Special Topics

Sequoyah 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 (Sallisaw, Muldrow, Vian, Roland, Gore, Gans, Marble City, Moffett, Paradise Hill, Sycamore).

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.

Sallisaw has guiding documents but has not adopted a comprehensive plan.

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.

Sequoyah County is currently working on preparing a Hazard Mitigation Plan.

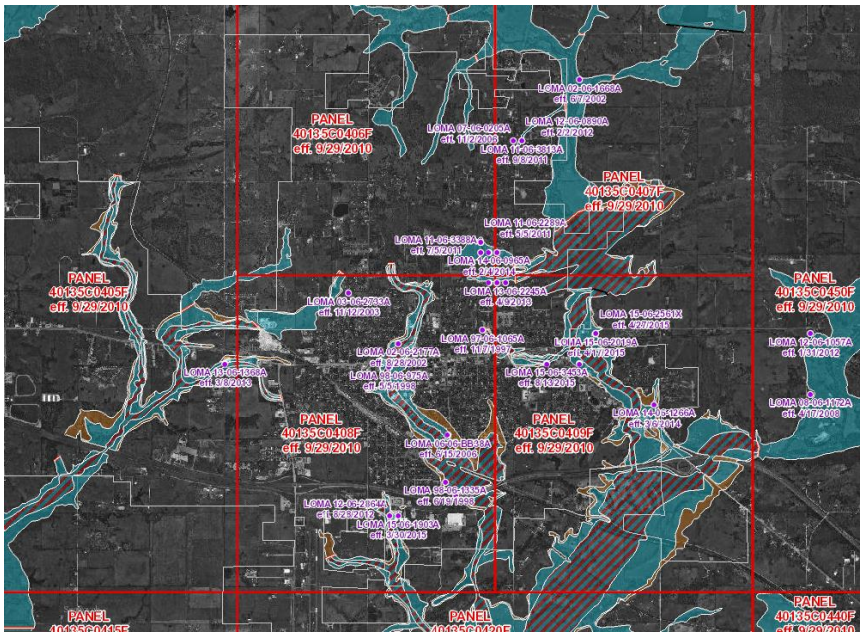
C.2.1.1. Historical Data on Natural Disasters and Other Hazards

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

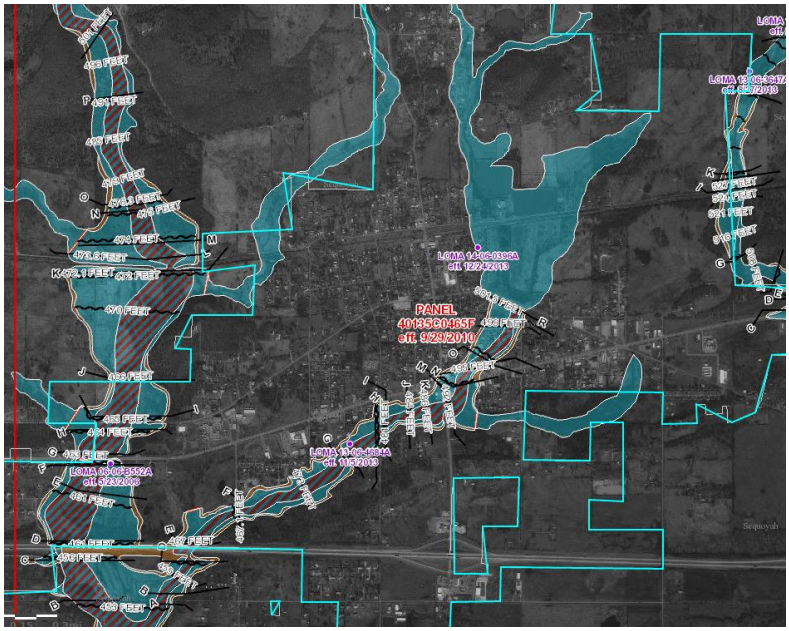
All parts of the county may be subject to flash flooding, freeze-thaw flooding and extreme precipitation that can cause flooding, unrelated to the streams and rivers. Development in the floodplain, however, increases risk of damages and property loss potentially repeatedly.

