An aerial photograph of a tropical storm or hurricane over the ocean. The storm's eye is visible in the upper right, surrounded by dense, swirling white clouds. The surrounding ocean is a deep blue, and the sky is a lighter blue. The text is overlaid on the bottom portion of the image.

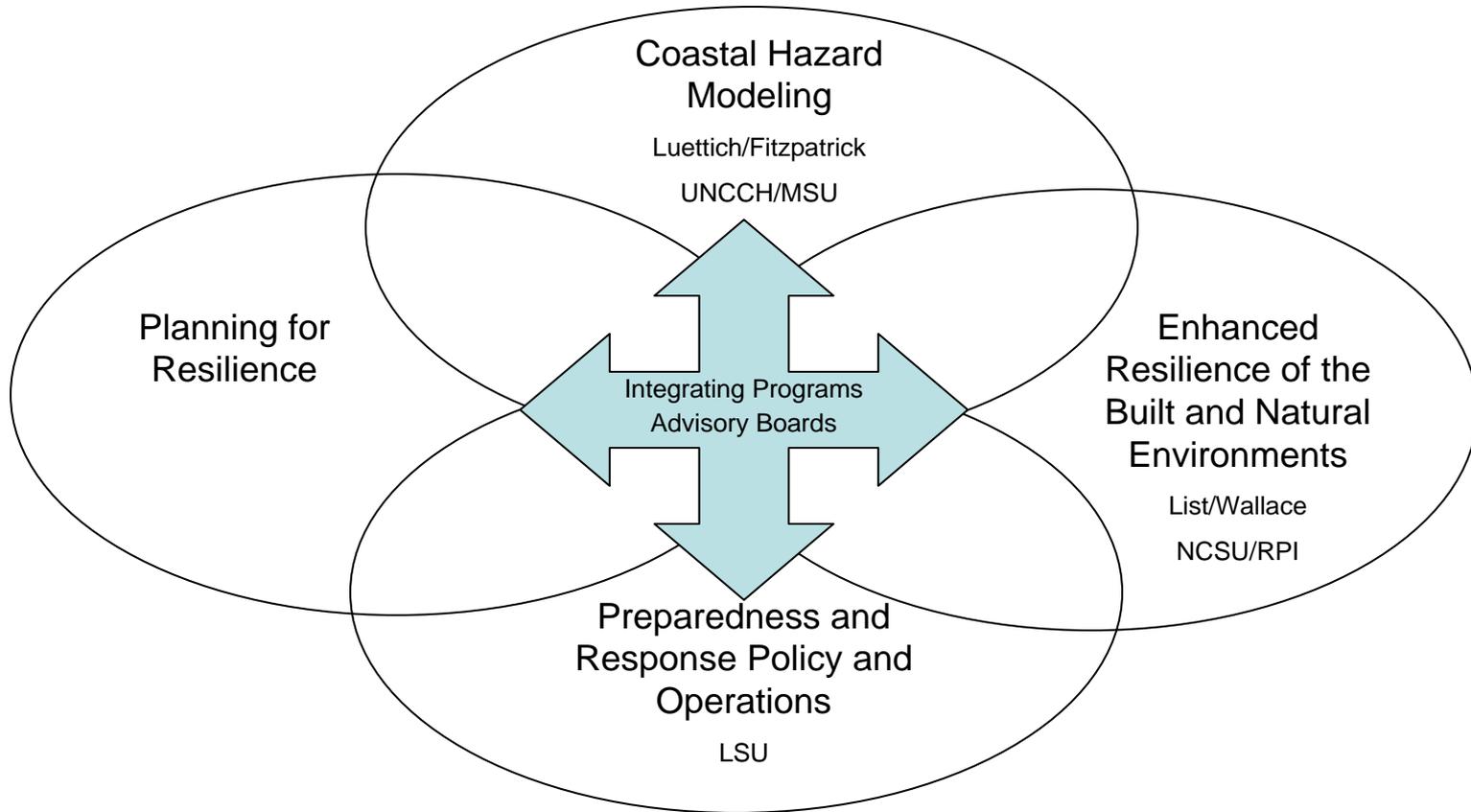
**DHS Center of Natural Disaster, Coastal
Infrastructure and Emergency Management**

