Appendix A

GEMA Worksheet #3a Inventory of Assets

Jurisdiction: Lanier County
Hazard: Hurricanes/Tropical Storms

Task A. Determine the proportion of buildings, the value of buildings, and the population in your community or state that are located in hazard areas.

	Number of Structures			Value of Structures			Number of People		
Type of Structure (Occupancy Class)	# in Community of State	# in Hazard Area	% in Hazard Area	$ in Community or State	$ in Hazard Area	% in Hazard Area	# in Community or State	# in Hazard Area	% in Hazard Area
Residential	3,944	3,944	100.000%	$ 249,400,501	$ 249,400,501	100.000%	10,425	10,425	100.000%
Commercial	188	188	100.000%	$ 22,850,307	$ 22,850,307	100.000%	0	0	0%
Industrial	6	6	100.000%	$ 965,480	$ 965,480		0	0	0%
Agricultural	1,227	1,227	100.000%	$ 295,798,051	$ 295,798,051	100.000%	0	0	0%
Religious/ Non-profit	78	78	100.000%	$ 10,466,050	$ 10,466,050	100.000%	0	0	0%
Government	73	73	100.000%	$ 32,456,921	$ 32,456,921	100.000%	0	0	0%
Education	10	10	100.000%	$ 8,974,652	$ 8,974,652	100.000%	0	0	0%
Utilities	1	1		$ 1	$ 1		0	0	0%
Total	5,527	5,527		$ 620,911,963	$ 620,911,963		10,425	10,425	

Task B. Determine whether (and where) you want to collect additional inventory data.

	Y	N
1. Do you know where the greatest damages may occur in your area?	Y	
2. Do you know whether your critical facilities will be operational after a hazard event?	Y	
3. Is there enough data to determine which assets are subject to the greatest potential damages?	Y	
4. Is there enough data to determine whether significant elements of the community are vulnerable to potential hazards?	Y	
5. Is there enough data to determine whether certain areas of historic, environmental, political, or cultural significance are vulnerable to potential hazards?	Y	
6. Is there concern about a particular hazard because of its severity, repetitiveness, or likelihood of occurrence?	N	
7. Is additional data needed to justify the expenditure of community or state funds for mitigation initiatives?	N	

GEMA Worksheet #3a Inventory of Assets

Jurisdiction: Lanier County
Hazard: Tornadoes

Task A. Determine the proportion of buildings, the value of buildings, and the population in your community or state that are located in hazard areas.

	Number of Structures			Value of Structures			Number of People		
Type of Structure (Occupancy Class)	# in Community of State	# in Hazard Area	% in Hazard Area	$ in Community or State	$ in Hazard Area	% in Hazard Area	# in Community or State	# in Hazard Area	% in Hazard Area
Residential	3,944	3,944	100.000%	$ 249,400,501	$ 249,400,501	100.000%	10,425	10,425	100.000%
Commercial	188	188	100.000%	$ 22,850,307	$ 22,850,307	100.000%	0	0	0%
Industrial	6	6	100.000%	$ 965,480	$ 965,480		0	0	0%
Agricultural	1,227	1,227	100.000%	$ 295,798,051	$ 295,798,051	100.000%	0	0	0%
Religious/ Non-profit	78	78	100.000%	$ 10,466,050	$ 10,466,050	100.000%	0	0	0%
Government	73	73	100.000%	$ 32,456,921	$ 32,456,921	100.000%	0	0	0%
Education	10	10	100.000%	$ 8,974,652	$ 8,974,652	100.000%	0	0	0%
Utilities	1	1		$ 1	$ 1		0	0	0%
Total	5,527	5,527		$ 620,911,963	$ 620,911,963		10,425	10,425	

Task B. Determine whether (and where) you want to collect additional inventory data.

	Y	N
1. Do you know where the greatest damages may occur in your area?	Y	
2. Do you know whether your critical facilities will be operational after a hazard event?	Y	
3. Is there enough data to determine which assets are subject to the greatest potential damages?	Y	
4. Is there enough data to determine whether significant elements of the community are vulnerable to potential hazards?	Y	
5. Is there enough data to determine whether certain areas of historic, environmental, political, or cultural significance are vulnerable to potential hazards?	Y	
6. Is there concern about a particular hazard because of its severity, repetitiveness, or likelihood of occurrence?	N	
7. Is additional data needed to justify the expenditure of community or state funds for mitigation initiatives?	N	

GEMA Worksheet #3a Inventory of Assets

Jurisdiction: Lanier County
Hazard: Floods

Task A. Determine the proportion of buildings, the value of buildings, and the population in your community or state that are located in hazard areas.

	Number of Structures			Value of Structures			Number of People		
Type of Structure (Occupancy Class)	# in Community of State	# in Hazard Area	% in Hazard Area	$ in Community or State	$ in Hazard Area	% in Hazard Area	# in Community or State	# in Hazard Area	% in Hazard Area
Residential	3,944	309	7.835%	$ 249,400,501	$ 18,774,566	7.528%	10,425	817	7.835%
Commercial	188	10	5.319%	$ 22,850,307	$ 1,398,400	6.120%	0	0	0%
Industrial	6	0	0.000%	$ 965,480	$ -		0	0	0%
Agricultural	1,227	307	25.020%	$ 295,798,051	$ 85,192,749	28.801%	0	0	0%
Religious/ Non-profit	78	2	2.564%	$ 10,466,050	$ 402,380	3.845%	0	0	0%
Government	73	24	32.877%	$ 32,456,921	$ 25,509,063	78.594%	0	0	0%
Education	10	3	30.000%	$ 8,974,652	$ 555,875	6.194%	0	0	0%
Utilities	1	1		$ 1	$ -		0	0	0%
Total	5,527	656		$ 620,911,963	$ 131,833,033		10,425	817	

Task B. Determine whether (and where) you want to collect additional inventory data.

	Y	N
1. Do you know where the greatest damages may occur in your area?	Y	
2. Do you know whether your critical facilities will be operational after a hazard event?	Y	
3. Is there enough data to determine which assets are subject to the greatest potential damages?	Y	
4. Is there enough data to determine whether significant elements of the community are vulnerable to potential hazards?	Y	
5. Is there enough data to determine whether certain areas of historic, environmental, political, or cultural significance are vulnerable to potential hazards?	Y	
6. Is there concern about a particular hazard because of its severity, repetitiveness, or likelihood of occurrence?	N	
7. Is additional data needed to justify the expenditure of community or state funds for mitigation initiatives?	N	

GEMA Worksheet #3a Inventory of Assets

Jurisdiction: Lanier County

Hazard: IV. Windstorms/Hailstorms/Lightning

Task A. Determine the proportion of buildings, the value of buildings, and the population in your community or state that are located in hazard areas.

	Number of Structures			Value of Structures			Number of People		
Type of Structure (Occupancy Class)	# in Community of State	# in Hazard Area	% in Hazard Area	$ in Community or State	$ in Hazard Area	% in Hazard Area	# in Community or State	# in Hazard Area	% in Hazard Area
Residential	3,944	3,944	100.000%	$ 249,400,501	$ 249,400,501	100.000%	10,425	10,425	100.000%
Commercial	188	188	100.000%	$ 22,850,307	$ 22,850,307	100.000%	0	0	0%
Industrial	6	6	100.000%	$ 965,480	$ 965,480		0	0	0%
Agricultural	1,227	1,227	100.000%	$ 295,798,051	$ 295,798,051	100.000%	0	0	0%
Religious/ Non-profit	78	78	100.000%	$ 10,466,050	$ 10,466,050	100.000%	0	0	0%
Government	73	73	100.000%	$ 32,456,921	$ 32,456,921	100.000%	0	0	0%
Education	10	10	100.000%	$ 8,974,652	$ 8,974,652	100.000%	0	0	0%
Utilities	1	1		$ 1	$ 1		0	0	0%
Total	5,527	5,527		$ 620,911,963	$ 620,911,963		10,425	10,425	

Task B. Determine whether (and where) you want to collect additional inventory data.

	Y	N
1. Do you know where the greatest damages may occur in your area?	Y	
2. Do you know whether your critical facilities will be operational after a hazard event?	Y	
3. Is there enough data to determine which assets are subject to the greatest potential damages?	Y	
4. Is there enough data to determine whether significant elements of the community are vulnerable to potential hazards?	Y	
5. Is there enough data to determine whether certain areas of historic, environmental, political, or cultural significance are vulnerable to potential hazards?	Y	
6. Is there concern about a particular hazard because of its severity, repetitiveness, or likelihood of occurrence?	N	
7. Is additional data needed to justify the expenditure of community or state funds for mitigation initiatives?	N	

GEMA Worksheet #3a Inventory of Assets

Jurisdiction: Lanier County
Hazard: Extreme Heat

Task A. Determine the proportion of buildings, the value of buildings, and the population in your community or state that are located in hazard areas.

	Number of Structures			Value of Structures			Number of People		
Type of Structure (Occupancy Class)	# in Community of State	# in Hazard Area	% in Hazard Area	$ in Community or State	$ in Hazard Area	% in Hazard Area	# in Community or State	# in Hazard Area	% in Hazard Area
Residential	3,944	3,944	100.000%	$ 249,400,501	$ 249,400,501	100.000%	10,425	10,425	100.000%
Commercial	188	188	100.000%	$ 22,850,307	$ 22,850,307	100.000%	0	0	0%
Industrial	6	6	100.000%	$ 965,480	$ 965,480		0	0	0%
Agricultural	1,227	1,227	100.000%	$ 295,798,051	$ 295,798,051	100.000%	0	0	0%
Religious/ Non-profit	78	78	100.000%	$ 10,466,050	$ 10,466,050	100.000%	0	0	0%
Government	73	73	100.000%	$ 32,456,921	$ 32,456,921	100.000%	0	0	0%
Education	10	10	100.000%	$ 8,974,652	$ 8,974,652	100.000%	0	0	0%
Utilities	1	1		$ 1	$ 1		0	0	0%
Total	5,527	5,527		$ 620,911,963	$ 620,911,963		10,425	10,425	

Task B. Determine whether (and where) you want to collect additional inventory data.

	Y	N
1. Do you know where the greatest damages may occur in your area?	Y	
2. Do you know whether your critical facilities will be operational after a hazard event?	Y	
3. Is there enough data to determine which assets are subject to the greatest potential damages?	Y	
4. Is there enough data to determine whether significant elements of the community are vulnerable to potential hazards?	Y	
5. Is there enough data to determine whether certain areas of historic, environmental, political, or cultural significance are vulnerable to potential hazards?	Y	
6. Is there concern about a particular hazard because of its severity, repetitiveness, or likelihood of occurrence?	N	
7. Is additional data needed to justify the expenditure of community or state funds for mitigation initiatives?	N	

GEMA Worksheet #3a Inventory of Assets

Jurisdiction: Lanier County
Hazard: Wildfires

Task A. Determine the proportion of buildings, the value of buildings, and the population in your community or state that are located in hazard areas.

	Number of Structures			Value of Structures			Number of People		
Type of Structure (Occupancy Class)	# in Community of State	# in Hazard Area	% in Hazard Area	$ in Community or State	$ in Hazard Area	% in Hazard Area	# in Community or State	# in Hazard Area	% in Hazard Area
Residential	3,944	3,944	100.000%	$ 249,400,501	$ 249,400,501	100.000%	10,425	10,425	100.000%
Commercial	188	188	100.000%	$ 22,850,307	$ 22,850,307	100.000%	0	0	0%
Industrial	6	6	100.000%	$ 965,480	$ 965,480		0	0	0%
Agricultural	1,227	1,227	100.000%	$ 295,798,051	$ 295,798,051	100.000%	0	0	0%
Religious/ Non-profit	78	78	100.000%	$ 10,466,050	$ 10,466,050	100.000%	0	0	0%
Government	73	73	100.000%	$ 32,456,921	$ 32,456,921	100.000%	0	0	0%
Education	10	10	100.000%	$ 8,974,652	$ 8,974,652	100.000%	0	0	0%
Utilities	1	1		$ 1	$ 1		0	0	0%
Total	5,527	5,527		$ 620,911,963	$ 620,911,963		10,425	10,425	

Task B. Determine whether (and where) you want to collect additional inventory data.

	Y	N
1. Do you know where the greatest damages may occur in your area?	Y	
2. Do you know whether your critical facilities will be operational after a hazard event?	Y	
3. Is there enough data to determine which assets are subject to the greatest potential damages?	Y	
4. Is there enough data to determine whether significant elements of the community are vulnerable to potential hazards?	Y	
5. Is there enough data to determine whether certain areas of historic, environmental, political, or cultural significance are vulnerable to potential hazards?	Y	
6. Is there concern about a particular hazard because of its severity, repetitiveness, or likelihood of occurrence?	N	
7. Is additional data needed to justify the expenditure of community or state funds for mitigation initiatives?	N	

GEMA Worksheet #3a Inventory of Assets

Jurisdiction: Lanier County
Hazard: Drought

Task A. Determine the proportion of buildings, the value of buildings, and the population in your community or state that are located in hazard areas.

	Number of Structures			Value of Structures			Number of People		
Type of Structure (Occupancy Class)	# in Community of State	# in Hazard Area	% in Hazard Area	$ in Community or State	$ in Hazard Area	% in Hazard Area	# in Community or State	# in Hazard Area	% in Hazard Area
Residential	3,944	3,944	100.000%	$ 249,400,501	$ 249,400,501	100.000%	10,425	10,425	100.000%
Commercial	188	188	100.000%	$ 22,850,307	$ 22,850,307	100.000%	0	0	0%
Industrial	6	6	100.000%	$ 965,480	$ 965,480		0	0	0%
Agricultural	1,227	1,227	100.000%	$ 295,798,051	$ 295,798,051	100.000%	0	0	0%
Religious/ Non-profit	78	78	100.000%	$ 10,466,050	$ 10,466,050	100.000%	0	0	0%
Government	73	73	100.000%	$ 32,456,921	$ 32,456,921	100.000%	0	0	0%
Education	10	10	100.000%	$ 8,974,652	$ 8,974,652	100.000%	0	0	0%
Utilities	1	1		$ 1	$ 1		0	0	0%
Total	5,527	5,527		$ 620,911,963	$ 620,911,963		10,425	10,425	

Task B. Determine whether (and where) you want to collect additional inventory data.

	Y	N
1. Do you know where the greatest damages may occur in your area?	Y	
2. Do you know whether your critical facilities will be operational after a hazard event?	Y	
3. Is there enough data to determine which assets are subject to the greatest potential damages?	Y	
4. Is there enough data to determine whether significant elements of the community are vulnerable to potential hazards?	Y	
5. Is there enough data to determine whether certain areas of historic, environmental, political, or cultural significance are vulnerable to potential hazards?	Y	
6. Is there concern about a particular hazard because of its severity, repetitiveness, or likelihood of occurrence?	N	
7. Is additional data needed to justify the expenditure of community or state funds for mitigation initiatives?	N	

GEMA Worksheet #3a Inventory of Assets

Jurisdiction: Lanier County
Hazard: Sinkholes

Task A. Determine the proportion of buildings, the value of buildings, and the population in your community or state that are located in hazard areas.

	Number of Structures			Value of Structures			Number of People		
Type of Structure (Occupancy Class)	# in Community of State	# in Hazard Area	% in Hazard Area	$ in Community or State	$ in Hazard Area	% in Hazard Area	# in Community or State	# in Hazard Area	% in Hazard Area
Residential	3,944	3,944	100.000%	$ 249,400,501	$ 249,400,501	100.000%	10,425	10,425	100.000%
Commercial	188	188	100.000%	$ 22,850,307	$ 22,850,307	100.000%	0	0	0%
Industrial	6	6	100.000%	$ 965,480	$ 965,480		0	0	0%
Agricultural	1,227	1,227	100.000%	$ 295,798,051	$ 295,798,051	100.000%	0	0	0%
Religious/ Non-profit	78	78	100.000%	$ 10,466,050	$ 10,466,050	100.000%	0	0	0%
Government	73	73	100.000%	$ 32,456,921	$ 32,456,921	100.000%	0	0	0%
Education	10	10	100.000%	$ 8,974,652	$ 8,974,652	100.000%	0	0	0%
Utilities	1	1		$ 1	$ 1		0	0	0%
Total	5,527	5,527		$ 620,911,963	$ 620,911,963		10,425	10,425	

Task B. Determine whether (and where) you want to collect additional inventory data.

	Y	N
1. Do you know where the greatest damages may occur in your area?	Y	
2. Do you know whether your critical facilities will be operational after a hazard event?	Y	
3. Is there enough data to determine which assets are subject to the greatest potential damages?	Y	
4. Is there enough data to determine whether significant elements of the community are vulnerable to potential hazards?	Y	
5. Is there enough data to determine whether certain areas of historic, environmental, political, or cultural significance are vulnerable to potential hazards?	Y	
6. Is there concern about a particular hazard because of its severity, repetitiveness, or likelihood of occurrence?	N	
7. Is additional data needed to justify the expenditure of community or state funds for mitigation initiatives?	N	

GEMA Worksheet #3a Inventory of Assets

Jurisdiction: Lanier County
Hazard: Severe Winter Storms

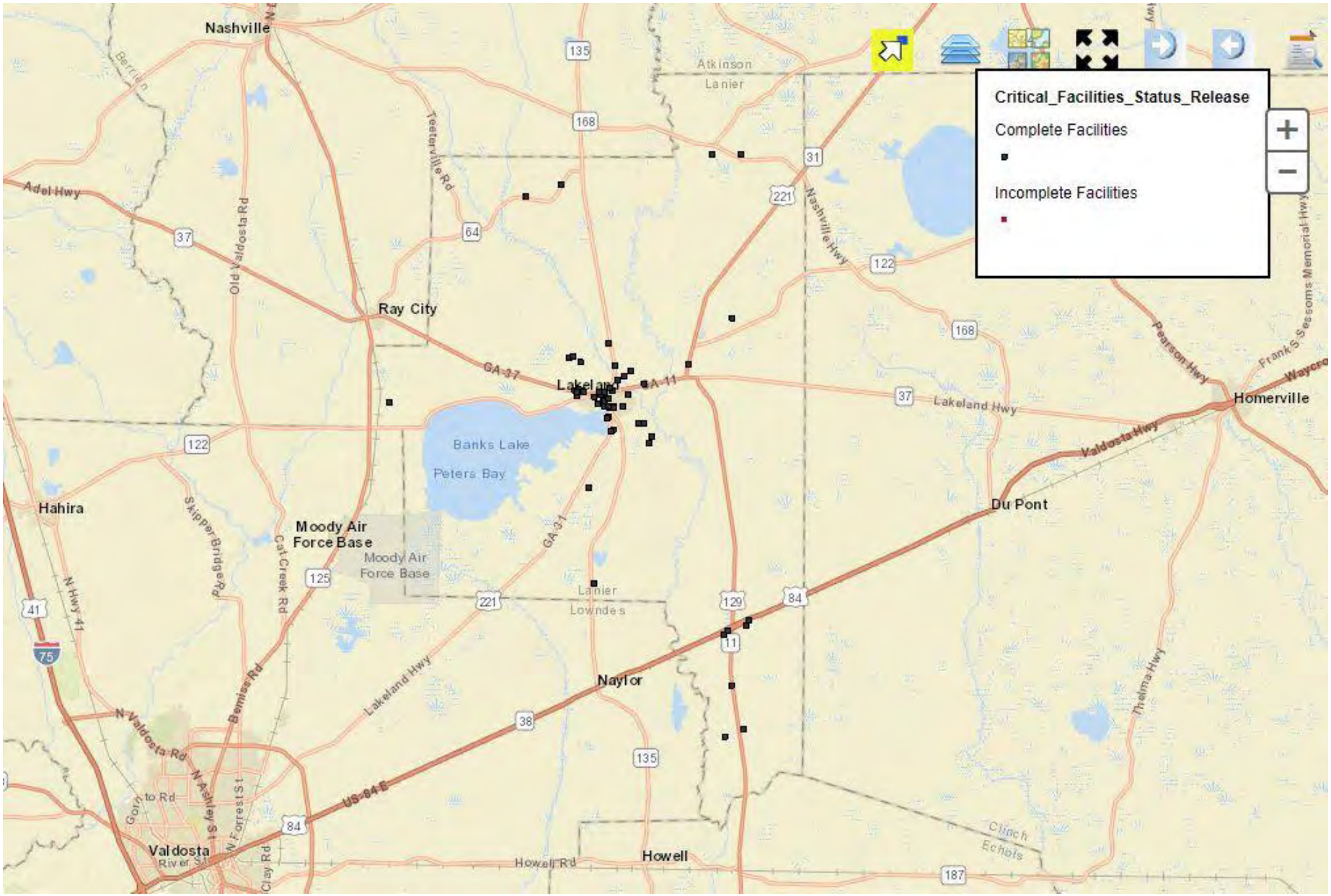
Task A. Determine the proportion of buildings, the value of buildings, and the population in your community or state that are located in hazard areas.

	Number of Structures			Value of Structures			Number of People		
Type of Structure (Occupancy Class)	# in Community of State	# in Hazard Area	% in Hazard Area	$ in Community or State	$ in Hazard Area	% in Hazard Area	# in Community or State	# in Hazard Area	% in Hazard Area
Residential	3,944	3,944	100.000%	$ 249,400,501	$ 249,400,501	100.000%	10,425	10,425	100.000%
Commercial	188	188	100.000%	$ 22,850,307	$ 22,850,307	100.000%	0	0	0%
Industrial	6	6	100.000%	$ 965,480	$ 965,480		0	0	0%
Agricultural	1,227	1,227	100.000%	$ 295,798,051	$ 295,798,051	100.000%	0	0	0%
Religious/ Non-profit	78	78	100.000%	$ 10,466,050	$ 10,466,050	100.000%	0	0	0%
Government	73	73	100.000%	$ 32,456,921	$ 32,456,921	100.000%	0	0	0%
Education	10	10	100.000%	$ 8,974,652	$ 8,974,652	100.000%	0	0	0%
Utilities	1	1		$ 1	$ 1		0	0	0%
Total	5,527	5,527		$ 620,911,963	$ 620,911,963		10,425	10,425	

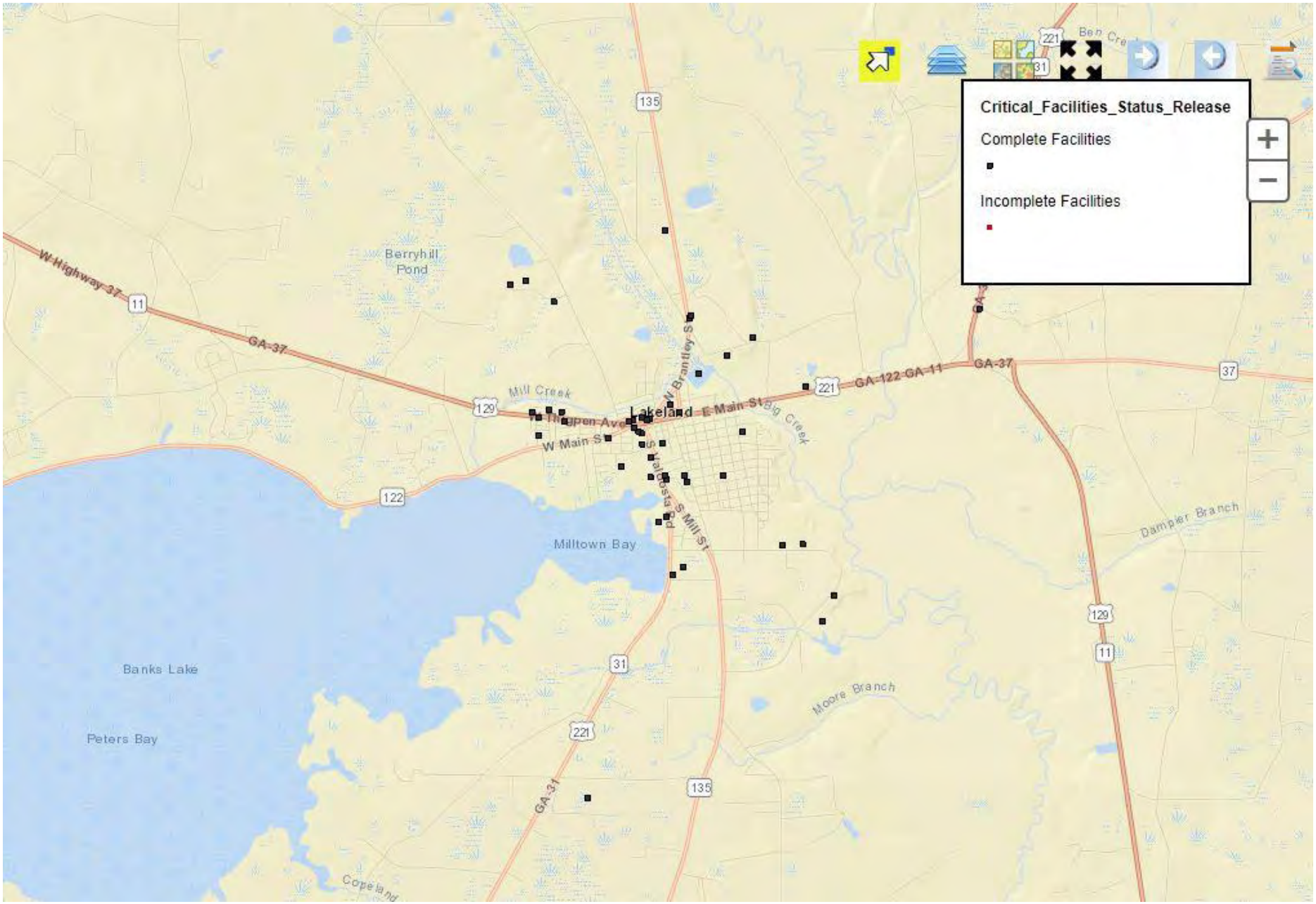
Task B. Determine whether (and where) you want to collect additional inventory data.

	Y	N
1. Do you know where the greatest damages may occur in your area?	Y	
2. Do you know whether your critical facilities will be operational after a hazard event?	Y	
3. Is there enough data to determine which assets are subject to the greatest potential damages?	Y	
4. Is there enough data to determine whether significant elements of the community are vulnerable to potential hazards?	Y	
5. Is there enough data to determine whether certain areas of historic, environmental, political, or cultural significance are vulnerable to potential hazards?	Y	
6. Is there concern about a particular hazard because of its severity, repetitiveness, or likelihood of occurrence?	N	
7. Is additional data needed to justify the expenditure of community or state funds for mitigation initiatives?	N	

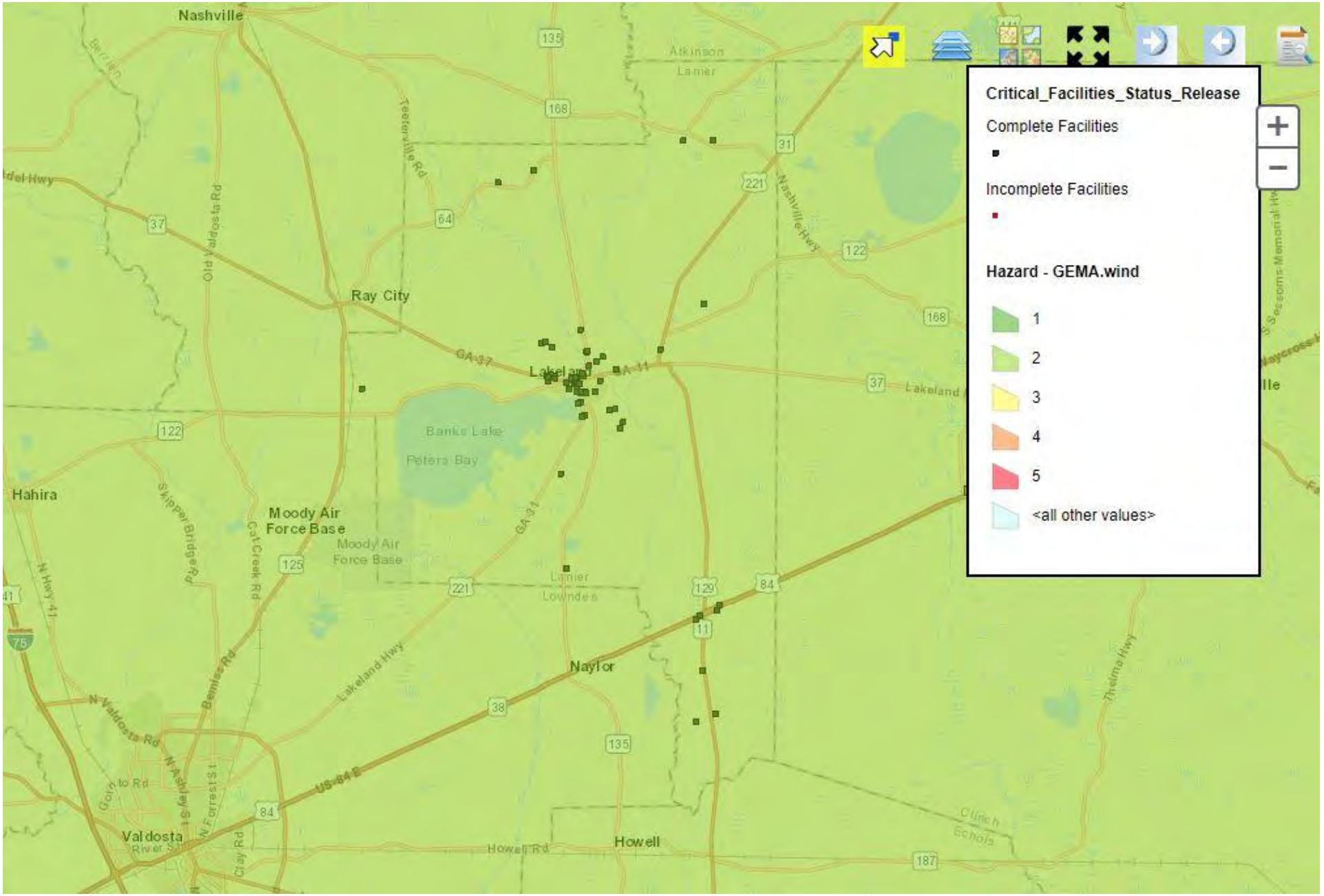
Critical Facilities and Hazard Potential for Hazards Affecting the Entire Community (Hurricanes/Tropical Storms, Tornadoes, Windstorms/Hailstorms/Lightning, Extreme Heat, Drought, Sinkholes, Severe Winter Storms)



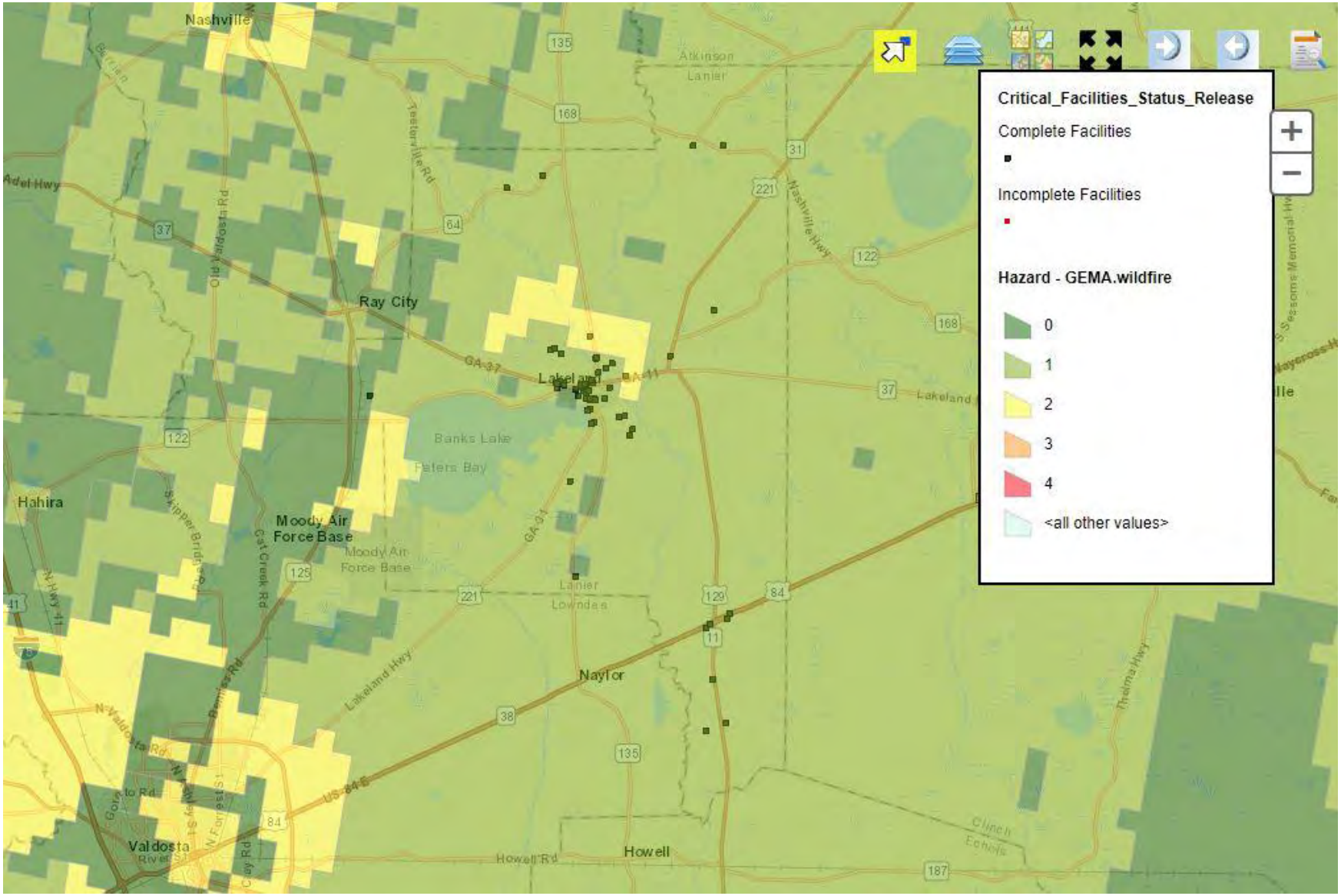
Lakeland Area Detail – Critical Facilities



