

Improvements to a satellite derived SST climatology

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Sea surface temperature (SST) climatologies derived from high resolution satellite measurements have demonstrated good performance in representing SST variability while reducing climatic noise. Here we focus on improvements to the JPL AVHRR Pathfinder SST climatology with regards to aerosol contamination. In this study, data from AVHRR Pathfinder Atmosphere (PATMOS) data set are used to flag and remove those satellite SST measurements that are deemed contaminated with high aerosol concentrations. Preliminary results indicate that improvements of several tenths of a degree Celsius are achievable using a simple linear flagging for aerosols. After flagging the climatology is recomputed and improvement is documented with comparisons to SST in situ observations from the World Ocean Database 2002. Further improvements by including the SST measurements from the ATSR-2 instrument are examined. The relevance of understanding biases between the AVHRR and ATSR derived SSTs will be discussed with respect to future merging strategies and the impact on climate data records.