

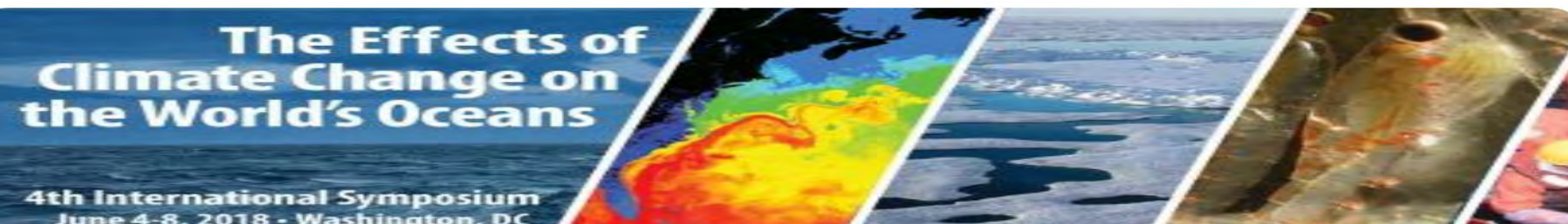


# Impacts of Climate Change on Mangrove Biodiversity and Sustainable Livelihoods along Lagos Coast of West Africa

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# OUTLINE

- **Introduction**
- **Mangrove biodiversity along Lagos coast**
- **Methodology**
- **Findings**
- **Challenges and Possible Solutions**
- **Conclusions**

# Introduction

- Mangroves are highly beneficial ecosystems
- However, there has been a biodiversity decline in this region occasioned by some factors including climate change
- Aggravated by inadequate management and policy efforts (Njisuh and Gordon, 2011)

# Introduction Contd.

- It may be due to insufficient knowledge about the consequences of their degradation.
- Attempt was made to get an insight on the impacts of climate change on biodiversity loss using number of diversity indices.

# Mangrove biodiversity along Lagos Coast

- Mangrove biodiversity and expanse in this region is on a continuous decline.
- Adekanbi and Ogundipe (2009) studied 8 mangrove communities along Lagos coast and found out that only two of these had their vegetations relatively well preserved.

**Table 1: Mangrove Loss in Coastal Lagos  
(1986-2006).**

<b>LOCAL GOVERNMENT</b>	<b>1986</b>	<b>2002</b>	<b>%LOSS</b>
<b>Apapa</b>	<b>14</b>	<b>8.6</b>	<b>38.6</b>
<b>Eti-Osa</b>	<b>41.8</b>	<b>25.2</b>	<b>39.7</b>
<b>Lagos-Mainland</b>	<b>17</b>	<b>6.7</b>	<b>60.6</b>
<b>Shomolu</b>	<b>4.4</b>	<b>0</b>	<b>100</b>

# Study Area

- Low lying coastal area
- An industrialized, commercialized and emerging megacity in Nigeria.
- Subjected to several episodes and predictions of the negative impacts of changing climate

