

# Make dialogue happen! Using the Vulnerability, Consequences, and Adaptation Planning Scenario (VCAPS) Process for flood vulnerability

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# Flood resilience in coastal communities requires:

Considering multiple causes of flooding  
Adapting to consequences across sectors



# What VCAPS does

- Help people think about flood hazards...
  - Structure discussions using conceptual frameworks
    - Analytic-deliberative process
    - Causal structure of hazards
    - Vulnerability (sensitivity, adaptive capacity, resilience)
  - Utilize visualization techniques
    - AKA “influence diagrams” or “causal pathway diagrams”

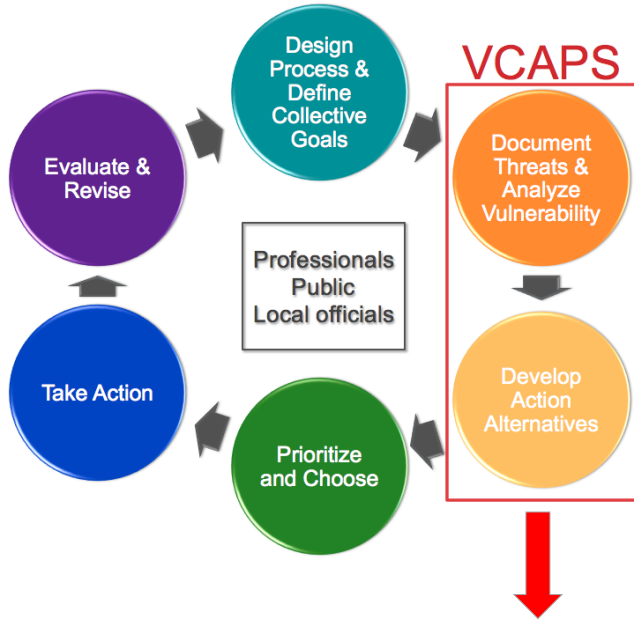




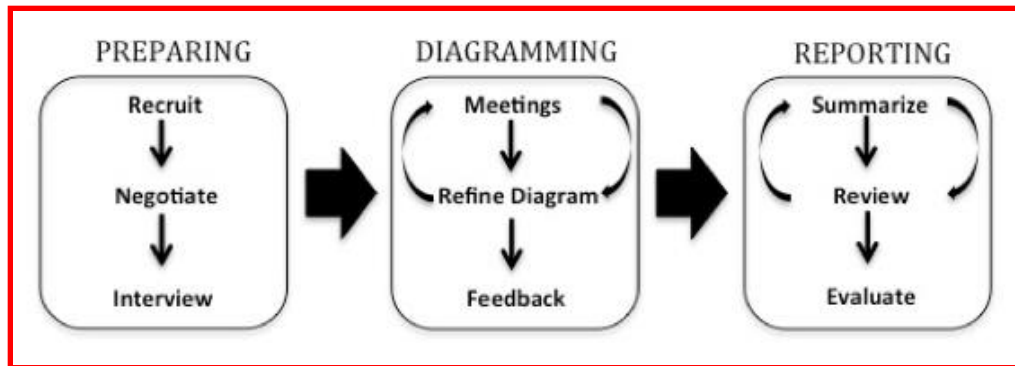
# What VCAPS does

- Efficiently...
  - Reasonable (and flexible) demands on time and resources
- To produce “useable knowledge.”
  - Focus on what is relevant to participants and decisions
  - Co-construction of scenarios
  - Allow exploration of (local) complexities and uncertainties



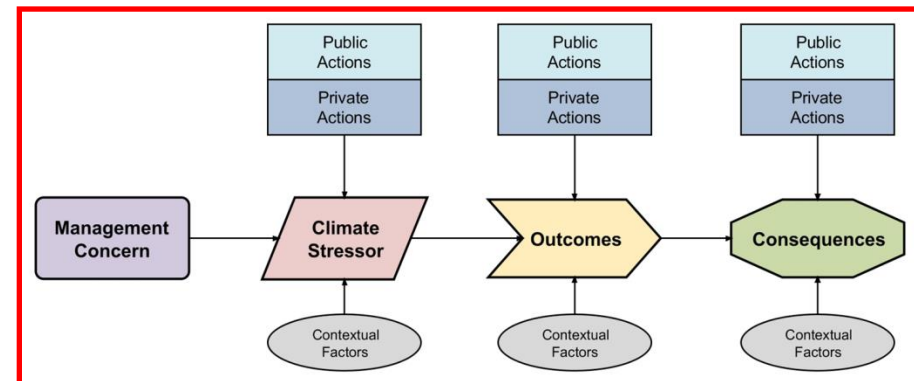


VCAPS supports initial phases of hazard and climate change planning and implementation...



