

Sea surface temperature: Climate data records of sea-surface temperatures

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The generation of a Climate Data Record of Sea-Surface Temperature requires a thorough assessment of the residual uncertainties in the derived fields, and traceability of the temperatures to national SI reference standards. This can best be achieved by using NIST-traceable ship-board radiometers to provide the reference validation data for the satellite retrievals. We have been doing this for over a decade using, primarily, Marine-Atmospheric Emitted Radiance Interferometers (M-AERIs) on a large number of ships in a wide range of environmental conditions and Infrared Sea-surface Temperature Autonomous Radiometers (ISARs) on commercial vessels. NIST traceability is achieved through a series of international workshops that have been held at the Rosenstiel School, University of Miami, that have included NIST participation with the Earth Observing System Transfer Radiometer (TXR). The presentation will include background and technical details of achieving the necessary requirements for CDRs of SST.