

Satellite-derived Surface Heat Flux Data Set of Japanese Ocean Fluxes Using Remote Sensing Observation

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Recently developed satellite-derived surface heat flux data set of Japanese Ocean Fluxes Using Remote Sensing (J-OFURO2) provides daily mean global turbulent heat flux (i.e. latent and sensible heat flux) with 1.0 (0.25) degree resolutions over 1988(2002)-2007. Use of data from multi-satellite and sensors allow us some improvements in accuracy and resolutions. Validations with independent in-situ observations and inter-comparisons with other similar data sets were performed and the results reveal improved accuracy and resolutions of J-OFURO. In particular, in the western boundary regions in mid-latitudes where are characterized by ocean frontal and eddy structure and large heat loss in the global oceans, J-OFURO2 resolves fine structure of turbulent heat flux and detail of air-sea interaction feature. The purpose of this study is to introduce new satellite-derived surface heat flux data set of J-OFURO2, its improvements and characteristics. This paper also introduces recent air-sea interaction studies using the data set.