

## SURFACE AND UPPER-TROPOSPHERIC WIND CONVERGENCE AND DIVERGENCE OVER THE OCEAN

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Topical surface wind convergence and divergence were computed from *ERS-1* wind velocity data set for the April 1992 to March 1995 interval. Comparisons between monthly mean  $1^\circ$ -latitude  $\times$   $1^\circ$ -longitude horizontal divergences and other measures of surface horizontal divergence demonstrated reliability of the *ERS-1* data. Relationships between surface horizontal divergence, rainfall, and sea surface temperature were apparent, and results were approximately similar for rainfall estimates derived from satellite infrared and microwave measurements. Two types of correlations were observed: surface convergent (divergent) wind, sea surface temperature greater (smaller) than  $27^\circ\text{C}$ , large (small) rainfall; only in the Arabian Sea was the pattern of variability different. Upper-tropospheric water vapor measurements from geostationary satellites, *GOES* and *METEOSAT*, provided estimates of upper-tropospheric wind velocity, from which wind divergence was computed. Patterns of surface and upper-tropospheric horizontal divergences were consistent with mass conservation, and will be described.