Special Topics

McClain 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 10 key cities within the county (Purcell, Blanchard, Newcastle, Dibble, Goldsby, Byars, Wayne, Washington, Cole, Rosedale).

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.

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.

> McClain County does have a Hazard Mitigation Plan. Only the expired plan (2003) was available for the study, but the county began updating it in 2013.

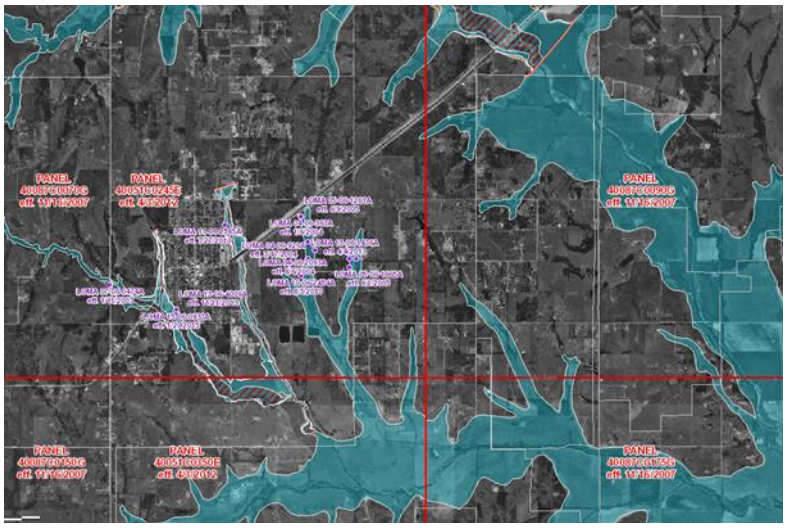
C.2.1.1. Historical Data on Natural Disasters and Other Hazards

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

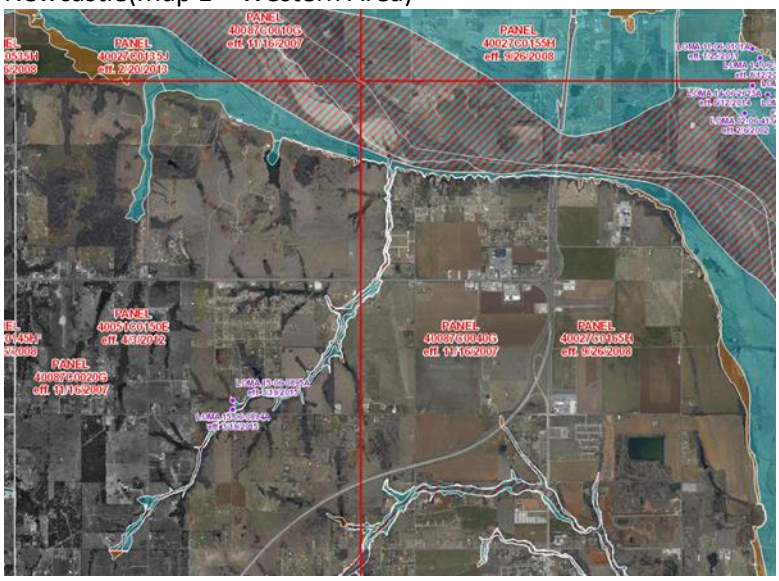
All parts of the county may be subject to flash flooding, freeze-thaw flooding and extreme precipitation that can cause flooding, unrelated to the streams and rivers. Development in the floodplain, however, increases risk of damages and property loss potentially repeatedly.

Blanchard



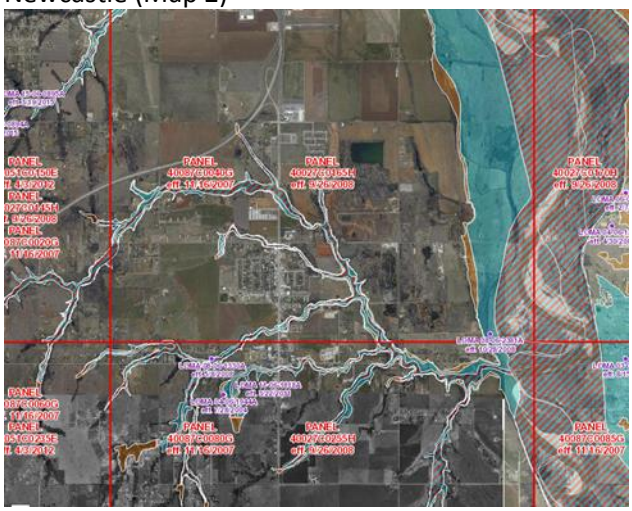
FEMA's National Flood Hazard Layer http://fema.maps.arcgis.com/

