Fluvio-Tidal Flooding in the Combined GBM Delta

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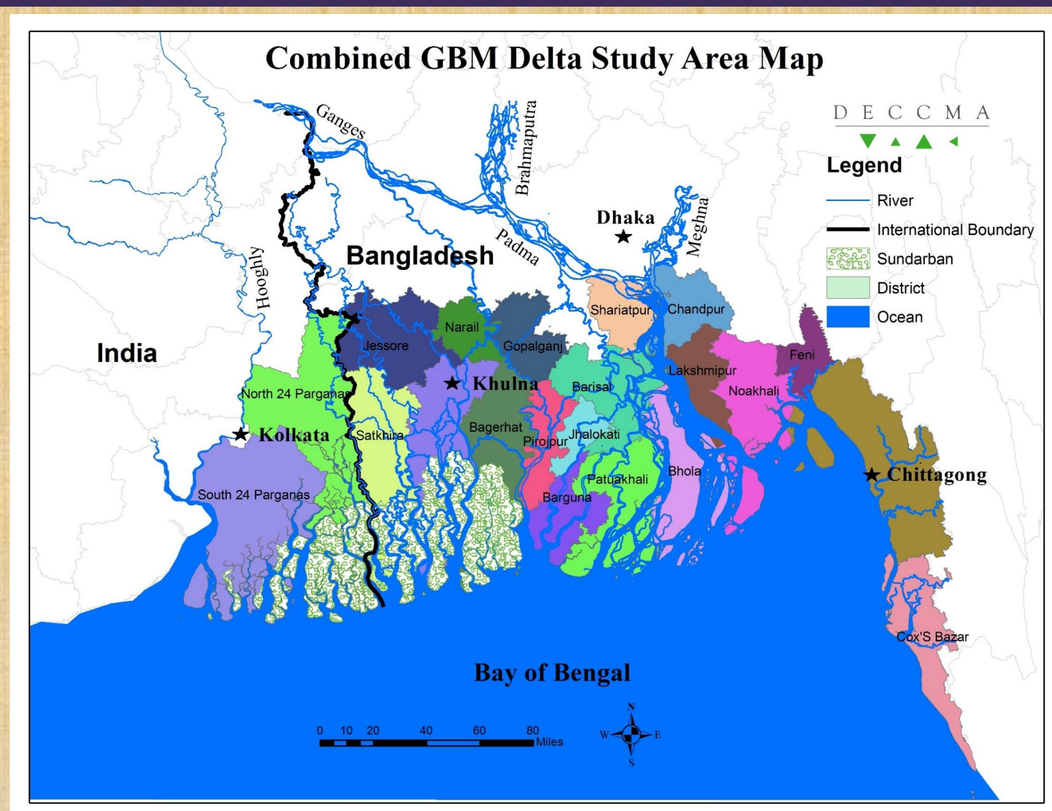
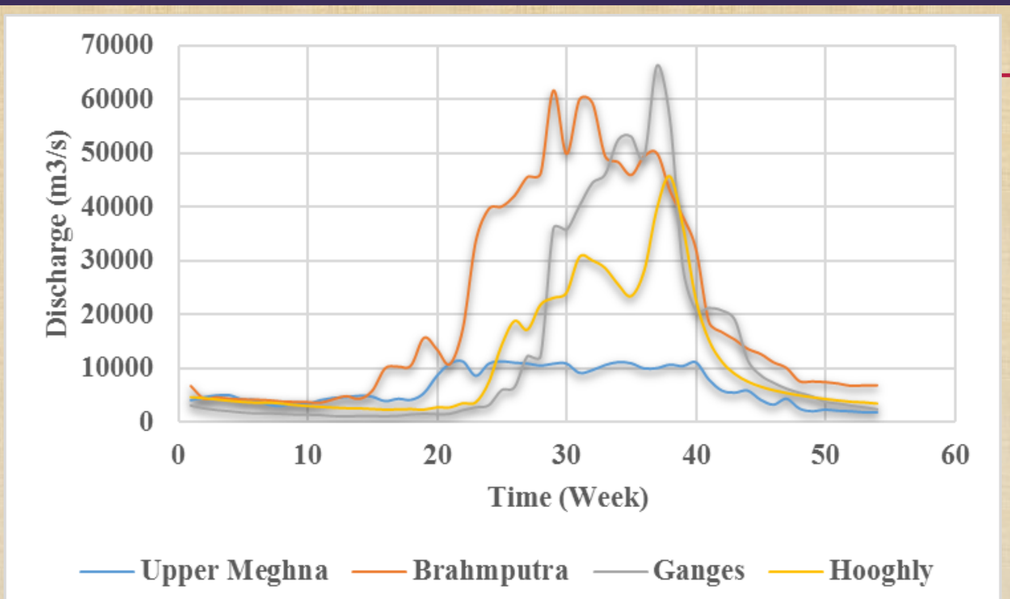
ABSTRACT

