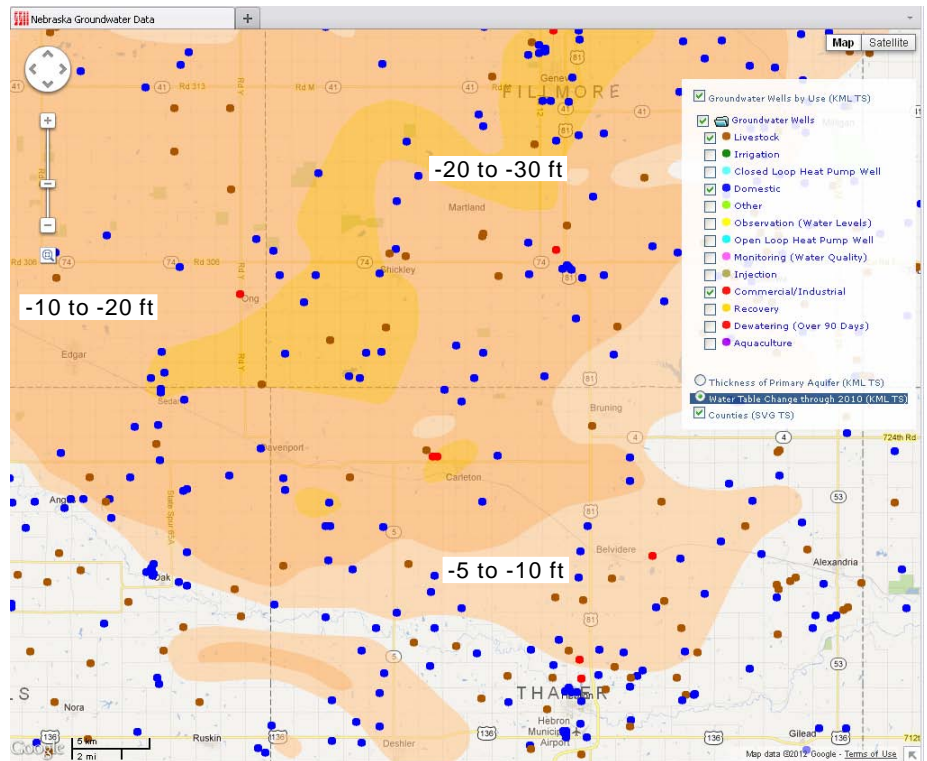


# Use Legend to Query Elements by Style

When you create a geomashup with geometric overlays, you can choose to include a legend for any geometric layer or layers that have map elements (points, lines, or polygons) with different styles based on their attributes. See the Technical Guide entitled *Geomeia Publishing: Legends for Geomashup Geometric Layers*). Each legend entry has a checkbox that can be used to show or hide all of the map elements in that category independently from the other element categories. You can therefore use these legend controls to perform simple interactive queries by showing only map elements with particular attribute-based styles. This selectivity allows you to examine the spatial distribution of selected map features independently and to compare those distributions to map data in other layers.

The illustrations on this page show an example using KML tileset layers depicting statewide groundwater data for Nebraska. A KML point tileset shows the locations of almost 170,000 groundwater wells categorized by water use. This dataset includes nonextractive wells, such as those used for geothermal heatpump systems, water quality and water level monitoring, and injection wells. A tileset with polygons depicts cumulative changes in the level of the groundwater table. In the local area illustrated here the water table has fallen as much as 30 feet, though some parts of the area have seen little net change. The simple legend query controls for the well points allow the user to focus attention on only those wells that extract water from the aquifer and to compare those well types with the spatial patterns of water table change. In the upper illustration, only domestic, livestock, and industrial wells are shown, and these sparse wells show little spatial correlation with the areas of water table fall. In contrast, the lower illustration shows only irrigation wells, which are much more numerous and closely spaced than the other extractive well types, and which are largely clustered in the areas of significant water table fall.



In these illustrations the legend for a KML point tileset of groundwater well locations for Nebraska is used as a simple query tool to compare the distribution of wells of different type to areas of falling water table level (colored areas labeled with amount of fall above). Above, only livestock, domestic, and industrial wells are shown; these wells show little spatial correlation to the areas of falling water table. Below, only irrigation wells are shown, and this dense array is clustered over the area of falling water table.

