

# DMSP/OLS 熱赤外画像を用いた雲除去時系列SSTデータセット の作成と評価

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## Abstract

A time series dataset is important to understand trends such as SST and NDVI fluctuation in global changes and satellite observation data can be used for those purposes. However, how to generate a time series of cloud free dataset with satellite observation data is a big problem. A time composite method, typically 10-day Maximum Value Composite method (10dayMVC) is used commonly for the solution but it does not guarantee to complete it.

A NRF (Noise Reduction Filter) was developed by authors to implement the 10dayMVC dataset and is adapted for a SST-10dayMVC dataset that was generated from a time series of Defense Meteorological Satellite Program (DMSP)/Operational Line Scan System (OLS)-Thermal Channel (TIR) data. A cloud free SST dataset was generated by NRF and was evaluated by using the 10dayMean SST of the Japan Meteorological Agency. Significant reduction of cloud influences was confirmed of the dataset.

In this study, thermal data from the TIR were converted to SST by an algorithm using regression analysis method, and the multi-channel SST (MCSST) derived from the Advanced Very High Resolution Radiometer (AVHRR) carried on the National Oceanic and Atmospheric Administration polar orbiter series of satellite (NOAA-14) was used as standard data for this regression analysis.