Developing vulnerability and consequence planning scenarios for adaptation

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The context

- Adaptation barriers at all stages
  - Coastal communities engaged in environmental and hazard management, but not much climate change adaptation
  - Informational and understanding, planning, and decision-making constraints
- Calls to develop planning tools and processes
  - Facilitate local assessments
  - Integrate climate science and local knowledge about consequences, vulnerabilities, adaptation options, and priorities
- Today: Share the development and evaluation of an approach to getting started at the local level

Vulnerability and Consequences Adaptation Planning Scenarios (VCAPS) Process

- A facilitated process to
  - Identify local climate stressors, consequences, vulnerabilities, and management options
  - Generate locally-relevant scenarios

- Process elements
  - Integration of local knowledge with scientific information
  - Mediated diagramming to highlight causal pathways
  - Anchored in conceptual frameworks of hazards/risks and vulnerability
  - Based in models of analytical-deliberation for risk management
  - Reasonable demands on time and resources

Conceptual Basis

- Participatory modeling
  - Enhance system understanding by organizing group interactions around building models
  - Analytical-deliberation
  - Diagramming focuses group discussion
    - Supports group learning and system understanding
- Causal structure of hazards
  - Structured focus on cause and effect relationships resulting from choices and activities to examine system structure and dynamics
- Vulnerability
  - Differences in exposure, sensitivity, and adaptive capacity
  - Adds the notion of adaptive response or resilience

