



Studies of Seasonal to Interannual Ocean Salinity Variations With Satellite Data

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An important scientific goal for satellite salinity observations is to document oceanic climate trends and their link to changes in the water cycle. This study is a preliminary examination of multi-year sea surface salinity (SSS) trends from analyses of Aquarius, SMOS and SMAP data, years 2010-2015 to assess the feasibility of monitoring such trends from the current satellite salinity data sets.

Orthogonal mode analyses are evaluated to resolve trend modes among other seasonal and interannual variability patterns. The dominant trend is isolated in the western tropical Pacific and evidently associated with ENSO evolution during these years. The results signify that resolving secular climate trends in the global water cycle will require extended decadal or longer satellite salinity time series.

Recognizing that the Aquarius data record is now finite (Sep 2011 through May 2015) due to the mission failure in early June 2015, I will conclude with a summary of the status and disposition of the Aquarius data record and its value as a reference for salinity measurement continuity with both SMOS and SMAP satellite salinity measurements.