The increase of flood risk due to sea level rise scenarios: a case study of Mass. counties

By Said Douai
Fall 2006
GGR 903
Professor Luna Marcos

Research question

- In the case of sea level resulting in a flood which counties in Massachusetts will be more affected?

Significance of the project

- Understand the relationship between sea level rise and flooding
- Understand the flood risk
- The use of DEM in the analysis

Introduction

- Flooding: linkage with other issues
  - climate change
  - rising sea levels
  - glaciers melting
- Impact of flooding: economic and environmental
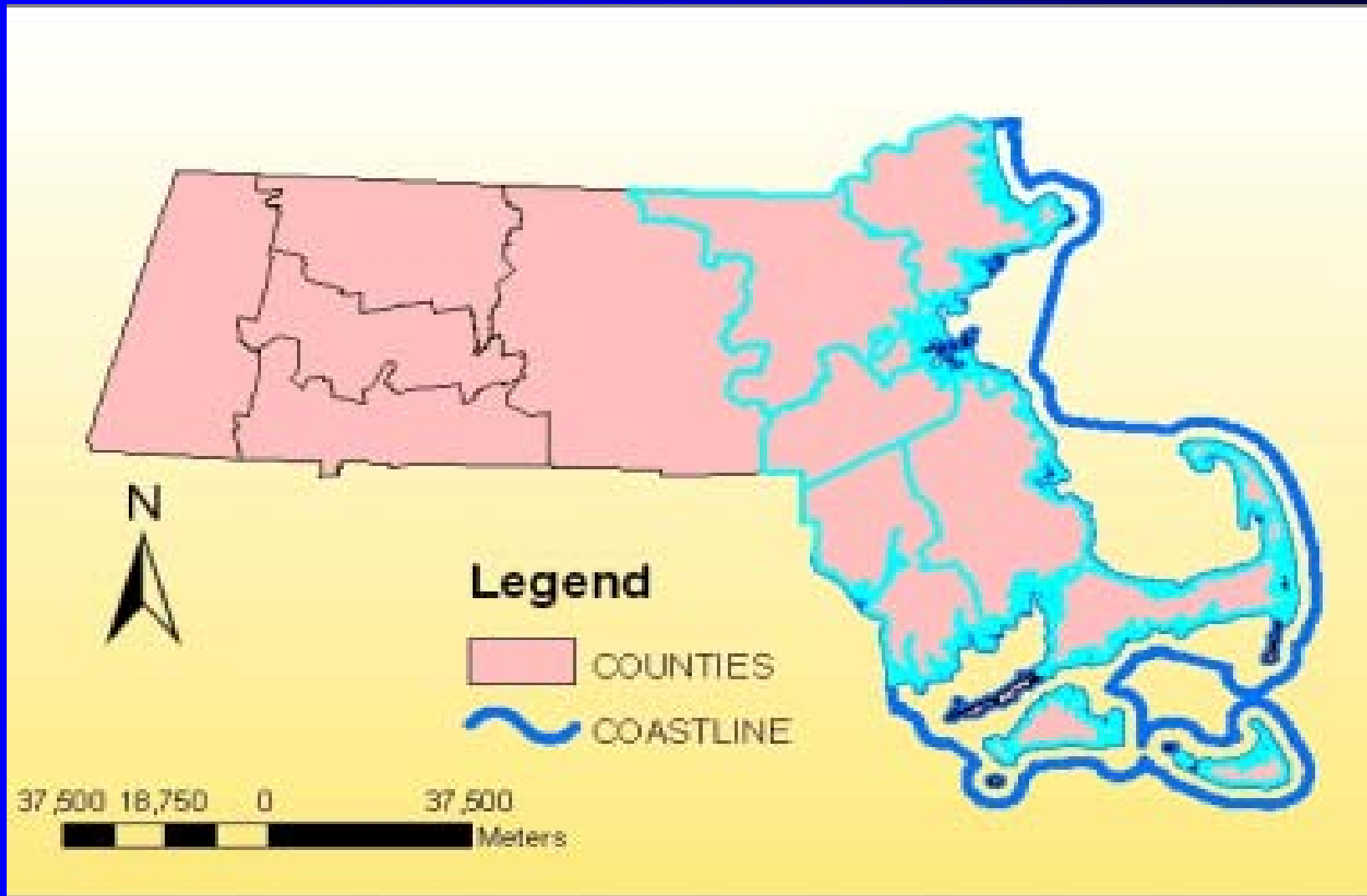- Digital elevation model:
  - determine the effect of flood