Agenda

- Center of Excellence Conceptual Framework
 - Research Elements
 - Integrative Themes
- COE as Catalyst
 - NDCIEM
 - Inter-Center Collaboration

Center of Excellence Objectives

- Expand our understanding of hazard science through interdisciplinary research
- Translate research to practice
- Link research, educational and extension initiatives
- Develop, sustain and expand institutional capacity
- The COE as catalyst

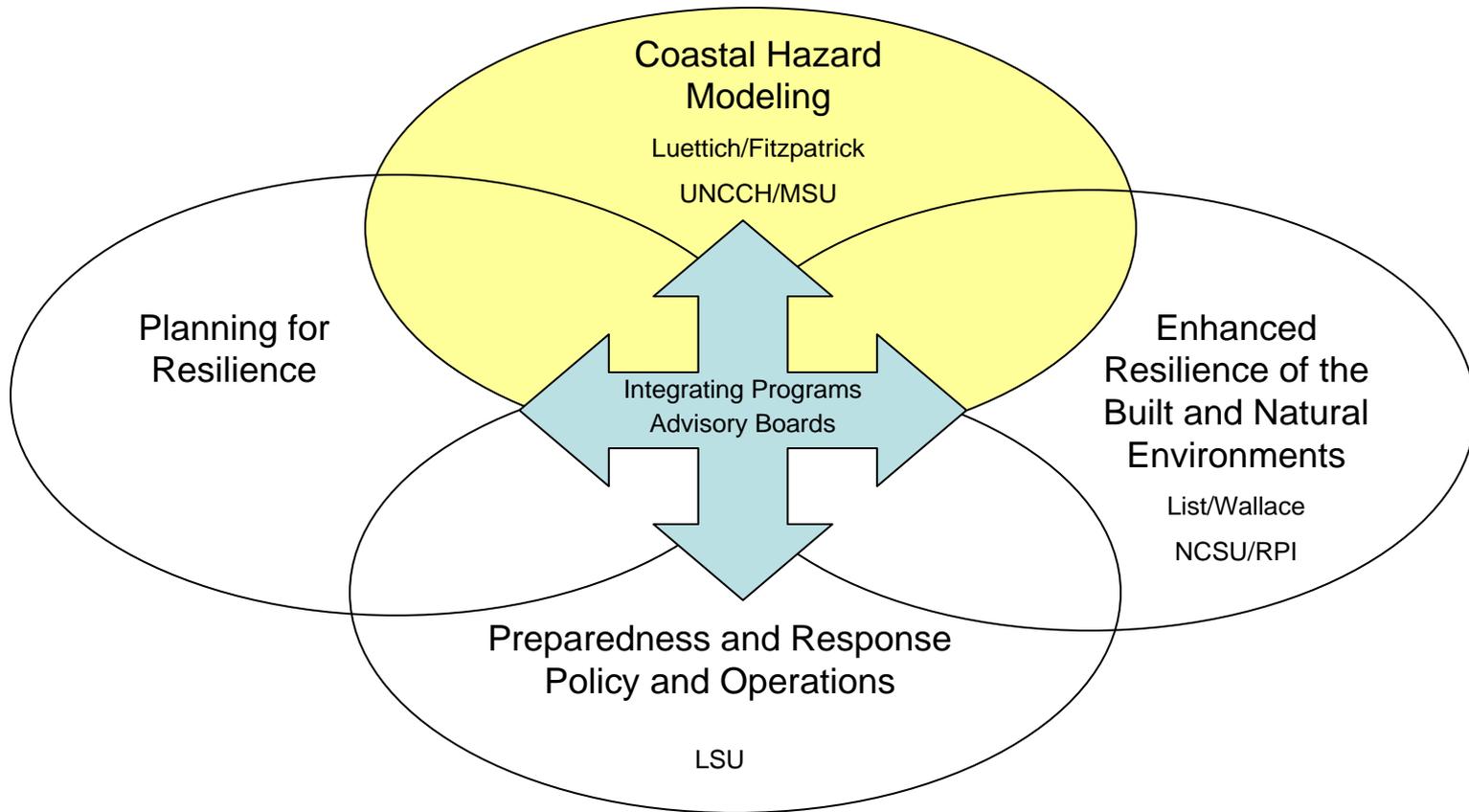


Integrating Programs

| | | |
|-------------------------------------|------------------|-----------------------------------|
