Intisari

Dinamika *Upwelling* di Teluk Tomini Periode 2003-2022

Teluk Tomini merupakan teluk terbesar di Indonesia yang memiliki biodiversitas sumber daya perikanan yang melimpah dan berperan penting bagi masyarakat pesisir. Penelitian ini bertujuan untuk mengetahui dinamika *upwelling* di Teluk Tomini periode 2003-2022. Konsentrasi klorofil-a dan Suhu Permukaan Laut (SPL) dianalisis menggunakan data dari AQUA-MODIS, angin dari *reanalysis* ERA5, serta profil vertikal klorofil-a, suhu, dan salinitas dari produk *Copernicus Marine Environment Monitoring Service* (CMEMS). Hasil penelitian ini menunjukkan *upwelling* terjadi pada Monsun Tenggara ditandai dengan konsentrasi klorofil-a tertinggi 0,4 mg/m^3, kecepatan angin tertinggi 2,61 m/s, serta SPL terendah 29,7˚C terjadi di Agustus. Pada lapisan pencampuran di kedalaman 0-75 m, konsentrasi klorofil-a dan salinitas meningkat sedangkan suhu menurun pada Monsun Tenggara mengindikasikan adanya proses *upwelling*.

Kata kunci: biodiversitas, dinamika oseanografi, perikanan, pengindraan jauh

Abstract

Upwelling Dynamics in the Gulf of Tomini During the Period of 2003 to 2022

The Gulf of Tomini is the largest gulf in Indonesia, characterized by significant fishery biodiversity and an essential role for coastal communities. This research investigates the dynamics of upwelling in the Gulf of Tomini from 2003 to 2022. The chlorophyll-a concentration and sea surface temperature (SST) data from AQUA MODIS, wind data from ERA5 reanalysis, and vertical profiles of chlorophyll-a, temperature, and salinity obtained from Copernicus Marine Environment Monitoring Service (CMEMS) products. Results indicate that upwelling takes place during the Southeast Monsoon, characterized by a peak chlorophyll-a concentration of 0,4 mg/m^3, a maximum wind speed of 2,61 m/s, and a minimum sea surface temperature of 29,7˚C that occurred in August. During the Southeast Monsoon, the mixed layer at depths of 0-75 m exhibits an increase in chlorophyll-a concentration and salinity, accompanied by a decrease in temperature, indicative of an upwelling process.

Keywords: biodiversity, fisheries, oceanographic dynamics, remote sensing