

# **Hampton Roads Resilience Activities: Engaging Stakeholders and Potential End Users**

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<https://sites.wp.odu.edu/odudhscrcproject/>

*The project directly engages stakeholders and potential end users with existing CRC projects.*

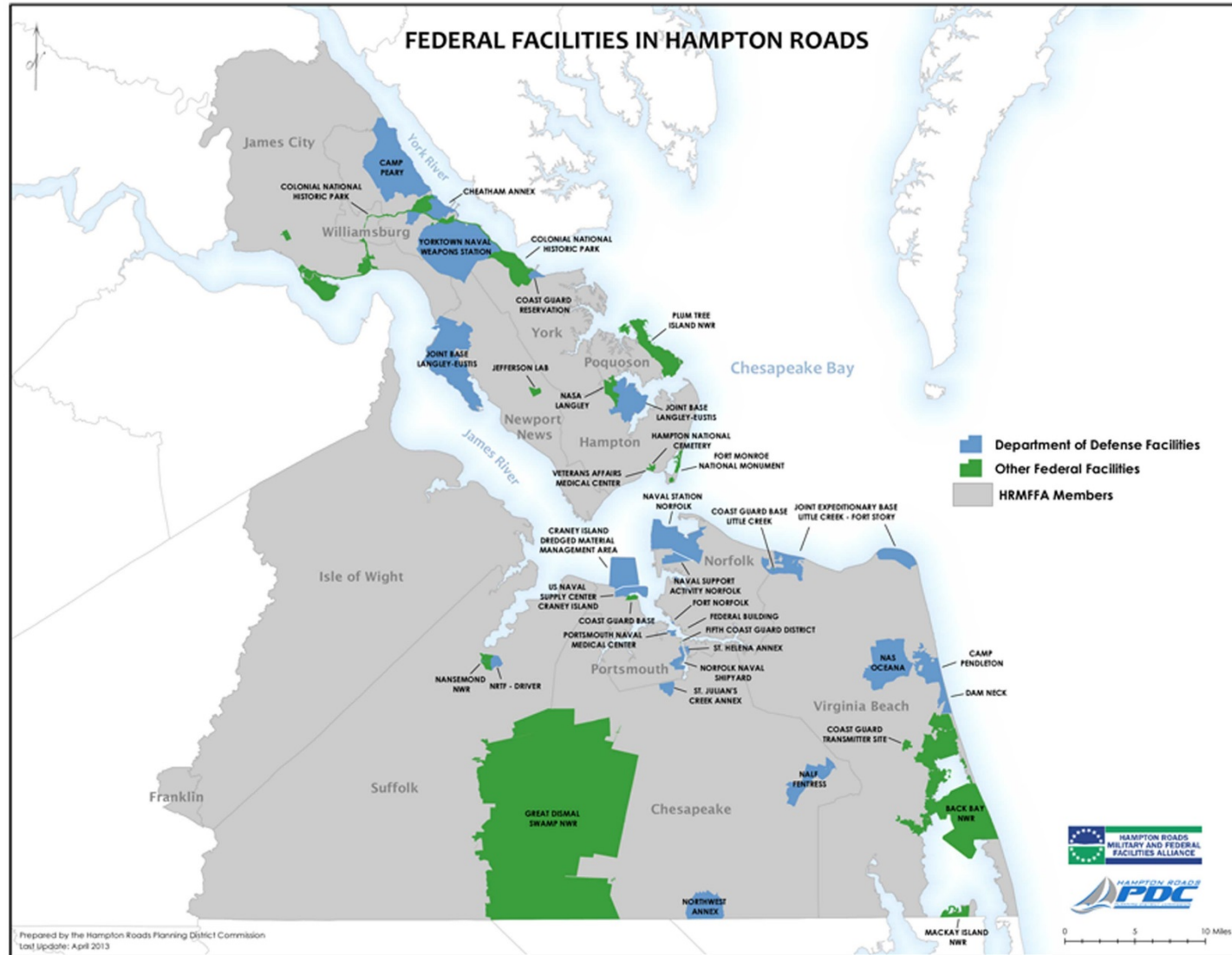


**OLD DOMINION**  
UNIVERSITY

**I D E A F U S I O N**

# COASTAL RESILIENCE CENTER

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## End User Engagement Hampton Roads Sea Level Rise/Flooding and Adaptation Forum

