

End-century Multi-Hazard Maps for Bangladesh Coast

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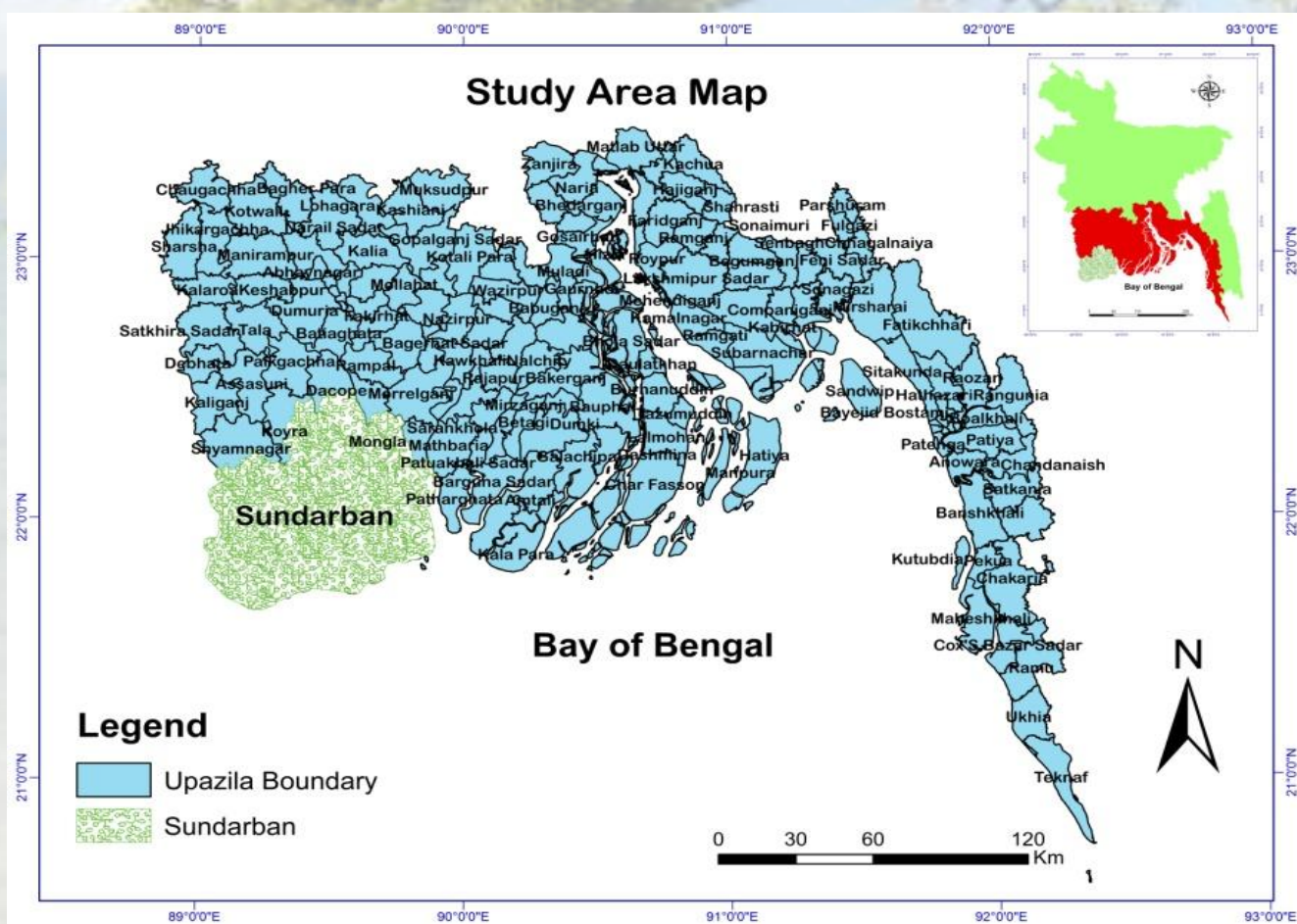
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INTRODUCTION

- The dominant hazards for Bangladesh coast
 - ✓ Cyclonic storm surge
 - ✓ Fluvio-tidal flood
 - ✓ Salinisation
 - ✓ River bank erosion
- In case of climate change scenario, it is already predicted that the situation will be worsen.
- Future hazard conditions (end-century) are assessed to understand the future threads due to climate change and sea level rise .
- This gives an indication of future climate-driven hotspots for the region.