Sallisaw



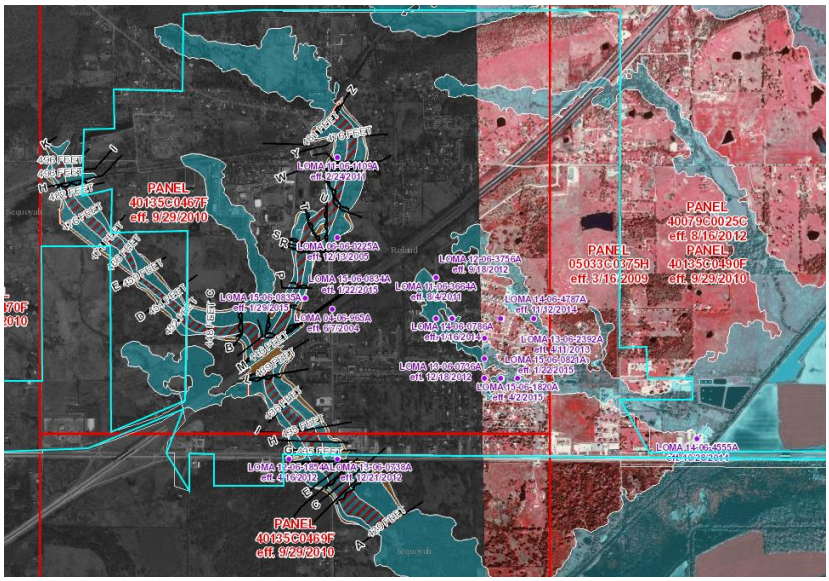
FEMA's National Flood Hazard Layer http://fema.maps.arcgis.com/

Muldrow



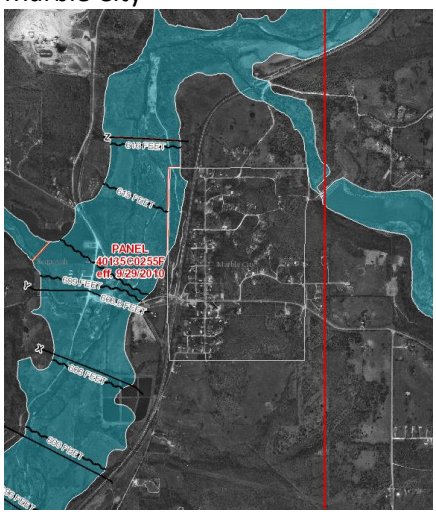
FEMA's National Flood Hazard Layer http://fema.maps.arcgis.com/

Roland



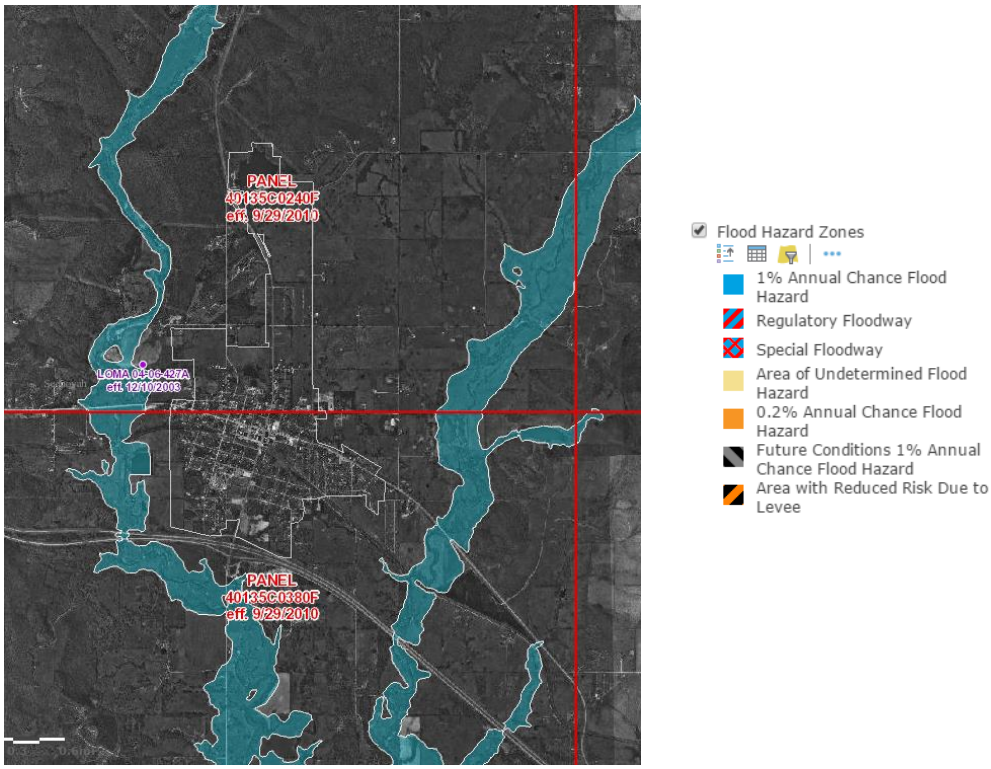
FEMA's National Flood Hazard Layer http://fema.maps.arcgis.com/

