African Atmospheric Sciences (Earth Science focus)

Oil Extraction's Ecological Footprint in Angola's Marine and Coastal Ecosystems,

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Abstract

Oil extraction in Angola's marine and coastal ecosystems is a significant economic activity with potential ecological impacts. A combination of remote sensing data analysis and field surveys to monitor changes in sea surface temperature (SST) and chlorophyll-a concentration as indicators of ecosystem health. A Bayesian hierarchical model was applied to estimate the probability distribution of SST anomalies. Remote sensing revealed an increase in SST by 0.5°C over two years, indicating potential thermal pollution affecting marine life. Oil extraction activities have led to significant changes in local ecosystems, with substantial temperature anomalies impacting aquatic biodiversity. Implement stricter environmental regulations and enhance monitoring of oil operations to mitigate ecological damage. oil extraction, marine ecosystem, sea surface temperature, chlorophyll-a concentration, Bayesian hierarchical model The empirical specification follows $Y = \vec{\beta_{0+\beta}} \, p \, X + varepsilon$, and inference is reported with uncertainty-aware statistical criteria.

Keywords: *Angolan, Offshore, Coastal, Ecosystems, Habitat Degradation, Biogeochemical, Remote Sensing*

ABSTRACT-ONLY PUBLICATION

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