- ❖ Organized by Michelle Covi, Larry Atkinson & HRPDC
- ❖ Quarterly stakeholder forums engaging government and private sector actors (planning, emergency management, floodplain management, public works, etc.)
- ❖ Don Resio presented his DHS research to 80+ attendees



End User Engagement

# Hampton Roads Sea Level Rise Preparedness and Resilience Intergovernmental Planning Pilot Project

- ❖ A whole-of-government & whole-of-community approach to resilience and adaptation to sea level rise
- ❖ We led the Science, Citizen Engagement, and Land Use Planning working groups



## End User Engagement

# Groundwork Phase for Project Development

### City of Norfolk, Virginia (urban community)

Jeremy Sharpe, Long-range Planner

Paula Shea, Principal Planner

Katerina Okarsson, Deputy Resilience Officer

Robert Tajan, Floodplain Manager

Pam Myers, Americorp volunteer, Resilience Office

Justin Burns, Americorp volunteer, Resilience Office

### Hampton Roads Region (regional stakeholders)

Ben McFarlane, Planner, HR Planning District Commission

Erin Sutton, Vice Chair, HR Regional All Hazards Advisory Comm.

### Gloucester County, Virginia (rural community)

Garrey Curry, Assistant County Manager

Brian Lewis, Director of Engineering

Anne Ducey- Ortiz, Director of Planning and Zoning



## End User Engagement

# Maritime Risk Symposium - Resilience in a Complex Coastal System



## Panelists:

- ❖ **Jim Redick**, Director of Emergency Management, City of Norfolk, Va.
- ❖ **Ann Phillips**, Admiral, U.S. Navy (Ret.)
- ❖ **Kit Chope**, Vice President, Sustainability, The Port of Virginia
- ❖ **Commander**, U.S. Coast Guard Sector Hampton Roads

## Research Work and Accomplishments

### Sampling of Three Accomplishments in Support of Other CRC Projects

- ✓ Supported stakeholder engagement and end user translation efforts of *'The Incorporation of Rainfall into Hazard Estimates for Improved Coastal Resiliency'* project

Specifically, Connected this project to potential end users through the July 2016 Hampton Roads Adaptation Forum - Note – we are prepared to facilitate further end user interaction with this project.

- ✓ Organized panel on *'Resilience in a Complex Coastal System'* for the November 2016 Maritime Risk Symposium

Specifically, Co-organized with Operations Research Analyst, U.S. Coast Guard

- ✓ Connected other CRC projects to other end users.

Specifically, leveraged our work through the Hampton Roads Adaptation Forums and connections to stakeholders to connect the CRC and its projects to additional potential end users

## More Research Work and Accomplishments! Research Lectures and Talks

- ❖ Gavin Smith (UNC Chapel Hill) & Rachel Davidson (Univ. of Delaware) visited ODU, met with ODU Resilience Collaborative team, and gave lecture
- ❖ Wie Yusuf gave RETALK lecture at Johnson C. Smith University on 'Lessons Learned the Hard Way and Tales of Engagement'
- ❖ Joshua Behr will visit Univ. of Delaware's Disaster Research Center in late February 2017 and coordinating potential ReTALK with Puerto Rico
- ❖ Possible DHS 2017 summer interns





## Project Impacts

- ❖ Increased relevance and applicability of CRC projects by connecting with end users in a complex and threatened region.
- ❖ Continued and increased CRC engagement in the Hampton Roads region.



