Adaptation Strategies
Working With Local Communities

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Take Home Message 1

- Listen, Listen, Listen!
- Use Social Scientists!
- This is an iterative process.
- It is going to take time.

Basic Steps Community Engagement

- Listen, Listen, Listen (with the social scientists)
- You think you understand
- Prepare and present possible options
- You did not get it 100% correct
- Listen, Listen, Listen (with the social scientists)
- Ah! You think you understand better
- Prepare and present revised possible options
- Still not 100% there but getting closer
- Repeat as needed starting with Listen, Listen, Listen

Basic Steps
Community Engagement

Who should be on your listening TEAM?

- Social scientists – I especially like anthropologists.

- Climatologists

- Depending on whom you developing adaption plan with: city planners, agricultural extension agents, marine extension agents, natural resources and forestry extension agents, community leaders, religious leaders, etc.

Basic Steps
Community Engagement

What are some of the initial questions?

- What are your biggest weather/climate concerns today?
- When are these events an issue?
- How are these events impacting the community?
- Where are these impacts of most concern? Please show me on the map.
- Who is being most impacted, how and why?

All of these questions are about the current who, what, when, where, and how of impacts.

It is extremely important to start with the community concerns and where they are now!

Basic Steps
Community Engagement

Now that the basic who, what, when, where, and how concerns are know, we can move onto to present attempts to manage these concerns.

- How is the community managing these current weather/climate concerns?
- What is working?
- What changes would make the system work better?
- What is not working?
- What changes are necessary to make it work?

It is extremely important to start with the community concerns and where they are now!

Basic Steps
Community Engagement

Now that we have a basic understanding of the current concerns and what the community is doing to manage these concerns, we can move into the future. But first, what are the perceptions?

This is where having the climatologist with local knowledge is important.

- Tell me about some memorable weather/climate events in your life.
- How did you respond?
- Are these events becoming more or less common or about the same?

It is extremely important to start with the community concerns and where they are now!

Basic Steps
Community Engagement

Now the future – it takes a long time to get here.

- If this event (the event of greatest concern) was to become more (less) common, what would be your biggest concern?

- What is the most important thing to preserve in this community for the future?

- How would any changes in the change in occurrence of these events change the community in a positive or negative way?

It is extremely important to start with the community concerns and where they are now!

Major Issues for Savannah and Chatham County

- WATER – too much
- WATER – too little
- WATER - too expensive (more people, same amount)
- WATER – poor quality
- **Estuarine** health impacts on Marine Fishing
- **Estuarine** health impacts on Tourism
- **Estuarine** health impacts on Quality of Life

INDIRECT EFFECTS MAY BE MORE IMPORTANT THAN THE DIRECT EFFECT OF GLOBAL WARMING!

How Well Does Savannah and Chatham County Handle Population Growth?

- Water
  - Flooding – current flooding and increased frequency and severity with sea level rise
  - Drought – impact on saltwater intrusion
  - Need for more water for more people (wind power for desalination)

- Transportation and urban sprawl
  - Sprawl - more expensive infrastructure maintenance, - government cost
  - more expensive cost of living – individual
  - Decreased quality of life
  - Loss of Savannah's charm
  - Impacts on estuarine health

Take Home Message 2

1. The incremental cost of infrastructure improvement to handle future growth and climate variation is usually minimal compared to the total cost of the project.

2. Adaptation is an on going process that will take years – it does not need to be done all at once – make it part of routine planning, infrastructure maintenance and improvements.

Mitigation & Adaptation Have different terminology

Mitigation

- Copenhagen
- Cap-and-Trade
- VMT
- CAFE standards
- 83% Below 2000 Levels
- Sequestration

Adaptation

- Sea-Level Rise
- Strong Storms
- Wildfires
- Flooding
- Drought
- Heat Waves

MITIGATION & ADAPTATION HAVE DIFFERENT ISSUES

Mitigation

- International and national scale
- Policies, regulations, treaties
- Early attention reduces costs
- "No regrets" for local actions

Adaptation

- Local scale
- Actions
- Can be phased in over time
- Incremental costs for **planned** local actions

ADAPTATION

Local plans to meet local needs

How Well Prepared is Savannah and Chatham County to Handle Climate Impacts?