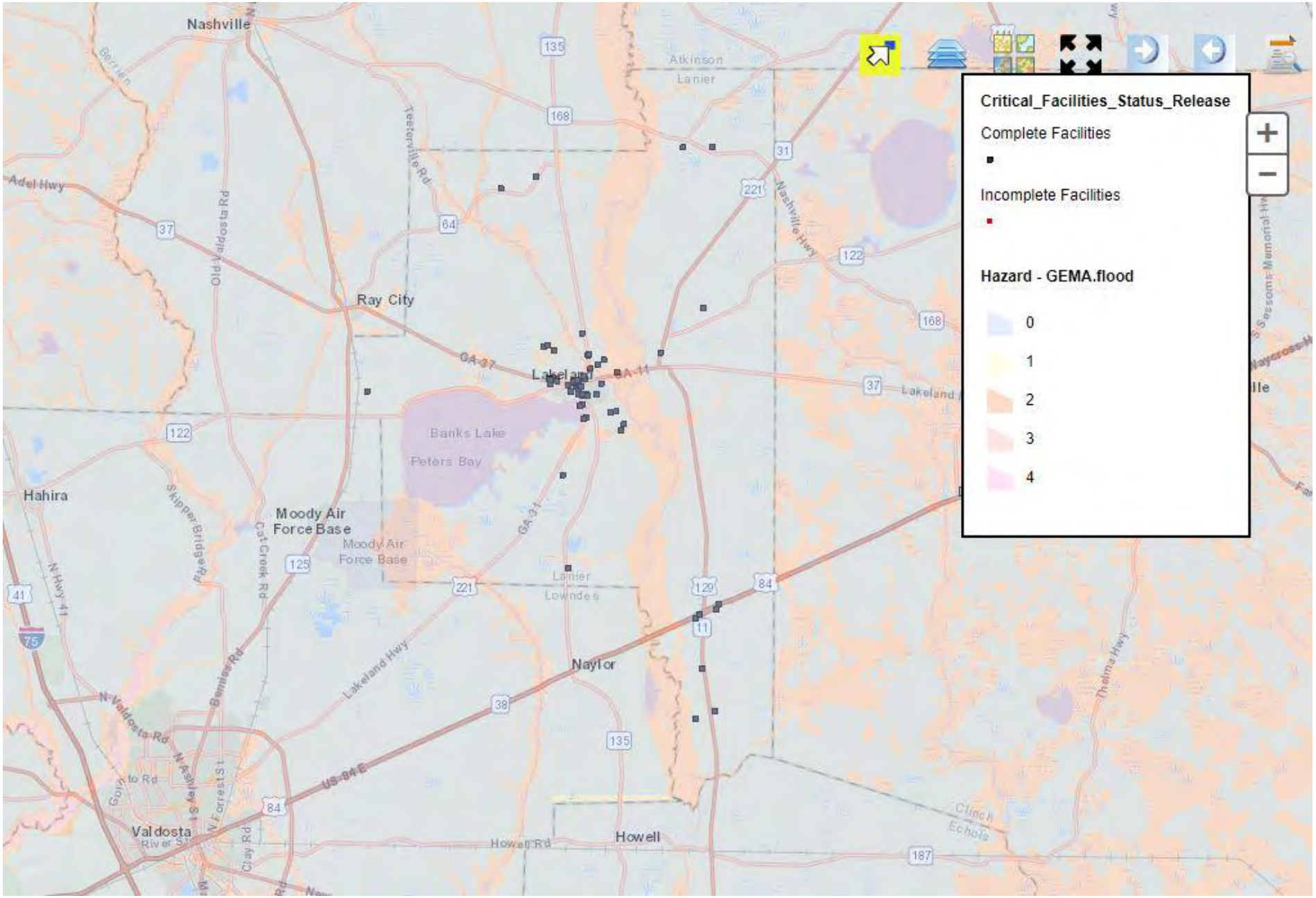
Critical Facilities and Wind Zones

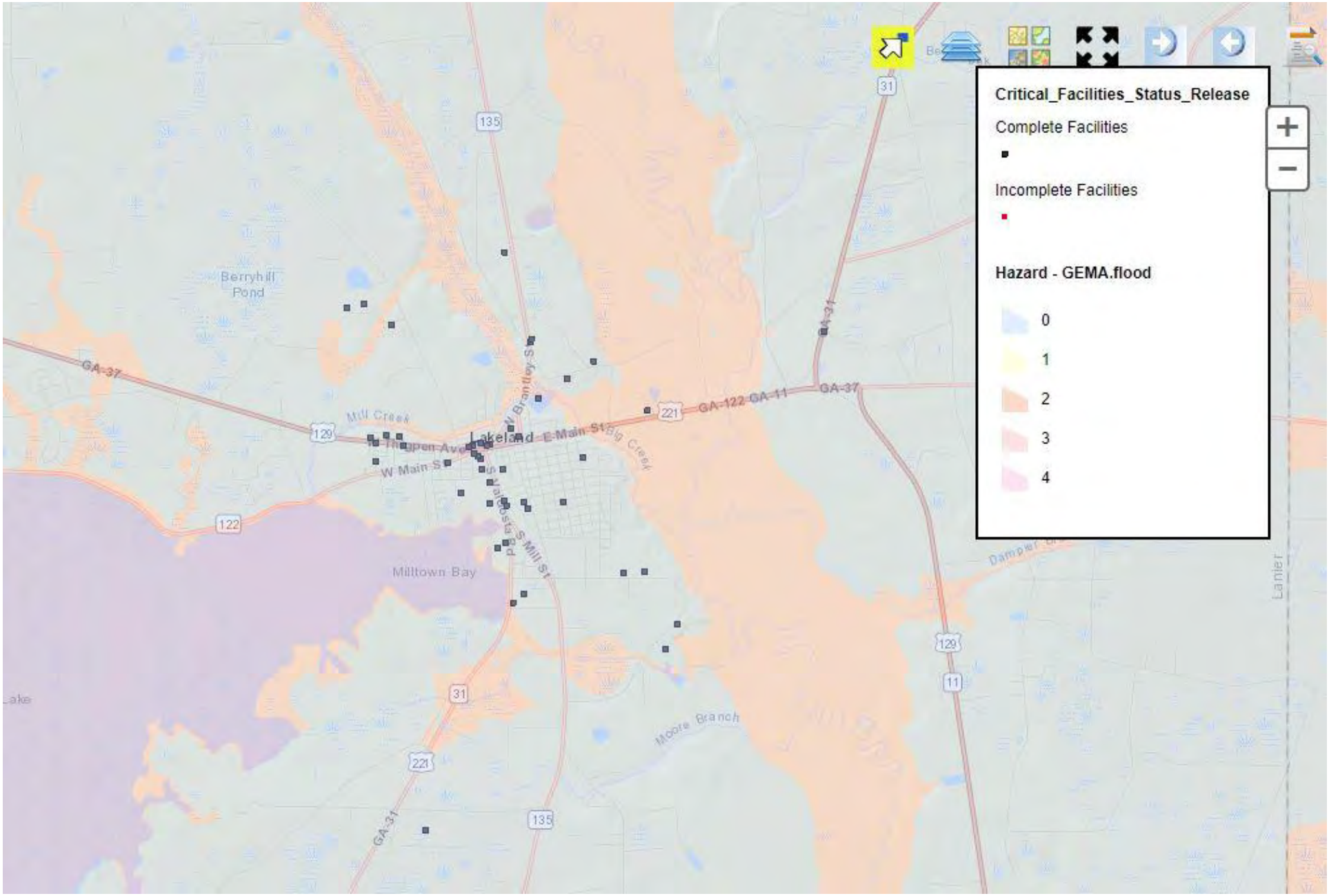


Critical Facilities and Wildfire Hazard Areas (GMIS data)



Critical Facilities and Flood Zones

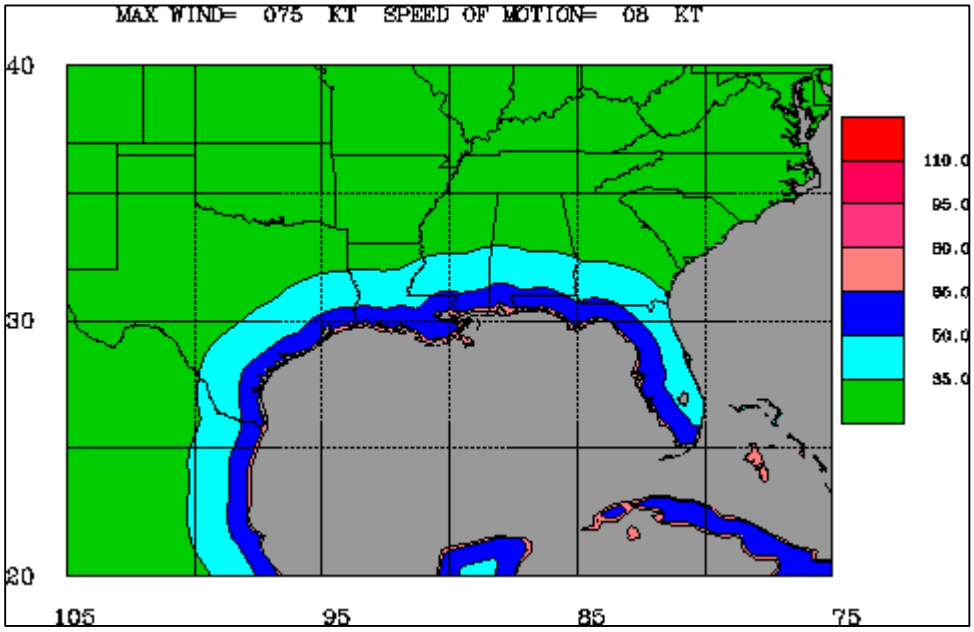



Critical_Facilities_Status_Release
Complete Facilities
Incomplete Facilities
Hazard - GEMA.flood
0
1
2
3
4
Berryhill Pond
Mill Creek
Lakeland
E Main St
W Main St
Big Creek
Milltown Bay
Moore Branch
Lanier
GA-37
GA-122
GA-11
GA-31
S Mill St
135
129
221
122
31
11

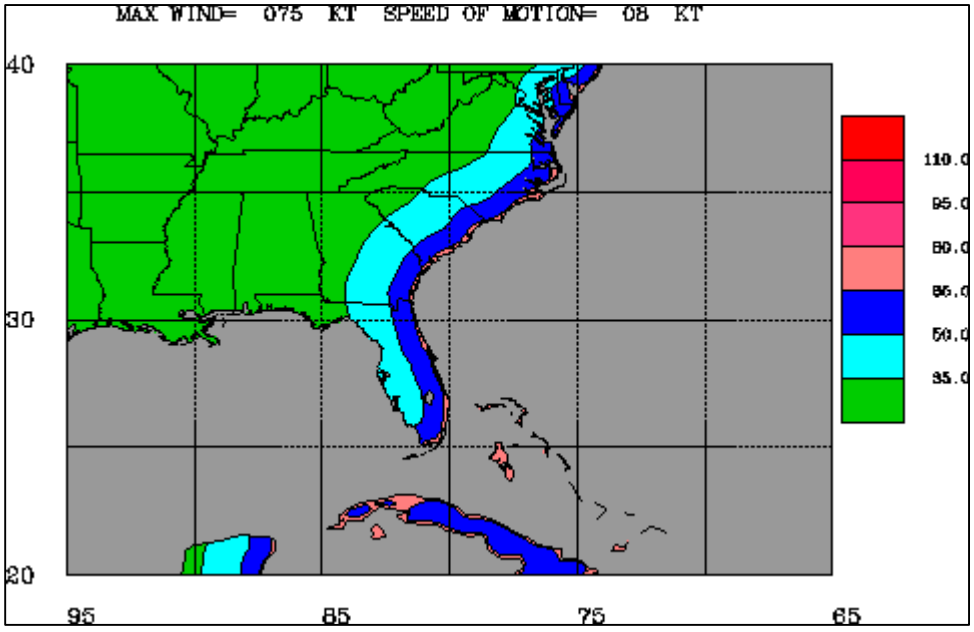
Examples of the Maximum Envelope of Wind
(Source: NOAA. http://www.nhc.noaa.gov/aboutmeow.shtml)

Mild case (Category 1, 8 knots forward motion)

Gulf Coast Region



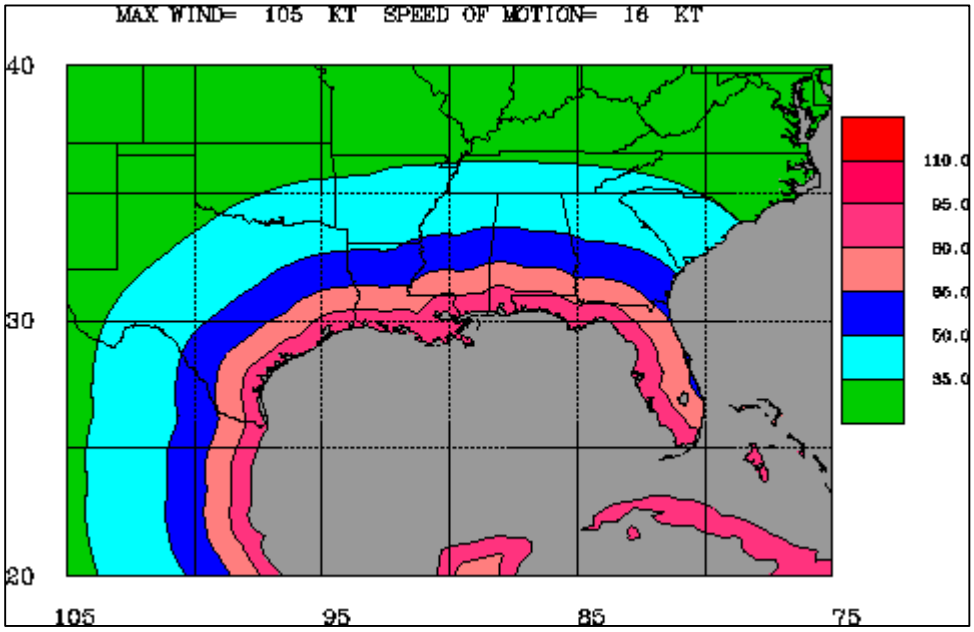
East Coast Region



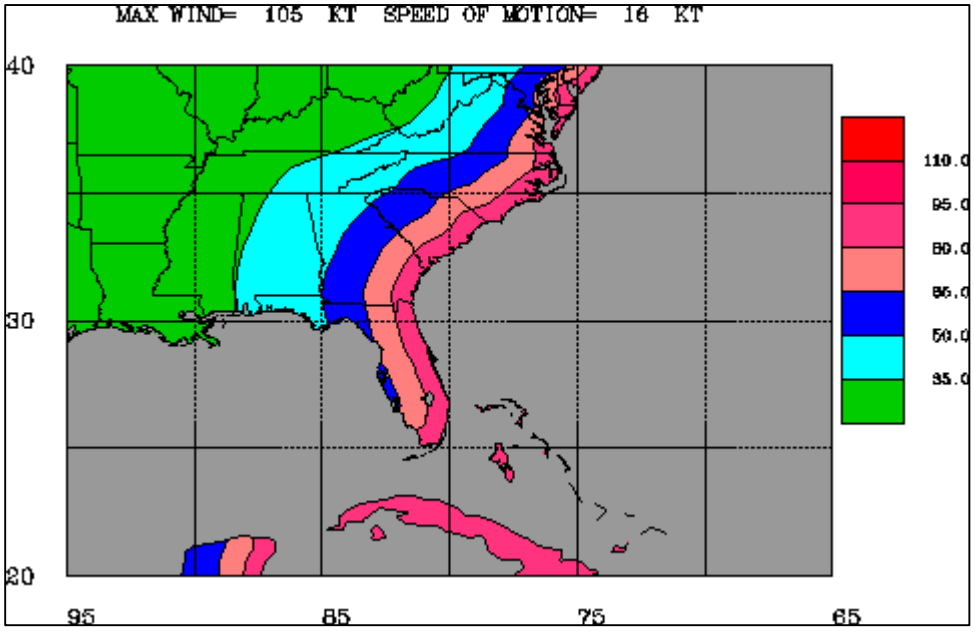
Examples of the Maximum Envelope of Wind
(Source: NOAA. http://www.nhc.noaa.gov/aboutmeow.shtml)

Mid-range case (Category 3, 16 knots forward motion)

Gulf Coast Region



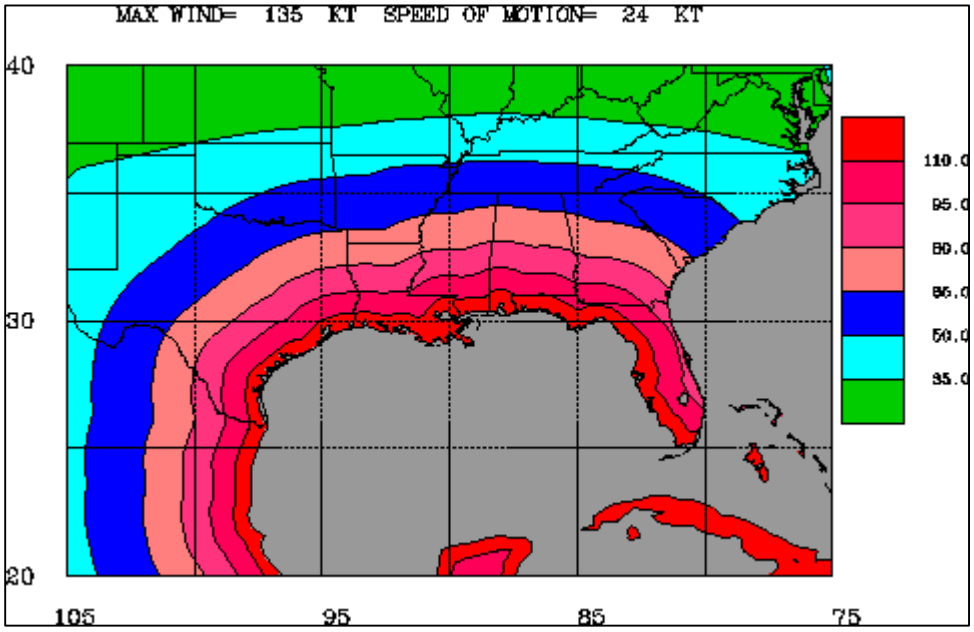
East Coast Region



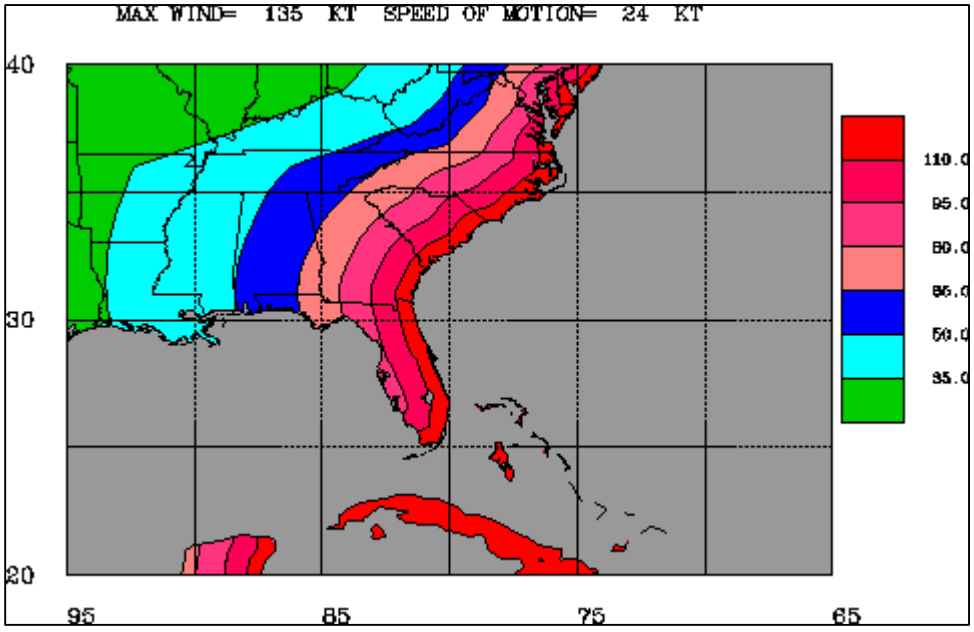
Examples of the Maximum Envelope of Wind
(Source: NOAA. http://www.nhc.noaa.gov/aboutmeow.shtml)

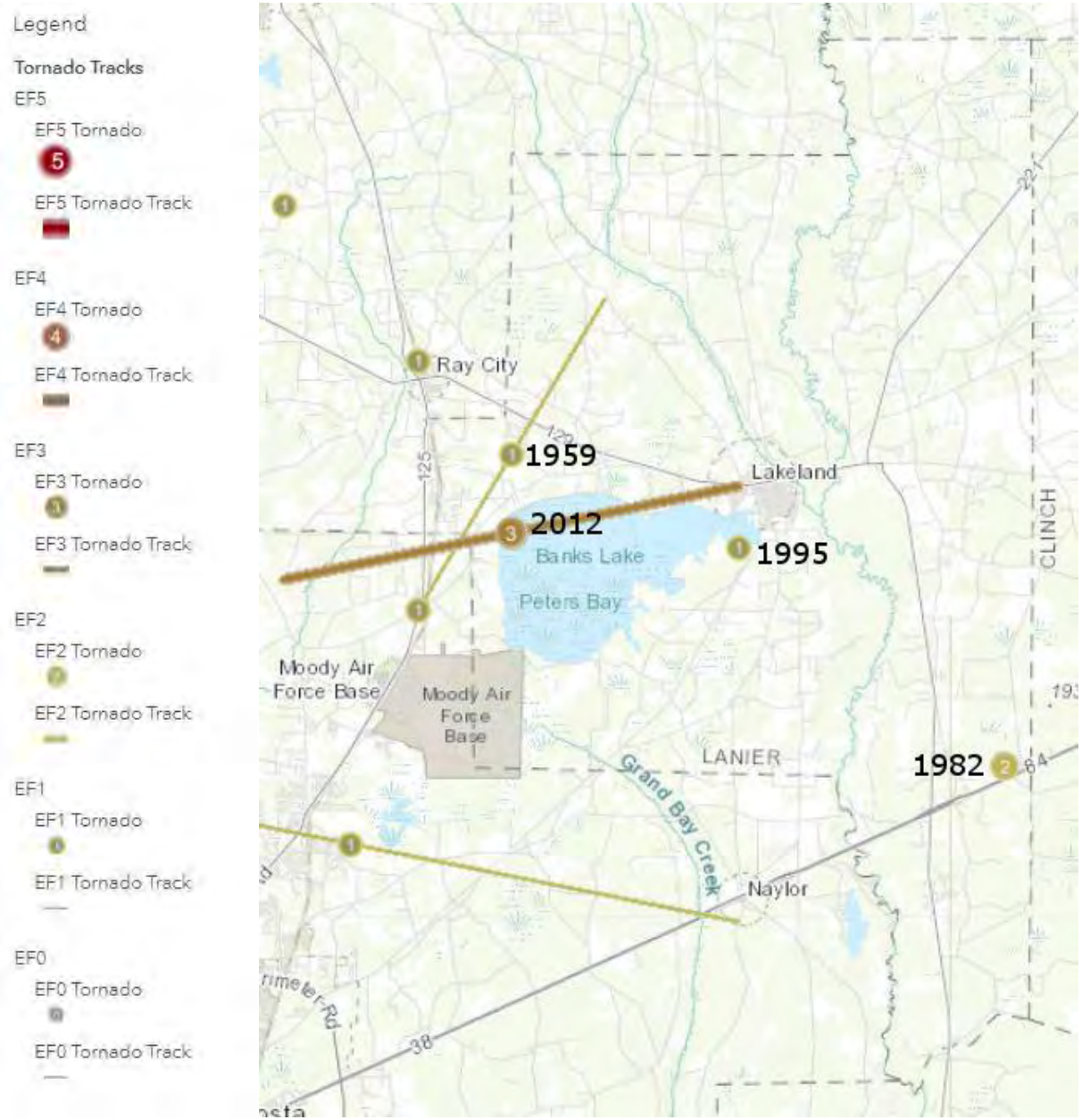
Worst case (Category 5, 24 knots forward motion)

Gulf Coast Region



East Coast Region





Data source:
https://www.arcgis.com/home/webmap/viewer.html?useExisting=1&layers=ae96a522f2824552b20cdcf53a30d3c1

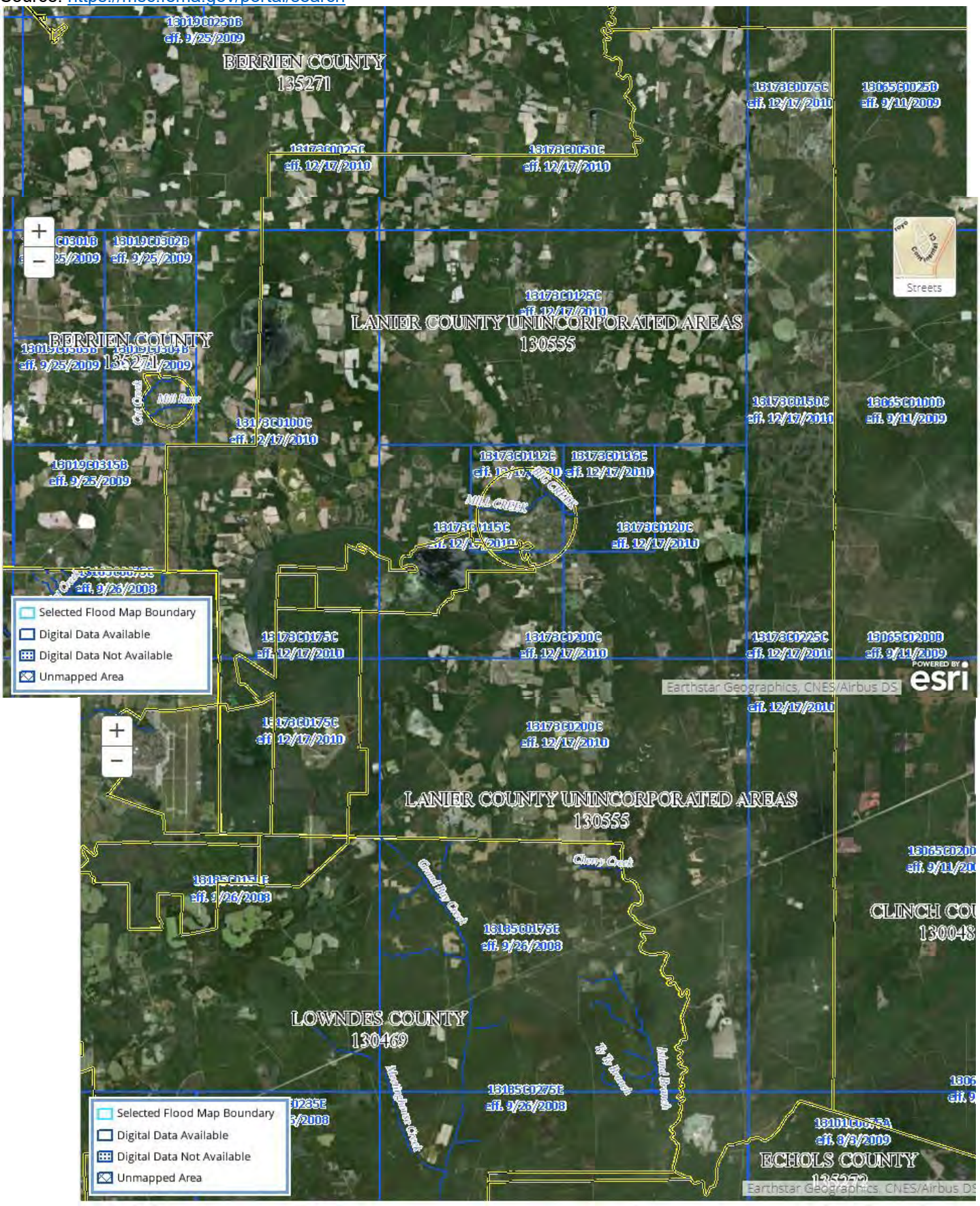
These map layers, derived from National Oceanic and Atmospheric Administration data, portray tornadoes and available tracks from 1950 to 2014

Map Image Layer
by Federal_User_Community

Last Modified: February 21, 2018

FEMA Flood Maps

Source: https://msc.fema.gov/portal/search

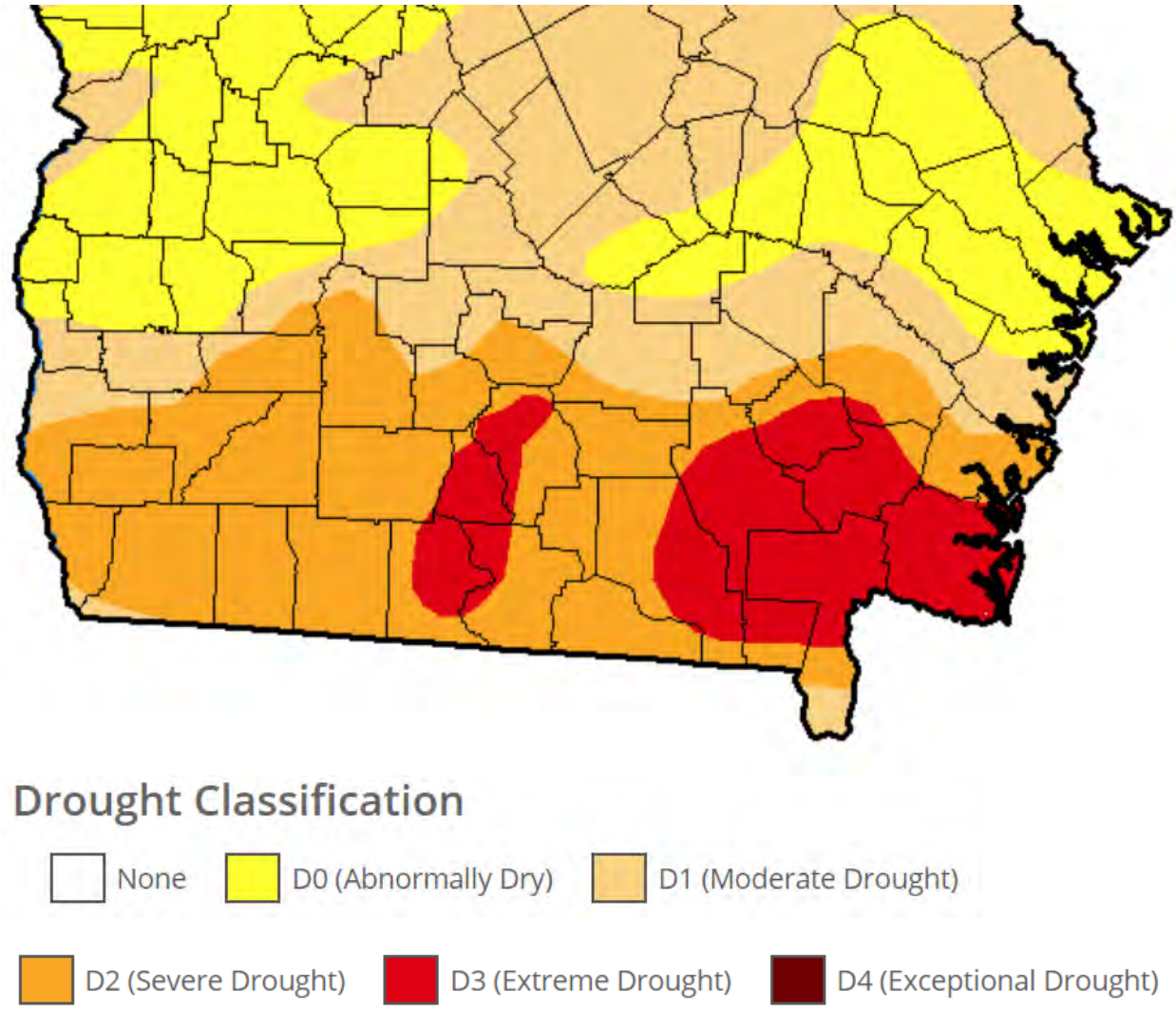



LANIER COUNTY UNINCORPORATED AREAS
130555
Zone A
13173C0112C
eff. 12/17/2010
BIG CREEK
13173C0116C
eff. 12/17/2010
Zone AE
MILL CREEK
CITY OF LAKELAND
130120
Zone A
13173C0115C
eff. 12/17/2010
AREA OF MINIMAL FLOOD HAZARD
Zone X
13173C0120C
eff. 12/17/2010
Zone A
Zone A
Streets
Selected Flood Map Boundary
Digital Data Available
Digital Data Not Available
Unmapped Area
USDA FSA, DigitalGlobe, GeoEye, CNES/Airbus DS
POWERED BY esri

Drought

The example map below, from the week of May 16, 2017, shows moderate to extreme drought conditions throughout southern Georgia.

Source: U.S. Drought Monitor
(http://droughtmonitor.unl.edu/Maps/ComparisonSlider.aspx)



Appendix B

QuickFacts

Lanier County , Georgia

QuickFacts provides statistics for all states and counties, and for cities and towns with a population of 5,000 or more .

Table

All Topics	Lanier County , Georgia
Population estimates, July 1, 2017, (V2017)	10,425
PEOPLE	
Population	
Population estimates, July 1, 2017, (V2017)	10,425
Population estimates, July 1, 2016, (V2016)	10,399
Population estimates base, April 1, 2010, (V2017)	10,070
Population estimates base, April 1, 2010, (V2016)	10,074
Population, percent change - April 1, 2010 (estimates base) to July 1, 2017, (V2017)	3.5%
Population, percent change - April 1, 2010 (estimates base) to July 1, 2016, (V2016)	3.2%
Population, Census, April 1, 2010	10,078
Age and Sex	
Persons under 5 years, percent	7.4%
Persons under 18 years, percent	25.5%
Persons 65 years and over, percent	12.8%
Female persons, percent	49.3%
Race and Hispanic Origin	
White alone, percent (a)	73.2%
Black or African American alone, percent (a)	21.7%
American Indian and Alaska Native alone, percent (a)	1.0%
Asian alone, percent (a)	1.3%
Native Hawaiian and Other Pacific Islander alone, percent (a)	Z
Two or More Races, percent	2.8%
Hispanic or Latino, percent (b)	5.7%
White alone, not Hispanic or Latino, percent	68.7%
Population Characteristics	
Veterans, 2012-2016	1,068
Foreign born persons, percent, 2012-2016	1.6%
Housing	
Housing units, July 1, 2016, (V2016)	4,308
Owner-occupied housing unit rate, 2012-2016	63.5%
Median value of owner-occupied housing units, 2012-2016	$112,700
Median selected monthly owner costs -with a mortgage, 2012-2016	$1,096
Median selected monthly owner costs -without a mortgage, 2012-2016	$351
Median gross rent, 2012-2016	$617
Building permits, 2016	16
Families & Living Arrangements	
Households, 2012-2016	3,733
Persons per household, 2012-2016	2.70
Living in same house 1 year ago, percent of persons age 1 year+, 2012-2016	80.4%
Language other than English spoken at home, percent of persons age 5 years+, 2012-2016	3.2%
Education	
High school graduate or higher, percent of persons age 25 years+, 2012-2016	78.2%
Bachelor's degree or higher, percent of persons age 25 years+, 2012-2016	15.4%
Health	
With a disability, under age 65 years, percent, 2012-2016	13.9%
Persons without health insurance, under age 65 years, percent	16.5%
Economy	
In civilian labor force, total, percent of population age 16 years+, 2012-2016	52.1%
In civilian labor force, female, percent of population age 16 years+, 2012-2016	50.1%
Total accommodation and food services sales, 2012 ($1,000) (c)	4,587

Total health care and social assistance receipts/revenue, 2012 ($1,000) (c)	D
Total manufacturers shipments, 2012 ($1,000) (c)	D
Total merchant wholesaler sales, 2012 ($1,000) (c)	D
Total retail sales, 2012 ($1,000) (c)	D
Total retail sales per capita, 2012 (c)	NA
Transportation	
Mean travel time to work (minutes), workers age 16 years+, 2012-2016	26.1
Income & Poverty	
Median household income (in 2016 dollars), 2012-2016	$31,682
Per capita income in past 12 months (in 2016 dollars), 2012-2016	$17,403
Persons in poverty, percent	⚠ 22.8%

BUSINESSES

Businesses	
Total employer establishments, 2016	89
Total employment, 2016	819
Total annual payroll, 2016 ($1,000)	23,984
Total employment, percent change, 2015-2016	29.6%
Total nonemployer establishments, 2015	545
All firms, 2012	520
Men-owned firms, 2012	313
Women-owned firms, 2012	174
Minority-owned firms, 2012	123
Nonminority-owned firms, 2012	382
Veteran-owned firms, 2012	53
Nonveteran-owned firms, 2012	451

GEOGRAPHY

Geography	
Population per square mile, 2010	54.4
Land area in square miles, 2010	185.26
FIPS Code	13173

Value Notes

⚠ Estimates are not comparable to other geographic levels due to methodology differences that may exist between different data sources.

