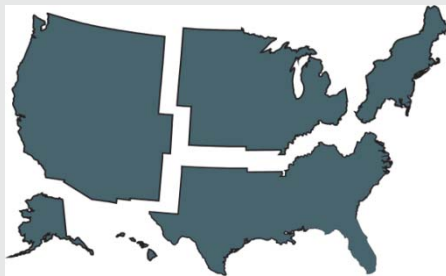


Entrepreneurs and Their Communities

Being Prepared: Is Your Business Ready for a Disaster?

October, 2011

Co-Sponsored by



RRDC
REGIONAL RURAL
DEVELOPMENT CENTERS



Housekeeping Details

- If you haven't already done so, **enter your name/email address into the chat box.**
- Session will be recorded.
- Feel free to type questions/comments at any time in the chat box.
- Evaluation http://is-nri.com/take?i=169127&h=YeE_0Dis-kE7tIL1bw0DEw

Disaster Resources for Small Business

Glenn Muske
Rural and Agribusiness Enterprise Development
Specialist
NDSU Extension Center for Community Vitality
Glenn.Muske@ndsu.edu



Federal

- FEMA – Federal Emergency Management Agency

- Support our citizens and first responders to ensure that as a nation we work together to build, sustain, and improve our capability to prepare for, protect against, respond to, recover from, and mitigate all hazards

- Business Preparedness -

- <http://www.fema.gov/business/protect.shtm>

Federal

- SBA – Small Business Administration
 - Emergency Preparedness and Disaster Assistance
 - Planning guides
 - Loans
- SCORE – Service Corp of Retired Executives
- DisasterAssistance.gov – Links to 17 federal agencies and resources if a disaster occurs
- Ready.gov – Emergency preparedness and disaster relief
 - Ready.gov/business

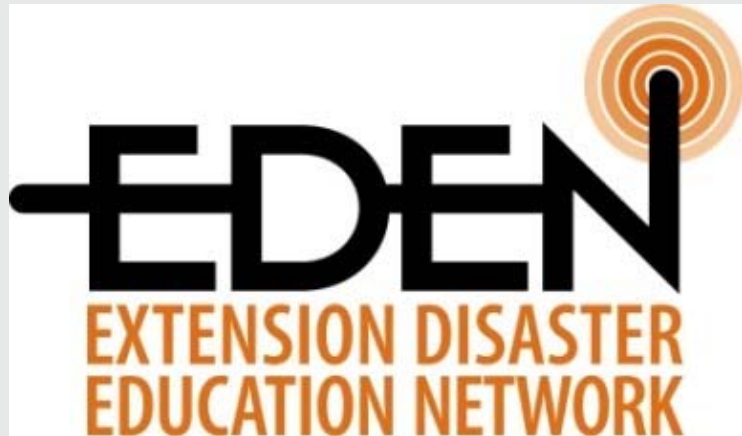
Federal

- National Flood Insurance – floodsmart.gov
 - Average business flood claim in last 5 years has been \$85,000
- Center for Disease Control and Prevention
- National Institute for Occupational Safety and Health
- National Institute for Business and Home Safety

Private

- Personal business insurance policies
- Red Cross
- Salvation Army
- Preparemybusiness.org – Sponsored in part by SBA
 - They state “40-60% of businesses do not reopen after a disaster.”

Ready Business




Ready Business.



Teaching Resources

www.EDEN.Isu.edu



Search



Reducing the Impact of Disasters
Through Education

State Information



News and Features:

[Sick Food Workers a Concern](#)

Research article indicates potential for sick food workers t..

[Ready Business Train-the-Trainer Webinars](#)

March 2, 4 and 11 webinars will share EDEN's Ready Busin
[Flood Preparation Webinar Offered February 21](#)

Join this Webinar discussion to learn how delegates and ed

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The Extension Disaster Education Network (EDEN) links Extension educators from across the U.S. and various disciplines, enabling them to use and share resources to reduce the impact of disasters.

From food safety to field safety, from physical to psychological, and from government to community development. EDEN has resources you can use.

State Agencies



Being Prepared: Is Your Business Ready for a Disaster?

George Haynes, Montana State University

Sharon Danes, University of Minnesota

Kay Stafford, Ohio State University

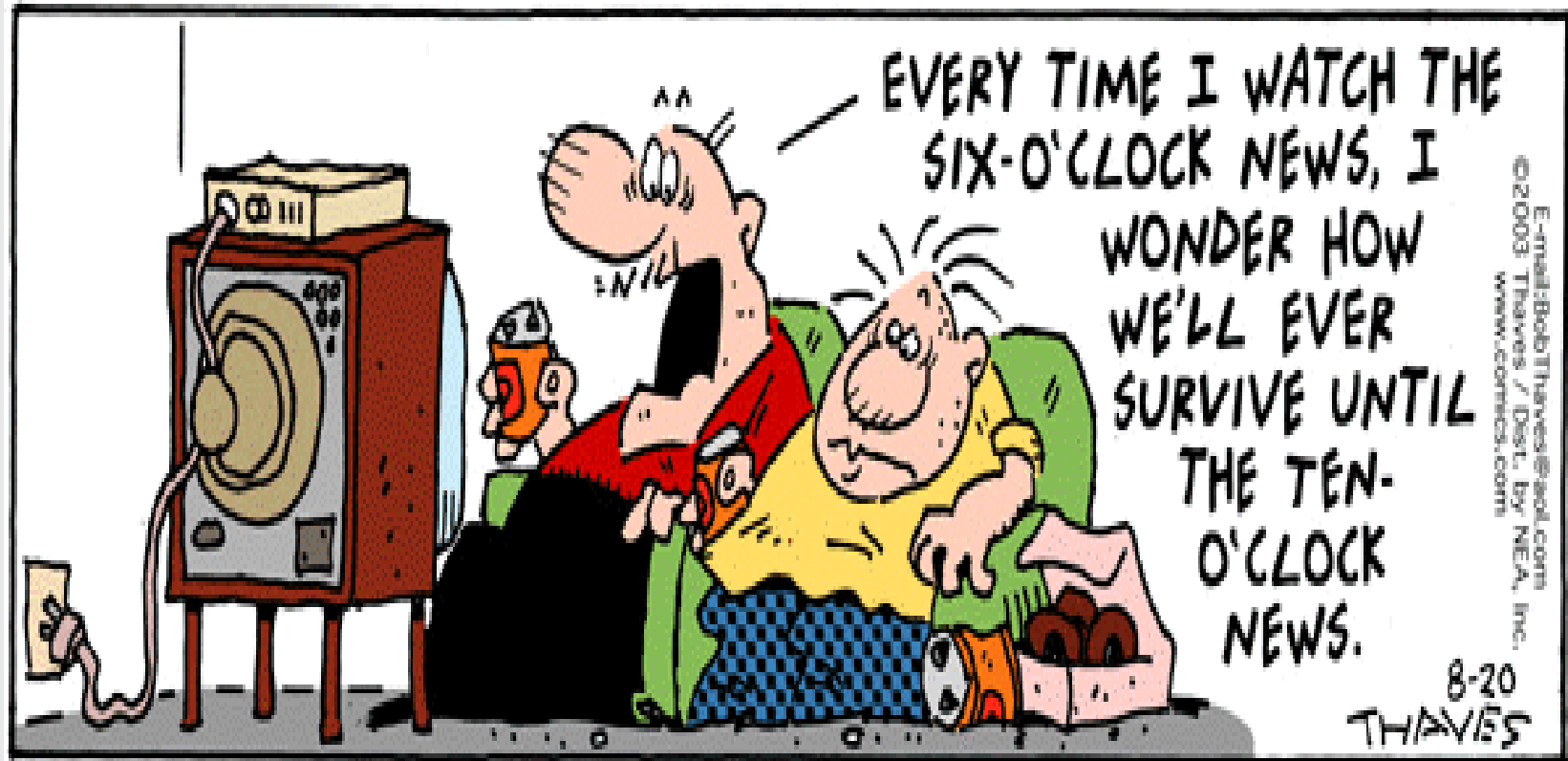


So what?

