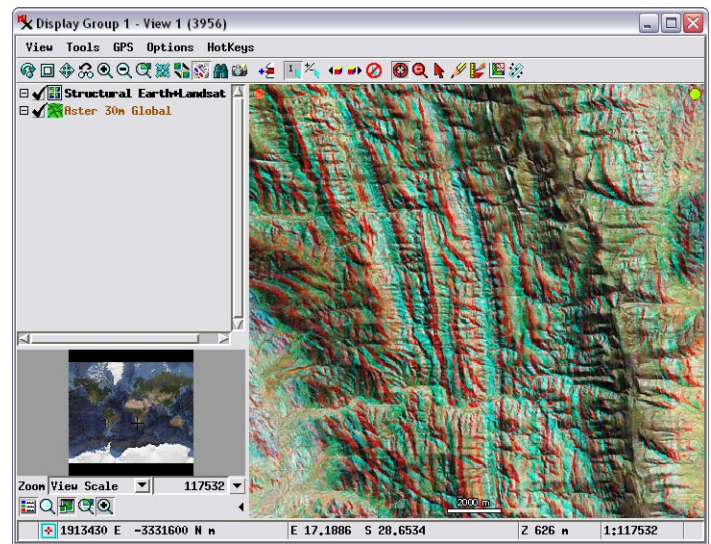
Web terrain tileset of Japan with 10-meter horizontal resolution displayed in TNTmips with color-coded elevation. Shaded-relief and combined color relief shading options are also available. This tileset is available over the web from microimages.com for use in TNTmips and TNTbasic.

Because they store actual elevation data, web terrain tilesets can also form the basis of web applications using the HTML 5 canvas element and JavaScript in a web page to process the elevation data and present in the web browser dynamic adjustable shaded relief presentations, stereoscopic 3D rendering, and other elevation-based applications. Several examples of such elevation-based web applications can be viewed at microimages.com:

**Color Shaded Relief Viewer:**  
<http://www.microimages.com/geodata/rho/ColorShadedRelief/index.html>

**Google Maps Stereoscopic 3D Viewers:**  
<http://www.microimages.com/geodata-hm/stereo/index.htm>

The stereoscopic 3D web viewer using a shaded-relief overlay is illustrated to the right.



Anaglyph stereoscopic display of an area in Namibia using web layers hosted by MicroImages. The terrain surface used to create the stereo effect is a global web terrain tileset created from 30-meter ASTER elevation data, and the image is a portion of the global Structural Earth + Landsat 742 image tileset.