Previous research

- Climate change and sea level rise
- Sea level rise and coastal flood
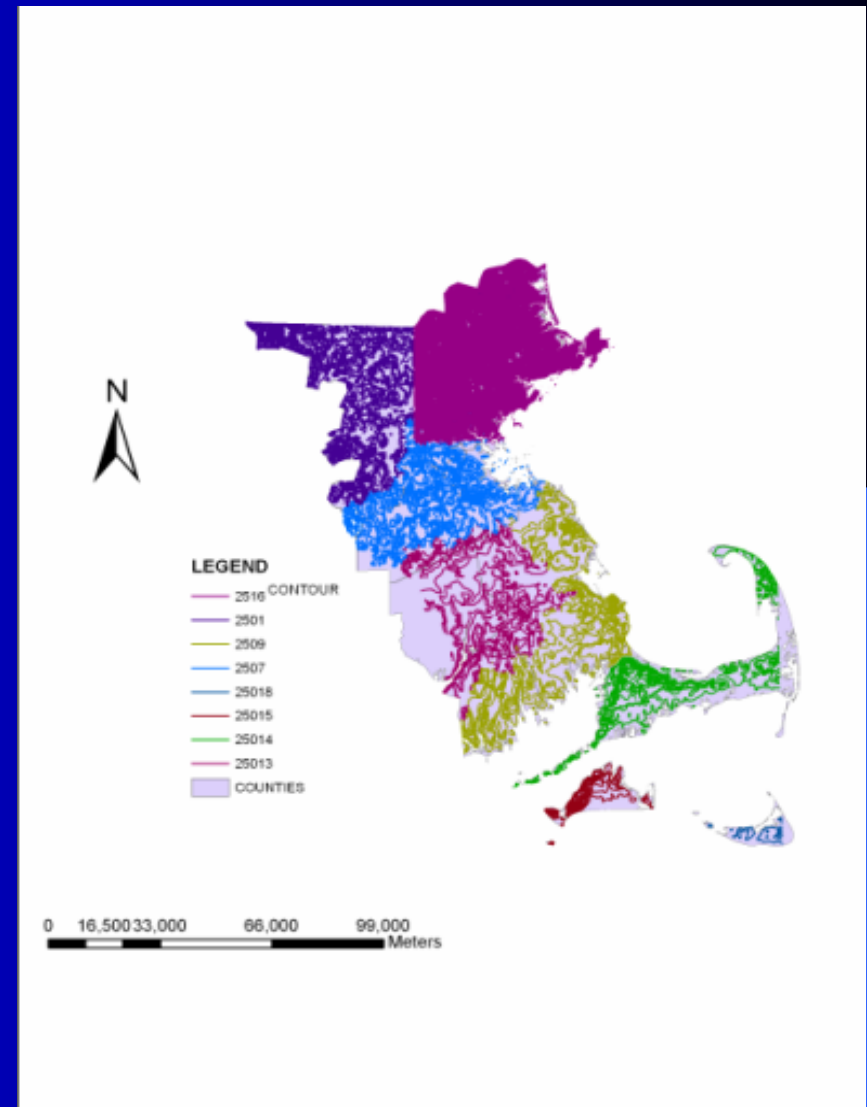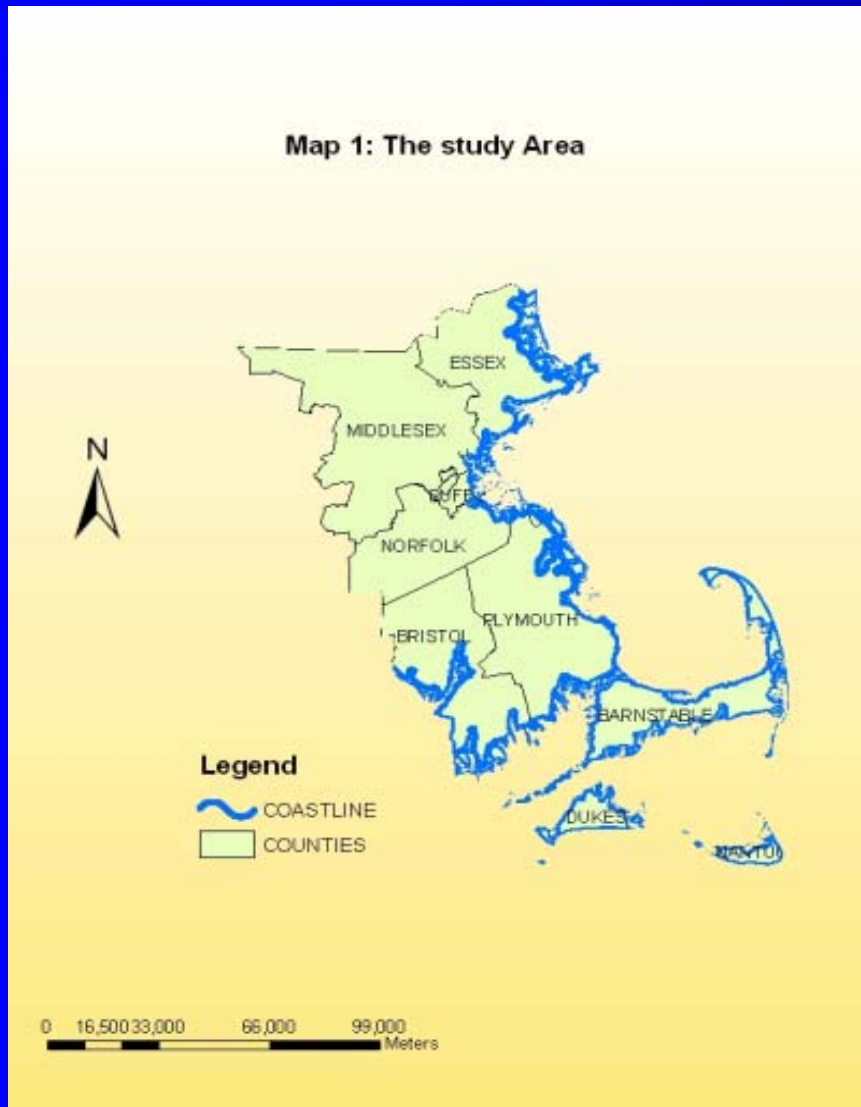- Study area

