Attachment F

Presentation of Questions 5 and 6; Steve Gill, NOAA

Question 5

What are the potential impacts of sea-level rise on the coastal floodplains?

What issues would FEMA, coastal floodplain managers, and coastal communities face as sea level rises?

Question 5

Chapter 2: Regional Assessment of Trends, Exceedance Probabilities, effects of Sea Level Rise on Storm Tides

Question 5 – A Qualitative Synthesis and Assessment

- What are the potential impacts of sea-level rise on the coastal floodplains?
  - Generic discussion of floodplain characteristics and responses
  - What are the issues that FEMA must face if given a scenario of sea level rise?
  - How do we capture or map potential impacts of sea level rise on the coastal floodplains?
- What is the current process for mapping and regulating our nation's floodplains?
  - Overview of the National Flood Insurance Program
  - The FEMA floodplain mapping process
  - Review of "Effects of Sea Level Rise on the National Flood Insurance Program" FEMA, 1991.

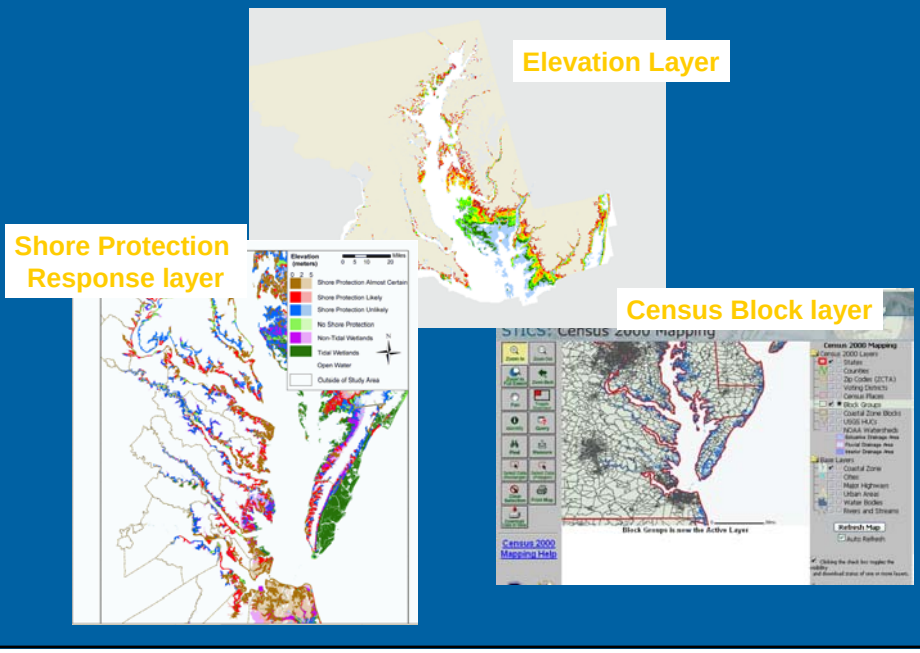
Question 5 – A Qualitative Synthesis and Assessment

- Overview of state coastal zone manager responses to the Coastal Zone Enhancement Program – Section 309 of the Coastal Zone Management Act
  - What is the general level of risk from specific coastal hazards (including sea level rise)?
  - Have there been significant changes to the state hazards protection programs?
  - Does the state need to direct future public and private development and redevelopment away from hazardous areas?
  - Does the state need to preserve and restore the protective functions of natural shoreline features such as beaches, dunes and wetlands?
  - Does the state need to prevent or minimize threats to existing populations and property from both episodic and chronic hazards?
- The state coastal zone managers are a targeted group for the regional stakeholder meetings later in 2007 and their input will be critical to creating the expert review draft from the stakeholder review draft.

Question 6

What are the population, infrastructure, economic activity, and value of property within the area potentially inundated by rising sea level given alternative levels of shore protection?

Question 6 will be answered using a GIS analysis approach



Question 6 – Approach

- Classify the Census Blocks by Protection Category
  - the percent of the block within a certain elevation,
  - the percent of the block within a shore protection category,
  - and the percent of a block that is both within an elevation and a shore protection category.
- Determine Dominant Protection Category
  - Exclude all open water, tidal wetlands, and nontidal wetlands.
  - Calculate the percentages of the blocks within each shore protection category (without regard to elevation)
  - Classify the blocks as follows, in the order, that is, each step only considers the blocks that have not already been classified.
    - More than 90% “certain”; More than 20% likely and more than 20% certain; More than 5% certain
    - More than 90% likely; More than 5% likely
    - More than 90% “unlikely”; More than 5% unlikely
    - More than 40% “no protection”
    - Other—everything else.