- NFIB (2004)
 - 30% of operating small business have been closed 24 hours or more in the last three years due to a natural disaster.
 - Most common – blizzard/ice storms/extreme cold
 - Biggest problems
 - Loss of sales and customer (62%)
 - Uninsured losses (18%)
 - Other problems
 - Computer viruses
 - Electrical power
 - About 40% had emergency preparedness plan.
- 40% of businesses never reopen after a disaster, but why . . .

Today's Outline

- Family Business Survival and Success
 - National Family Business Survey
 - SHELDUS
 - PERI
- Private sector preparedness
 - Education
 - Risk Assessment
 - Private Sector Preparedness Accreditation and Certification Program (*PS-PREP*) and others



FAMILY BUSINESS SURVIVAL AND SUCCESS

Family Business Model

- Our thoughts . . .
 - In a family business - - If you don't know the family, then you don't know the business (inextricably intertwined)
 - *Healthy families* combined with *healthy businesses* make *healthy family businesses* which are . . .
 - More likely to **survive** a natural disaster
 - More likely to **succeed** after a natural disaster

Family Business Model

- Our thoughts (continued)
 - Important factors for survival and success
 - Federal Disaster Assistance
 - County
 - Individual
 - Family Business Resilience
 - Family
 - Business

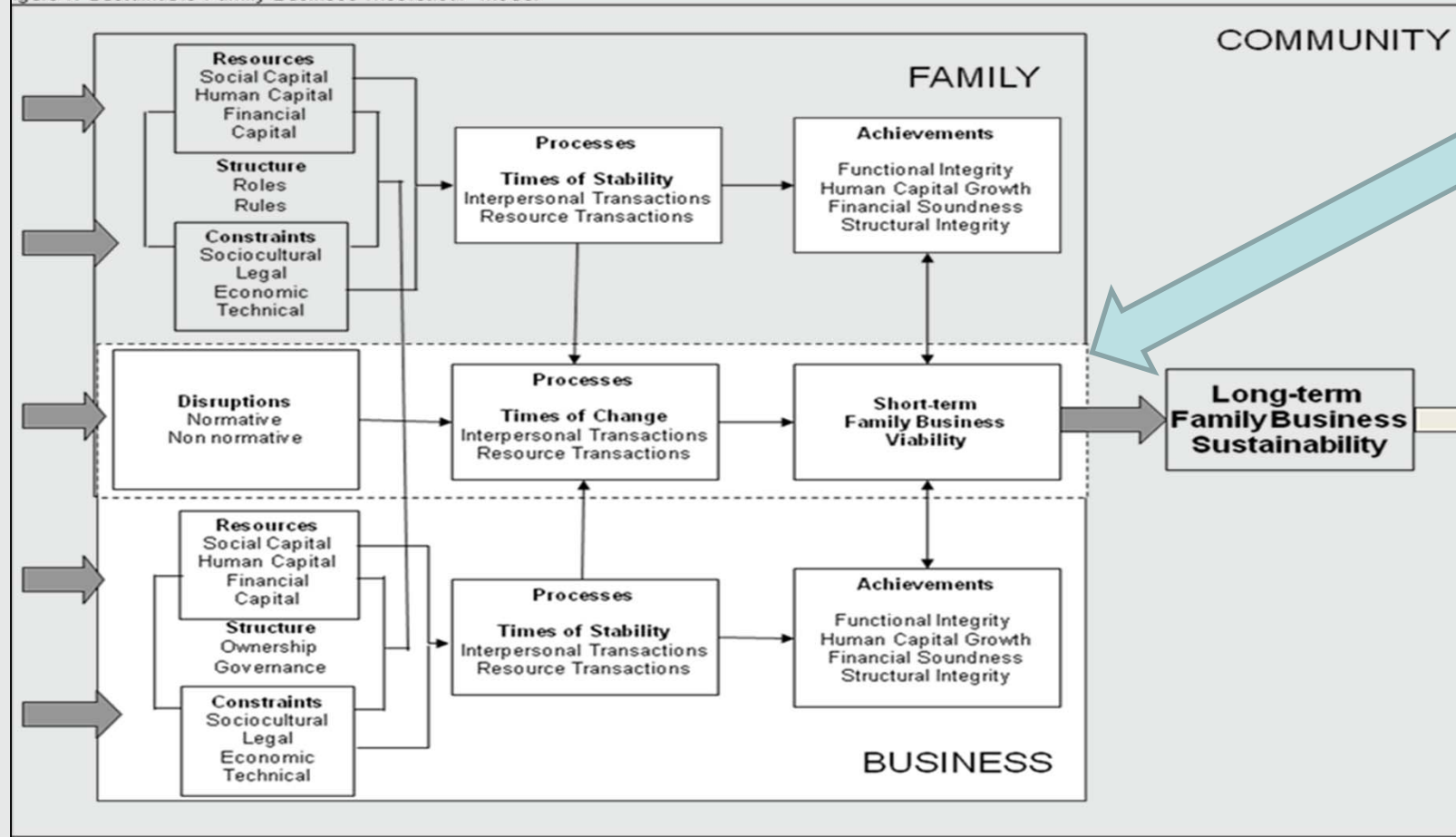


Family Business Model

- Our concerns . . .
 - Who is impacted most severely by natural disasters (who survives and succeeds)?
 - What factors contribute to the survival and success (recovery) of small businesses after a natural disaster?
 - Federal Disaster Assistance
 - Business
 - Family
 - Other factors

Sustainable Family Business Model

Figure 1: Sustainable Family Business Theoretical Model



What do we *know* – business literature

- Dahlhamer (1998)
 - marginally surviving businesses before the disaster were less likely to recover.
- Webb, Tierney & Dahlhamer (2002)
 - businesses that were in better pre-disaster financial condition were less likely to have recovered more than five years after the two focal disasters.
- Galbraith & Stiles (2006) and Zhang, Lindell & Prater (2009)
 - disasters accelerate existing trends
 - small businesses are at a disadvantage obtaining access to outside assistance from governmental agencies that would improve their probability of disaster recovery and/or their speed of recovery
 - larger businesses have a higher priority in communities for restoration of lifeline services

What do we *know* – business literature

- Cutter, Boruff & Shirley (2003)
 - Cyclical industries such as oil development, fishing, or coastal area tourism may experience periodic high incomes, but when hard times strike or when they are affected by a disaster, their economic resilience decreases and they take longer to recover
- Galbraith & Stiles (2006); French et al. (2010); Zhang et al. (2009)
 - certain industries thrive after disasters. They cite examples of construction, manufacturing and hospitality industries thriving after disasters
- Audretsch & Mahmood (1995)
 - larger and older manufacturing firms were more likely to survive.
- Van Praag (2003)
 - Businesses in the agriculture and repair services industries survived longer in an analysis of young white males' self employment

What do we *know* – business literature

- Sorenson, Brigham, Holubik, & Phillips (2004)
 - business size and profitability increased survival duration, but business growth was associated with shortened survival time.
- Dahlhamer (1998)
 - business size was the best predictor of disaster recovery.
- Webb et al. (2002)
 - younger firms were more likely to have recovered in Florida.
- Chang & Falit-Baiamonte (2003)
 - retail businesses and small business lost the most after the Nisqually earthquake.