Research design

- Data collection and organization
- Data visualization and analysis
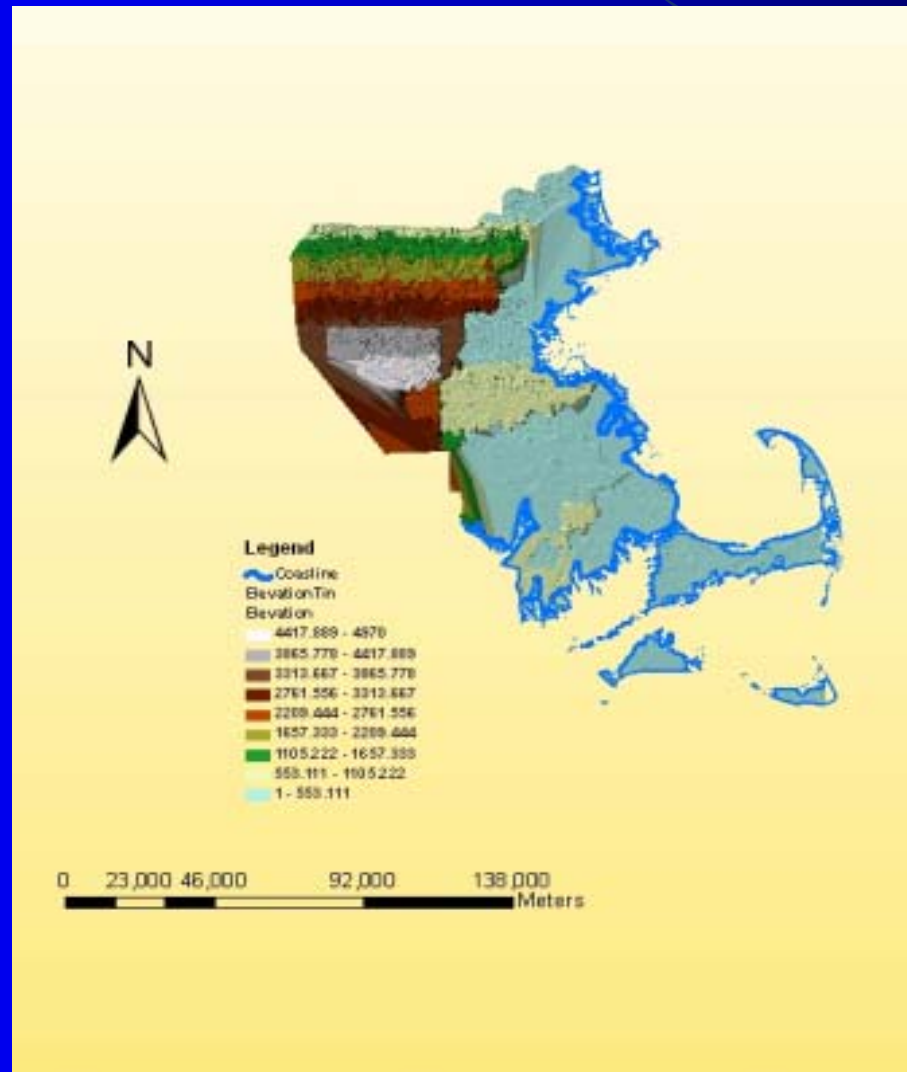- Data findings

