

## **Objective analyses of SST and marine meteorological variables for the 20th century using COADS and the Kobe Collection**

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Objective analyses of Sea Surface Temperature (SST) and marine meteorological variables have been carried out on a global grid. The analysis database helps us to find inhomogeneity of quality of historical observations. Besides performing the objective analysis, our quality control procedures have been improved. Sizable trends are detected, which are partly related to global warming and partly affected by historical data quality. Among analyzed variables, a trend of total cloud amount globally averaged resembles that of SST and air temperature. We believe that these analyzed data are applicable to climate studies and can be used as boundary conditions or forcing in integrating dynamical models. Some applications with the analyzed data will be introduced. In addition, the quality of the Kobe Collection will be discussed briefly.