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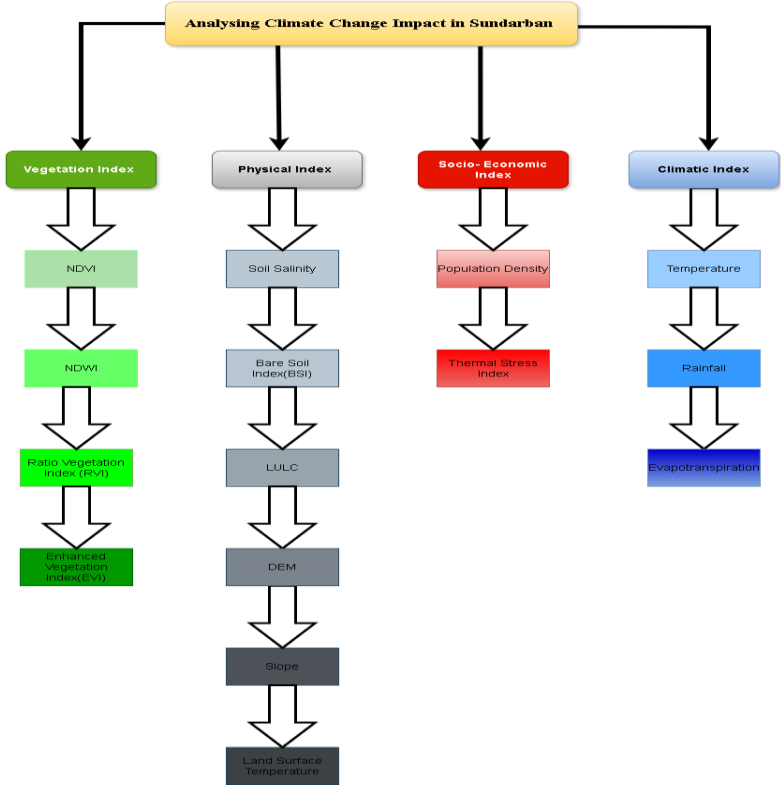


**02 DEC 2024 to
02 APR 2025**

MAJOR OBJECTIVES:

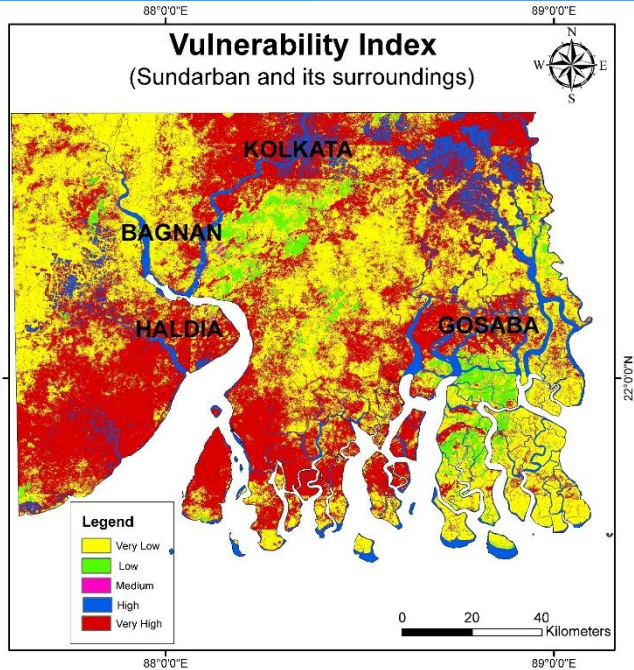
- To analyze long-term change in climatic indicators (Rainfall, Temperature and Evapotranspiration) in the Sundarbans.
- To assess changes in land cover and forest degradation for 2018-2024.
- To assess impact of neighbouring cities on Sundarban bio reserve.
- Integrate remote sensing based thematic layers into GIS based model for understand vulnerability in the region

METHODOLOGY FLOW CHART:



RESULTS/MAJOR FINDINGS:

- ✓ Vulnerability model was prepared , which suggest the vulnerability index of the study area and its surroundings. It was seen that the coastal and the main cities are at high risk.
- ✓ LULC changes was also seen in the years 2018 and 2024. Settlement and agriculture was increased in the given times at a high rate, while water and vegetation were significantly decreased.
- ✓ Rainfall and Temperature graph were prepared for the year 2018 and 2024. Unusual variations in both temperature and rainfall were seen.



CONCLUSION: This study uses geospatial technology to assess climate- induced and human- driven changes in the Sundarban bioreserve over the past two decades. It reveals significant loss of mangrove and natural vegetation, increased LST, and rising urbanization linked to population growth.Changes in rainfall pattern and temperature have heightened ecological vulnerability.