Capacities that Promote Community Resilience: Can We Assess Them?

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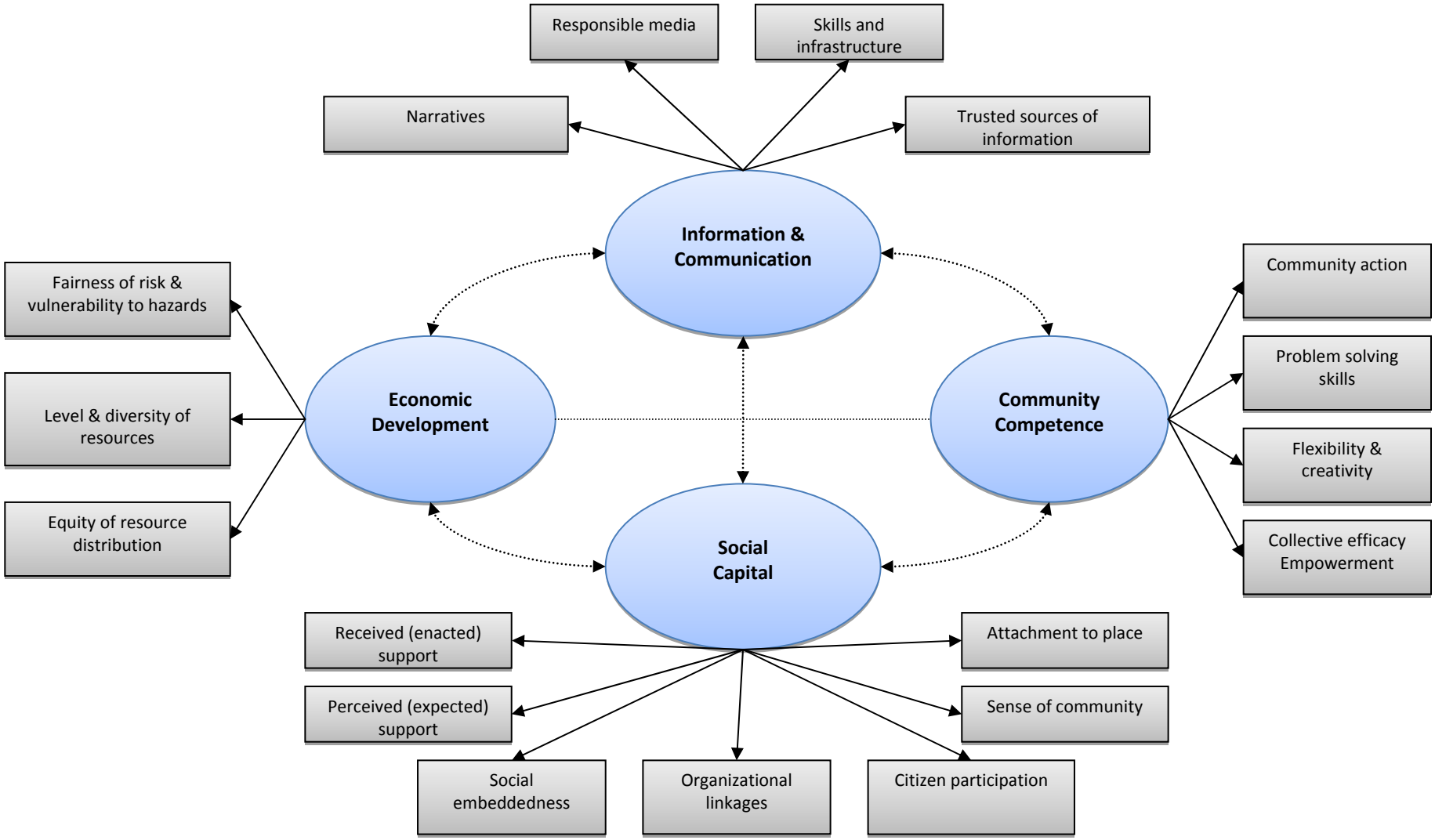
Community resilience project
Purpose and approach

- The overarching goal of the START-supported project is to clarify and quantify the concept of community resilience, so that it will be possible to assess – and enhance – the capacity of communities to respond to disasters and other extreme events.
- Approaches for clarifying the concept
  - "Investigator-derived" conceptions: Interdisciplinary review of resilience literature.
  - "Naïve" conceptions: Concept mapping exercises with three neighborhood groups.
- Approaches for assessing the concept
  - Community self-assessment (CART©)
  - Indices based on social indicator & archival data (focus of this talk)

Investigator conceptions
Conclusions from the review

- Across levels of analysis, resilience can be understood as a positive trajectory of adaptation after a disturbance, stress, or adversity.
- Community resilience is manifest in population wellness, defined as high and non-disparate levels of mental and behavioral health, functioning, and quality of life.
- Community resilience emerges from four sets of adaptive capacities
  - Economic Development
  - Social Capital
  - Information and Communication
  - Community Competence
- What this means is that resilience to disaster and terrorism rests not only or even primarily on traditional preparedness activities but on building *economically strong* communities whose members can *work together* and *use information* to *make decisions and act.*

Four sets of adaptive capacities



Key elements

- Economic Development
  - Resource level
  - Resource equity
  - Resource diversity
- Social Capital
  - Social support
  - Social participation
  - Community bonds, roots, and commitments
- Info & Communication
  - Infrastructure
  - Trusted information sources
  - Responsible media
- Community Competence
  - Collective action and decision making skills
  - Collective efficacy
  - Empowerment

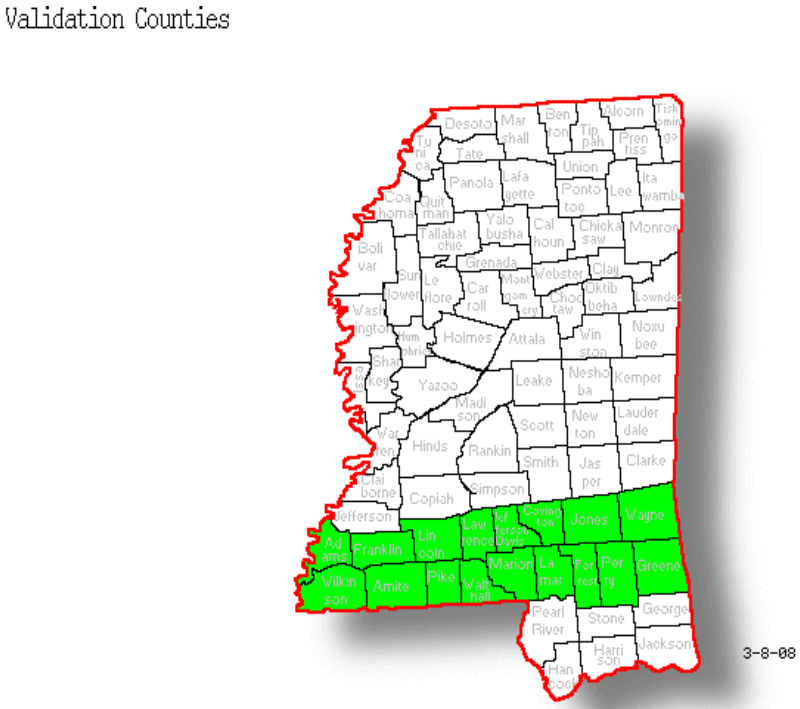
Conceptions of three Atlanta communities were similar to investigator conceptions

Investigator-derived capacities	Community groups		
	Uptown	Condo	East
Economic development	✓	✓	✓
Social capital	✓	✓	✓
Information & communication	✓	✓	✓
Community competence	✓		✓
Others (not in theoretical model)			
Direct preparedness activities	✓	✓	✓
Safety & security concerns	✓	✓	
Location (salience to others)		✓	

Using "concept mapping" procedures, the three groups were asked, "What features of your community would help it to bounce back from a terrorist attack or disaster." Blue ✓ is for the cluster with the highest average rating of importance.

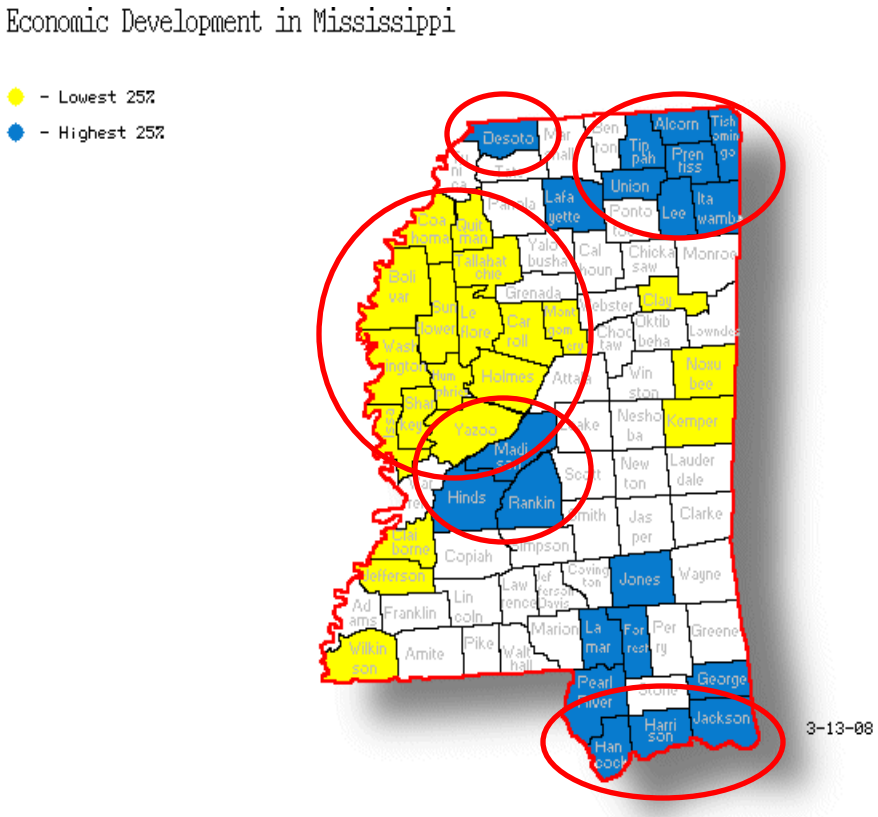
Assessing capacity for community resilience with social indicators

- County is unit of analysis
- Using publicly-available data as indicators of the four adaptive capacities
  - Can compare to SoVI.
- Mississippi chosen for pilot research
  - Can validate against survey data collected in 2007 across 17 Mississippi counties.



Economic Development (Measures selected to date, in progress)

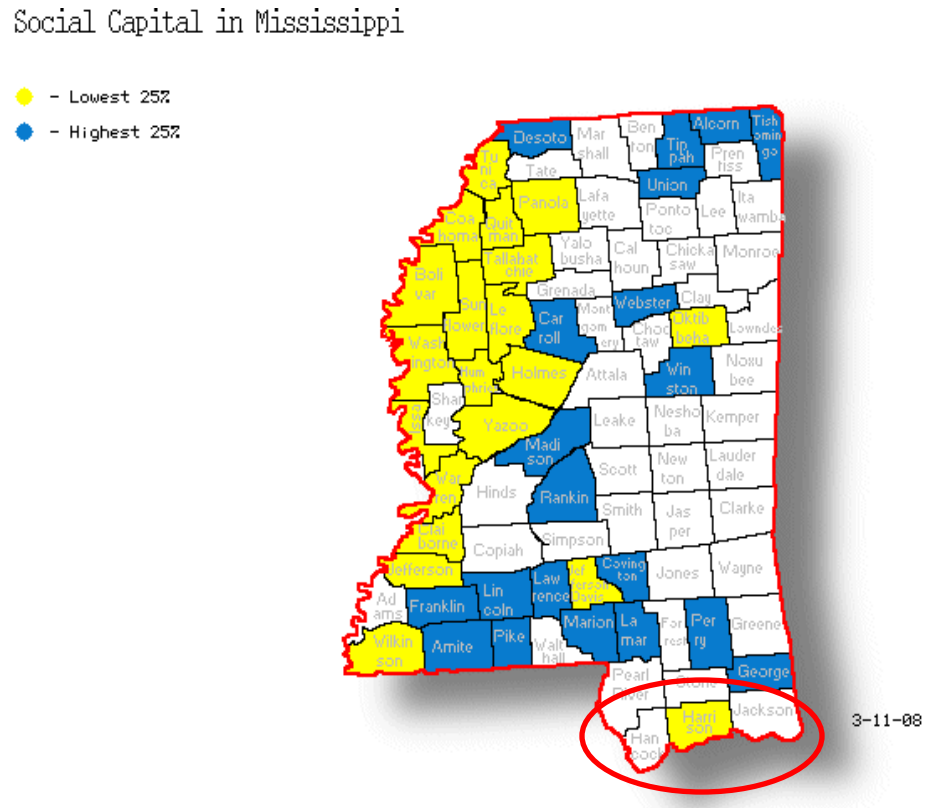
- Resource level
  - Employment rate
  - Median HH income
  - MDs per capita
  - Corporate tax revenues per capita
- Resource equity
  - Income equity
  - Housing equity
  - Education equity
  - Residential integration
- Resource diversity
  - Percent of workforce NOT employed by the single largest industry



Note: Many measures were averaged across multiple years; all data were pre-Katrina. The index was scored as the average of standardized scores of the components.

Social Capital
(Measures selected to date, in progress)

- Social supports
  - Ratio of married to female only-parent HHs (with kids)
- Social participation
  - Density of civic organizations
  - Density of arts & sports organizations
  - Religious adherents percent
  - Voting percent 2004
- Community bonds
  - Net (in) migration rate
  - Social order (inverse of property crime rate)



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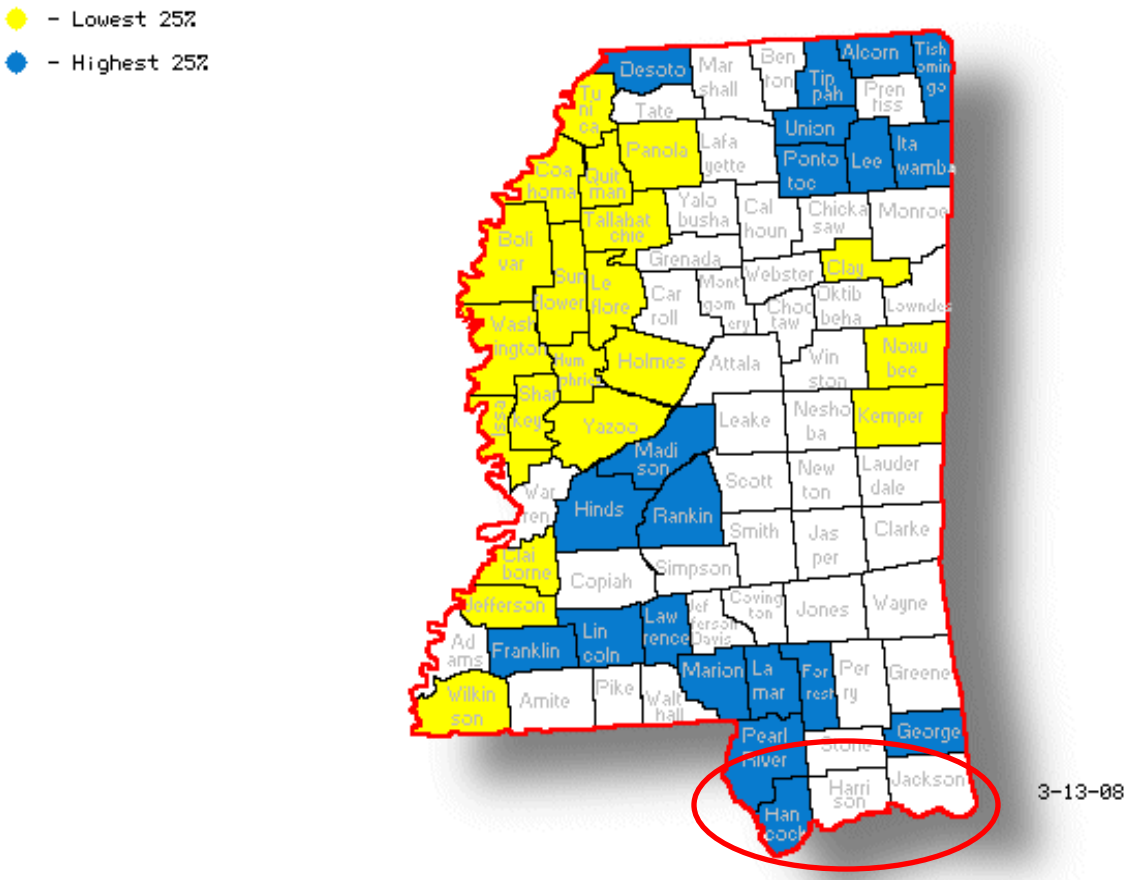
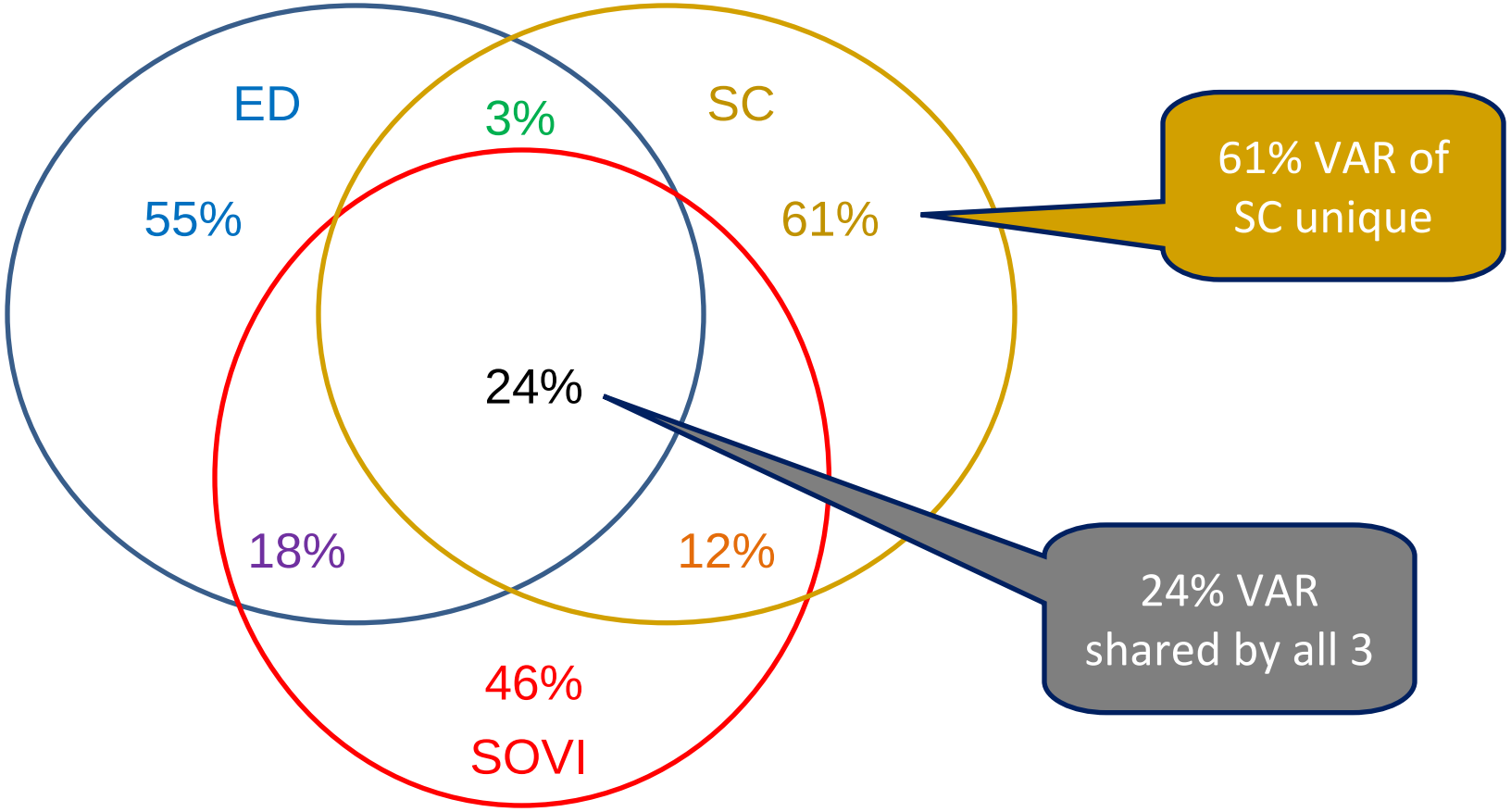
Preliminary results

Community Resilience in Mississippi

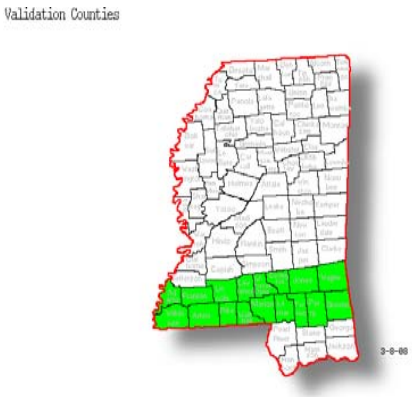


Community Resilience = Sum of Economic Development and Social Capital.

Variance shared by indices of Economic Development (ED), Social Capital (SC), and Social Vulnerability (SoVI)



Correlations: ED with SC = .52; ED with SoVI = -.66; SC with SoVI = -.60



Correlations between archival measures and survey measures in the 17 validation counties

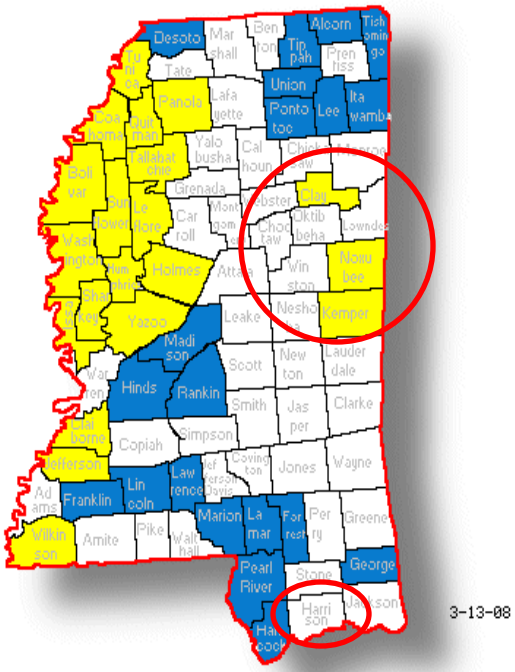
	Survey Measures		
Archival Measures	Quality of Life	Sense of Community	Community Efficacy
Economic Development	.38	.36	.09
Social Capital	.74	.84	.65
Community Resilience	.68	.73	.46
Social Vulnerability (SOVI)	-.51	-.34	-.22

The good news

Most MS areas at high risk for disasters are moderate or high in community resilience

Community Resilience in Mississippi

- Lowest 25%
- Highest 25%



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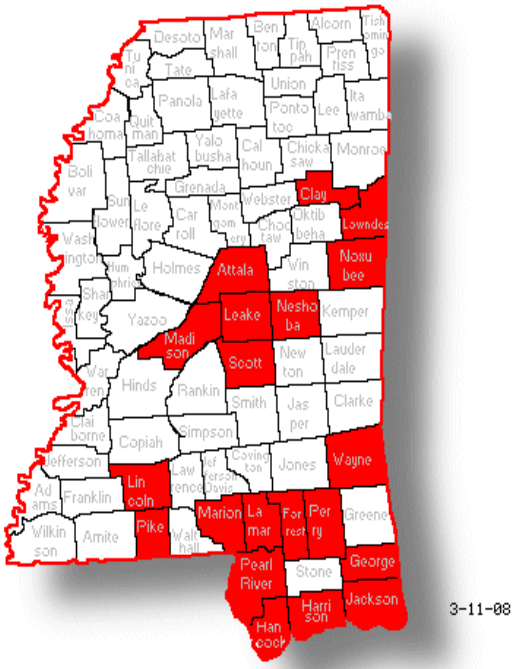
Disaster Risk in Mississippi (Based on 1998-2007)

- Highest 25%



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Exceptions are the eastern-central area (Clay-Noxubee Counties) and, to a lesser extent, Harrison County (low in SC)

Summary & future directions

- Community resilience provides a positive and proactive approach to enhancing disaster and terrorism preparedness.
- We have been exploring the value of the concept through a variety of approaches, including social indicators research, using Mississippi as our pilot case.
- Ideally, the CR index would be cross-validated on a national sample of counties for which both archival and survey data were collected.
- Once the index is validated, we can test whether community resilience lessens the public health consequences of major disasters and terrorist attacks.