Proposed Follow-on Work

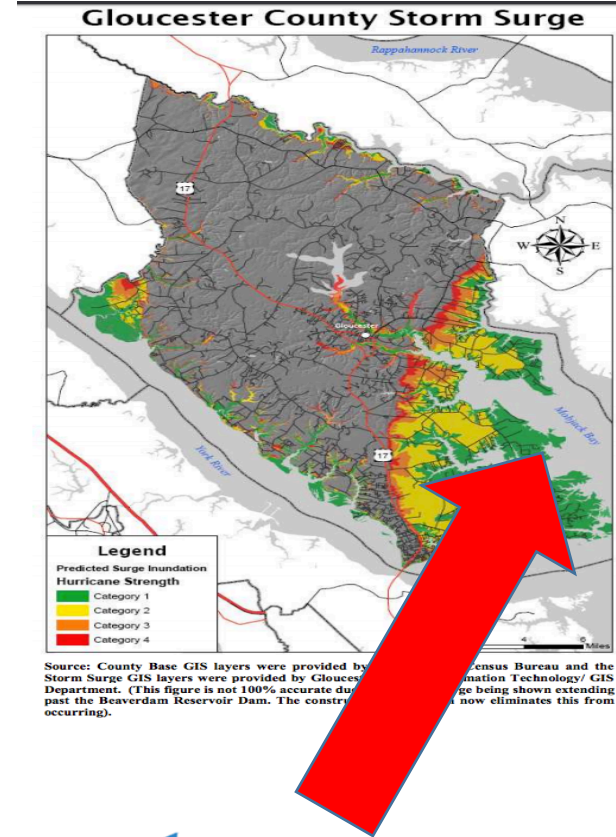
# A Tool for the Prioritization and Alignment of Mitigation Strategies

**There is a Clear Need,  
Expressed by  
End Users through  
Engagement**

**Not  
Aspirational:  
Building Tool!**

**PRACTICAL  
+  
GENERALIZABLE**

## Gloucester -- End User



**End User is  
Absolutely  
Essential !!**

# Gloucester End User Engagement

## Beginning

*Integral to how we identified the need and designed the tool.*

## Middle

*Integral to how systems are measured & weighting is specified.*

## Transition (“end”)

*Integral to how mitigation strategies are aligned & prioritized.*

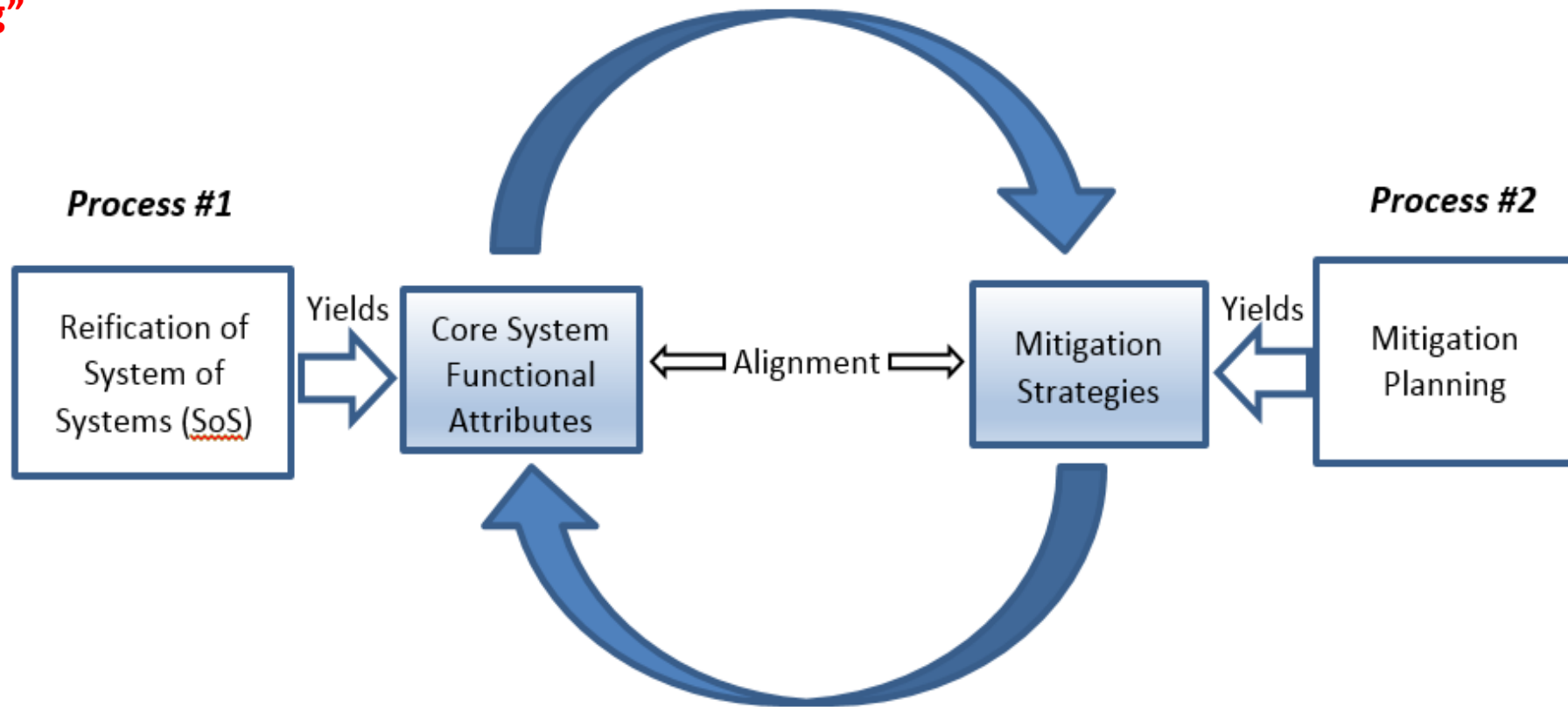
# Gloucester – Building Resiliency Cycle

