

CONCURRENT RECONSTRUCTION OF DAILY SATELLITE-DERIVED SEA SURFACE TEMPERATURE AND CHLOROPHYLL FIELDS FOR THE SOUTH CHINA SEA

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ABSTRACT: The missing data percentage of the satellite images in the South China Sea is very high due to cloud and rain. Exploiting the correlation between sea surface temperature (SST) and chlorophyll-a (CHL) concentration, we applied a multivariate EOF-based technique approach, DINEOF (**D**ata **I**nterpolating **E**mpirical **O**rtogonal **F**unctions), to concurrently reconstruct these two daily MODISA data sets with horizontal resolution of 4km, spanning from 2003 – 2011, for the South China Sea. The results compared to *in situ* data show that the reconstructed data sets are improved upon a univariate approach. The error maps for the reconstructed fields were also calculated. As a by-product, the optimal modes obtained by DINEOF explain the temporal and spatial variability of SST and CHL in the South China Sea.