...through group discussion and learning...

...supported by real-time diagramming.

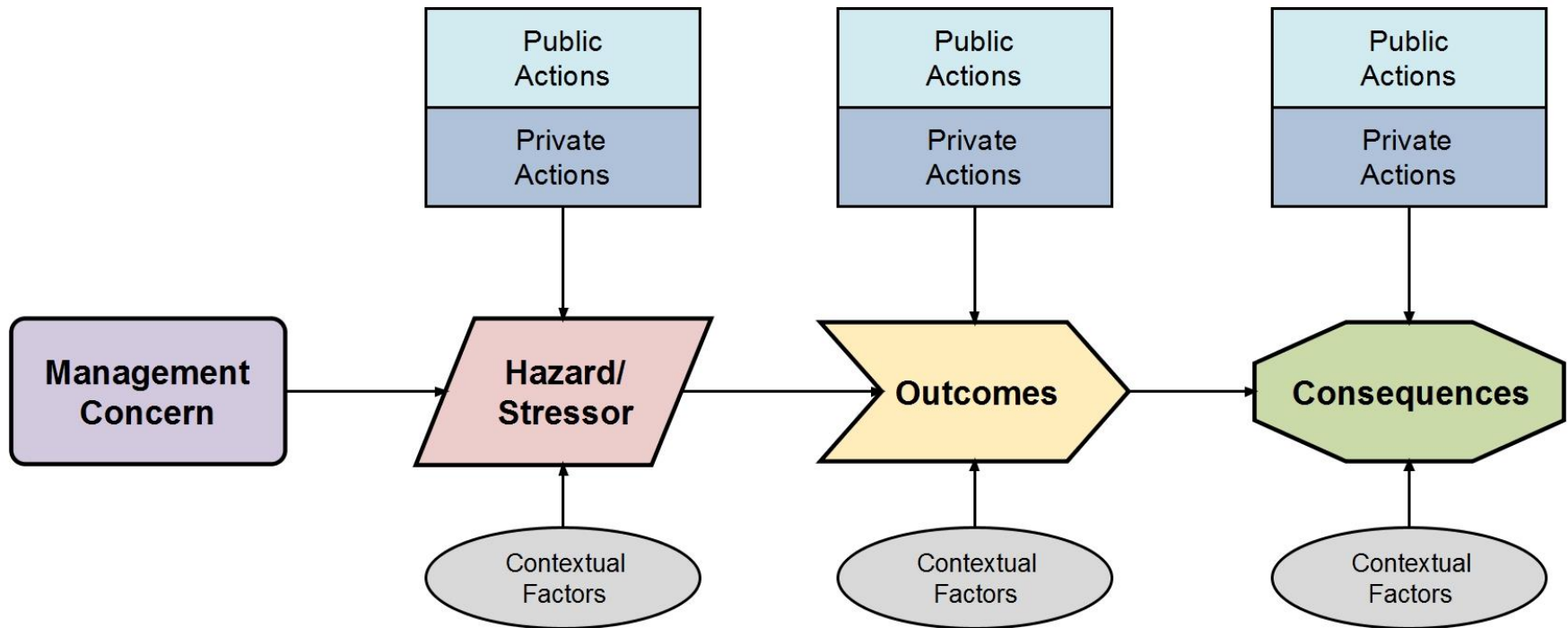


# Probing questions, integrative discussion

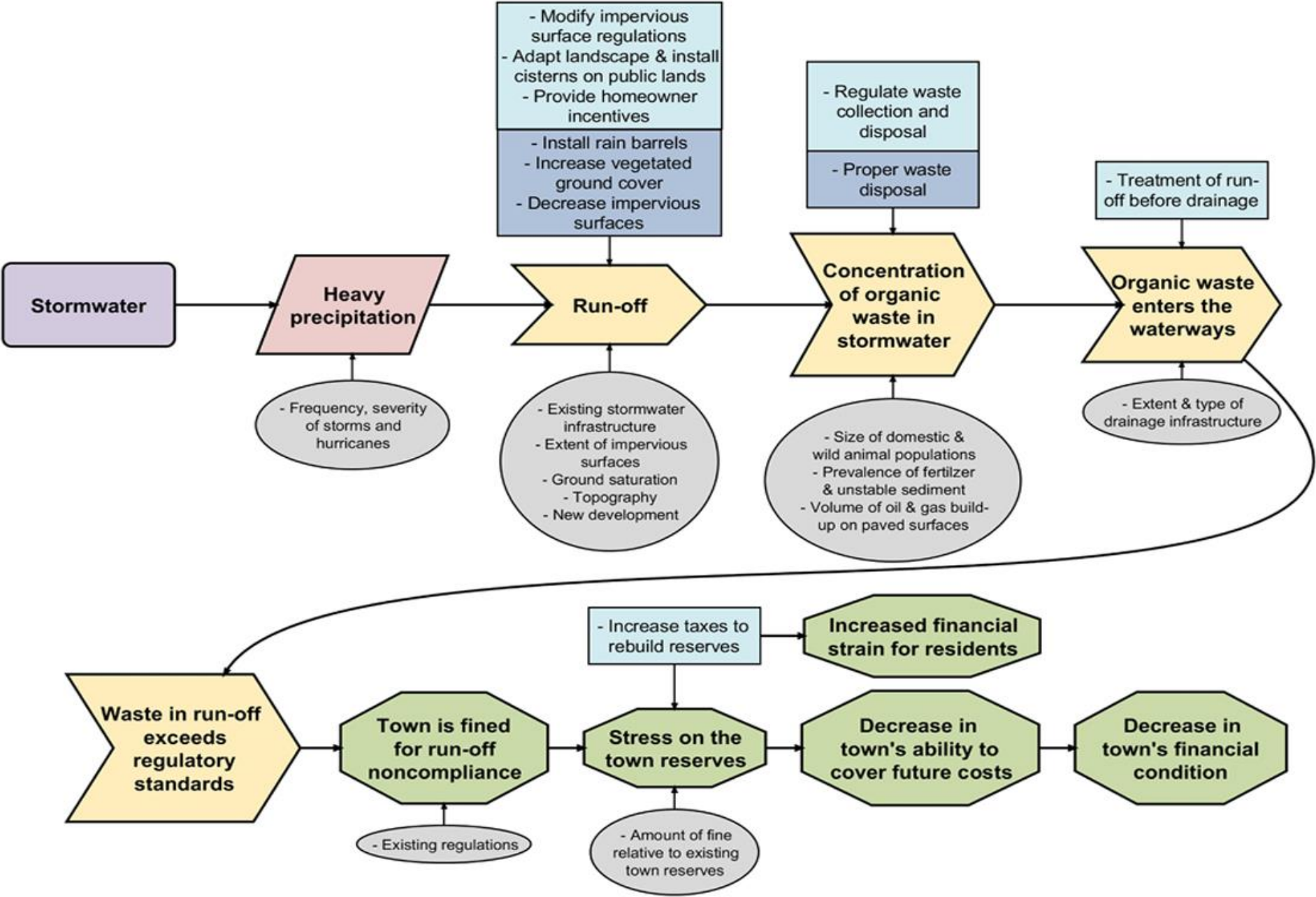
- What impacts do floods have in your community?
- Why do you care about the impacts? What is the result?
- What makes these impacts better, worse, larger, smaller?
- What can you do to prevent or mitigate this?