“life, limb, and wellbeing”



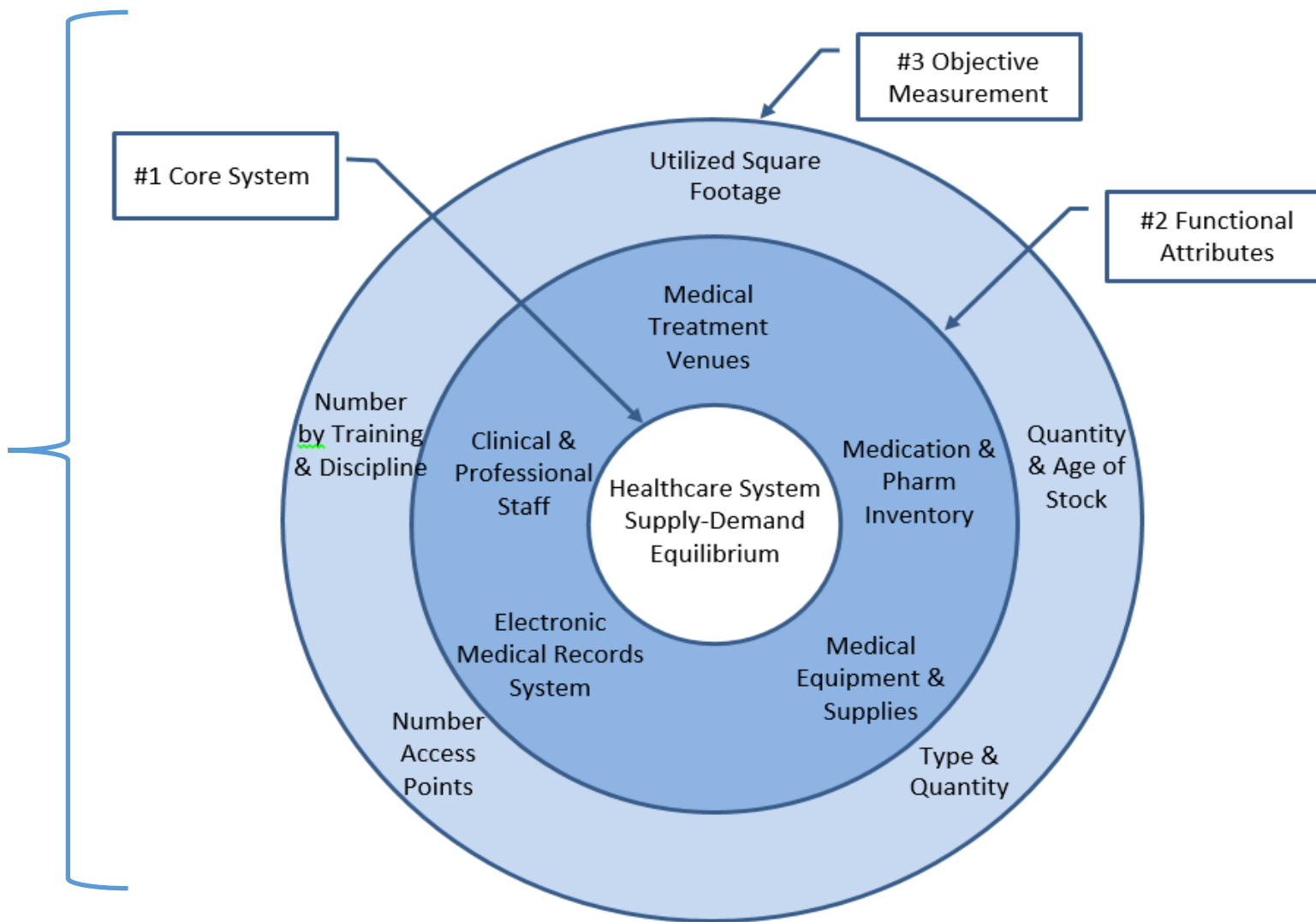
**7 Core Systems**

- Healthcare
- Sustenance
- Banking
- Transportation
- Commercial
- Communication
- Protective Servs.



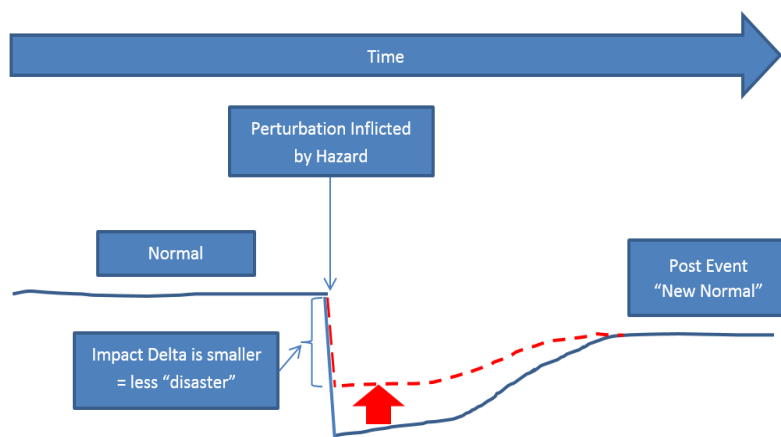
***There must be an alignment between core systems and the prioritization of mitigation strategies.***