Some estimates presented here come from sample data, and thus have sampling errors that may render some apparent differences between geographies statistically indistinguishable. Click the Quick left of each row in TABLE view to learn about sampling error.

The vintage year (e.g., V2017) refers to the final year of the series (2010 thru 2017). Different vintage years of estimates are not comparable.

Fact Notes

(a) Includes persons reporting only one race
(b) Hispanics may be of any race, so also are included in applicable race categories
(c) Economic Census - Puerto Rico data are not comparable to U.S. Economic Census data

Value Flags

- Either no or too few sample observations were available to compute an estimate, or a ratio of medians cannot be calculated because one or both of the median estimates falls in the lo interval of an open ended distribution.
D Suppressed to avoid disclosure of confidential information
F Fewer than 25 firms
FN Footnote on this item in place of data
NA Not available
S Suppressed; does not meet publication standards
X Not applicable
Z Value greater than zero but less than half unit of measure shown

QuickFacts data are derived from: Population Estimates, American Community Survey, Census of Population and Housing, Current Population Survey, Small Area Health Insurance Estimates, Small A Poverty Estimates, State and County Housing Unit Estimates, County Business Patterns, Nonemployer Statistics, Economic Census, Survey of Business Owners, Building Permits.

Department of Revenue

Return

GEORGIA DEPARTMENT OF REVENUE Local Government Services Division County Digest Section	2017 TAX DIGEST CONSOLIDATED SUMMARY

County:LANIER County #:086 Tax District:LANIER COUNTY

Dist #: 00 Assessment %: 040 Tot Parcels:16250

RESIDENTIAL

Code	Count	Acres	40% Value
R1	7,381		82,321,557
R3	2,038	1,511.04	10,440,074
R4	1,921	5,571.92	9,171,616
R5	4	66.37	61,160
R6	879		667,233
R7			
R9	1		600
RA			
RB	257		306,030
RF			
RI			
RZ			

RESIDENTIAL TRANSITIONAL

Code	Count	Acres	40% Value
T1			
T3			
T4			

HISTORIC

Code	Count	Acres	40% Value
H1			
H3			

AGRICULTURAL

Code	Count	Acres	40% Value
A1	576		7,957,510
A3	1	1.5	2,320
A4	138	1,575.61	1,598,537
A5	220	16,901.13	10,853,506
A6	798		1,296,112
A7			
A9			
AA			
AB			
AF	2		20,021
AI			
AZ			

PREFERENTIAL

Code	Count	Acres	40% Value

UTILITY

Code	Count	Acres	40% Value
U1			
U2	14	13.25	8,137,790
U3			
U4	2	7	1,920
U5			
U7			
U9			
UA			
UB			
UF			
UZ			

EXEMPT PROPERTY

Code	Count	40% Value
E0		
E1	117	8,643,482
E2	129	3,733,813
E3	13	281,020
E4	10	73,120
E5	15	199,720
E6	38	4,025,342
E7		
E8		
E9	22	684,506
TOTAL	344	17,641,003

HOMESTEAD AND PROPERTY EXEMPTIONS

Code	Count	M&O	Bond
S1	1,132	2,263,871	
SC	1	2,000	
S2			
S3	36	72,000	
S4	234	933,816	
S5	46	1,752,829	
SD			
SS			
SE			
SG	1	56,912	

P3			
P4			
P5	7	833.7	535,800
P6	14		8,252
P7			
P9			

CONSERVATION USE

Code	Count	Acres	40% Value
V3	6	72.11	88,800
V4	165	2,970.74	2,730,544
V5	448	55,841.88	33,387,187
V6			

BROWNFIELD PROPERTY

Code	Count	Acres	40% Value
B1			
B3			
B4			
B5			
B6			

FOREST LAND CONSERVATION USE

Code	Count	Acres	40% Value
J3			
J4	1	14.24	5,696
J5	44	28,368.25	12,229,363
J9			

FLPA FAIR MARKET ASSMT

Code	Count	Acres	40% Value
F3			
F4	1	14.24	5,966
F5	44	28,368.25	13,549,911
F9			
Total	45	28,382.49	13,555,877

ENVIRONMENTALLY SENSITIVE

Code	Count	Acres	40% Value
W3			
W4			
W5			

COMMERCIAL

Code	Count	Acres	40% Value
C1	458		8,040,477
C3	149	74.92	908,657
C4	32	124.21	229,807
C5	2	55.7	57,080
C7			
C9	5		20,712
CA	1		9,400
CB			
CF	211		5,115,705
CI	61		1,574,867
CP			
CZ	2		13,804

INDUSTRIAL

Code	Count	Acres	40% Value
I1	15		410,112
I3	2	5.98	37,880
I4	4	9.28	32,800
S6			
S7			
S8			
S9			
SF			
SA	7	136,013	
SB			
SP	343	255,771	
SH			
ST			
SV	619	25,710,420	
SJ	45	7,952,475	
SW			
SX			
SN			

DO NOT USE CODES L1-L9 ON STATE SHEET

L1			
L2			
L3			
L4			
L5			
L6			
L7			
L8			
L9			
TOTAL	2,464	39,136,107	

SUMMARY

Code	Count	Acres	40% Value
Residential	12,481	7,149.33	102,968,270
Residential Transitional			
Historical			
Agricultural	1,735	18,478.24	21,728,006
Preferential	21	833.7	544,052
Conservation Use	619	58,884.73	36,206,531
Brownfield Property			
Forest Land Cons Use	45	28,382.49	12,235,059
Environmentally Sensitive			
Commercial	921	254.83	15,970,509
Industrial	23	15.26	493,434
Utility	16	20.25	8,139,710
Motor Vehicle	4,388		5,721,150
Mobile Home	722		3,326,032
Timber 100%	31	1,543	1,004,406
Heavy Equipment			
Gross Digest	21,002	115,561.83	208,337,159
Exemptions Bond			0
Net Bond Digest			208,337,159
Gross Digest	21,002	115,561.83	208,337,159
Exemptions-M&O			39,136,107
Net M&O Digest			169,201,052

I5			TAX LEVIED			
I7			TYPE	ASSESSED VALUE	MILLAGE	TAX
I9			M & O	169,201,052	.000	0.00
IA			BOND	208,337,159	.000	0.00
IB						
IF	1	6,268				
II	1	6,374				
IP						
IZ						

Return

Department of Revenue

Return

GEORGIA DEPARTMENT OF REVENUE Local Government Services Division County Digest Section	2017 TAX DIGEST CONSOLIDATED SUMMARY

County:LANIER County #:086 Tax District:LAKELAND

Dist #: 05 Assessment %: 040 Tot Parcels:3492

RESIDENTIAL

Code	Count	Acres	40% Value
R1	1,263		16,313,694
R3	1,103	463.62	3,383,509
R4	44	105.94	177,720
R5			
R6	191		126,540
R7			
R9			
RA			
RB	24		26,762
RF			
RI			
RZ			

RESIDENTIAL TRANSITIONAL

Code	Count	Acres	40% Value
T1			
T3			
T4			

HISTORIC

Code	Count	Acres	40% Value
H1			
H3			

AGRICULTURAL

Code	Count	Acres	40% Value
A1	3		43,892
A3			
A4	3	24.8	24,920
A5	2	51.97	31,080
A6	15		68,268
A7			
A9			
AA			
AB			
AF			
AI			
AZ			

PREFERENTIAL

Code	Count	Acres	40% Value

UTILITY

Code	Count	Acres	40% Value
U1			
U2	4	4	1,523,719
U3			
U4			
U5			
U7			
U9			
UA			
UB			
UF			
UZ			

EXEMPT PROPERTY

Code	Count	40% Value
E0		
E1	75	3,765,637
E2	71	2,312,384
E3	12	278,940
E4	5	53,880
E5	15	199,720
E6	28	3,937,654
E7		
E8		
E9	6	126,778
TOTAL	212	10,674,993

HOMESTEAD AND PROPERTY EXEMPTIONS

Code	Count	M&O	Bond
S1			
SC			
S2			
S3			
S4			
S5	12	302,410	
SD			
SS			
SE			
SG			

P3			
P4			
P5	1	22	23,000
P6	2		4,240
P7			
P9			

CONSERVATION USE

Code	Count	Acres	40% Value
V3			
V4	2	33	37,280
V5	6	679.07	510,240
V6			

BROWNFIELD PROPERTY

Code	Count	Acres	40% Value
B1			
B3			
B4			
B5			
B6			

FOREST LAND CONSERVATION USE

Code	Count	Acres	40% Value
J3			
J4			
J5			
J9			

FLPA FAIR MARKET ASSMT

Code	Count	Acres	40% Value
F3			
F4			
F5			
F9			
Total			

ENVIRONMENTALLY SENSITIVE

Code	Count	Acres	40% Value
W3			
W4			
W5			

COMMERCIAL

Code	Count	Acres	40% Value
C1	295		6,220,758
C3	141	67.47	877,457
C4	4	10.73	44,080
C5			
C7			
C9	3		20,360
CA			
CB			
CF	121		1,976,977
CI	42		1,063,302
CP			
CZ			

INDUSTRIAL

Code	Count	Acres	40% Value
I1	7		272,080
I3	2	5.98	37,880
S6			
S7			
S8			
S9			
SF			
SA	1		6,810
SB			
SP	87		74,707
SH			
ST			
SV	8		412,235
SJ			
SW			
SX			
SN			

DO NOT USE CODES L1-L9 ON STATE SHEET

L1			
L2			
L3			
L4			
L5			
L6			
L7			
L8			
L9			
TOTAL	108	796,162	

SUMMARY

Code	Count	Acres	40% Value
Residential	2,625	569.56	20,028,225
Residential Transitional			
Historical			
Agricultural	23	76.77	168,160
Preferential	3	22	27,240
Conservation Use	8	712.07	547,520
Brownfield Property			
Forest Land Cons Use			
Environmentally Sensitive			
Commercial	606	78.2	10,202,934
Industrial	11	5.98	322,602
Utility	4	4	1,523,719
Motor Vehicle	791		1,041,690
Mobile Home	200		605,863
Timber 100%			
Heavy Equipment			
Gross Digest	4,271	1,468.58	34,467,953
Exemptions Bond			
Net Bond Digest			34,467,953
Gross Digest	4,271	1,468.58	34,467,953
Exemptions-M&O			796,162
Net M&O Digest			33,671,791

I4
I5
I7
I9
IA
IB
IF 1 6,268
II 1 6,374
IP
IZ

TAX LEVIED

TYPE	ASSESSED VALUE	MILLAGE	TAX
M & O	33,671,791	11.994	403,859.46
BOND	34,467,953	.000	0.00

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Appendix C

6. Community Work Program

Lanier County 5-Year Community Work Program Update
(2017 - 2021)

PROJECTS	ESTIMATED COST	RESPONSIBLE PARTY	FUNDING SOURCE	GOAL	FY 17	FY 18	FY 19	FY 20	FY 21
CULTURAL RESOURCES									
Conduct a county-wide historic resources inventory	Staff time	Lanier County	General fund	1	X	X			
ECONOMIC DEVELOPMENT									
Seek funding to acquire additional industrial park land and service with infrastructure, including industrial park land near Stockton or Hwy 125	Staff time	Lanier County/City of Lakeland	Shared General Funds/DCA/EDA	2	X	X	X	X	X
HOUSING									
None identified									
NATURAL RESOURCES									
None identified									
LAND USE									
None identified									
COMMUNITY FACILITIES & SERVICES									
Resurface 15 miles of roads, including Teeterville Rd. and Empire Church Rd.	$1 million	Lanier County	General Fund/GDOT	6	X	X	X	X	X
Pave 1 mile of Smith Dairy Road	$220,000	Lanier County	General Fund/GDOT		X				
Construct 2 passing lanes on US-221 from Lakeland south to Lowndes County line	$2.5 million	Lanier County	General Fund/GDOT	6		X			
Construct 1-mile multi-use trail at new Parks & Recreation facility	$150,000	Lanier County	General Fund/grants	6			X	X	
Construct community center building	$2 million	Lanier County	General Fund/grants	6				X	X

PROJECTS	ESTIMATED COST	RESPONSIBLE PARTY	FUNDING SOURCE	GOAL	FY 17	FY 18	FY 19	FY 20	FY 21
Construct new Parks & Recreation facility, including ball fields	$5 million	Lanier County	General Fund/grants	6				X	X
Construct new EMA Command Center	$1 million	Lanier County	General Fund/grants	6		X	X		
Purchase 1 new fire engine	$300,000	Lanier County	General Fund/grants	6	X				
Construct new nutrition/Head Start building	$2.5 million	Lanier County	General Fund/grants	6				X	X
Construct new courthouse or courthouse annex, or expand and renovate existing courthouse with updated wiring, plumbing, and other needed updates	$5 million	Lanier County	General Fund/grants	6				X	X
Purchase 5 new sheriff's patrol cars	$200,000	Lanier County	General Fund/grants	6	X	X	X	X	X
Hire 4 full-time fire fighters	$200,000	Lanier County	General Fund/grants	6					X
INTERGOVERNMENTAL COORDINATION									
None identified									

City of Lakeland 5-Year Community Work Program Update
(2017 - 2021)

PROJECTS	ESTIMATED COST	RESPONSIBLE PARTY	FUNDING SOURCE	GOAL	FY 17	FY 18	FY 19	FY 20	FY 21
CULTURAL RESOURCES									
None identified									
HOUSING									
None identified									
COMMUNITY FACILITIES & SERVICES									
Resurface approximately 10 miles of streets, including Washington Street and North Pine Street	$750,000	City of Lakeland	SPLOST, LMIG	6	X	X	X	X	X
Pave approximately 3 miles of dirt roads on the east side of the City	$250,000	City of Lakeland	SPLOST, LMIG	6	X	X	X		
Install sidewalks on Oak Street from E. Simpson Avenue to Jackson Avenue	$60,000	City of Lakeland	CDBG, General Fund	6	X	X			
Install water filtration system and rehabilitate oxidation plant	$700,000	City of Lakeland	Grants, CDBG	6		X	X		
Rehabilitate sewers west of Oak Street and at Hospital Drive and Pine Street	$1 million	City of Lakeland	USDA loan, CDBG	6		X	X		
Conduct rehabilitation and maintenance of sewer lift station	$750,000	City of Lakeland	USDA, CDBG, DCA grants/loans	6	X	X			
Purchase new residential curbside garbage cans for residences citywide	$715,000	City of Lakeland	Deep South Solid Waste	6	X				
Purchase 1 police car, safety equipment vests, cameras for inside police cars, and upgraded radar detectors for police	$150,000	City of Lakeland	General fund, grants	6	X	X	X	X	X
Upgrade Intox machine	$17,000	City of Lakeland	General fund, grants	6		X			
Purchase 10 radios for police cars	$6,000	City of Lakeland	General fund, grants	6	X				

PROJECTS	ESTIMATED COST	RESPONSIBLE PARTY	FUNDING SOURCE	GOAL	FY 17	FY 18	FY 19	FY 20	FY 21
Purchase 10 handheld radios for police officers	$4,000	City of Lakeland	General fund, grants	6	X				
Upgrade computers and software in City Hall and Police Department	$24,000	City of Lakeland	General fund, grants	6					X
Repair fire station roof	$2,000	City of Lakeland, Lanier County	General fund, grants	6	X	X			
Purchase new equipment, including playground equipment, for children's park	$20,000	City of Lakeland	General fund, grants	6		X	X	X	
Install ADA facilities at locations that are still not fully accessible	$20,000	City of Lakeland	SPLOST	6	X	X	X	X	X
NATURAL RESOURCES									
Rebuild bridge on Robert Simpson Nature Trail	$500	City of Lakeland	General Fund, Grants	4, 6	X				
Construct Phase II of Robert Simpson Mountain Bike Trail	$42,000	City of Lakeland	DNR, Grants	4, 6		X	X		
Rebuild boardwalk at Lake Irma	$2500	City of Lakeland	General Fund, Grants	4, 6		X			
LAND USE									
None identified									
INTERGOVERNMENTAL COORDINATION									
None identified									

GEORGIA FORESTRY COMMISSION

Community Wildfire Protection Plan

An Action Plan for Wildfire Mitigation and Conservation of Natural Resources

Lanier County, Georgia

A Program of the Georgia Forestry Commission
with support from the U.S. Forest Service

JUNE 4, 2012

Prepared by;
Jason Squires, Chief Ranger Lanier/Lowndes/Echols County
Will Fell CWPP Specialist
Georgia Forestry Commission
160 Brantley St
Lakeland, GA 31635

The following report is a collaborative effort among various entities; the representatives listed below comprise the core decision-making team responsible for this report and mutually agree on the plan's contents:

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PLAN CONTENTS

PREFACE

Preface

The extreme weather conditions that are conducive to wildfire disasters (usually a combination of extended drought, low relative humidity and high winds) can occur in this area of Georgia as infrequently as every 10-15 years. This is not a regular event, but as the number of homes that have been built in or adjacent to forested or wildland areas increases, it can turn a wildfire under these weather conditions into a major disaster. Wildfires move fast and can quickly overwhelm the resources of even the best equipped fire department. Advance planning can save lives, homes and businesses.

This Community Wildfire Protection Plan (CWPP) includes a locally assessed evaluation of the wildland urban interface areas of the county, looking at the critical issues regarding access to these areas, risk to properties from general issues such as building characteristics and "fire wise" practices and response from local fire fighting resources. It further incorporates a locally devised action plan to mitigate these risks and hazards though planning, education and other avenues that may become available to address the increasing threat of wildland fire. The CWPP does not obligate the county financially in any way, but instead lays a foundation for improved emergency response if and when grant funding is available to the county.

The Plan is provided at no cost to the county and can be very important for county applications for hazard mitigation grant funds through the National Fire Plan, FEMA mitigation grants and Homeland Security. Under the Healthy Forest Restoration Act (HFRA) of 2003, communities (counties) that seek grants form the federal government for hazardous fuels reduction work are required to prepare a Community Wildfire Protection Plan.

This plan will:

- Enhance public safety
- Raise public awareness of wildfire hazards and risks
- Educate homeowners on how to reduce home ignitability
- Build and improve collaboration at multiple levels

The public does not have to fall victim to this type of disaster. Homes (and communities) can be designed, built and maintained to withstand a wildfire even in the absence of fire equipment and firefighters on the scene. It takes planning and commitment at the local level before the wildfire disaster occurs and that is what the Community Wildfire Protection Plan is all about.

I. OBJECTIVES

The mission of the following report is to set clear priorities for the implementation of wildfire mitigation in Lanier County. The plan includes prioritized recommendations for the appropriate types and methods of fuel reduction and structure ignitability reduction that will protect this community and its essential infrastructure. It also includes a plan for wildfire suppression. Specifically, the plan includes community-centered actions that will:

- Educate citizens on wildfire, its risks, and ways to protect lives and properties,
- Support fire rescue and suppression entities,
- Focus on collaborative decision-making and citizen participation,
- Develop and implement effective mitigation strategies, and
- Develop and implement effective community ordinances and codes.

II. COMMUNITY COLLABORATION

The core team convened on September 26th, 2011 to assess risks and develop the Community Wildfire Protection Plan. The group is comprised of representatives from local government, local fire authorities, and the state agency responsible for forest management. Below are the groups included in the task force:

Lanier County Board of Commissioners
Lanier County EMA
Lanier County Volunteer Fire Depts.
US Fish and Wildlife Service
Georgia Forestry Commission

It was decided to conduct community assessments on the basis individual fire districts in the county. The chiefs of the fire departments in the county assessed their districts and reconvened on April 24th, 2012 for the purpose of completing the following:

Risk Assessment	Assessed wildfire hazard risks and prioritized mitigation actions.
Fuels Reduction	Identified strategies for coordinating fuels treatment projects.
Structure Ignitability	Identified strategies for reducing the ignitability of structures within the Wildland interface.
Emergency Management	Forged relationships among local government and fire districts and developed/refined a pre-suppression plan.
Education and Outreach	Developed strategies for increasing citizen awareness and action and to conduct homeowner and community leader workshops.

III. COMMUNITY BACKGROUND AND EXISTING SITUATION

Background

Lanier County, in southern Georgia, is the state's 157th county. Named for the Georgia poet Sidney Lanier, the county was created in 1920 with land taken from Berrien, Clinch, and Lowndes counties. Its 187 square miles were formerly held by Creek Indians. The county is home to several lakes, including Banks Lake, Grand Bay Lake, and Lake Irma.

In the first part of the nineteenth century, settler Joshua Lee built a dam on his land across Banks Lake's drainage creek to power a gristmill. Lee's mill, a three-story building, became the center of trade along the stagecoach route between Thomasville and Waycross. As other mills and businesses grew up around Lee's mill, a village developed that was named Alapaha by residents, after the nearby Alapaha River. In 1832 the community took the name Milltown because of the number of mills nearby. When the town incorporated as a city in 1925, its name was changed to Lakeland, reflecting its proximity to several lakes. Today Lakeland is the county seat for Lanier County. The first courthouse, built in 1921, was replaced in 1973 by the current courthouse.

The community of Stockton, incorporated from 1876, when it was still in Clinch County, was originally called Registerville. It took its present name from a railroad official who oversaw the grading of the Atlantic and Gulf Railroad through the town.

The county's economy has remained rural in nature, but the educational, health, and social service sector was the largest employment category in 2006. Factors contributing to this economy include the presence of Moody Air Force Base (shared by Lanier and Lowndes counties), the several lakes and nature reserve, the hospital, and a large state correctional facility.

Notable residents of Lanier County include E. D. Rivers, who served as governor of Georgia from 1937 to 1941.

The Banks Lake National Wildlife Refuge, established in 1985, hosts approximately 20,000 visitors annually. It provides hiking, fishing, and boating opportunities on more than 4,000 acres of water, marsh, and swamp. The Robert Simpson III Nature Trail, dedicated in August 2001, is located within the Lakeland city limits on 75 acres of pine and hardwood forests.

Historic sites include Governor Rivers' house, which was moved from its original spot on Banks Lake to West Main Street in Lakeland in the early 1980s; Union Baptist Church, located near Georgia Highway 135; and Fender Cemetery, located east of Lakeland at the junction of U.S. 221 and Georgia 37 on land that once belonged to David Fender. The site of the cemetery, in which many of the area's first settlers are buried, was chosen so that mourners would not have to ferry their dead across the river for burial. Also, the "Murals of Milltown," which depict community life in the 1920s, grace the exteriors of buildings in downtown Lakeland.

According to the 2010 census, the population of Lanier County is 10,078, an increase from the 2000 population of 7,241.

Elizabeth B. Cooksey, Savannah, Courtesy New Georgia Encyclopedia

Existing Situation

Lanier County located deep in south central Georgia, is still 88% forested, despite an agricultural presence scattered throughout the county. Perhaps with the exception of the large blocks of woodlands in the areas around Grand Bay and along the Alapaha River, there are homes and communities scattered throughout the county. The risks and hazards from the wildland urban interface are fairly general and substantial throughout the county even on the edges of the established communities.

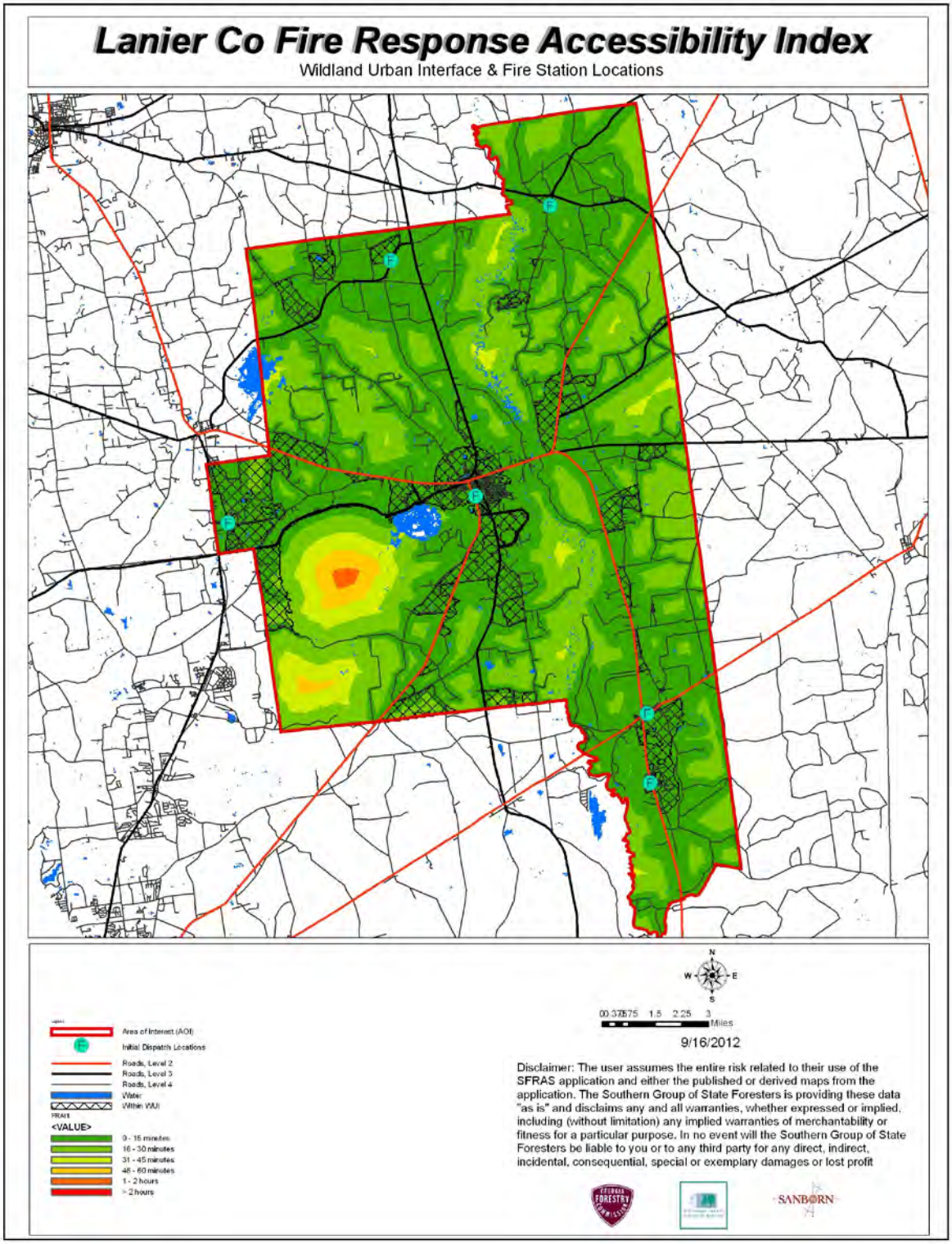
Lanier County is protected by organized fire departments within the cities of Lakeland and Stockton (two stations), along with three volunteer departments in the unincorporated areas, Mud Creek, Teeterville and Westside. The county is in the process of locating a new station 4.5 miles south of Lakeland. The Georgia Forestry Commission maintains a county protection unit located one mile north of Lakeland on Hwy 133 to respond to wildfires throughout the county. The city of Lakeland is serviced by pressurized water systems with hydrants available.

Over the past 44 years, Lanier County has averaged 53 reported wildland fires per year, burning an average of 214 acres per year. Using more recent figures over the past 20 years, this number has decreased somewhat with an average of 44 fires per year burning on average 221 acres annually. The occurrence of these fires during this later period shows a pronounced peak during the months of January, February, March and April accounting for 48% of the annual fires and 79% of the average acreage burned. There is a significant decrease in the acres burned during the remainder of the year.

Over the past 20 years, the leading causes of these fires, was debris burning causing 63% of the fires and 77% of the acres burned. Over the past six years records show that over 65% of the debris fires originated from escaped site prep and prescribed burns.

Georgia Forestry Commission Wildfire Records show that in the past nine years, seven homes have been damaged by wildfire in Lanier County resulting in estimated loss of $40,000. According to reports during this period eleven homes have been directly or indirectly threatened by these fires. Additionally five vehicles valued at $26,000 and four other pieces of mechanized equipment valued at $203,000 were lost. This is a significant loss of non timber property attributed to wildfires in Lanier County.

IV. COMMUNITY BASE MAP



V. COMMUNITY WILDFIRE RISK ASSESSMENT

The Wildland-Urban Interface

There are many definitions of the Wildland-Urban Interface (WUI), however from a fire management perspective it is commonly defined as an area where structures and other human development meet or intermingles with undeveloped wildland or vegetative fuels. As fire is dependent on a certain set of conditions, the National Wildfire Coordinating Group has defined the wildland-urban interface as a set of conditions that exists in or near areas of wildland fuels, regardless of ownership. This set of conditions includes type of vegetation, building construction, accessibility, lot size, topography and other factors such as weather and humidity. When these conditions are present in certain combinations, they make some communities more vulnerable to wildfire damage than others. This "set of conditions" method is perhaps the best way to define wildland-urban interface areas when planning for wildfire prevention, mitigation, and protection activities.

There are three major categories of wildland-urban interface. Depending on the set of conditions present, any of these areas may be at risk from wildfire. A wildfire risk assessment can determine the level of risk.

1. "Boundary" wildland-urban interface is characterized by areas of development where homes, especially new subdivisions, press against public and private wildlands, such as private or commercial forest land or public forests or parks. This is the classic type of wildland-urban interface, with a clearly defined boundary between the suburban fringe and the rural countryside.

2. "Intermix" wildland-urban interface areas are places where improved property and/or structures are scattered and interspersed in wildland areas. These may be isolated rural homes or an area that is just beginning to go through the transition from rural to urban land use.

3. "Island" wildland-urban interface, also called occluded interface, are areas of wildland within predominately urban or suburban areas. As cities or subdivisions grow, islands of undeveloped land may remain, creating remnant forests. Sometimes these remnants exist as parks, or as land that cannot be developed due to site limitations, such as wetlands.
(courtesy *Fire Ecology and Wildfire Mitigation in Florida* 2004)

Wildland Urban Interface Hazards

Firefighters in the wildland urban interface may encounter hazards other than the fire itself, such as hazardous materials, utility lines and poor access.

Hazardous Materials

- Common chemicals used around the home may be a direct hazard to firefighters from a flammability, explosion potential and/or vapors or off gassing. Such chemicals include paint, varnish and other flammable liquids, fertilizer, pesticides, cleansers, aerosol cans, fireworks, batteries and ammunition. In addition, some common household products such as plastics may give off very toxic fumes when they burn. Stay out of smoke form burning structures and any unknown sources such as trash piles.

Illicit Activities

- Marijuana plantations or drug production labs may be found in the wildland urban interface areas. Extremely hazardous materials such as propane tanks and flammable/toxic chemicals may be encountered.

Propane Tanks

- Both large (household size) and small (gas grill size) liquefied propane gas (LPG) tanks can present hazards to firefighters, including explosion. See the “LPG Tank Hazards” discussion for details

Utility Lines

- Utility Lines may be located above and below ground and may be cut or damaged by tools or equipment. Don’t spray water on utility lines or boxes.

Septic Tanks and Fields

- Below ground structures may not be readily apparent and may not support the weight of engines or other equipment.

New Construction Materials

- Many new construction materials have comparatively low melting points and may “off-gas” extremely hazardous vapors. Plastic decking materials that resemble wood are becoming more common and may begin softening and losing structural strength at 180 degrees F, though they normally do not sustain combustion once direct flame is removed. However if they continue to burn they exhibit the characteristics of flammable liquids.

Pets and Livestock

- Pets and livestock may be left when residents evacuate and will likely be highly stressed making them more inclined to bite and kick. Firefighters should not put themselves at risk to rescue pets or livestock.

Evacuation Occurring

- Firefighters may be taking structural protect actions while evacuations of residents are occurring. Be very cautious of people driving erratically. Distraught residents may refuse to leave their property and firefighters may need to disengage from fighting fire to contact law enforcement officers for assistance. In most jurisdictions firefighters do not have the authority to force evacuations. Firefighters should not put themselves at risk trying to protect someone who will not evacuate!

Limited Access

- Narrow one-lane roads with no turn around room, inadequate or poorly maintained bridges and culverts are frequently found in wildland urban interface areas. Access should be sized up and an evacuation plan for all emergency personnel should be developed.

In discussions with local, state and federal fire officials familiar with wildland urban interface issues in Lanier County the following factors contributed to the hazards and risks identified for Lanier County:

- Unpaved roads and private driveways
- Narrow unpaved roads without drivable shoulders
- Deadend roads without “turnarounds”
- Minimal defensible space around structures
- Unmarked septic tanks in yards
- Lack of pressurized water systems available
- Large, adjacent areas of forest or wildlands
- Heavy fuel buildup in adjacent wildlands
- Undeveloped lots comprising half the total lots in many rural communities.
- High occurrence of wildfires in the several locations
- Lack of homeowner or community organizations

Southern Fire Risk Assessment System Maps.