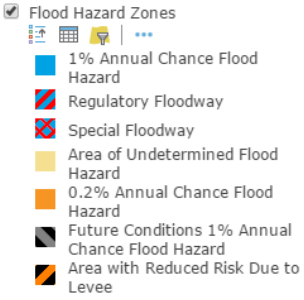
Newcastle(Map 1—Western Area)



FEMA's National Flood Hazard Layer http://fema.maps.arcgis.com/

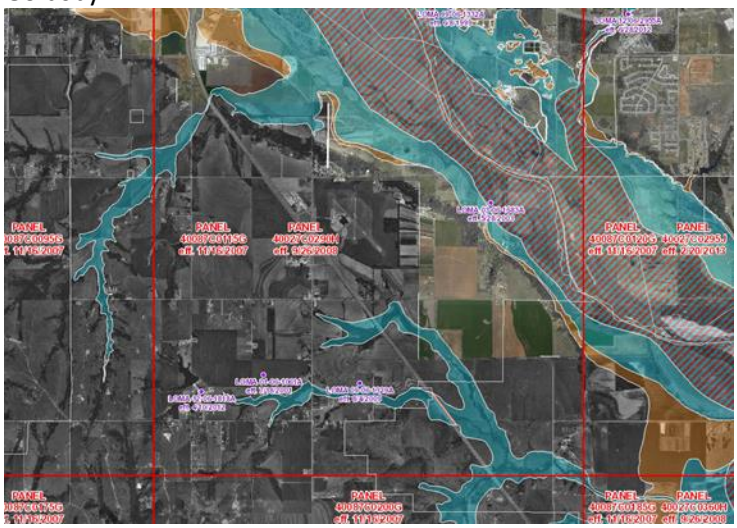
Newcastle (Map 2)

