

Validation of QSCAT Vector Winds with Air-Sea Interaction Spar Fluxes

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Abstract: A colocated data set of QSCAT wind vector and sigma-o data with wind and wave ocean buoy observations from the NDBC buoy network in the Atlantic and Pacific oceans and Gulf of Mexico and Hawaiian Islands is assembled for validation. Also included are wind stress and high-resolution directional wave measurements from three air-sea interaction spar buoys off the coast of North Carolina from the two month SHOWEX experiment in the Fall 1999. Analyses of the colocated QSCAT and ocean buoys data set will explore differences of wind stress, wind speed and direction. In

particular we explore the variability of scatterometer sigma-o observations and subsequent wind measurements with respect to variability in the directional wave properties. We will also examine the dependency of residuals on other oceanographic and meteorological parameters such as sea surface temperature, air-sea temperature difference and directional wave properties as well as the location of the sigma-o cell and its incidence angle. Furthermore, we also study the ambiguity removal skill and the quality of winds when several backscatter measurements are used.