| <u>Advanced Information Systems</u> | <u>Education</u> | <u>Engagement & Extension</u> |
| RENCI/UNCC | JSU | |

Advisory Boards

- Emergency Management Scholars
- Federal, State & Local Officials
- Corporations & Small Business
- Non-Profit Organizations
- Professional Associations
- Foundations



Integrating Programs

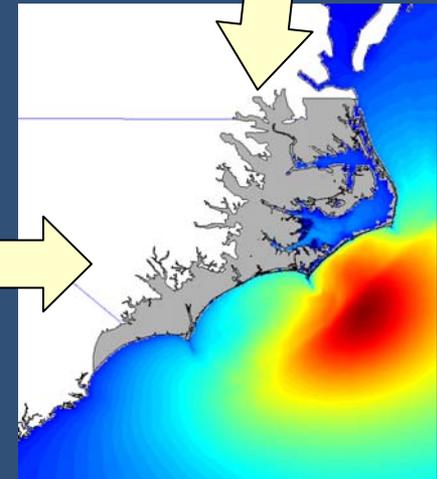
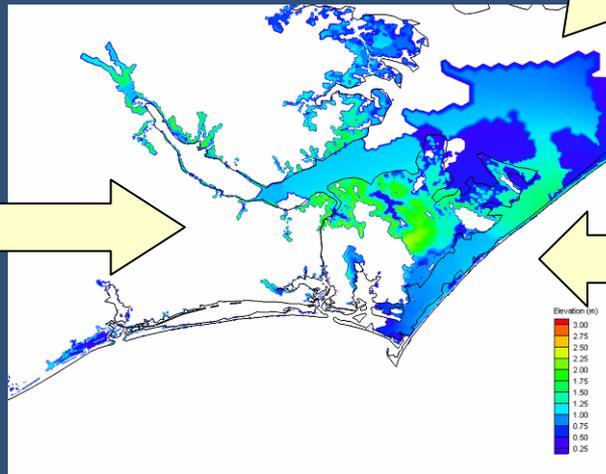
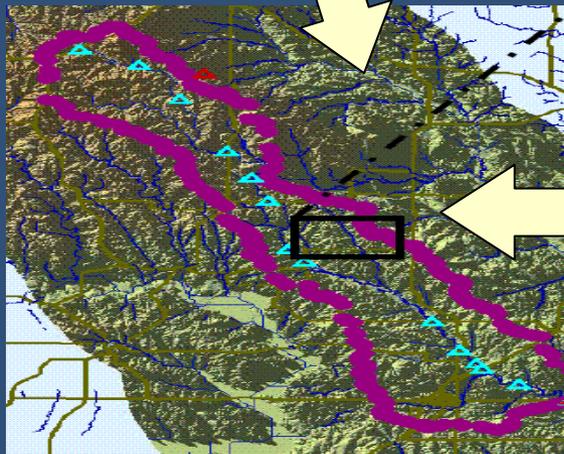
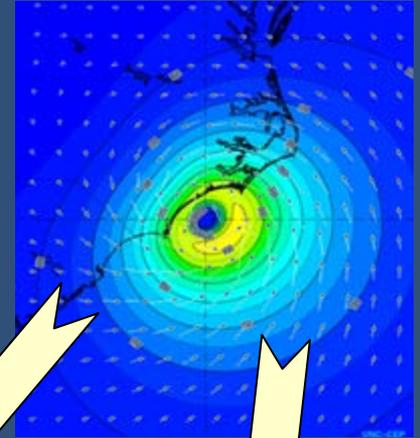
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Coastal Hazard Modeling

