

Mosaic To Google Earth Super-Overlay

The Auto Mosaic process in TNTmips Pro can convert a large collection of your maps and images into a tileset with the native Google Earth Super-Overlay structure for optimal viewing in Google Earth. The Super-Overlay includes the tileset structure and a master KML file that references and overlays your data as a temporary layer on the native Google Earth imagery in your local Google Earth application or in the Google Earth browser plugin. This KML file and the map or image tileset it references can be distributed on a DVD or other media for local use or accessed directly from your web site. The Mosaic process creates a companion HTML file that you can add to your web pages to allow anyone to view the Super-Overlay in their browser with the Google Earth plug-in. A sample HTML file produced with the Super-Overlay illustrated below is included on the reverse of this page. In order to use a companion HTML file on your web site you will need to edit the HTML file to include a Google Maps API key and to specify the correct HTTP address of the KML file on your website.

Super-Overlay is Google's term for a tiled, multi-resolution image that provides the most efficient and responsive 3D perspective viewing of your very large images in Google Earth. Each tile in the hierarchical structure is accompanied by an individual KML file that specifies that tile's extents and appropriate level of detail and also references the corresponding tiles in the next higher resolution level. This structure allows Google Earth to rapidly load only those tile areas that are currently in view and to determine the appropriate resolution level to show for each area depending on the closeness of the user's viewpoint.

1 Reference System

Choosing *Google Earth* as the mosaic target on the Output tabbed panel automatically sets the Reference System option on the Extents tabbed panel to the WGS84 / Geographic coordinate reference system required by Google Earth.

2 Image Format

A Google Earth Super-Overlay can include tiles in JPEG, TIFF, and / or PNG format. The default Automatic format option automatically uses PNG format for any tile that crosses any border of your valid image area (to provide transparency for null areas) and JPEG User Defined format for all other tiles (to provide maximum compression). More information about choosing tile formats can be found in the Technical Guide entitled *Mosaic: Tile Formats for Google Maps and Google Earth*.