Marble City



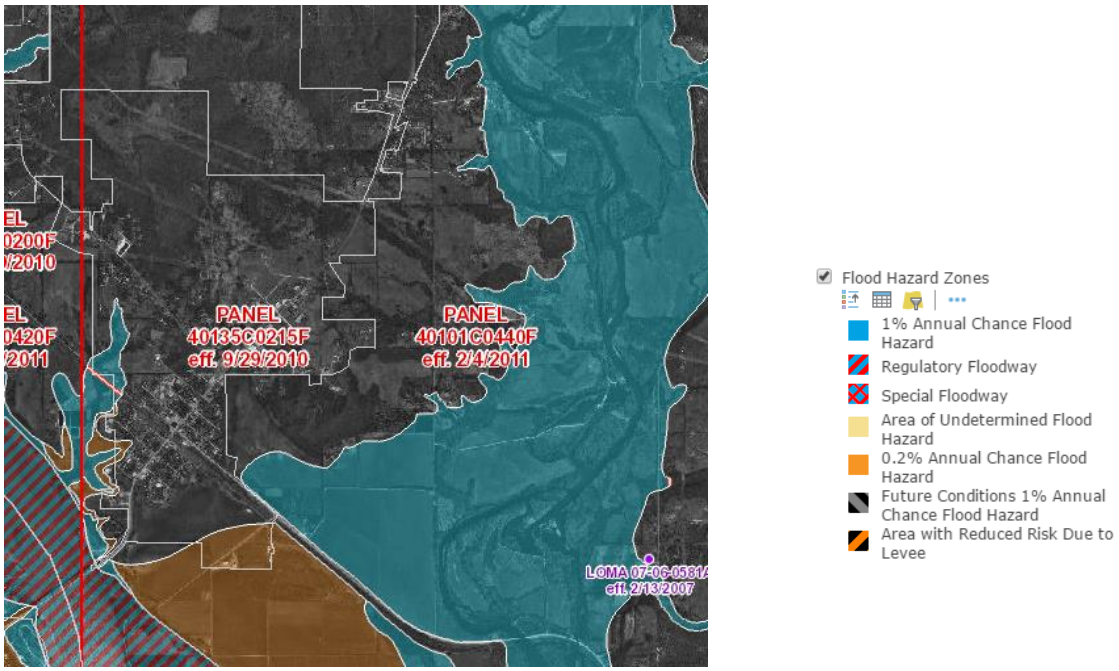
FEMA's National Flood Hazard Layer http://fema.maps.arcgis.com/

Vian



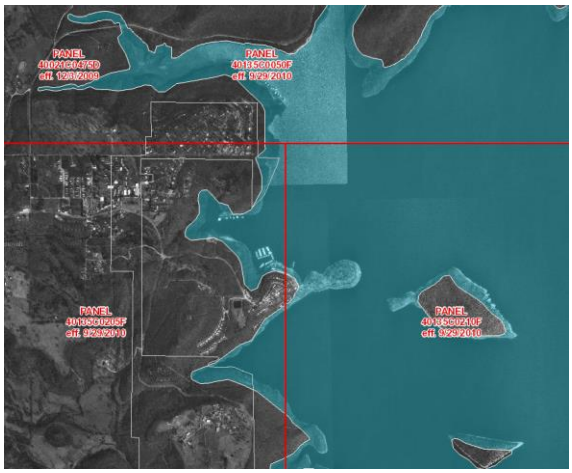
FEMA's National Flood Hazard Layer http://fema.maps.arcgis.com/