Intensity and Structure of
Tropical Cyclones
P. Fitzpatrick – MS State



Hydrologic Modeling in Coastal Systems

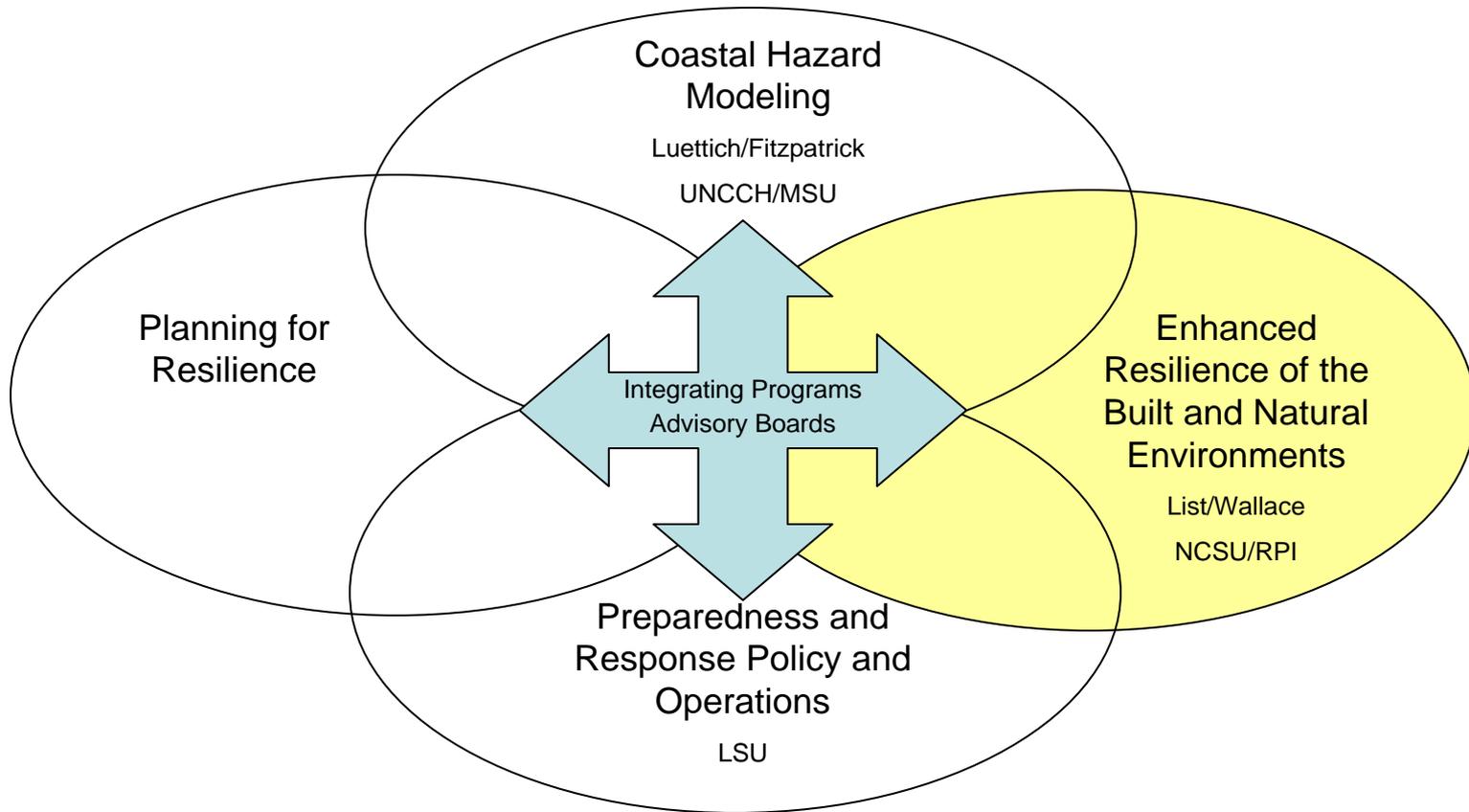
R. Kolar – Oklahoma

