



## Impact Assessment of Climate Change of Coral Reefs in Busuanga, Palawan

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**Abstract:** Coral reefs, the home of the most diverse marine habitat, are the direct receptors of anthropogenic disaster - climate change. The drastic increase in temperature causes the degradation of the presently declining status of the coral reefs. The main objective of the study is to assess the impacts of this long-term climate variability on the biophysical condition of these coral reefs. Wroclaw Quantum Geographic Information Systems is used to identify the vulnerable coral reef areas. Markov Chain Monte Carlo Modeling is also utilized in order to determine the optimum scenario in terms of coral bleaching, drop in fish and coral biodiversities, increase in carbon dioxide concentration, the weakening of coral skeletons, and the migration of marine species that have been happening in Busuanga, an island on the Calamian Archipelago of Northern Palawan. Mitigating measures and adaptive capacities are recommended to reduce the threats brought by climate change.

**Key Words:** coral reefs; climate change adaptation and mitigation; Markov Chain Monte Carlo Modeling; Participatory Action Research