Geomashup Custom Overlay Controls

You can add tilesets to your geomashups as *base maps*, only one of which can be viewed at a time, or as *overlays*, which allow multiple layers to be selected for simultaneous viewing. Geomashups have separate layer controls for base maps and overlays, and you can use the Options panel in the Assemble Geomashup process to choose the types of controls to include for each. Here we discuss the types of available overlay controls and how you select them, as well as other custom geomashup controls. The resulting controls are created in your geomashup via JavaScript libraries created by MicroImages. Choosing controls for base map selection, panning, and zooming is covered in the Technical Guide entitled *Geomedia Publishing: Geomashup Map Control Options*.

Overlay Control Options

Overlay controls are selected using the Custom Control Options section of the Options tabbed panel. The contents of this section vary depending on which controls are supported for the Web Mapping API you have selected as your target geobrowser (Google Maps, Google Earth, Bing Maps, or Open Layers). In Open Layers geomashups the only choices are whether or not to include layer controls (via a *Layer Controls* toggle) and, if included, whether the Layer Controls panel should be initially open or collapsed. For all other web mapping APIs you can select from different styles of controls using the Overlay Control menu. Available selection controls for overlays include:

for a mutually-exclusive grouping using radio buttons. The Nebraska Counties overlay includes county boundaries and labels with a transparent background, and so could be viewed in combination with either of the imagery tilesets.
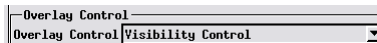
You can set up a combination of radio button and check box overlay controls for Google Maps geomashups. Choose one of the Visibility Control options (with or without Transparency Slider) from the Overlay Control menu. On the Overlays tabbed panel, turn on the *Mutually exclusive overlay* toggle (see illustration be-

Custom Overlay Controls

Control	Sample (Google Maps)	Google Maps	Bing Maps	Google Earth	Open Layers
Check Boxes and Transparency slider		✔ [1]	✔		
Check Boxes Only		✔ [2]	✔	✔	✔
Radio Buttons (mutually-exclusive)		✔ [3]		✔	
Check Boxes and Radio Buttons		✔ [3]			
None		✔	✔	✔	✔

Special terminology for Google Maps API:

[1] Visibility Control and Transparency Slider

[2] Visibility Control

[3] Choose *Visibility Control* and use the *Mutually exclusive overlay* toggles on the Overlays tabbed panel to designate the set of overlays to be controlled by the radio buttons.

- check boxes (allowing each overlay to be toggled on/off independently; called *Visibility Control* for Google Maps)
- radio buttons (mutually-exclusive group of overlays, only one visible at a time)
- combination of checkboxes and radio buttons

In addition, some selection controls can also be provided with a slider that lets the viewer vary the transparency of an overlay. This slider is shown only for the overlay that is currently active in the geomashup. The overlay controls that are available for the different web mapping APIs are indicated in the Custom Overlay Controls checklist illustration above.

Combining Check Box and Radio Button Controls

In some geomashups you may have a group of overlays that you wish to be mutually exclusive, controlled by radio buttons, and one or more other overlays that you want to allow to be visible along with the exclusive group, and thus controlled by check boxes. For example, in the control illustrations shown in the Custom Overlay Controls checklist above, the geomashup includes two statewide imagery layers acquired in different years. Since these opaque imagery layers cover the same areas, they are obvious candidates

low) for each of the overlays that you want to be part of the mutually-exclusive group. The set of overlays so designated are provided with a set of radio buttons. Any other overlays are provided with check boxes, allowing them to be controlled individually. The result is shown in the Check Boxes and Radio Buttons example in the Custom Overlay Controls checklist above. Currently a geomashup can include only one group of mutually-exclusive overlays.
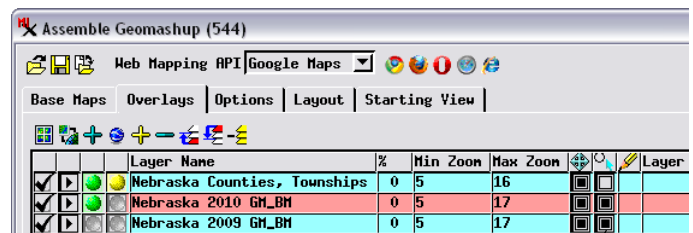
Mutually exclusive overlay toggles turned on to designate a set of mutually-exclusive overlays to be provided with radio button controls.