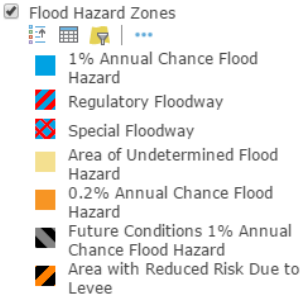
Gore



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

Paradise Hill





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

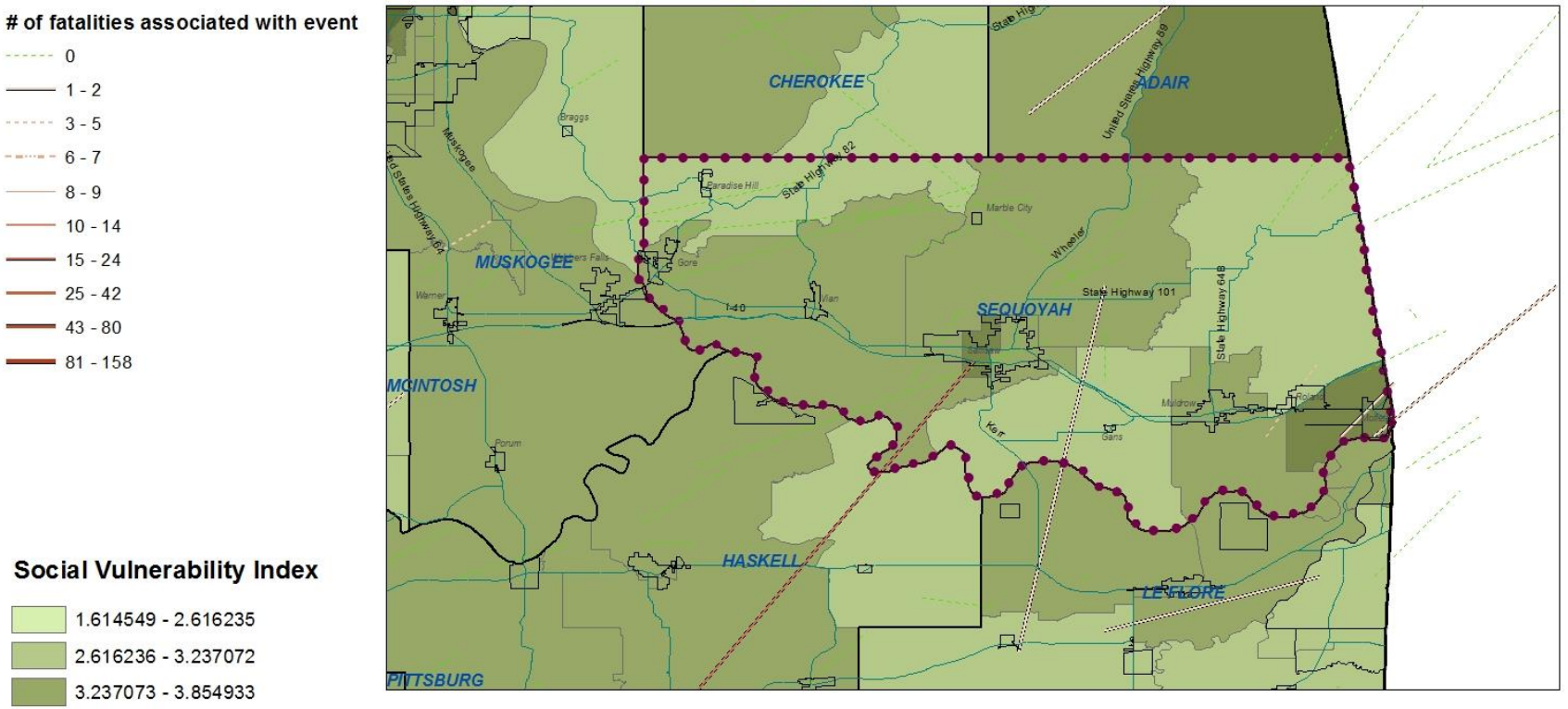
NOAA data shows the following historic data on disaster events for the county:

Historic data on tornados between 1950-2014 there are 44 tornados documented. There were 242 injuries that occurred connected to these tornados, with 89 of those injuries happening in the 1996 tornado. There were 35 fatalities connected to tornadoes during this time period, 2 of which occurred in 1996. Property losses between 1950-1996 ranged from $887,501.00 to $8,875,050.00. (The accounting methods used for losses changed in 1996.) The losses estimated between 1996-2014 was $150,550,000.00.

