

## Spatial Display

# Searching MicroImages' Catalog of WMS Layers

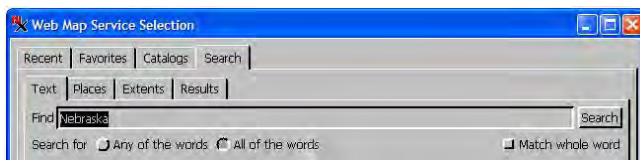


There are two steps in the selection of Web Map Service (WMS) layers for display in the TNT products. In the first step you select the WMS using the Web Map Service Selection window. The first three tabbed panels of this window and their shared features are discussed in the Technical Guide entitled *Spatial Display: Locating and Using WMS Layers*. The second step, which involves the Web Map Service Layer Controls window is also discussed in that TechGuide. The remaining advanced features of the Web Map Service Selection window located on the Search panel and the overview at the bottom of the window are discussed in this TechGuide.

### Search Panel

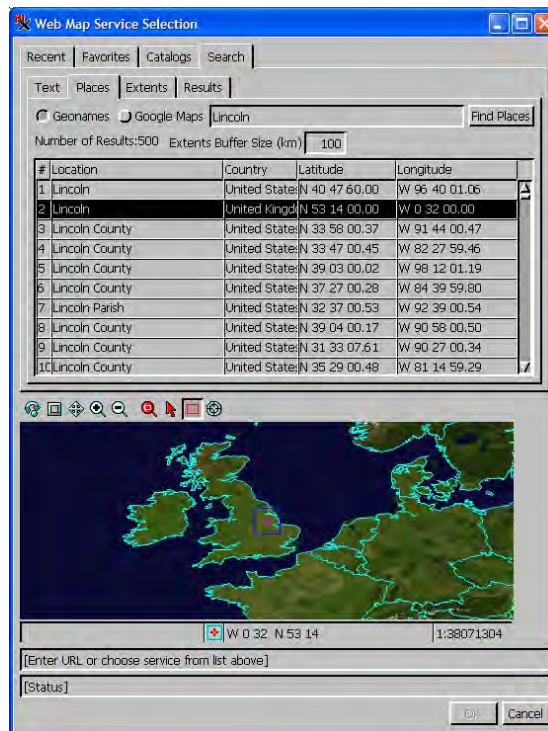
MicroImages continuously searches the Internet and maintains an updated database of all geodata layers published by any WMS. Your search uses the catalog on MicroImages' web site, so each time you search you are getting the latest results. The TNT WMS layer search capabilities make direct use of this catalog database. The Search panel lets you search for servers and layers of interest by specifying specific geographic areas or topics to search for. The Search panel has four tabs: Text, Places, Extents, and Results.

**Search Text panel.** You can search for WMS servers or WMS layers of interest by entering text and/or by specifying geographic extents. When using text as your search criterion, both servers and layers can be searched in a single pass. This option is on the Results panel. When searching servers, the abstract, URL, server title, and keywords are searched for the text you enter. When searching layers, the layer's title is searched. You have the option of searching for any of the words entered, all of the words entered, or part of a word. When you click on the Search button on this panel, you are automatically taken to the Results tabbed panel.



**Search Places panel.** In addition to searching servers and layers for text, you can use the Geonames or Google Maps database to find WMS layers for your location of interest. The maximum number of results returned is 500. These searches return point locations and you indicate how large an area you want around this location. The default for the Geonames search is 100 kilometers, which is represented by a box that is 200 kilometers on a side (edges are 100 km from the point). The box is centered on the point location in the overview at the bottom of the Web Map Service Selection window. The default size of the box for the Google Maps search varies with the type of place found (for example, country, county, or city). The size of this box can be interactively adjusted in the overview or numerically adjusted by typing into the Extents Buffer Size field.