The Ganges-Brahmaputra-Meghna (GBM) delta is the largest and one of the most significant tide dominated deltas of the world that provides rich and diverse ecosystem with low-lying coastal plain. This delta is perceived to be at great risk of increased flooding due to climatic impacts and submergence from sea-level rise. In this study, fluvial and tidal inundation patterns of the delta for an average flood year is simulated by applying a numerical model (Delft3D Flow) and by satellite (Landsat) image analysis. Boundaries of discharge data are provided by measured data & generated data by hydrological model (BD-WRM), whereas, sea level boundary data is provided by generated data from and ocean model (GCOMS).

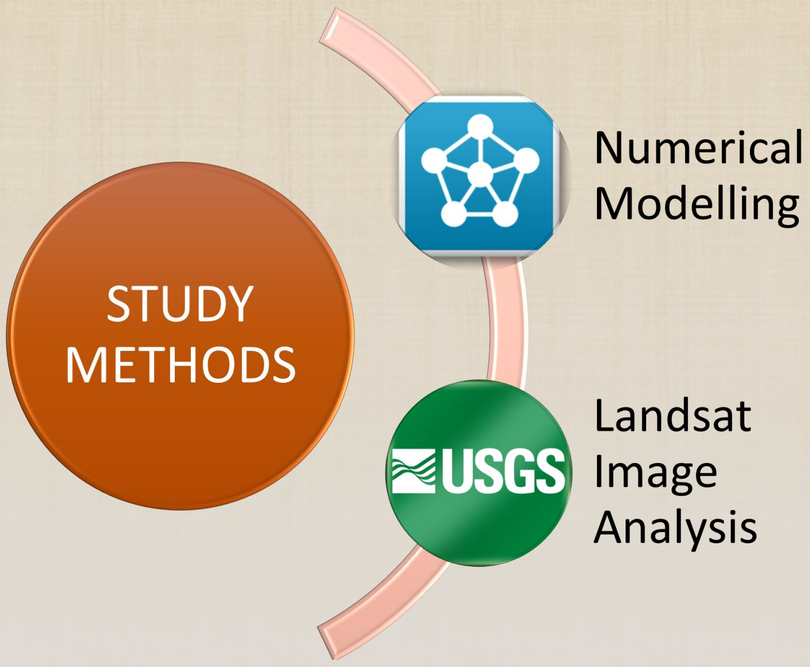
STUDY AREA



COMPARISON OF UPSTREAM DISCHARGE

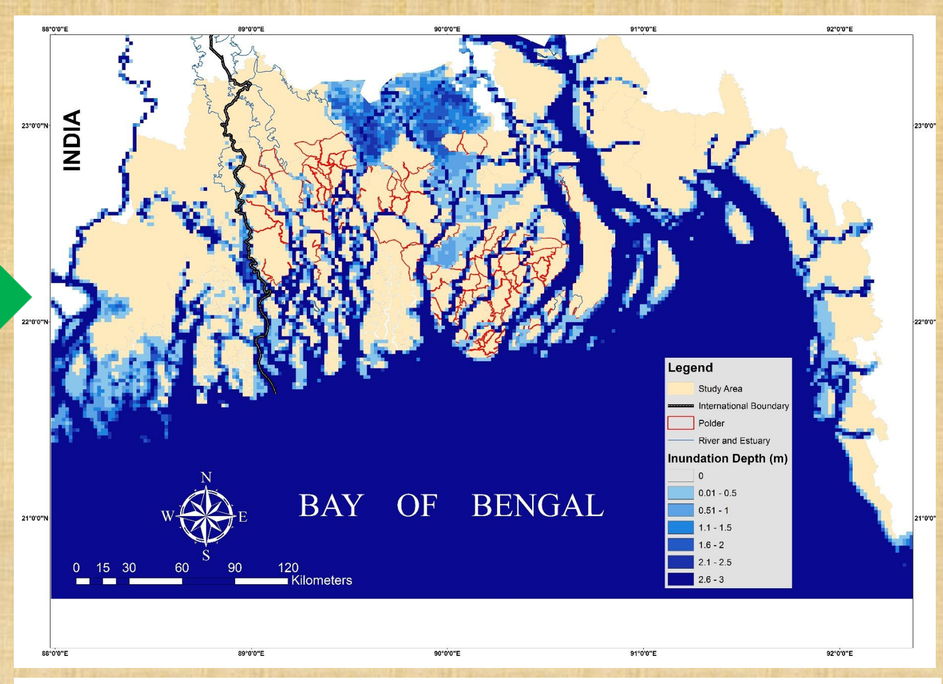


STUDY METHODS

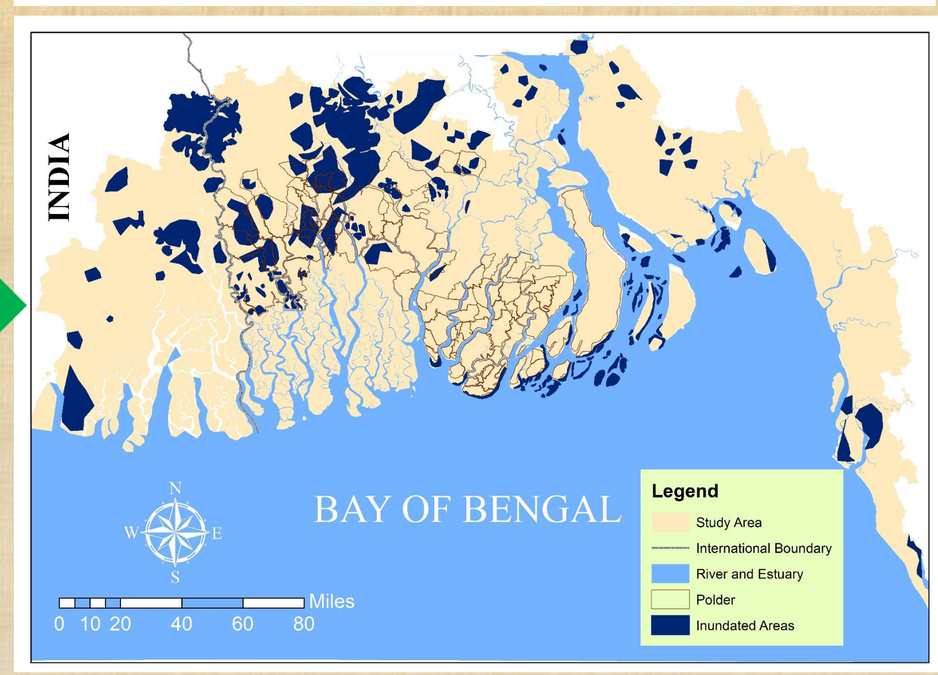


ANALYSIS RESULTS

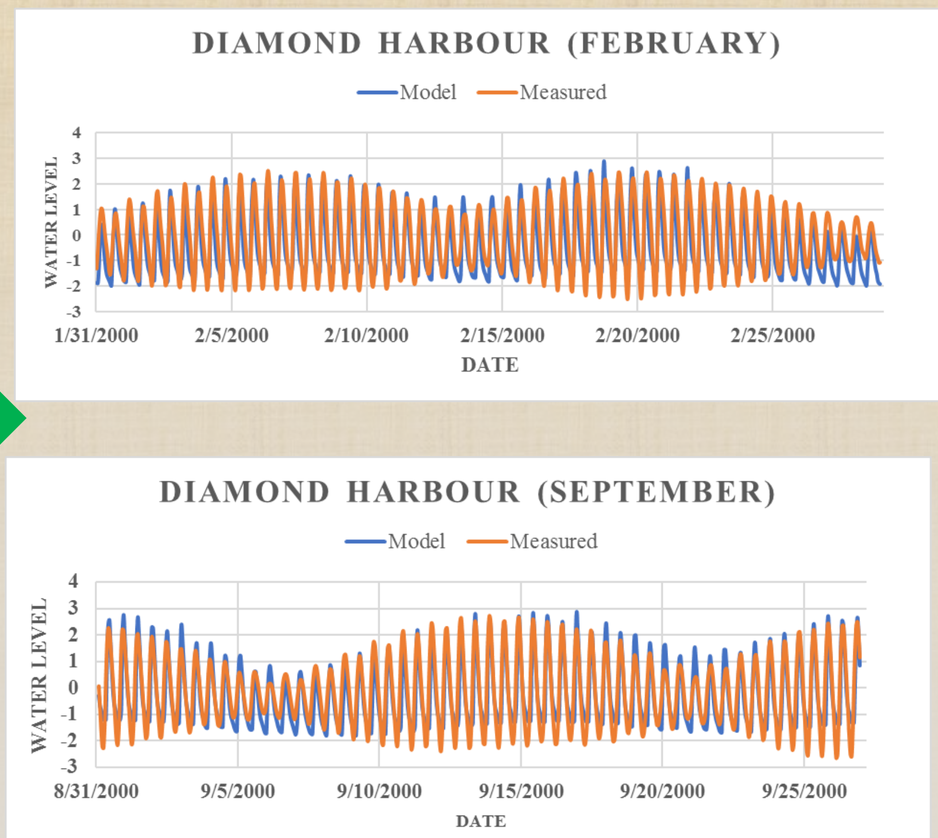
INUNDATION MAP (MODELLING)



INUNDATION MAP (IMAGE ANALYSIS)



VALIDATION



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