J. Gourley - NOAA NSSL

Coastal Ocean Response

R. Luettich – UNC

J. Hanson – US ACE



Integrating Programs

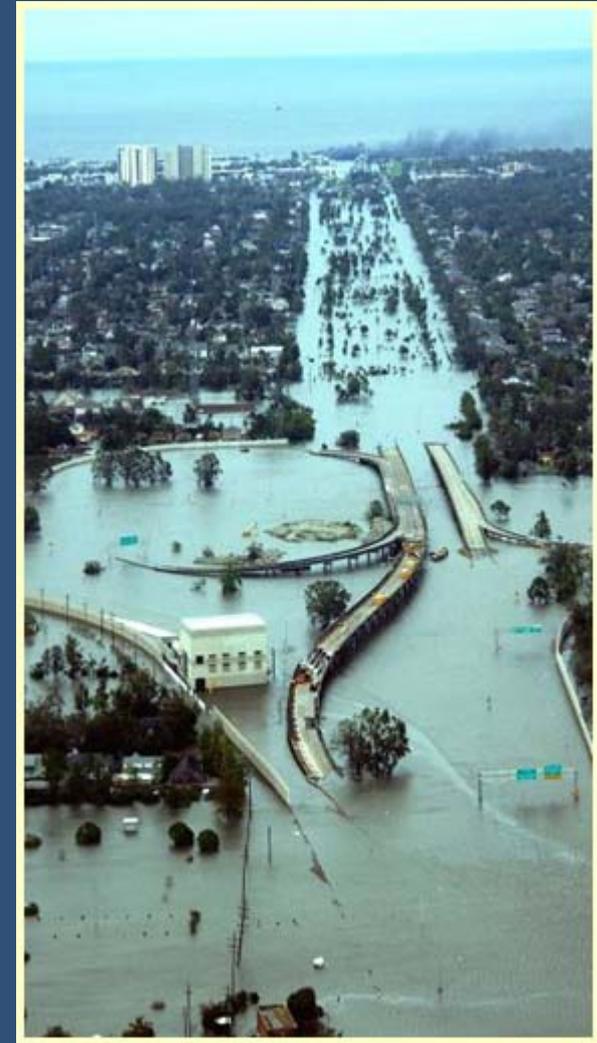
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