Map 1: location of the study area

Map 2: my area of concentration

Map 3: study area in tin format

Map 4: study area in raster format

Map 3: Study Area in raster Data (DEM)

N

Legend

Coastline

DEM

Value

High : 4967.733398

Low : 1.000000

0   16,50033,000   66,000   99,000
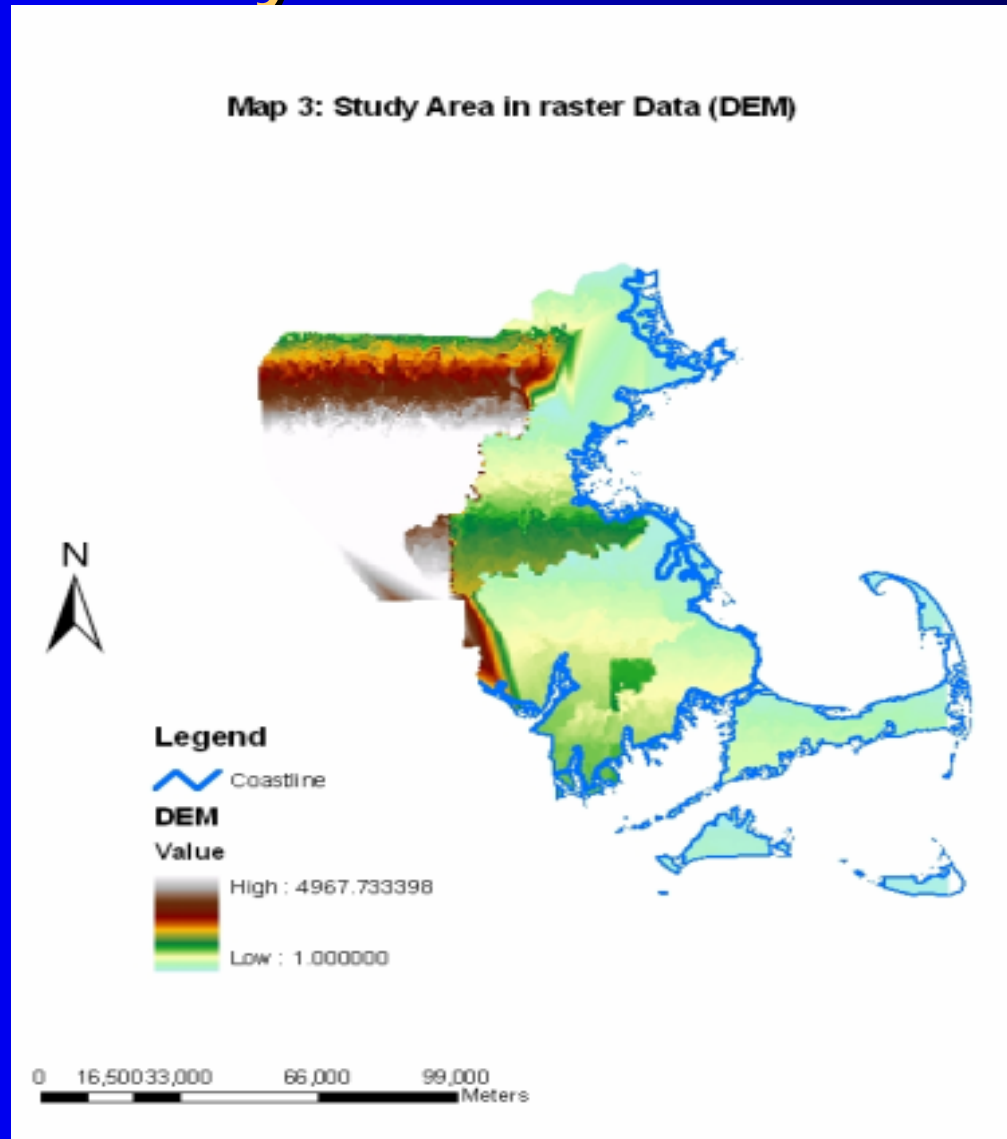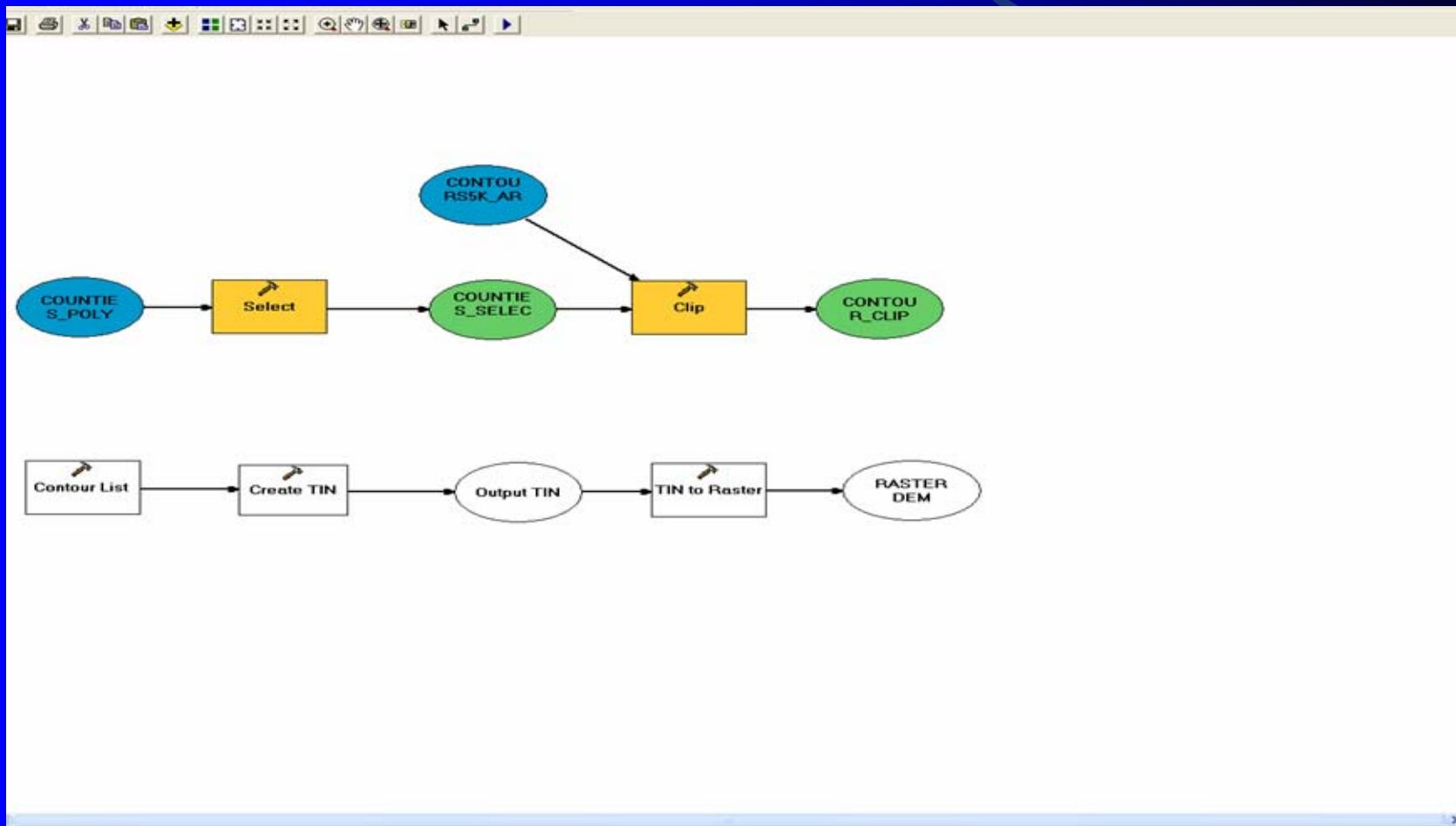   Meters

