

## Korelasi antara outgoing longwave radiation dan suhu muka laut di wilayah Indonesia = Correlation between outgoing longwave radiation and sea surface temperature in Indonesia

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### Abstrak

[<b>ABSTRAK</b><br>

Pemahaman mengenai interaksi laut dan atmosfer merupakan kunci untuk menjelaskan fenomena iklim dan cuaca di benua maritim Indonesia. Dalam penelitian ini, akan dikaji hubungan antara energi radiasi gelombang panjang yang dipantulkan oleh bumi ke atmosfer, Outgoing Longwave Radiation (OLR), dengan suhu muka laut (SST). Sebagai ilustrasi, uap air (terutama awan), merupakan gas yang cukup efektif menyerap radiasi gelombang panjang. Namun jumlah uap air di atmosfer selalu berubah karena terjadi proses penguapan dan kondensasi secara terus-menerus, sementara sumber uap air utama adalah lautan. Data yang digunakan adalah OLR dan SST tahun 1979 hingga 2011. Berdasarkan hasil analisis diketahui bahwa nilai koefisien korelasi di wilayah Indonesia menunjukkan ikatan hubungan yang sedang ( $r = 0,5$ ). Sedangkan hasil pemetaan korelasi dan signifikansi menunjukkan bahwa hubungan OLR dan SST di wilayah Indonesia dipengaruhi oleh fenomena ENSO dan IODM.

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<b>ABSTRACT</b><br>

Ocean and atmosphere interactions are the key to explain the phenomenon of climate and weather in Indonesia. This study will be assessed the relationship between the energy of longwave radiation reflected by the earth into the atmosphere, Outgoing Longwave Radiation (OLR), and sea surface temperature (SST). As an illustration, water vapor (especially cloud), is an effective gas to absorb longwave radiation. But the amount of water vapor in the atmosphere is always changing due to evaporation and condensation processes continuously, while the main source of water vapor is the ocean. The data used is OLR and SST in 1979 until 2011. Based on the analysis it is known that the value of the correlation coefficient in the region of Indonesia shows  $r = 0,5$ . While the results of the mapping correlation and significance shows that OLR and SST relationship in Indonesia affected by ENSO and IODM.;Ocean and atmosphere interactions are the key to explain the phenomenon of climate and weather in Indonesia. This study will be assessed the relationship between the energy of longwave radiation reflected by the earth into the atmosphere, Outgoing Longwave Radiation (OLR), and sea surface temperature (SST). As an illustration, water vapor (especially cloud), is an effective gas to absorb longwave radiation. But the amount of water vapor in the atmosphere is always changing due to evaporation and condensation processes continuously, while the main source of water vapor is the ocean. The data used is OLR and SST in 1979 until 2011. Based on the analysis it is known that the value of the correlation coefficient in the region of Indonesia shows  $r = 0,5$ . While the results of the mapping correlation and significance shows that OLR and SST relationship in Indonesia affected by ENSO and IODM.;Ocean and atmosphere interactions are the key to explain the phenomenon of climate and weather in Indonesia. This study will be assessed the relationship between the energy of longwave radiation reflected by the earth into the atmosphere, Outgoing Longwave Radiation (OLR), and sea surface temperature (SST). As an illustration, water vapor (especially cloud), is an effective gas to absorb longwave

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