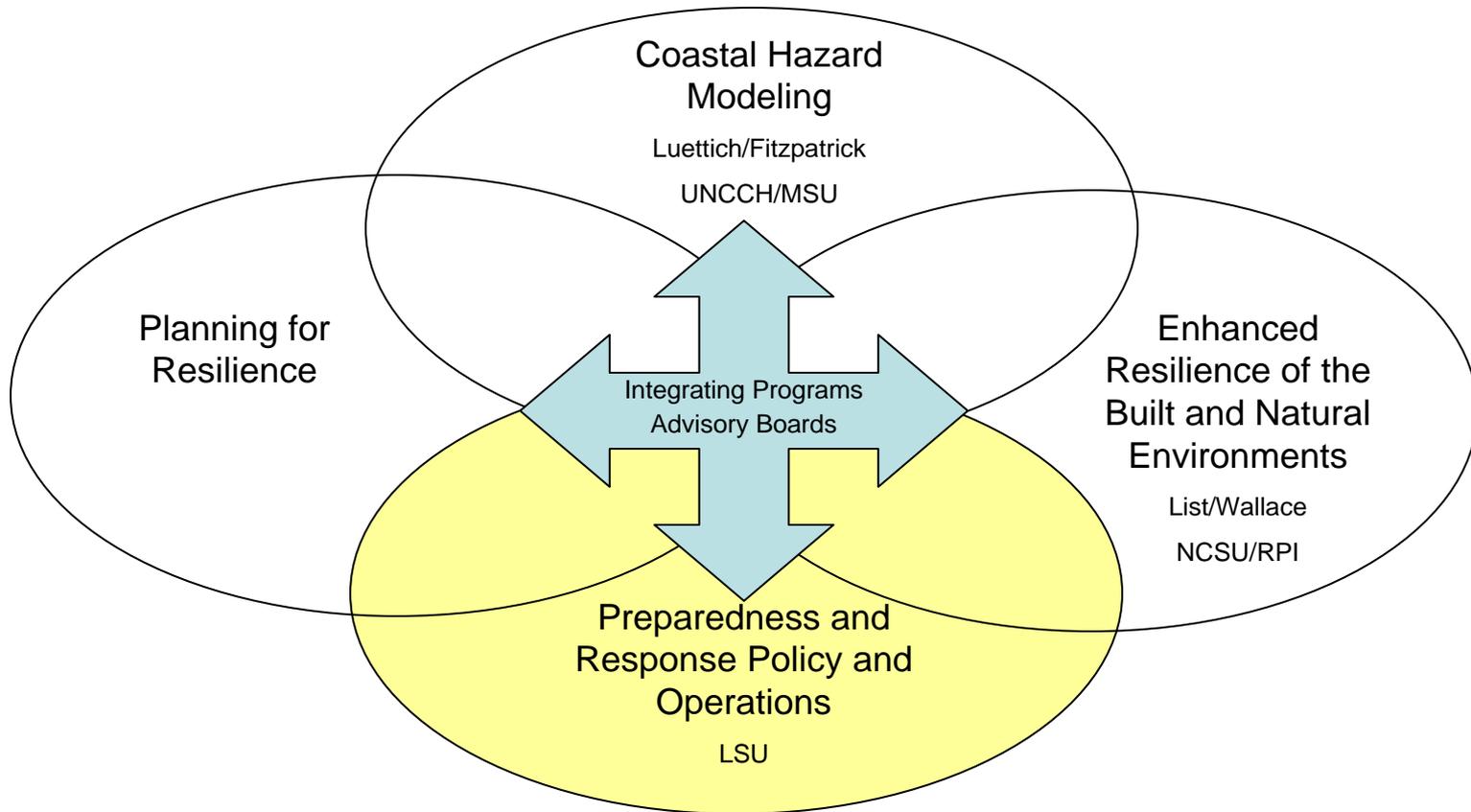
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Enhanced Resilience of the Built and Natural Environments

- Focus: New ways to make infrastructure more resilient to both short-term hazard events and long-term coastal changes
- Projects:
 - Coupling coastal processes with engineered and evolved landforms
 - Integrating prognostic/diagnostic tools with enhanced observability
 - New paradigms and criteria for resilient design
 - Modeling the resilient behavior of interdependent infrastructures
 - Advances in cyberinfrastructure to support resilient design and system management
 - Psychological Adjustment Following Coastal Disasters: Identification of Risk and Protective Factors for Families





Integrating Programs

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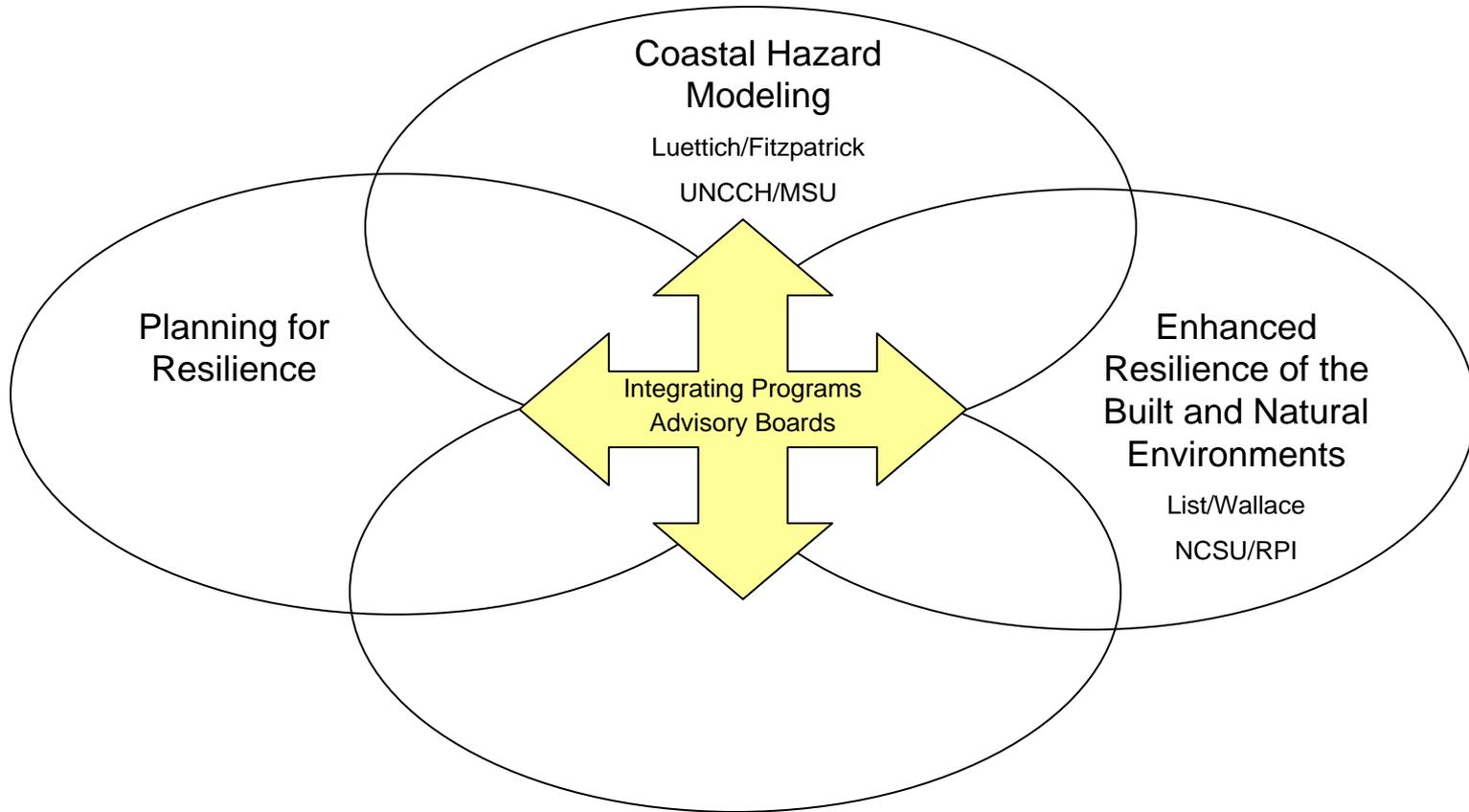
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Preparedness and Response Policy and Operations

- Evacuation Models and Dynamics
- Computational Network Modeling
- Optimizing Knowledge Networks in Disaster Response
- Analysis of Emergency Supply Chain Management
- Multi-Organizational Collaborative Leadership
- Espoused Perception and Preferences
- Revealed Preferences
- Risk-Based Planning





| Integrating Programs | | |
|-------------------------------------|------------------|-----------------------------------|
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| RENCI/UNCC | JSU | ?? |

| Advisory Boards |
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| Foundations |

Education

- Research and Development with Feedback and Verification
- Continuous Improvement
- Natural Disaster, Coastal Infrastructure, Emergency Management focused
- Innovative Delivery Methods and Curriculum Development
- Education Support Portal and Continuous Learning
- Internships
- Undergraduate, Graduate, Professional and Educator Audience

Center as Catalyst

- NDCIEM
 - Partners: Jackson State University and Louisiana State University
 - Center Framework Expansion
- Inter-Center Collaborative Opportunities:
 - PACER – catastrophic planning and policy, modeling, preparedness (e.g. response networks)
 - CREATE – risk analysis and modeling, economic modeling
 - IDS – simulation
 - NVAC – UNCC, linkage to each focus area