

Preface

Climate change, with its numerous effects on weather patterns, sea levels, and ecosystems, presents significant challenges to the Indian Sundarbans, a critical and vulnerable region. This project aims to analyze and visualize various climatic and environmental parameters over several decades, emphasizing critical shifts that highlight the importance of sustainable management and mitigation strategies. Utilizing advanced spatial interpolation techniques like Inverse Distance Weighting (IDW) and merging numerous datasets, this research presents a complete perspective of changes in rainfall, temperature, sea surface temperature (SST), and sea levels. These insights are critical for understanding the complex interplay between natural systems and human activities, which informs policy and fosters resilience in the face of global climate change.