

Desktop Integrated Web Map

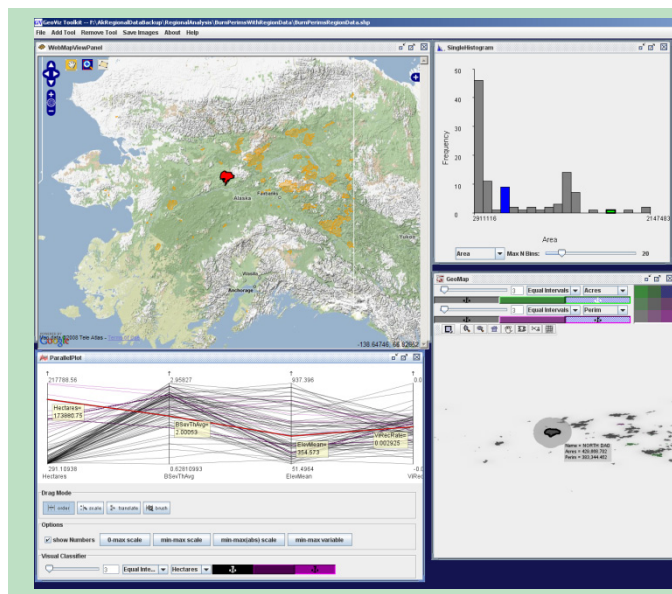
A Software Extension for the Integration of Desktop Applications and Web Maps

***Benefit:** The Desktop Integrated Web Map software extension allows desktop geovisualization tools to take advantage of web map functionality previously only available to web applications. It provides 2-way communication between web maps and desktop applications, and quick and easy access to detailed base maps and distributed geospatial data.*

While web mapping services such as Google Maps have become ubiquitous over the past several years (almost everyone has their own Google Maps mashup), standard desktop applications have largely not been able to take advantage of web mapping. Web maps provide quick and easy access to detailed base maps and distributed geospatial data. In contrast, desktop applications allow for high levels of performance, processing and user interactivity that are hard to implement in web applications. Thus, the integration of web map functionality within desktop applications could be a powerful geovisualization tool.

To permit this integration, the Desktop Integrated Web Map software extension has been developed to facilitate two-way interaction between web maps and desktop applications. It uses OpenLayers, an Open Source Geospatial Foundation (OSGeo) project, and various Open Geospatial Consortium (OGC) technologies to provide Google Map base layers and spatial data exchange. Currently, the extension has been implemented within the GeoViz Toolkit. It provides a detailed geographic data view automatically coordinated with the other data visualization components in the toolkit.

In the example below, Alaska post-fire ecological data has been loaded into GeoViz Toolkit and displayed on the web map. The web map view is linked with other data views so that data observations selected in one data view will automatically be selected in the web map. The web map enriches the visualization of the multivariate dataset by allowing the researcher to see (1) not only how the fires are arranged spatially with each other, but also how they relate to topographically complex areas, flatter regions, cities, roads, national recreation areas and national parks, and (2) what types of vegetation cover are currently in the fire perimeters (via the Google Maps satellite base layer).



***Alaska fire perimeters visualized in GeoViz Toolkit with a web map data view:** The web map is automatically coordinated with the other data visualization views and is much richer than the original toolkit map (lower right). It greatly enhances the overall data visualization and helps the researcher interpret the data.*

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