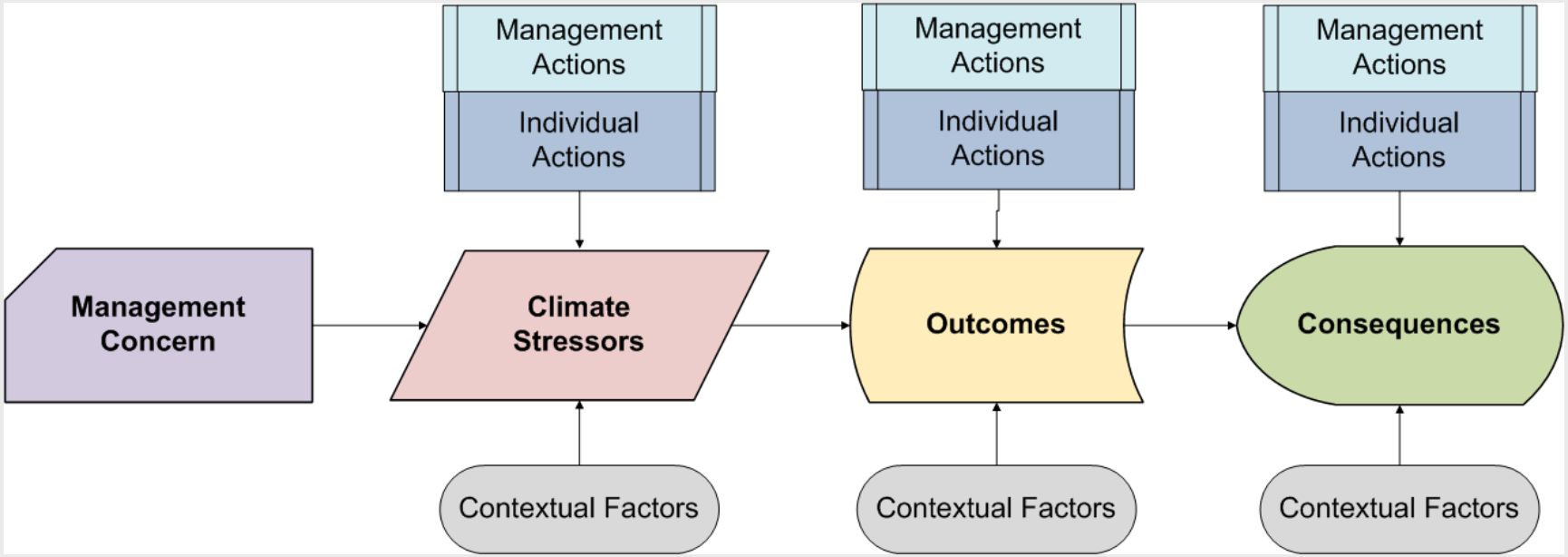
Engagement and Evaluation

- Sullivan's Island, SC
- McClellanville, SC
- Plymouth, NC

Basic Steps

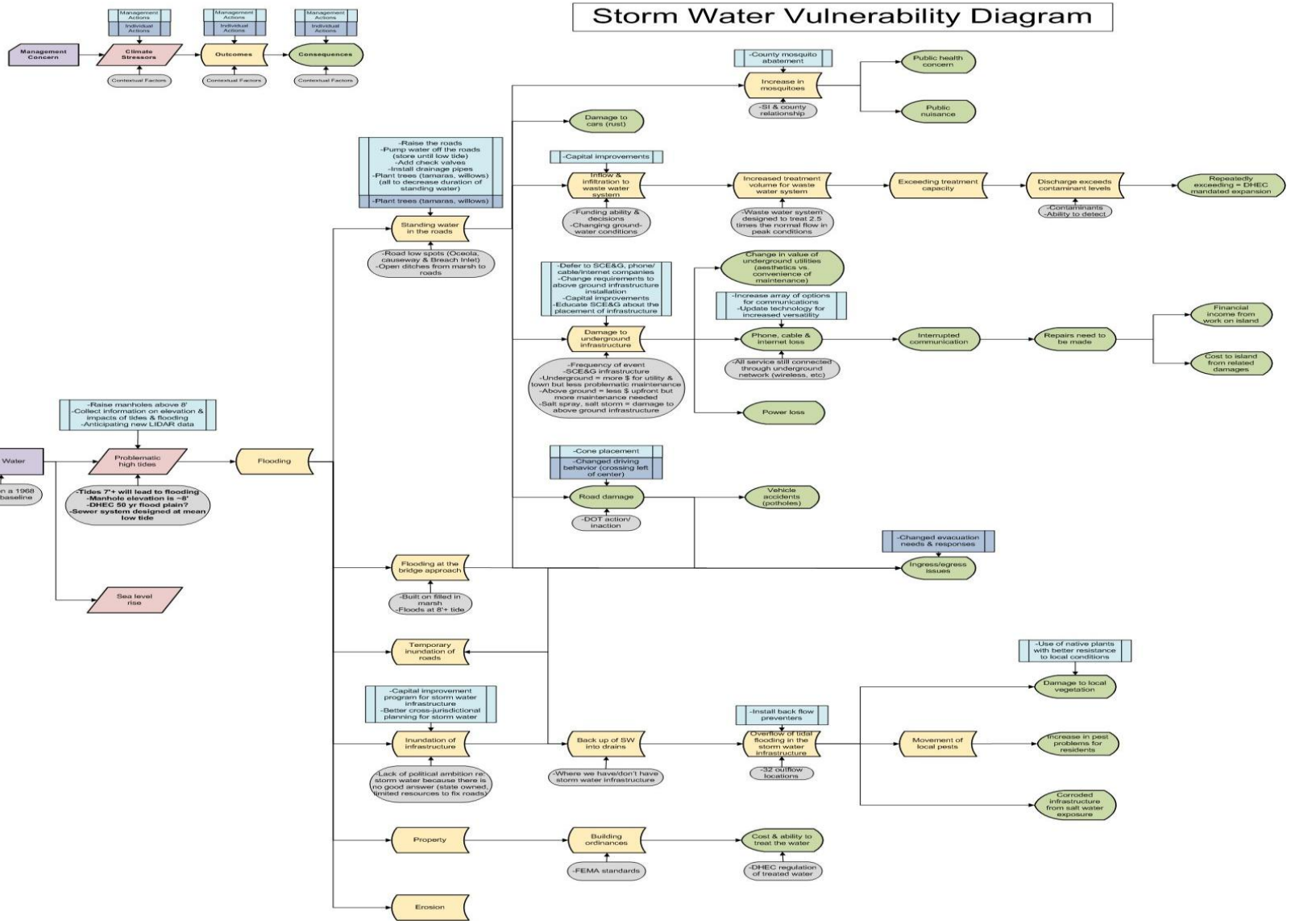
- Review background materials about the community
- Contact key informants to identify participants and logistics, and then schedule workshops and invite participants.
- Conduct 2-4 facilitated meetings (aka diagramming sessions).
  - The first meeting includes an introduction to VCAPS and presentation about locally relevant climate stressors
  - Next meetings include diagramming time, reflections, and wrap-up Conduct follow-up participant interviews to gather feedback about the process and outcomes.
  - We currently use VUE freeware from Tufts University - vue.tufts.edu
- Develop a lessons-learned document, which also includes the diagrams

