

Global comparisons of satellite derived SSTs with in-situ observations from the World Ocean Database

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Comparisons are done between the Modified Pathfinder Sea Surface Temperature Data Set (PFSST) and SSTs derived from the Along-Track Scanning Radiometer (ASST2) with in-situ data SST from the World Ocean Database (WSST). The PFSST and the ASST2 were co-located with the WSST within an 18km and 6 hour space-time window. The WOD was chosen because of its independence from the PFSST matchup database, which is used in the calculation of the PFSST coefficients. Mean differences were defined as MPFSST-WSST and ASST2-WSST.

Preliminary results indicate that the largest global mean difference of -0.3 degrees C (ASST2 cooler than WSST) occurs for daytime comparisons between ASST2 and WSST, possibly indicative of skin-bulk temperature differences. The smallest global mean difference of 0 degrees Celsius occurs between the daytime PFSST and the WSST. In all cases rms differences are around 0.8 degrees C, but these values vary regionally.

Statistics will be calculated regionally to determine the space-time characteristics of the differences and possible explanations. Differences will be examined with respect to impacts on using these data sets in climate studies.