

Quantifying random errors in VOS meteorological observations

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Estimates of random errors in measurements of marine surface meteorological variables are important for generating and understanding fields of these variables. Information about random errors is necessary for the construction of climatological and model forcing fields, data assimilation and for the analysis of biases in the variables themselves. We present estimates of random errors calculated using a semivariogram technique for the meteorological variables reported by Voluntary Observing Ships (VOS) and collated in the International - Comprehensive Ocean Atmosphere Dataset (I-COADS). The estimates are calculated for each month in the period 1970 to 1997 for pressure, wind speed, air and sea temperature and humidity. The random errors are shown to vary with region, time, the quality control applied, the method of measurement, the recruiting country and the source of the data.