RETIGO: A web-based tool for geospatial timeseries visualization

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Air monitoring data collection on moving platforms – an instrumented person, bicycle, or vehicle – is now conducted frequently by researchers and citizen scientists. Portable air monitoring instruments with real-time detection capability and advancements in global positioning system (GPS) technology now allow very high spatial and temporal resolution of air pollution data. The traditional mode of evaluating complex geospatial data has been to collect the field data and then utilize sophisticated data analysis and geographical information tools to process and visualize the data. These tools and a skilled analyst are currently and are expected to continue to be relied upon to extract meaningful information from these geospatial data sets. However, these analytical approaches generally take significant time and expertise to conduct, limiting those involved with the analysis process. To simplify the review of geospatial data and expand participation in the analysis process, the Real-Time Geospatial Data Viewer web-based tool is under development and will provide an easy plug-and-play review of geospatial time series. The freely available program will allow data to be viewed in time and space, as well as providing options to reference the geospatial data in terms of distance to a location of interest (e.g., traffic emissions), incorporate ancillary meteorology data, and overlay web-available regional air quality readings.