**Process #1**  
*“reification process”*



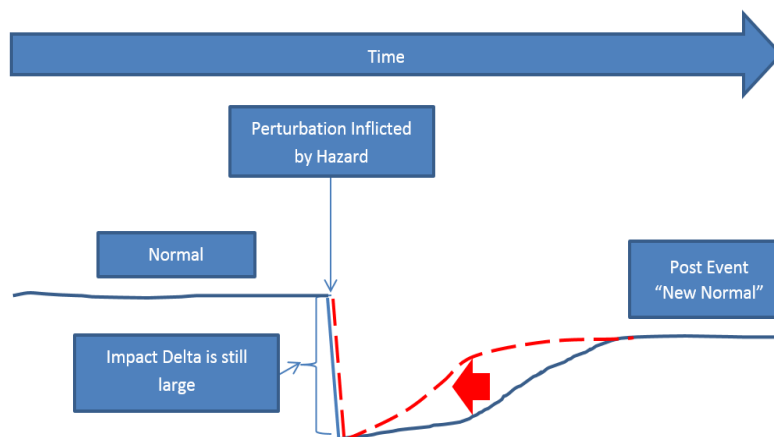
## Resiliency Classifications

### Decrease the Impact Delta



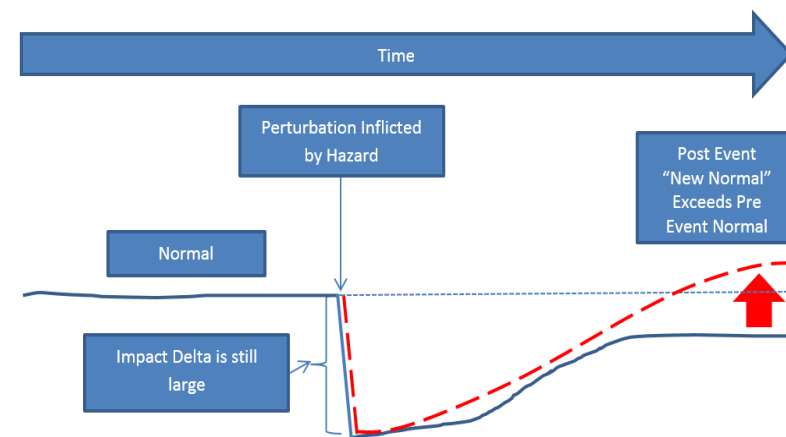
**Temper**

### Shift Recovery Curve to the Left



**Hasten**

### New Normal Exceeds Pre-event Normal



**Transcend**

*Mitigation strategies may be paired with advancing one or more resiliency classifications.*

# Prioritization Alignment Scoring

## Scoring of Mitigation Strategies by “Evaluative Streams”

### Across...

- ✓ Resiliency Classifications
- ✓ Principles
  - Guiding
  - Fiscal
  - Partner
  - Etc.
- ✓ 7 Core Systems

| Mitigation Strategy Alignment Scoring Summary Table<br><small>(Extracted from sheets 3c, 3d, 6-11, 13)</small> |   |  |   |               |                                 |      |  |  |  |
|--|---|--|---|---------------|---------------------------------|------|--|--|--|
| Part A – Descriptive Attributes  |   |  |   |               |                                 |      |  |  |  |
| Mitigation Strategy:   | Trident Community Health Center               |  |   |               |                                 |      |  |  |  |
| Description:   | Buildout PA treatment rooms for, appx 265 s/f |  |   |               |                                 |      |  |  |  |
| Core System:   | Healthcare                                    |  |   |               |                                 |      |  |  |  |
| Functional Attribute:  | Treatment Venue                               |  |   |               |                                 |      |  |  |  |
| Objective Measure(OM)  |   |  |   |               |                                 |      |  |  |  |
| Anticipated Change (%)   | 1.01%   |  |   |               |                                 |      |  |  |  |
| OM Floor:  | 400 square feet                               |  |   |               |                                 |      |  |  |  |
| OM Ceiling:  | unspecified                                   |  |   |               |                                 |      |  |  |  |
| Part B – Classification  |   |  |   |               |                                 |      |  |  |  |
| Resiliency Classification  | Global  | SME  | Stakeholder                                   | Institutional | t-weighting*                    |      |  |  |  |
| Temper Weight:   | .00   | .50  | .25   | .25           | n/a                             | 231  |  |  |  |
| Hasten Weight:   | .85   | .65  | .15   | .20           | n/a                             | 232  |  |  |  |
