

Scaling Map Elements for Geometric Structures

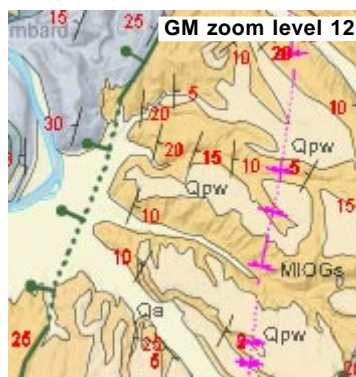
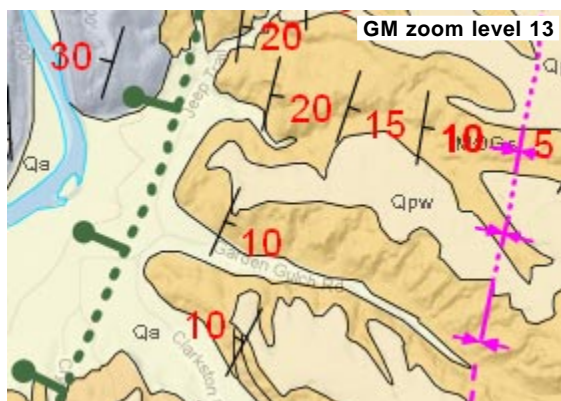
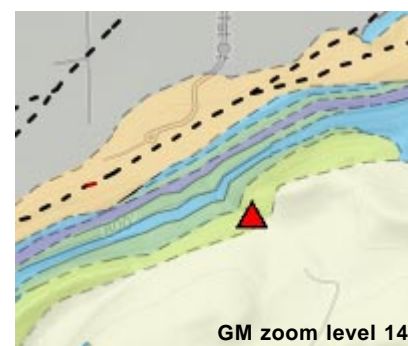
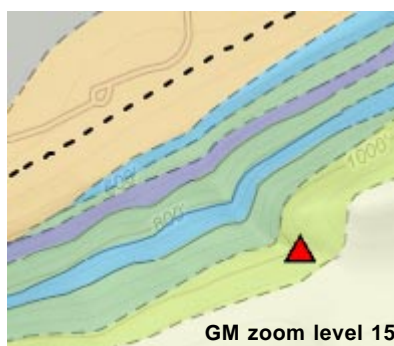
MicroImages' KML and SVG geometric tilesets are tiled structures that are created by TNTmips to present map data in a web browser in styled geometric form for any size area over a range of Google Maps zoom levels. (See the *Tileset Technical Guides* entitled *SVG Geometric Structure* and *Geometric KML Structure* for descriptions and illustrations of these TNTmips capabilities.) The Export Geometric Tileset process, which creates these tilesets, renders geometric elements from a source vector object into KML or SVG tiles using the display style settings stored with that source object. The tiles for each zoom level are independently rendered directly from the source vector object at the map scale corresponding to that Google Maps zoom level. Source vector lines are automatically simplified (thinned) to reduce line complexity for successively lower zoom levels (for more details see the *Tileset TechGuide* entitled *Export Geometric Structures*).

Map scale differs by a factor of two between successive Google Maps zoom levels. Thus a geometric tileset must present styled map data over a very large range of map scales. For example, a tileset with Google Maps zoom levels 10 through 15 presents map data at scales ranging from approximately 1:490,000 to 1:15,000. Careful design is required to set the display styles for the source vector object so that equivalent graphic elements in the geometric tileset are appropriately styled over such a large range of map scales.

The size of point symbols and labels and the width of lines

Scale-Independent Line and Point Styles

The illustrations to the right show several geometric tileset layers with lines and point symbols styled with sizes set in screen pixels independent of map scale. The tilesets are shown at two different Google Maps zoom levels. Line widths and the point symbol sizes remain constant on screen regardless of the zoom level. The scale-independent style is specified by choosing None from the At Scale menu in the Style Editor for the line or point symbols (shown below for points).



Scale-Dependent Line and Point Styles

The illustrations to the left show portions of a Geologic Map geomashup using SVG geometric tilesets. The complex line styles in green and pink, and the point symbols showing geologic strike and dip, are in three different SVG geometric tileset layers rendered from vector objects with styles created by TNT CartoScripts that set symbol sizes relative to map scale. These scale-dependent symbols work over the limited range of zoom levels needed for these layers in this geomashup.