VCAPS diagrams: Building blocks

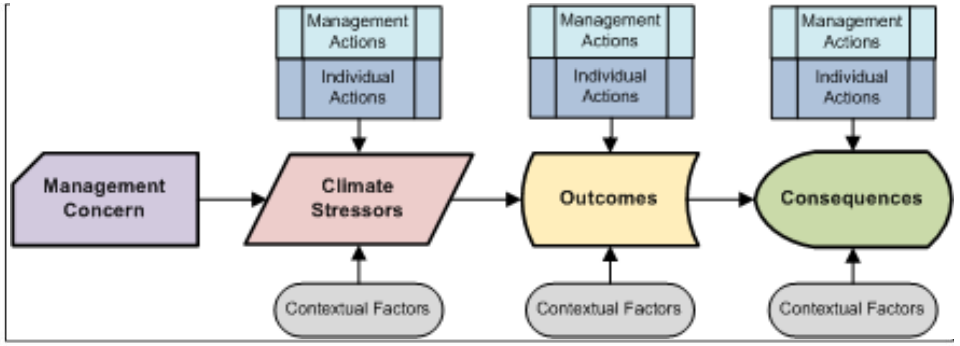


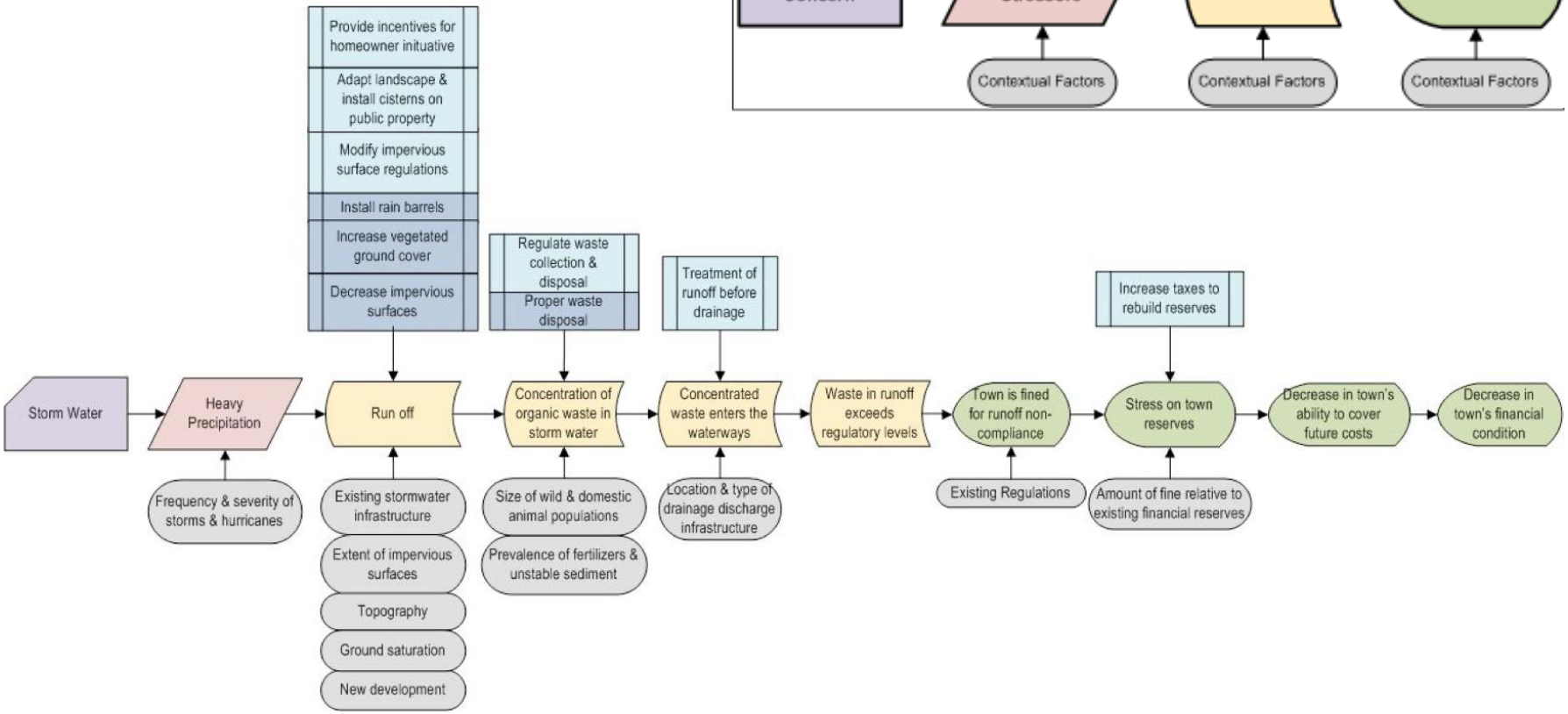
Note: Academic jargon is largely removed

