Climate Adaptation

Tidewater Rising Resiliency Design

Troy Hartley, Virginia Sea Grant & Virginia Institute of Marine Science
Skip Stiles, Wetlands Watch

Resiliency Design Project

- R&D Project (Phase 1: 2014-15)
  - Designing a resilient urban shoreline, historic district, low to mid-income minority community
  - Design to protect and expand ecosystem services too, *before* a disaster
  - Workforce development

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Resiliency Design Project

- Partners
  - Wetlands Watch
  - Hampton University, Architecture Dept.
  - Old Dominion University, Engineering
  - Hampton Roads Green Building Council
  - Hampton Roads Planning District Commission
  - Virginia Institute of Marine Science

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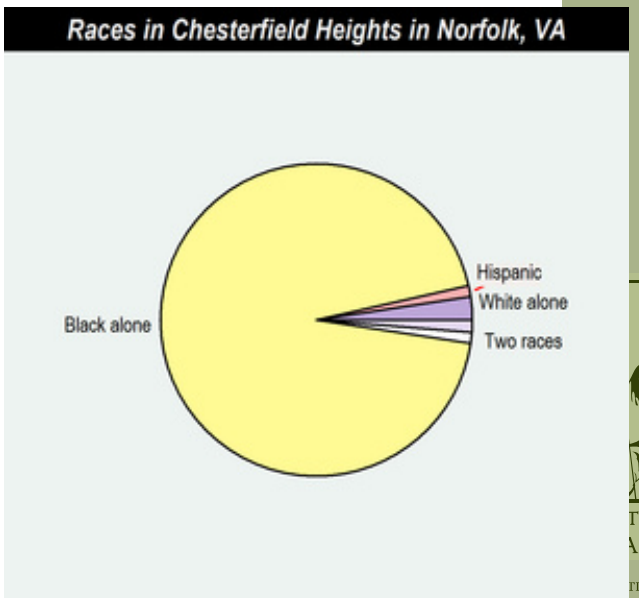
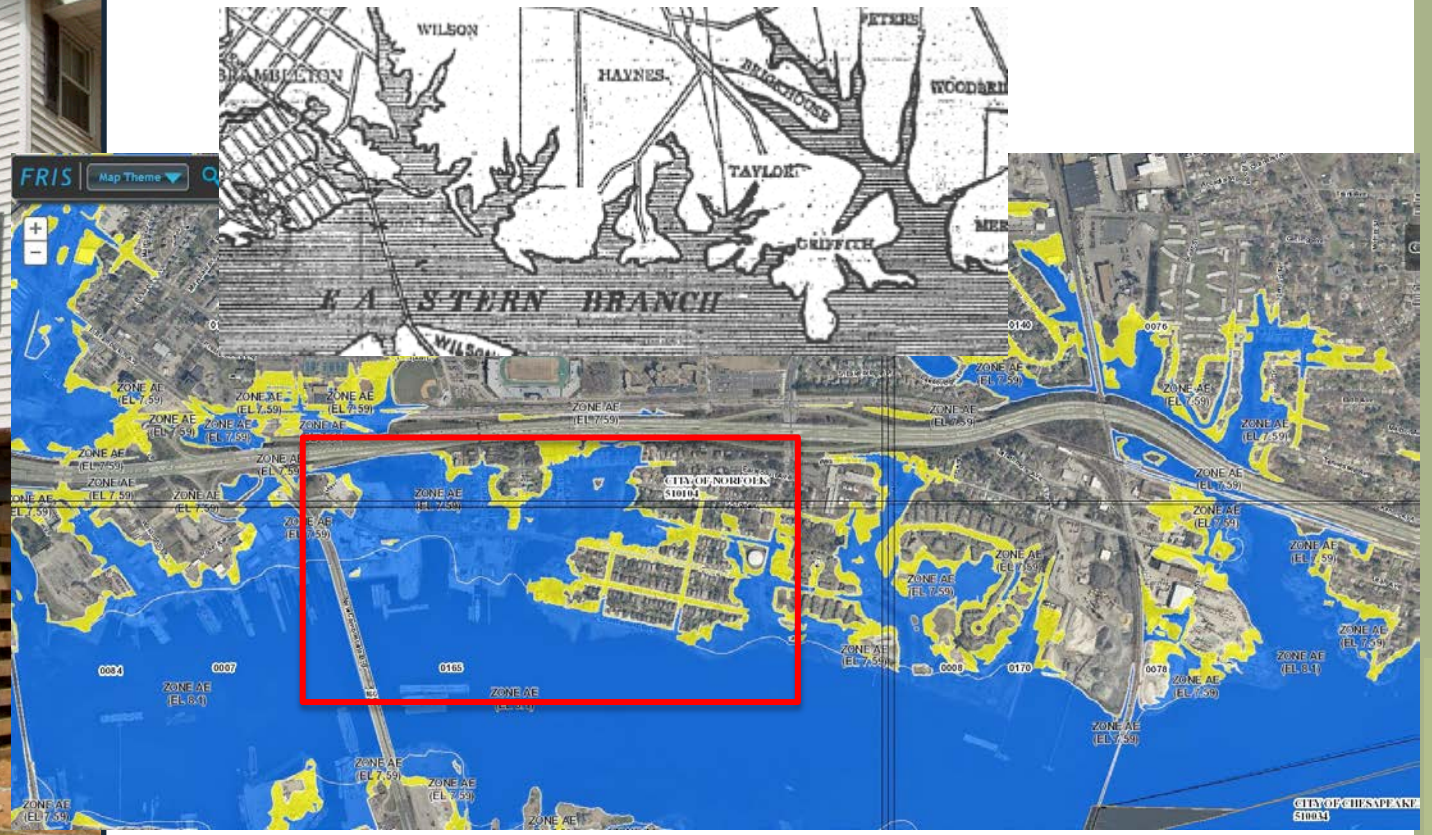
Resiliency Design Project

