

Publishing Your Professional Geodata Via Google

Use TNTmips Pro to Assemble Your Geodata

TNTmips Pro can be used to prepare the geodata layers you wish to publish as Google Maps and Google Earth tilesets. TNTmips Pro is a fully-featured geospatial analysis system. It can be used to analyze and prepare these Google tilesets from many different kinds of source materials including images, vectors, CAD, shapes, spatial databases, and TINs.

The Structural Earth image illustrated below was prepared by processing the various input layers summarized on the reverse into a global raster. This Structural Earth raster was then converted to the Google tilesets you can access using the links provided below.

Geodata for Google Maps

Your maps and images can be quickly displayed in a browser from your web pages using Google Maps. For this use your rasters must be processed into the strictly-defined Google Maps Tile Overlay structure and referenced by suitable HTML files that overlay these tilesets and the desired gadgets on the base layers from Google Maps.

A Google Maps Tile Overlay uses JPEG and/or PNG tiles with a fixed size of 256 by 256 pixels (128 by 128 pixels for cell phones). These tiles are constructed to occupy predefined locations on the Earth's surface in the Spherical / Web Mercator coordinate reference system. The TNTmips Auto Mosaic process can build these Google Maps tilesets from very large collections of input rasters. It also creates HTML files that you can embed in or use as web pages to show various combinations of your geodata overlays and the Google Maps base layers (map, satellite, and terrain).

Geodata for Google Earth

Your maps and images can be overlaid in your local Google Earth application or in the Google Earth browser plugin as temporary layers if they are referenced by a KML file. This KML file can be distributed for local use or accessed directly from your site's web pages. The actual map and image content of the layer can also be distributed or can be accessed remotely from your web site. For fastest operation in Google Earth, large high-resolution layers should be in Google Earth's Super-Overlay tileset structure. Tiles can be PNG, JPEG, or TIFF files and can vary in size, typically within the range of 256 by 256 pixels to 2048 by 2048 pixels. The optimal tile size depends on display board limits and whether the tileset is for local or web use. Tiles do not have to conform to a predetermined grid on the Earth but must use Latitude / Longitude coordinates (WGS84 / Geographic coordinate reference system). The TNTmips Auto Mosaic process can build these tilesets from a very large collection of input rasters and create the required KML file. (over)

Google Maps Structural Earth

Published here as a Google Maps Tile Overlay tileset



www.microimages.com/geodata/tilesets/googleMaps/structuralEarth/

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www.microimages.com/geodata/tilesets/googleEarth/structural_earth.kml

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Geodata Assembled in TNTmips Pro to Create the Structural Earth Tilesets

Blue Marble Next Generation August 2004: A true-color Earth image from MODIS satellite imagery merged with relief-shaded topography and bathymetry. Created by the NASA Earth Observatory: Reto Stöckli, Eric Vermote, Nazmi Saleous, Robert Simmon, and David Herring (2005). Image pixel size is 500 meters.

This global Earth image was enhanced by adding a global shaded-relief image as a partially-transparent overlay and rendering the result to a raster image. Relief shading was computed in TNTmips from the most detailed available elevation and bathymetry data in each region from among the datasets listed below.

Global 90-Meter Elevation Tileset (Global90): Global elevation data assembled by MicroImages from NASA's Shuttle Radar Topography Mission (SRTM) data covering continental areas between 60 degrees north latitude and 56 degrees south latitude supplemented with coverage of northern Alaska (from U.S. National Elevation Dataset) and northern Canada (Canadian Digital Elevation Data). Pixel size is 3 arc-seconds (approximately 90 meters at the equator). See the Technical Guide entitled *Global 90-Meter Elevation Data (Global90)*.

Topo 9.1: Ocean floor bathymetry on a 1-minute Mercator-projected grid derived from satellite gravity measurements and ship depth soundings. Pixel size is approximately 1875 meters. Smith, W.H.F. and D.T. Sandwell (1997), Global seafloor topography from satellite altimetry and ship depth soundings, *Science*, v. 277, p. 1957-1962.

Canada 20-Meter Elevation Tileset (CDED20): Elevation data for most of Canada from the Canadian Digital Elevation Data series assembled by MicroImages with a pixel size of 0.75 arc-seconds (nominally 23 meters). See the Technical Guide entitled *Canada 20-Meter Elevation Data (CDED20)*.

U.S. 10-Meter Elevation Tileset (NED10): Seamless elevation data for the conterminous United States assembled by MicroImages from the National Elevation Dataset. Elevations in integer feet with pixel size of 0.3 arc-second (approximately 10 meters).

Great Lakes Bathymetry: Pixel size is 75 meters.