Figure 1: model building all my maps

Findings

- Sea level rise scenarios
- Flood risk
- Coastal flood
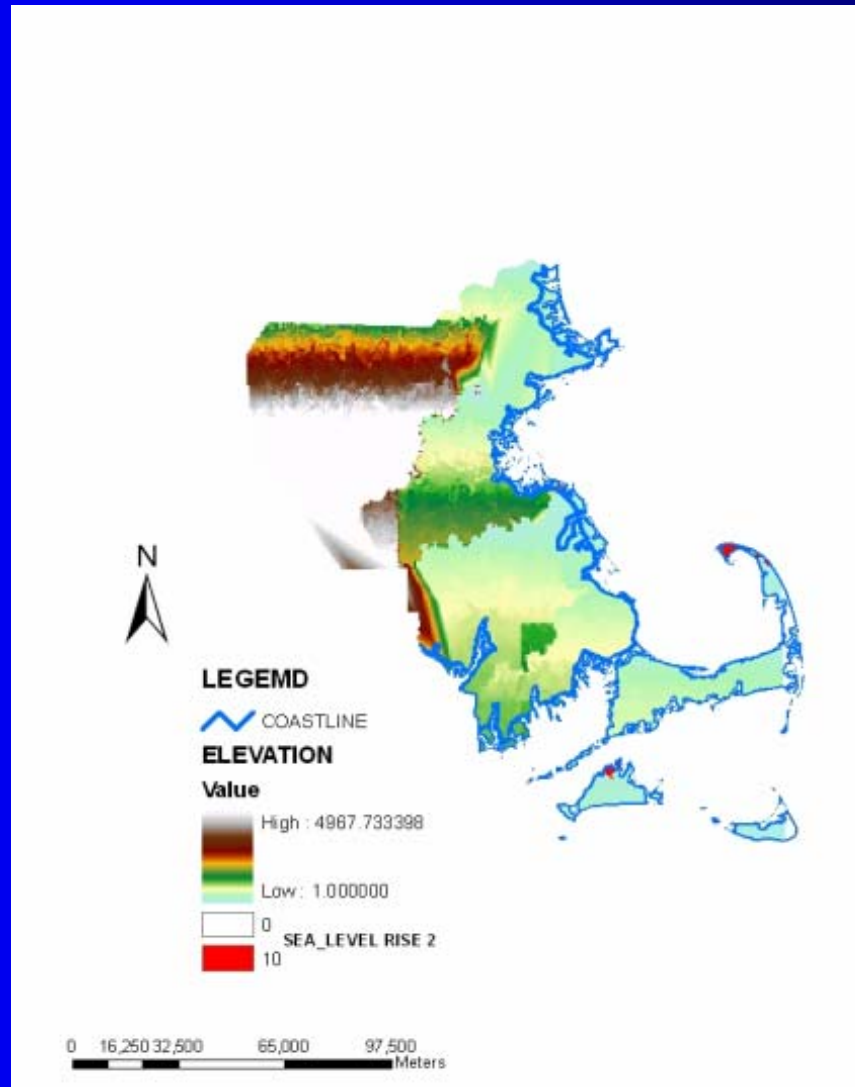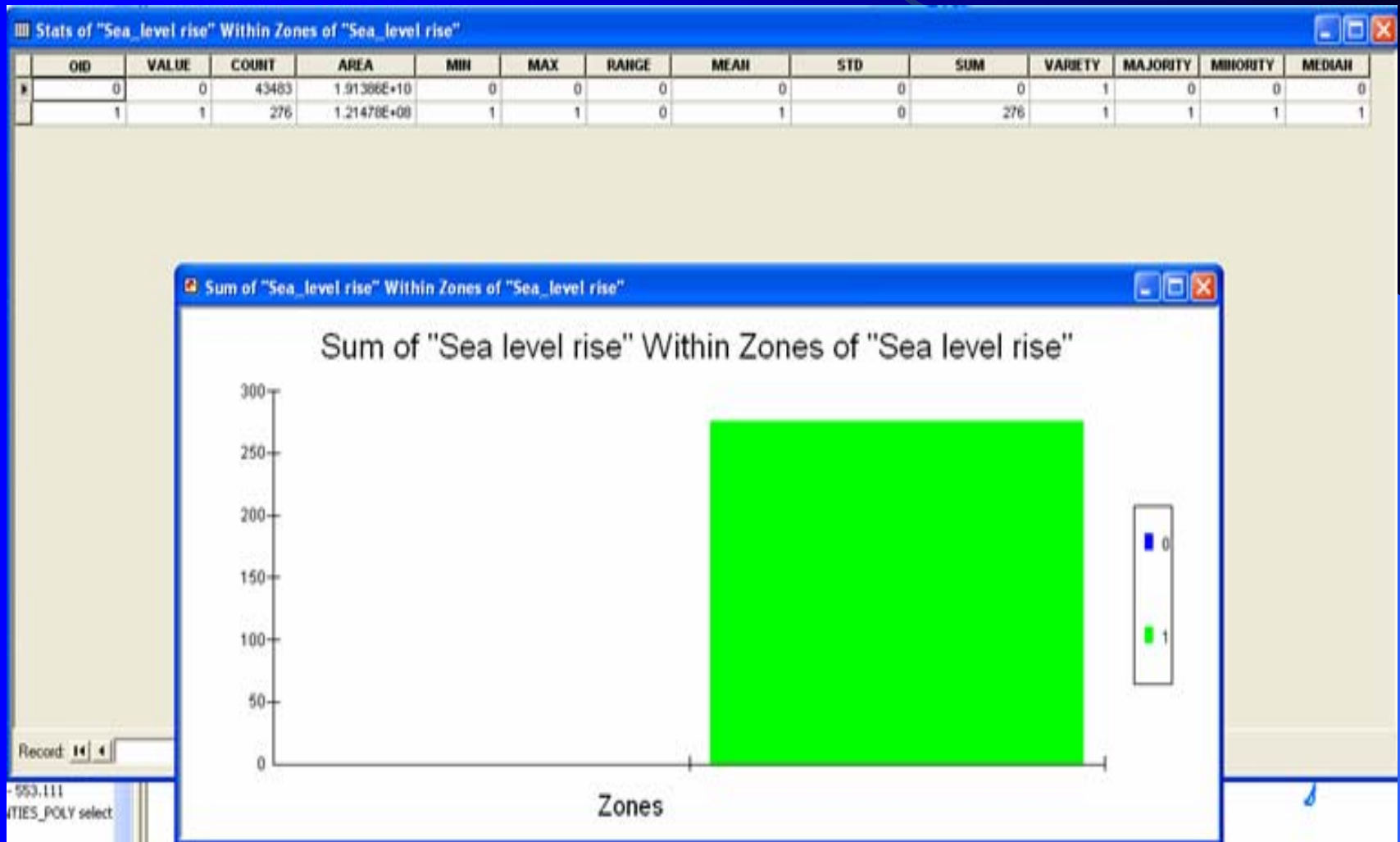- System problem

