Building Resiliency through the Action-Oriented Stakeholder Engagement for a Resilient Tomorrow (ASERT) Framework

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Flooding and Sea Level Rise

2050: ~60 full days of flooding per year

Today: ~10 full days of flooding per year

Until the 1970s: ~20 hours of flooding per year

Future Projections (SLR=8mm/y)

Future Projections (SLR=4mm/y)

Past Observations (SLR=4.5 mm/y)

(source: T. Ezer, ODU, 2015)
Intergovernmental Pilot Project

- Steering Committee
  - Legal Working Group
  - Infrastructure Working Group
  - Public Heath Working Group
  - Citizen Engagement Working Group

- Private Infrastructure Committee
- Science Committee
- Economic Impact Committee
Whole of Community Approach

- Building regional resilience requires education, outreach and engagement of residents
- Engagement research project
  - Little Creek base area focus groups using ASERT framework
  - Regional survey
  - blue moon fund
Little Creek Base Area Study
ASERT FRAMEWORK

Participatory GIS

Group discussion

Electronic polling
GIS results
Discussion Results

- Vulnerabilities
  - Not personal, more systematic
  - Sense of place threatened
  - Flood insurance?

- Concerns
  - More information/education/awareness needed
  - Building resiliency- better jobs, food, housing
  - Improved drainage needed

- Actions
  - Individual actions are limited- need collective solutions
  - Engineered solutions vs. natural and policy

- Barriers
  - $$
  - Leadership
  - Lack of information/education/awareness
Clicker Results

- Select the top 3 adaptation actions most feasible for improving your community’s resilience to sea level rise and/or flooding.
Methodology Evaluation

- 90% satisfied with the overall process
- 87% rated the mapping exercise as easy to use
- 82% rated the discussion as useful
- 81% likely to take adaptation action
- 71% likely to support their community's adaptation efforts
Regional Survey

• Questions
  – risk, impact, concerns,
  – adaptation action feasibility
  – barriers to adaptation

• Comparable to national and other state surveys

• Responses from focus groups
Vulnerability and Impact

- 52% rated their personal vulnerability to flooding due to sea level rise as high or extremely high
- 61% think sea level rise is having impacts in Hampton Roads now
Most feasible adaptation actions

- Floodplain policy and management such as through preserving open space, managing development in flood-prone areas (49.3%)
- Natural solutions such as dunes and beaches, wetlands, oyster reefs, etc. (48.8%)
- Improvement to drainage systems (48.7%)
Top 3 actions that would help residents adapt

• Learn more about what my city is doing to address flooding and/or sea level rise (61.2%)
• Find out more about different adaptation actions (43.2%)
• Learn more about sea level rise and/or flooding (40.0%)
Findings

- Engaged methods allowed residents to share knowledge, perceptions and preferences
- Lack of personal efficacy, concern about community as a system
- When prioritizing adaptation actions, there was a slight preference for natural solutions
- When asked what they would need to take action- more information
Across the region

• More than half of respondents feel personally vulnerable to flooding and sea level rise
• Top three adaptation actions with most public support: constructing more resilient public buildings and structures, using green infrastructure, and changing building codes and construction standards
• Most feasible approaches for improving resilience to sea level rise and/or flooding: floodplain policy and management, natural solutions (such as dunes and beaches), and improvement to drainage systems