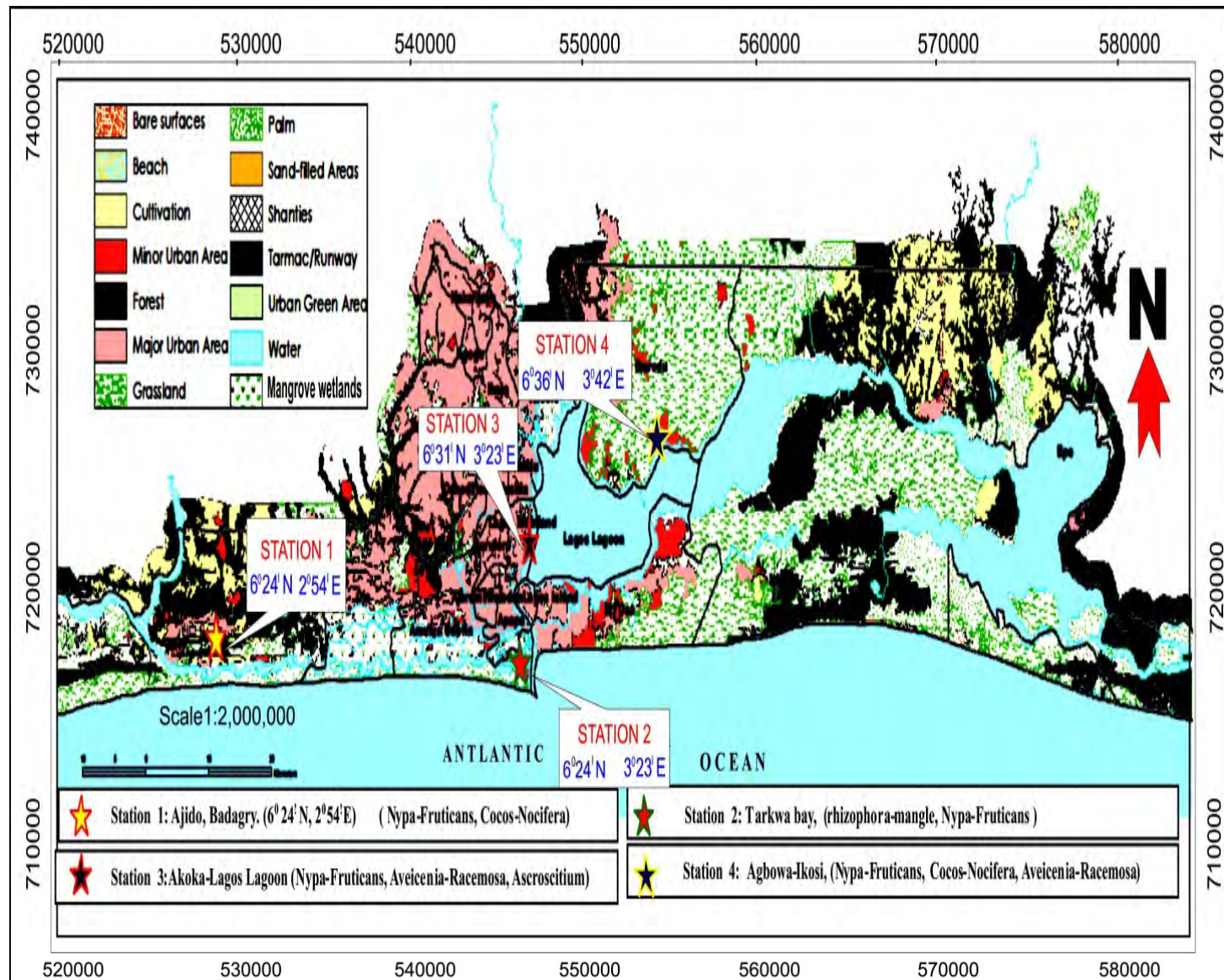


Figure 1: Study sites



# Table 2: Lagos Population Trends (1985-2015)

<b>Years</b>	<b>Population</b>
<b>1985</b>	<b>5.8</b>
<b>1990</b>	<b>7.7</b>
<b>1995</b>	<b>10.2</b>
<b>2000</b>	<b>13.4</b>
<b>2005</b>	<b>16.86</b>
<b>2010</b>	<b>20.19</b>
<b>2015</b>	<b>24.6</b>

Source: UN Habitat, State of Lagos Megacity Report (2004)