- Chesterfield Heights (Norfolk)
  - Median household income $32,275 ($43K)
  - 28.6% single-mother households (14.9%)
  - Avg home values $162,937 ($316.5K)
  - 41.6% of pop below poverty line (19%)
  - Nuisance flooding
  - Shoreline erosion
  - Flood insurance: $3,800/year



Resiliency Design Project

- Chesterfield Heights, Norfolk



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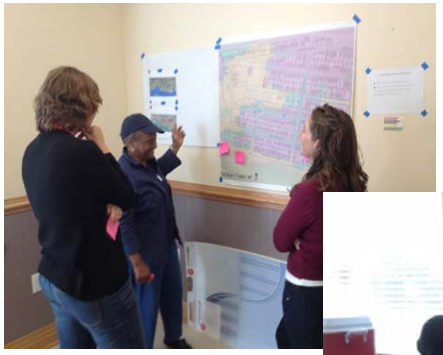
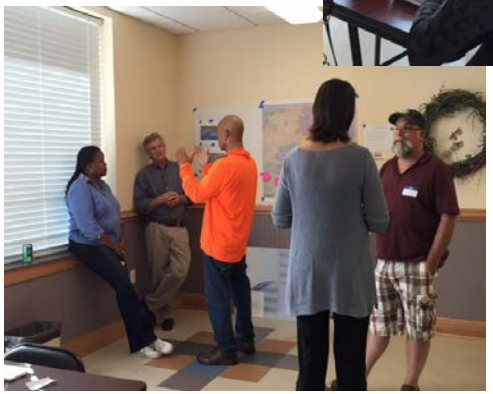
Resiliency Design Project

- Implementation





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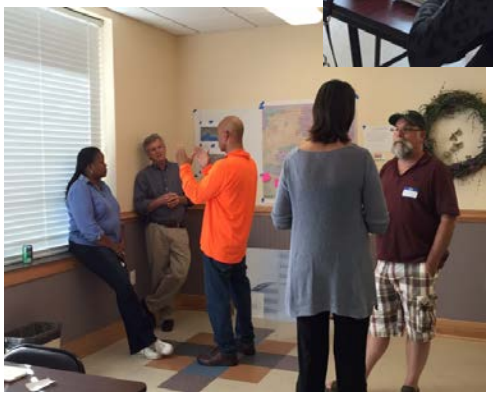
Resiliency Design Project

- Implementation

Community Profile:

- **Flooding observed and its impact**
- **Community values to be maintained**



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Resiliency Design Project

- Implementation—research
  - Role of state historic preservation tax credits?
  - Eligibility for living shoreline grants from American Society of Landscape Architects?
  - Legal ownership of shoreline?
  - Groundwater table?
  - Ground-truthing ap

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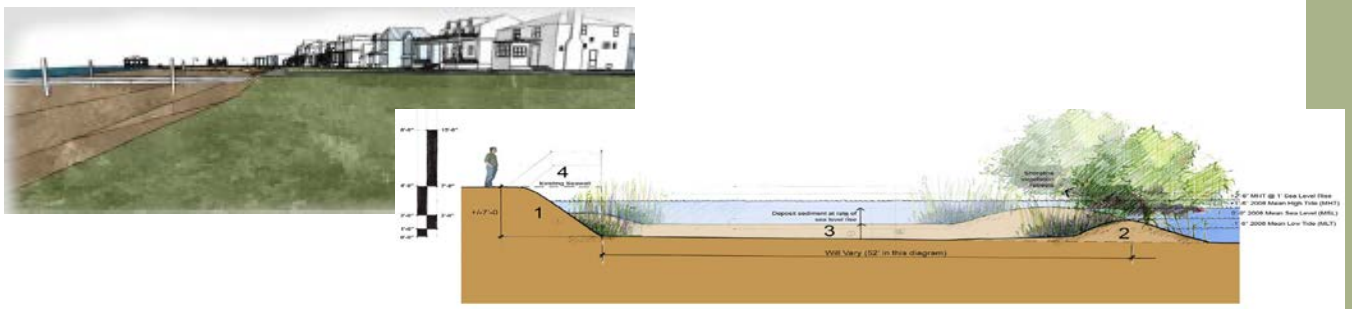
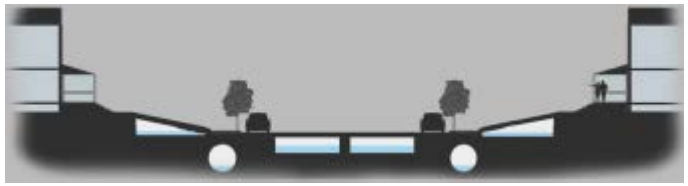
Resiliency Design Project

