TRMM MICROWAVE RETRIEVALS OF SEA-SURFACE TEMPERATURE

F. J. Wentz, C. L. Gentemann, D. K. Smith
Remote Sensing Systems, Santa Rosa, CA 95401
wentz@remss.com

We now have a three year (1998-2000) sea-surface temperature (SST) data set obtained from the TRMM Microwave Imager (TMI). The principal advantage of these microwave SST retrievals (as compared to infrared retrievals) is that microwaves penetrate non-raining clouds with little attenuation, giving an uninterrupted view of the ocean surface. In addition, the microwave retrievals are unaffected by atmospheric aerosols and hence can be used to monitor SST climate trends. To demonstrate this climate monitoring capability, the TMI SSTs are compared to ocean buoy measurements during the 1998-1999 El Nino-La Nina oscillation. The TMI measurements track this interannual variability in SST to within 0.1°C. The TMI SST retrievals are self-calibrating, completely independent of any *in situ* SST. In addition to climate applications, microwave SSTs have the potential to improve hurricane intensity prediction and are a boon for research on air-sea interactions in the marine boundary layer.