What do we *know* – business literature

- Gallopín (2006); Holling (1986)
 - A history of past hazard exposure may enhance recovery in natural and social systems
- Dahlhamer (1998)
 - the more business disruptions reported by a firm, the less likely it was to recover
- Wenger, James, & Faupel (1985)
 - when disasters occur frequently, people manage them as if they are routine
- Enarson & Morrow (1997); Tompkins & Adger (2003)
 - Firms undertake mitigation only when they perceive disasters as a major threat

What do we *know* – family literature

- Olson et al. (2003)
 - found that how the family managed the interface with the business accounted for 22 % of the variance in business gross revenues and 33% of the variance in perceived business success.
- Danes & Lee (2004); Danes & Morgan (2004); Green & Pryde (1989); Van Auken & Werbel (2006)
 - Firm success has also been shown to increase when family members help in the firm and provide emotional support to the owner
- Danes, Haberman, & McTavish (2005); Hoy & Verser (1994)
 - Firm success was negatively affected by heavy family demands, goal conflict between active and non-active family members

What do we *know* – family literature

- Masuo, Fong, Yanagida & Cabal (2001); Olson et al. (2003)
 - Firm management and family interactions affect firm success.
- Heck & Trent (1999); Stafford et al. (1999); Duncan, Stafford & Zuiker (2003)
 - The long held belief that work and family life are separate spheres operating independently has been challenged by studies that suggest that there are extensive, positive and negative bi-directional influences between work conditions and outcomes that affect family life and vice versa

What do we *know* – community literature

- Dahlhamer (1998)
 - concluded that recovery of a particular firm depended mainly on how neighborhoods, critical infrastructure, and the greater community were affected by disasters rather than on their direct physical damage.
- Danes, Stafford and Haynes (2008) and Haynes, Danes, and Stafford (2008)
 - firms located in economically vulnerable rural counties were more likely to survive, whether or not there was a disaster.

What do we *know* – disaster assistance

- Alesch et al. (2001)
 - disaster assistance helps individuals recover, but not businesses.
- Webb et al. (2000)
 - no significant effect of disaster assistance
- Dahlhamer and Tierney (1998)
 - post-disaster aid was negatively related to disaster recovery.
- Haynes, Danes, and Stafford (2008)
 - firms located in counties receiving more disaster assistance were not more likely to survive, however these firms were more likely to realize increases in revenue than firms located in counties

Data

- National Family Business Survey (NFBS)
 - 1997, 2000 and 2007
- SHELDUS (Spatial Hazards Events and Losses Database for the US)
- PERI (Public Entity Research Institute)
 - Richard Sylves, University of Delaware

NFBS

- Household sampling frame
 - In 1997, screened 14,000 households to find family business households
 - 794 respondents (71% response rate) - 708 completed both hh and bus surveys
- Waves 2000 and 2007
 - 2000 - 553 households or 3/4th of 1997 sample completing both surveys
 - 2007 – 290 households (50% of 2000 sample)

SHELDUS

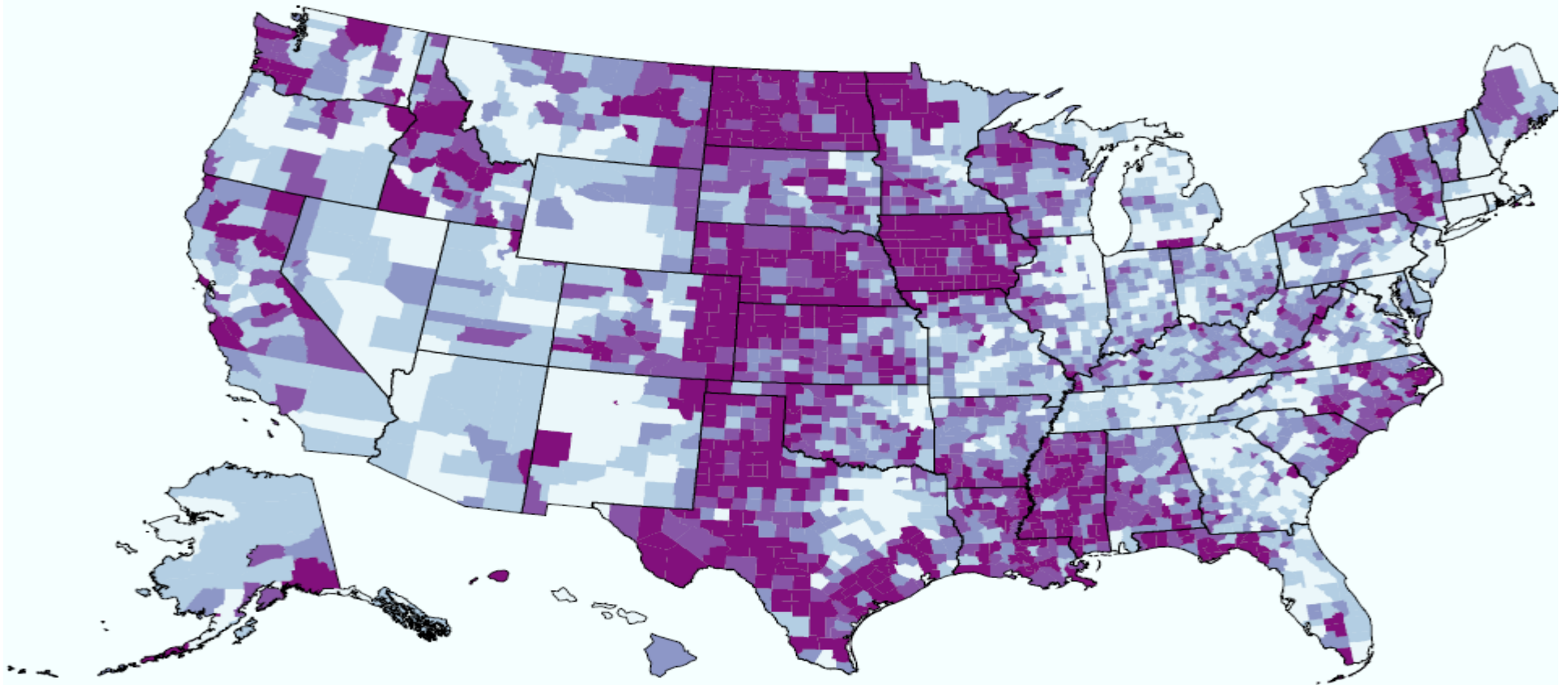
County level hazard database for the US for 18 different natural hazard events (thunderstorms, hurricanes, floods, wildfires and so on).

- Includes date, location (county), property losses, crop losses, injuries and fatalities.

SHELDUS

Begin Date	Hazard Type	State	County	Injuries	Fatalities	Property Damage*	Crop Damage*
8/18/2007	Flooding	MN	Fillmore	0.00	0.00	38000000.00	390000.00
8/19/2007	Flooding	MN	Fillmore	0.00	0.00	11000000.00	750000.00
6/8/2008	Flooding	MN	Fillmore	0.00	0.00	2100000.00	1800000.00
6/7/2008	Flooding	MN	Fillmore	0.00	0.00	750000.00	500000.00
6/8/2008	Flooding	MN	Fillmore	0.00	0.00	750000.00	800000.00
8/21/2007	Flooding	MN	Fillmore	0.00	0.00	6000.00	0.00
7/7/2008	Severe Storm/Thunder Storm - Wind	MN	Fillmore	0.00	0.00	6000.00	0.00
6/7/2007	Severe Storm/Thunder Storm - Wind	MN	Fillmore	0.00	0.00	5000.00	0.00
9/21/2007	Severe Storm/Thunder Storm - Wind	MN	Fillmore	0.00	0.00	5000.00	5000.00
7/7/2008	Severe Storm/Thunder Storm - Wind	MN	Fillmore	0.00	0.00	5000.00	0.00
Total				0.00	0.00	52643350.00	4265000.00

SHELDUS



Legend

- 14.50 - 500.00 US\$/capita
- 500.01 - 1,250.00 US\$/capita
- 1,250.01 - 2,500.00 US\$/capita
- 2,500.01 - 5,000.00 US\$/capita
- 5,000.01 - 545,000.00 US\$/capita

**Crop and Property Damages
from Natural Hazards
(1960 - 06/2004)**

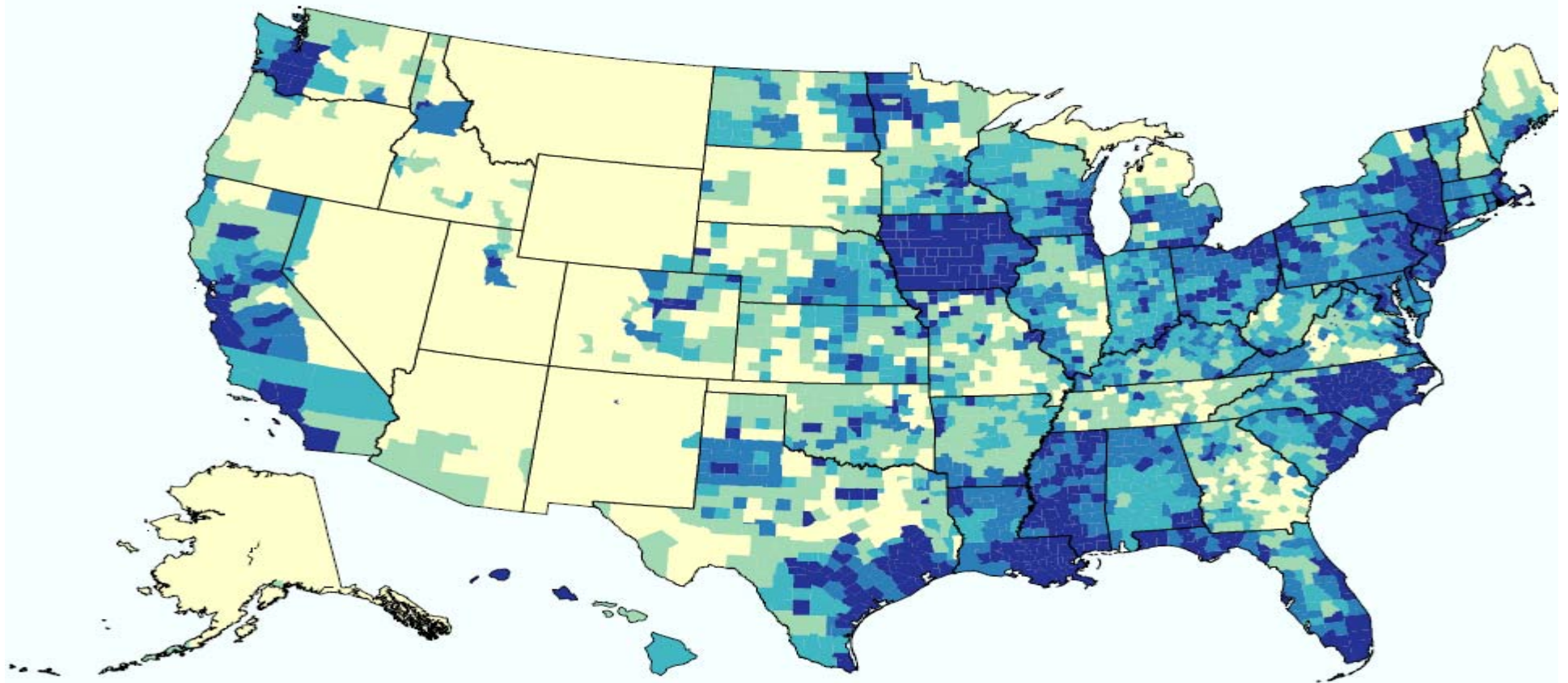
0 62.5 125 250 375 500 Miles

Hazards Research Lab
October 2005

Source: SHELDUS version 3.1
Classification: Quintiles (US\$ adjusted to 2004)
Created in ArcGIS 9 using ArcMap



SHELDUS



Legend
1.50 - 25,000.00 US\$/square mile
25,000.01 - 60,000.00 US\$/square mile
60,000.01 - 111,000.00 US\$/square mile

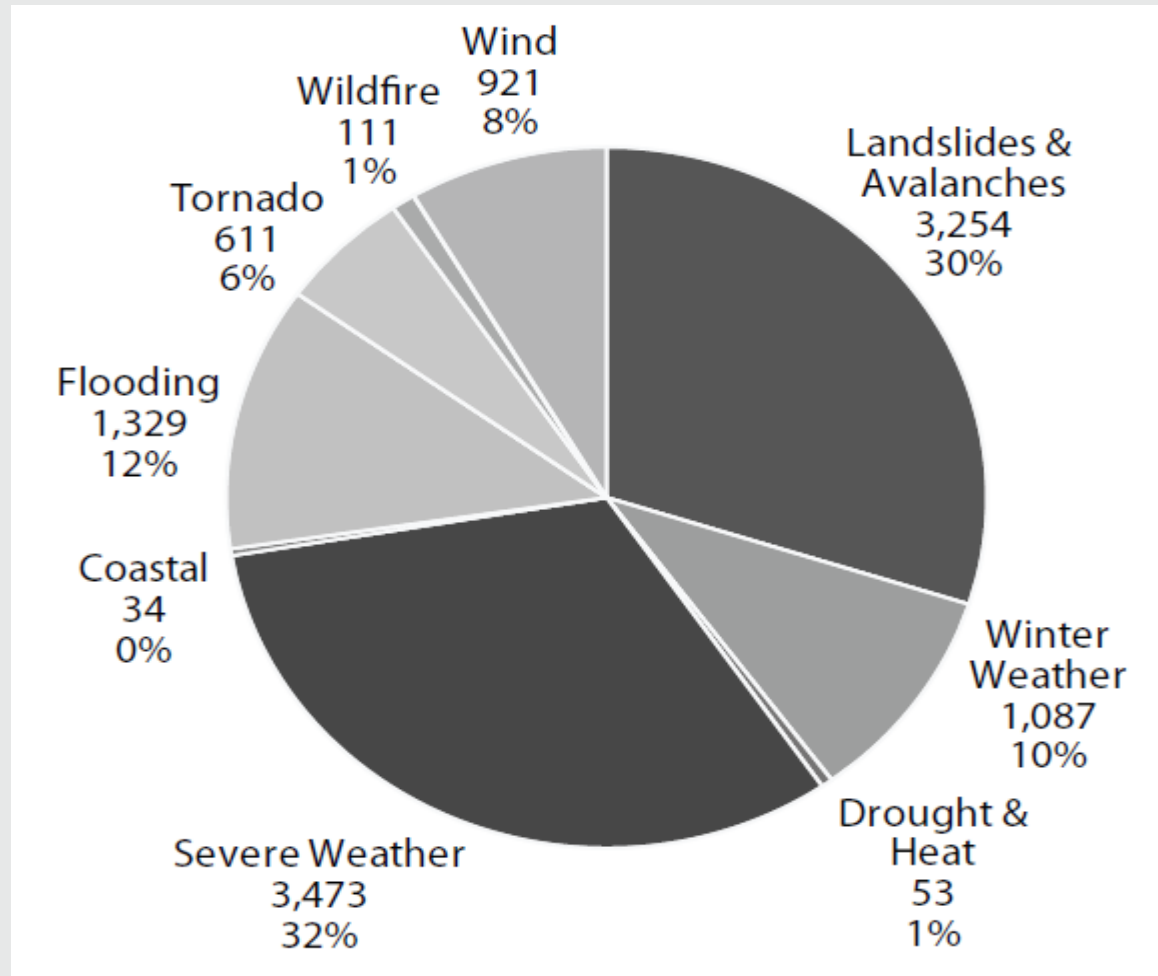
**Crop and Property Damages
from Natural Hazards**

Hazard's Research Lab
October 2005



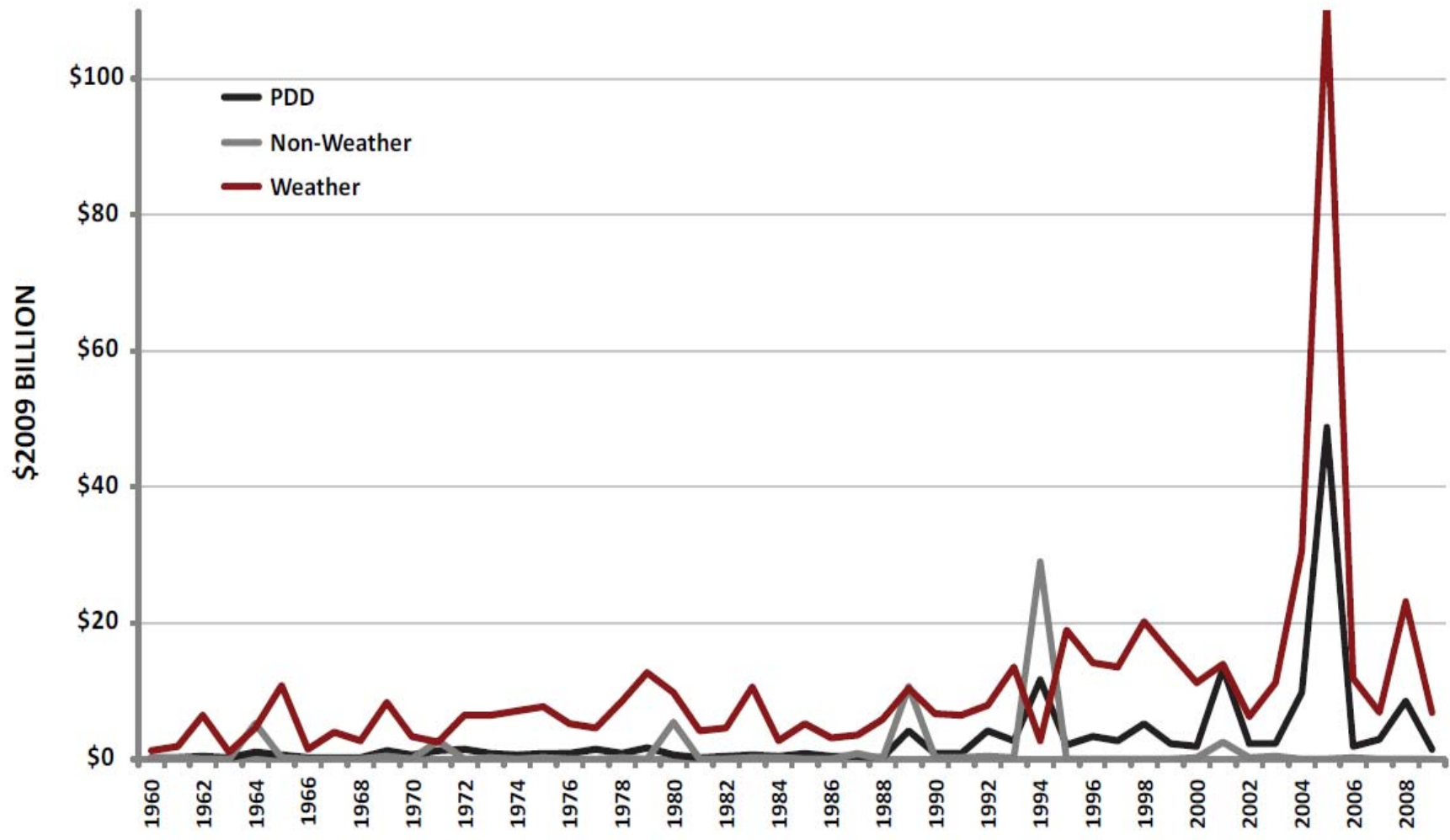
SHELDUS

Breakdown of Losses by Cause



SHELDUS

Annual Losses and Presidential Disaster Declarations



PERI

Date	Type	Disaster Desc	Constant 2009 \$	President
08/23/2007	W	SEVERE STORMS AND FLOODING	86,363,595	GWBush
06/25/2008	F	SEVERE STORMS AND FLOODING	7,935,504	GWBush

Haynes, Danes & Stafford (2011)
Influence of Federal Disaster Assistance on Family
Business Survival and Success, *JCCM* 19(2), 86-98.

- Model (what's different)
 - Determinants of *Survival (or Success)*
 - *Federal Disaster Assistance to County*
 - *Community characteristics (vulnerability)*
 - *Business characteristics (employees, SIC, age, home-based)*
 - *Business manager characteristics (goals, way of life, age, gender, experience)*
 - *Intermingling of business and family resources*
 - *Resilience capacity of family (response to hectic times, functional integrity of family, cognitive predisposition to coordinate harmoniously)*
 - *Transfer of funds from business to household*

Haynes, Danes & Stafford (2011)
Influence of Federal Disaster Assistance on Family Business Survival and Success, *JCCM* 19(2), 86-98.

- Findings (contributions to the literature)
 - Survival
 - No impact from Federal Disaster Assistance
 - Economically vulnerable rural county (+)
 - Transfer business income to household (+)
 - Woman-owned business (-)
 - No impact of family resilience
 - Success
 - Federal Disaster Assistance in 1999 (+)
 - Employees (+)
 - Woman-owned business (+)
 - Transfer business income to household (+)
 - Family functional integrity (+)

Stafford, Danes, Brewton & Haynes (2011)

Business Experiences with Disasters and Disasters Assistance, in-process.

- Model (what's different)
 - Determinants of *Survival (or Success)*
 - *Federal Disaster Assistance to county*
 - *Federal Disaster Assistance to the family business*
 - *Business characteristics* (employees, corporation, SIC, age, profit)
 - *Business manager characteristics* (age, marital status, output focused)
 - *Business income as percent of total household income*
 - *Resilience capacity of family*
 - *Negative stress index*
 - *Consistent family leadership*
 - *Skipped or deferred family tasks during peak season*
 - *Family manager resource-focused*
 - *Family functional integrity*

Stafford, Danes, Brewton & Haynes (2011)

Business Experiences with Disasters and Disasters Assistance, in-process.

- Findings
 - Survival
 - Federal Disaster Assistance to County (+)
 - Federal Disaster Assistance to Family Business (+)
 - **Negative stress index (-)**
 - *The negative stressors were: death of a spouse, divorce, marital separation detention in a jail or other institution, death of a close family member, major personal injury or illness, and being fired from a job. The negative stress index is a sum of the number of potential negative stressors from this list that occurred in the past year.*
 - **Consistent family leadership (-)**
 - Success
 - Federal Disaster Assistance to Family Business (+)
 - **Negative stress index (-)**
 - **Consistent family leadership (+)**

Stafford, Danes, Brewton & Haynes (2011)
Business Experiences with Disasters and Disasters
Assistance, in-process.

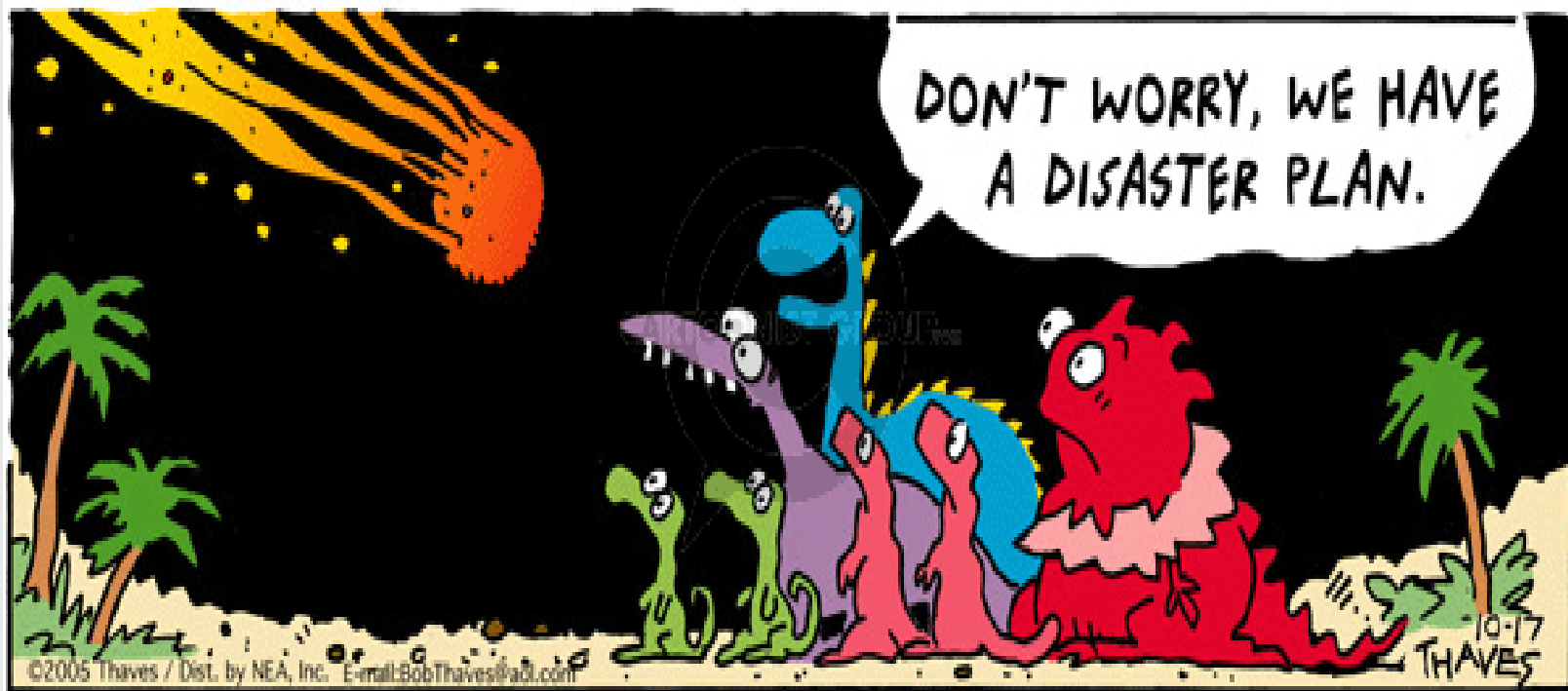
- Most important contributions
 - Federal Disaster Assistance has positive impacts on survival and success
 - Family resilience is important in family business
 - Negative stress index
 - Consistent family leadership



On the Horizon . . .

- DHS/FEMA
 - PS – PREP
 - Private Sector Preparedness (Public Law 10-53: Title IX)
 - Purpose – to stimulate creation of a more resilient and recoverable private sector business environment.
 - Voluntary program now





GETTING PREPARED

Educational Opportunity



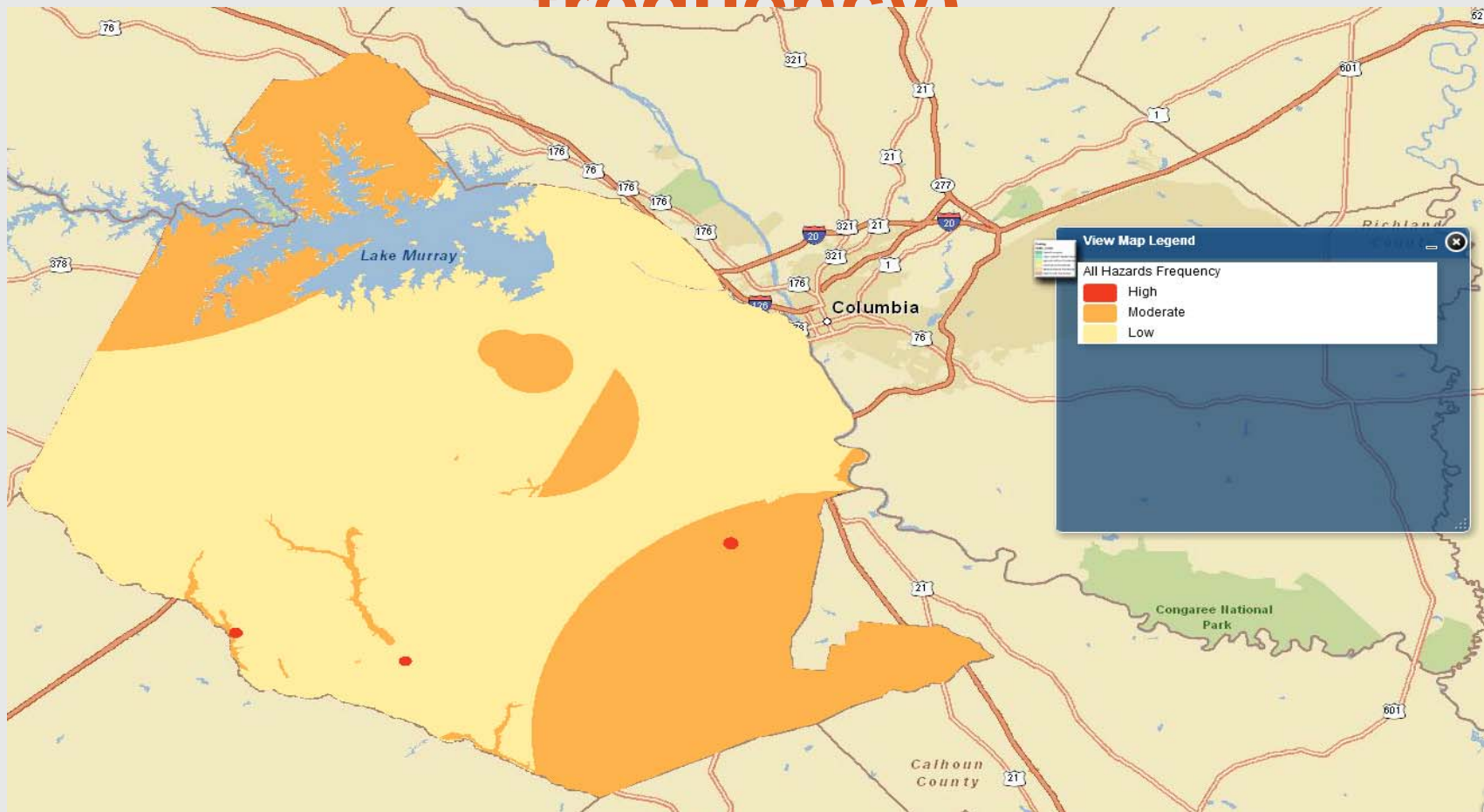
Ready Business: Developing a Business Continuity and Disaster Preparedness Plan for Your Business