Map 5: sea level scenario 1

Figure 2: sum of sea level rise within zones

Map 6: sea level scenario 2

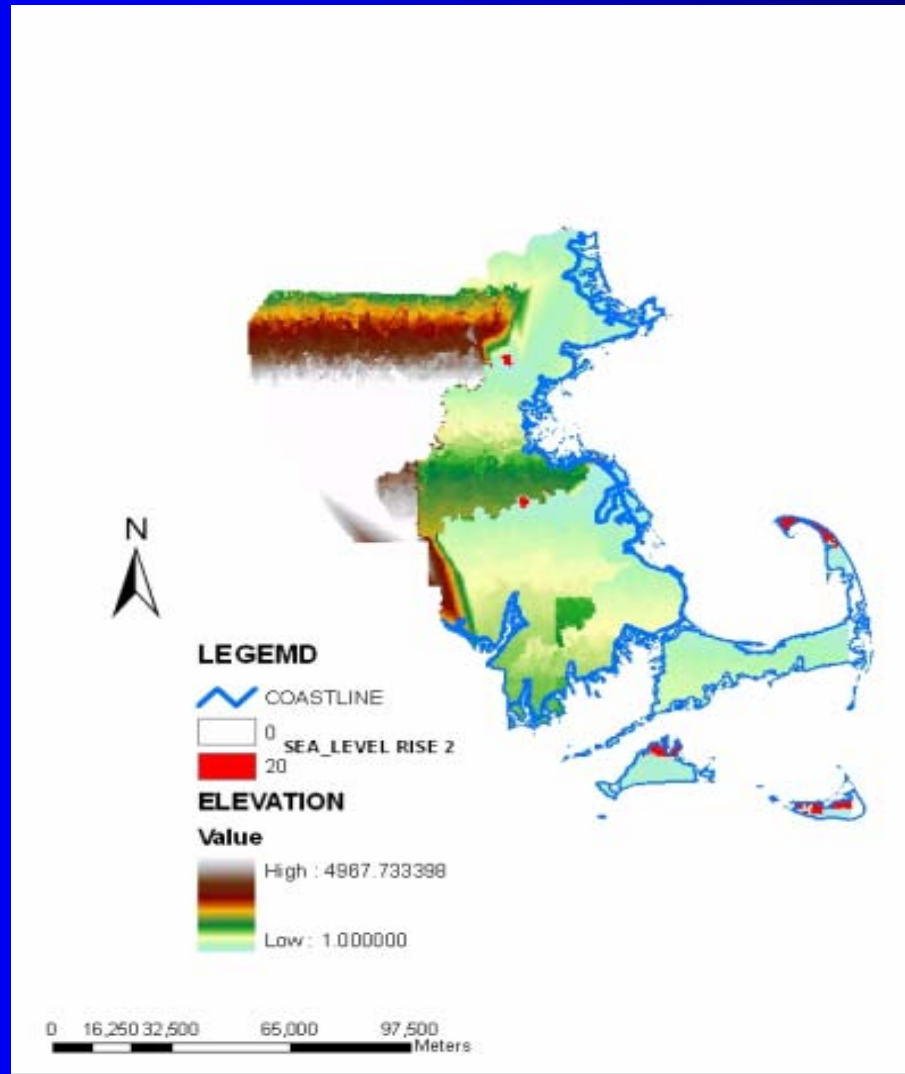