# Data Collection

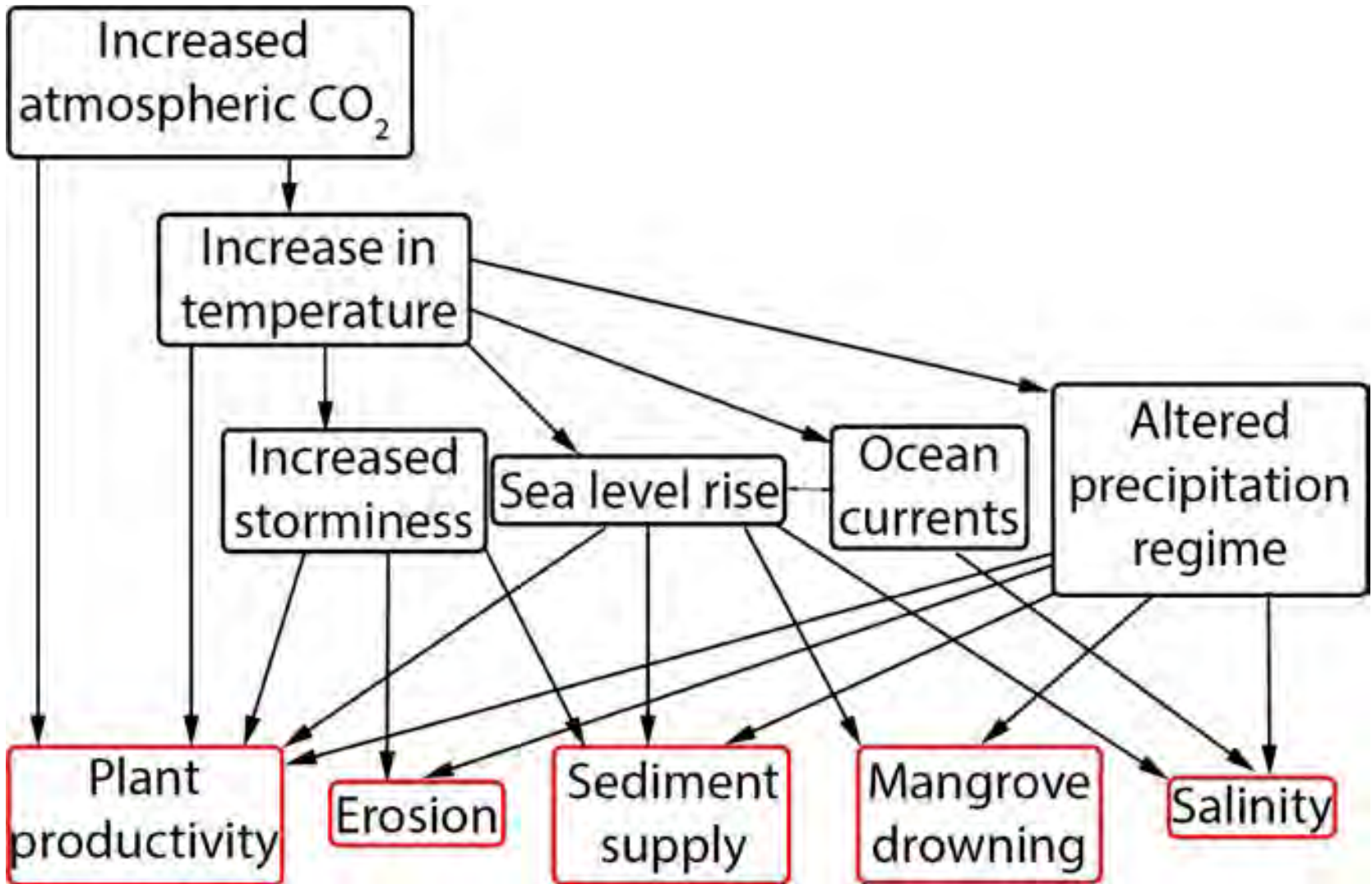
- Primary data
  - Collection of species
  - Interviews
  - Questionnaire administration
- Secondary data
  - Existing Literature

# Analysis

- 7 Diversity Indices
- Qualitative Analysis
- Sustainable Livelihoods Framework

# Findings

- Indices and qualitative data from four locations considered in this study reveal that the diversity of mangrove flora and fauna are at a low ebb.
- This contributes to impacts on ecosystem and sustainable livelihoods



**Figure 2: Conceptual framework principal impacting factors of climate change.**

**(Source: Ward et al., 2016.)**

# Findings Cont'd

- Climate change has contributed to mangrove loss and this impacts greatly on the sustainable livelihoods of locals.
- Viz
  - Cost of fish/protein deficiency/income reduction.
  - Temporary/permanent displacement due to flooding
  - Increased health risks

# Challenges

- Serious gap regarding information on climate change impacts in West Africa esp. as it relates to mangroves
- Inadequacy of relevant and stringent policies
- Weak legal framework and poor implementation

# Possible Solutions

- Research and data gathering using modern technology
- Designation of mangrove protected areas
- Regaining flooded mangroves; afforestation, coastal engineering etc.



# Possible Solutions Cont'd

- Enlightenment campaigns to ensure participation
- Establishment of mangrove nurseries
- Improvement of local management (EBA, CBM)
- Attention to vulnerability of coastal population

# Conclusions

- There is an urgent need to intensify efforts towards ensuring positive actions for mangrove biodiversity and sustainable livelihoods
- This should be undertaken by relevant authorities and stakeholders to encourage adaptation and mitigation, if mangrove biodiversity and sustainable livelihoods are to be ensured

Thanks  
for  
Listening