Storm Water Vulnerability Diagram



Storm Water Diagram
(single chain)





Evaluation Process

- 1) Elicit feedback community participants
- 2) Request feedback from outreach workshops participants

Outcomes

- Community benefits
  - Better visualize vulnerabilities and adaptation options
  - Integration and organization of current knowledge
  - Depoliticized discussion atmosphere
    - A "what if" exercise
  - Facilitated planning
    - Participants thought it would help communicate needs
    - Identified low/no regrets options; did not overwhelm people
    - Encouraged long-range thinking and integration of efforts
    - Provided a basis for pursuing action plans

Community participants' insights about vulnerability and adaptation

- Potential impacts will be multi-faceted
- Opportunities for no/low regret strategies and co-benefits
- There are opportunities for "upstream" preventative mitigation and adaptation strategies and "downstream" coping and adjustment actions by both public agencies and private parties,
- Management strategies can have unintended consequences
- Possible tradeoffs among adaptation options

Community participants' reactions

- Feedback we received about the VCAPS process specifically included comments such as these:
- "VCAPS provides the structure that allows for a focused discussion."
- "This is good because you pull global issues into a local context."
- "Laundry lists are useless [and VCAPS avoids creating them]."

Workshop participants' comments

- Can you use this in your work?
- Positive
  - "I think having this visual way of capturing a conversation, beyond simply catching notes on flip charts, is very helpful.
- Drawbacks
  - "I think we would need to bring someone in from the outside to act as a facilitator and climate change expert."
  - "How it works depends on who is participating."
  - "Time went by quickly. Ideas came forward very fast. Difficult to capture all the ideas that were being said."

Summary: Benefits of the VCAPS process

- Inform vulnerability assessments and adaptation planning
  - Integrate local knowledge and climate science
  - A "bottom-up" approach
  - Relatively inexpensive and limited time commitment
- Advance local adaptation planning by engaging (skeptical) local government officials
  - Meaningful local context
  - An opportunity for group learning
  - Highlight multi-hazards approach, timing, and flexibility

Thank you

- Information about the project and documents related to the project are available at
  - www.cisa.sc.edu
  - www.seri-us.org/content/coastal-adaptation-planning
  - Or contact me at Kdow@sc.edu