Question 6 – Approach (Jim – please complete)

- The increments of elevation needed to provide error bounds. We will need to report ranges, to represent the vertical error of our data. That error varies by location.
- High and low estimates will be made using the high and low Digital Elevation maps.

Question 6 – Tables to be in the Report

- Block Data. Most likely, for each state, we will have a table of total population in the vulnerable area, by county, for 50, 100, and 200 cm SLR—with a range in each case based on the quality of topographic information and the range of methods.
- Tract data. We will also have a table of value of structures following the same format. That table might be split into several multi-county tables, however.
- Land use: We will have a statewide table that shows land use by shore protection category, for a one meter rise. We would include error bars as before.
- Scenarios. We will have a statewide table that shows land by shore protection category by sea level rise, with the same error bars.
- We will also have a table showing shore protection area by county, for a one meter rise. That table might be split, however, into a few multi-county tables that are spread throughout the chapter.

Case Study: Highlight NOAA Effort in North Carolina

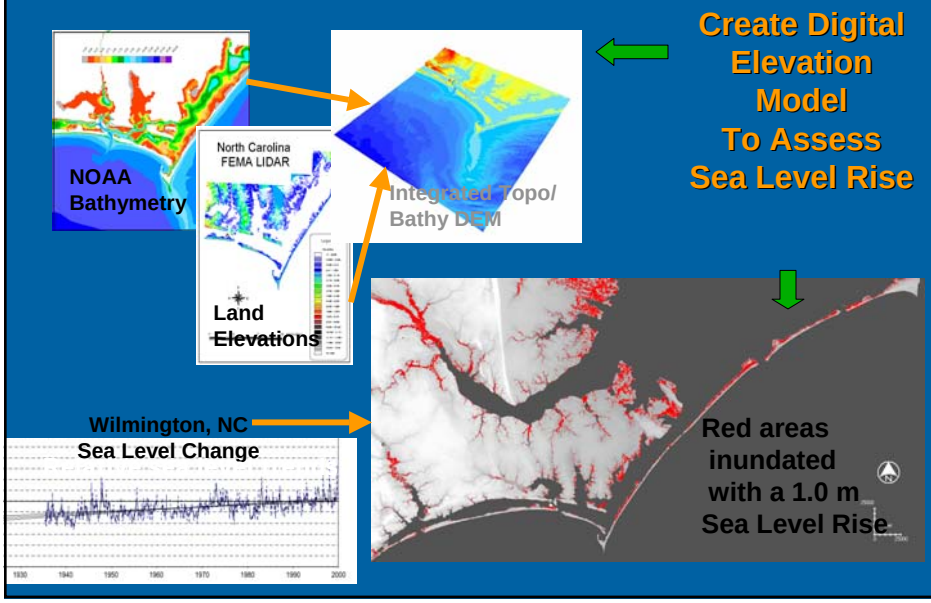
- Study led and funded by NOAA National Centers for Coastal ocean Science

NOAA/NCCOS role is to develop ecological models

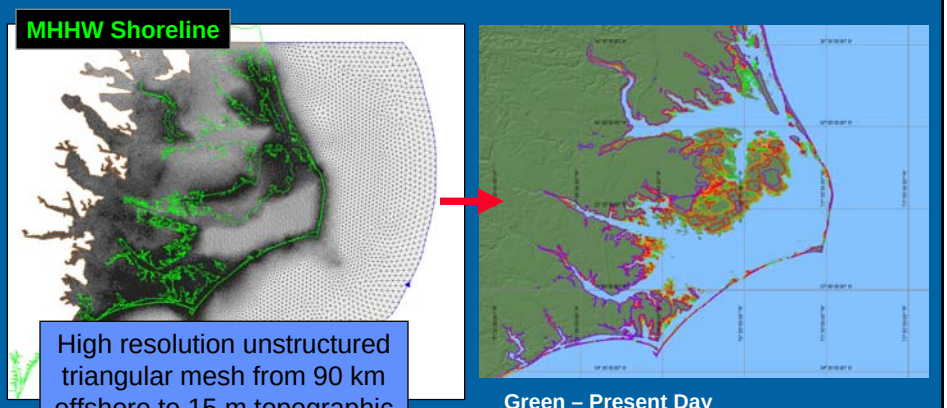
- Technical advisory committee
- Workshop of scientists and managers
- White paper
- Federal register notice for FY2004 funding- cooperative agreements
- Competitively funded: 3 proposals funded:
  - East Carolina University
  - UNC Institute of Marine Science (Beaufort Lab)
  - University of South Carolina/Vanderbilt
- CCSP 4.1 Authors are involved in this project as well (Donald Cahoon, USGS; Mark Brinson, East Carolina Univ.)