The attached maps were generated from a computerized Geographical Information System (GIS) program developed by the Sanborn Company under contract from the Southern Group of State Foresters to model the various risks to life and property within the southeastern US. The program is known as the Southern Fire Risk Assessment System (SFRAS). It utilizes multiple layers of data developed cooperatively from the various states and the US Forest Service under the Southern Wildfire Risk Assessment (SWRA)

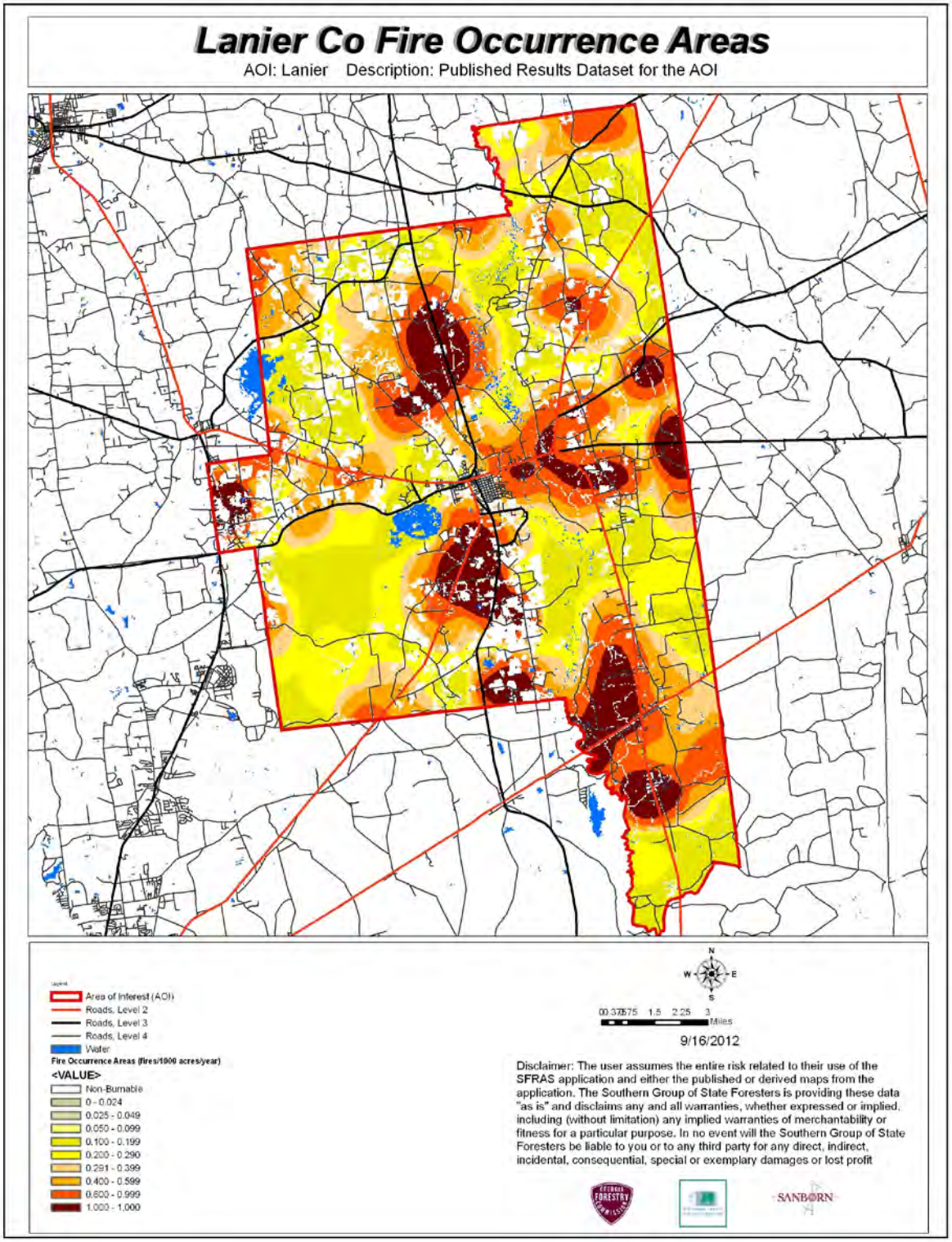
Wildland Urban Interface maps are developed using data from the SILVIS Lab at the University of Wisconsin at Madison. WUI is composed of both interface and intermix communities. In both interface and intermix communities, housing must meet or exceed a minimum density of one structure per 40 acres. Intermix communities are places where housing and vegetation intermingle. In intermix, wildland vegetation is continuous, more than 50 percent vegetation, in areas with more than one house per 40 acres. Interface communities are areas with housing in the vicinity of continuous vegetation. Interface areas have more than one house per 40 acres, have less than 50 percent vegetation, and are within 1.5 miles of an area (made up of one or more contiguous Census blocks) over 1,325 acres that is more than 75 percent vegetated. The minimum size limit ensures that areas surrounding small urban parks are not classified as interface WUI.

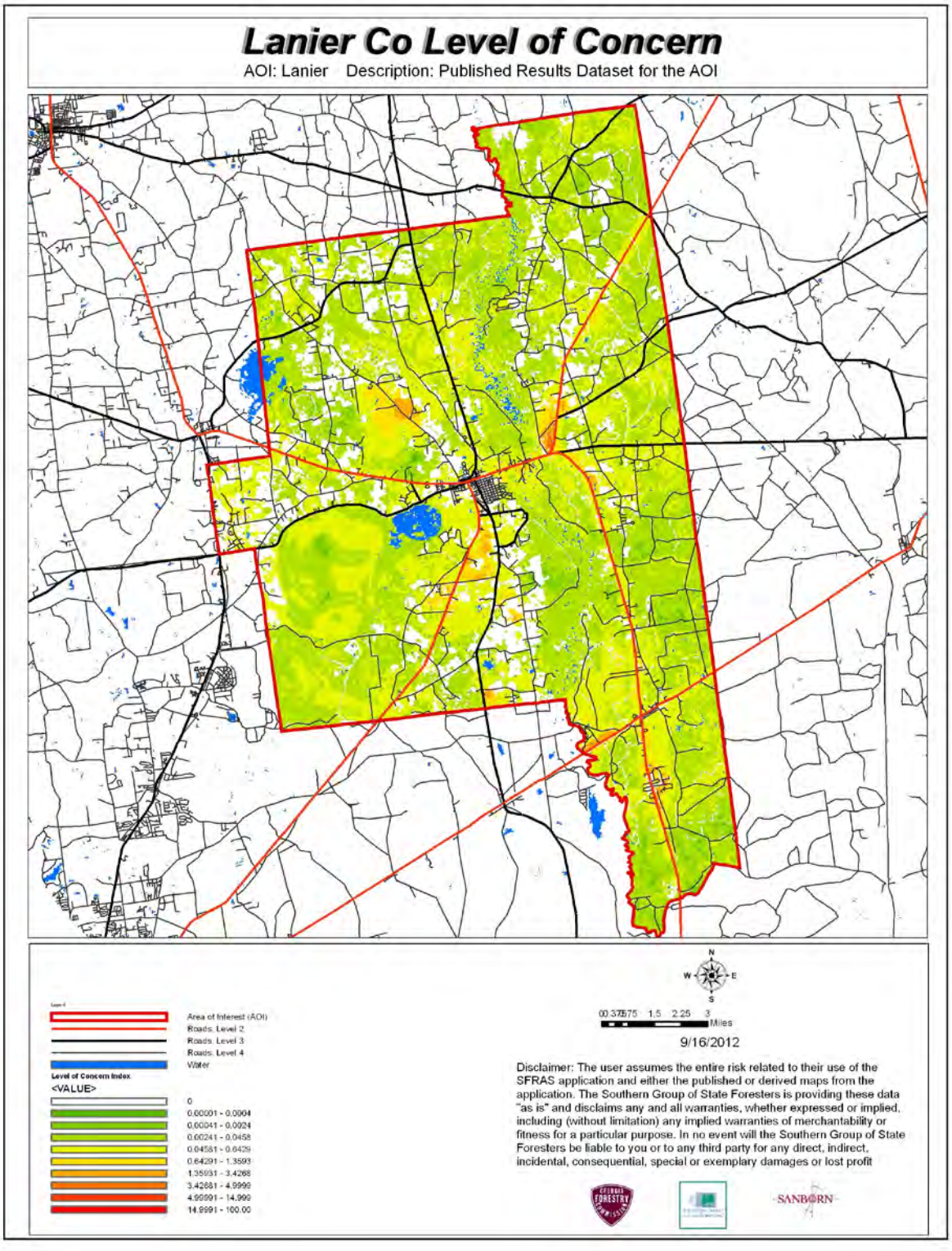
Fire Response Accessibility Index is a relative measure of how long it would take initial attack resources to drive from their station to various areas of the county. This index is derived from assigning average speeds to the various road classes in the county. For the purpose of this analysis the following speeds were assigned: 55 mph for level 1 roads, primarily interstates and four lane open highways, 50 mph for level 2 roads, primarily state and federal highways, 40 mph for level 3 roads, primarily paved two lanes collector roads and 20 mph for level 4 roads, mainly city streets and rural roads, paved and unpaved. For areas away from roads a travel speed of 2 mph is assigned as it is assumed travel will be by foot or extremely slow moving equipment.

Fire Occurrence Areas maps use data from wildfire reports over the period from 1997-2002. The fire occurrence rates mapped are the probability of the number of fires occurring per 1000 acres per year base on this historic information.

Level of Concern maps are a complex calculation using the Wildland Fire Susceptibility Index (previously described) and the Fire Effects Index which is calculated using data layers of transportation and infrastructure, urban interface and timber values along with suppression difficulty ratings. This provides an output categorizing the expected levels of concern from low to high.

VI. COMMUNITY HAZARDS MAPS




Lanier Co Level of Concern
AOI: Lanier Description: Published Results Dataset for the AOI
Area of Interest (AOI)
Roads: Level 2
Roads: Level 3
Roads: Level 4
Water
Level of Concern Index
<VALUE>
0
0.00001 - 0.0004
0.00041 - 0.0024
0.00241 - 0.0458
0.04581 - 0.6429
0.64291 - 1.3593
1.35931 - 3.4268
3.42681 - 4.9999
4.99991 - 14.999
14.9991 - 100.00
N
W
E
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0 0.375 0.75 1.5 2.25 3
Miles
9/16/2012
Disclaimer: The user assumes the entire risk related to their use of the SFRAS application and either the published or derived maps from the application. The Southern Group of State Foresters is providing these data "as is" and disclaims any and all warranties, whether expressed or implied, including (without limitation) any implied warranties of merchantability or fitness for a particular purpose. In no event will the Southern Group of State Foresters be liable to you or to any third party for any direct, indirect, incidental, consequential, special or exemplary damages or lost profit
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VII. PRIORITIZED MITIGATION RECOMMENDATIONS

Executive Summary

As South Georgia continues to see increased growth from other areas seeking less crowded and warmer climes, new development will occur more frequently on forest and wildland areas. Lanier County will have an opportunity to significantly influence the wildland fire safety of new developments. It is important that new development be planned and constructed to provide for public safety in the event of a wildland fire emergency.

Over the past 20 years, much has been learned about how and why homes burn during wildland fire emergencies. Perhaps most importantly, case histories and research have shown that even in the most severe circumstances, wildland fire disasters can be avoided. Homes can be designed, built and maintained to withstand a wildfire even in the absence of fire services on the scene. The national Firewise Communities program is a national awareness initiative to help people understand that they don't have to be victims in a wildfire emergency. The National Fire Protection Association has produced two standards for reference: NFPA 1144 Standard for Reducing Structure Ignition Hazards from Wildland Fire. 2008 Edition and NFPA 1141 Standard for Fire Protection Infrastructure for Land Development in Suburban and Rural Areas.

When new developments are built in the Wildland/Urban Interface, a number of public safety challenges may be created for the local fire services: (1) the water supply in the immediate areas may be inadequate for fire suppression; (2) if the Development is in an outlying area, there may be a longer response time for emergency services; (3) in a wildfire emergency, the access road(s) may need to simultaneously support evacuation of residents and the arrival of emergency vehicles; and (4) when wildland fire disasters strike, many structures may be involved simultaneously, quickly exceeding the capability of even the best equipped fire departments.

The following recommendations were developed by the Lanier County CWPP Core team as a result of surveying and assessing fuels and structures and by conducting meetings and interviews with county and city officials. A priority order was determined based on which mitigation projects would best reduce the hazard of wildfire in the assessment area.

Proposed Community Hazard and Structural Ignitability Reduction Priorities

Primary Protection for Community and Its Essential Infrastructure		
Treatment Area	Treatment Types	Treatment Method(s)
1. All Structures	Create minimum of 30-feet of defensible space**	Trim shrubs and vines to 30 feet from structures, trim overhanging limbs, replace flammable plants near homes with less flammable varieties, remove vegetation around chimneys.
2. Applicable Structures	Reduce structural ignitability**	Clean flammable vegetative material from roofs and gutters, store firewood appropriately, install skirting around raised structures, store water hoses for ready access, and replace pine straw and mulch around plantings with less flammable landscaping materials.
3. Community Hazards	Underground power service	Work with GA Power and EMC's to encourage new underground service to rural homes.
4. Driveway Access	Right of Way Clearance	Maintain vertical and horizontal clearance for emergency equipment. See that adequate lengths of culverts are installed to allow emergency vehicle access.
5. Road Access	Identify needed road improvements	As roads are upgraded, widen to minimum standards with at least 50 foot diameter cul de sacs or turn arounds.
6. Codes and Ordinances	Examine existing codes and ordinances.	Amend and enforce existing building codes as they relate to skirting, propane tank locations, public nuisances (trash/debris on property), Property address marking standards and other relevant concerns Review the need for subdivision and development ordinances for public safety concerns.
7. Law Enforcement	Traffic control	Work with local law enforcement to better control non essential traffic during fire emergencies.

Proposed Community Wildland Fuel Reduction Priorities		
Treatment Area	Treatment Types	Treatment Method(s)
1. Adjacent WUI Lands	Reduce hazardous fuels	Encourage prescribed burning for private landowners and industrial timberlands particularly adjacent to residential areas. Seek grant for mowing or prescribed burning in WUI areas, particularly small landowners where expense of prescribed burning is an issue.
2. Railroad Corridors	Reduce hazardous fuels	Encourage railroads to better maintain their ROW eliminating brush and grass through herbicide and mowing. Maintain firebreaks along ROW adjacent to residential areas.
3. Existing Fire Lines	Reduce hazardous fuels	Clean and re-harrow existing lines.
Proposed Improved Community Wildland Fire Response Priorities		
1. Water Sources	Dry Hydrants	Inspect, maintain and improve access to existing dry hydrants. Add signage along road to mark the hydrants. Locate additional drafting sites as needed.
2. Fire Detection	Air patrol hampered by bombing range restrictions.	Maintain fire tower detection.
3. Road Names	Road Signage	Improved Road Signage at Crossroads. "Dead End" or "No Outlet" Tags on Road Signs
4. Personnel	Training	Obtain Wildland Fire Suppression training for Fire Personnel.
**Actions to be taken by homeowners and community stakeholders		

Proposed Education and Outreach Priorities

1. Conduct "How to Have a Firewise Home" Workshop for Lanier County Residents
Set up and conduct a workshop for homeowners that teach the principles of making homes and properties safe from wildfire. Topics for discussion include defensible space, landscaping, building construction, etc. Workshop will be scheduled for evenings or weekends when most homeowners are available and advertised through local media outlets. Target local schools, community groups and local senior centers. Distribute materials promoting firewise practices and planning through local community and governmental meetings.
2. Conduct "Firewise" Workshop for Community Leaders
Arrange for GFC Firewise program to work with local community leaders and governmental officials on the importance of "Firewise Planning" in developing ordinances and codes as the county as the need arises. Identify "Communities at Risk" within the county for possible firewise community recognition.
3. Spring Clean-up Event
Conduct clean-up event every spring involving the Georgia Forestry Commission, Lanier County Fire Departments and community residents. Set up information table with educational materials and refreshments. Initiate the event with a morning briefing by GFC Firewise coordinator and local fire officials detailing plans for the day and safety precautions. Activities to include the following: • Clean flammable vegetative material from roofs and gutters • Trim shrubs and vines to 30 feet away from structures • Trim overhanging limbs • Clean hazardous or flammable debris from adjacent properties Celebrate the work with a community cookout, with Community officials, GFC and Lanier County Fire Departments discussing and commending the work accomplished.
4. Informational Packets
Develop and distribute informational packets to be distributed by realtors and insurance agents. Included in the packets are the following: • Be Firewise Around Your Home • Firewise Guide to Landscape and Construction • Firewise Communities USA Bookmarks

5. Wildfire Protection Display
Create and exhibit a display for the general public at local events such as the Outdoor Fest in the spring or the Flat Landers Fall Frolic. Display can be independent or combined with the Georgia Forestry Commission display. Hold Open House at individual Fire Stations to promote Community Firewise Safety and develop community support and understanding of local fire departments and current issues.
6. Press
Invite the local news media to community "Firewise" functions for news coverage and regularly submit press releases documenting wildfire risk improvements in Lanier County.

VIII. ACTION PLAN

Roles and Responsibilities

The following roles and responsibilities have been developed to implement the action plan:

Role	Responsibility
Hazardous Fuels and Structural Ignitability Reduction	
Lanier County WUI Fire Council	Create this informal team or council comprised of residents, GFC officials, Lanier County Fire Department officials, a representative from the US Fish and Wildlife Service along with EMA Director for Lanier County. Meet periodically to review progress towards mitigation goals, appoint and delegate special activities, work with federal, state, and local officials to assess progress and develop future goals and action plans. Work with residents to implement projects and firewise activities.
Key Messages to focus on	1 Defensible Space and Firewise Landscaping 2 Debris Burning Safety 3 Firewise information for homeowners 4 Prescribed burning benefits
Communications objectives	1 Create public awareness for fire danger and defensible space issues 2 Identify most significant human cause fire issues 3 Enlist public support to help prevent these causes 4 Encourage people to employ fire prevention and defensible spaces in their communities.
Target Audiences	1 Homeowners 2 Forest Landowners and users 3 Civic Groups 4 School Groups
Methods	1 News Releases 2 Radio and TV PSA's for area stations and cable access channels 3 Personal Contacts 4 Key messages and prevention tips 5 Visuals such as signs, brochures and posters

Spring Clean-up Day	
Event Coordinator	Coordinate day's events and schedule, catering for cookout, guest attendance, and moderate activities the day of the day of the event.
Event Treasurer	Collect funds from residents to cover food, equipment rentals, and supplies.
Publicity Coordinator	Advertise event through neighborhood newsletter, letters to officials, and public service announcements (PSAs) for local media outlets. Publicize post-event through local paper and radio PSAs.
Work Supervisor	Develop volunteer labor force of community residents; develop labor/advisory force from Georgia Forestry Commission, Lanier County Fire Departments and Emergency Management Agency. Procure needed equipment and supplies. In cooperation with local city and county officials, develop safety protocol. Supervise work and monitor activities for safety the day of the event.

Funding Needs

The following funding is needed to implement the action plan:

Project	Estimated Cost	Potential Funding Source(s)
1. Create a minimum of 30 feet of defensible space around structures	Varies	Residents will supply labor and fund required work on their own properties.
2. Reduce structural ignitability by cleaning flammable vegetation from roofs and gutters; appropriately storing firewood, installing skirting around raised structures, storing water hoses for ready access, replacing pine needles and mulch around plantings with less flammable material.	Varies	Residents will supply labor and fund required work on their own properties.
3. Amend codes and ordinances to provide better driveway access, increased visibility of house numbers, properly stored firewood, minimum defensible space brush clearance, required Class A roofing materials and skirting around raised structures, planned maintenance of community lots.	No Cost	To be adopted by city and county governments.
4. Spring Cleanup Day	Varies	Community Business Donations.
5. Fuel Reduction Activities	$35/acre	FEMA & USFS Grants

POTENTIAL FUNDING SOURCES:

As funding is questionable in these times of tight government budgets and economic uncertainty, unconventional means should be identified whereby the need for funding can be reduced or eliminated.

Publications / Brochures –

- FIREWISE materials are available for cost of shipping only at www.firewise.org.
- Another source of mitigation information can be found at www.nfpa.org.
- Access to reduced cost or free of charge copy services should be sought whereby publications can be reproduced.
- Free of charge public meeting areas should be identified where communities could gather to be educated regarding prevention and firewise principles.

Mitigation –

- Community Protection Grant:
    - USFS sponsored prescribed burn program. Communities with at risk properties that lie within 3 miles of the USFS border may apply with the GFC to have their forest land prescribed burned free of charge.
- FEMA Mitigation Policy MRR-2-08-01: through GEMA - Hazard Mitigation Grant Program (HMGP) and Pre Disaster Mitigation (PDM)
    - To provide technical and financial assistance to local governments to assist in the implementation of long term cost effective hazard mitigation measures.
    - This policy addresses wildfire mitigation for the purpose of reducing the threat to all-risk structures through creating defensible space, structural protection through the application of ignition resistant construction, and limited hazardous fuels reduction to protect life and property.
    - With a complete and registered plan (addendum to the State plan) counties can apply for pre-mitigation funding. They will also be eligible for HMGP if the county is declared under a wildfire disaster.
- GFC - Plowing and burning assistance can be provided through the Georgia Forestry Commission as a low cost option for mitigation efforts.
- Individual Homeowners –
    - In most cases of structural protection ultimately falls on the responsibility of the community and the homeowner. They will bear the cost; yet they will reap the benefit from properly implemented mitigation efforts.
    - GEMA Grant - PDM (See above)

Ultimately it is our goal to help the communities by identifying the communities threatened with a high risk to wildfire and educate those communities on methods to implement on reducing those risks.

Assessment Strategy

To accurately assess progress and effectiveness for the action plan, the Lanier County WUI Fire Council will implement the following:

- Annual wildfire risk assessment will be conducted to re-assess wildfire hazards and prioritize needed actions.
- Mitigation efforts that are recurring (such as mowing, burning, and clearing of defensible space) will be incorporated into an annual renewal of the original action plan.
- Mitigation efforts that could not be funded in the requested year will be incorporated into the annual renewal of the original action plan.
- Continuing educational and outreach programs will be conducted and assessed for effectiveness. Workshops will be evaluated based on attendance and post surveys that are distributed by mail 1 month and 6 months following workshop date.
- The Lanier County WUI Council will publish an annual report detailing mitigation projects initiated and completed, progress for ongoing actions, funds received, funds spent, and in-kind services utilized. The report will include a "state of the community" section that critically evaluates mitigation progress and identifies areas for improvement. Recommendations will be incorporated into the annual renewal of the action plan.
- An annual survey will be distributed to residents soliciting information on individual mitigation efforts on their own property (e.g., defensible space). Responses will be tallied and reviewed at the next Lanier County WUI Council meeting. Needed actions will be discussed and delegated.

This plan should become a working document that is shared by local, state, and federal agencies that will use it to accomplish common goals. An agreed-upon schedule for meeting to review accomplishments, solve problems, and plan for the future should extend beyond the scope of this plan. Without this follow up this plan will have limited value

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The Georgia Forestry Commission provides leadership, service, and education in the protection and conservation of Georgia's forest resources. An Equal Opportunity Employer and Service Provider

Appendix D

LANIER COUNTY
HAZARD FREQUENCY TABLE

Hazard	Number of Events in Historic Record	Number of Years in Historic Record	Number of Events in Past 10 Years	Number of Events in Past 20 Years	Number of Events in Past 50 Years	Historic Recurrence Interval (years)	Historic Frequency % chance/ year	Past 10 Year Record Frequency Per Year	Past 20 Year Record Frequency Per Year	Past 50 Year Record Frequency Per Year
Hurricanes/Tropical Storms	8	68	2	8	8	8.50	11.76	0.2	0.4	0.16
Tornadoes	5	68	1	2	5	13.60	7.35	0.1	0.1	0.1
Floods	0	68	0	0	0	0.00	0.00	0	0	0
Hail	19	68	5	11	18	3.58	27.94	0.5	0.55	0.36
Lightning	1	68	0	1	1	68.00	1.47	0	0.05	0.02
Wind	67	68	43	56	64	1.01	98.53	4.3	2.8	1.28
Extreme Heat	32	12	31	32	32	0.38	266.67	3.1	1.6	0.64
Wildfires	2,485	50	215	748	2485	0.02	4970.00	21.5	37.4	49.7
Drought	24	68	23	24	24	2.83	35.29	2.3	1.2	0.48
Sinkholes	2	10	0	0	2	5.00	20.00	0	0	0.04
Severe Winter Storms	3	68	3	3	3	22.67	4.41	0.3	0.15	0.06
Hazardous Materials Releasae	1	30	0	1	1	30.00	3.33	0	0.05	0.02

NOTE: The historic frequency of a hazard event over a given period of time determines the historic recurrence interval. For example: If there have been 20 HazMat Releases in the County in the past 5 years, statistically you could expect that there will be 4 releases a year.

Realize that from a statistical standpoint, there are several variables to consider. 1) Accurate hazard history data and collection are crucial to an accurate recurrence interval and frequency. 2) Data collection and accuarcy has been much better in the past 10-20 years (NCDC weather records). 3) It is important to include all significant recorded hazard events which will include periodic updates to this table.

By updating and reviewing this table over time, it may be possible to see if certain types of hazard events are increasing in the past 10-20 years.

GEMA Worksheet #1 Identify the Hazard Step 1

Date: What kinds of natural hazards can affect you?

Task A. List the hazards that may occur.

1. *Research newspapers and other historical records*
2. *Review existing plans and reports.*
3. *Talk to the experts in your community, state, or region.*
4. *Gather information on Internet Websites.*
5. *Next to the hazard list below, put a check mark in the Task A boxes beside all hazards that may occur in your community or state.*

Task B. Focus on the most prevalent hazard in your community or state.

1. *Go to hazard Websites.*
2. *Locate your community or state on the Website map.*
3. *Determine whether you are in a high-risk area. Get more localized information if necessary.*
4. *Next to the hazard list below, put a check mark in the Task B boxes beside all hazards that post a significant threat.*

Use this space to record information you find for each of the hazards you will be researching. Attach additional pages as necessary.

	Task A	Task B
Avalanche	___	___
Coastal Erosion	**___**	**___**
Coastal Storm	___	___
Dam Failure	**___**	**___**
Drought	_X	_X_
Earthquake	**___**	**___**
Expansive Soils	___	___
Extreme Heat	___	___
Flood	**_X_**	**_X_**
Hailstorm	_X_	_X_
Hurricane	**_X_**	**_X_**
Land Slide	___	___
Severe Winter Storm	_X_	_X_
Tornado	**_X_**	**_X_**
Tsunami	**___**	**___**
Volcano	___	___
Wildfire	**_X_**	**_X_**
Windstorm	___	___
Hazard Material	___	___
Radiological	___	___
Other: Thunderstorm/Wind	X	X
Other_____	___	___
Other_____	___	___

*Note: **Bolded** hazards are addressed in this How-to Guide.*

Hazard or Event Description (Type of hazard, date of event, number of injuries, cost and types of damage, etc.)	**Source of Information**	**Map Available for this Hazard?**	**Scale of Map**

GEMA Worksheet #2 Profile Hazard Events Step 2

County: Date:

How Bad Can It Get?

Task A. Obtain or create a base map.

GEMA will be providing you with a base map, USGS topos and DOQQ as part of our deliverables to local government for the planning process. Additionally, we will be providing you with detailed hazard layer coverages. These data layers originate from state or nationwide coverage or datasets. Therefore, it is important for local government to assess what you already have at the local level. It is important for you at the local level to have an idea of what existing maps you have available for the planning process. Some important things to think about:

1) What maps do we already have in the county that would be relevant to the planning process?
2) Have other local plans used maps or mapping technology where there is specific data that is also needed in my local plan?
3) What digital maps do we have?
4) Do we have any Geographic Information System (GIS) data, map themes or layers or databases here at the local level (or regional) that we can use?
5) If we do have any GIS data, where is it located at, and who is our local expert?
6) Are there any ongoing GIS or mapping initiatives at the local level in other planning or mapping efforts? If so, what are they, and what are the timetables for completion?
7) Are there mapping needs that have been identified at the local level in the past? If so, what are they and when were they identified?
8) Of the existing maps, GIS data and other digital mapping information, what confidence do we have at the local level that it is accurate data?

Please answer the above questions on a separate sheet of paper and attach to this worksheet.
It is important to realize that those counties that already have GIS and digital mapping, (ie: parcel level data, GPS fire hydrants, etc) higher levels of spatial accuracy and detail will exist for some data layers at the local level. However, for this planning process, that level of detail will not be needed on all layers in the overall mapping and analysis.

You can use existing maps from:

- Road Maps
- USGS topographic maps or Digital Orthophoto Quarter Quads (DOQQ)
- Topographic and/or planimetric maps from other agencies
- Aerial topographic and/or planimetric maps
- Field Surveys
- GIS software
- CADD software
- Digitized paper map

Title of Map	Scale	Date

Task B. Obtain a hazard event profile.	Task C. Record your hazard event profile information.
Avalanche	
Coastal Storm / Coastal Erosion 1. Get a copy of your FIRM. _____ 2. Verify that the FIRM is up-to-date and complete. _____ 3. Determine the annual rate of coastal erosion. _____ 4. Find your design wind speed. _____	1. Transfer the boundaries of your coastal storm hazard areas onto your base map. 2. Transfer the BFEs onto your base map. 3. Record the erosion rates on your base map: _____ 4. Record the design wind speed here and on your base map: _____
Dam Failure	
Drought	
Earthquake 1. Go to the http://geohazards.cr.usgs.gov Website. 2. Locate your planning area on the map. 3. Determine your PGA.	1. Record your PGA: _____ 2. If you have more than one PGA print, download or order your PGA map.
Expansive Soils	
Extreme Heat	
Flood 1. Get a copy of your FIRM. _____ 2. Verify the FIRM is up-to-date and complete. _____	1. Transfer the boundaries from your firm onto your base map (floodway, 100-yr flood, 500-yr flood). 2. Transfer the BFEs onto your base map.
Hailstorm	
Hurricane	
Land Subsidence	
Landslide 1. Map location of previous landslides. _____ 2. Map the topography. _____ 3. Map the geology. _____ 4. Identify thee high-hazard areas on your map. _____	1. Mark the areas susceptible to landslides onto your base map.
Severe Winter Storm	
Tornado 1. Find your design wind speed. _____	1. Record your design wind speed: _____ 2. If you have more than one design wind speed, print, download or copy your design wind speed zones, copy the boundary of your design wind speed zones on your base map, then record the design wind speed zones on your base map.
Tsunami	
Wildfire 1. Map the fuel models located within the urban-wildland interface areas. _____ 2. Map the topography. _____ 3. Determine your critical fire weather frequency. _____ 4. Determine your fire hazard severity. _____	1. Draw the boundaries of your wildfire hazard areas onto your base map.
Other 1. Map the hazard. _____	1. Record hazard event info on your base map.

Worksheet #4 Evaluate Alternative Mitigation Actions

1. Fill in the goal and its corresponding objective. Use a separate worksheet for each objective. The considerations under each criterion are suggested ones to use; you can revise these to reflect your own considerations (see Table 2-1).

2. Fill in the alternative actions that address the specific objectives the planning team identified in Worksheet #1.

3. ***Scoring:*** *For each consideration, indicate a plus (+) for favorable, and a negative (-) for less favorable.*

When you complete the scoring; negatives will indicate gaps or shortcomings in the particular action, which can be noted in the Comments section. For considerations that do not apply, fill in N/A for not applicable. Only leave a blank if you do not know an answer. In this case, make a note in the Comments section of the "expert" or source to consult to help you evaluate the criterion.

Goal 1: Minimize damage caused by high wind events.

Objective 1: Protect life, health and property of residents from high winds.

STAPLEE Criteria	S		T			A			P			L			E				E				
	(Social)		(Technical)			(Administrative)			(Political)			(Legal)			(Economic)				(Environmental)				
Considerations → for Alternative Actions ↓	Community Acceptance	Effect on Segment of Population	Technical Feasibility	Long-term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance / Operations	Political Support	Local Champion	Public Support	State Authority	Existing Local Authority	Potential Legal Challenge	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land / Water	Effect on Endangered Species	Effect on HAZMAT / Waste Sites	Consistent with Community Environmental Goals	Consistent With Federal Laws
Action Step 1: Educate homeowners and builders on individual safe rooms.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 2: Distribute programs on personal emergency preparedness, i.e., emergency survival kits.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 3: Contract with the American Red Cross to teach the Citizen's Disaster Course on a frequent basis.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A

STAPLEE Criteria	S		T			A			P			L			E				E				
	(Social)		(Technical)			(Administrative)			(Political)			(Legal)			(Economic)				(Environmental)				
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Action Step #4: Encourage businesses to develop emergency plans.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step #5: Increase public awareness of the NOAA weather radios and available community safe shelters by publishing articles in the local newspaper, holding town hall meetings and providing bulletins to local churches and the schools.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step #6: Trim tree lines around roads, homes, utilities and businesses.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 7: Increase awareness of the Code Red system through social media, notices sent home with children through the schools, notices in property tax bills or utility bills, newspapers, tables at events/festivals, community gatherings, and robo-calls.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A

STAPLEE Criteria	S		T			A			P			L			E				E				
	(Social)		(Technical)			(Administrative)			(Political)			(Legal)			(Economic)				(Environmental)				
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Action Step 8: Develop and maintain the EMA website	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 9: Continue to maintain partnership with local amateur radio operators in order to ensure redundancy in case of communication system failure.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 10: Install redundant communication radio network (e.g. CB) for the tri-county 911 system.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 11: Conduct information outreach to inform the public of what weather and warning apps, websites, and data resources are most appropriate and accurate to use.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A

Worksheet #4 Evaluate Alternative Mitigation Actions

1. Fill in the goal and its corresponding objective. Use a separate worksheet for each objective. The considerations under each criterion are suggested ones to use; you can revise these to reflect your own considerations (see Table 2-1).

2. Fill in the alternative actions that address the specific objectives the planning team identified in Worksheet #1.

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When you complete the scoring; negatives will indicate gaps or shortcomings in the particular action, which can be noted in the Comments section. For considerations that do not apply, fill in N/A for not applicable. Only leave a blank if you do not know an answer. In this case, make a note in the Comments section of the "expert" or source to consult to help you evaluate the criterion.

Goal 1: Minimize damage caused by high wind events.

Objective 2: Minimize damages from high winds to institutional/public buildings in Lanier County.

STAPLEE Criteria	S		T			A			P			L			E				E				
	(Social)		(Technical)			(Administrative)			(Political)			(Legal)			(Economic)				(Environmental)				
Considerations → for Alternative Actions ↓	Community Acceptance	Effect on Segment of Population	Technical Feasibility	Long-term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance / Operations	Political Support	Local Champion	Public Support	State Authority	Existing Local Authority	Potential Legal Challenge	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land / Water	Effect on Endangered Species	Effect on HAZMAT / Waste Sites	Consistent with Community Environmental Goals	Consistent With Federal Laws
Action Step 1: Assess all public buildings, particularly public schools, for wind resistance	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 2: Initiate an inspection program at critical facilities to identify construction weaknesses subject to high wind damage.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 3: Retrofit any public structures that are deemed insufficient to resist high wind damage.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A

STAPLEE Criteria	S		T			A			P			L			E				E				
	(Social)		(Technical)			(Administrative)			(Political)			(Legal)			(Economic)				(Environmental)				
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Action Step 4: Install auxiliary portable and fixed generators (including transfer switches) for all critical facilities, shelters, water systems, and wherever else they are needed.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 5: Provide NOAA weather radios (or comparable devices) to all households in Lanier County and the City of Lakeland.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A

Worksheet #4 Evaluate Alternative Mitigation Actions

1. Fill in the goal and its corresponding objective. Use a separate worksheet for each objective. The considerations under each criterion are suggested ones to use; you can revise these to reflect your own considerations (see Table 2-1).

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Goal 2: Minimize damage caused by tornadoes.

Objective 1: Protect life, health and property of residents from tornadoes.