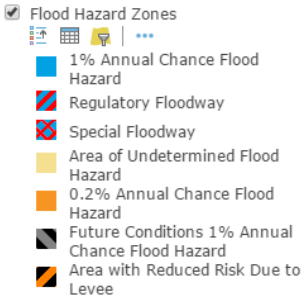




FEMA's National Flood Hazard Layer http://fema.maps.arcgis.com/

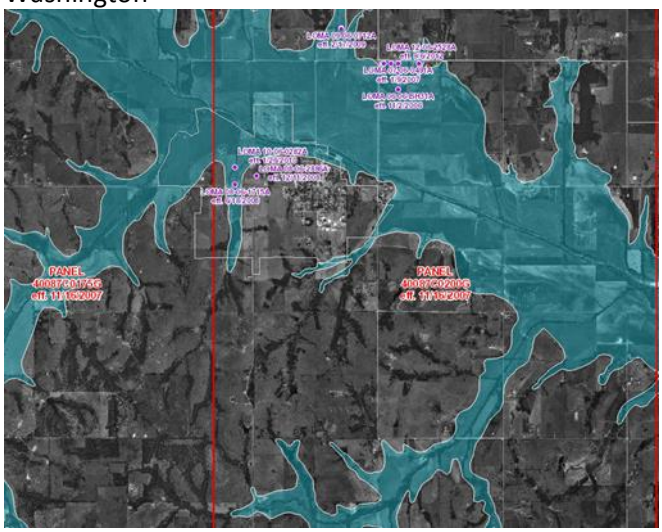
Goldsby

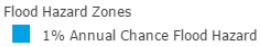




FEMA's National Flood Hazard Layer http://fema.maps.arcgis.com/

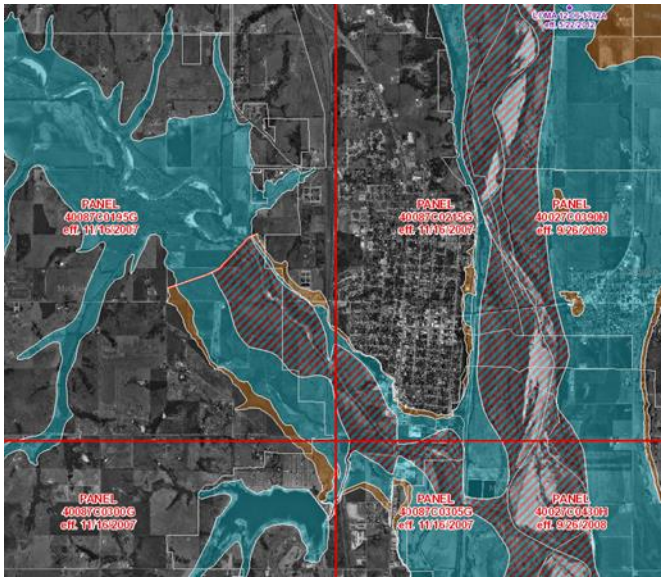
Washington

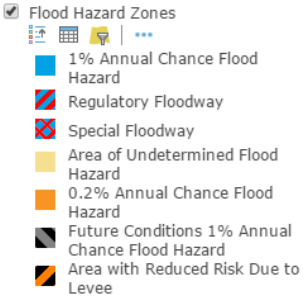




FEMA's National Flood Hazard Layer http://fema.maps.arcgis.com/

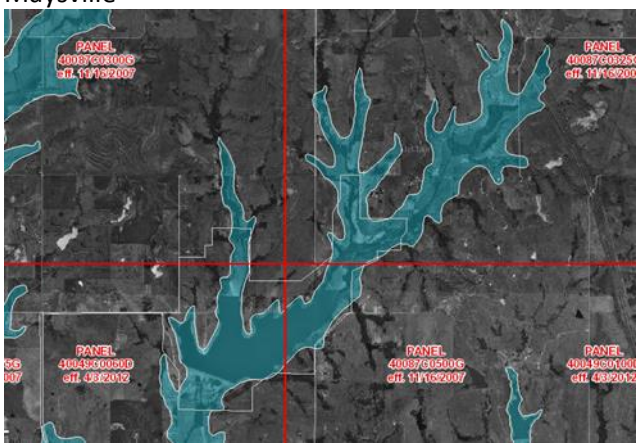
Purcell





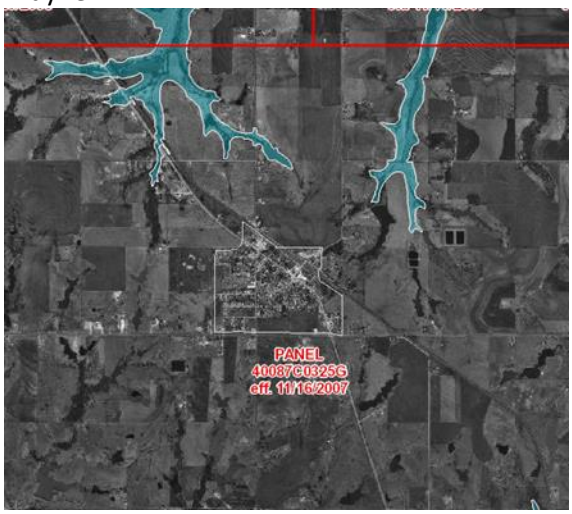
FEMA's National Flood Hazard Layer http://fema.maps.arcgis.com/

Maysville



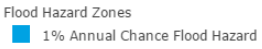
FEMA's National Flood Hazard Layer http://fema.maps.arcgis.com/

Wayne



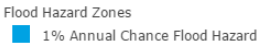
FEMA's National Flood Hazard Layer http://fema.maps.arcgis.com/

