



Sea Surface Temperature analysis and its applications

Sea Surface Temperature (SST) is the most widely distributed and widely used in the marine science. SST observation has a series of means and sources, while the application of SST obtained by various observation means has also brought inconvenience. In order to facilitate operation, there are more than 20 data sets of global SST fusion products, and there are nearly 10 data sets into operation. Which is the best and which is most suitable for china marginal seas? And whether a variety of observations in China's offshore can be used in operation. Therefore, based on the simple optimal interpolation, we have formed a set of fusion analysis data product with a horizontal resolution of 1/4 degree, which has obvious advantages compared with other similar products in the china marginal seas. This SST data set can be better applied in our numerical forecasting systems, Artificial Intelligence(AI) forecast systems and Marine heat wave (MHW) warning and other operational works. Based on SST data, insitu data such as offshore station, buoys and meteorological observation data, operational forecast products such as island, urban, fishing area, beach and resort are performed better by AI method like Convolutional Long short-term memory algorithm (ConvLSTM). Through the analysis of SST data, We have therefore developed weekly MHWs products such as MHWs intensity and grade, and their distribution.

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