CCSP 4.1 Featured Case Study: North Carolina Sea Level Rise Project

NOAA National Centers for Coastal Ocean Science



NOAA - NC Coastal Flooding Model – Preliminary results



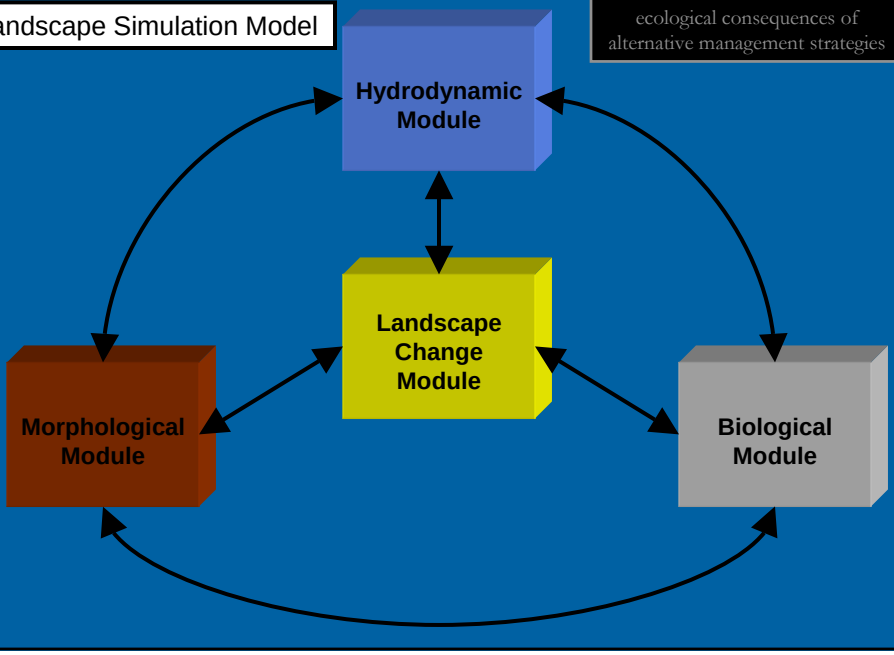
High resolution unstructured triangular mesh from 90 km offshore to 15 m topographic contour

Green – Present Day
Orange – 25 cm SLR
Red – 50 cm SLR
Purple – 100 cm SLR

NOAA North Carolina Study

Landscape Simulation Model

Purpose: provide ecosystem-scale forecasts that include the ecological consequences of alternative management strategies



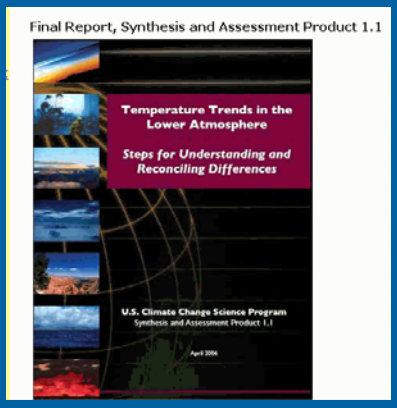
"NOAA is responsible for setting up and hosting ... three [meetings] to be held at suitable locations in the mid-Atlantic regions to provide stakeholder input to the authors…"

Synthesis and Assessment Product Stakeholder Meetings

- **Purpose**
  - **To present the stakeholder draft of the report to targeted regional stakeholders (coastal zone management community, coastal engineering community, etc..) and the general public**
  - **To discuss the report content among the contributing authors and the community, look for additional information and ideas to improve the product, and obtain feedback for the next draft**
- **Schedule**
  - **Three workshops- Tentative schedule:**
    - **Easton, MD – June 5 2007**
    - **Red Bank, NJ - June 12 2007**
    - **Plymouth, NC – June 25 2007**
  - **Each work shop is 3/4 day followed up with an author meeting on the next day**

"NOAA is responsible for managing the compilation and production of the Final Report."

Example of "look and feel" of the Final CCSP Product



Use of NOAA Resources for Getting CCSP SAP Reports Published

- Editing Services
- Graphics
- Layout/Design
- Password Protected Development Web Site
- Printing

SAP Product Development Web Site

- 3.3 Home page
- Link to the main CCSP home page