STAPLEE Criteria	S		T			A			P			L			E				E				
	(Social)		(Technical)			(Administrative)			(Political)			(Legal)			(Economic)				(Environmental)				
Considerations → for Alternative Actions ↓	Community Acceptance	Effect on Segment of Population	Technical Feasibility	Long-term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance / Operations	Political Support	Local Champion	Public Support	State Authority	Existing Local Authority	Potential Legal Challenge	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land / Water	Effect on Endangered Species	Effect on HAZMAT / Waste Sites	Consistent with Community Environmental Goals	Consistent With Federal Laws
Action Step 1: Educate homeowners and builders on individual safe rooms.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 2: Distribute programs on personal emergency preparedness, i.e., emergency survival kits.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 3: Contract with the American Red Cross to teach the Citizen's Disaster Course on a frequent basis.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A

STAPLEE Criteria	S		T			A			P			L			E				E				
	(Social)		(Technical)			(Administrative)			(Political)			(Legal)			(Economic)				(Environmental)				
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Action Step #4: Encourage businesses to develop emergency plans.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step #5: Increase public awareness of the NOAA weather radios and available community safe shelters by publishing articles in the local newspaper, holding town hall meetings and providing bulletins to local churches and the schools.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step #6: Trim tree lines around roads, homes, utilities and businesses.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 7: Increase awareness of the Code Red system through social media, notices sent home with children through the schools, notices in property tax bills or utility bills, newspapers, tables at events/festivals, community gatherings, and robo-calls.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A

STAPLEE Criteria	S		T			A			P			L			E				E				
	(Social)		(Technical)			(Administrative)			(Political)			(Legal)			(Economic)				(Environmental)				
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Action Step 8: Develop and maintain the EMA website	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 9: Continue to maintain partnership with local amateur radio operators in order to ensure redundancy in case of communication system failure.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 10: Install redundant communication radio network (e.g. CB) for the tri-county 911 system.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 11: Conduct information outreach to inform the public of what weather and warning apps, websites, and data resources are most appropriate and accurate to use.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A

Worksheet #4 Evaluate Alternative Mitigation Actions

1. Fill in the goal and its corresponding objective. Use a separate worksheet for each objective. The considerations under each criterion are suggested ones to use; you can revise these to reflect your own considerations (see Table 2-1).

2. Fill in the alternative actions that address the specific objectives the planning team identified in Worksheet #1.

3. ***Scoring:*** *For each consideration, indicate a plus (+) for favorable, and a negative (-) for less favorable.*

When you complete the scoring; negatives will indicate gaps or shortcomings in the particular action, which can be noted in the Comments section. For considerations that do not apply, fill in N/A for not applicable. Only leave a blank if you do not know an answer. In this case, make a note in the Comments section of the "expert" or source to consult to help you evaluate the criterion.

Goal 2: Minimize damage caused by high wind events.

Objective 2: Minimize damages from high winds to institutional/public buildings in Lanier County.

STAPLEE Criteria	S		T			A			P			L			E				E				
	(Social)		(Technical)			(Administrative)			(Political)			(Legal)			(Economic)				(Environmental)				
Considerations → for Alternative Actions ↓	Community Acceptance	Effect on Segment of Population	Technical Feasibility	Long-term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance / Operations	Political Support	Local Champion	Public Support	State Authority	Existing Local Authority	Potential Legal Challenge	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land / Water	Effect on Endangered Species	Effect on HAZMAT / Waste Sites	Consistent with Community Environmental Goals	Consistent With Federal Laws
Action Step 1: Assess all public buildings, particularly public schools, for wind resistance	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 2: Initiate an inspection program at critical facilities to identify construction weaknesses subject to high wind damage.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 3: Retrofit any public structures that are deemed insufficient to resist high wind damage.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A

STAPLEE Criteria	S		T			A			P			L			E				E				
	(Social)		(Technical)			(Administrative)			(Political)			(Legal)			(Economic)				(Environmental)				
Considerations → for Alternative Actions ↓	Community Acceptance	Effect on Segment of Population	Technical Feasibility	Long-term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance / Operations	Political Support	Local Champion	Public Support	State Authority	Existing Local Authority	Potential Legal Challenge	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land / Water	Effect on Endangered Species	Effect on HAZMAT / Waste Sites	Consistent with Community Environmental Goals	Consistent With Federal Laws
Action Step 4: Install auxiliary portable and fixed generators (including transfer switches) for all critical facilities, shelters, water systems, and wherever else they are needed.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 5: Provide NOAA weather radios (or comparable devices) to all households in Lanier County and the City of Lakeland.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A

Worksheet #4 Evaluate Alternative Mitigation Actions

1. Fill in the goal and its corresponding objective. Use a separate worksheet for each objective. The considerations under each criterion are suggested ones to use; you can revise these to reflect your own considerations (see Table 2-1).

2. Fill in the alternative actions that address the specific objectives the planning team identified in Worksheet #1.

3. ***Scoring:*** *For each consideration, indicate a plus (+) for favorable, and a negative (-) for less favorable.*

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Goal 3: Minimize flood damage in Lanier County and the City of Lakeland.

Objective 1: Minimize losses to existing and future structures and critical facilities, due to localized flooding caused by excessive rainfall.

STAPLEE Criteria	S		T			A			P			L			E				E				
	(Social)		(Technical)			(Administrative)			(Political)			(Legal)			(Economic)				(Environmental)				
Considerations → for Alternative Actions ↓	Community Acceptance	Effect on Segment of Population	Technical Feasibility	Long-term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance / Operations	Political Support	Local Champion	Public Support	State Authority	Existing Local Authority	Potential Legal Challenge	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land / Water	Effect on Endangered Species	Effect on HAZMAT / Waste Sites	Consistent with Community Environmental Goals	Consistent With Federal Laws
Action Step 1: Continue to identify areas in Lakeland and Lanier County that experience repetitive localized flooding.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	+	N/A
Action Step 2: Review data on storm events to determine where repetitive localized flooding occurs as a result of inadequate drainage infrastructure.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	+	N/A
Action Step 3: Identify and pursue grant opportunities to upgrade deficient drainage systems.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	+	N/A

Worksheet #4 Evaluate Alternative Mitigation Actions

1. Fill in the goal and its corresponding objective. Use a separate worksheet for each objective. The considerations under each criterion are suggested ones to use; you can revise these to reflect your own considerations (see Table 2-1).

2. Fill in the alternative actions that address the specific objectives the planning team identified in Worksheet #1.

*3. **Scoring:** For each consideration, indicate a plus (+) for favorable, and a negative (-) for less favorable.*

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Goal 3: Minimize flood damage in Lanier County and the City of Lakeland.

Objective 2: Protect and preserve flood-prone areas for green space use, such as community parks and recreation areas.

STAPLEE Criteria	S		T			A			P			L			E				E				
	(Social)		(Technical)			(Administrative)			(Political)			(Legal)			(Economic)				(Environmental)				
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Action Step 1: Monitor comprehensive land use plans to ensure mapping of lands to be permanently protected.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	+	N/A
Action Step 2: Monitor existing subdivision regulations to promote conservation of floodplains, wetlands, and groundwater recharge areas.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	+	N/A

STAPLEE Criteria	S		T			A			P			L			E				E				
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Considerations → for Alternative Actions ↓	Community Acceptance	Effect on Segment of Population	Technical Feasibility	Long-term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance / Operations	Political Support	Local Champion	Public Support	State Authority	Existing Local Authority	Potential Legal Challenge	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land / Water	Effect on Endangered Species	Effect on HAZMAT / Waste Sites	Consistent with Community Environmental Goals	Consistent With Federal Laws
Action Step 3: Seek funding from private foundations, individuals, federal and state grants, and local communities to leverage available green space grant funds.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	+	N/A
Action Step 4: Educate public and private organizations on methods for preserving parks and recreation areas, such as grants, community cleanup events, conservation easements, and encouraging landowners to dedicate their land to the public.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	+	N/A

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2. Fill in the alternative actions that address the specific objectives the planning team identified in Worksheet #1.

3. ***Scoring:*** *For each consideration, indicate a plus (+) for favorable, and a negative (-) for less favorable.*

When you complete the scoring; negatives will indicate gaps or shortcomings in the particular action, which can be noted in the Comments section. For considerations that do not apply, fill in N/A for not applicable. Only leave a blank if you do not know an answer. In this case, make a note in the Comments section of the "expert" or source to consult to help you evaluate the criterion.

Goal 3: Minimize flood damage in Lanier County and the City of Lakeland.

Objective 3: Establish correct boundaries for flood-prone areas along the major rivers in Lanier County.

STAPLEE Criteria	S		T			A			P			L			E				E				
	(Social)		(Technical)			(Administrative)			(Political)			(Legal)			(Economic)				(Environmental)				
Considerations → for Alternative Actions ↓	Community Acceptance	Effect on Segment of Population	Technical Feasibility	Long-term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance / Operations	Political Support	Local Champion	Public Support	State Authority	Existing Local Authority	Potential Legal Challenge	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land / Water	Effect on Endangered Species	Effect on HAZMAT / Waste Sites	Consistent with Community Environmental Goals	Consistent With Federal Laws
Action Step 1: Petition the National Weather Service, US Geological Survey, or other agencies to place and maintain river gauges at identified locations along the Alapaha River in Lanier County.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	+	N/A
Action Step 2: Continue membership in the NFIP by adopting updated ordinances and FIRM maps as updates are available, and continue to enforce floodplain regulations County.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	+	N/A

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2. Fill in the alternative actions that address the specific objectives the planning team identified in Worksheet #1.

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Goal 4: Protect Citizens of Lanier County from the threat of lightning strikes.

Objective 1: Provide tools necessary for warning of lightning strikes.

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	(Social)		(Technical)			(Administrative)			(Political)			(Legal)			(Economic)				(Environmental)				
Considerations → for Alternative Actions ↓	Community Acceptance	Effect on Segment of Population	Technical Feasibility	Long-term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance / Operations	Political Support	Local Champion	Public Support	State Authority	Existing Local Authority	Potential Legal Challenge	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land / Water	Effect on Endangered Species	Effect on HAZMAT / Waste Sites	Consistent with Community Environmental Goals	Consistent With Federal Laws
Action Step 1: Provide every public outdoor recreation facility and every public school outdoor recreation facility with automatic warning device, if feasible.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 2: Make lightning warning system information available to other entities having significant outdoor activities, such as golf courses, businesses, airport, etc.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A

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Action Step 3: Educate public on the risks of lightning.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 4: Provide news media with press releases concerning lightning.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A

Worksheet #4 Evaluate Alternative Mitigation Actions

1. Fill in the goal and its corresponding objective. Use a separate worksheet for each objective. The considerations under each criterion are suggested ones to use; you can revise these to reflect your own considerations (see Table 2-1).

2. Fill in the alternative actions that address the specific objectives the planning team identified in Worksheet #1.

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Goal 5: Prevent or reduce damage from Extreme Heat to the health of the citizens of Lanier County and the City of Lakeland.

Objective 1: Ensure that adequate warning systems and resources are available to minimize the impact of Extreme Heat events in the community.

STAPLEE Criteria	S		T			A			P			L			E				E				
	(Social)		(Technical)			(Administrative)			(Political)			(Legal)			(Economic)				(Environmental)				
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Action Step 1: Identify County facilities for "comfort station" locations	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 2: Continue to work with the faith-based community, the American Red Cross, and other community institutions to make "comfort station" locations and/or shelters (including animal shelter facilities) available in case of extreme heat events.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A

Worksheet #4 Evaluate Alternative Mitigation Actions

1. Fill in the goal and its corresponding objective. Use a separate worksheet for each objective. The considerations under each criterion are suggested ones to use; you can revise these to reflect your own considerations (see Table 2-1).

2. Fill in the alternative actions that address the specific objectives the planning team identified in Worksheet #1.

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Goal 6. Prevent damage resulting from wildfires in Lanier County, reduce the threat of wildfires, and protect the life and property of residents.

Objective 1: Minimize the threat of wildfires to persons and properties in Lanier County.

STAPLEE Criteria	S		T			A			P			L			E				E				
	(Social)		(Technical)			(Administrative)			(Political)			(Legal)			(Economic)				(Environmental)				
Considerations → for Alternative Actions ↓	Community Acceptance	Effect on Segment of Population	Technical Feasibility	Long-term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance / Operations	Political Support	Local Champion	Public Support	State Authority	Existing Local Authority	Potential Legal Challenge	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land / Water	Effect on Endangered Species	Effect on HAZMAT / Waste Sites	Consistent with Community Environmental Goals	Consistent With Federal Laws
Action Step 1: Request the Greater Lanier County Planning Commission to consider the use of Urban/Wildland Interface in the development of its comprehensive plan.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 2: Implement "1-2-3" (formerly known as Firewise) program in Lanier County and the City of Lakeland.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A

STAPLEE Criteria	S		T			A			P			L			E				E				
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Action Step 3: Hold a regular Community Clean-up Day to cut, prune, and mow vegetation in shared community spaces.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 4: Allow for adequate emergency vehicle access by making sure that vertical and horizontal driveway/right-of-way clearance is provided and adequate lengths of culverts are installed.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 5: Identify needed road improvements; as roads are upgraded, widen to minimum standards with at least 60-foot diameter cul-de-sacs or turn-arounds.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 6: Encourage prescribed burning for private landowners and industrial timberlands particularly adjacent to residential areas.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A

STAPLEE Criteria	S		T			A			P			L			E				E				
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Action Step 7: Seek grant for mowing or prescribed burning in Wildland-Urban Interface areas	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 8: Clean/ re-harrow existing fire lines	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 9: Inspect, maintain and improve access to existing dry hydrants. Add signage along road to mark the hydrants.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 10: Locate additional dry hydrants or drafting locations as needed	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 11: Locate and pre–clear helicopter dip sites	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 12: Map locations of dry hydrants	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 13: Seek grants or other funding for Wildland hand tools and lightweight Wildland PPE gear	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 14: Investigate need for fulltime position for the county fire department	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A

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Action Step 15: Ensure timely replacement of missing road signs; install “Dead End” or “No Outlet” Tags on Road Signs.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 16: Obtain Wildland Fire Suppression training for Fire Personnel	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 17: Purchase 5 new fire trucks/brush trucks	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A

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Goal 7: Protect Lanier County from the effects of drought conditions.

Objective 1: Ensure adequate drinking water supply is available during drought conditions.

STAPLEE Criteria	S		T			A			P			L			E				E				
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Considerations → for Alternative Actions ↓	Community Acceptance	Effect on Segment of Population	Technical Feasibility	Long-term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance / Operations	Political Support	Local Champion	Public Support	State Authority	Existing Local Authority	Potential Legal Challenge	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land / Water	Effect on Endangered Species	Effect on HAZMAT / Waste Sites	Consistent with Community Environmental Goals	Consistent With Federal Laws
Action Step 1: Develop a tiered plan from the comprehensive study of underground water supplies serving the public and domestic water system to provide temporary water supplies for domestic consumption as needed.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 2: Investigate effects of deep agricultural well drilling on local aquifer(s)	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A

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Goal 8. Protect Lanier County and the City of Lakeland from the threat of Sinkholes.

Objective 1. Minimize losses of life, property, and infrastructure from Sinkholes.

STAPLEE Criteria	S		T			A			P			L			E				E				
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Action Step 1: Conduct ground study of areas identified as being at risk for potential sinkhole formation.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 2: Include sinkhole study information in planning phase of new developments which may be affected by potential sinkhole formation.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A

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Goal 9: Prevent or reduce damage caused by Severe Winter Storms in Lanier County and the City of Lakeland.

Objective 1: Minimize losses to existing and future structures, especially Critical Facilities and Infrastructure, due to Severe Winter Storms.

STAPLEE Criteria	S		T			A			P			L			E				E				
	(Social)		(Technical)			(Administrative)			(Political)			(Legal)			(Economic)				(Environmental)				
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Action Step 1: Wrap exposed piping with insulation and install new insulation layers at critical facilities in Lanier County and the City of Lakeland.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 2: Disseminate information to the public concerning Severe Winter Storms, champion new construction being built to appropriate low temperature ratings and existing buildings being retrofitted Lanier County and the City of Lakeland.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 3: Continue to work with the faith-based community, the American Red Cross, and other community institutions to make “comfort station” locations and/or shelters (including animal shelter facilities) available in case of extreme cold and winter storm events.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A

Appendix E

the Altamaha River system upstream of the Seaboard Coastline Railroad Bridge

U.S. Highway 301 Bridge are closed to commercial fishing. Only drift nets may

LANIER COUNTY BOARD OF COMMISSIONERS PUBLIC NOTICE

The Lanier County Board of Commissioners will hold a called work session on January 8, 2018 at 6:00 p.m. This meeting will be held at the Lanier County Annex (162 West Thigpen Ave). The purpose of the called work session is to discuss the new Parks & Recreations park and the Tri-County E911 dispatching.

PUBLIC NOTICE

The Lanier County Emergency Management Agency (EMA) invites the public to attend the kick-off meeting for planning and updating our local Hazard Mitigation Plan. This plan is renewed every five (5) years. We would welcome any input from our citizens and local business owners. Some of those who will be part of the planning group will be: Planning specialist from GEMA (Georgia Emergency Management and Homeland Security Agency), Board of County Commissioners, Fire/EMS, Sheriff's Department, Health Department, Code Enforcement, Public Works, Forestry, School Board, and hopefully… you. The meeting will be for an hour on Wednesday January 10 at 10 AM at the Lanier County Annex Building located just behind the UGA Extension Office on West Thigpen Ave, Lakeland GA.

Randy Patten
Lanier County EMA
229-482-5070

LANIER COUNTY BOARD OF COMMISSIONERS

56 Main Street, Suite 9
Lakeland, Georgia 31635
(229) 482-2088
Fax (229) 482-8187
boardofcomm@windstream.net

PUBLIC NOTICE

The Lanier County Board of Commissioners has declared the following as surplus equipment for sale. All bids must be turned in to the commissioner's office by Friday, January 12, 2018 at 5 p.m. The Lanier County Board of Commissioners has the right to reject any and all bids. The equipment is located at the Lanier County Road Department at 168 Brantley Street, Lakeland, Georgia, 31635. If any additional information is needed, please call (229)482-2088.

1992 Ford Ranger XLT, VIN: 1FTXR10C3WLLB3392

commercial fishing license number.

- Drift nets shall not be fished closer than 300 feet apart and are limited to a maximum of 1,000 feet in length in saltwater.
- Set nets and drift nets must be situated so as to allow one-half the stream width to be open and free for the passage of fish.
- All set nets must have one end secured to the stream bank and must be buoyed at the outer (seaward) end so they will be clearly visible to other boaters.
- Sturgeon, game fish other than American shad or hickory shad, and all species of catfish taken in set or drift nets must be released unharmed into the waters where they were captured.

Commercial shad fishermen must have a valid Georgia commercial fishing license and are required to have in their possession a free letter of authorization (LOA) while commercially fishing for shad. Applications for an LOA can be obtained by contacting Julie Califf with the GADNR Coastal Resources Division (CRD) at 912-264-7218. Applications for commercial licenses are available at http://

PROJECT

To repay previously incurred debt on the issuance or sale of oblication bonds

(1) The School District's original cost estimate as sp

(2) The School District's current estimate of total co

(3) The voters of Lanier County approved the impo
sales tax proceeds, state, local property taxes

PUBLIC NOTICE

The Lanier County Emergency Management Agency (EMA), in cooperation with the Southern Georgia Regional Commission (SGRC), invites the public to attend a Joint Public Hearing to review the Lanier County and City of Lakeland Hazard Mitigation Plan Update and provide an opportunity for public comment. The plan update has been developed in accordance with the Disaster Mitigation Act of 2000, which requires local governments to have an approved Hazard Mitigation Plan addressing natural hazards as a condition of receiving future federal disaster assistance. The County will host a Public Hearing/Open House on Tuesday, March 12 at 10 a.m. at the County Annex located at 162 W. Thigpen Avenue in Lakeland. Comments are being accepted by email at agodwin@sgrc.us, by fax at 229-333-5312, or by mailing them to Lanier HMP, 327 W Savannah Ave., Valdosta, GA 31601. The draft of the Plan is available on the SGRC website, www.sgrc.us. For more information please call Ariel Godwin, Senior Planner at 229-333-5277.

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they may see.

For more info
lanierfamcom@

Lanier County EMA
6 Park Drive
Lakeland GA 31635

Hazard Mitigation
Kick Off Meeting

January 10, 2017
10:00 AM

Will Joyce	Clinch Co EMA	Director	912 520 8581	emt36296@gmail.com
Gary Yeomans	F.D	Chief	482-5594	11Fmchall@Windstream.Net
Jimmy R Hall	F.D	FIREMAN	482-5973	JKELLY3362@aol.com
Angie Rutland	Berrien EMA	Berrien EMA Director	229-686-6588	berrien911@windstream.net
Rusty Redshaw	Camp Patten	Ranger / Care Taker	229-292-1819	russell.redshaw@scouting.org
Peter T. Moore	Lanier County News	sub		
Anna Olson SSgt	MAFB OEM	NCOIC	5203705939	anna.olson@us.af.mil
Don Fender	Pastor Alapaha COG	County Resident	229-292-7776	dfender7776@yahoo.com

Lanier County EMA
6 Park Drive
Lakeland GA 31635

Hazard Mitigation
Kick Off Meeting

January 10, 2017
10:00 AM

Name	Organization	Title	Phone	Email
Ariel Godwin	S. Ga. Regional Commission	Senior Planner	229-333-5277	agodwin@sgrc.us
Bob Roquemore	First Baptist Church		229-563-6034	elmerf@windstream.net
David Warren	Lakeland Police Department	Captain		
James Barnes	Lanier County BOC	Intern	229-300-2226	jbarnes@valdosta.edu
Marsha DeFelice	Public Health	Training & Exercise	229-412-5545	marsha.DeFelice@dph.ga.gov
Mary Folsom	Community Emergency Response	Member		marylovef@gmail.com
Matt Hart	Boy Scott of America	Scout Executive/CEO	229.242.2331	matt.Hart@scouting.org
Neil Ginty	Lanier County BOC	Administrator	229-482-5151	lanierboc@laniercountyboc.com
Randy Patten	Lanier County EMA	Director	229-482-5070	lanierema@windstream.net
Richard Hamilton	Lakeland United Methodist	Pastor		
Scott Allen Fountain	SGMC EMS	District Commander	229-482-2525	allen.fountain@sgmc.org
Sonya W. Miley	US Post Office	Post Master		sonya.W.Miley@usps.gov
Will Joyce	Clinch Co. EMA	Director		emt36296@gmail.com
Shelby Meyers	GEMA/HS	Haz. Mit. planner		
Cliff Hall	Amer Legion	CDR	508-944-0680	cliffordHall1945@yahoo.com
Joe Henkels			300-2869	jhenkels73@gmail.com
Rita Henkels			300-2867	rthenkels@gmail.com
Dennis Fender	Co. Comm.	Comm.	251-2783	dennisfender@Live.com
Carol Ekman			251-2250	gardentutu@yahoo.com

Lanier County EMA
6 Park Drive
Lakeland GA 31635

Hazard Mitigation
Kick Off Meeting

January 10, 2017
10:00 AM

Robert Mikell	Berrien EMA	Dep. Director	2295070373	supervisore911@gmail.com
Ariel Godwin	SGRC	Planner	229-333-5277	agodwin@sgrc.us

Lanier County EMA
6 Park Drive
Lakeland GA 31635

Hazard Mitigation
Meeting 1
02/14/2018

January 10, 2017
10:00 AM

Moore	Peter		Lanier County News	Writter (Sub)		
Olson	Anna		US Air Force	NCOIC	520-370-3939	anna.olson@us.af.mil
Patten	Randy		Lanier County EMA	Director	229-482-5070	lanierema@windstream.net
Redshaw	Rusty		Camp Patten	Ranger	229-292-1819	russell.redshaw@scouting.org
Roquemore	Bob		Boy Scott of America		229-563-6034	elmerf@windstream.net
utland	Angie		Berrien County EMA	Director	229-686-6588	berrien911@windstream.net
Warren	David		Lakeland Police Department	Captain		
Yeomans	Gary		Lanier Fire Rescue	Chief	229-482-5594	llfirehal@windstream.net

Lanier County EMA
6 Park Drive
Lakeland GA 31635

Hazard Mitigation
Meeting 1
02/14/2018

January 10, 2017
10:00 AM

Name			Organization	Title	Phone	Email
Godwin	Ariel		S. Ga. Regional Commission	Senior Planner	229-333-5277	agodwin@sgrc.us
Barnes	James		Lanier County BOC	Intern	229-300-2226	jbarnes@valdosta.edu
DeFelice	Marsha		Public Health	Training & Exercise	229-412-5545	marsha.DeFelice@dph.ga.gov
Ekman	Carol		Retired	Citizen	229-251-2250	gardentutu@yahoo.com
Fender	Dennis		Lanier County BOC	Commissionor	229-482-2783	dennisfender@live.com
Fender	Donald		Alapaha Church of God	Pastor	229-292-7776	dfender7776@yahoo.com
Folsom	Mary		Community Emergency Response	Member		marylovef@gmail.com
Fountain	Scott Allen		SGMC EMS	District Commander	229-482-2525	allen.fountain@sgmc.org
Ginty	Neil		Lanier County BOC	Administrator	229-482-5151	lanierboc@laniercountyboc.com
Hall	Cliff		American Legion	CDR	508-944-0680	cliffhall1495@yahoo.com
Hamilton	Richard		Lakeland United Methodist	Pastor		rmh2911@mediacombb.net
Hart	Matt		Boy Scott of America	Scout Executive/CEO	229.242.2331	matt.Hart@scouting.org
Henkels	Joe			Citizen	229-300-2869	jhenkels73@gmail.com
Henkels	Rita			Citizen	229-300-2867	rthenkels@gmail.com
Joyce	Will		Clinch Co. EMA	Director	912-520-8581	emt36296@gmail.com
Kelly	Jimmy R		Lanier Fire Rescue	Fireman	229-482-5975	jkelly3362@outlook.com
Meyers	Shelby		GEMA-HS	Haz-Mit Planner		
Mikell	Robert		Berrien County EMA	Dep. Director	229-507-0373	supervisore911@gmail.com
Miley	Sonya W.		US Post Office	Post Master		sonya.W.Miley@usps.gov

Lanier County EMA
6 Park Drive
Lakeland GA 31635

Hazard Mitigation
Meeting 1
02/14/2018

January 10, 2017
10:00 AM

Last	First		Organization	Title	Phone	Email
Sirmans	TC		Moody AFB EM	EMA	325 212-0746	Timothy.Sirmans@us.AF.MIL
Chavez	Genevieve		Student		229 548 8686	gpeterson0806@gmail.com
Hathaway	Scotty		LC Schools	Supt	(912) 177.6131	scotty.hathaway@lanier.k12.ga.us
Craft	Karen		South Health District	EP Director	229-333-5344	karen.craft@dph.ga.gov

Lanier County EMA
6 Park Drive

Hazard Mitigation
Meeting #3

Name		Sinanature	Organization	Title	Phone	Email
Godwin	Ariel		S. Ga. Regional Commission	Senior Planner	229-333-5277	agodwin@sgrc.us
Barnes	James		Lanier County BOC	Intern	229-300-2226	jbarnes@valdosta.edu
Chaves	Genevieve Geneevieve	Genevieve Chaves	EM Student		223-548-8686	gpeterson006@gmail.com
Craft	Karen	Karen Craft	South Health District	EP Director	229-333-5344	karen.craft@dph.ga.gov
DeFelice	Marsha		Public Health	Training & Exercise	229-412-5545	marsha.DeFelice@dph.ga.gov
[redacted]man	Carol	Carol Ekmon	Retired	Citizen	229-251-2250	gardentutu@yahoo.com
Fender	Dennis	Dennis Fender	Lanier County BOC	Commissionor	229-482-2783	dennisfender@live.com
Fender	Donald		Alapaha Church of God	Pastor	229-292-7776	dfender7776@yahoo.com
Folsom	Mary		CERT	Member		marylovef@gmail.com
Fountain	Scott Allen		SGMC EMS	District Commander	229-482-2525	allen.fountain@sgmc.org
Ginty	Neil		Lanier County BOC	Administrator	229-482-5151	lanierboc@laniercountyboc.com
Hall	Cliff		American Legion	CDR	508-944-0680	cliffhall1495@yahoo.com
Hamilton	Richard		Lakeland United Methodist	Pastor		rmh2911@mediacombb.net
[redacted]rt	Matt		Boy Scott of America	Scout Executive/CEO	229.242.2331	matt.Hart@scouting.org
Hattaway	Scotty		LC Schools	Superintentendent	912-997-6131	scotty.hattaway@lanier.k12.ga.gov
Henkels	Joe	Joe Henkels		Citizen	229-300-2869	jhenkels73@gmail.com
Henkels	Rita	Rita Henkels		Citizen	229-300-2867	rthenkels@gmail.com
Joyce	Will		Clinch Co. EMA	Director	912-520-8581	emt36296@gmail.com
Kelly	Jimmy R		Lanier Fire Rescue	Fireman	229-482-5975	jkelly3362@outlook.com
Simons, TC			Moody EMA	EM	325-212-0746	Timothy.Simons@us.af.mil

Lanier County EMA
6 Park Drive
Lakeland GA 31635

Hazard Mitigation
Meeting #2
03/14/2018

Meyers	Shelby		GEMA-HS	Haz-Mit Planner		
Mikell	Robert		Berrien County EMA	Dep. Director	229-507-0373	supervisore911@gmail.com
Miley	Sonya W.		US Post Office	Post Master		sonya.W.Miley@usps.gov
Moore	Peter		Lanier County News	Writter (Sub)		
Olson	Anna		US Air Force	NCOIC	520-370-3939	anna.olson@us.af.mil
Patten	Randy		Lanier County EMA	Director	229-482-5070	lanierema@windstream.net
[redacted]shaw	Rusty		Camp Patten	Ranger	229-292-1819	russell.redshaw@scouting.org
oquemor	Bob		Boy Scott of America		229-563-6034	elmerf@windstream.net
Rutland	Angie		Berrien County EMA	Director	229-686-6588	berrien911@windstream.net
Sirmans	TC		Moody AFB	Emergency Manager	235-212-0746	timothy.sirmans@us.af.mil
Warren	David		Lakeland Police Department	Captain		
Yeomans	Gary		Lanier Fire Rescue	Chief	229-482-5594	llfirehal@windstream.net
McMillan	Carolyn		DPH	HCF	229-506-0104	carolyn.mcmillan@dph.ga.gov
[redacted]						

Lanier County EMA
6 Park Drive
Lakeland GA 31635

Hazard Mitigation
Meeting 4
04/09/2018

Meyers	Shelby		GEMA-HS	Haz-Mit Planner		
Mikell	Robert		Berrien County EMA	Dep. Director	229-507-0373	supervisore911@gmail.com
Miley	Sonya W.		US Post Office	Post Master		sonya.W.Miley@usps.gov
Moore	Peter		Lanier County News	Writter (Sub)		
Olson	Anna		US Air Force	NCOIC	520-370-3939	anna.olson@us.af.mil
Patten	Randy		Lanier County EMA	Director	229-482-5070	lanierema@windstream.net
R[redacted]haw	Rusty	Rusty Redshaw	Camp Patten	Ranger	229-292-1819	russell.redshaw@scouting.org
oquemor	Bob		Boy Scott of America		229-563-6034	elmerf@windstream.net
Rutland	Angie		Berrien County EMA	Director	229-686-6588	berrien911@windstream.net
Sirmans	TC		Moody AFB	Emergency Manager	235-212-0746	timothy.sirmans@us.af.mil
Warren	David		Lakeland Police Department	Captain		
Yeomans	Gary		Lanier Fire Rescue	Chief	229-482-5594	llfirehal@windstream.net

Lanier County EMA
6 Park Drive

Hazard Mitigation
Meeting 4

Name		Sinanature	Organization	Title	Phone	Email
Godwin	Ariel		S. Ga. Regional Commission	Senior Planner	229-333-5277	agodwin@sgrc.us
Barnes	James		Lanier County BOC	Intern	229-300-2226	jbarnes@valdosta.edu
Chaves	Geneevieve		EM Student		223-548-8686	gpeterson006@gmail.com
Craft	Karen		South Health District	EP Director	229-333-5344	karen.craft@dph.ga.gov
DeFelice	Marsha		Public Health	Training & Exercise	229-412-5545	marsha.DeFelice@dph.ga.gov
[illegible]an	Carol	Carol Ekman	Retired	Citizen	229-251-2250	gardentutu@yahoo.com
Fender	Dennis	Dennis Fender	Lanier County BOC	Commissionor	229-482-2783	dennisfender@live.com
Fender	Donald		Alapaha Church of God	Pastor	229-292-7776	dfender7776@yahoo.com
Folsom	Mary		CERT	Member		marylovef@gmail.com
Fountain	Scott Allen		SGMC EMS	District Commander	229-482-2525	allen.fountain@sgmc.org
Ginty	Neil		Lanier County BOC	Administrator	229-482-5151	lanierboc@laniercountyboc.com
Hall	Cliff		American Legion	CDR	508-944-0680	cliffhall1495@yahoo.com
Hamilton	Richard		Lakeland United Methodist	Pastor		rmh2911@mediacombb.net
[illegible]rt	Matt		Boy Scott of America	Scout Executive/CEO	229.242.2331	matt.Hart@scouting.org
Hattaway	Scotty		LC Schools	Superintentendent	912-997-6131	scotty.hattaway@lanier.k12.ga.gov
Henkels	Joe			Citizen	229-300-2869	jhenkels73@gmail.com
Henkels	Rita	Rita Henkels		Citizen	229-300-2867	rthenkels@gmail.com
Joyce	Will		Clinch Co. EMA	Director	912-520-8581	emt36296@gmail.com
Kelly	Jimmy R		Lanier Fire Rescue	Fireman	229-482-5975	jkelly3362@outlook.com

Resolution no. _____

RESOLUTION FOR ADOPTION OF
LANIER COUNTY
HAZARD MITIGATION PLAN UPDATE

WHEREAS, to be eligible for federal disaster assistance in the event of a presidentially declared disaster and mitigation assistance under the Hazard Mitigation Grant programs, local governments must have adopted or be actively developing a Hazard Mitigation Plan prepared in accordance with federal regulations promulgated pursuant to the Disaster Mitigation Act of 2000 ("the Act"); and

WHEREAS, Lanier County adopted the previous Lanier County Hazard Mitigation Plan Update in 2014; and

WHEREAS, in accordance with the requirements of the Act, an updated plan is required to be submitted to FEMA through GEMA every five years; and

WHEREAS, the 2014 Plan Update expired on March 19, 2019 and the new Hazard Mitigation Plan Update will became effective on March 19, 2019; and

WHEREAS, the Lanier County Emergency Management Agency, with the assistance of representatives from various other departments and agencies, has developed an updated plan to meet these requirements; and

WHEREAS, the updated plan is titled the "Lanier County 2019 Hazard Mitigation Plan Update" (referred to hereafter as "the Plan"); and

WHEREAS, GEMA has notified the Lanier County Emergency Management Agency that the Plan satisfies the requirements of the Act;

BE IT THEREFORE RESOLVED that the Lanier County Board of Commissioners, meeting in regular session, hereby adopts the Plan.

SO RESOLVED this 8 day of April, 2019.

