

Special Topics

McIntosh County Disaster Resiliency Assessment

The purpose of this section is to assess at the county level key components of disaster resiliency. Housing location and quality as well as planning activities can help reduce impacts from disaster events and allow for faster recovery. Disasters can include tornadoes, extreme weather, high winds, as well as man-made events. These events may largely be inevitable, but the ability to reduce damage and casualties as well recovery can be improved with good planning.

C.0 Comprehensive Plans & Hazard Mitigation Plans

There are 7 key cities within the county (Eufaula, Checotah, Hanna, Stidham, Rentiesville, Hitchita, Shady Grove).

Comprehensive plans are the guiding documents for cities of various sizes to address key aspects of their community from land use, transportation, environment, housing, and economic development.

Studies have been completed for Eufala Lake to understand recreations uses and how this lake serves as a flood control mechanism.

(http://www.swt.usace.army.mil/Portals/41/docs/library/eufaula/Eufaula_final_eis/Appendix_E_Part_1_Recreation_Study_Report.pdf ; http://www.swt.usace.army.mil/Portals/41/docs/library/eufaula/Final_Master_Plan.pdf)

The other key plan for a city to manage, mitigate and plan for recovery related to disasters is a **Hazard Mitigation Plan** (or Emergency Management Plan). Often low density counties, the Hazard Mitigation Plan is done at the county level, though some cities may augment the county plan with a city plan.

McIntosh County does not have a current Hazard Mitigation Plan.

C.2.1.1. Historical Data on Natural Disasters and Other Hazards

Data on historical damages and casualties is typically collected as part of a **Hazard Mitigation Plan** preparation to determine the appropriate planning measures and actions to take before and after an event.

Flooding

All parts of the county may be subject to flash flooding, freeze-thaw flooding and extreme precipitation that can cause flooding, unrelated to the streams and rivers. Flooding, based on FEMA FIRM maps, does not show floodplain areas in the county. The National Flood Hazard Layer (Official) is not available for this area. Flash flooding is a concern for all parts of the state after heavy precipitation.

NOAA data shows the following historic data on disaster events for the county:

Historic data on tornados between 1950-2014 there are 46 tornados documented. There were 19 injuries that occurred connected to these tornados, with 4 of those injuries happening in the 1999 tornado. There were 2 fatalities connected to tornadoes during this time period, all of which occurred in 1960. Property losses between 1950-1996 ranged from \$137,005.00 to \$1,370,250.00. (The

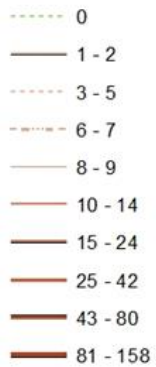
accounting methods used for losses changed in 1996.) The losses estimated between 1996-2014 was \$4,290,000.00.

Social Vulnerability - Impacts on Housing & Disaster Resiliency

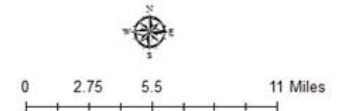
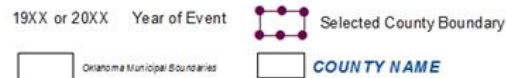
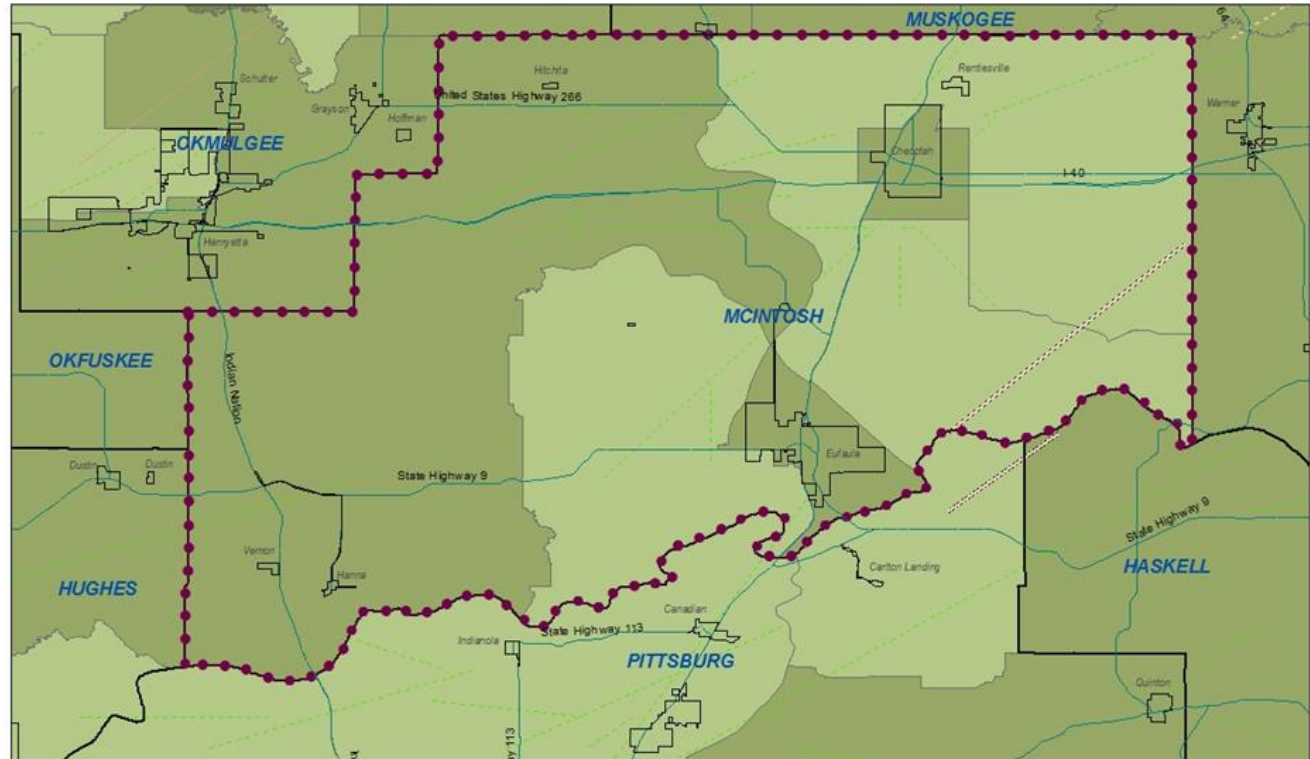
Tornado Events 1950 - 2014

McIntosh County

of fatalities associated with event



Social Vulnerability Index



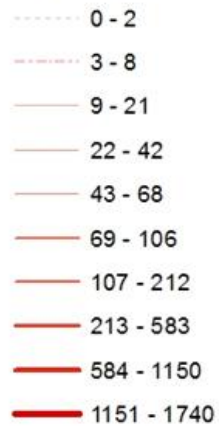
Sources: Shannon Van Zandt, Texas A&M, Hazard Planning materials, and 2009-2013 American Community Survey, Tables B11005, B01001, B17001, B08301, B25044, B25001, B25042, B02001, B03002, B26001, B25036, B17001, B25043, S1501, B23025 & B06007

Social Vulnerability - Impacts on Housing & Disaster Resiliency

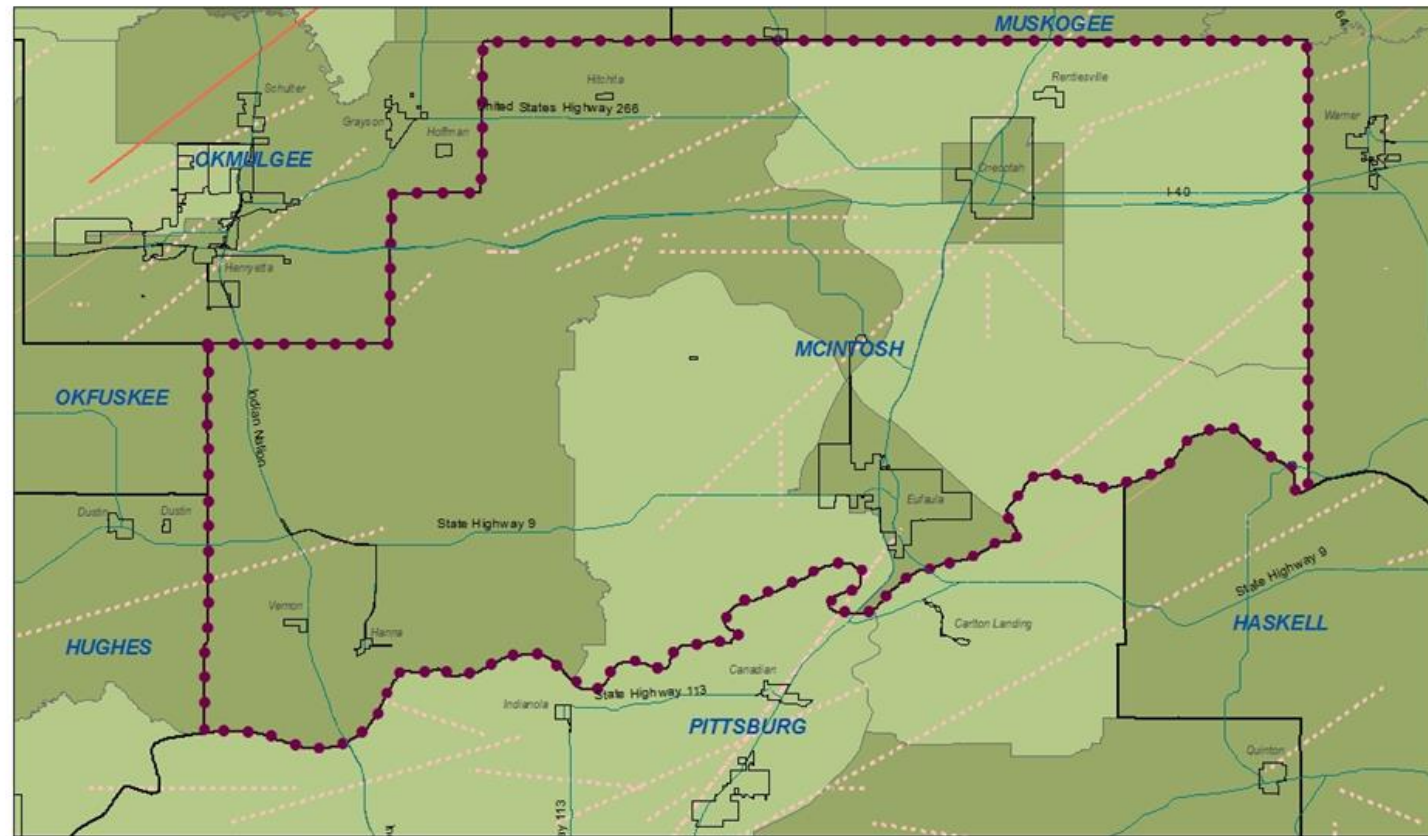
Tornado Events 1950 - 2014

McIntosh County

of injuries associated with event



Social Vulnerability Index



19XX or 20XX Year of Event

Oklahoma Municipal Boundaries

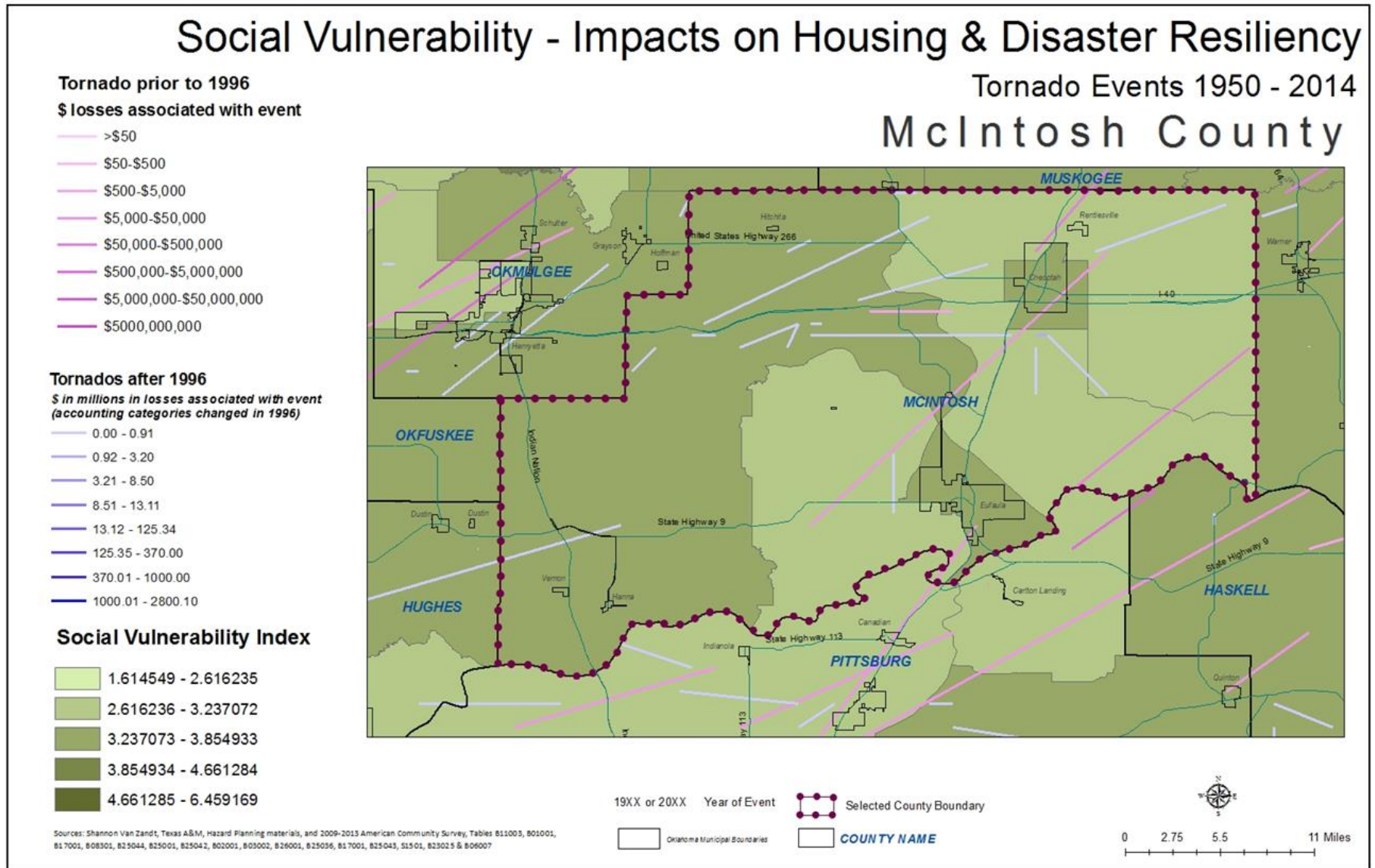
Selected County Boundary

COUNTY NAME



0 2.75 5.5 11 Miles

Sources: Shannon Van Zandt, Texas A&M, Hazard Planning materials, and 2009-2013 American Community Survey, Tables B11003, B01005, B17001, B08301, B25044, B25001, B25042, B02001, B03002, B26001, B25036, B17001, B25045, S1501, B23025 & B06007



C.2.1.2; C.2.1.6; C.2.1.7;C.2.1.8 Shelters from Disaster Event

City of Checotah will open up the Multiple-Purpose Building located on SW 2nd St at Checotah Intermediate School. (<http://www.checotah.net/emergencyServices.aspx>)

City of Checotah has a registration (via email): <http://www.checotah.net/emergencyServices.aspx>

C.2.1.3 Public Policy and Governance to Build Disaster Resiliency

Information not available.

C.2.1.4 Local Emergency Response Agency Structure

Information not available.

C.2.1.5 Threat & Hazard Warning Systems

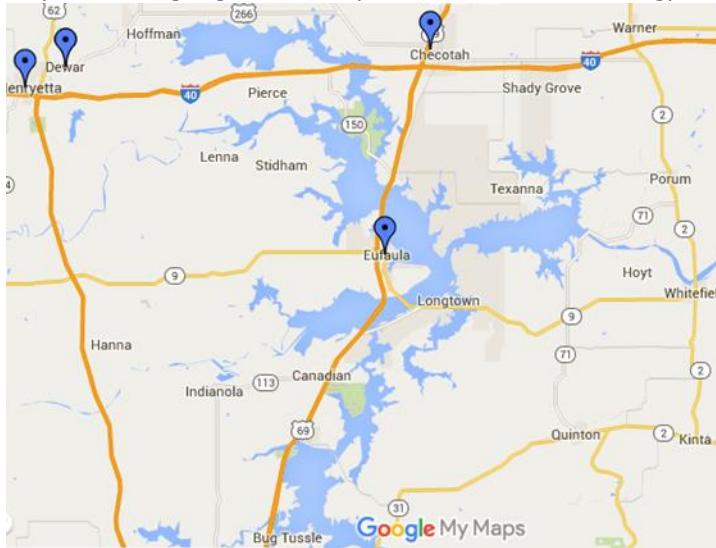
The identified Threat & Hazard Warning Systems for McIntosh County include:

Checotah has (3) three sirens located in the following locations:

- Charlie's Chicken
- Marshall Elementary
- Alternative School

Google Mapped sirens in Oklahoma:

<https://www.google.com/maps/d/u/0/viewer?mid=zkgp3PmLxLzg.kXQeGF45FpQg&hl=en>



Social Vulnerability

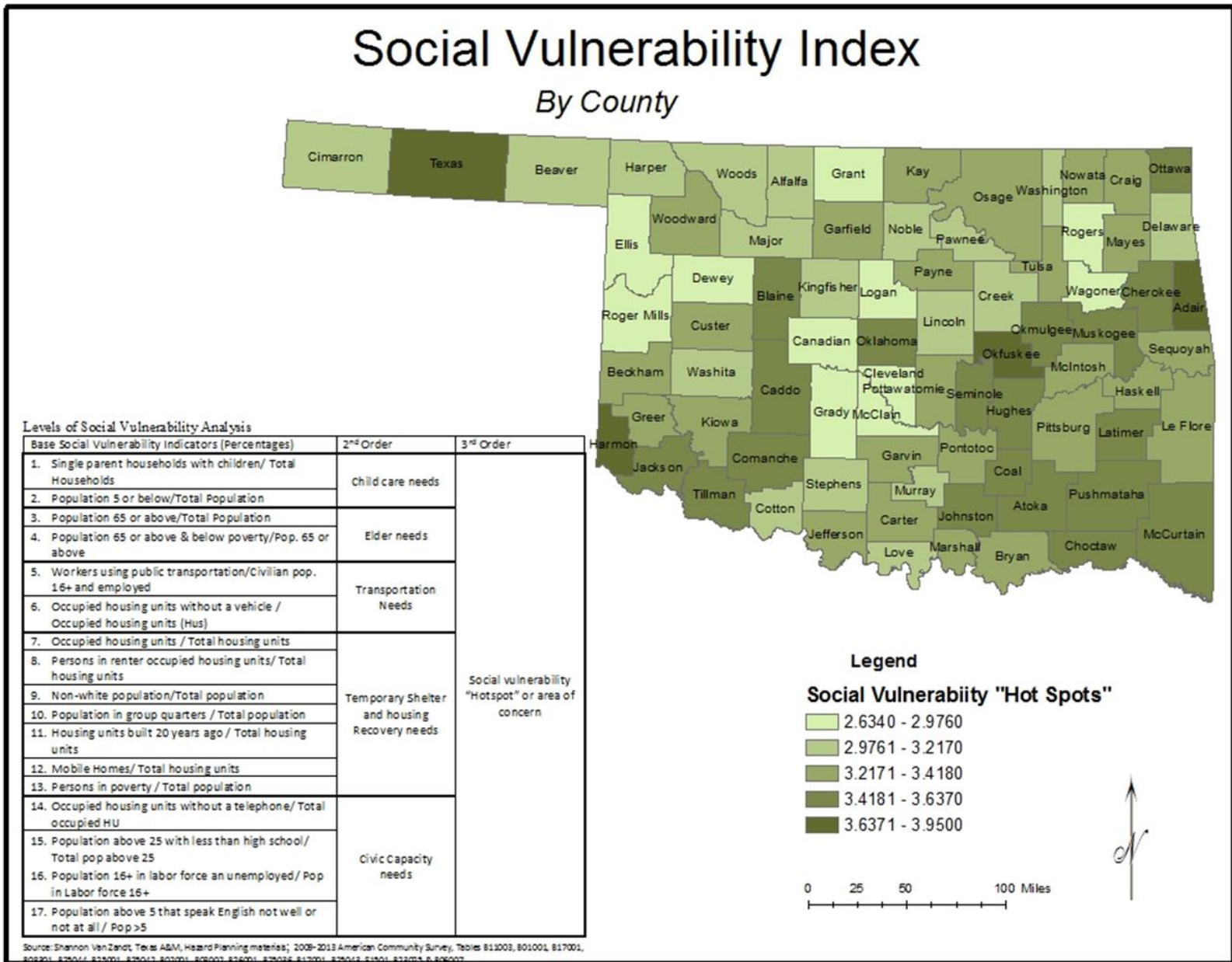
Based on the research work done by the Texas A&M University Hazard Reduction and Recovery Center, an added component is being included in this section. Social vulnerability can place households at a further disadvantage during and after a disaster. This analysis is assessing for the county the levels of social vulnerability based on demographic indicators to highlight ‘hotspots’ or counties that have higher social vulnerability. That combined with Hazard Mitigation Plans – or lack thereof – can highlight places where additional work is needed to reduce impacts on households.

