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Toward Earthquake System Science: Western U.S. Lithospheric Stress/Strain Partitioning of Mantle Dynamics

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Data Management Plan

In addition to the final technical report required for this program, we anticipate publishing at least two and possibly more papers describing the results of these investigations, and presenting our results at two or more domestic meetings including the Fall Meeting of AGU. There will be in addition new software developed for this project and two levels of model products (data-derived, and numerical model-derived) that we will make available openly to the community.

The 3D models of properties of physical state (e.g., crustal thickness and v_P/v_S ratios, temperature, density, viscosity) derived from geophysical data will be stored on the PI's departmental website, where we commit to keeping online versions for at least five years beyond the end of the project. Because these are derived from EarthScope's USArray and MT_Array data, we will also contribute them to the Earth Models section of the IRIS Earth Models collaboration <http://ds.iris.edu/ds/products/emc-earthmodels/>. Geophysical datasets moreover will be contributed to GEON <http://www.geongrid.org/> for inclusion in the OpenEarth Framework.

Geodynamical modeling products will include map view representations of surface velocity, stress rate and strain rate as well as gridded (3D) calculations such as stress orientation data in VTK format for visualization in Paraview (an open-source visualization tool used by modelers), suitable for comparison to seismic moment tensor and other volumetric data. These will be made available on the PI website alongside the related physical state properties.

The investigators will also make codes developed for this project available after publication of the methodology, and upon request. If there is sufficient interest, they will also post codes to the dedicated code release webpage at <http://aconcagua.geol.usu.edu/~arlowry/code_release.html> set up for web distribution, and migrate their code versioning to GitHub.