

## **Sea surface temperature analyses for climate and their errors**

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Sea surface temperature (SST) analyses used for climate use in situ SST data and may or may not use satellite SST data when available. These analyses are often used on seasonal and interannual scales for monitoring and prediction of El Niño events and on decadal and centennial scales for climate trend detection. For these purposes it is important that analysis methods be constant with time and not influenced by temporal changes in SST data. Methods of producing climate SST analyses are discussed. To determine their accuracy, analysis errors are estimated for three types of errors; sampling, random and bias errors. Examples are shown of these three types of errors during the entire period of record. Bias errors gradually decrease with time until the period with satellite data when they often increase again. Once satellite data become available, the primary need for in situ data is to decrease any satellite biases.