عنوان مقاله:

MULTI-SCALE ANALYSIS OF AIR-SEA THERMODYNAMIC DISEQUILIBRIUM DURING TROPICAL CYCLONE (A (CASE STUDY

محل انتشار:

دوازدهمین همایش بین المللی سواحل، بنادر و سازه های دریایی (سال: 1395)

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خلاصه مقاله:

Tropical cyclone (TC) has devastating impacts in the global tropics and sub-tropics. Hence, various physical parameters including dynamic and thermodynamic oneshave been defined to show TC characteristics. Meanwhile, the role of enthalpy flux from the ocean in TC intensification has been marked ([1, 2]) and proved byobservations, indicating that a TC (I) only develops where significant potential heat flux from sea exists, and (II) also decays over land even when plentiful amount of moisture and instability exist. The other thermodynamic parameter focused during TC lifetime is air-sea thermodynamic disequilibrium (ASTD) that has been applied in thecalculation of potential intensity ([3]). In addition, ASTD can change radiative forcing affecting TC ([4]). Emanuel [4] also concluded that ASTD does not have anysignificant role in difference between potential intensity calculated using NCEP/NCAR and ERA40 dataset. This result emphasizes on the little variability of this parametercalculated using different datasets, as an advantageous of this parameter. In the current study, ASTD has been calculated and analyzed in various scales during Haiyan tropical cyclone (TCH) nominated as a Category-6 TC ([5]). In the rest of this paper, at first the applied methods are presented. Afterward, data and TCH descriptions areexplained. Finally, results and conclusions are .discussed

کلمات کلیدی: