

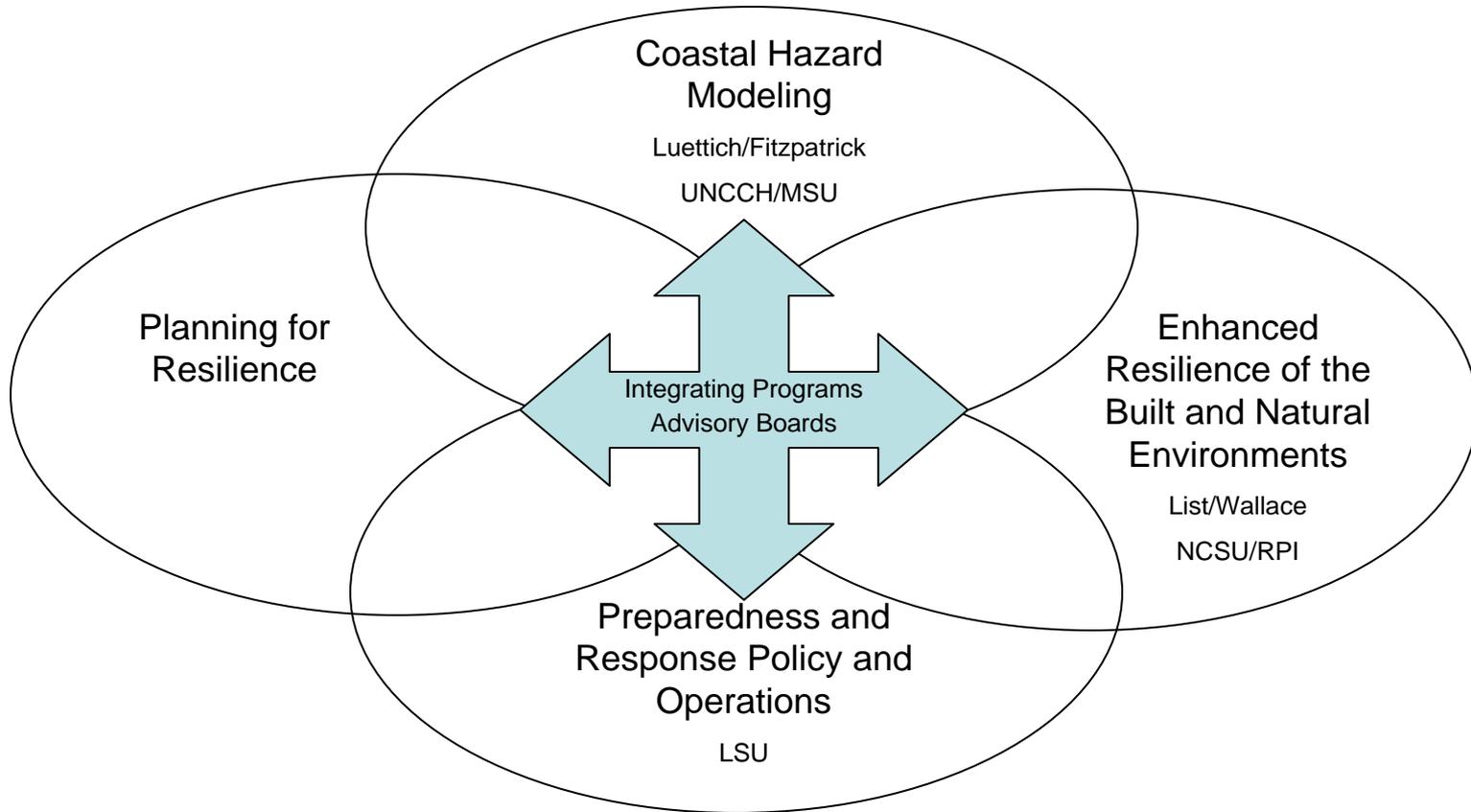
**DHS Center of Natural Disaster, Coastal Infrastructure and Emergency Management**

# 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

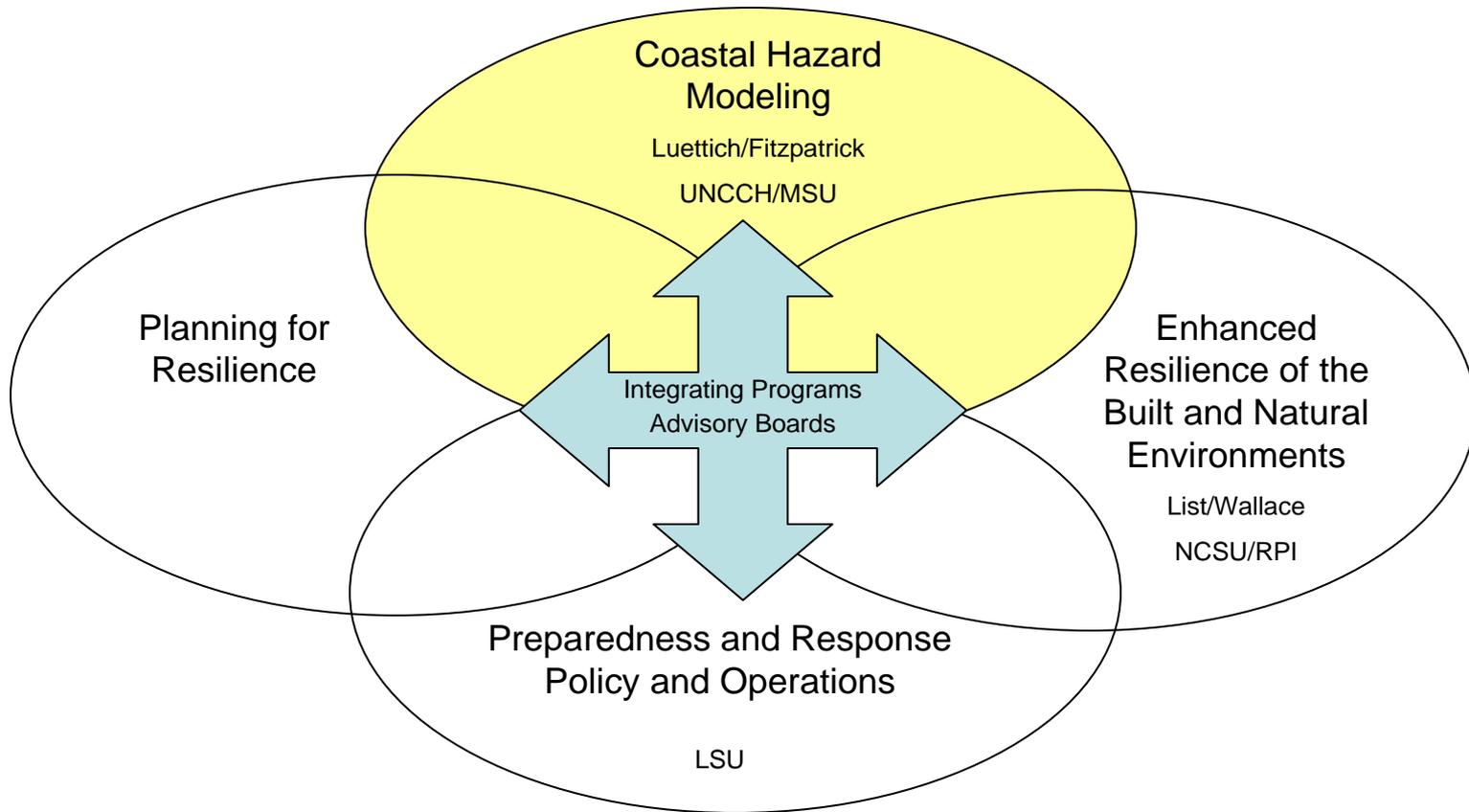


**Integrating Programs**

<u>Advanced Information Systems</u>	<u>Education</u>	<u>Engagement &amp; 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**

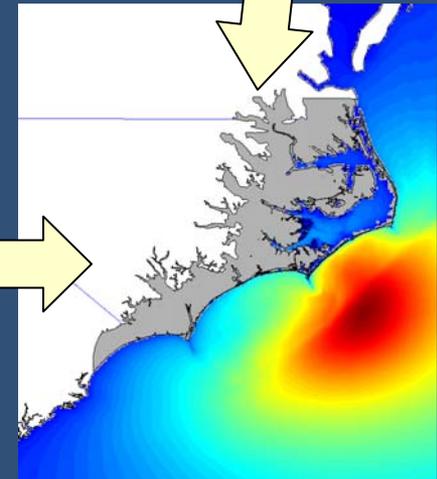
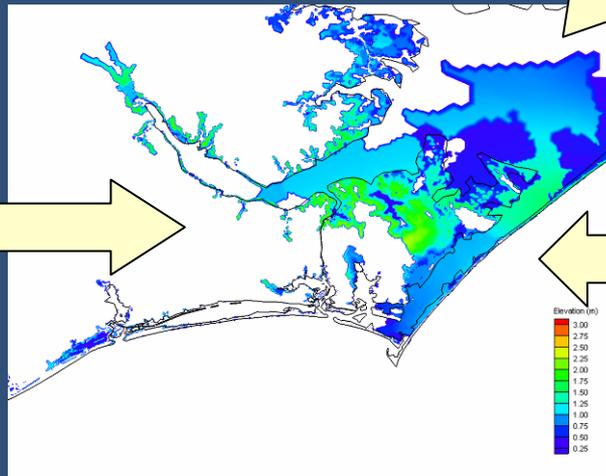
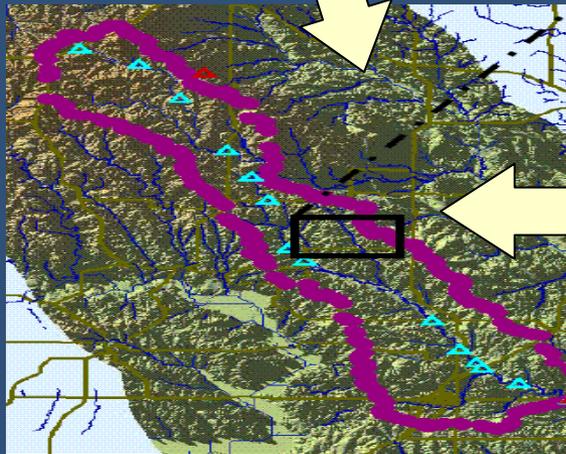
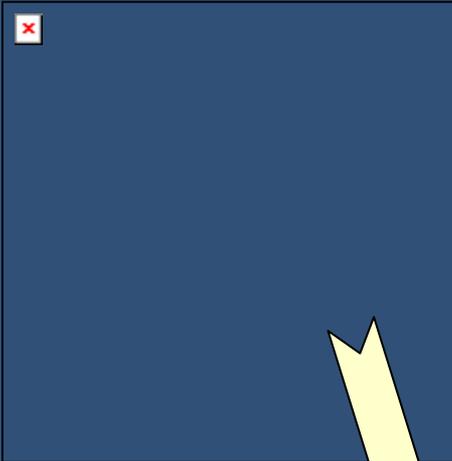
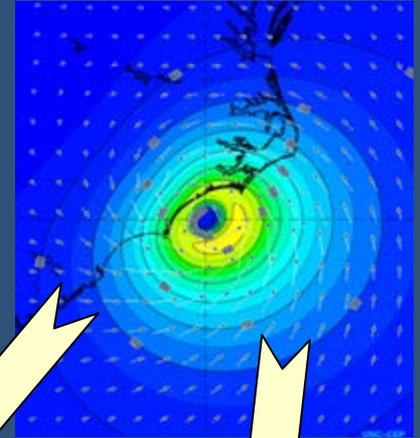
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# Coastal Hazard Modeling

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



**Hydrologic Modeling in Coastal Systems**

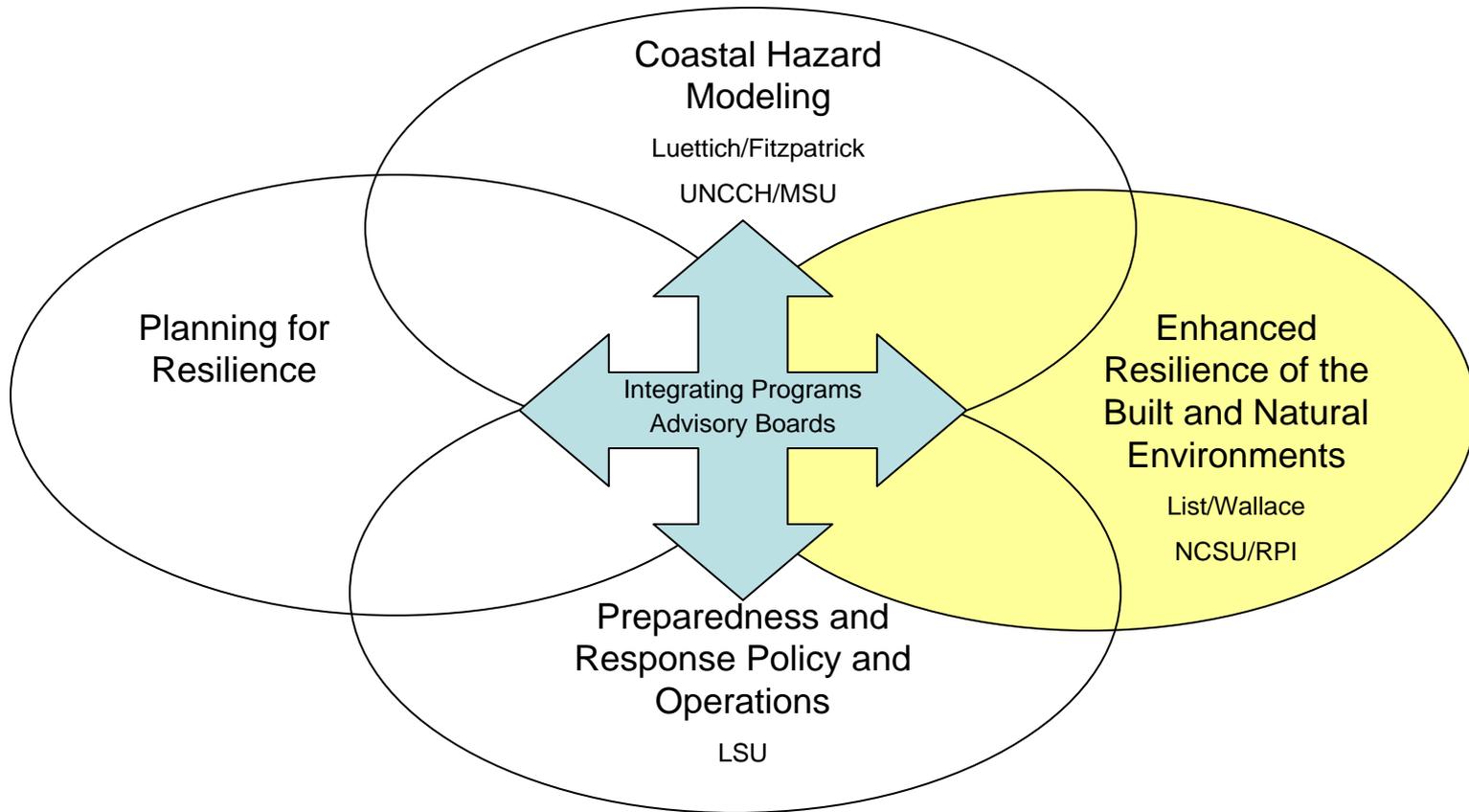
R. Kolar – Oklahoma

J. Gourley - NOAA NSSL

**Coastal Ocean Response**

R. Luettich – UNC

J. Hanson – US ACE



**Integrating Programs**

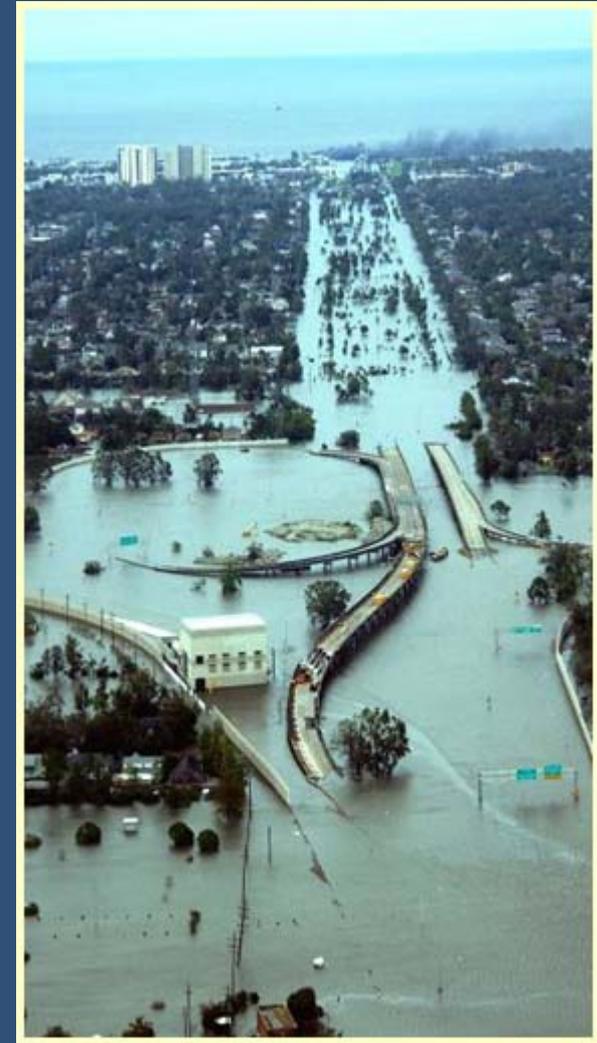
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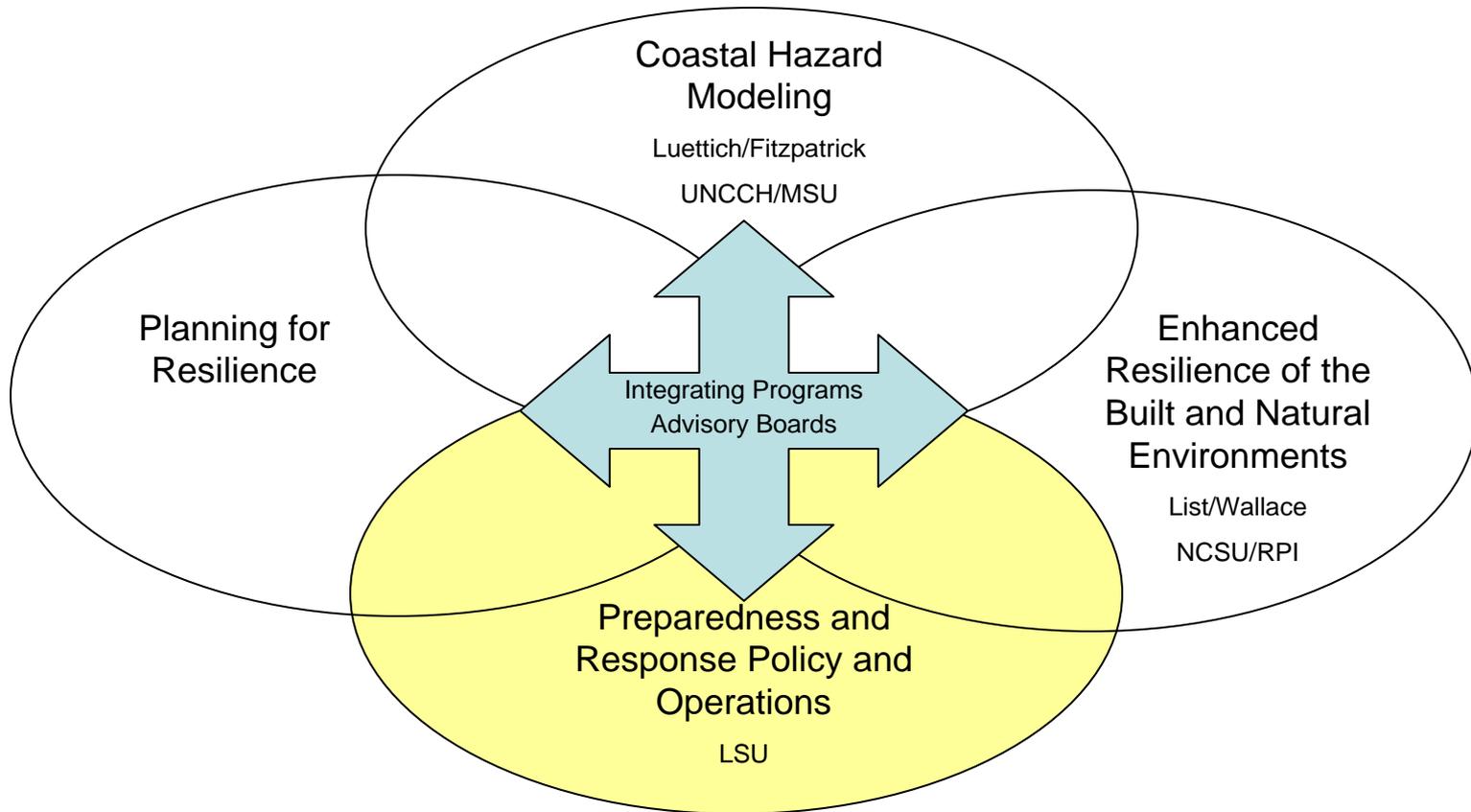
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# Enhanced Resilience of the Built and Natural Environments

- 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





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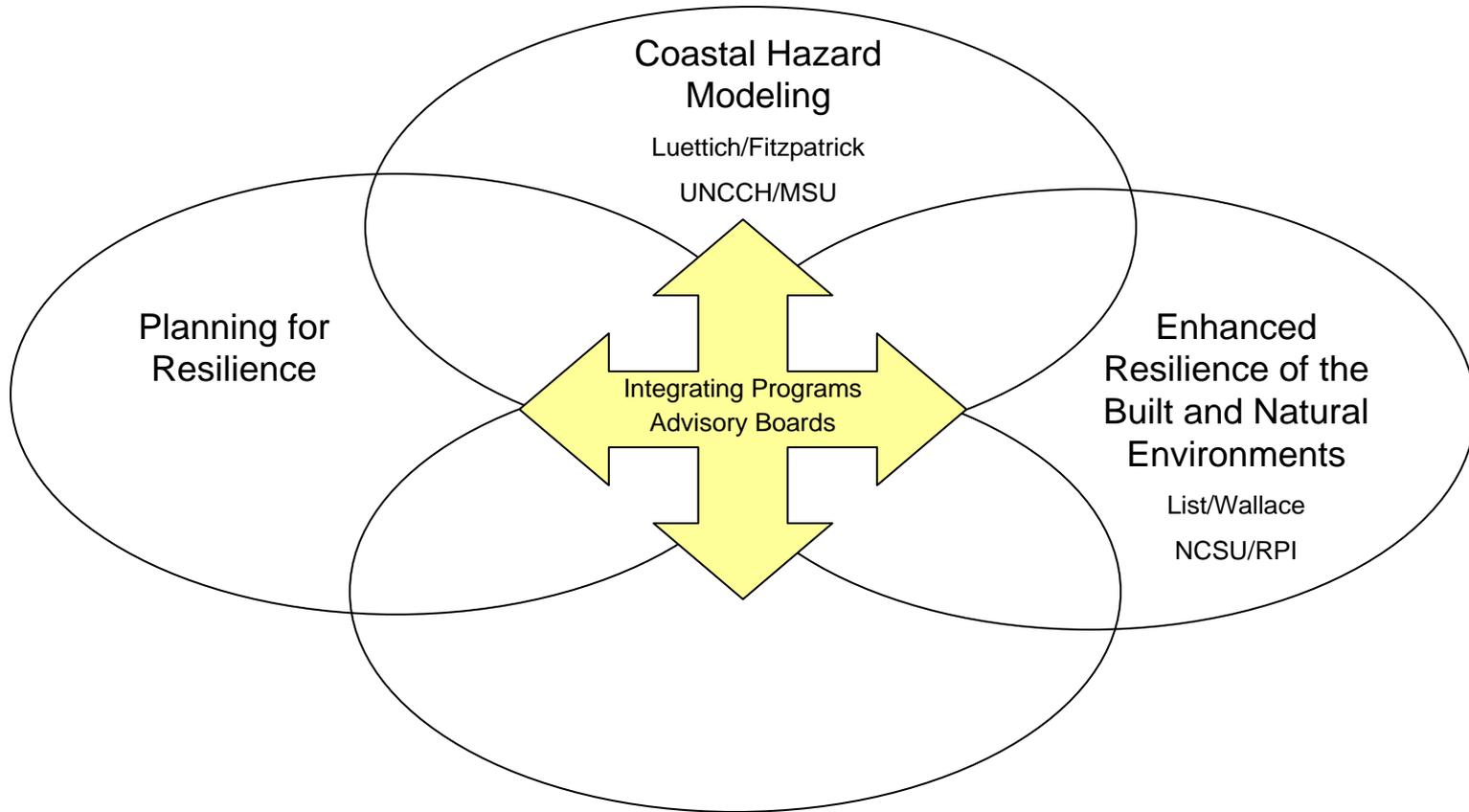
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# Preparedness and Response Policy and Operations

- 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





<b>Integrating Programs</b>		
<u>Advanced Information Systems</u>	<u>Education</u>	<u>Engagement &amp; Extension</u>
RENCI/UNCC	JSU	??

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# 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