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Attachment: Abstract

Spatial and Temporal Assessment of the Effects of Runoff on Philippine Coastal Productivity using Gridded Datasets

Global gridded datasets have become much more accessible in recent years, providing continuous, environmental information at expansive scales. Analysis and correlation between relevant datasets can reveal new insights to complement management efforts. This is especially important for monitoring ecologically important parameters such as chlorophyll along coastal areas. Coastal areas are heavily impacted by runoff carrying varying levels of nutrients and sediments from adjacent land areas. Hence, spatial and temporal analysis of chlorophyll and runoff at a national scale can be greatly supplemented by accessing gridded datasets. This study will explore the usage of chlorophyll-a derived from Sea-viewing Wide Field-of-view Sensor (Sea-WiFs) and Moderate Resolution Imaging Spectroradiometer (MODIS) and correlate it with Global Runoff Reconstruction (GRUN) dataset from the years 1997 to 2014. Monthly chlorophyll data and runoff grids of 9 km and 0.5° spatial resolutions respectively will be assessed for trends and spatial distribution. Afterwards, statistical correlations between each parameter per grid will be processed to deduce relationships in relation to seasons and geographical locations. The establishment of relationships between chlorophyll and runoff at a national scale can potentially improve management strategies, particularly in coastal areas with vital ecosystems and significant economic activities.