Rosedale



FEMA's National Flood Hazard Layer http://fema.maps.arcgis.com/

Byers



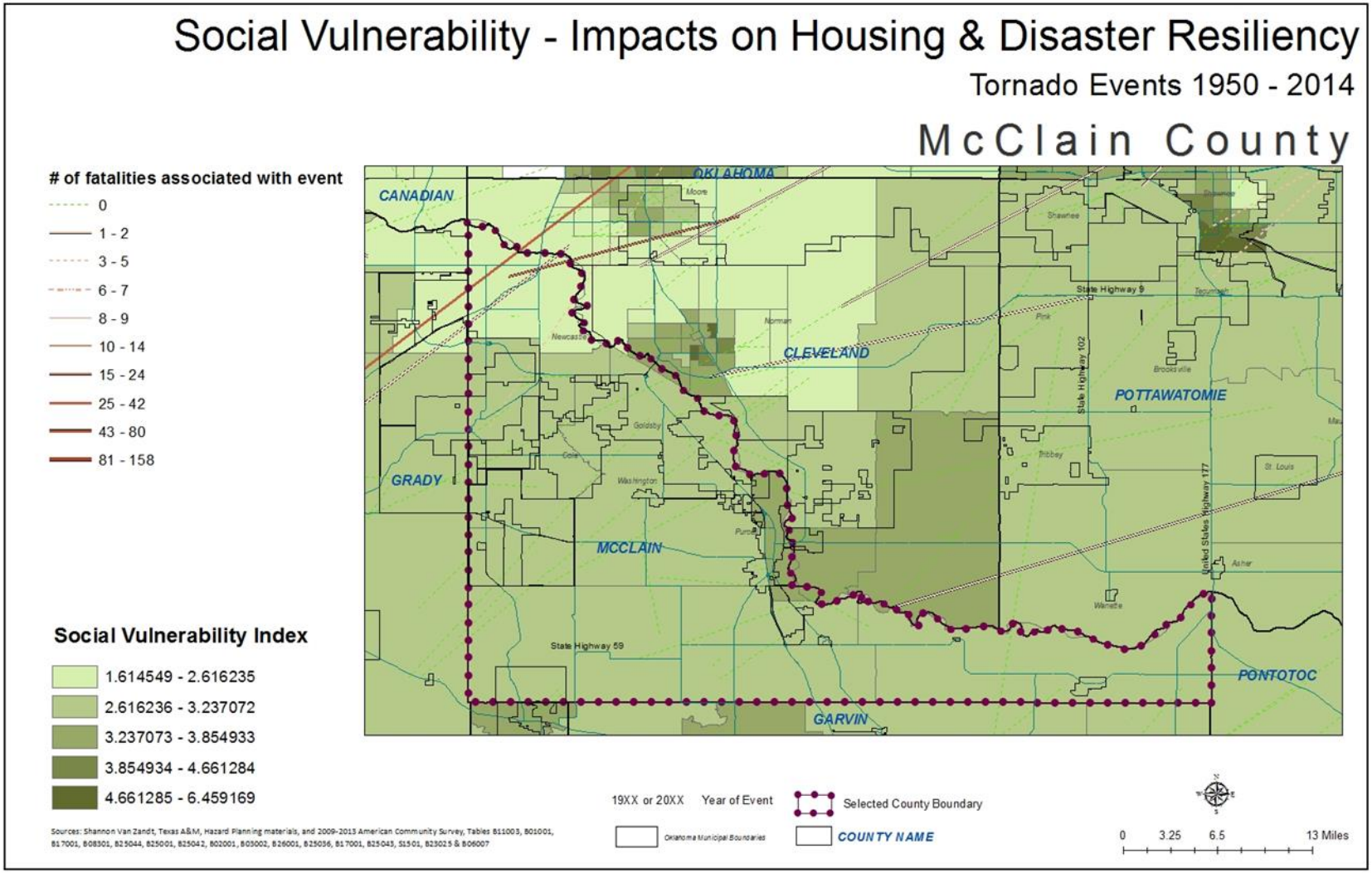
FEMA's National Flood Hazard Layer http://fema.maps.arcgis.com/

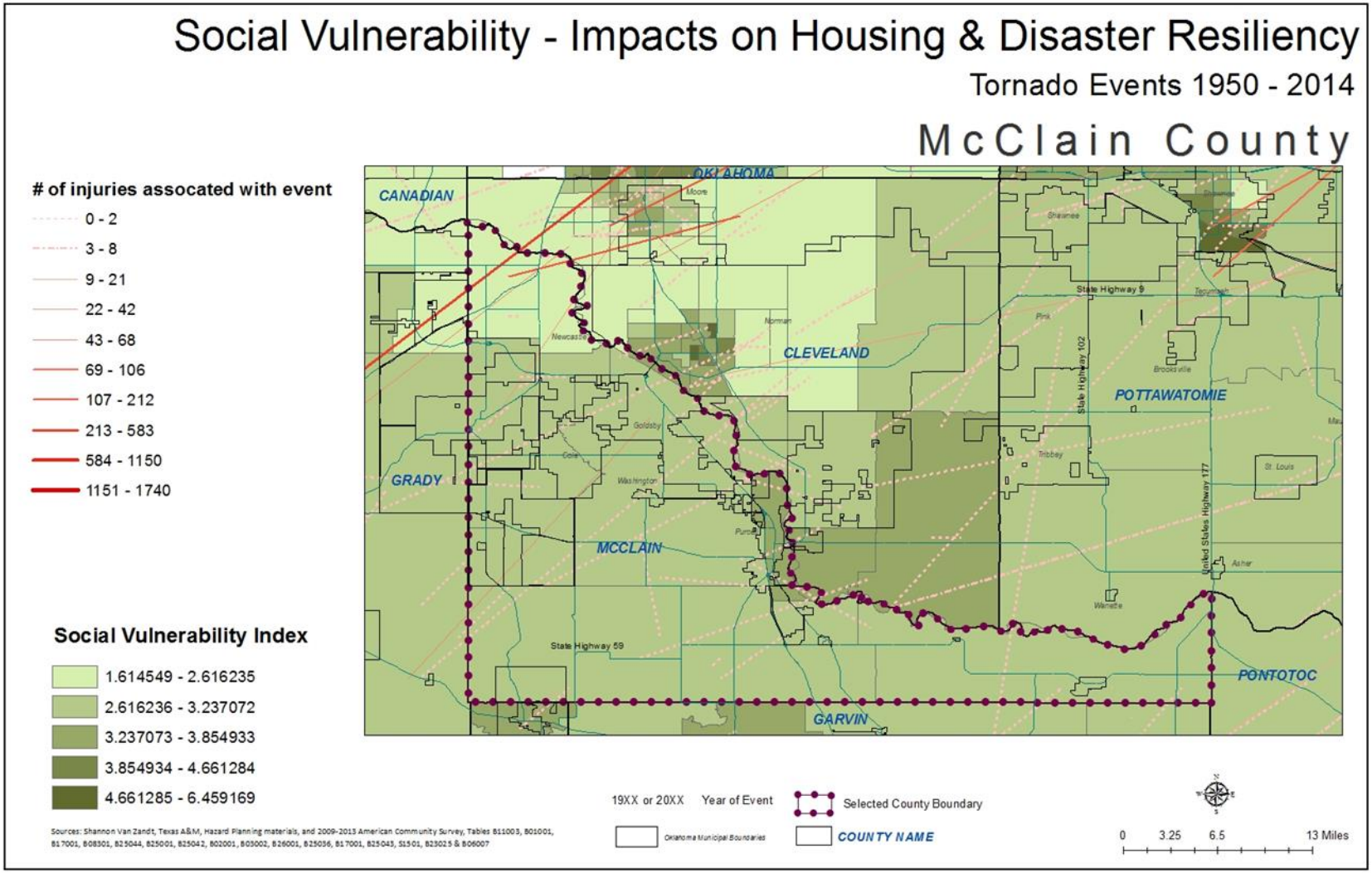
Tornados

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

Historic data on tornados between 1950-2014 there are 134 tornados documented. There were 1294 injuries that occurred connected to these tornados, with 212 of those injuries happening in the 2013 tornado. There were 74 fatalities connected to tornadoes during this time period, 24 of which occurred in 2013. Property losses between 1950-1996 ranged from $2,972,255.00 to $29,722,750.00.

(The accounting methods used for losses changed in 1996.) The losses estimated between 1996-2014 was $3,374,780,000.00 .


Social Vulnerability - Impacts on Housing & Disaster Resiliency
Tornado Events 1950 - 2014
McClain County
# of fatalities associated with event
0
1 - 2
3 - 5
6 - 7
8 - 9
10 - 14
15 - 24
25 - 42
43 - 80
81 - 158
CANADIAN
OKLAHOMA
CLEVELAND
POTTAWATOMIE
GRADY
MCCLAIN
GARVIN
PONTOTOC
State Highway 9
State Highway 102
State Highway 177
State Highway 59
Social Vulnerability Index
1.614549 - 2.616235
2.616236 - 3.237072
3.237073 - 3.854933
3.854934 - 4.661284
4.661285 - 6.459169
19XX or 20XX Year of Event
Selected County Boundary
Oklahoma Municipal Boundaries
COUNTY NAME
0 3.25 6.5 13 Miles
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
Tornado Events 1950 - 2014
McClain County
# of injuries assocated with event
0 - 2
3 - 8
9 - 21
22 - 42
43 - 68
69 - 106
107 - 212
213 - 583
584 - 1150
1151 - 1740
Social Vulnerability Index
1.614549 - 2.616235
2.616236 - 3.237072
3.237073 - 3.854933
3.854934 - 4.661284
4.661285 - 6.459169
CANADIAN
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MCCLAIN
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PONTOTOC
State Highway 9
State Highway 102
State Highway 177
State Highway 59
19XX or 20XX Year of Event
Selected County Boundary
Oklahoma Municipal Boundaries
COUNTY NAME
0 3.25 6.5 13 Miles

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

Online registry: http://mcclain-co-ok.us/storm-shelter-registration/

Purcell:

- Multipurpose Center at Purcell Municipal Lake;
- Trinity United Methodist Church, 211 N Second; Senior Citizens Center, 228 N Second;
- Purcell Middle School, 919 N Ninth;
- First Baptist Church, 422 W Main St.

In the event of power outage: Newcastle- Newcastle Storm Shelter, 851 N Carr; Purcell- Multi-Purpose Center, 1400 Chandler Rd

C.2.1.3 Public Policy and Governance to Build Disaster Resiliency

Information not available.

C.2.1.4 Local Emergency Response Agency Structure

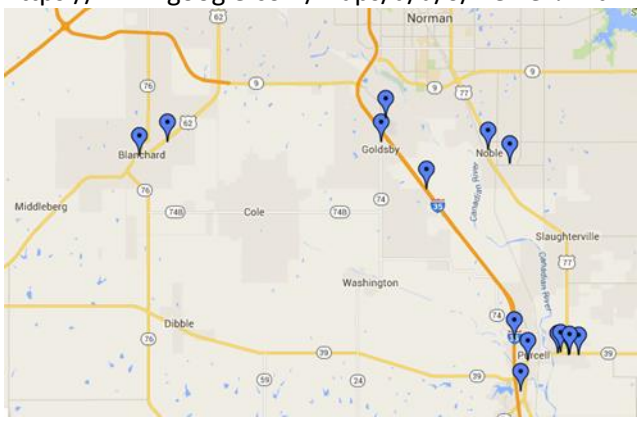
Information not available.

C.2.1.5 Threat & Hazard Warning Systems

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

- ☐ Sirens
- ☐ Emergency Broadcast System

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 - McClain County

Base Social Vulnerability Indicators (%)		2nd Order	3rd Order
1.) Single Parent Households	11.81%	0.185 (Child Care Needs)	**2.826 Social Vulnerability 'Hotspot' or Area of Concern**
2.) Population Under 5	6.73%		
3.) Population 65 or Above	13.55%	0.246 (Elder Needs)	
4.) Population 65 or Above & Below Poverty Rate	11.10%		
5.) Workers Using Public Transportation	0.00%	0.021 (Transportation Needs)	
6.) Occupied Housing Units w/o Vehicle	2.14%		
7.) Housing Unit Occupancy Rate	90.27%	2.148 (Temporary Shelter and Housing Recovery Needs)	
8.) Rental Occupancy Rate	18.19%		
9.) Non-White Population	19.49%		
10.) Population in Group Quarters	0.68%		
11.) Housing Units Built Prior to 1990	57.42%		
12.) Mobile Homes, RVs, Vans, etc.	17.11%		
13.) Poverty Rate	11.59%		
14.) Housing Units Lacking Telephones	2.57%	0.225 (Civic Capacity Needs)	
15.) Age 25+ With Less Than High School Diploma	13.00%		
16.) Unemployment Rate	4.47%		
17.) Age 5+ Which Cannot Speak English Well or Not At All	2.46%		

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 Index

By County

Levels of Social Vulnerability Analysis

Base Social Vulnerability Indicators (Percentages)	2nd Order	3rd Order
1. Single parent households with children/ Total Households	Child care needs	Social vulnerability "Hotspot" or area of concern
2. Population 5 or below/Total Population		
3. Population 65 or above/Total Population	Elder needs	
4. Population 65 or above & below poverty/Pop. 65 or above		
5. Workers using public transportation/Civilian pop. 16+ and employed	Transportation Needs	
6. Occupied housing units without a vehicle / Occupied housing units (Hus)		
7. Occupied housing units / Total housing units	Temporary Shelter and housing Recovery needs	
8. Persons in renter occupied housing units/ Total housing units		
9. Non-white population/Total population		
10. Population in group quarters / Total population		
11. Housing units built 20 years ago / Total housing units		
12. Mobile Homes/ Total housing units		
13. Persons in poverty / Total population		
14. Occupied housing units without a telephone/ Total occupied HU	Civic Capacity needs	
15. Population above 25 with less than high school/ Total pop above 25		
16. Population 16+ in labor force an unemployed/ Pop in Labor force 16+		
17. Population above 5 that speak English not well or not at all / Pop >5		

Source: Shannon VanZandt, Texas A&M, Hazard Planning materials; 2008-2013 American Community Survey, Tables B11003, B01001, B17001, B08201, B25044, B25091, B25043, B01001, B08007, B16001, B25026, B17001, B25043, B15001, B19053 & B08007

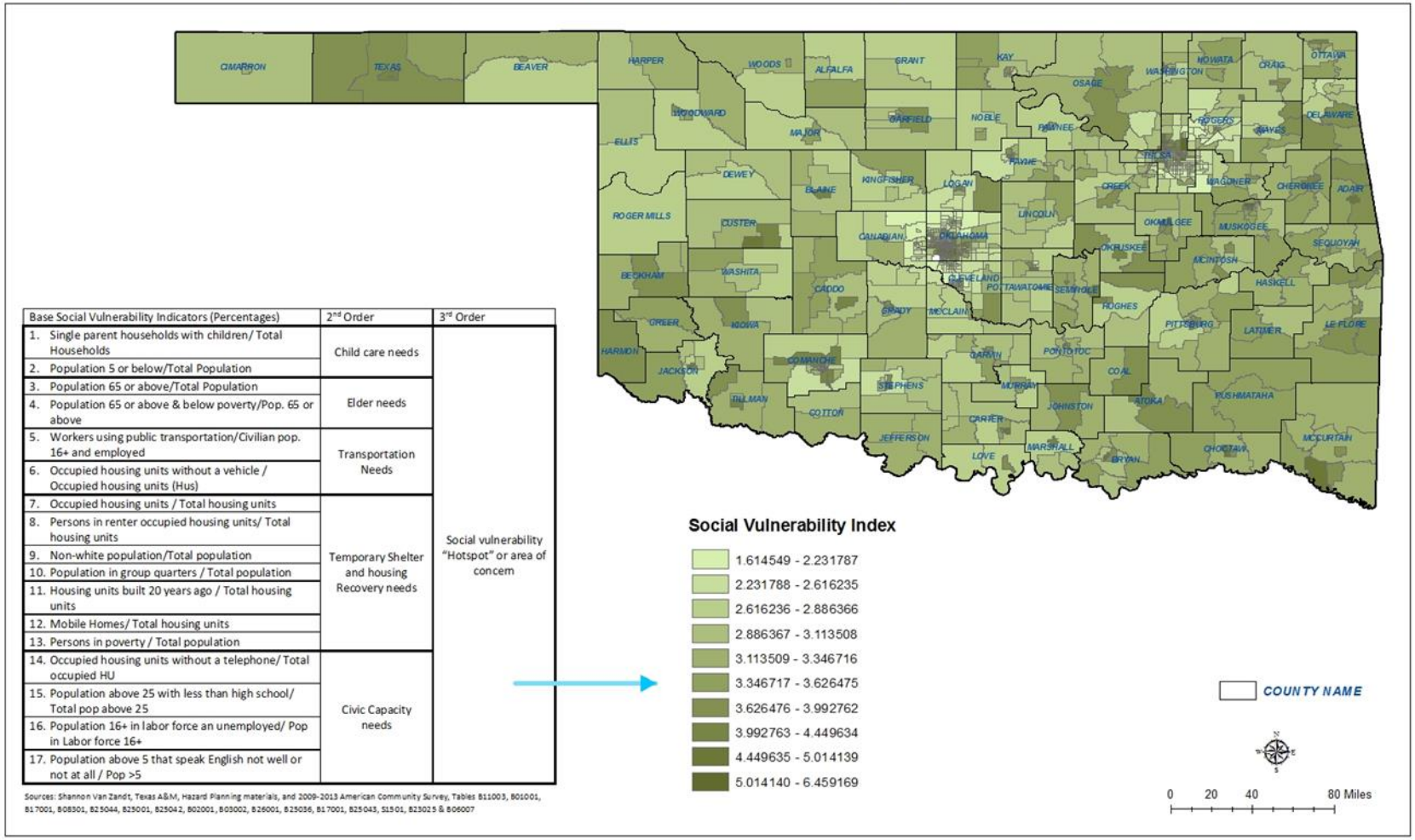
Legend

Social Vulnerabiity "Hot Spots"

- 2.6340 - 2.9760
- 2.9761 - 3.2170
- 3.2171 - 3.4180
- 3.4181 - 3.6370
- 3.6371 - 3.9500

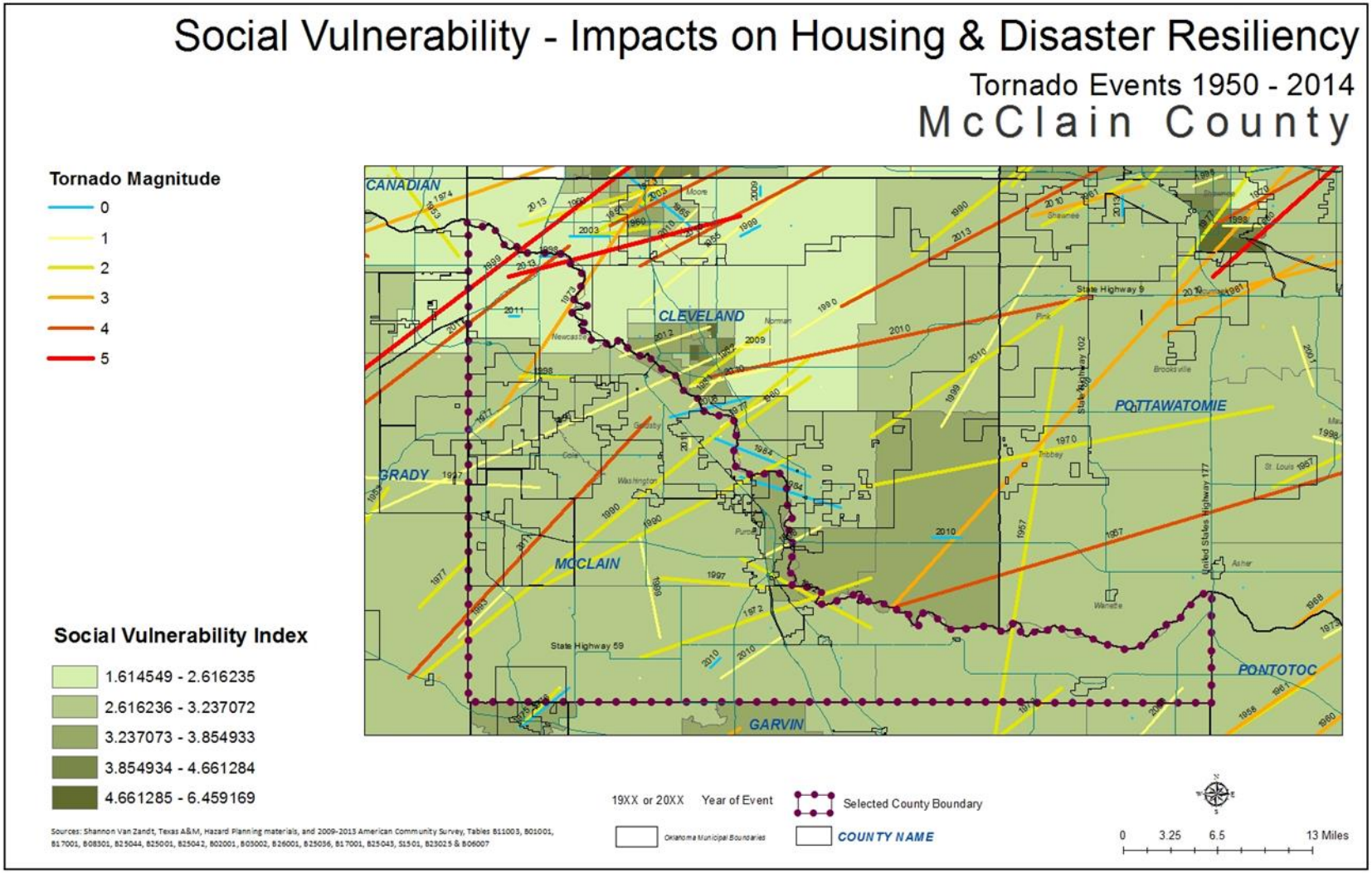
0 25 50 100 Miles

Social Vulnerability - Impacts on Housing & Disaster Resiliency



Base Social Vulnerability Indicators (Percentages)	2nd Order	3rd Order
1. Single parent households with children/ Total Households	Child care needs	Social vulnerability "Hotspot" or area of concern
2. Population 5 or below/Total Population		
3. Population 65 or above/Total Population	Elder needs	
4. Population 65 or above & below poverty/Pop. 65 or above		
5. Workers using public transportation/Civilian pop. 16+ and employed	Transportation Needs	
6. Occupied housing units without a vehicle / Occupied housing units (Hus)		
7. Occupied housing units / Total housing units	Temporary Shelter and housing Recovery needs	
8. Persons in renter occupied housing units/ Total housing units		
9. Non-white population/Total population		
10. Population in group quarters / Total population		
11. Housing units built 20 years ago / Total housing units		
12. Mobile Homes/ Total housing units		
13. Persons in poverty / Total population		
14. Occupied housing units without a telephone/ Total occupied HU	Civic Capacity needs	
15. Population above 25 with less than high school/ Total pop above 25		
16. Population 16+ in labor force an unemployed/ Pop in Labor force 16+		
17. Population above 5 that speak English not well or not at all / Pop >5		

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
Tornado Events 1950 - 2014
McClain County
Tornado Magnitude
0
1
2
3
4
5
CANADIAN
CLEVELAND
POTTAWATOMIE
GRADY
MCCLAIN
PONTOTOC
GARVIN
State Highway 9
State Highway 59
Social Vulnerability Index
1.614549 - 2.616235
2.616236 - 3.237072
3.237073 - 3.854933
3.854934 - 4.661284
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19XX or 20XX Year of Event
Selected County Boundary
Oklahoma Municipal Boundaries
COUNTY NAME
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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 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 great gap or disadvantage prior to the event (Shannon Van Zandt, Texas A&M, Hazard Planning).

This county falls below the state score per this index for social vulnerability when comparing as a county to other counties in the state. There are no particularly elevated census tracts within the county where increased social vulnerability is notable.

Recommendations for this county:

- Continue to 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.