STUDY AREA



METHODOLOGY

Constructing end-century scenario
from dynamic models



Constructing end-century hazard
maps from model data

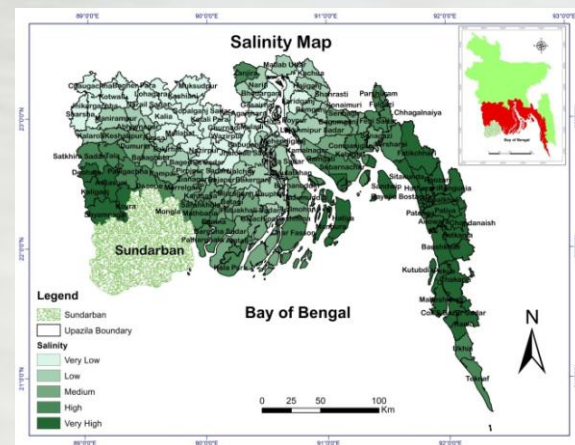
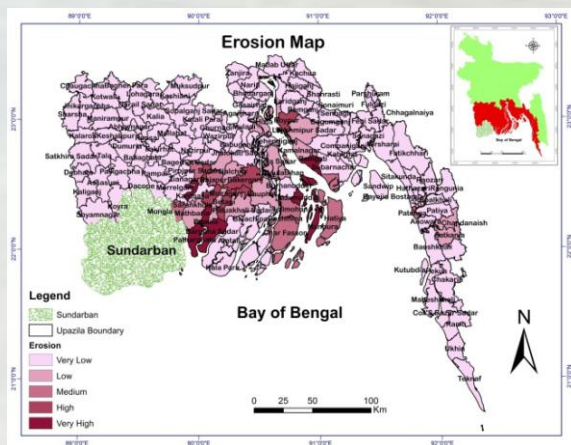
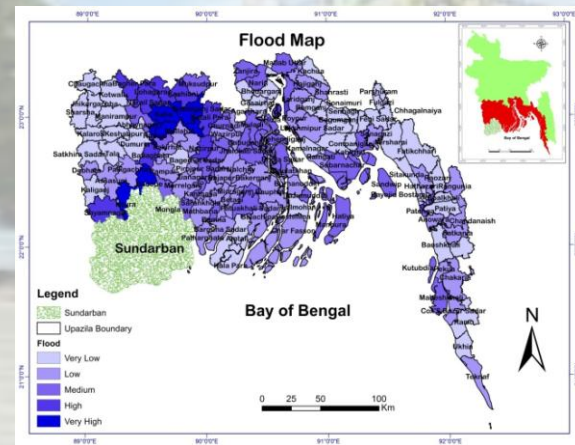
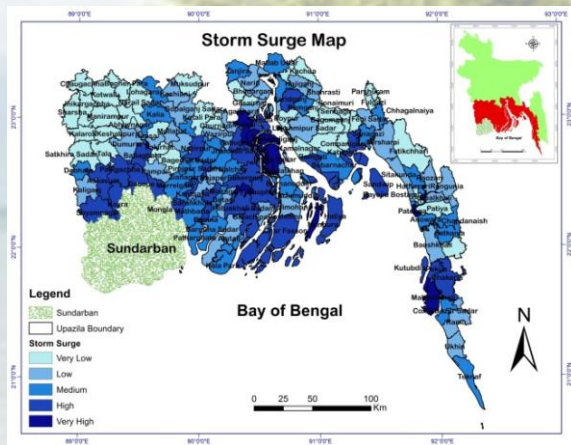


