

Session IV–B

GLOBAL WARMING IN INDIA: SOME EVIDENCES AND IMPACT ASSESSMENT OF SEA LEVEL RISE ON COASTAL WETLANDS

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This paper has two objectives. The purpose of the first part of the study is to empirically analyze the relationship between the CO₂ emission, and rising temperature in VAR framework for both India and the Globe. We obtained a causal relationship between increasing CO₂ forcing and the rising temperature. Using time series modeling we have also forecasted the CO₂ emission and the temperature of the Globe and India on an average for next 25 years.

Of the many implications of the climate change, sea level rise is often seen as one of the more threatening. This motivate us to analyze the impact of increasing Global warming on the rising sea level in India, which forms the second part of this study. In Indian context we found positive and significant correlation between the rise in the sea level and the increasing temperature. We analyzed the sea level data from the nine tide gauge monitoring stations wide spread in five coastal states across India. We established a time trend for the sea level rise and observed a positive, significant and increasing trend for the majority of the monitoring stations. The western part of country has been more vulnerable with higher positive sea level trends. The most significant and direct impact of the sea level rise may be the shoreline retreat and the loss of the coastal wetlands as a result of the inundation of the low land. Total wetland loss along the nine coastal states under different possible scenario and the under projected scenario has also been evaluated.