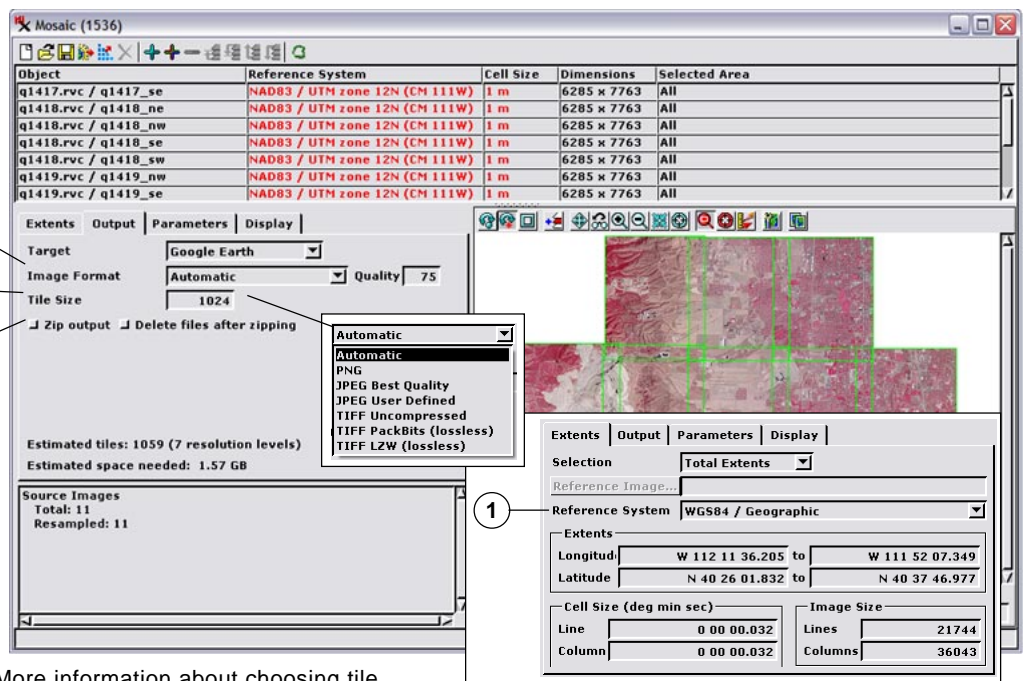
3 Tile Size

The tile size (linear dimension of the square tiles) in a Google Earth Super-Overlay must be a power of 2. Google recommends a tile size of 256 or 512 pixels, but Microlmages has found that a tile size of 1024 for large tile overlays provides excellent performance in Google Earth while reducing the number of tile files by a factor of 16 compared to a 256-pixel tile size. The Tile Size field is set to a default value of 1024 the first time you choose Google Earth as a mosaic target, but the last-used value is retained as the default for subsequent Google Earth mosaics.

4 Zip output

A Google Earth Super-Overlay can consist of hundreds of thousands of small individual tile files and KML files organized in a series of subdirectories. Copying this tileset to another drive location or medium can be time-consuming because of the large number of directories and files involved. Copying the tileset is much faster if it has been archived in a single Zip file.

If you plan on moving or redistributing your Google Earth Super-Overlay, turn on the *Zip output* toggle to copy the entire tileset into a single Zip file. Turn on the accompanying toggle if you want the original tileset files to be deleted after the Zip file is created.



Perspective view in Google Earth of the Super-Overlay created from the small mosaic layout shown on this page. Google's Super-Overlay tileset structure provides the fastest possible display of your very large overlays in Google Earth.

Sample HTML File to View a Super-Overlay in the Google Earth Browser Plugin

The TNTmips Auto Mosaic process automatically creates a companion HTML file with your Google Earth Super-Overlay to enable anyone to view your Super-Overlay from your website in their browser via the Google Earth browser plug-in. The sample HTML file below was produced for the Google Earth Super-Overlay illustrated on the reverse of this page. You will need to edit two parts of the HTML (indicated in the sample text below in magenta). You can then use the companion HTML file produced with your Super-Overlay as a web page.

1) Use of the Google Earth browser plug-in from your website requires that you obtain a Google Maps API key for your web domain. The key (an alphanumeric string) must be included in the head of the HTML file after "?key=" as shown. You can obtain a Google Maps API key at <http://code.google.com/apis/maps/signup.html>.

```
<html>
<head>
  <title>Google Earth Tileset</title>
  <!-- **Add google api key here, after ?key= -->
  <script type="text/javascript" src="http://www.google.com/jsapi?key="> </script>
  <script type="text/javascript">
google.load("earth", "1");

var ge = null;

function init() {
  google.earth.createInstance("map3d", initCallback, failureCallback);
}

function initCallback(pluginInstance) {
  ge = pluginInstance;
  ge.getWindow().setVisibility(true); // required!
  ge.getNavigationControl().setVisibility(ge.VISIBILITY_SHOW);
  ge.getOptions().setFlyToSpeed(0.5);

  // NetworkLink
  var networkLink = ge.createNetworkLink("");
  networkLink.setDescription('NetworkLink open to fetched content');
  networkLink.setName('Open NetworkLink');
  networkLink.setFlyToView(true);

  // NetworkLink/Link
  var link = ge.createLink("");
  // **Set url of kml here:
  link.setHref('http://www.yoursite.com/googleEarth/BinghamUtahCIR.kml');
  networkLink.setLink(link);

  // add the network link to earth
  ge.getFeatures().appendChild(networkLink);
}

function failureCallback(errorCode) {
  alert("Failure loading the Google Earth Plugin: " + errorCode);
}

</script>
</head>
<body onload="init()">
  <div id="map3d_container" style="border: 1px solid silver; height: 500px; width: 800px;">
    <div id="map3d" style="height: 100%;"></div>
  </div>
</body>
</html>
```

2) The NetworkLink structure used to load the Super-Overlay in the Google Earth browser plugin requires the complete HTTP address of the master KML file on your website in the link.setHref() statement shown here. The Auto Mosaic process automatically writes into this statement a sample web address that includes the name of your Super-Overlay at the end of the path. Once you have copied your Super-Overlay (KML file and the referenced tileset) to your web space, edit this HTTP address to conform to the location of your data.

You can change the height and width settings for this DIV element to vary the size of the Google Earth browser plugin window on the web page.