Title: Temporal Prediction of SST-Sea Surface Temperature along the Western Californian Coast for the period of years 1919-2015.

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Abstract:

Oceans make up more than two thirds of the Earth’s surface and play the most important role in projecting geographical changes in and around the world. The cruel actions of man have degraded the Earth and its potential over many centuries. Ocean surfaces are the first of the few early indicators of this. It takes many years to show up the dire consequences. As much as the Industrialization was a slow process, so were the harms inflicted due to it, and so was the reaction thrown up by Mother Earth to retaliate. Ocean parameters like Sea Surface Temperature, Salinity, Wind velocity etc. are prime weather indicators. Temporal Regression - Prediction of such parameters with minimum errors using past data; can provide an opportunity to combat against upcoming natural calamities and reduce incurred losses. Neural Network Algorithms are used to forecast future values of Sea Surface Temperature over the Californian Coast with the help of daily data collected over the years 1919-2015. Samples obtained from centers-[1] Pacific Grooves [2] Farallon Islands [3] Granite Canyon [4] Santa Barbara [5] Zuma Beach [6] Trinidad Bay and Trinidad Beach on the western Californian coast is used for analysis. NRMSE- Normalized Root Mean Square Error and R coefficients are used to evaluate error. Error recorded is as low as 10^-3.

Keywords: Temporal Prediction, Sea Surface Temperature, Neural Networks, Temporal Regression, West Californian Coast.