- Sea level rise (regardless of the cause)
  - Urban sprawl blocks migration of barrier islands and estuaries – your natural defense from hurricanes
  - Flooding of developed areas
  - Loss of historic sites

- Hurricanes
  - The Georgia coast has been extremely lucky for more that 110 years
    - 6 major hurricanes struck Georgia in the 1800s
    - The South Atlantic Bight does not protect coastal Georgia
    - The Georgia coast is the most storm surge prone region in the eastern United States
  - The category 3 flood maps for Chatham County have me scared – I don't need the category 4 or 5 maps to scare me.

Adaptation in Coastal Georgia

- Rising temperatures
  - Especially at night
  - Loss of tree canopy (higher A/C costs)
- Extreme weather events
  - More heat waves – night is a major concern
  - More heavy rain events
  - Longer droughts (especially because of warmer winters)
  - More and or stronger storms?

Adaptation: Win-Win Situation

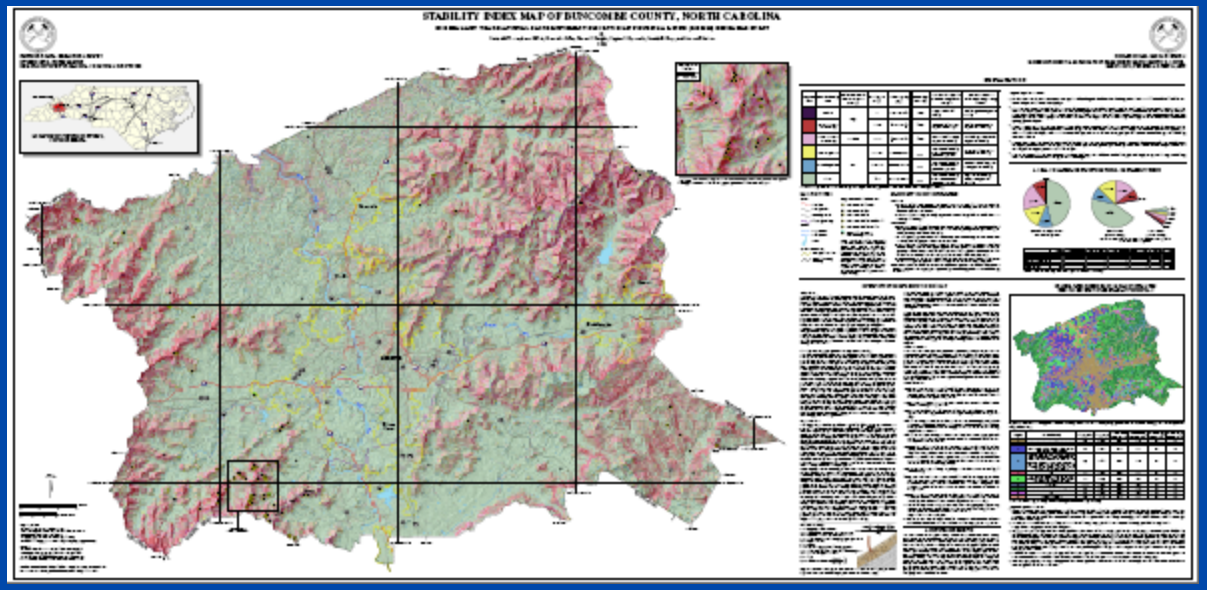
Benefits of a compact urban form

- Less pollution, shorter commutes, more traveler convenience, less expense
- More transportation options
- Cheaper to serve with infrastructure, public services
- Utility cost savings
- Better suited to smaller household trends

DEVELOPMENT PATTERNS

Concentrating development in low-risk areas

NOAA image



NCGS image

Transportation

- Longer runways
- Road construction and maintenance
- Port access (e.g., SLR and Great Lakes water levels)
- Storm surge hardening
- Extreme weather events