- Implementation—Options
  - Living shoreline



  - Under street cisterns



  - Raising houses

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Resiliency Design Project

- Implementation—iterative
  - Engineers, HR Green Building Council, private sector volunteers
  - Virginia Coastal Policy Clinic
  - Finance, banking

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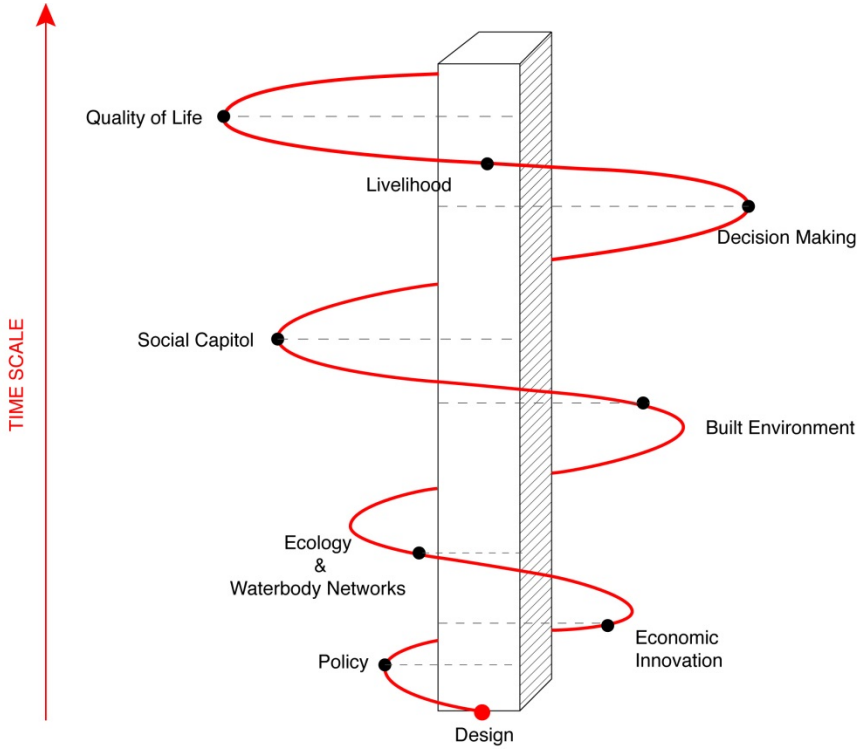
Resiliency Design Project

- Implementation—iterative



➢ Community-dialogue

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Resiliency Design Project

- Implementation—hub for economic innovation
  - Flood Mitigation HR – cannot keep up with the demand or workforce
  - New Orleans – added 2,800 water management jobs 2011-2013
  - Dutch – ~4% of GDP
  - Virginia Society American Institute of Architects (AIA), Emerging Leaders in Architecture (ELA) program

Resiliency Design Project

- Implementation—Nested
  - Norfolk – Rockefeller Resilient City
  - HR Adaptation Forum – Tidewater
  - VA Governor's Climate Commission
  - Whole of Government/Whole of Community Pilot
  - Joint ODU-VIMS activities
  - MACRI (Mid-Atlantic Coastal Resilience Institute)

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Resiliency Design Project

- Lesson Learned
  - “Scale” more than data, maps, models.
  - Socioeconomic vulnerability – stakeholder engagement implications
    - Managed retreat ≠ immediate abandonment. What’s fair, equitable?
    - Social capital of communities – CDCs, social services, EJ NGOs, etc.
  - Noisy landscapes – gaps (legal, finance, lots) and nested networks.

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Resiliency Design Project

- Opportunities and Next Steps
  - Hunger for new, tangible solutions and options at the community and neighborhood scale
    - (* that's the scale of politicians)
  - Bolder in crossing disciplines – natural and social sciences, engineering, design, law, finance.
  - Co-production of knowledge in order to be actionable – e.g., greater collaboration on local scale.

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Resiliency Design Project

Thank You

Questions?

Troy Hartley
thartley@vims.edu

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