Other aspects of the Assemble Geomashups process are covered in the Technical Guides on *Geomedia Publishing* entitled *Introduction to Geomashups*, *Managing Custom Base Maps for Geomashups*, *Managing Custom Overlays for Geomashups*, *Geomashups for Google Earth*, and *Geomashup Data Management Options*.

In Google Maps geomashups you can set the desired position and layout of the overlay controls in the geobrowser view using menus in the Overlay Control settomgs group (illustrated below). You can set the control position (Bottom, Top, Left, Right, Top Right, and others) and its orientation (whether layer entries are laid out in a horizontal row or a vertical column). You can also specify X and Y offsets (in screen pixels) of the control from the edge of the geomashup view.

The Custom Control Options portion of the Options tabbed panel (shown here for Google Maps) includes Overlay Control settings that allow you to set the position of the overlay controls in the view along with settings that allow you to add other custom controls.
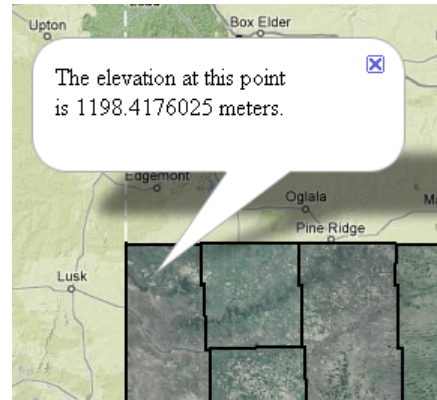
Other Custom Control Options

In addition to layer controls, other custom controls and features are available for geomashups and are specified in the Custom Control Options section of the Options tabbed panel as illustrated above for Google Maps.

A Drag Zoom tool is available for use in Google Maps and Bing Maps geomashups and is selected by turning on the Drag Zoom toggle. This tool allows the user to drag out a rectangular zoom box within the geobrowser view. When the tool is activated by pressing its icon button (see illustration below), the view is dimmed temporarily while you drag the zoom box. After zooming, the tool remains active (indicated by the dimmed view) for a short time before automatically turning off.

The custom Drag Zoom control allows you to drag out a box in the geobrowser view to zoom in to the specified area. The tool is shown in the illustration at the left in Google Maps (tool icon circled in red). The equivalent control in Bing Maps (right) also includes an icon to return to the home view.

The measurement tools available for Google Maps geomashups allow you to place a point marker or draw a graphic in the map view and have a corresponding measurement shown near the bottom of the map view:

marker: shows position coordinates
line: shows distance
rectangle: shows bounds
circle: shows radius
polygonal shape: shows area

You can choose to include a toolbar with measurement tools in Google Maps geomashups. This toolbar (illustrated at the bottom left of this page) is shown to the right of the standard Google Maps map control at the top of the map view. There are separate tools for placing a point (indicated by a standard Google marker), and for drawing a line, rectangle, circle, or arbitrary polygonal shape. A corresponding measurement is then shown near the bottom of the map view. The Pan icon button lets you switch the mouse interaction in the view back to the default panning operation.

Google Maps geomashups can include a feature that allows the viewer to left-click in the geobrower view and get an information bubble that reports the elevation at that location (as illustrated below). To provide this feature, turn on the *Click to get location elevation* toggle in the Custom Control Options.

Custom elevation report in a Google Maps geomashup.

The Image URL field in the Custom Control Options for Bing Maps sets the source of the images used for the transparency sliders. You should keep the default value for this field unless you have designed your own slider graphic.

You can include a custom Fly Here! search bar in the sidebar of Google Earth geomashups (illustrated below) by checking the Search Bar toggle in the Custom Control Options.

Sidebar in a Google Earth geomashup with overlay controls and Fly Here! search box.