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# The Effect of Atmospheric/Oceanic Mass Variations on the SLR Reference Frame

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A 14 year long time series of weekly solutions for station coordinates, low degree harmonics, and Earth Orientation Parameters (EOPs) with daily resolution were generated based on LAGEOS-1 and -2 Satellite Laser Ranging (SLR) data to test the effect of atmospheric/oceanic mass variations on the SLR reference frame. The atmospheric/oceanic mass variations resulted from an effort to expand the so-called GRACE de-aliasing products back in time to cover also the pre-GRACE era. The sensitivity of the results with respect to the a priori consideration of the mass variations are evaluated and discussed with view on the geometric and dynamic origin and scale.