| Transcend Weight:  | .15   | .70  | .10   | .20           | n/a                             | 232  |  |  |  |
| Part C – Evaluative Criteria   |   |  |   |               |                                 |      |  |  |  |
|  | Evaluative Streams                            |  |   |               |                                 |      | Output<br><small>(as % of final ranking)</small> |  |  |
|  | SME Score<br><small>table 3c</small>          | Stakeholder Score<br><small>table 3d</small> | Institutional Score<br><small>table 4</small> | Scaled Scores | Relevance Weighting Coefficient |      |  |  |  |
| Guiding Principles   |   |  |   |               |                                 |      |  |  |  |
| Saving Life and Limb   | 0.00  | 0.00   | 0.00  | 0.00          | 0.00                            | 0.00 |  |  |  |
| Mitigating Public Health Risk  | 0.00  | 0.00   | 0.00  | 0.00          | 0.00                            | 0.00 |  |  |  |
| Citizenry Breadth  | 0.00  | 0.00   | 0.00  | 0.00          | 0.00                            | 0.00 |  |  |  |
| Medically Fragile Pop  | 0.00  | 0.00   | 0.00  | 0.00          | 0.00                            | 0.00 |  |  |  |
| Workforce  | 0.00  | 0.00   | 0.00  | 0.00          | 0.00                            | 0.00 |  |  |  |
| Restoration of Core Services   | 0.00  | 0.00   | 0.00  | 0.00          | 0.00                            | 0.00 |  |  |  |
| LMI Served   | 0.00  | 0.00   | 0.00  | 0.00          | 0.00                            | 0.00 |  |  |  |
| Broad Geography  | 0.00  | 0.00   | 0.00  | 0.00          | 0.00                            | 0.00 |  |  |  |
| Fiscal Principle   |   |  |   |               |                                 |      |  |  |  |
| Forecast Cost (raw)  | 0.00  | 0.00   | 0.00  | 0.00          | 0.00                            | 0.00 |  |  |  |
| Budget (% annual)  | 0.00  | 0.00   | 0.00  | 0.00          | 0.00                            | 0.00 |  |  |  |
| Bond issue   | 0.00  | 0.00   | 0.00  | 0.00          | 0.00                            | 0.00 |  |  |  |
| Cost share   | 0.00  | 0.00   | 0.00  | 0.00          | 0.00                            | 0.00 |  |  |  |
| Partner Principle  |   |  |   |               |                                 |      |  |  |  |
| State Oversight  | 0.00  | 0.00   | 0.00  | 0.00          | 0.00                            | 0.00 |  |  |  |
| Federal Oversight  | 0.00  | 0.00   | 0.00  | 0.00          | 0.00                            | 0.00 |  |  |  |
| Conditional Base   | 0.00  | 0.00   | 0.00  | 0.00          | 0.00                            | 0.00 |  |  |  |



