



## **SOS: a re-analysis of ERS wind stress observations**

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Wind stress forces most of the ocean circulation, and plays a crucial role in coupled atmosphere-ocean phenomena such as ENSO. Only recently have wind stress measurements achieved the high accuracy needed to study these. We have re-analysed the ERS scatterometer observations over 1992-2001 using the best algorithms available to provide uniformly high-quality wind stress measurements over the entire period. This re-analysis uses the fact that the scatterometer measures the wind relative to the ocean surface, which moves with the ocean currents, leading naturally to wind stress.

Triple collocation of scatterometer wind stress, TAO/PIRATA 4m wind measurements and ERA-40 10m wind estimates were used to estimate the errors in each of these datasets. Wind was converted to wind stress using the LKB and ECMWF surface layer models, which agreed very well except for high wind speeds. The error on the scatterometer dataset is found to be 0.9 m/s for  $u$  and 0.7 m/s for  $v$  on scales of 50 km in these tropical points.

The global 6-hourly wind stress and wind fields are available on a  $0.5^\circ$  grid at the KNMI Climate Explorer ([climexp.knmi.nl](http://climexp.knmi.nl)) in a variety of formats, as are daily, pentad and monthly averages.