Social Vulnerability - Impacts on Housing & Disaster Resiliency

Tornado Events 1950 - 2014

Sequoyah County

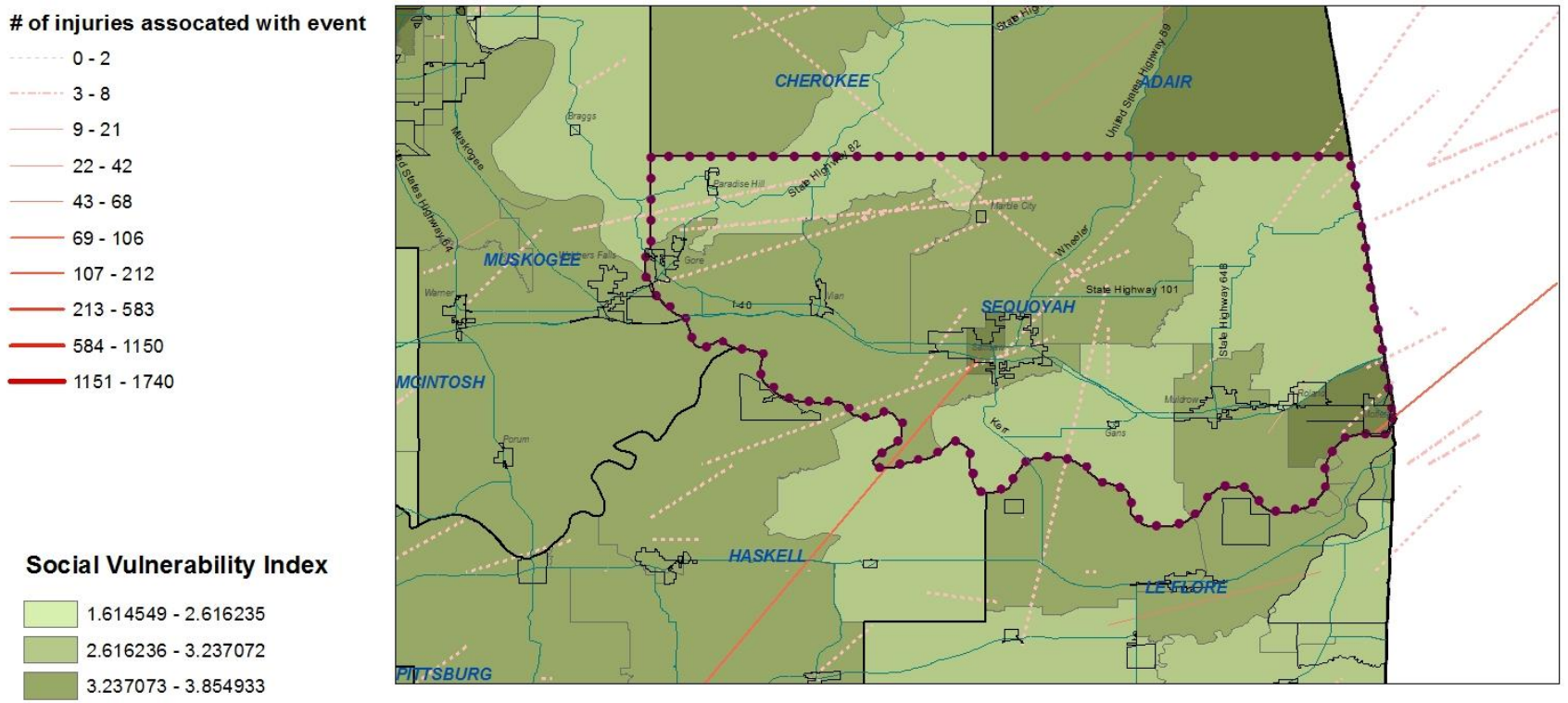


Sources: Shannon Van Zandt, Texas A&M, Hazard Planning materials, and 2009-2013 American Community Survey, Tables B11003, B01001, B17001, B08301, B25044, B25001, B25042, B02001, B03002, B26001, B25036, B17001, B25043, S1501, B23025 & B06007

Social Vulnerability - Impacts on Housing & Disaster Resiliency

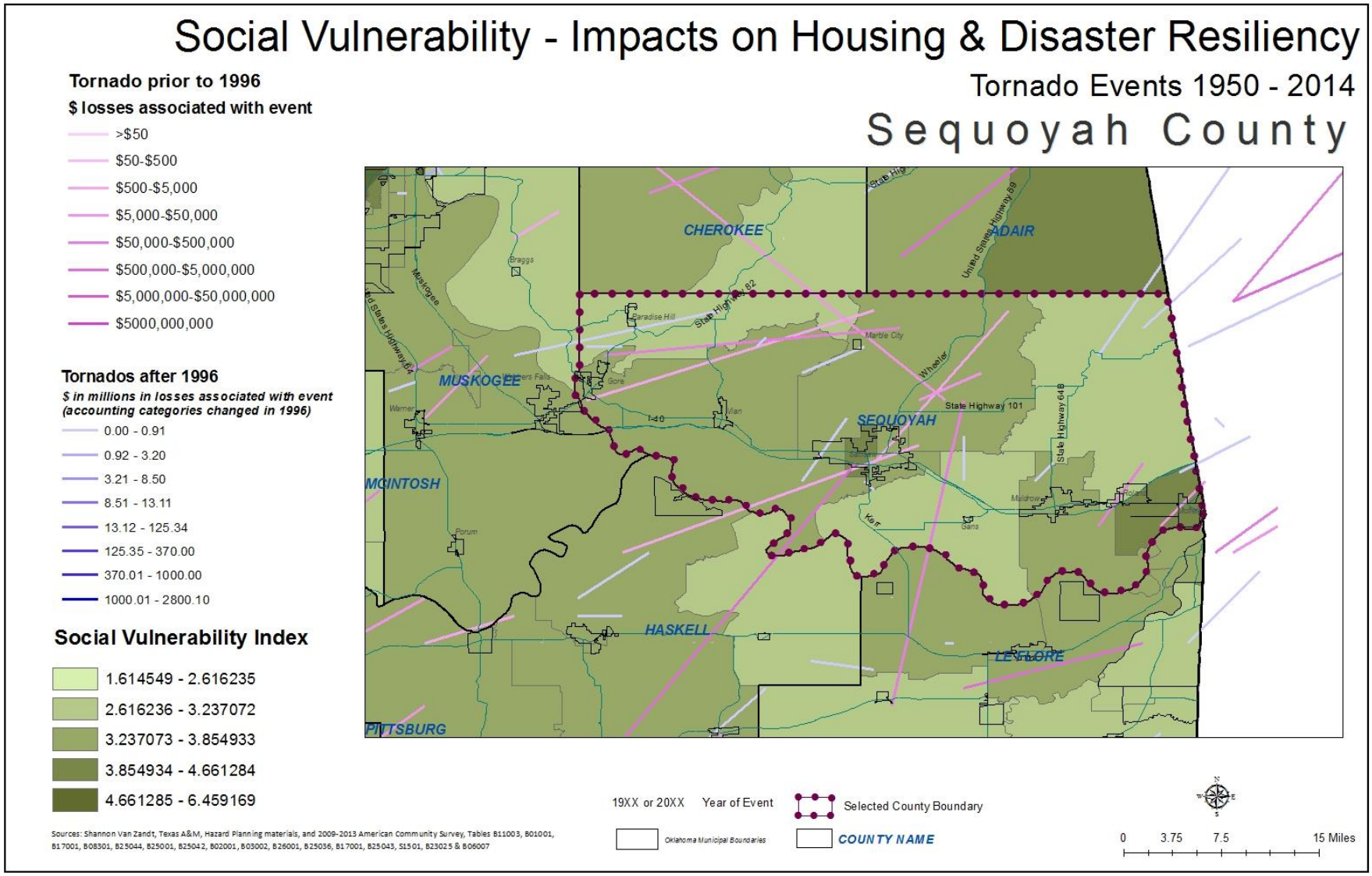
Tornado Events 1950 - 2014

Sequoyah County



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



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

Public Shelters are often provided at:

- Sequoyah County Courthouse
- Central Public Schools
- Liberty School (North of Roland)
- Gans Schools
- Brushy Schools Library
- Moffett School and the Moffett Police Department.
- Vian has NO Public Shelter.
- Roland - old Roland High School is designated as a storm shelter;
- Gore and Webbers Falls the designated storm shelter is the Webbers Falls School

No pets are allowed in any of the cellars. Every shelter is handicapped accessible except Moffett School and the Moffett Police Department. https://www.facebook.com/seqcotimes/notes

C.2.1.3 Public Policy and Governance to Build Disaster Resiliency

Information not available

C.2.1.4 Local Emergency Response Agency Structure

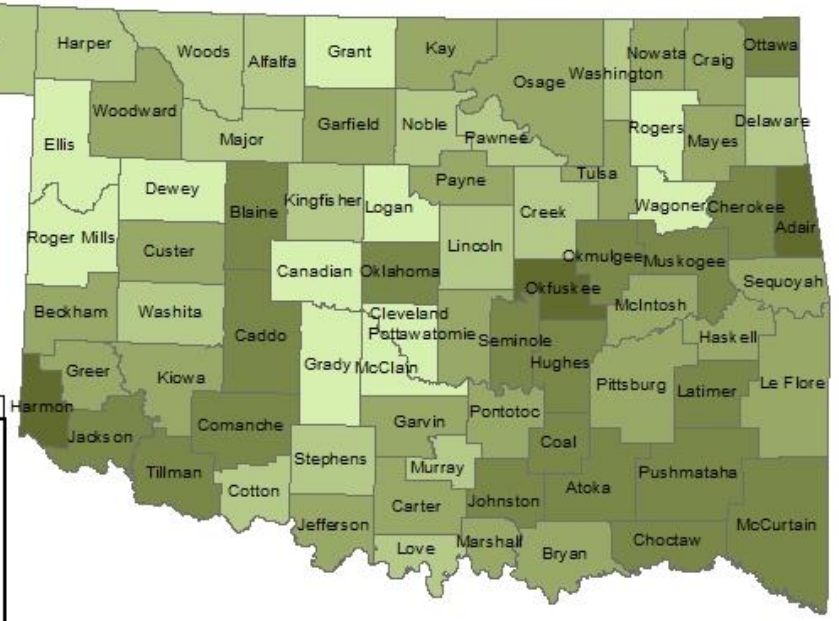
Information not available.