Localities need a **RATIONAL** & **ACCESSIBLE** tool to prioritize mitigation strategies to maximize resilience in a resource constrained environment.

We Are Building  
A **PRACTICAL**  
Decision  
Support Tool

Utilized by  
Gloucester to  
Prioritize  
Mitigation  
Strategies

Resulting in  
**MEASURED**  
Increases in  
Resilience

*End User Engagement*

*End User Engagement*

*End User Engagement*

# Clear Local Focus →>>> Federal Relevance

## **Relevance to DHS S&T Mission**

- ✓ S&T's mission is to deliver solutions that improve the nation's preparedness for natural catastrophes by way of enhancing resilience.

## **Relevance to FEMA Mission**

- ✓ Hazard Mitigation efforts provide value to the American people by creating safer communities by reducing loss of life and property, and enabling individuals to recover more rapidly.

**Thank you!**

Larry Atkinson

Michelle Covi

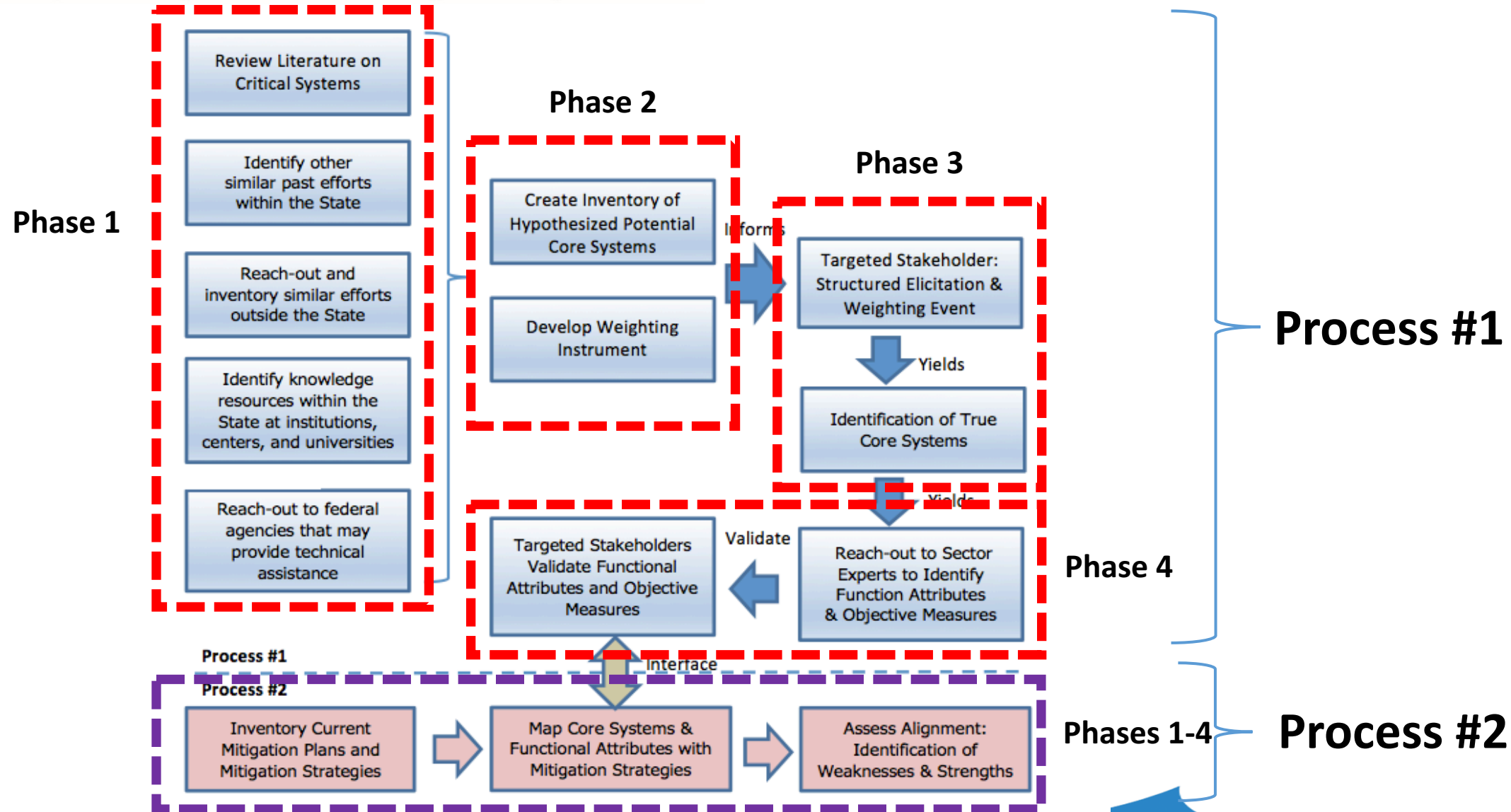
Joshua Behr

# **Three Quick (extra) Work Plan Slides**

## ***Milestones & Timeline***

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Year 1

Year 2

## PROCESS 1 – Reification of the System of Systems

| PHASE 1   | PHASE 2  | PHASE 3  | PHASE 4  |
|---|--|--|--|
| <p><b>Spring</b></p> <ul style="list-style-type: none"> <li>• Initial test bed meetings to gauge requirements</li> <li>• Identification of test beds</li> </ul> | <p><b>Mid-year</b></p> <ul style="list-style-type: none"> <li>• Inventory critical systems</li> <li>• Previous and parallel efforts</li> <li>• Reach out to institutions and agencies.