Social Vulnerability Analysis - McIntosh County

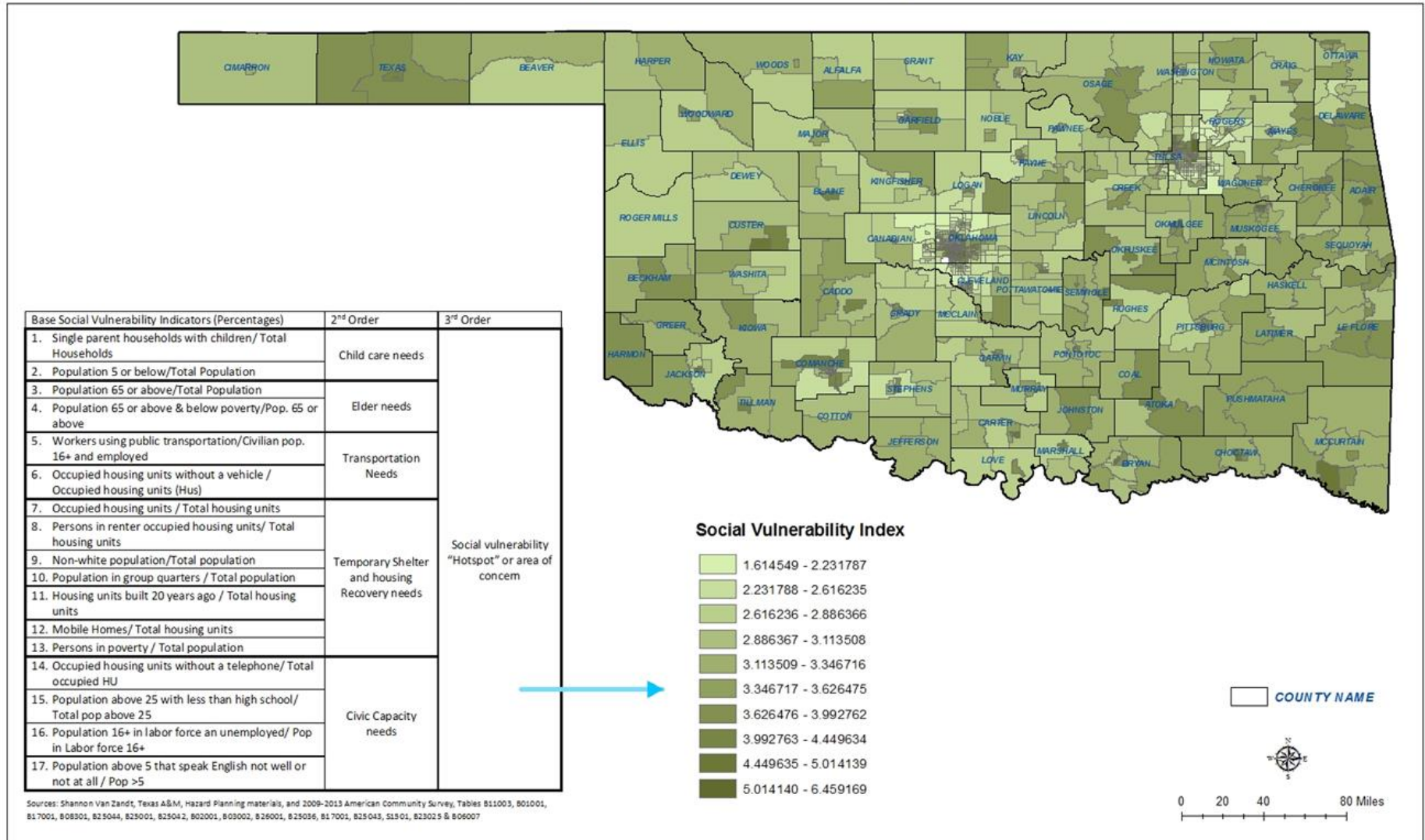
Base Social Vulnerability Indicators (%)		2nd Order	3rd Order
1.) Single Parent Households	10.78%	0.161	3.31 Social Vulnerability 'Hotspot' or Area of Concern
2.) Population Under 5	5.30%	(Child Care Needs)	
3.) Population 65 or Above	23.01%	0.363	
4.) Population 65 or Above & Below Poverty Rate	13.24%	(Elder Needs)	
5.) Workers Using Public Transportation	0.64%	0.059	
6.) Occupied Housing Units w/o Vehicle	5.23%	(Transportation Needs)	
7.) Housing Unit Occupancy Rate	60.77%	2.393 (Temporary Shelter and Housing Recovery Needs)	
8.) Rental Occupancy Rate	20.17%		
9.) Non-White Population	30.89%		
10.) Population in Group Quarters	1.60%		
11.) Housing Units Built Prior to 1990	72.29%		
12.) Mobile Homes, RVs, Vans, etc.	32.82%		
13.) Poverty Rate	20.73%		
14.) Housing Units Lacking Telephones	4.35%	0.335 (Civic Capacity Needs)	
15.) Age 25+ With Less Than High School Diploma	18.60%		
16.) Unemployment Rate	10.31%		
17.) Age 5+ Which Cannot Speak English Well or Not At All	0.24%		

Sources: Shannon Van Zandt, Texas A&M, Hazard Planning materials, and 2009-2013 American Community Survey, Tables B11003, B01001, B17001, B08301, B25044, B25001, B25042, B02001, B03002, B26001, B25036, B17001, B25043, S1501, B23025 & B06007





Social Vulnerability - Impacts on Housing & Disaster Resiliency



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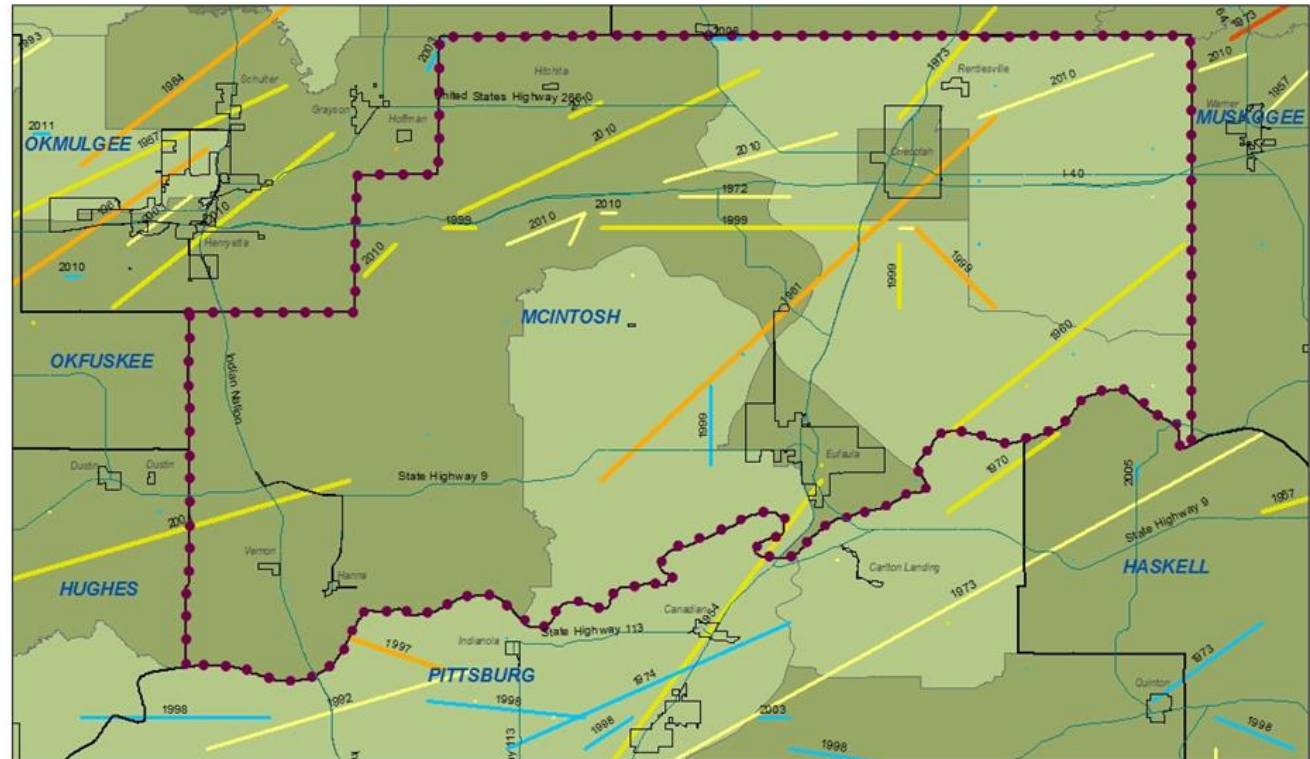
Tornado Events 1950 - 2014

McIntosh County

Tornado Magnitude



Social Vulnerability Index



19XX or 20XX Year of Event

Selected County Boundary

Oklahoma Municipal Boundaries

COUNTY NAME



0 2.75 5.5 11 Miles

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Social vulnerability combined with the devastating impacts of a natural or man-made disaster can compound a household's ability to recover and in fact can place those individuals at an even greater gap or disadvantage prior to the event (Shannon Van Zandt, Texas A&M, Hazard Planning).

This county is just below the state score per this index for social vulnerability when comparing as a county to other counties in the state. Looking at the census tract level, the western portion of the county have particularly higher scores for social vulnerability. Additionally recovery for socially vulnerable populations can be slow and may require additional outside assistance.

Recommendations for this county:

- Update and maintain the county HMP and include attention to areas within the county that in addition to physical vulnerability may have compounding social vulnerability factors.
- Efforts to strengthen building codes related to tornadoes and natural disasters should be considered.
- Planning for shelters from disaster events for multifamily, HUD and LIHTC units, in addition to all housing in the community should be incorporated with any effort to increase housing.