C.2.1.5 Threat & Hazard Warning Systems

No information about notification systems or sirens was identified.

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; 2009-2013 American Community Survey, Tables B11003, B01001, B17001,

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		
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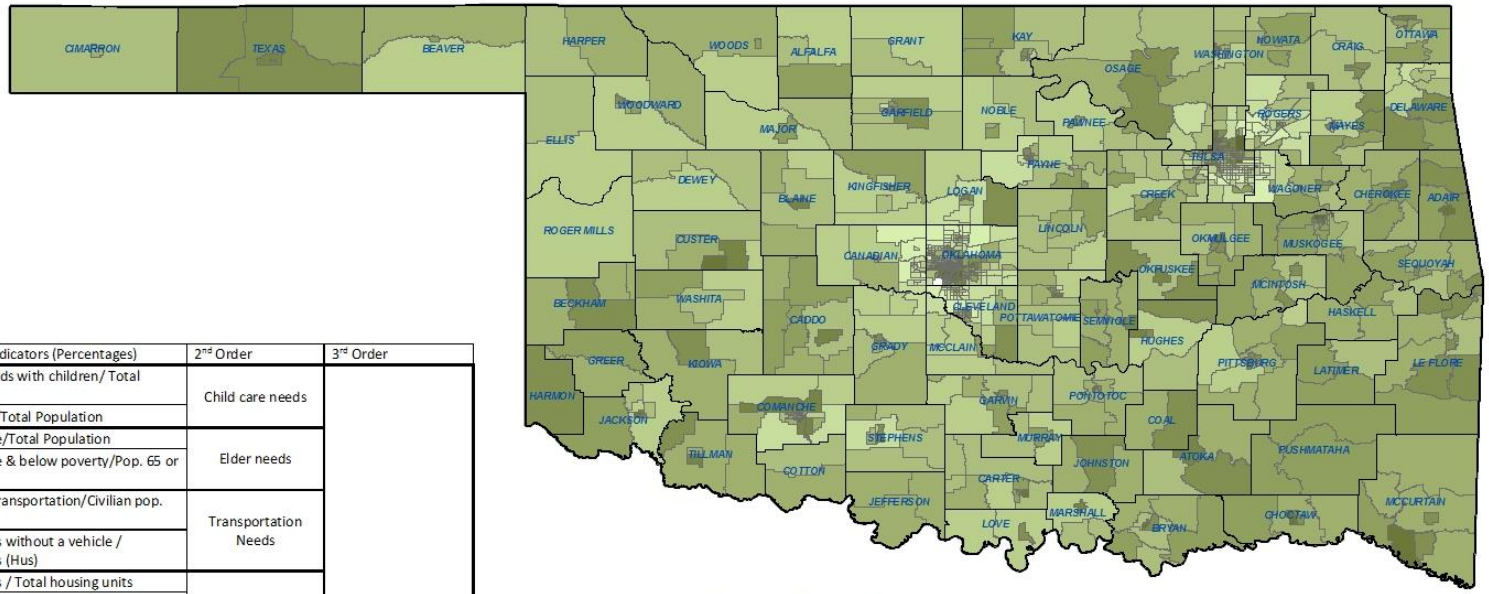
17. Population above 5 that speak English not well or not at all / Pop >5		