Constructing end-century multi-
hazard map

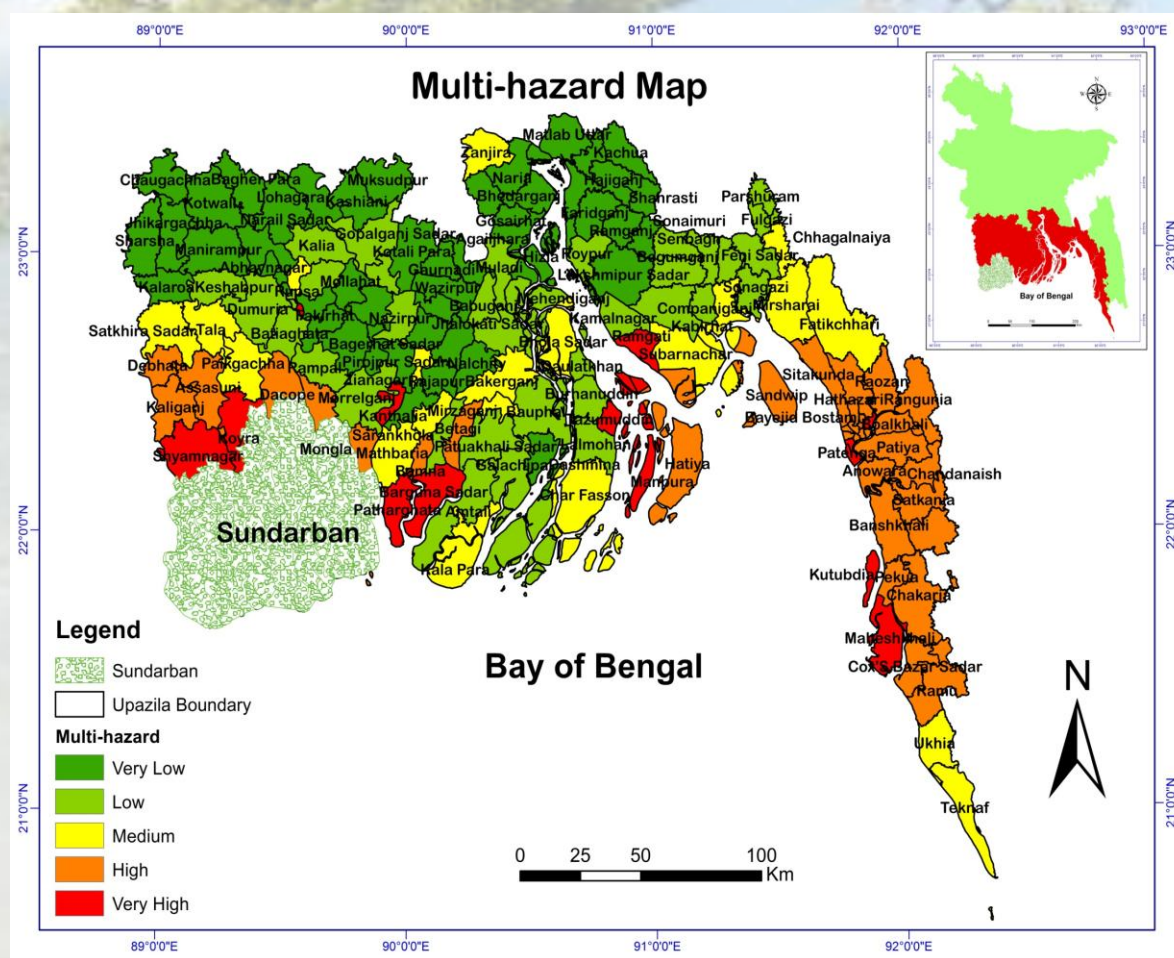
Table 1: Individual hazard weightage

Hazard	Weightage
Storm Surge	0.323
Flood	0.098
Erosion	0.308
Salinity	0.278

RESULTS



RESULTS



RESULTS

Multi-Hazard Ranking

District	Upazila	Rank
<u>Bhola</u>	<u>Manpura</u>	1
<u>Lakshmipur</u>	<u>Ramgati</u>	2
Khulna	<u>Khulna Sadar</u>	3
Bhola	<u>Tazumuddin</u>	4
<u>Pirojpur</u>	<u>Zianagar</u>	5
Barguna	<u>Patharghata</u>	6
Satkhira	<u>Shyamnagar</u>	7
Cox'S Bazar	<u>Pekua</u>	8
Khulna	<u>Koyra</u>	9
Chittagong	<u>Patenga</u>	10

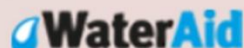
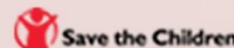
CLIMATE-RESILIENT BANGLADESH

- This study is a very preliminary assessment about end-century multi-hazard related hotspots.
- It is assumed that change of climatic drivers will change the climate driven hotspots.
- For fluvio-tidal and storm surge flooding, polders are considered as a structural adaptation measures.
- SIDR-LIKE cyclonic strengths are considered to generate end-century scenario of storm surge.
- Hazard due to salinisation is represented by river water salinity.
- Impact of Sundarbans as a buffer against the storm surge is not considered.

THE MESSAGE

- Tidal flooding in area close to Sundarban increases due to sea level rise.
- Erosion is found dominant along the Lower Meghna and Baleshwar-Burishwar estuarine systems.
- Polders are found to play a very active role in reducing fluvio-tidal and storm surge flooding.
- Top-ranked hotspots (Manpura, Ramgati and Khulna Sadar) are affected by more than one hazards.

Thank You



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