</li> </ul> <p><b>Late Mid-year</b></p> <ul style="list-style-type: none"> <li>• Develop weighting instrument</li> </ul> | <p><b>Fall</b></p> <ul style="list-style-type: none"> <li>• Stakeholder elicitation and weighting</li> <li>• Identification of Core Systems</li> </ul> | <p><b>Spring</b></p> <ul style="list-style-type: none"> <li>• SME engagement identification of functional attributes and objective measures</li> </ul> <p><b>Early Mid-year</b></p> <ul style="list-style-type: none"> <li>• Inter-coder reliability of attributes and objective measures</li> </ul> |

### OUTCOMES

- Sub-report on inventory of critical systems
- Sub-report on weighing instrument

- Sub-report on elicitation and weighting engagement
- Sub-report on functional attributes and objective measures.

Year 1

Year 2

## PROCESS 2 – Prioritization of Mitigation Strategies

### PHASE 1

#### Spring

- Initial test bed meetings to gauge requirements
- Identification of test bed

### PHASE 2

#### Mid-year

- Inventory current mitigation plans and mitigation strategies

#### Early-Fall 2017

- Inform progress of core systems identification and seek feedback

### PHASE 3

#### Spring

- Alignment: Mapping of core systems & functional attributes with mitigation strategies

### PHASE 4

#### Mid-year

- Stakeholder engagement to prepare for framework application transition to end users

#### Late-Fall

- Decision support and user guide
- Final report

## OUTCOMES

- Sub-report on current mitigation plans and mitigation strategies
- Sub-report on alignment and ranking of mitigation strategies by test bed locality
- Sub-report user guide
- Final report