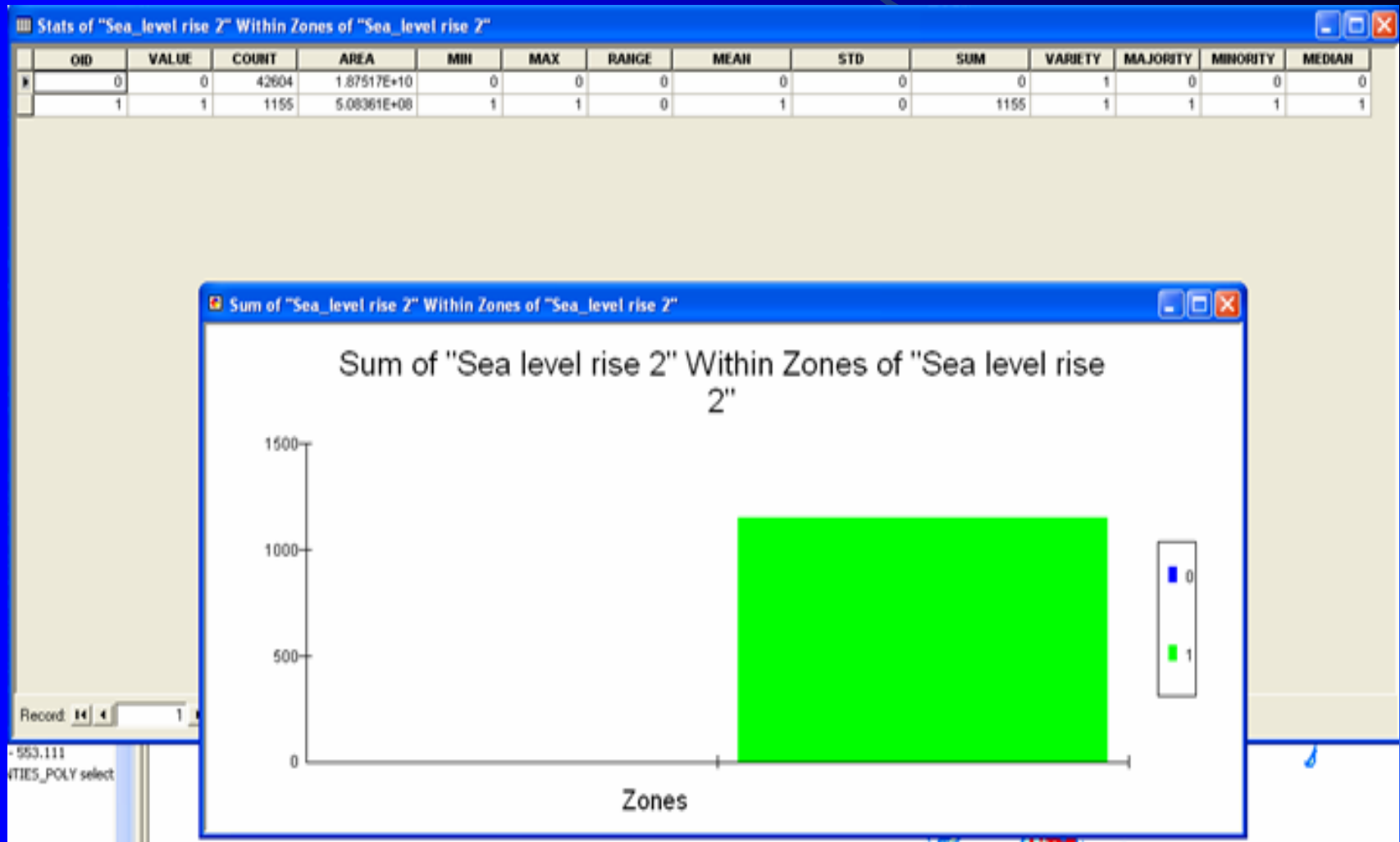# Figure 3: sum of sea level rise within zones

Recommendations

- Policy response
- Planning strategies