A Careful Comparison of Scatterometer Wind Products

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Following the previous OVWST venue, we further developed verification metrics for L2 scatterometer wind products. We carefully compared the verification of the NOAA and KNMI SeaWinds 25-km products, the MSS and non-MSS SeaWinds 100-km products, the ASCAT 12.5-km and 25-km products. The verification is performed over a large set of buoy data over many months, kindly provided by ECMWF. Care is taken for triple collocation, i.e., the scatterometer winds are compared to an identically sampled set of buoy measurements. The statistical verification of the mentioned wind data comparison sets will be presented. Comparisons to ECMWF data were also done for these datasets by quadruple collocation, showing the relative performance of the ECMWF model against the buoys and the different scatterometer data sets. To further interpret the differences in buoy and ECMWF model verification of the scatterometer data sets, the spectra of the different data sets are analysed. Spectral analyses confirm the anticipated small-scale information content and noise characteristics of the different data sets as will be presented at the OVWST meeting. Therefore, the developed verification metrics are a useful tool for further scatterometer wind product development.