

**Sub-Theme 5: Earth Hazard and System Monitoring**  
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**ANALYSIS OF SEA LEVEL ANOMALY OVER NIGERIA COASTAL AREA USING  
MULTI-MISSION SATELLITE ALTIMETRY DATA**

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**ABSTRACT**

Sea level rise phenomenon is one of the important global issues which is slowly threatening human survival and impairing economic development. This phenomenon has significant impacts on the social economy, natural environment, and ecosystem of coastal areas. Satellite altimeter data has offered a great opportunity for adopting remote sensing technology in studying sea level changes. This study presents the sea level anomalies (SLA) variation and the predicted SLA trend along the Nigeria coast using the satellite altimetry technique for the period of 12 months ((January 2021 to December 2021). SLA hourly gridded data was acquired from the Archiving Validation and Interpretation of Satellite Oceanographic Data (AVISO) portal. The monthly trend of the SLA was analysed for the period. Linear regression statistical template was implored to predict SLA trend for the next four years at two years intervals. It was found that the month of November recorded the highest SLA value of 204.62mm while the month of August recorded the lowest SLA value of 74.40mm. The SLA predicted values obtain at 95% confident level have an upward increase of 81.40mm as at year 2023 and 93.04mm in the year 2025. Analyses of Long-term time series data may be needed to arrive at a justified conclusion.

Keywords: sea level rise, sea level anomaly, satellite altimetry, satellite missions.