By _____

Chair

Attest _____

Resolution no. _____

RESOLUTION FOR ADOPTION OF CITY OF LAKELAND HAZARD MITIGATION PLAN UPDATE

WHEREAS, to be eligible for federal disaster assistance in the event of a presidentially declared disaster and mitigation assistance under the Hazard Mitigation Grant programs, local governments must have adopted or be actively developing a Hazard Mitigation Plan prepared in accordance with federal regulations promulgated pursuant to the Disaster Mitigation Act of 2000 ("the Act"); and

WHEREAS, City of Lakealnd adopted the previous Echols County Hazard Mitigation Plan Update in 2014; and

WHEREAS, in accordance with the requirements of the Act, an updated plan is required to be submitted to FEMA through GEMA every five years; and

WHEREAS, the 2014 Plan Update will expire on March 18, 2019 and the new Hazard Mitigation Plan Update will become effective on March 18, 2019; and

WHEREAS, the City of Lakeland/Lanier County Emergency Management Agency, with the assistance of representatives from various other departments and agencies, has developed an updated plan to meet these requirements; and

WHEREAS, the updated plan is titled the "City of Lakeland 2019 Hazard Mitigation Plan Update" (referred to hereafter as "the Plan"); and

WHEREAS, GEMA has notified the City of Lakeland/Lanier County Emergency Management Agency that the Plan satisfies the requirements of the Act;

BE IT THEREFORE RESOLVED that the City of Lakeland Mayor and Council, meeting in regular session, hereby adopts the Plan.

SO RESOLVED this 12 day of March 2019.

By _____
Bill Darsey, Mayor

Attest _____
Diane Westberry, City Clerk

Appendix F

Storm Events Database

Search Results for Lanier County, Georgia

Event Types: Hurricane (Typhoon), Tropical Storm

Lanier county contains the following zones:
'Lanier'

8 events were reported between 01/01/1950 and 04/30/2018 (24957 days)

Summary Info:

Number of County/Zone areas affected:	1
Number of Days with Event:	8
Number of Days with Event and Death:	0
Number of Days with Event and Death or Injury:	0
Number of Days with Event and Property Damage:	7
Number of Days with Event and Crop Damage:	0
Number of Event Types reported:	2

Column Definitions:
'Mag': Magnitude, 'Dth': Deaths, 'Inj': Injuries, 'PrD': Property Damage, 'CrD': Crop Damage

Click on Location below to display details.
Available Event Types have changed over time. Please refer to the Database Details for more information.

Sort By: Date/Time (Oldest)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
Totals:								0	0	1.765M	0.00K
LANIER (ZONE)	LANIER (ZONE)	GA	09/03/1998	00:00	EST	Tropical Storm		0	0	75.00K	0.00K
LANIER (ZONE)	LANIER (ZONE)	GA	09/15/2004	12:00	EST	Tropical Storm		0	0	15.00K	0.00K
LANIER (ZONE)	LANIER (ZONE)	GA	09/26/2004	18:00	EST	Tropical Storm		0	0	50.00K	0.00K
LANIER (ZONE)	LANIER (ZONE)	GA	07/09/2005	18:00	EST	Hurricane (typhoon)		0	0	100.00K	0.00K

LANIER (ZONE)	LANIER (ZONE)	GA	06/12/2006	12:00	EST	Tropical Storm		0	0	0.00K	0.00K
LANIER (ZONE)	LANIER (ZONE)	GA	08/22/2008	12:00	EST-5	Tropical Storm		0	0	25.00K	0.00K
LANIER (ZONE)	LANIER (ZONE)	GA	09/02/2016	00:00	EST-5	Tropical Storm		0	0	500.00K	0.00K
LANIER (ZONE)	LANIER (ZONE)	GA	09/10/2017	22:00	EST-5	Tropical Storm		0	0	1.000M	0.00K
Totals:								0	0	1.765M	0.00K

Storm Events Database

Search Results for Lanier County, Georgia

Event Types: Funnel Cloud, Tornado

5 events were reported between 01/01/1950 and 04/30/2018 (24957 days)

Summary Info:

Number of County/Zone areas affected:	1
Number of Days with Event:	5
Number of Days with Event and Death:	0
Number of Days with Event and Death or Injury:	1
Number of Days with Event and Property Damage:	4
Number of Days with Event and Crop Damage:	0
Number of Event Types reported:	1

Column Definitions:
'Mag': Magnitude, 'Dth': Deaths, 'Inj': Injuries, 'PrD': Property Damage, 'CrD': Crop Damage

Click on Location below to display details.
Available Event Types have changed over time. Please refer to the Database Details for more information.

Select: All Tornadoes ▼ Sort By: Date/Time (Oldest) ▼

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
Totals:								0	5	3.035M	0.00K
LANIER CO.	LANIER CO.	GA	04/23/1971	19:30	CST	Tornado	F1	0	0	25.00K	0.00K
LANIER CO.	LANIER CO.	GA	04/25/1982	16:00	CST	Tornado	F2	0	5	2.500M	0.00K
Teeterville	LANIER CO.	GA	10/28/1995	01:30	EST	Tornado	F1	0	0	10.00K	0.00K
STOCKTON	LANIER CO.	GA	12/05/2005	14:45	EST	Tornado	F0	0	0	0.00K	0.00K
TEETERVILLE	LANIER CO.	GA	03/03/2012	13:00	EST-5	Tornado	EF3	0	0	500.00K	0.00K
Totals:								0	5	3.035M	0.00K

Storm Events Database

Search Results for Lanier County, Georgia

Event Types: Flash Flood, Flood

Lanier county contains the following zones:
'Lanier'

0 events were reported between 01/01/1950 and 04/30/2018 (24957 days)

Summary Info:

Number of County/Zone areas affected:	0
Number of Days with Event:	0
Number of Days with Event and Death:	0
Number of Days with Event and Death or Injury:	0
Number of Days with Event and Property Damage:	0
Number of Days with Event and Crop Damage:	0
Number of Event Types reported:	0

Column Definitions:
'Mag': Magnitude, 'Dth': Deaths, 'Inj': Injuries, 'PrD': Property Damage, 'CrD': Crop Damage

Click on Location below to display details.
Available Event Types have changed over time. Please refer to the Database Details for more information.

Sort By: Date/Time (Oldest)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
Totals:								0	0	0.00K	0.00K

Storm Events Database

Search Results for Lanier County, Georgia

Event Types: Hail

18 events were reported between 01/01/1950 and 04/30/2018 (24957 days)

Summary Info:

Number of County/Zone areas affected:	1
Number of Days with Event:	15
Number of Days with Event and Death:	0
Number of Days with Event and Death or Injury:	0
Number of Days with Event and Property Damage:	0
Number of Days with Event and Crop Damage:	0
Number of Event Types reported:	1

Column Definitions:
'Mag': Magnitude, 'Dth': Deaths, 'Inj': Injuries, 'PrD': Property Damage, 'CrD': Crop Damage

Click on Location below to display details.
Available Event Types have changed over time. Please refer to the Database Details for more information.

Select: All Hail ▼ Sort By: Date/Time (Oldest) ▼

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
Totals:								0	0	0.00K	0.00K
LANIER CO.	LANIER CO.	GA	04/15/1961	10:30	CST	Hail	1.00 in.	0	0	0.00K	0.00K
LANIER CO.	LANIER CO.	GA	06/05/1969	14:51	CST	Hail	0.75 in.	0	0	0.00K	0.00K
LANIER CO.	LANIER CO.	GA	04/22/1971	14:15	CST	Hail	0.75 in.	0	0	0.00K	0.00K
LANIER CO.	LANIER CO.	GA	04/30/1971	06:55	CST	Hail	2.00 in.	0	0	0.00K	0.00K
LANIER CO.	LANIER CO.	GA	04/30/1971	14:20	CST	Hail	1.50 in.	0	0	0.00K	0.00K
LANIER CO.	LANIER CO.	GA	04/24/1972	14:33	CST	Hail	0.75 in.	0	0	0.00K	0.00K

LANIER CO.	LANIER CO.	GA	07/02/1973	18:00	CST	Hail	1.50 in.	0	0	0.00K	0.00K
LAKELAND	LANIER CO.	GA	05/03/1998	14:20	EST	Hail	1.00 in.	0	0	0.00K	0.00K
LAKELAND	LANIER CO.	GA	05/13/1999	17:07	EST	Hail	0.75 in.	0	0	0.00K	0.00K
LAKELAND	LANIER CO.	GA	05/28/2006	16:30	EST	Hail	0.75 in.	0	0	0.00K	0.00K
LAKELAND	LANIER CO.	GA	07/28/2006	19:10	EST	Hail	0.88 in.	0	0	0.00K	0.00K
LAKELAND	LANIER CO.	GA	08/04/2006	17:16	EST	Hail	0.88 in.	0	0	0.00K	0.00K
LAKELAND	LANIER CO.	GA	08/04/2006	17:16	EST	Hail	0.88 in.	0	0	0.00K	0.00K
LAKELAND	LANIER CO.	GA	08/28/2007	15:20	EST-5	Hail	0.75 in.	0	0	0.00K	0.00K
LAKELAND	LANIER CO.	GA	08/07/2009	15:14	EST-5	Hail	1.00 in.	0	0	0.00K	0.00K
TEETERVILLE	LANIER CO.	GA	05/06/2012	14:55	EST-5	Hail	0.88 in.	0	0	0.00K	0.00K
COURTHOUSE	LANIER CO.	GA	04/05/2017	19:27	EST-5	Hail	1.50 in.	0	0	0.00K	0.00K
LAKELAND	LANIER CO.	GA	04/05/2017	19:27	EST-5	Hail	1.00 in.	0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

Storm Events Database

Search Results for Lanier County, Georgia

Event Types: Lightning

1 events were reported between 01/01/1950 and 04/30/2018 (24957 days)

Summary Info:

Number of County/Zone areas affected:	1
Number of Days with Event:	1
Number of Days with Event and Death:	0
Number of Days with Event and Death or Injury:	0
Number of Days with Event and Property Damage:	1
Number of Days with Event and Crop Damage:	0
Number of Event Types reported:	1

Column Definitions:
'Mag': Magnitude, 'Dth': Deaths, 'Inj': Injuries, 'PrD': Property Damage, 'CrD': Crop Damage

Click on Location below to display details.
Available Event Types have changed over time. Please refer to the Database Details for more information.

Sort By: Date/Time (Oldest)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
Totals:								0	0	5.00K	0.00K
LAKELAND	LANIER CO.	GA	07/21/2002	17:00	EST	Lightning		0	0	5.00K	0.00K
Totals:								0	0	5.00K	0.00K

Storm Events Database

Search Results for Lanier County, Georgia

Event Types: **High Wind, Strong Wind, Thunderstorm Wind**

Lanier county contains the following zones:
'Lanier'

72 events were reported between 01/01/1950 and 12/31/2018 (25202 days)

Summary Info:

Number of County/Zone areas affected:	2
Number of Days with Event:	56
Number of Days with Event and Death:	0
Number of Days with Event and Death or Injury:	0
Number of Days with Event and Property Damage:	35
Number of Days with Event and Crop Damage:	0
Number of Event Types reported:	2

Column Definitions:
'Mag': Magnitude, 'Dth': Deaths, 'Inj': Injuries, 'PrD': Property Damage, 'CrD': Crop Damage

Wind Magnitude Definitions:
Measured Gust:'MG', Estimated Gust:'EG', Measured Sustained:'MS', Estimated Sustained:'ES'

*Click on **Location** below to display details.*
Available Event Types have changed over time. Please refer to the Database Details for more information.

Select: All Wind Speeds ▼ Sort By: Date/Time (Oldest) ▼

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
Totals:								0	0	499.00K	0.00K
LANIER CO.	LANIER CO.	GA	06/14/1959	13:09	CST	Thunderstorm Wind	65 kts.	0	0	0.00K	0.00K
LANIER CO.	LANIER CO.	GA	04/15/1961	10:30	CST	Thunderstorm Wind	60 kts.	0	0	0.00K	0.00K
LANIER CO.	LANIER CO.	GA	06/07/1963	12:23	CST	Thunderstorm Wind	50 kts.	0	0	0.00K	0.00K
LANIER CO.	LANIER CO.	GA	06/27/1972	14:38	CST	Thunderstorm Wind	53 kts.	0	0	0.00K	0.00K
LANIER CO.	LANIER CO.	GA	07/02/1973	18:00	CST	Thunderstorm Wind	0 kts.	0	0	0.00K	0.00K
LANIER CO.	LANIER CO.	GA	04/18/1978	13:42	CST	Thunderstorm Wind	0 kts.	0	0	0.00K	0.00K
LANIER CO.	LANIER CO.	GA	12/29/1983	02:30	CST	Thunderstorm Wind	0 kts.	0	0	0.00K	0.00K
LANIER CO.	LANIER CO.	GA	02/06/1986	08:20	CST	Thunderstorm Wind	0 kts.	0	0	0.00K	0.00K
LANIER CO.	LANIER CO.	GA	03/30/1989	09:00	CST	Thunderstorm Wind	0 kts.	0	0	0.00K	0.00K
LANIER CO.	LANIER CO.	GA	04/19/1991	16:10	CST	Thunderstorm Wind	0 kts.	0	0	0.00K	0.00K
LAKELAND	LANIER CO.	GA	05/28/1996	10:20	EST	Thunderstorm Wind		0	0	10.00K	0.00K
COUNTYWIDE	LANIER CO.	GA	06/05/1998	19:45	EST	Thunderstorm Wind		0	0	5.00K	0.00K
STOCKTON	LANIER CO.	GA	04/24/2000	12:50	EST	Thunderstorm Wind		0	0	10.00K	0.00K
STOCKTON	LANIER CO.	GA	01/19/2002	20:10	EST	Thunderstorm Wind		0	0	2.00K	0.00K
COUNTYWIDE	LANIER CO.	GA	12/24/2002	10:30	EST	Thunderstorm Wind	50 kts. EG	0	0	10.00K	0.00K
LAKELAND	LANIER CO.	GA	03/13/2003	09:30	EST	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
SOUTHWEST PORTION	LANIER CO.	GA	05/02/2003	23:35	EST	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
COUNTYWIDE	LANIER CO.	GA	04/08/2006	17:30	EST	Thunderstorm Wind	55 kts. EG	0	0	5.00K	0.00K
COUNTYWIDE	LANIER CO.	GA	05/10/2006	19:34	EST	Thunderstorm Wind	55 kts. EG	0	0	0.50K	0.00K
LAKELAND	LANIER CO.	GA	05/28/2006	16:10	EST	Thunderstorm Wind	55 kts. EG	0	0	0.50K	0.00K
LAKELAND	LANIER CO.	GA	05/28/2006	16:30	EST	Thunderstorm Wind	55 kts. EG	0	0	1.00K	0.00K
LAKELAND	LANIER CO.	GA	08/04/2006	17:25	EST	Thunderstorm Wind	65 kts. EG	0	0	100.00K	0.00K
LAKELAND	LANIER CO.	GA	06/12/2007	07:45	EST-5	Thunderstorm Wind	50 kts. EG	0	0	5.00K	0.00K
LAKELAND	LANIER CO.	GA	06/25/2008	15:45	EST-5	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
LANIER (ZONE)	LANIER (ZONE)	GA	12/11/2008	08:40	EST-5	Strong Wind	45 kts. EG	0	0	15.00K	0.00K

TEETERVILLE	LANIER CO.	GA	06/28/2009	14:15	EST-5	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
COURTHOUSE	LANIER CO.	GA	10/16/2009	04:25	EST-5	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
LAKELAND	LANIER CO.	GA	05/08/2010	17:10	EST-5	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
LAKELAND	LANIER CO.	GA	05/08/2010	17:15	EST-5	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
LAKELAND	LANIER CO.	GA	07/28/2010	15:45	EST-5	Thunderstorm Wind	55 kts. EG	0	0	12.50K	0.00K
LAKELAND	LANIER CO.	GA	04/05/2011	03:20	EST-5	Thunderstorm Wind	50 kts. EG	0	0	10.00K	0.00K
LAKELAND	LANIER CO.	GA	06/23/2011	16:20	EST-5	Thunderstorm Wind	50 kts. EG	0	0	3.00K	0.00K
STOCKTON	LANIER CO.	GA	09/05/2011	15:41	EST-5	Thunderstorm Wind	50 kts. EG	0	0	4.00K	0.00K
TEETERVILLE	LANIER CO.	GA	11/16/2011	19:43	EST-5	Thunderstorm Wind	60 kts. EG	0	0	5.00K	0.00K
TEETERVILLE	LANIER CO.	GA	11/16/2011	19:51	EST-5	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
LAKELAND	LANIER CO.	GA	06/11/2012	16:05	EST-5	Thunderstorm Wind	55 kts. EG	0	0	4.00K	0.00K
LAKELAND	LANIER CO.	GA	12/17/2012	15:03	EST-5	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
LAKELAND	LANIER CO.	GA	01/30/2013	20:11	EST-5	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
LAKELAND	LANIER CO.	GA	08/21/2013	13:35	EST-5	Thunderstorm Wind	50 kts. EG	0	0	3.00K	0.00K
COURTHOUSE	LANIER CO.	GA	01/11/2014	14:40	EST-5	Thunderstorm Wind	50 kts. EG	0	0	0.50K	0.00K
LAKELAND	LANIER CO.	GA	02/21/2014	09:40	EST-5	Thunderstorm Wind	55 kts. EG	0	0	2.00K	0.00K
TEETERVILLE	LANIER CO.	GA	03/16/2014	13:35	EST-5	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
LAKELAND	LANIER CO.	GA	06/22/2014	14:25	EST-5	Thunderstorm Wind	55 kts. EG	0	0	2.00K	0.00K
LAKELAND	LANIER CO.	GA	07/09/2014	17:35	EST-5	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
LAKELAND	LANIER CO.	GA	06/03/2015	18:42	EST-5	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
COURTHOUSE	LANIER CO.	GA	06/12/2015	19:04	EST-5	Thunderstorm Wind	55 kts. EG	0	0	5.00K	0.00K
COURTHOUSE	LANIER CO.	GA	06/12/2015	19:06	EST-5	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
COURTHOUSE	LANIER CO.	GA	06/12/2015	19:08	EST-5	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
STOCKTON	LANIER CO.	GA	06/17/2015	14:29	EST-5	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
TEETERVILLE	LANIER CO.	GA	07/02/2015	15:49	EST-5	Thunderstorm Wind	55 kts. EG	0	0	0.00K	0.00K
TEETERVILLE	LANIER CO.	GA	07/14/2015	16:15	EST-5	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
TEETERVILLE	LANIER CO.	GA	07/22/2015	17:14	EST-5	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
TEETERVILLE	LANIER CO.	GA	08/23/2015	14:23	EST-5	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
COURTHOUSE	LANIER CO.	GA	08/23/2015	14:28	EST-5	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
LAKELAND	LANIER CO.	GA	08/23/2015	14:30	EST-5	Thunderstorm Wind	50 kts. EG	0	0	5.00K	0.00K
COURTHOUSE	LANIER CO.	GA	04/01/2016	16:03	EST-5	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
TEETERVILLE	LANIER CO.	GA	04/01/2016	16:07	EST-5	Thunderstorm Wind	65 kts. EG	0	0	50.00K	0.00K
STOCKTON	LANIER CO.	GA	04/01/2016	16:15	EST-5	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
LAKELAND	LANIER CO.	GA	05/03/2016	17:17	EST-5	Thunderstorm Wind	65 kts. EG	0	0	100.00K	0.00K
LAKELAND	LANIER CO.	GA	05/03/2016	17:18	EST-5	Thunderstorm Wind	65 kts. EG	0	0	10.00K	0.00K
LAKELAND	LANIER CO.	GA	05/03/2016	17:18	EST-5	Thunderstorm Wind	65 kts. EG	0	0	50.00K	0.00K
LAKELAND	LANIER CO.	GA	05/03/2016	17:18	EST-5	Thunderstorm Wind	65 kts. EG	0	0	50.00K	0.00K
LAKELAND	LANIER CO.	GA	07/19/2016	17:05	EST-5	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
STOCKTON	LANIER CO.	GA	08/14/2016	18:20	EST-5	Thunderstorm Wind	55 kts. EG	0	0	0.00K	0.00K
COURTHOUSE	LANIER CO.	GA	08/14/2016	18:40	EST-5	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
LAKELAND	LANIER CO.	GA	01/22/2017	08:40	EST-5	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
TEETERVILLE	LANIER CO.	GA	05/20/2017	19:14	EST-5	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
LAKELAND	LANIER CO.	GA	06/02/2018	14:20	EST-5	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
LAKELAND	LANIER CO.	GA	06/02/2018	14:24	EST-5	Thunderstorm Wind	55 kts. EG	0	0	0.00K	0.00K
STOCKTON	LANIER CO.	GA	06/02/2018	14:30	EST-5	Thunderstorm Wind	70 kts. EG	0	0	5.00K	0.00K
GREENWOOD	LANIER CO.	GA	06/02/2018	14:30	EST-5	Thunderstorm Wind	55 kts. EG	0	0	0.00K	0.00K
COURTHOUSE	LANIER CO.	GA	07/22/2018	19:20	EST-5	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
Totals:								0	0	499.00K	0.00K

EXTREME HEAT DATA FOR SOUTHERN GEORGIA REGION

Data Source:

Archived NWS Watch/Warnings at the Iowa State University Environmental Mesonet

https://mesonet.agron.iastate.edu/request/gis/watchwarn.phtml

Codes: W = Warning, A = Watch, Y = Advisory, S = Statement, HT = Heat, EH = Excessive Heat

Complete codes are at: https://www.weather.gov/bmx/vtec

Count of PHENOM	Column Labels												
Row Labels	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Grand Total
Lanier	1		3	6	4	4		8	6				32
EH						1							1
W						1							1
HT	1		3	6	4	3		8	6				31
Y	1		3	6	4	3		8	6				31

Acreage Burned /Number of Fires For Lanier County For FY 1968-2018		
Year	Acreage Burned	Number of Fires
1968	106.1	34
1969	155.53	32
1970	41.03	26
1971	139.94	62
1972	306.27	75
1973	173.69	65
1974	397.84	181
1975	158.63	53
1976	250.03	76
1977	355.2	87
1978	192.32	53
1979	105.15	80
1980	51.33	27
1981	368.89	119
1982	65.68	36
1983	40.17	26
1984	81.32	31
1985	552.57	120
1986	97.91	34
1987	145.1	40
1988	333.79	100
1989	236.59	54
1990	107.14	40
1991	726.15	37
1992	106.62	41
1993	69.03	49

Data source: Georgia Forestry Commission

Year	Acreage Burned	Number of Fires
1994	36.24	23
1995	51.3	19
1996	217.42	78
1997	82.19	39
1998	31.57	39
1999	254.75	68
2000	1,983.79	103
2001	128.69	63
2002	205.59	55
2003	148.77	27
2004	182.36	30
2005	89.17	26
2006	172.71	47
2007	307.56	75
2008	53.39	24
2009	125.86	39
2010	14.01	12
2011	459.8	48
2012	44.62	12
2013	68.73	13
2014	37.36	13
2015	13.28	16
2016	106.45	17
2017	87.23	21

Storm Events Database

Search Results for Lanier County, Georgia

Event Types: Drought

Lanier county contains the following zones:
'Lanier'

24 events were reported between 01/01/1950 and 04/30/2018 (24957 days)

Summary Info:

Number of County/Zone areas affected:	1
Number of Days with Event:	24
Number of Days with Event and Death:	0
Number of Days with Event and Death or Injury:	0
Number of Days with Event and Property Damage:	0
Number of Days with Event and Crop Damage:	0
Number of Event Types reported:	1

Column Definitions:
'Mag': Magnitude, 'Dth': Deaths, 'Inj': Injuries, 'PrD': Property Damage, 'CrD': Crop Damage

Click on Location below to display details.
Available Event Types have changed over time. Please refer to the Database Details for more information.

Sort By: Date/Time (Oldest)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
Totals:								0	0	0.00K	0.00K
LANIER (ZONE)	LANIER (ZONE)	GA	09/01/1997	00:00	EST	Drought		0	0	0.00K	0.00K
LANIER (ZONE)	LANIER (ZONE)	GA	11/01/2010	00:00	EST-5	Drought		0	0	0.00K	0.00K
LANIER (ZONE)	LANIER (ZONE)	GA	12/01/2010	00:00	EST-5	Drought		0	0	0.00K	0.00K
LANIER (ZONE)	LANIER (ZONE)	GA	01/01/2011	00:00	EST-5	Drought		0	0	0.00K	0.00K

LANIER (ZONE)	LANIER (ZONE)	GA	02/01/2011	00:00	EST-5	Drought		0	0	0.00K	0.00K
LANIER (ZONE)	LANIER (ZONE)	GA	03/01/2011	00:00	EST-5	Drought		0	0	0.00K	0.00K
LANIER (ZONE)	LANIER (ZONE)	GA	04/01/2011	00:00	EST-5	Drought		0	0	0.00K	0.00K
LANIER (ZONE)	LANIER (ZONE)	GA	05/01/2011	00:00	EST-5	Drought		0	0	0.00K	0.00K
LANIER (ZONE)	LANIER (ZONE)	GA	06/01/2011	00:00	EST-5	Drought		0	0	0.00K	0.00K
LANIER (ZONE)	LANIER (ZONE)	GA	07/01/2011	00:00	EST-5	Drought		0	0	0.00K	0.00K
LANIER (ZONE)	LANIER (ZONE)	GA	08/01/2011	00:00	EST-5	Drought		0	0	0.00K	0.00K
LANIER (ZONE)	LANIER (ZONE)	GA	09/01/2011	00:00	EST-5	Drought		0	0	0.00K	0.00K
LANIER (ZONE)	LANIER (ZONE)	GA	10/01/2011	00:00	EST-5	Drought		0	0	0.00K	0.00K
LANIER (ZONE)	LANIER (ZONE)	GA	11/01/2011	00:00	EST-5	Drought		0	0	0.00K	0.00K
LANIER (ZONE)	LANIER (ZONE)	GA	12/01/2011	00:00	EST-5	Drought		0	0	0.00K	0.00K
LANIER (ZONE)	LANIER (ZONE)	GA	01/01/2012	00:00	EST-5	Drought		0	0	0.00K	0.00K
LANIER (ZONE)	LANIER (ZONE)	GA	02/01/2012	00:00	EST-5	Drought		0	0	0.00K	0.00K
LANIER (ZONE)	LANIER (ZONE)	GA	03/01/2012	00:00	EST-5	Drought		0	0	0.00K	0.00K
LANIER (ZONE)	LANIER (ZONE)	GA	04/01/2012	00:00	EST-5	Drought		0	0	0.00K	0.00K
LANIER (ZONE)	LANIER (ZONE)	GA	05/01/2012	00:00	EST-5	Drought		0	0	0.00K	0.00K
LANIER (ZONE)	LANIER (ZONE)	GA	06/01/2012	00:00	EST-5	Drought		0	0	0.00K	0.00K
LANIER (ZONE)	LANIER (ZONE)	GA	01/01/2013	00:00	EST-5	Drought		0	0	0.00K	0.00K
LANIER (ZONE)	LANIER (ZONE)	GA	02/01/2013	00:00	EST-5	Drought		0	0	0.00K	0.00K
LANIER (ZONE)	LANIER (ZONE)	GA	11/29/2016	00:00	EST-5	Drought		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

Storm Events Database

Search Results for Lanier County, Georgia

Event Types: Blizzard, Cold/Wind Chill, Extreme Cold/Wind Chill, Freezing Fog, Frost/Freeze, Heavy Snow, Ice Storm, Sleet, Winter Storm, Winter Weather

Lanier county contains the following zones:
'Lanier'

3 events were reported between 01/01/1950 and 04/30/2018 (24957 days)

Summary Info:

Number of County/Zone areas affected:	1
Number of Days with Event:	3
Number of Days with Event and Death:	0
Number of Days with Event and Death or Injury:	0
Number of Days with Event and Property Damage:	1
Number of Days with Event and Crop Damage:	1
Number of Event Types reported:	2

Column Definitions:
'Mag': Magnitude, 'Dth': Deaths, 'Inj': Injuries, 'PrD': Property Damage, 'CrD': Crop Damage

Click on Location below to display details.
Available Event Types have changed over time. Please refer to the Database Details for more information.

Sort By: Date/Time (Oldest)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
Totals:								0	0	50.00K	7.850M
LANIER (ZONE)	LANIER (ZONE)	GA	01/28/2014	16:00	EST-5	Winter Storm		0	0	50.00K	0.00K
LANIER (ZONE)	LANIER (ZONE)	GA	03/16/2017	03:00	EST-5	Frost/freeze		0	0	0.00K	7.850M
LANIER (ZONE)	LANIER (ZONE)	GA	01/03/2018	03:00	EST-5	Winter Storm		0	0	0.00K	0.00K

Totals:								0	0	50.00K	7.850M

LANIER COUNTY CRITICAL FACILITIES
2018 UPDATE

Name	Jurisdiction	Address	Zip	Facility Types	Risk	Building Value
Lanier County Elementary School (3rd thru 5th)	Lakeland city	92 S Valdosta Rd	31635	Education, Education, K - 12, K - 12	Economic Assets, Essential, Vulnerable Population	5000000
Extension Office and County Annex	Lakeland city	162 W Thigpen Ave	31635	Government, Government Offices	Economic Assets, Important	282110
Georgia Power Substation - Linda St	Lanier County	E Linda St	31635	NGO, NGO, Private, Private	High Potential Loss, Lifeline	1
Georgia Power Sunstation - Burnt Church Rd	Lanier County	Brunt Church Rd	31635	NGO, NGO, Private, Private	High Potential Loss, Lifeline	100000
Connell Cabinets Inc.	Lakeland city	336 E Church St.	31635	NGO, Private	Economic Assets, High Potential Loss	335700
Georgia Power Solar Farm - Burnt Church Rd	Lakeland city	Burnt Church Rd	31635	NGO, NGO, Private, Private	High Potential Loss, Lifeline	2000000
Lakeland Drug Co.	Lakeland city	42 W Main St	31635	Medical, Private	Economic Assets, Lifeline	55600
Lake Irma Assisted Living	Lakeland city	103 W Main St	31635	NGO, ALF	Vulnerable Population	212200
Lakeland Inn	Lakeland city	149 W Thigpen Ave.	31635	NGO, Private	Important	183200
Jet Food Store Gas Station	Lakeland city	62 W Main St	31635	NGO, Private	Economic Assets, Essential, Hazardous Materials	435000
Huddle House	Lakeland city	63 W Main St	31635	NGO, Private	Economic Assets, Important	220100
McDonald's	Lakeland city	2 W Thigpen Ave	31635	NGO, Private	Economic Assets, Important	382800

LANIER COUNTY CRITICAL FACILITIES
2018 UPDATE

Name	Jurisdiction	Address	Zip	Facility Types	Risk	Building Value
Hardee's	Lakeland city	89 S Valdosta Rd	31635	NGO, Private	Economic Assets, Important	448500
Dollar General Store & Gas Station	Lakeland city	142 S Valdosta Rd	31635	NGO, Private	Economic Assets, Essential, Hazardous Materials	636700
Citgo (Bobby's)	Lakeland city	46 N Carter St	31645	NGO, NGO, Private, Private	Economic Assets, Essential, Hazardous Materials	216500
AT&T Cell Tower	Lakeland city	50 Tower Lane	31635	NGO, NGO, Communications, Communications	Important	37800
Alltel Cell Tower	Lakeland city	48 Tower Lane	31635	NGO, NGO, Communications, Communications	Important	70600
Pinnacle Cell Tower	Lanier County	303 N Hwy 135	31635	NGO, NGO, Communications, Communications	Important	63000
ALLTEL Cell Tower - Lloyd Curry Rd	Lanier County	Lloyd Curry Rd	31635	NGO, NGO, Communications, Communications	Important	98900
Verizon Cell Tower	Lanier County	W Hwy 168 & Burkhalter Rd	31635	NGO, NGO, Communications, Communications	Important	321300
AT&T Cell Tower - Stockton	Lanier County	Brown Rd & Westberry Lane	31649	NGO, NGO, Communications, Communications	Important	42000
Cell Tower (Stockton)	Lanier County	Old Stockton Rd./Withers Rd.	31649	NGO, Communications	Important	100000
Georgia Forestry Commission	Lakeland city	907 N Brantley St	31635	Government, Government Offices		31500
Lanier County Maintenance Shop	Lakeland city	N Brantley St	31639	Government, Government Offices	Important	98480

LANIER COUNTY CRITICAL FACILITIES
2018 UPDATE

Name	Jurisdiction	Address	Zip	Facility Types	Risk	Building Value
City of Lakeland Maintenance Shop	Lakeland city	S Valdosta Rd	31635	Government, Government Offices	Important	23300
Lanier County Fire Dept. Sta. 08 (Stockton South)	Lanier County	1990 Hwy 129 South	31649	Emergency Services, Fire Fighters	Lifeline	14300
Lanier County Fire Dept. Station 07 (Eastside)	Lanier County	110 Hwy 221 North	31635	Emergency Services, Fire Fighters	Lifeline	237200
Camp Patten Copeland Center	Lanier County	247 E Burnt Church Rd	31635	NGO, Private	Important	400000
Camp Patten Vulcan Pavilion	Lanier County	247 E Burnt Church Rd	31635	NGO, Private	Important	250000
National Pecan Corporation	Lanier County	Darsey Rd	31635	NGO, Private	Economic Assets, High Potential Loss	1433400
Lanier Municipal Supply Co	Lanier County	450 W Hwy 64	31635	NGO, Private	Essential, Special Consideration	769020
Three Rivers Packing Facility/Farmworker Housing	Lanier County	S Hwy 129	31649	NGO, Private	Economic Assets, Vulnerable Population	1167200
Army Corps of Engineers Radar Facility	Lanier County	Timmerman Rd	31649	Government, Communications		3400
CSX Rail Line	Lanier County	Southern Lanier County	31649	NGO, Transportation	Economic Assets, Transportation	1000000
Patten Blueberry Packing Plant	Lanier County	Studstill Ln	31635	NGO, Private	Economic Assets, High Potential Loss	331950
Lanier County Fire Dept. Station 06 (Goodhope)	Lanier County	22 Moore Rd	31641	Emergency Services, Emergency Services, Fire Fighters, Fire Fighters	Essential, High Potential Loss, Important, Lifeline	249900

LANIER COUNTY CRITICAL FACILITIES
2018 UPDATE

Name	Jurisdiction	Address	Zip	Facility Types	Risk	Building Value
City of Lakeland Darsey Street Well	Lakeland city	E Darsey Ave & S 8th St	31635	Government, Government, Water/Sewer, Water/Sewer	Essential, High Potential Loss, Important, Lifeline	320292
Lanier County EMS	Lakeland city	111 W Thigpen Ave	31635	Emergency Services, Emergency Services, EMS, EMS	High Potential Loss, Lifeline	47200
Lanier County Fire Dept. Station 05 (Westside)	Lanier County	230 Smith Dairy Rd	31645	Emergency Services, Emergency Services, Fire Fighters, Fire Fighters	Lifeline	9870000
SGMC Lakeland Villa	Lakeland city	138 W Thigpen Ave	31635	Medical, Medical, Hospital, Hospital	Potential Loss, Important, Special Consideration, Vulnerable Population	11000000
City of Lakeland Sewage Oxidation Wetlands	Lakeland city	E Linda St/54 N 6th St.	31635	Government, Government, Water/Sewer, Water/Sewer	Essential, Hazardous Materials, Important, Lifeline, Special Consideration	16400000
First Baptist Church	Lakeland city	15 E Main St	31635	NGO, NGO, Private, Private	Essential, High Potential Loss, Important, Special Consideration, Vulnerable Population	4662300
Georgia Department of Transportation Shop	Lanier County	217 Hwy 37 E	31635	Government, Government, Transportation, Transportation	Essential, Hazardous Materials, Important	816000
Department of Family and Children Services	Lakeland city	5 Roquemore Circle	31635	Government, Government, Government Offices, Government Offices	Economic Assets, Essential, Important	1990200
Lanier County Board of Education Office	Lanier County	247 S Hwy 221	31635	Education, Education, Government Offices, Government Offices	Important	1800000
Coastal Plain EOA/Head Start/Multipurpose Building	Lakeland city	104 S Oak St	31635	Government Offices, Government Offices, Pre K, Pre K	Essential, Important, Vulnerable Population	1950000
Lanier County Health Department	Lakeland city	53 W. Murrell St.	31635	Government, Government, Government Offices, Government Offices	Essential, Important	1056000
Affinity Building Systems	Lakeland city	62 Murray Blvd	31635	NGO, NGO, Private, Private	Economic Assets, High Potential Loss	26250000

LANIER COUNTY CRITICAL FACILITIES
2018 UPDATE

Name	Jurisdiction	Address	Zip	Facility Types	Risk	Building Value
Georgia PrintCo/Rak-Tek Inc.	Lakeland city	90 S Oak St	31635	NGO, NGO, Private, Private	Economic Assets, High Potential Loss	480000
Lanier County High & Middle School (6 thru 12)	Lakeland city	52 W. Patten Ave.	31635	Education, Education, K - 12, K - 12	Economic Assets, Essential, High Potential Loss, Vulnerable Population	4050000
SGMC Lanier Campus	Lakeland city	116 W. Thigpen Avenue	31635	Medical, Medical, Hospital, Hospital	High Potential Loss, Lifeline, Vulnerable Population	5418000
City of Lakeland Water Tank	Lakeland city	Pine St & W 3rd Ave	31635	Government, Government, Water/Sewer, Water/Sewer	Essential, High Potential Loss, Important, Lifeline	162645
City of Lakeland Sewage Oxidation Pond	Lakeland city	E Linda St/54 N 6th St.	31635	Government, Government, Water/Sewer, Water/Sewer	Essential, Hazardous Materials, High Potential Loss, Important, Lifeline	2500000
Lakeland City Hall/Courtroom/Police Department	Lakeland city	64 S Valdosta Rd	31635	Government, Government, Government Offices, Government Offices	Essential, High Potential Loss, Important	2400000
Lanier County Courthouse/Sheriff's Office	Lakeland city	56 W. Main St	31635	Enforcement, Law Enforcement, Government Offices, Government Offices,	Essential, High Potential Loss, Important, Lifeline	4083600
Lanier County Fire Dept. Station 02 (Stockton)	Lanier County	3 Withers Rd	31649	Emergency Services, Emergency Services, Fire Fighters, Fire Fighters	Essential, High Potential Loss, Important	486000
Lanier County Fire Dept. Station 03 (Teeterville)	Lanier County	411 GA Hwy 64 West	31635	Emergency Services, Emergency Services, Fire Fighters, Fire Fighters	Essential, High Potential Loss, Important	5513700
Lanier County Fire Dept. Station 04 (Mudcreek)	Lanier County	4 Harry Sirmans Lane	31635	Emergency Services, Emergency Services, Fire Fighters, Fire Fighters	Lifeline	345600
Lanier County EMA/Lakeland Fire Dept.	Lakeland city	6 Park Dr.	31635	Emergency Services, EMA, EMA, Fire Fighters, Fire Fighters	Essential, High Potential Loss, Important	345600
Robert L Patten Probation Detention Center	Lakeland city	27 S. 10th St.	31635	Law Enforcement, Law Enforcement, Prisons, Prisons	High Potential Loss, Important, Vulnerable Population	17835000

LANIER COUNTY CRITICAL FACILITIES

2018 UPDATE

Name	Jurisdiction	Address	Zip	Facility Types	Risk	Building Value
W. L. Miller Memorial Library	Lakeland city	18 South Valdosta Road	31635	Education, Education, Library, Library	Essential, High Potential Loss, Important, Special Consideration	1389000
Lanier County Primary School (K thru 2nd Grade)	Lakeland city	28 S. Valdosta Rd.	31635	Education, Education, K - 12, K - 12	Economic Assets, Essential, Vulnerable Population	17116500

Appendix G

Hazard Risk Analyses
Supplement to the Lanier County Joint Hazard Mitigation Plan

Southern Georgia Regional Commission

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Introduction

The Federal Disaster Mitigation Act of 2000 (DMA2K) requires state, local, and tribal governments to develop and maintain a mitigation plan to be eligible for certain federal disaster assistance and hazard mitigation funding programs.