# VCAPS diagrams: Building blocks





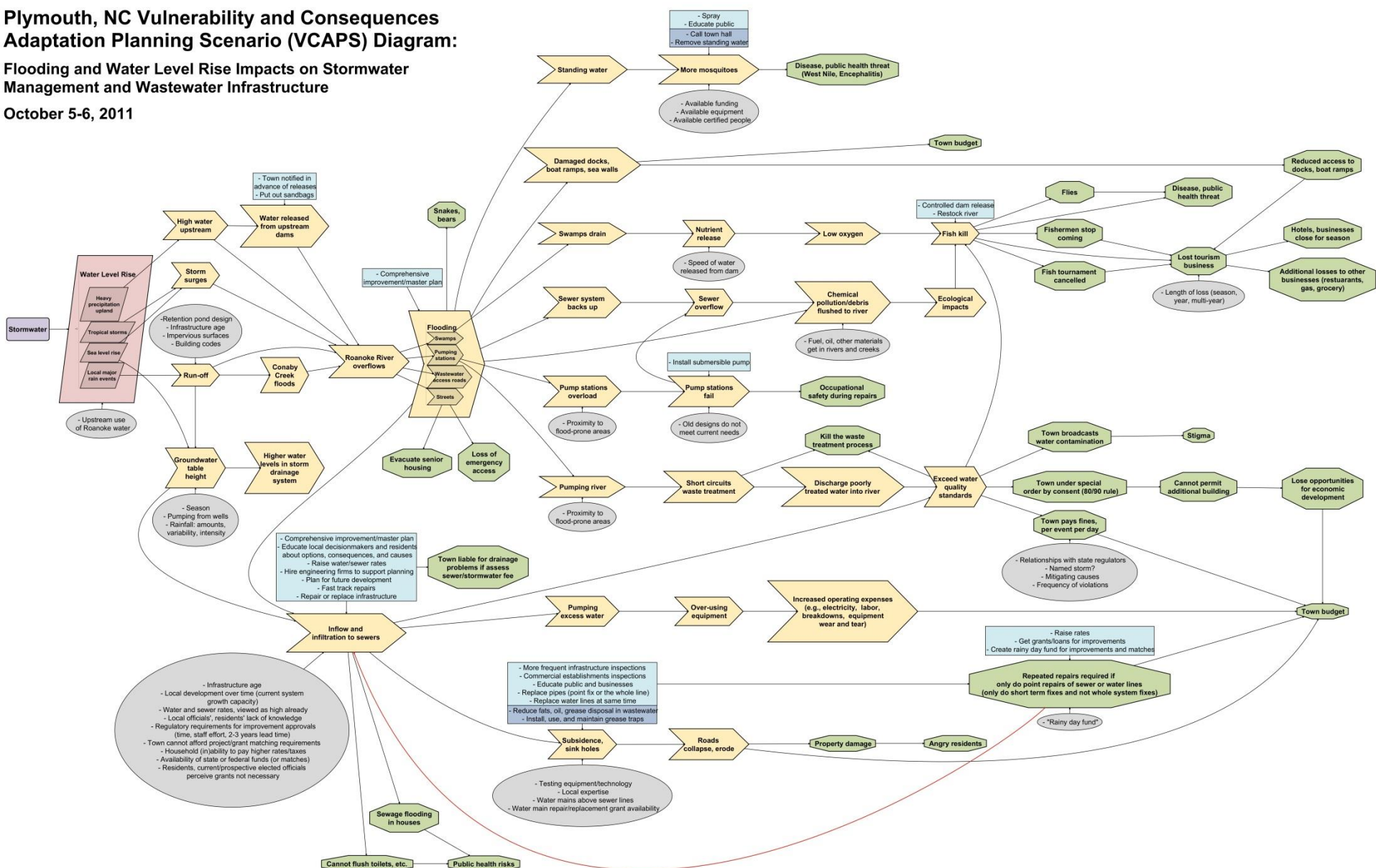




# Plymouth, NC Vulnerability and Consequences Adaptation Planning Scenario (VCAPS) Diagram:

## Flooding and Water Level Rise Impacts on Stormwater Management and Wastewater Infrastructure

October 5-6, 2011



# Episodic flooding and long-term conditions in St. Marys, GA

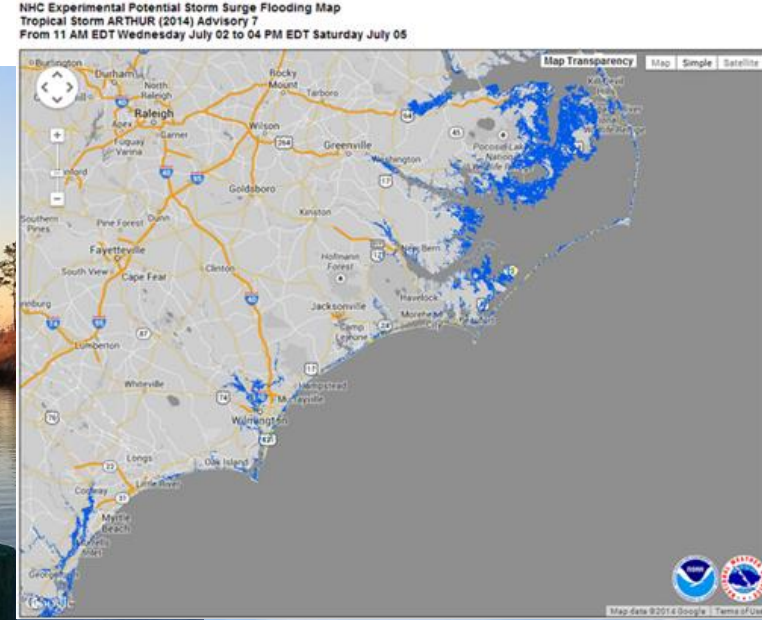
- Degraded water quality from floodwaters, runoff, sewage spills
- Erosion
  - Sediment helps maintain marshes
  - Adaptations to reduce accelerates marsh loss
- Inundation and salt water intrusion kill yards
- Hard structures contribute to ecosystem loss, loss of quality of life