Designed for land-grant university specialists, Cooperative Extension Service educators/agents, business leaders and others to teach small- and medium-sized business owners and managers how to prepare for disasters

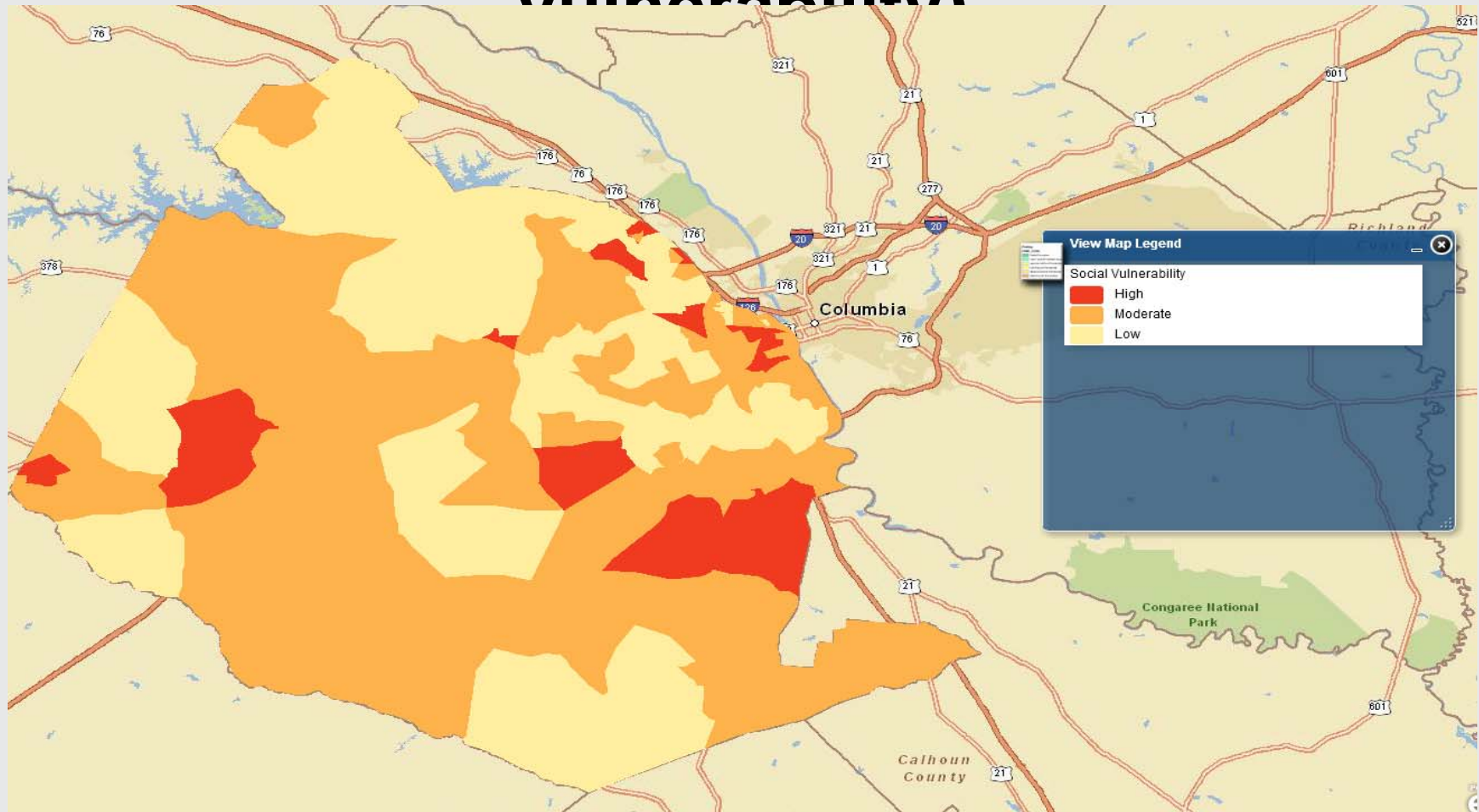
After taking part in this training, participants will:

- Understand the need for business continuity and disaster preparedness planning
- Know the concepts of business continuity and disaster preparedness planning
- Discover their disaster risks
- Begin writing their individual disaster plans

Integrated Hazards Assessment Tool (IHAT) (assessing your risk – hazards frequency)

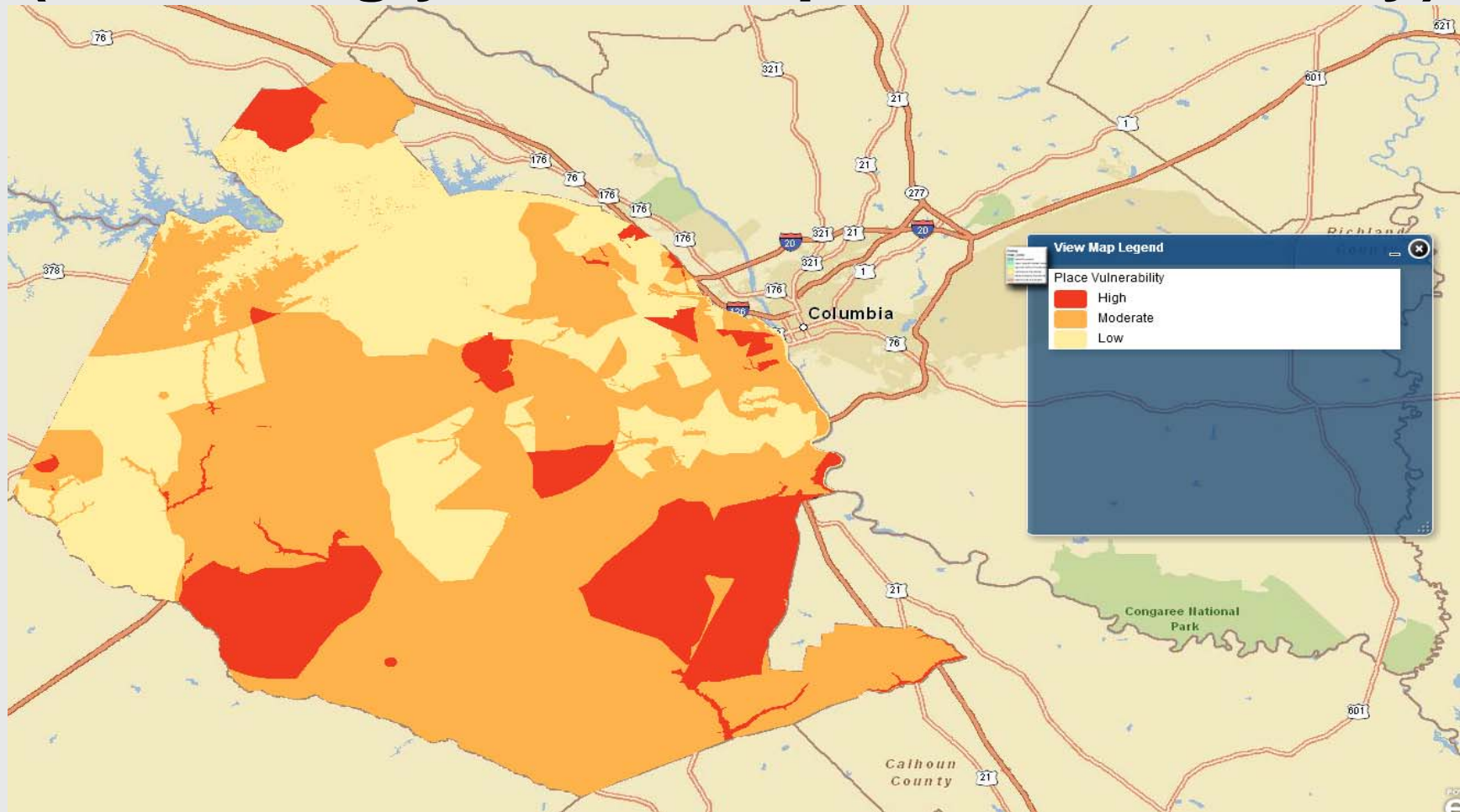


Integrated Hazards Assessment Tool (IHAT) (assessing your risk – social vulnerability)



Integrated Hazards Assessment Tool (IHAT)

(assessing your risk – place vulnerability)



Integrated Hazards Assessment Tool (IHAT)

Hazard Frequency

Select hazard frequency profile by:

☒ County

Lexington

Export to Excel

☐ Hazard

Avalanche

<u>Hazard</u>	<u>Events</u>	<u>Years In Record</u>	<u>ReturnPeriod</u>	<u>Annual % Chance</u>
Avalanche	0	49		
Civil Disorder				
Dam Failure				
Drought	1	59	59.00	1.69
Earthquake	6	310	51.66	1.93
Fire - wildfire hazard only	4341	21	0.00	20671.42
Flood	17	59	3.47	28.81
Fog	0	12		
Funnel Cloud	2	16	8.00	12.50
Hail	168	59	0.35	284.74
Hazardous materials (Hazmat)--fixed facility and transportation	274	22	0.08	1245.45
Hurricane/Tropical Storm	9	158	17.55	5.69
Landslide	0	49		
Lightning	7	16	2.28	43.75
Nuclear Power Plants	0	16		
Ocean & Lake Surf	1	16	16.00	6.25
Precipitation	0	15		
Severe Winter Storm	7	59	8.42	11.86
Temperature Extremes	0	16		
Terrorism	0	29		
Thunderstorm & High Winds	313	59	0.18	530.50
Tornado	22	59	2.68	37.28
Transportation - motor vehicle	53758	10	0.00	537580.00

Integrated Hazards Assessment Tool (IHAT)

Average Annual Losses

Select average annual SHELATUS losses (1960-2009) by:

☒ County

Lexington

☐ Hazard

Avalanche

Export to Excel

Hazard	Property Damage	Crop Damage	Fatalities	Injuries
Coastal	\$118	\$12	0.005	0.000
Drought	\$165,909	\$115,259	0.000	0.000
Flooding	\$22,250	\$13,624	0.025	0.080
Hail	\$3,719	\$4,247	0.000	0.005
Heat	\$161,564	\$64,214	0.000	0.000
Hurricane/Tropical Storm	\$19,450	\$2,132	0.000	0.000
Lightning	\$36,384	\$2,724	0.040	0.091
Severe Storm/Thunder Storm	\$22,338	\$15,173	0.055	0.170
Tornado	\$202,782	\$669	0.020	1.020
Wildfire	\$1,852	\$4,783	0.000	0.001
Wind	\$28,148	\$4,053	0.016	0.195
Winter Weather	\$37,301	\$269,258	0.055	0.017

DHS/FEMA

Business continuity and emergency management standards . . .

- The National Fire Protection Association's NFPA-1600- Standard on Disaster/Emergency Management and Business Continuity Programs dated 2007
- The American National Standard ASIS SPC.1-2009 Organizational Resilience: Security, Preparedness, and Continuity Management Systems- Requirements with Guidance for Use
- The British Standard Institute's BS-25999-2:2007 Business Continuity Management- Part 2: Specification.



Practical Solutions

- One option . . .

**Red Cross
Ready Rating™
Program**



Pre- and Post-Testing

1. Commit to membership
2. Conduct a hazard vulnerability assessment
 - Vulnerability of the business
 - How well is business is able to prepare for, respond to and recover from a disaster
3. Develop an emergency response plan
 - Plan in place
 - Written plan describing how the business will respond
 - Developed a Continuity of Operations Plan (COOP)

Pre- and Post-Testing

4. Implement your emergency response plan

- Training
- Equipment and supplies
- Employee preparedness
- Drills and exercises

5. Help others



Are you ready?

Score Card Summary

Section 1 Commit	Section 2 Assess	Section 3 Plan	Section 4 Implement	Section 5 Help Others
1. ____ of 10	2.1. ____ of 11 2.2. ____ of 11	3.1. ____ of 10 3.2. ____ of 15 3.3. ____ of 11	4.1. ____ of 6 4.2. ____ of 8 4.3. ____ of 14 4.4. ____ of 16	5. ____ of 11
Section Total = ____ of 10	Section Total = ____ of 22	Section Total = ____ of 36	Section Total = ____ of 44	Section Total = ____ of 11

Total Score = ____ of 123

What Missing for Family Business?

- Place risk assessment (SHELDUS and PERI)
 - Business and family - Excellent
- Social vulnerability (SHELDUS)
 - Business and family - Making progress
- Physical capital assessment
 - Business – excellent
 - Family – not included
- Human capital assessment
 - Business – excellent
 - Family – not included
- Financial capital assessment
 - Business – not included, except business records
 - Family – not included

Conclusions

- Family Business = Small Business
 - In a family business - - If you don't know the family, then you don't know the business (inextricably intertwined)
 - *Healthy families* combined with *healthy businesses* make *healthy family businesses* which are . . .
 - More likely to **survive** a natural disaster
 - More likely to **succeed** after a natural disaster

Thank You!

- All webinars are the 2nd Thursday, 2:00pm ET
- November 10th we will explore ***The 1099 Economy*** with Erik Pages, Entreworks Consulting.
 - Presentation explores increasing number of Americans working on individual contracts with employers or customers.
- Evaluation @ http://is-nri.com/take?i=169127&h=YeE_0Dis-kE7tIL1bw0DEw
 - You'll receive an email shortly with the link

