

ABSTRAK

Perairan selatan Jawa memiliki variabilitas massa air yang tinggi, karena mendapatkan pengaruh dari Samudera Hindia serta pengaruh dari beberapa fenomena interaksi laut-atmosfer. Salah satu fenomena yang mempengaruhi perairan tersebut adalah *Indian Ocean Dipole Mode* (IODM), yang berpotensi mempengaruhi massa air di permukaan, namun sedikit penelitian yang menjelaskan pengaruh IODM terhadap karakteristik dan kestabilan massa air berdasarkan stratifikasinya. Tujuan penelitian yaitu mengetahui karakteristik massa air, kestabilan massa air berdasarkan nilai *Brunt-Vaisala Frequency* (BVF), serta pengaruh IODM terhadap karakteristik dan kestabilan massa air pada tahun 2015-2016. Sumber data merupakan hasil keluaran *Hybrid Coordinate Ocean Model*, dengan data pendukung berupa indeks *dipole mode*. Metode yang digunakan yaitu metode deskriptif dan metode analisis statistik dengan regresi sederhana.

Hasil penelitian terdapat empat jenis massa air, yaitu *Bengal Bay Water* (BBW), *Indian Equatorial Water* (IEW), *Indonesian Upper Water* (IUW), *South Indian Central Water* (SICW). Kestabilan massa air berada pada lapisan termoklin, di mana nilai BVF lebih tinggi dibandingkan pada lapisan campuran dan lapisan dalam. *Shear* tidak berpengaruh terhadap ketidakstabilan massa air pada lapisan dalam karena sebaran nilai *shear* pada lapisan tersebut relatif kecil. Ketidakstabilan massa air pada kedalaman kurang dari 50 m diduga karena adanya pengaruh *mixing* angin. Pengaruh IODM terhadap karakteristik massa air lebih mempengaruhi lapisan campuran, sedangkan pengaruh IODM terhadap kestabilan massa air lebih berpengaruh pada lapisan dalam.

Kata kunci : Jenis massa air; Indeks BVF; Shear; IODM; Selatan Jawa.

ABSTRACT

South Java Sea has a high variability of water mass, due to the influence of Indian Ocean and the sea-atmosphere interaction phenomenon. One of the many phenomena is Indian Ocean Dipole Mode (IODM), which has been influencing to the surface water masses, but there was a bit research that explained the influence of IODM on the characteristics and stability of water masses based on their stratification. The purpose of this research was to determine the characteristics of water mass, stability based on Brunt-Vaisala Frequency (BVF) values, and the influence of IODM on water mass characteristics and stability in 2015-2016. The Hybrid Coordinate Ocean Model data, with supported by dipole mode were used in this research. The descriptive and statistical analyzed method with simple regression were used to analyze the data.

The results showed, there were four types of water mass, Bengal Bay Water (BBW), Indian Equatorial Water (IEW), Indonesian Upper Water (IUW), South Indian Central Water (SICW). Water mass stability in the thermocline layer, where the BVF value was higher than mix layer and the deep layer. Shear does not influence of the water mass instability in deep layer because of shear values in the layer was relatively small. The instability of water masses at depths of less than 50 m was thought because the influence of wind mixing. The influence of IODM on water mass characteristics more influences the mix layer, while the influence of IODM on water mass stability had more influence at the deep layer.

Key words : *Type of water mass; BVF index; Shear, IODM; South Java.*