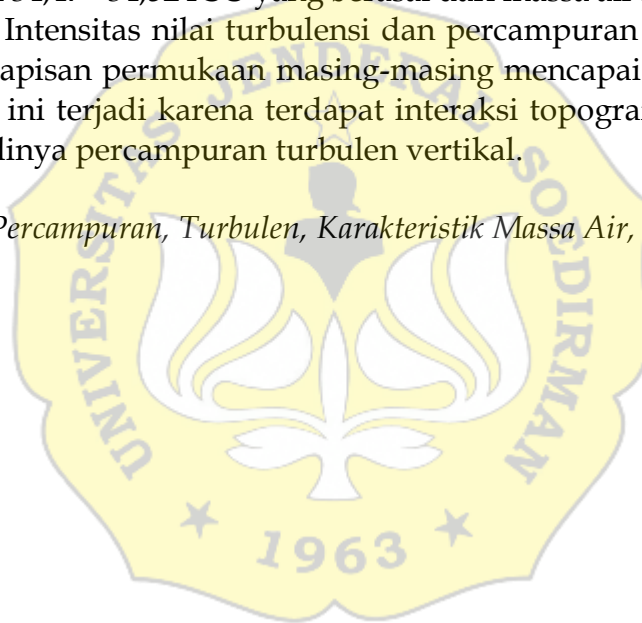


ABSTRAK

Perairan Dewakang merupakan salah satu area lintasan Arlindo, dimana dalam lintasannya banyak terjadi fenomena fisis, seperti perubahan karakteristik massa air dan pencampuran turbulen vertikal. Penelitian ini bertujuan untuk mengidentifikasi profil hidrografi dan nilai ketidakstabilan kolom perairan serta estimasi nilai pencampuran vertikal turbulen massa air di Perairan Dewakang. Penelitian ini menggunakan metode analisis Brunt Vaisala dan Thorpe. Data hasil observasi *Conductivity, Temperature, Depth* (CTD) melalui Ekspedisi Widya Nusantara (EWIN 2014) pada pelayaran menggunakan Kapal Baruna Jaya VII pada bulan November 2014. Stratifikasi Perairan Dewakang menunjukkan nilai yang berbeda di setiap kedalaman dan parameter suhu sebagai penentu kolom lapisan. Teridentifikasi 4 massa air yaitu, massa air lokal, *Java Sea Water* (JSW) dengan nilai 33,95 - 34,36 PSU, *North Pacific Subtropical Water* (NPSW) dengan ciri S_{Max} antara 34,72 - 34,63 PSU dan *North Pacific Intermediate Water* (NPIW) dengan ciri S_{Min} antara 34,47 - 34,52 PSU yang berasal dari massa air Pasifik Utara dibawa oleh Arlindo. Intensitas nilai turbulensi dan pencampuran tertinggi ditemukan berada pada lapisan permukaan masing-masing mencapai nilai 10^{-7} W/kg dan 10^{-3} m²/s, hal ini terjadi karena terdapat interaksi topografi dan arus sehingga memicu terjadinya pencampuran turbulen vertikal.

Kata Kunci : *Percampuran, Turbulen, Karakteristik Massa Air, Arlindo, Dewakang*



ABSTRACT

Dewakang Waters is one of the transit areas of the Indonesian Throughflow (Arlindo), where many physical phenomena occur along its path, such as changes in water mass characteristics and vertical turbulent mixing. This study aim to identify the hydrographic profile and the water column instability values, as well as to estimate the vertical turbulent mixing values of the water masses in Dewakang Waters. The research uses Brunt Vaisala and Thorpe analysis methods. The data were obtained from Conductivity, Temperature, and Depth (CTD) observations during the Widya Nusantara Expedition (EWIN 2014), conducted using the Baruna Jaya VII research vessel in November 2014. Stratification in Dewakang Waters shows different values at each depth, with temperature acting as the main factor defining the water column layers. Four water masses were identified: Local Water, Java Sea Water (JSW) with salinity values of 33.95–34.36 PSU, North Pacific Subtropical Water (NPSW) characterized by a salinity maximum (S_{Max}) of 34.63–34.72 PSU, and North Pacific Intermediate Water (NPIW) with a salinity minimum (S_{Min}) of 34.47–34.52 PSU, all originating from North Pacific water carried by Arlindo. The highest turbulence intensity and mixing values were found in the surface layer, reaching $10^{-7} W/kg$ and $10^{-3} m^2/s$ respectively, caused by topographic interactions and currents that triggered turbulent mixing.

Keywords: *Mixing, Turbulence, Water Mass Characteristics, Arlindo, Dewakang*