Infrastructure

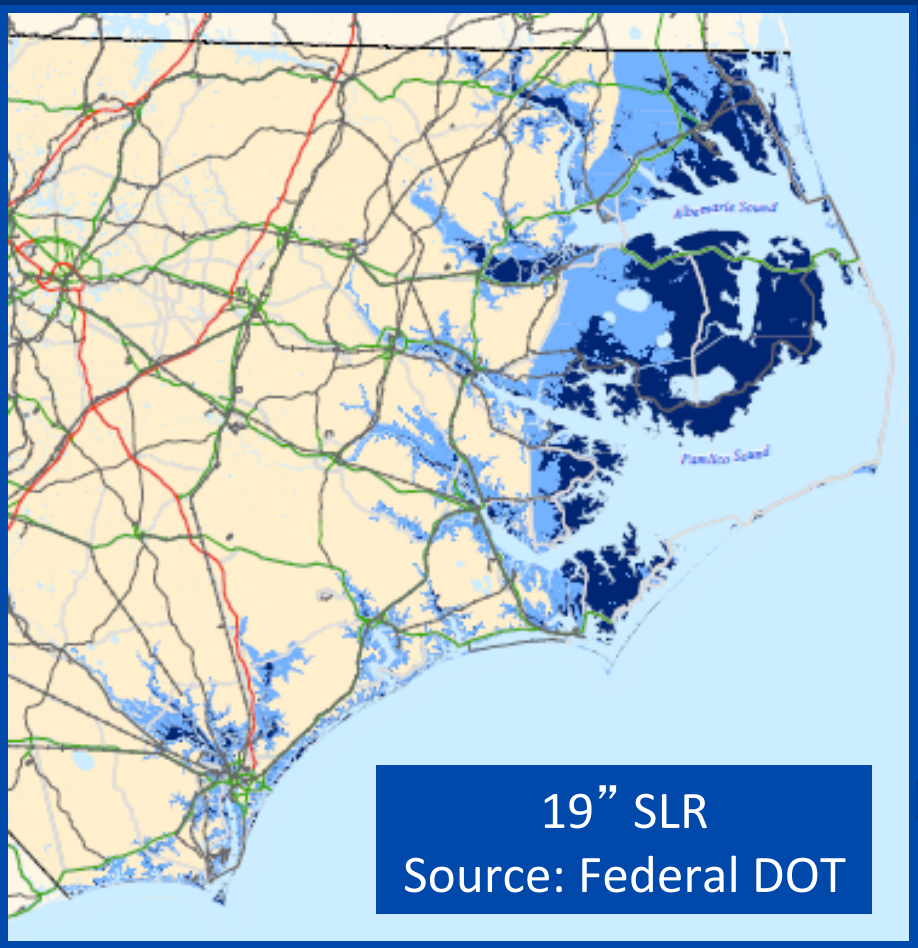
Infrastructure Design

The Confederation Bridge

www.confederationbridge.com/en/

Infrastructure

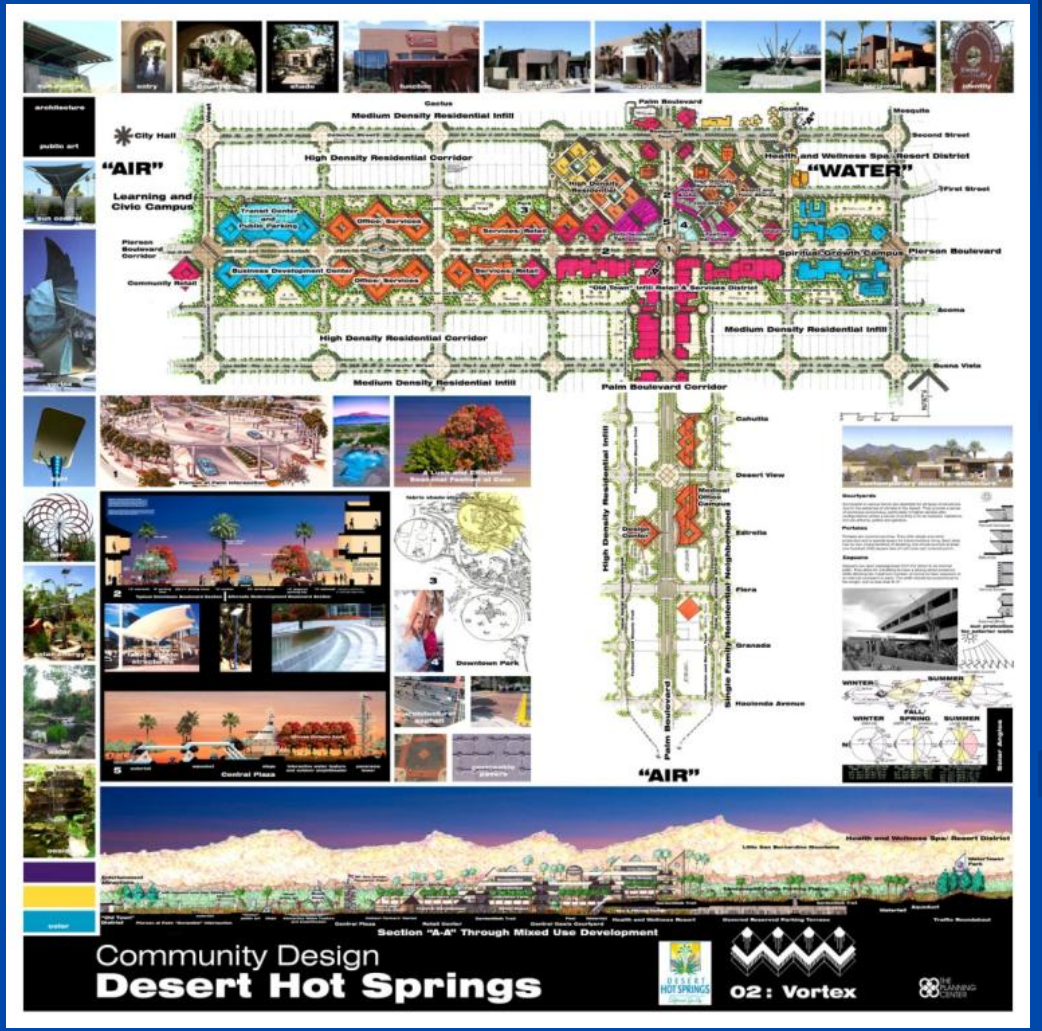
Infrastructure Maintenance



A climate ADAPTATION winner

Desert Hot Springs, CA

- 120 degree summers
- Seasonal sustained winds of 60 mph
- "Bioclimatic" approach



Many of the slides on climate adaptation are compliments of Scott Shuford, AICP – Planning and Development Director for Onslow County, North Carolina.

PLANNING FOR A NEW ENERGY AND CLIMATE FUTURE

APA and EESI, in collaboration with NOAA and the University of North Carolina Asheville, are publishing a Planning Advisory Service Report to provide planners with information and practical tools and techniques to address our energy and climate future.

APA

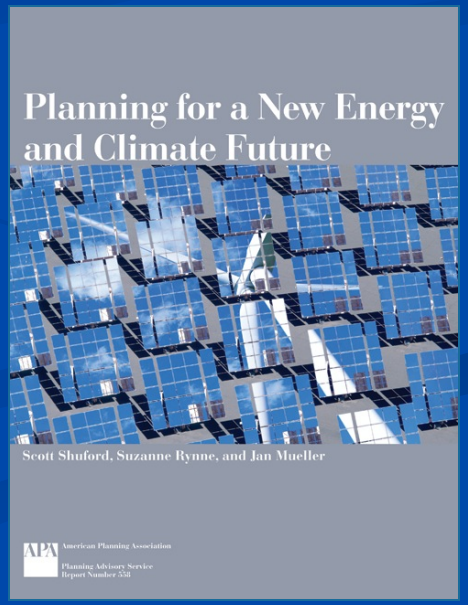
Advancing Innovative Solutions Since 1984
EESI

National Oceanic and Atmospheric Administration
NOAA
U.S. Department of Commerce

University of North Carolina
Asheville

PLANNING FOR A NEW ENERGY AND CLIMATE FUTURE

- PAS Report – Collaborative effort
- Funding support from Surdna & George Gund Foundations, ENRE Division & NOAA
- Help planners incorporate energy and climate change considerations into their work
- Assist communities and regions to
  - Reduce energy use & GHG emissions
  - Adapt to a changing climate
  - Transition to renewable energy



PLANNING FOR A NEW ENERGY AND CLIMATE FUTURE

- Topics covered
  - Climate change vs. climate variability
  - Uncertainty
  - Regional variability in impacts
- Scientific sources
  - IPCC FAR
  - Global Climate Change Impacts in the US

PLANNING FOR A NEW ENERGY AND CLIMATE FUTURE

More information about the report and about energy and climate change can be found at:

www.planning.org/research/energy/

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