



A review of GPS and GRACE estimates of surface mass loading effects

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Since its launch in 2002, many authors have compared GPS height coordinate residuals with radial displacements predicted from the Gravity Recovery and Climate Experiment (GRACE). Most comparisons have demonstrated significant annual correlations at perhaps 50% - 75% of the sites. At the other sites, there exists little to no correlation between the GPS observed and GRACE predicted heights. The disagreement is often attributed to problems in the GPS data analysis, e.g. ocean tide aliasing, seasonal monument motion, or reference frame effects. In this presentation, we revisit the GPS/GRACE comparison using GPS height residuals, GRACE data, and an environmental loading model in an attempt to better explain the discrepancy between the signals. We will also compare the degree-1 in the GPS time series with that from the environmental loading model.