# Hyde County, NC Flood Resiliency Project

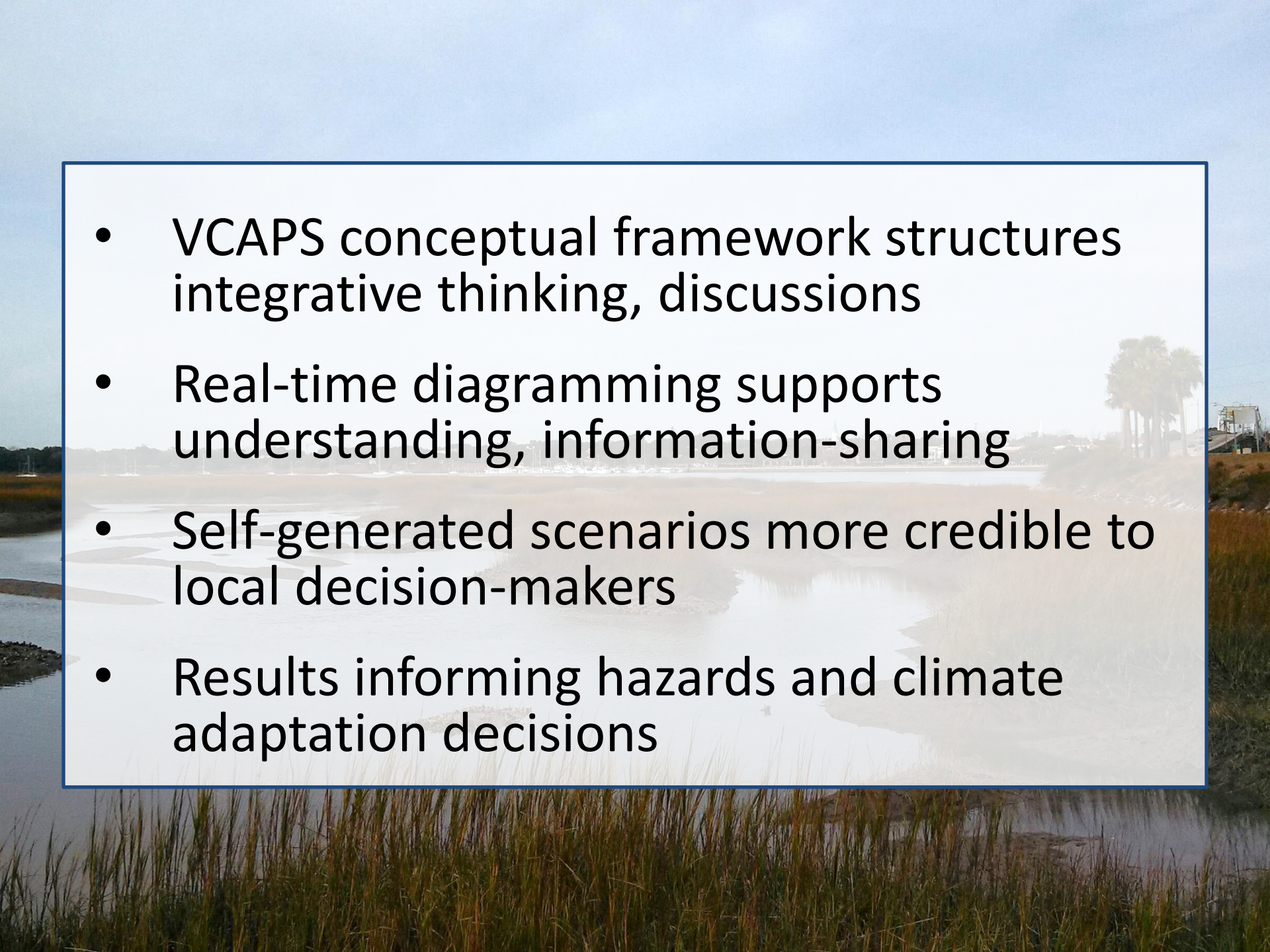
- Mainly focused on structures
- Ecosystem issues integrated
  - Agriculture and salinity intrusion
  - Seafood industry
- Adaptations require transformation
  - Tailwater recovery
  - Improve grant applications for wastewater engineering assistance
  - Regulatory flexibility and coordination



(NC Dept. of  
Agriculture &  
Consumer  
Services 2014)





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- VCAPS conceptual framework structures integrative thinking, discussions
  - Real-time diagramming supports understanding, information-sharing
  - Self-generated scenarios more credible to local decision-makers
  - Results informing hazards and climate adaptation decisions



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# Discussion Questions

- How are the people who have the most knowledge in your community about flood occurrence and severity involved in the decision-making process?
- How can you better integrate the knowledge held by different entities have into plans and implementable actions that reduce flooding?