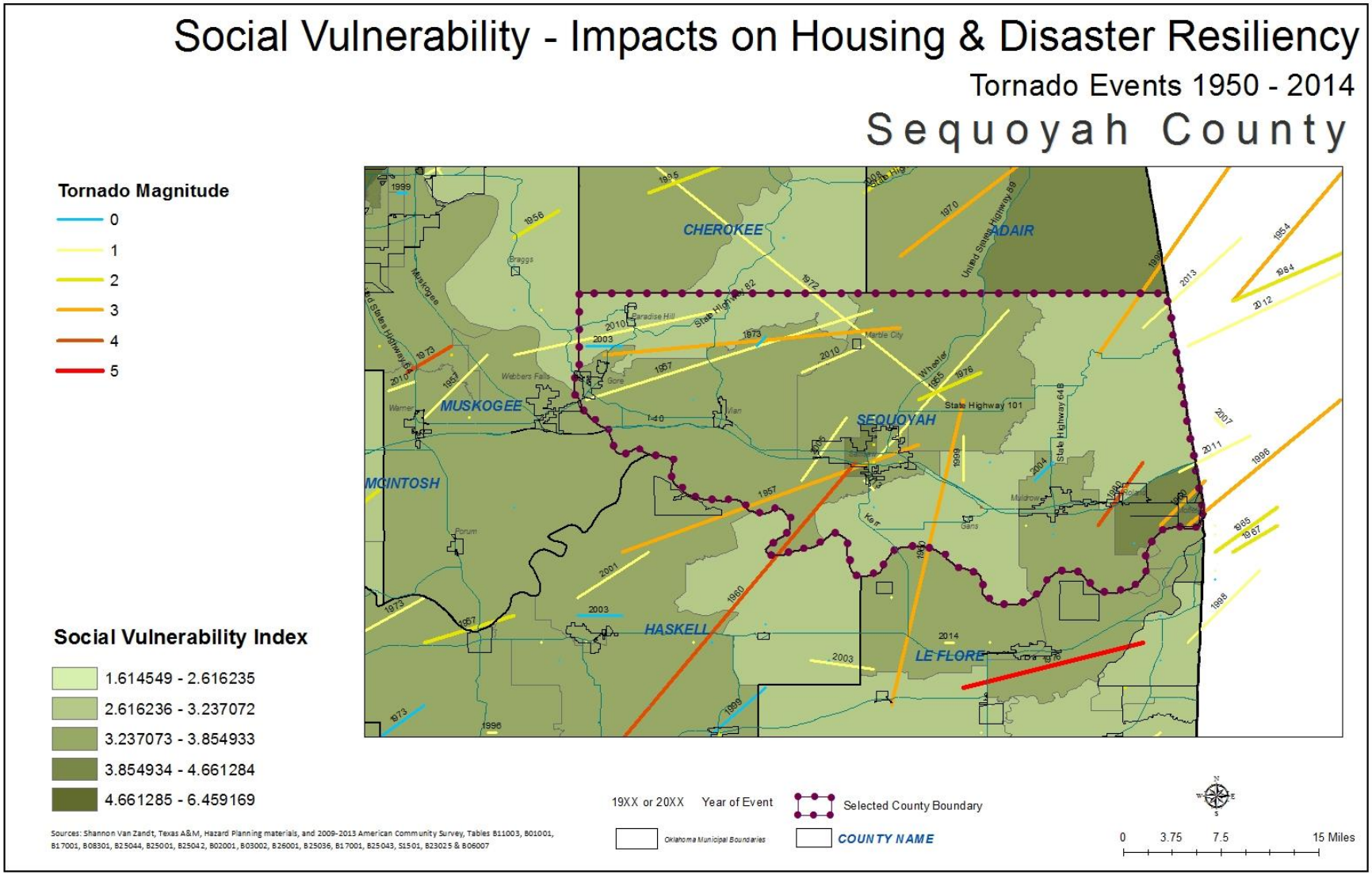
Sources: Shannon Van Zandt, Texas A&M, Hazard Planning materials, and 2009-2013 American Community Survey, Tables B11003, B01001, B17001, B08301, B25044, B25001, B25042, B02001, B03002, B26001, B25036, B17001, B25043, S1501, B23025 & B06007



Social Vulnerability - Impacts on Housing & Disaster Resiliency

Tornado Events 1950 - 2014

Sequoyah County



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 a little above average per this index for social vulnerability when comparing as a county to other counties in the state. Looking at the census tracts, the central portion of the county near Sallisaw and the eastern portion of the county near Moffat and Roland have increased factor scores for social vulnerability.

Recommendations for this county:

- Continue working on 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.

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 - Sequoyah County

Base Social Vulnerability Indicators (%)		2nd Order	3rd Order
1.) Single Parent Households	14.84%	0.209 (Child Care Needs)	**3.379 Social Vulnerability 'Hotspot' or Area of Concern**
2.) Population Under 5	6.09%		
3.) Population 65 or Above	15.57%	0.265 (Elder Needs)	
4.) Population 65 or Above & Below Poverty Rate	10.93%		
5.) Workers Using Public Transportation	0.22%	0.057 (Transportation Needs)	
6.) Occupied Housing Units w/o Vehicle	5.44%		
7.) Housing Unit Occupancy Rate	83.77%	2.526 (Temporary Shelter and Housing Recovery Needs)	
8.) Rental Occupancy Rate	28.46%		
9.) Non-White Population	34.98%		
10.) Population in Group Quarters	0.93%		
11.) Housing Units Built Prior to 1990	64.75%		
12.) Mobile Homes, RVs, Vans, etc.	18.24%		
13.) Poverty Rate	21.45%		
14.) Housing Units Lacking Telephones	1.70%	0.323 (Civic Capacity Needs)	
15.) Age 25+ With Less Than High School Diploma	18.70%		
16.) Unemployment Rate	11.11%		
17.) Age 5+ Which Cannot Speak English Well or Not At All	0.76%		

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