

Web-Based Services: Combined and Validated GPS Data Products and Data Browsing tools

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The purpose of this multi-year NASA funded project, "GPS DATA PRODUCTS FOR SOLID EARTH SCIENCE" (GDPSES), is to produce and deliver high quality GPS time series and higher-level data products derived from multiple GPS networks along the western US plate boundary, and to use modern IT methodology to make these products easily accessible to the community.

The project processes and posts a daily solution generated by a combination of two independent GPS station position solutions, generated at SIO and JPL using GAMIT and GIPSY respectively. A combination algorithm has been implemented. A combined 10-year long time-series for over 600 western US GPS sites from multiple GPS arrays is available for viewing and download for the scientific community via the project's web portal at <http://reason.scign.org>.

To achieve the project goals and support current data products, several ongoing IT developments are taking place. In the forefront is an Adaptive Seamless Archive System, which uses web services for GPS data discovery, exchange and storage. GDPSES has unified the station data and metadata inputs into the processing procedures at the independent analysis centres. The project has developed XML schemas for GPS time series, and is developing and implementing an array of data quality tools, to ensure a high-quality combined solution, and to detect anomalies in the time series. Event leveraging will alert users to tectonic, anthropogenic and processing 'events'. In the next few months the project, through its new data portal called GPS Explorer, will enable users to zoom in and access subsets of the data via web services and graphic interfaces. Our presentation will include demonstration of prototype web based data browsing tools under GDPSES development. The community is invited to participate and provide feedback on these tools.