Mitigation seeks to reduce a hazard's impacts, which may include loss of life, property damage, disruption to local and regional economies, and the expenditure of public and private funds for recovery. Sound mitigation must be based on a sound risk assessment that quantifies the potential losses of a disaster by assessing the vulnerability of buildings, infrastructure, and people.

In recognition of the importance of planning in mitigation activities, FEMA Hazus-MH, a powerful disaster risk assessment tool based on geographic information systems (GIS). This tool enables communities of all sizes to predict estimated losses from floods, hurricanes, earthquakes, and other related phenomena and to measure the impact of various mitigation practices that might help reduce those losses.

In 2018, the Georgia Department of Emergency Management partnered with The SOUTHERN GEORGIA REGIONAL COMMISSION (SGRC) to develop a detailed risk assessment focused on defining hurricane, riverine flood and tornado impacts for Georgia. This assessment identifies the characteristics and potential consequences of the disaster, how much of the community could be affected by the disaster, and the impact on community assets. In the following years, the Georgia Association of Regional Commissions (GARC) are utilizing this workflow to define impacts in other counties in Georgia. This document provides the results for Lanier County.

Risk Assessment Process Overview

Hazus-MH Version 2.2 SP1 was used to perform the analyses for Lanier County. The Hazus-MH application includes default data for every county in the US. This Hazus-MH data was derived from a variety of national sources and in some cases the data are also several years old. Whenever possible, using local provided data is preferred. Lanier County provided building inventory information from the county's property tax assessment system. This section describes the changes made to the default Hazus-MH inventory and the modeling parameters used for each scenario.

County Inventory Changes

The default Hazus-MH site-specific point inventory was updated using data compiled from the Georgia Emergency Management Agency (GEMA). The default Hazus-MH aggregate inventory (General Building Stock) was also updated prior to running the scenarios. Reported losses reflect the updated data sets.

General Building Stock Updates

General Building Stock (GBS) is an inventory category that consists of aggregated data (grouped by census geography — tract or block). Hazus-MH generates a combination of site-specific and aggregated loss estimates based on the given analysis and user input.

The GBS records for Lanier County were replaced with data derived from parcel and property assessment data obtained from Lanier County. The county provided property assessment data was current as of November 2018 and the parcel data current as of November 2018. Records without improvements were deleted. The parcel boundaries were converted to parcel points located in the centroids of each parcel boundary; then, each parcel point was linked to an assessor record based upon matching parcel numbers. The parcel assessor match-rate for Lanier County is 99.9%. The generated building inventory represents the approximate locations (within a parcel) of structures. The building inventory was aggregated by census block. Both the tract and block tables were updated. Table 1 shows the results of the changes to the GBS tables by occupancy class.

Table 1: GBS Building Exposure Updates by Occupancy Class*

Occupancy Classification	Default Count	Updated Count	Default Exposure	Updated Exposure
Agricultural	9	0	$ 4,363,000	$ -
Commercial	115	174	$ 53,709,000	$ 118,443,000
Education	6	8	$ 7,085,000	$ 8,481,000
Government	6	16	$ 3,650,000	$ 9,784,000
Industrial	27	51	$ 16,334,000	$ 18,933,000
Religious	22	50	$ 14,162,000	$ 24,522,000
Residential	4080	2651	$ 572,499,000	$ 355,955,000
Total	**4265**	**2950**	**$ 671,802,000**	**$ 536,118,000**

*The exposure values represent the total number and replacement cost for all Lanier County Buildings

For Lanier County, the updated GBS was used to calculate hurricane wind losses. The flood losses and tornado losses were calculated from building inventory modeled in Hazus-MH as User-Defined Facility (UDF)[1], or site-specific points. Figure 1 shows the distribution of buildings as points based on the county provided data.

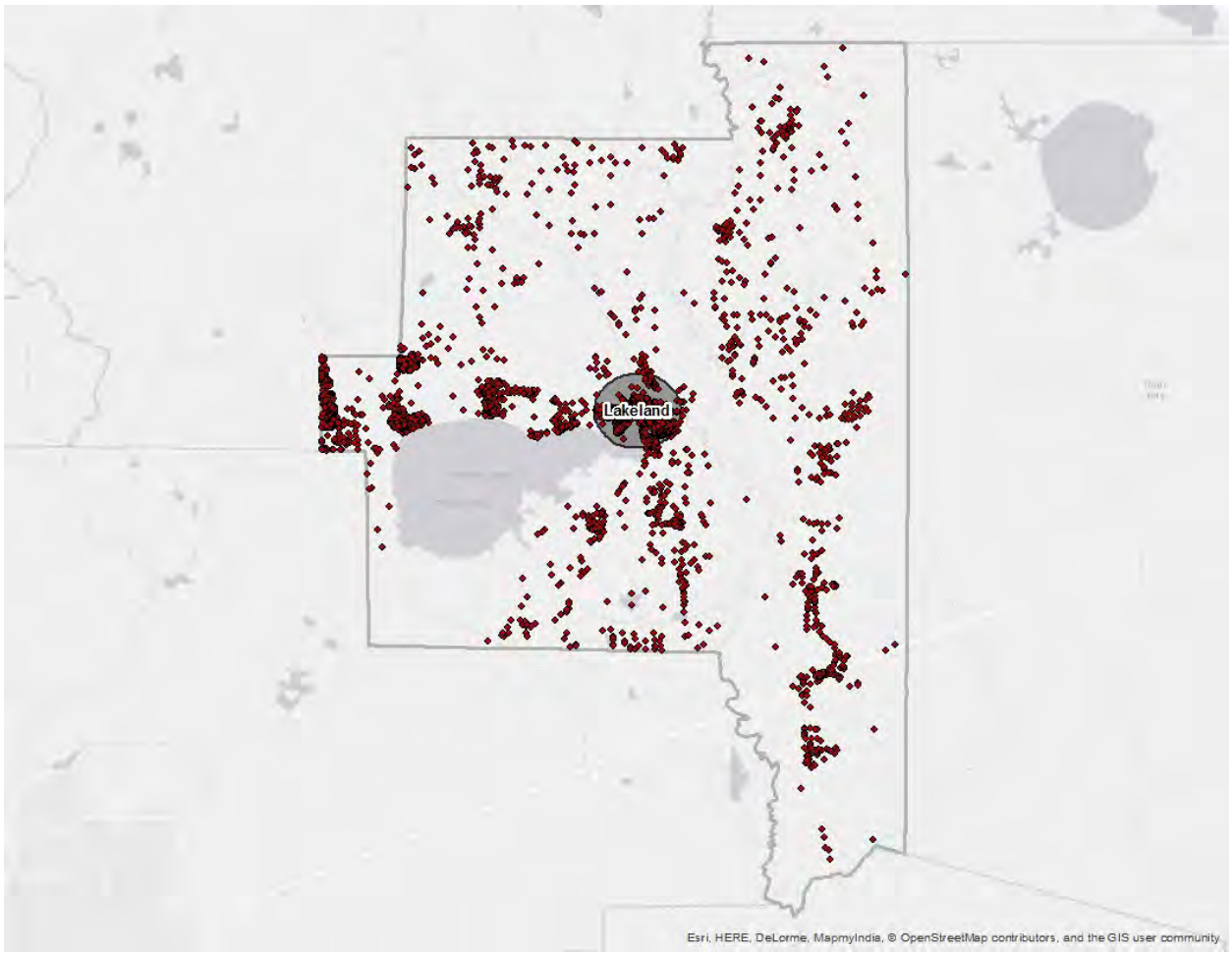

Figure 1: Lanier County Overview

[1] The UDF inventory category in Hazus-MH allows the user to enter site-specific data in place of GBS data.

Essential Facility Updates

The default Hazus-MH essential facility data was updated to reflect improved information available in the Georgia Mitigation Information System (GMIS). For these risk analyses, only GMIS data for buildings that Hazus-MH classified as Essential Facilities was integrated into Hazus-MH because the application provides specialized reports for these five types of facilities. Essential Facility inventory was updated for the analysis conducted for this report. The following table summarizes the counts and exposures, where available, by Essential Facility classification of the updated data for the county.

Essential facilities include:

- Care facilities
- EOCs
- Fire stations
- Police stations
- Schools

Table 2: Updated Essential Facilities

Classification	Updated Count	Updated Exposure
Lanier County		
EOC	1	$ 880,000
Care	2	$ 10,706,000
Fire	7	$ 20,845,000
Police	2	$ 6,484,000
School	3	$ 26,166,000
Total	**15**	**$ 65,081,000**

Classification	Updated Count	Updated Exposure
Lakeland		
EOC	1	$ 880,000
Care	1	$ 5,418,000
Fire	2	$ 582,000
Police	2	$ 6,484,000
School	3	$ 26,166,000
Total	**9**	**$ 39,530,000**

Assumptions and Exceptions

Hazus-MH loss estimates may be impacted by certain assumptions and process variances made in this risk assessment.

- The Lanier County analysis used Hazus-MH Version 2.2 SP1, which was released by FEMA in May 2015.
- County provided parcel and property assessment data may not fully reflect all buildings in the county. For example, some counties do not report not-for-profit buildings such as government buildings, schools and churches in their property assessment data. This data was used to update the General Building Stock as well as the User Defined Facilities applied in this risk assessment.
- GBS updates from assessor data will skew loss calculations. The following attributes were defaulted or calculated:
    - Foundation Type was set from Occupancy Class
    - First Floor Height was set from Foundation Type
    - Content Cost was calculated from Replacement Cost
- It is assumed that the buildings are located at the centroid of the parcel unless building footprints are used. For this analysis of Lanier County, parcel centroids were used.
- The essential facilities extracted from the GMIS were only used in the portion of the analysis designated as essential facility damage. They were not used in the update of the General Building Stock or the User Defined Facility inventory.

The hazard models included in this risk assessment included:

- Hurricane assessment which was comprised of a wind only damage assessment
- Flood assessment based on the 1% annual chance event that includes riverine assessments
- Tornado assessment based on GIS modeling

Hurricane Risk Assessment

Hazard Definition

The National Hurricane Center describes a hurricane as a tropical cyclone in which the maximum sustained wind is, at minimum, 74 miles per hour (mph)[2]. The term hurricane is used for Northern Hemisphere tropical cyclones east of the International Dateline to the Greenwich Meridian. The term typhoon is used for Pacific tropical cyclones north of the Equator west of the International Dateline. Hurricanes in the Atlantic Ocean, Gulf of Mexico, and Caribbean form between June and November with the peak of hurricane season occurring in the middle of September. Figure 2 shows that many hurricanes have impacted the Atlantic and Gulf coasts of the United States.

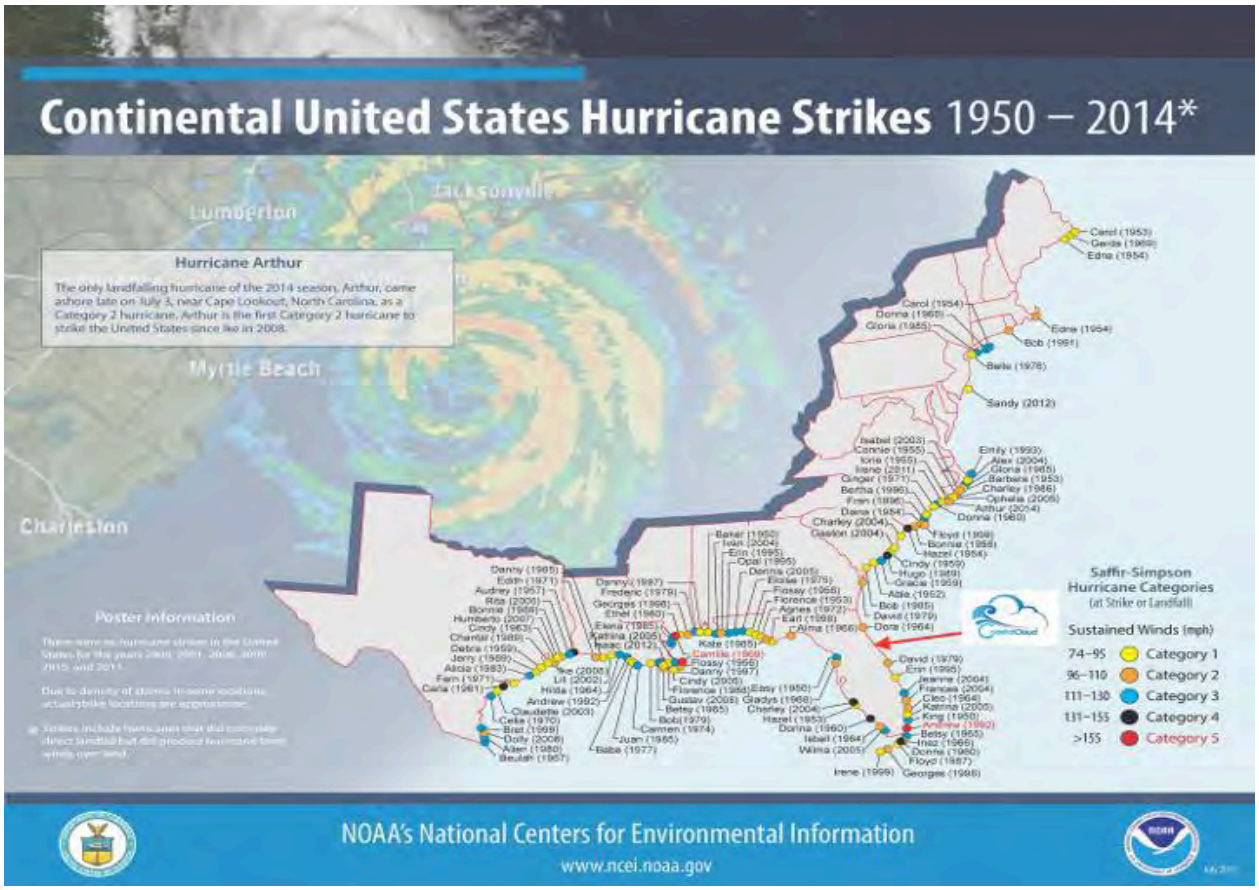

Figure 2: Continental United States Hurricane Strikes: 1950 to 2014[3]

Hurricane intensities are measured using the Saffir-Simpson Hurricane Wind Scale (Table 3). This scale is a 1 to 5 categorization based on the hurricane's intensity at the indicated time.

[2] National Hurricane Center (2011). "Glossary of NHC Terms." National Oceanic and Atmospheric Administration. http://www.nhc.noaa.gov/aboutgloss.shtml#h. Retrieved 2-23-2012.

[3] Source: NOAA National Climatic Data Center

Table 3: Saffir-Simpson Hurricane Wind Scale

Category	Wind Speed (mph)	Damage
1	74 – 95	Very dangerous winds will produce some damage
2	96 – 110	Extremely dangerous winds will cause extensive damage
3	111 - 130	Devastating damage will occur
4	131 -155	Catastrophic damage will occur
5	> 155	Catastrophic damage will occur

Hurricanes bring a complex set of impacts. The winds from a hurricane produce a rise in the water level at landfall called storm surge. Storm surges produce coastal flooding effects that can be as damaging as the hurricane's winds. Hurricanes bring very intense inland riverine flooding. Hurricanes can also produce tornadoes that can add to the wind damages inland. In this risk assessment, only hurricane winds, and coastal storm surge are considered.

The National Oceanic and Atmospheric Administration's National Hurricane Center created the HURDAT database, which contains all of the tracks of tropical systems since the mid-1800s. This database was used to document the number of tropical systems that have affected Lanier County by creating a 20-mile buffer around the county to include storms that didn't make direct landfall in Lanier County but impacted the county. Since 1851, Lanier County has had 56 tropical systems within 20 miles of its county borders (Table 4).

Table 4: Tropical Systems affecting Lanier County

Year	Month	Day	Name	Wind (Knots)	Category
1852	October	10	NOTNAMED	80	H1
1868	October	4	NOTNAMED	50	TS
1871	August	23	NOTNAMED	50	TS
1871	October	5	NOTNAMED	50	TS
1871	October	6	NOTNAMED	40	TS
1873	June	2	NOTNAMED	40	TS
1873	September	19	NOTNAMED	60	TS
1877	September	20	NOTNAMED	40	TS
1878	October	11	NOTNAMED	40	TS
1885	August	31	NOTNAMED	50	TS
1885	August	31	NOTNAMED	40	TS
1885	September	21	NOTNAMED	50	TS
1886	July	1	NOTNAMED	70	H1
1902	June	15	NOTNAMED	45	TS
1902	June	15	NOTNAMED	40	TS
1907	June	29	NOTNAMED	45	TS
1907	October	29	NOTNAMED	40	TS
1911	August	5	NOTNAMED	20	TD
1912	July	15	NOTNAMED	40	TS
1912	July	16	NOTNAMED	40	TS
1912	September	6	NOTNAMED	25	TD
1914	September	17	NOTNAMED	40	TS
1916	October	4	NOTNAMED	50	TS
1919	October	1	NOTNAMED	35	TS
1924	September	16	NOTNAMED	45	TS
1924	September	16	NOTNAMED	40	TS
1924	September	29	NOTNAMED	55	TS
1924	September	30	NOTNAMED	55	E
1926	July	29	NOTNAMED	50	TS
1926	July	29	NOTNAMED	40	TS
1933	September	6	NOTNAMED	40	TS
1935	September	5	NOTNAMED	60	TS
1947	October	7	NOTNAMED	40	TS
1947	October	7	NOTNAMED	35	TS
1947	October	7	NOTNAMED	30	TD
1947	October	8	NOTNAMED	25	TD
1949	August	28	NOTNAMED	50	TS
1950	September	7	EASY	40	TS
1950	September	7	EASY	35	TS
1950	October	19	KING	35	TS
1953	September	27	FLORENCE	50	E
1957	June	9	NOTNAMED	35	TS
1964	October	5	HILDA	35	E
1966	June	10	ALMA	60	TS
1966	June	10	ALMA	55	TS
1987	August	16	NOTNAMED	15	TD
1987	August	16	NOTNAMED	10	TD
1987	August	17	NOTNAMED	10	TD
1990	October	12	MARCO	30	TD
1990	October	12	MARCO	20	TD
1995	June	5	ALLISON	45	TS
2004	August	12	BONNIE	30	TD
2005	October	6	TAMMY	45	TS
2005	October	6	TAMMY	35	TS
2006	June	13	ALBERTO	35	TS
2006	June	14	ALBERTO	35	TS

Category Definitions:
TS – Tropical storm
TD – Tropical depression
CAT_1 – Category 1 (same format for 2, 3, 4 and 5)
E – Extra-tropical cyclone

Probabilistic Hurricane Scenario

The following probabilistic wind damage risk assessment modeled a Category 1 storm with maximum winds of 79 mph.

Wind Damage Assessment

Wind losses were determined from probabilistic models run for the Category 1 storm which equates to the 1% chance storm event. Figure 3 shows wind speeds for the modeled hurricane.

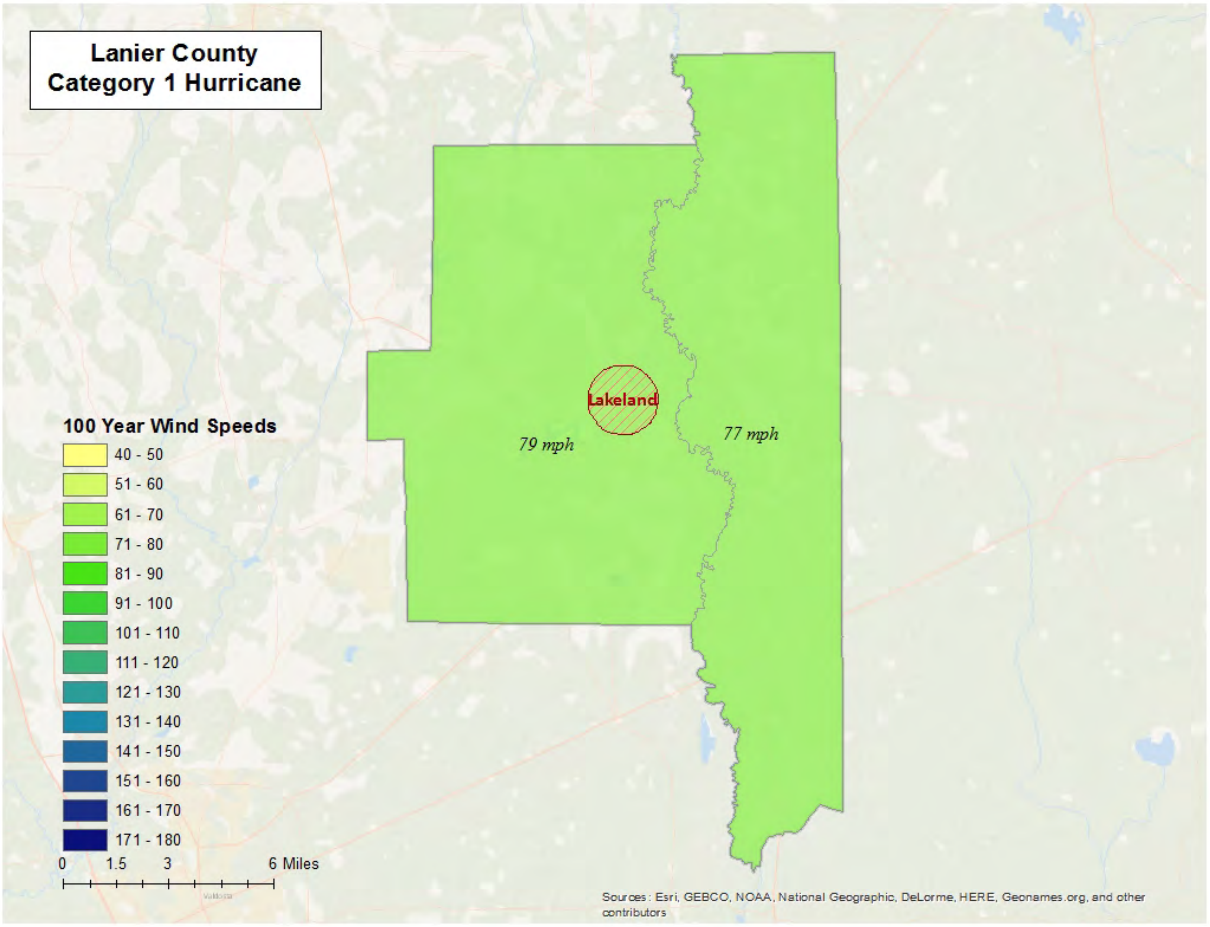

Figure 3: Wind Speeds by Storm Category

Wind-Related Building Damages

Buildings in Lanier County are vulnerable to storm events, and the cost to rebuild may have significant consequences to the community. The following table shows a summary of the results of wind-related building damage in Lanier County for the Category 1 (100 Year Event) storm. The loss ratio expresses building losses as a percentage of total building replacement cost in the county. Figure 4 illustrates the building loss ratios of the modeled Category 1 storm.

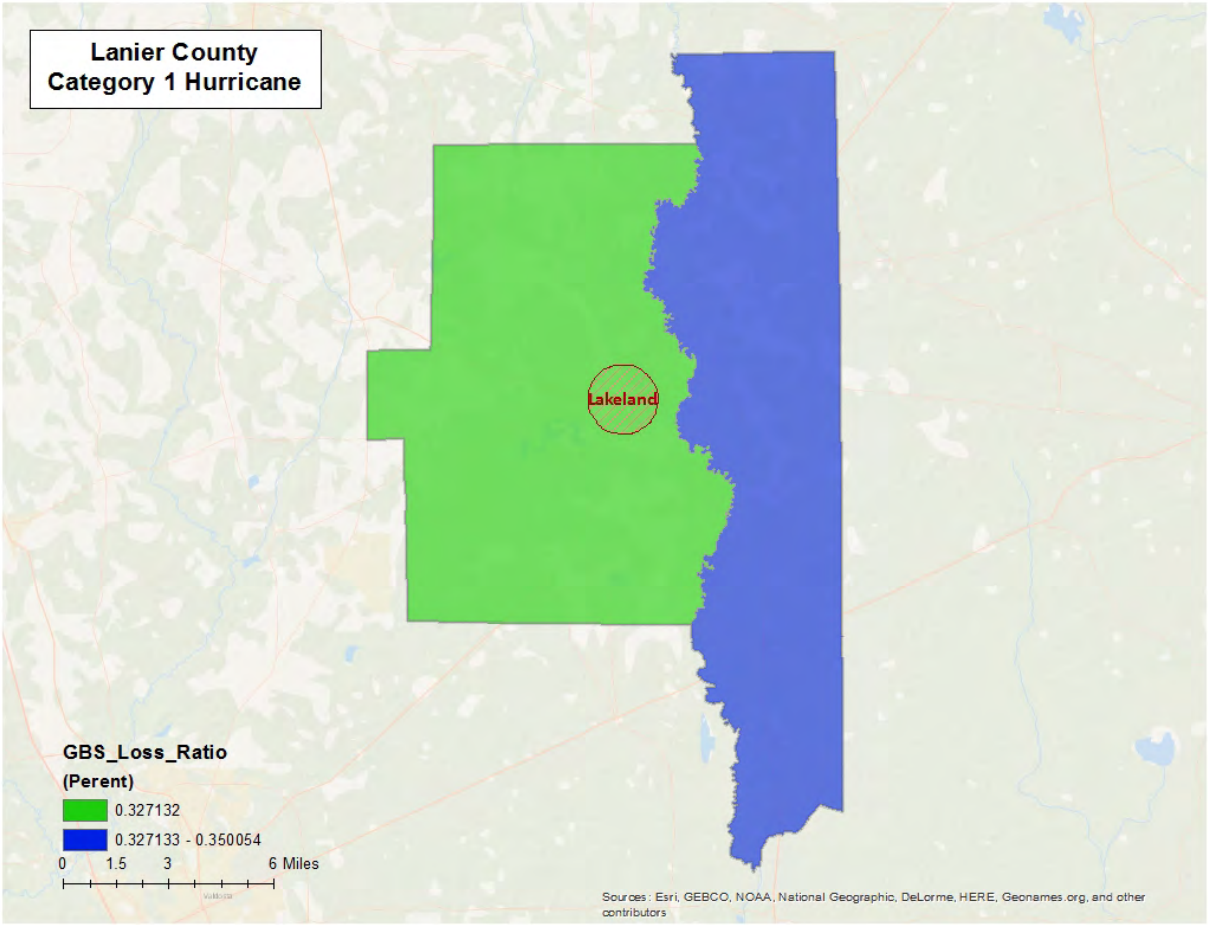

Figure 4: Hurricane Wind GBS Loss Ratios

Table 5 shows the Hurricane Wind Building Damage results including the number of buildings damaged, total building damage, and economic loss.

Table 5: Hurricane Wind Building Damage

Storm Classification	Number of Damaged Buildings	Building Damages	Total Economic Loss	Loss Ratio
Category 1	37	$ 1,771,050	$ 2,859,480	0.33

Essential Facility Losses

Essential facilities are also vulnerable to storm events, and the potential loss of functionality may have significant consequences to the community. Hazus-MH identified the essential facilities that may be moderately or severely damaged by winds. The results are compiled in Table 6.

There are 15 essential facilities in Lanier County.

Classification	Number
EOC	1
Care	2
Fire	7
Police	2
School	3
Total	**15**

Table 6: Wind-Damaged Essential Facility Losses

Storm Classification	Facilities Moderately Damaged (>50%)	Facilities Completely Damaged (>50%)	Facilities with expected loss (<1day)
Category 1	0	0	15

Shelter Requirements

Hazus-MH estimates the number of households evacuated from buildings with severe damage from high velocity winds as well as the number of people who will require short-term sheltering. The results are listed in Table 7 and mapped in Figure 5.

Table 7: Displaced Households and People

Storm Classification	# of Displaced Households	# of People Needing Short-Term Shelter
Category 1	0	0

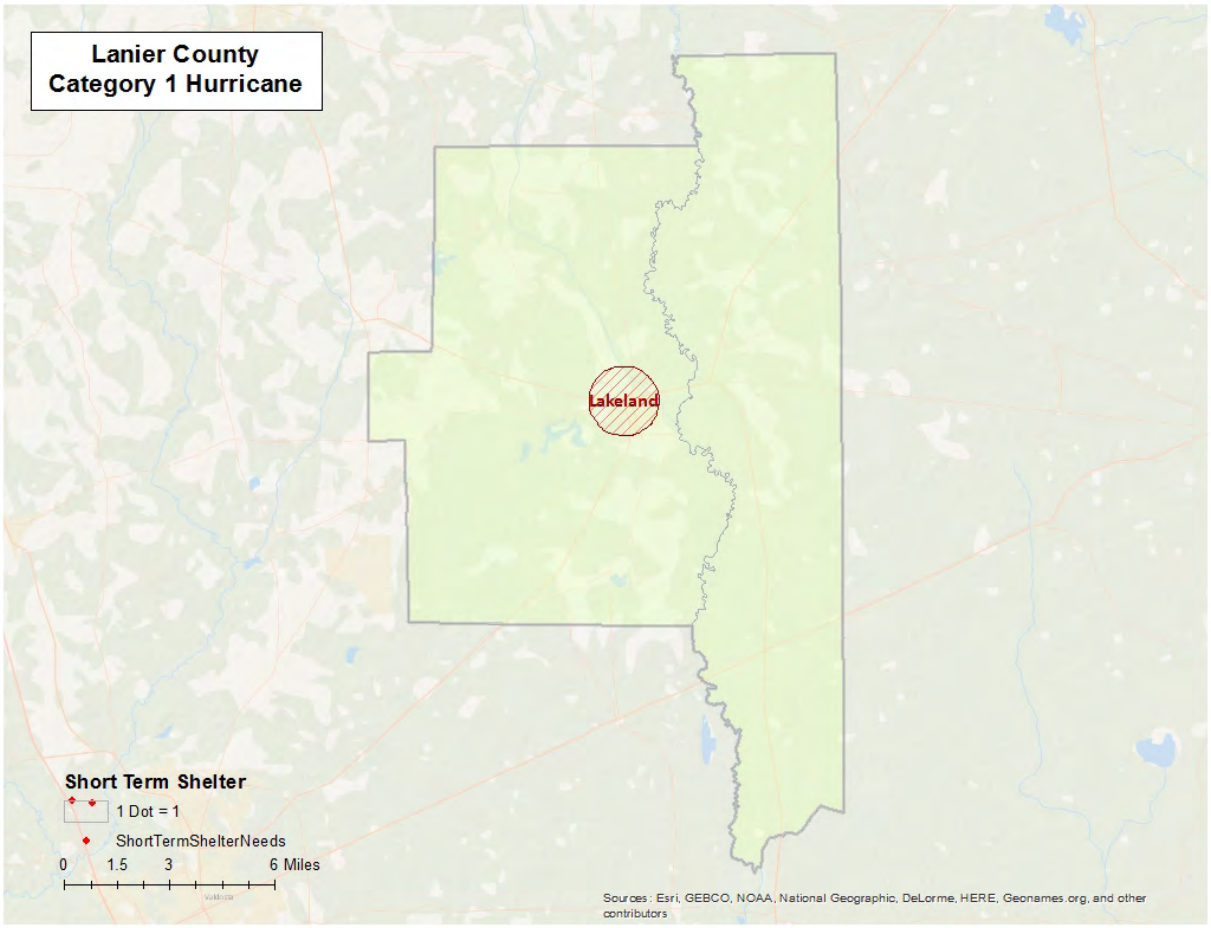

Figure 5: Hurricane Wind Shelter Requirements

Debris Generated from Hurricane Wind

Hazus-MH estimates the amount of debris that will be generated by high velocity hurricane winds and quantifies it into three broad categories to determine the material handling equipment needed:

- Reinforced Concrete and Steel Debris
- Brick and Wood and Other Building Debris
- Tree Debris

Different material handling equipment is required for each category of debris. The estimates of debris for this scenario are listed in Table 8. The amount of hurricane wind related tree debris that is estimated to require pick up at the public's expense is listed in the eligible tree debris column.

