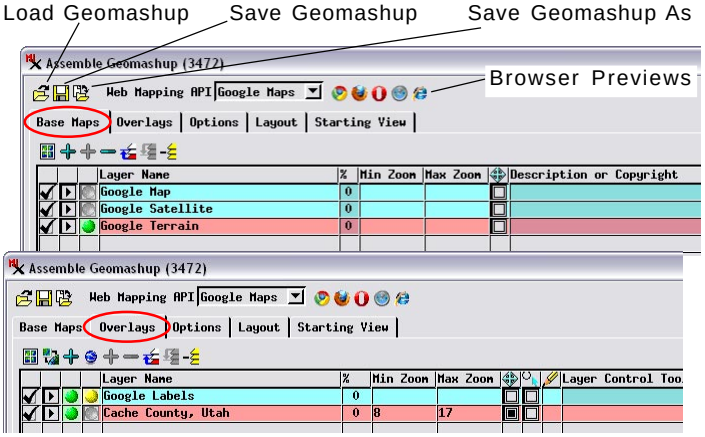
Introduction to Geomashups

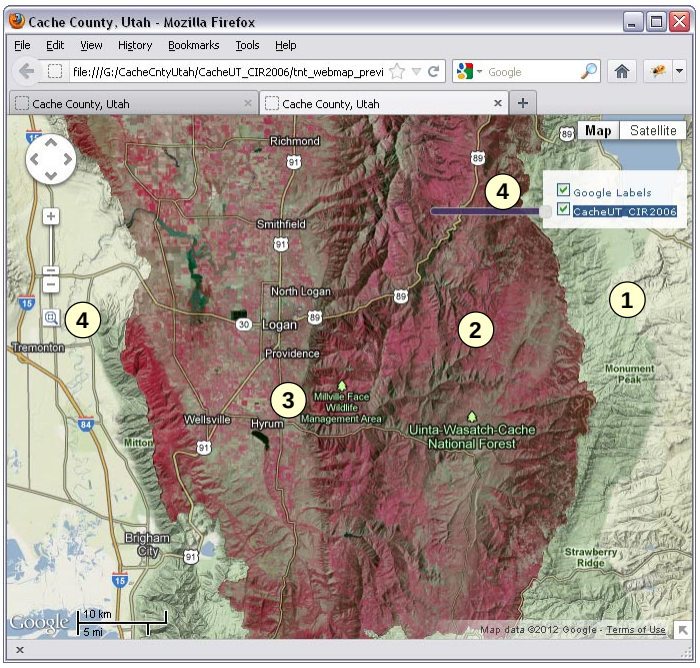
A *mashup* is a web page or application that combines data or functionality from two or more external sources to create a new service. A *geomashup* combines geospatial data (such as maps, images, point locations, ...) from multiple sources into a single interactive web page display. Geomashups commonly show geodata for a particular area or a particular theme and overlay it on a global reference map or image such as the proprietary map and satellite layers offered by Google Maps and Bing Maps. The Application Programming Interface (API) for Google Maps, Google Earth, Bing Maps, or Open Layers provides the geomashup with familiar controls for panning the view and zooming through different levels of detail.

Assemble Geomashups Process

The Assemble Geomashup process in TNTmips (Main /Assemble / Geomashup) allows you to mashup your own web tilesets with geodata layers from remote and local sources for viewing in a web geobrowser. You can choose base maps, overlay layers, the web mapping API to use, and the map controls to include. At any time during the assembly of your geomashup you can immediately preview it in any popular Windows or Mac browser (Firefox, Safari, Internet Explorer, Chrome, and Opera) to test the current design and operation. Each time you preview your geomashup the process assembles a temporary file with HTML and JavaScript required for your current layer choices and tools. When you are satisfied with the design of your geomashup you can create a permanent geomashup HTML/JavaScript file (*.htm) in the desired location. A layout file (*.msh) automatically saved with your geomashup file records your settings and can be reloaded in the Assemble Geomashup window so you can make and save modifications if needed. Your geomashup can then be easily copied to any web site. The geomashup file can be posted directly as a page in this web space (or incorporated in another web page) for public viewing by anyone using their web browser.



The Assemble Geomashups window lets you choose base maps, overlays, and the type and style of map controls to use. In the example above, the base map and overlays have been selected for the geomashup shown at the top of the page.



Preview of a Google Maps geomashup constructed in the Assemble Geomashup process. This geomashup includes:

1. **Base Map**: Google Maps Terrain layer.
2. **Overlay**: Local tileset (Google Maps Tile Overlay) of color-infrared orthoimage Cache County, Utah, which can be zoomed to a resolution of 1 meter.
3. **Overlay**: Google Maps Labels layer (which includes roads, highway route symbols, and place name labels).
4. **Tools**: Custom zoom box, controls for toggling overlays, changing their transparency, and others.

No special software or services are required to publish your tilesets for public viewing as geomashups. You can select any of your tilesets in Google/Bing Maps or Google Earth structures for use in a geomashup. The remote sources you select may be proprietary (e.g., layers from Google Maps, Google Earth, and Microsoft Bing Maps, which may require an API key) or public, such as the Open Street Map Mapnik and Osmarender layers, MicroImages on-line web tilesets, or your own tilesets you have posted on the web.

Why Geomashups?

Geomashups are a great way to publish your tilesets for viewing on the Internet or your intranet. They provide a number of advantages:

- no special server software is needed for access to your geomashup, only a standard web server;
- global reference layers provide geographic context for your local or regional tilesets;
- familiar map controls for panning and zooming; and
- add custom controls for zooming, toggling layers, and varying overlay transparency.