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**Dinamika Luas Badan Air dan Keramba Jaring Apung di Waduk Jatiluhur Kabupaten Purwakarta Periode
2017-2025**
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Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

INTISARI

DINAMIKA LUAS BADAN AIR DAN KERAMBA JARING APUNG DI WADUK JATILUHUR KABUPATEN PURWAKARTA PERIODE 2017-2025

Waduk Jatiluhur memiliki fungsi penting sebagai sumber irigasi, pembangkit listrik, penyedia air baku, serta kawasan perikanan budidaya. Perubahan luas badan air dan sebaran keramba jaring apung (KJA) perlu dipantau karena dapat menggambarkan dinamika hidrologi waduk dan tekanan pemanfaatan ruang perairan. Penelitian ini bertujuan menganalisis perubahan luas badan air dan KJA di Waduk Jatiluhur Kabupaten Purwakarta periode 2017-2025 menggunakan citra Sentinel-1. Klasifikasi badan air dan KJA dilakukan dengan menggunakan metode *random forest* melalui *Google Earth Engine*. Hasil penelitian menunjukkan luas badan air ketika musim hujan relatif lebih besar (84.008.313-85.089.223 m²) dibandingkan pada saat musim kemarau (82.477.745-83.965.077 m²). Luas KJA di Waduk Jatiluhur berkisar 1.227.913-2.464.474 m² ketika musim hujan dan 1.124.146-2.464.474 m² pada saat musim kemarau. Dinamika luas badan air waduk tidak hanya dipengaruhi curah hujan, tetapi juga dipengaruhi pengelolaan debit air dan aktivitas budidaya di Waduk Jatiluhur.

Kata kunci: Sentinel-1, Waduk Jatiluhur, badan air, Keramba Jaring Apung, penginderaan jauh

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ABSTRACT

DYNAMICS OF SURFACE WATER AREA AND FLOATING NET CAGES IN JATILUHUR RESERVOIR, PURWAKARTA REGENCY, 2017-2025 PERIOD

The Jatiluhur Reservoir serves key functions: irrigation, power generation, raw water supply, and aquaculture. Monitoring changes in water bodies and the distribution of floating net cages (KJA) is essential, as they reflect the hydrological dynamics of the reservoir and the pressure on aquatic space utilization. This study analyzes changes in water bodies and floating net cages (KJA) in the Jatiluhur Reservoir, Purwakarta Regency, from 2017 to 2025 using Sentinel-1 imagery. Water bodies and KJA were classified using the random forest method via Google Earth Engine. The research results indicate that the area of water bodies during the rainy season is larger (84,008,313-85,089,223 m²) than in the dry season (82,477,745-83,965,077 m²). The fish farming area in Jatiluhur Reservoir is between 1,227,913 and 2,464,474 m² in the rainy season, and between 1,124,146 and 2,464,474 m² in the dry season. The reservoir's water surface area dynamics are influenced by rainfall, water discharge management, and aquaculture activities in the Jatiluhur Reservoir.

Keywords: Sentinel-1, Jatiluhur Reservoir, water body, floating net cage, remote sensing