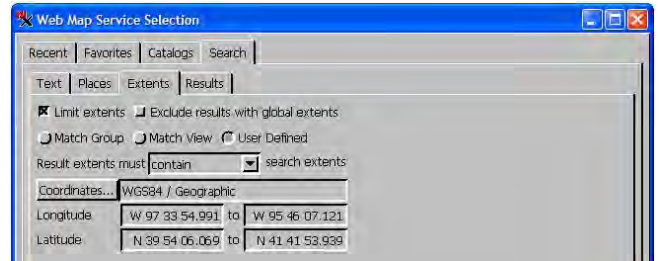
In order to use the Google Maps search, you must have a valid Google Maps Key. If you do not have one, you are prompted to obtain a key when you click on the Find Places button and a button is provided that takes you to a web page that lets you sign up for the Google Maps API (Application Programming Interface) key. You must have a Google account, such as Gmail, to sign up and your key is tied to this account. If you do not have a Google account, you can create one by following a link on the key sign-up page.



Both Geonames and Google Maps searches return the place name, the country where that place is found, and the Lat/Lon coordinates of the point's location. As you select items in the list, the corresponding point is highlighted in the overview. If you are zoomed in on the global overview, it automatically pans to show the location of the highlighted

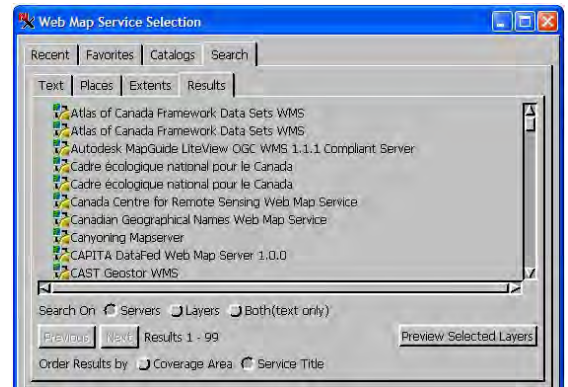
entry in the list. If you go to the Extents panel, you will see that the extents represented by the buffer-size rectangle have been filled in, Limit Extents has been toggled on, and the User Defined option for limiting extents is also turned on.

**Search Extents panel.** When you turn on the Limit extents toggle, the fields for defining geographic extents become active. If you are adding WMS layers to a group that already has other layers in it, you have the option of matching the extents of the group to which the WMS layer is being added or matching the current view extents in addition to manually defining the geographic extents or using the Geonames or Google Maps search results to define them for you. You can also use the Select tool above the overview to select a country polygon to define the extents. You can choose to eliminate results with global or nearly global extents because all of these would likely contain your area of interest.



There are three choices to determine result extents: contain, be contained by, and overlap. *Contain* means that the extents shown or entered are larger than or equal to the extents advertised for the server/layers. *Be contained by* means that the server/layer extents must be smaller than or equal to the shown extents. *Overlap* means that any portion of the server/layer extents contains some portion of the extents shown.

**Search Results panel.** The Search Results panel lets you sort the results by the title of the WMS or by the ground area of the globe represented by the layers available from the WMS. If sorting by the latter method, the smallest ground area is listed first. A smaller area means that the data covers a more local region and, thus, may be of a higher resolution. If your search returned more than 100 results, the Next button will be active. Once the Next button has been used, the Previous button becomes active. The Preview Selected Layers button shows the selected layers in the overview panel.



### Overview Panel

The overview panel shows a global raster and country outlines vector that are automatically installed with your TNT product to provide a context for selecting the desired WMS layers. It also lets you review the content of the layers provided by a service before adding them to your composite display. If a service is selected on any panel, the preview will show all layers available from that service. If you used the Search panel to find individual layers, only the selected layer is shown. To view selected layers, click on the Preview Selected Layers button on the Search Results panel.

In addition to the buttons for zooming in and out, the display hotkeys that zoom in and out around the cursor position (+ and -, respectively) are active. Clicking in the view will also zoom in 2X around the location of the click. The Zoom to Location function is also available so that you can zoom to a designated location at an optionally specified scale. The Select tool lets you either select a country polygon to define the search extents or select a point resulting from a search and have it highlighted in the list of results. The Box tool lets you interactively change the buffer size that is set numerically on the Search Places panel.