Table 8: Wind-Related Debris Weight (Tons)

Storm Classification	Brick, Wood, and Other	Reinforced Concrete/Steel	Tree Debris	Other Tree Debris	Total
Category 1	127	-	1,532	27,504	29,163

Figure 6 shows the distribution of all wind related debris resulting from a Category 1 hurricane. Each dot represents 20 tons of debris within the census tract in which it is located. The dots are randomly distributed within each census tract and therefore do not represent the specific location of debris sites.

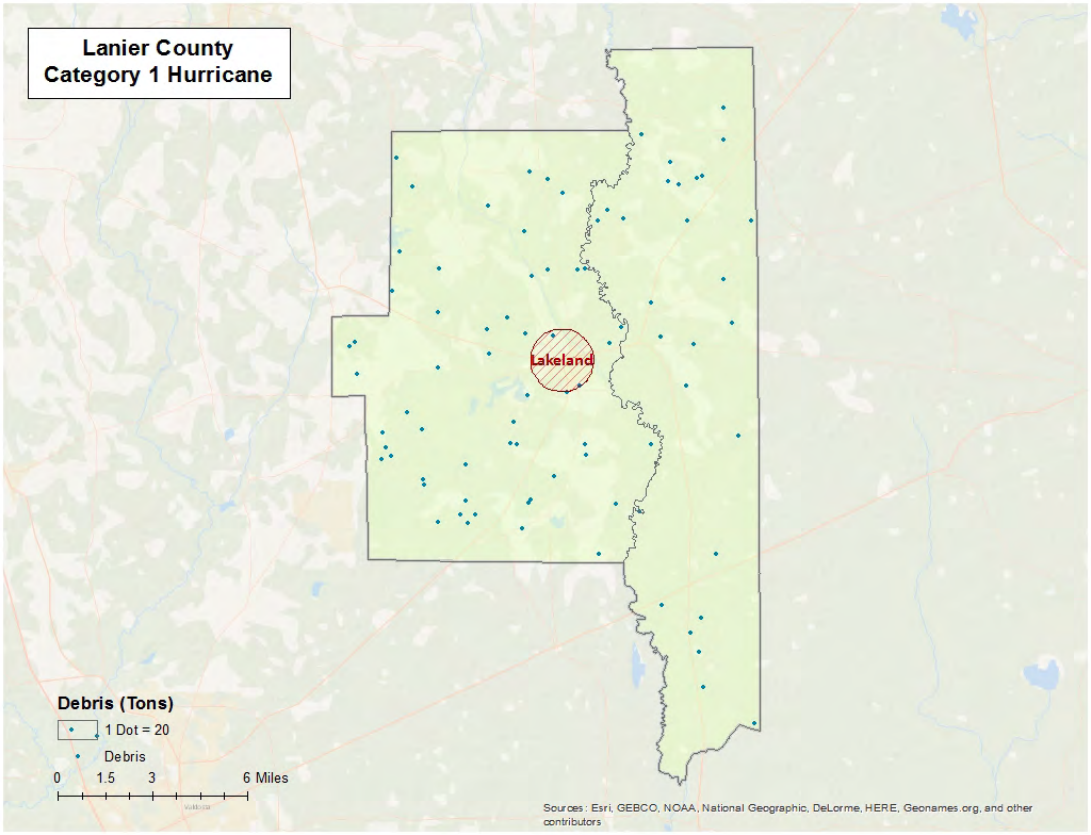

Figure 6: Wind-Related Debris Weight (Tons)

Flood Risk Assessment

Hazard Definition

Flooding is a significant natural hazard throughout the United States. The type, magnitude, and severity of flooding are functions of the amount and distribution of precipitation over a given area, the rate at which precipitation infiltrates the ground, the geometry and hydrology of the catchment, and flow dynamics and conditions in and along the river channel. Floods can be classified as one of three types: upstream floods, downstream floods, or coastal floods.

Upstream floods, also called flash floods, occur in the upper parts of drainage basins and are generally characterized by periods of intense rainfall over a short duration. These floods arise with very little warning and often result in locally intense damage, and sometimes loss of life, due to the high energy of the flowing water. Flood waters can snap trees, topple buildings, and easily move large boulders or other structures. Six inches of rushing water can upend a person; another 18 inches might carry off a car. Generally, upstream floods cause damage over relatively localized areas, but they can be quite severe in the local areas in which they occur. Urban flooding is a type of upstream flood. Urban flooding involves the overflow of storm drain systems and can be the result of inadequate drainage combined with heavy rainfall or rapid snowmelt. Upstream or flash floods can occur at any time of the year in Georgia, but they are most common in the spring and summer months.

Downstream floods, also called riverine floods, refer to floods on large rivers at locations with large upstream catchments. Downstream floods are typically associated with precipitation events that are of relatively long duration and occur over large areas. Flooding on small tributary streams may be limited, but the contribution of increased runoff may result in a large flood downstream. The lag time between precipitation and time of the flood peak is much longer for downstream floods than for upstream floods, generally providing ample warning for people to move to safe locations and, to some extent, secure some property against damage.

Coastal floods occurring on the Atlantic and Gulf coasts may be related to hurricanes or other combined offshore, nearshore, and shoreline processes. The effects of these complex interrelationships vary significantly across coastal settings, leading to challenges in the determination of the base (1-percent-annual-chance) flood for hazard mapping purposes. Land area covered by floodwaters of the base flood is identified as a Special Flood Hazard Area (SFHA). The Lanier County flood risk assessment analyzed at risk structures in the SFHA.

> The SFHA is the area where the National Flood Insurance Program's (NFIP) floodplain management regulations must be enforced and the area where the mandatory purchase of flood insurance applies. The owner of a structure in a high-risk area must carry flood insurance, if the owner carries a mortgage from a federally regulated or insured lender or servicer.

The following probabilistic risk assessment involves an analysis of a 1% annual chance riverine flood event.

Riverine 1% Flood Scenario

Riverine losses were determined from the 1% flood boundaries downloaded from the FEMA Flood Map Service Center in November 2018. The flood boundaries were overlaid with the USGS 10 meter DEM using the Hazus-MH Enhanced Quick Look tool to generate riverine depth grids. The riverine flood depth grid was then imported into Hazus-MH to calculate the riverine flood loss estimates. Figure 7 illustrates the riverine inundation boundary associated with the 1% annual chance. Please note that the riverine flooding may not take into account elevated housing or raised Base Flood Elevation.

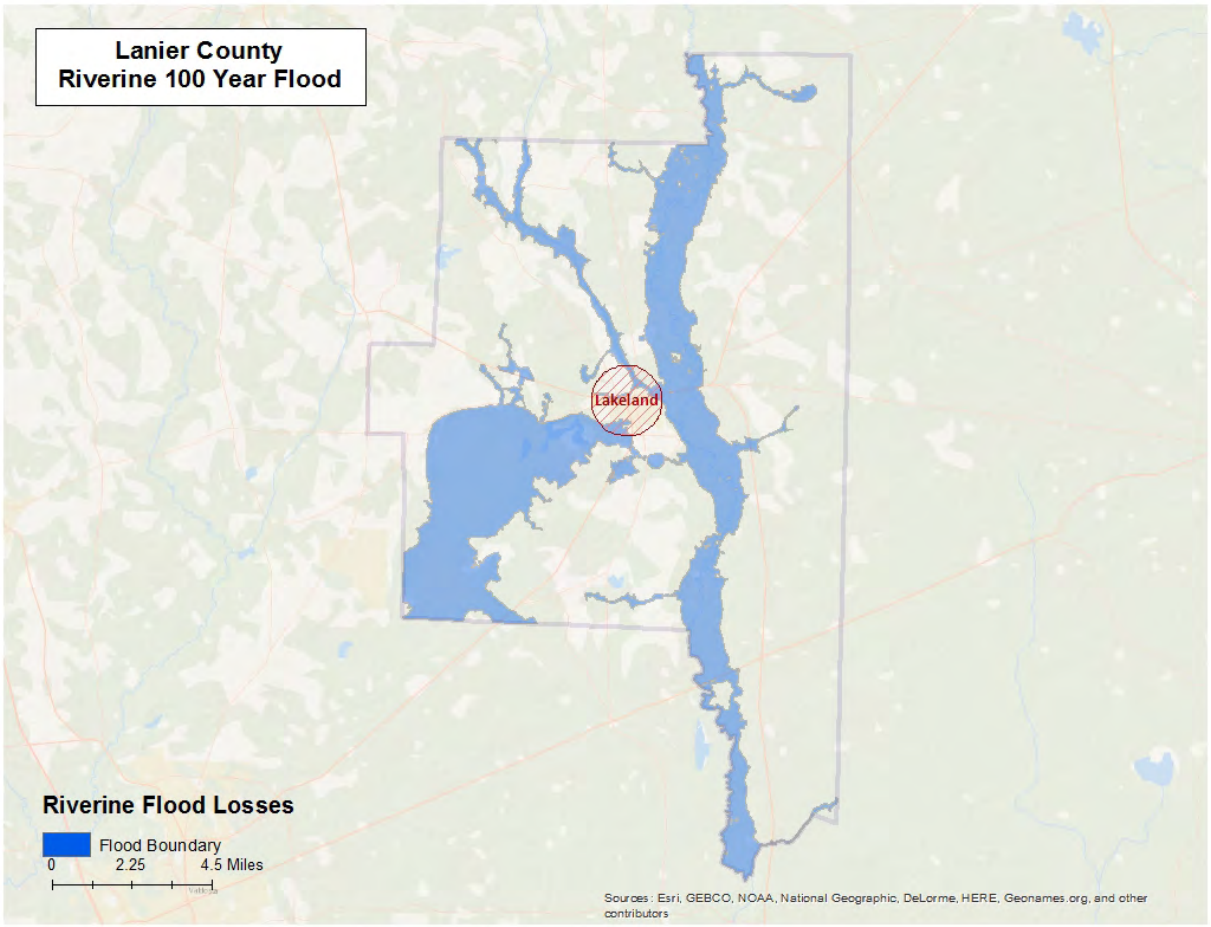

Figure 7: Riverine 1% Flood Inundation

Riverine 1% Flood Building Damages

Buildings in Lanier County are vulnerable to flooding from events equivalent to the 1% riverine flood. The economic and social impacts from a flood of this magnitude can be significant. Table 9 provides a summary of the potential flood-related building damage in Lanier County by jurisdiction that might be experienced from the 1% flood. Figure 8 maps the potential loss ratios of total building exposure to losses sustained to buildings from the 1% flood by 2010 census block and Figure 9 illustrates the relationship of building locations to the 1% flood inundation boundary.

Table 9: Lanier County Riverine 1% Building Losses

Occupancy Classification	Total Buildings	Total Buildings Damaged	Total Building Exposure	Total Losses to Buildings	Loss Ratio of Exposed to Damaged
			Lakeland		
Residential	753	4	$ 105,542,399	$ 49,394	0.05%
			Unincorporated		
Commercial	47	1	$ 39,430,279	$ 570	0.00%
Residential	1,898	61	$ 250,418,418	$ 1,257,955	0.50%
			County Total		
Total	2,698	66	395,391,096	1,307,919	

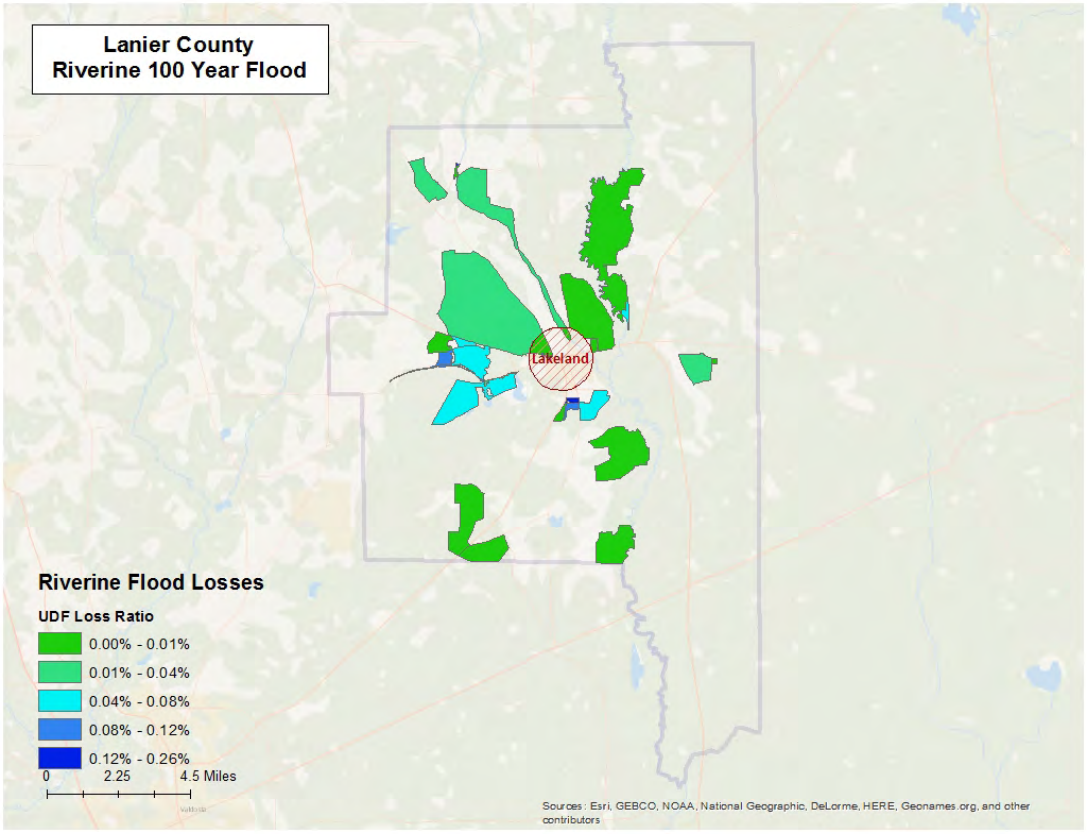

Figure 8: Potential UDF Loss Ratios from the 1% Riverine Flood

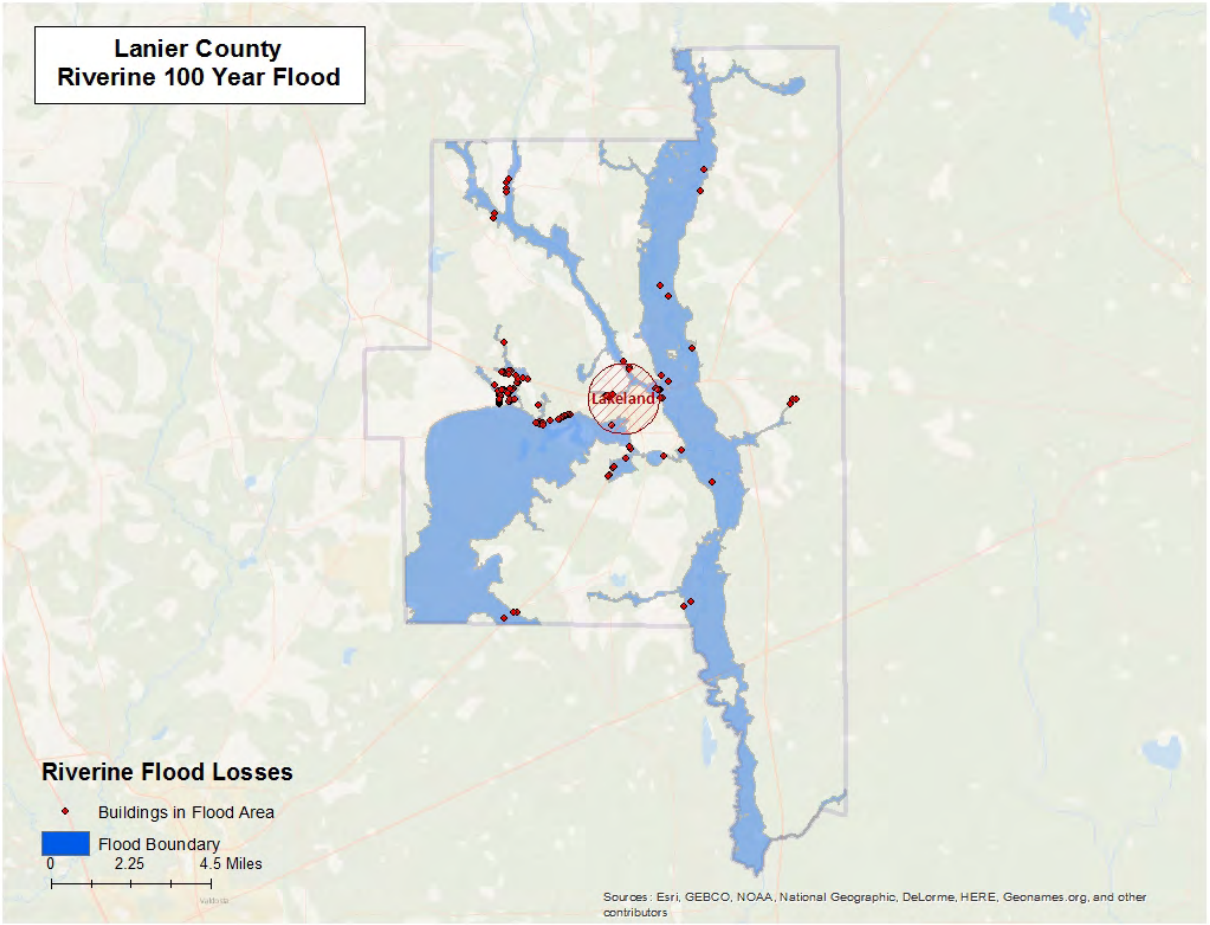

Figure 9: Damaged Buildings in 1% Riverine Flood

Riverine 1% Flood Essential Facility Losses

An essential facility may encounter many of the same impacts as other buildings within the flood boundary. These impacts can include structural failure, extensive water damage to the facility and loss of facility functionality (e.g. a damaged police station will no longer be able to serve the community). The analysis has identified that were 1 Essential Facility subject to damage in the Lanier County riverine 1% probability floodplain.

Table 10: Expected Damage to Essential Facilities in 1% Riverine Flood

Classification	Total	Moderate	Substantial	Loss of Use
Fire Station	7	1	0	0
Hospitals	2	0	0	0
Police Stations	2	0	0	0
Schools	3	0	0	0
EOCs	0	0	0	0

Riverine 1% Flood Shelter Requirements

Hazus-MH estimates that the number of households that are expected to be displaced from their homes due to riverine flooding and the associated potential evacuation. The model estimates 218 households might be displaced due to the flood. Displacement includes households evacuated within or very near to the inundated area. Displaced households represent 655 individuals, of which 310 may require short term publicly provided shelter. The results are mapped in Figure 10. These numbers may be overestimated for two reasons: elevated housing not taken into account and parcel centroids (not aligned exactly with actual structures).

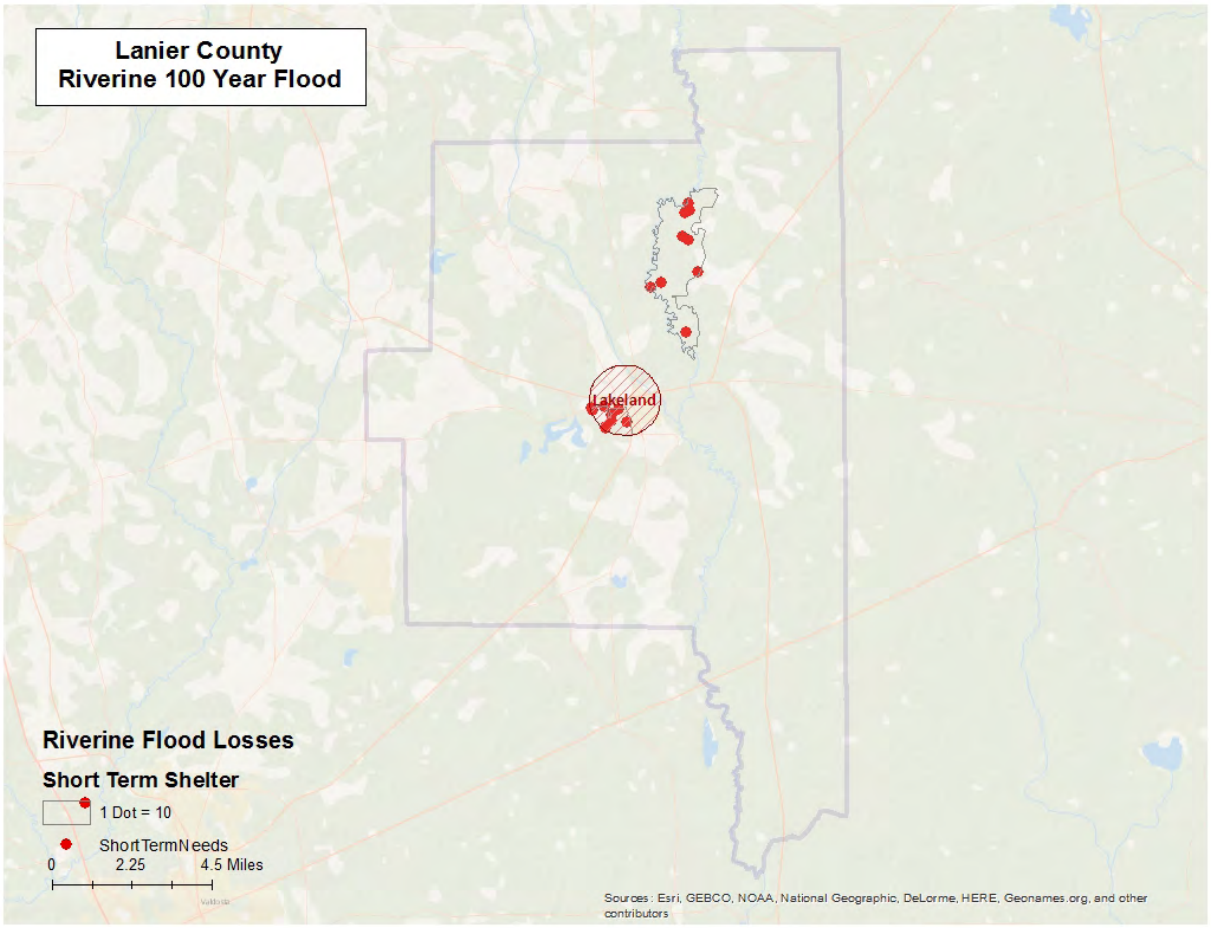

Figure 10: Estimated Flood Shelter Requirements in 1% Riverine Flood

Riverine 1% Flood Debris

Hazus-MH estimates the amount of debris that will be generated by the flood. The model breaks debris into three general categories:

- Finishes (dry wall, insulation, etc.)
- Structural (wood, brick, etc.)
- Foundations (concrete slab, concrete block, rebar, etc.)

Different types of material handling equipment will be required for each category. Debris definitions applied in Hazus-MH are unique to the Hazus-MH model and so do not necessarily conform to other definitions that may be employed in other models or guidelines.

The analysis estimates that an approximate total of 430 tons of debris might be generated: 1) Finishes – 317 tons; 2) Structural - 35 tons; and 3) Foundations- 78 tons. The results are mapped in Figure 11.

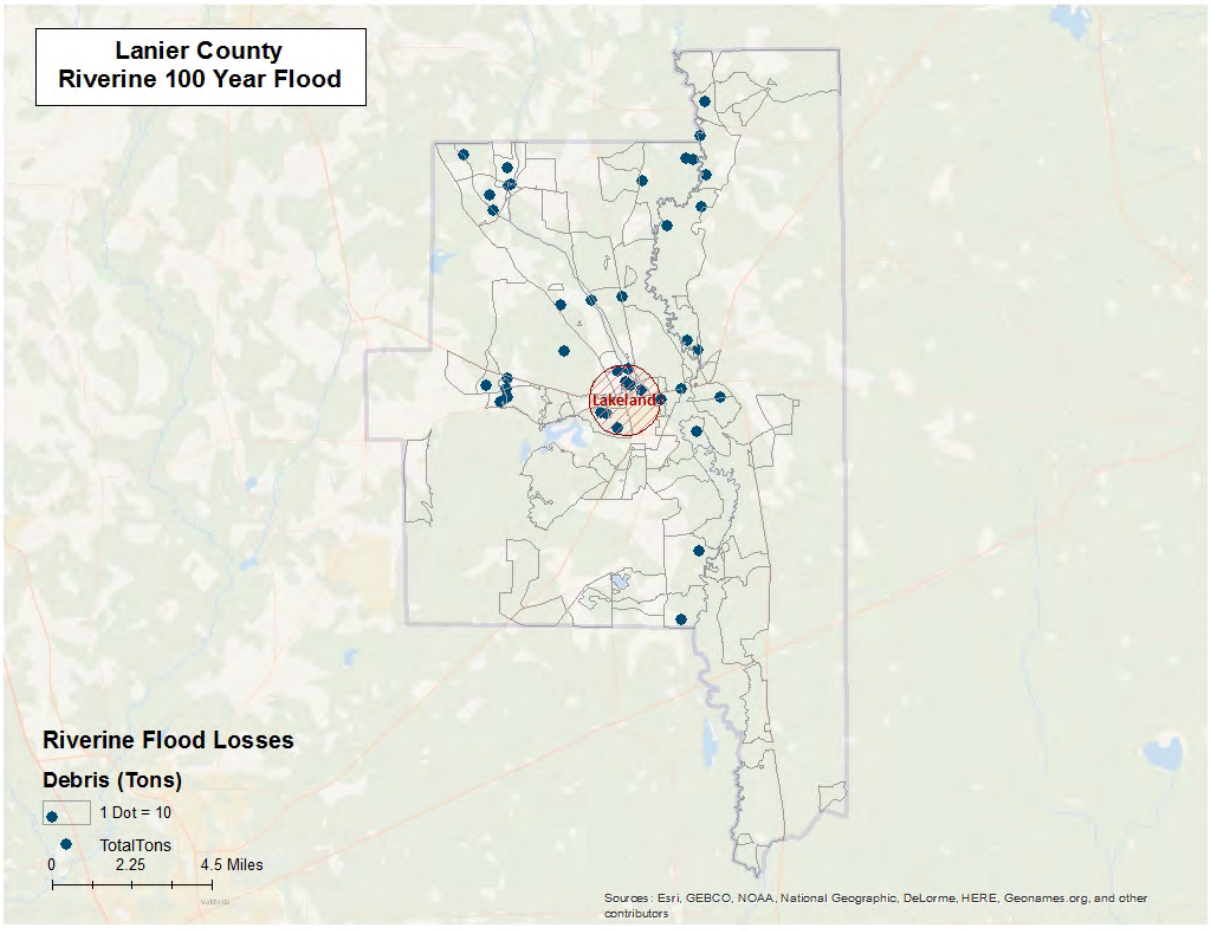

Figure 11: Flood Debris Weight (Tons) in 1% Riverine Flood

Tornado Risk Assessment

Hazard Definition

Tornadoes pose a great risk to the state of Georgia and its citizens. Tornadoes can occur at any time during the day or night. They can also happen during any month of the year. The unpredictability of tornadoes makes them one of Georgia's most dangerous hazards. Their extreme winds are violently destructive when they touch down in the region's developed and populated areas. Current estimates place the maximum velocity at about 300 miles per hour, but higher and lower values can occur. A wind velocity of 200 miles per hour will result in a wind pressure of 102.4 pounds per square foot of surface area—a load that exceeds the tolerance limits of most buildings. Considering these factors, it is easy to understand why tornadoes can be so devastating for the communities they hit.

Tornadoes are defined as violently-rotating columns of air extending from thunderstorms and cyclonic events. Funnel clouds are rotating columns of air not in contact with the ground; however, the violently-rotating column of air can reach the ground very quickly and become a tornado. If the funnel cloud picks up and blows debris, it has reached the ground and is a tornado.

Tornadoes are classified according to the Fujita tornado intensity scale. Originally introduced in 1971, the scale was modified in 2006 to better define the damage and estimated wind scale. The Enhanced Fujita Scale ranges from low intensity EF0 with effective wind speeds of 65 to 85 miles per hour, to EF5 tornadoes with effective wind speeds of over 200 miles per hour. The Enhanced Fujita intensity scale is included in Table 11.

Table 11: Enhanced Fujita Tornado Rating

Fujita Number	Estimated Wind Speed	Path Width	Path Length	Description of Destruction
EF0 *Gale*	65-85 mph	6-17 yards	0.3-0.9 miles	Light damage, some damage to chimneys, branches broken, sign boards damaged, shallow-rooted trees blown over.
EF1 *Moderate*	86-110 mph	18-55 yards	1.0-3.1 miles	Moderate damage, roof surfaces peeled off, mobile homes pushed off foundations, attached garages damaged.
EF2 *Significant*	111-135 mph	56-175 yards	3.2-9.9 miles	Considerable damage, entire roofs torn from frame houses, mobile homes demolished, boxcars pushed over, large trees snapped or uprooted.
EF3 *Severe*	136-165 mph	176-566 yards	10-31 miles	Severe damage, walls torn from well-constructed houses, trains overturned, most trees in forests uprooted, heavy cars thrown about.
EF4 *Devastating*	166-200 mph	0.3-0.9 miles	32-99 miles	Complete damage, well-constructed houses leveled, structures with weak foundations blown off for some distance, large missiles generated.
EF5 *ncredible*	Over 200 mph	1.0-3.1 miles	100-315 miles	Foundations swept clean, automobiles become missiles and thrown for 100 yards or more, steel-reinforced concrete structures badly damaged.

Source: http://www.srh.noaa.gov

Hypothetical Tornado Scenario

For this report, an EF3 tornado was modeled to illustrate the potential impacts of tornadoes of this magnitude in the county. The analysis used a hypothetical path based upon an EF3 tornado event running along the predominant direction of historical tornados (southeast to northwest). The tornado path was placed to travel through Lakeland. The selected widths were modeled after a re-creation of the Fujita-Scale guidelines based on conceptual wind speeds, path widths, and path lengths. There is no guarantee that every tornado will fit exactly into one of these categories. Table 12 depicts tornado path widths and expected damage.

Table 12: Tornado Path Widths and Damage Curves

Enhanced Fujita Scale	Path Width (feet)	Maximum Expected Damage
EF5	2,400	100%
EF4	1,800	100%
EF3	1,200	80%
EF2	600	50%
EF1	300	10%

Within any given tornado path there are degrees of damage. The most intense damage occurs within the center of the damage path, with decreasing amounts of damage away from the center. After the hypothetical path is digitized on a map, the process is modeled in GIS by adding buffers (damage zones) around the tornado path. Figure 12 describes the zone analysis.

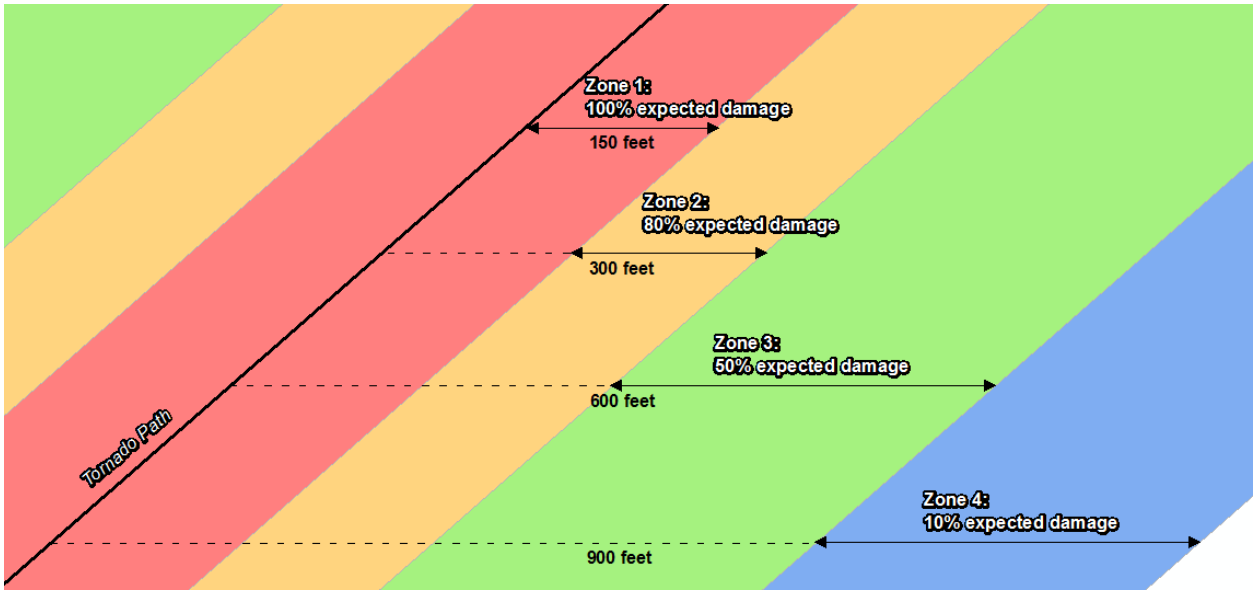

Figure 12: EF Scale Tornado Zones

An EF3 tornado has four damage zones, depicted in Table 13. Major damage is estimated within 150 feet of the tornado path. The outer buffer is 900 feet from the tornado path, within which buildings will not experience any damage. The selected hypothetical tornado path is depicted in Figure 13 and the damage curve buffer zones are shown in Figure 14.

Table 13: EF3 Tornado Zones and Damage Curves

Zone	Buffer (feet)	Damage Curve
1	0-150	80%
2	150-300	50%
3	300-600	10%
4	600-900	0%

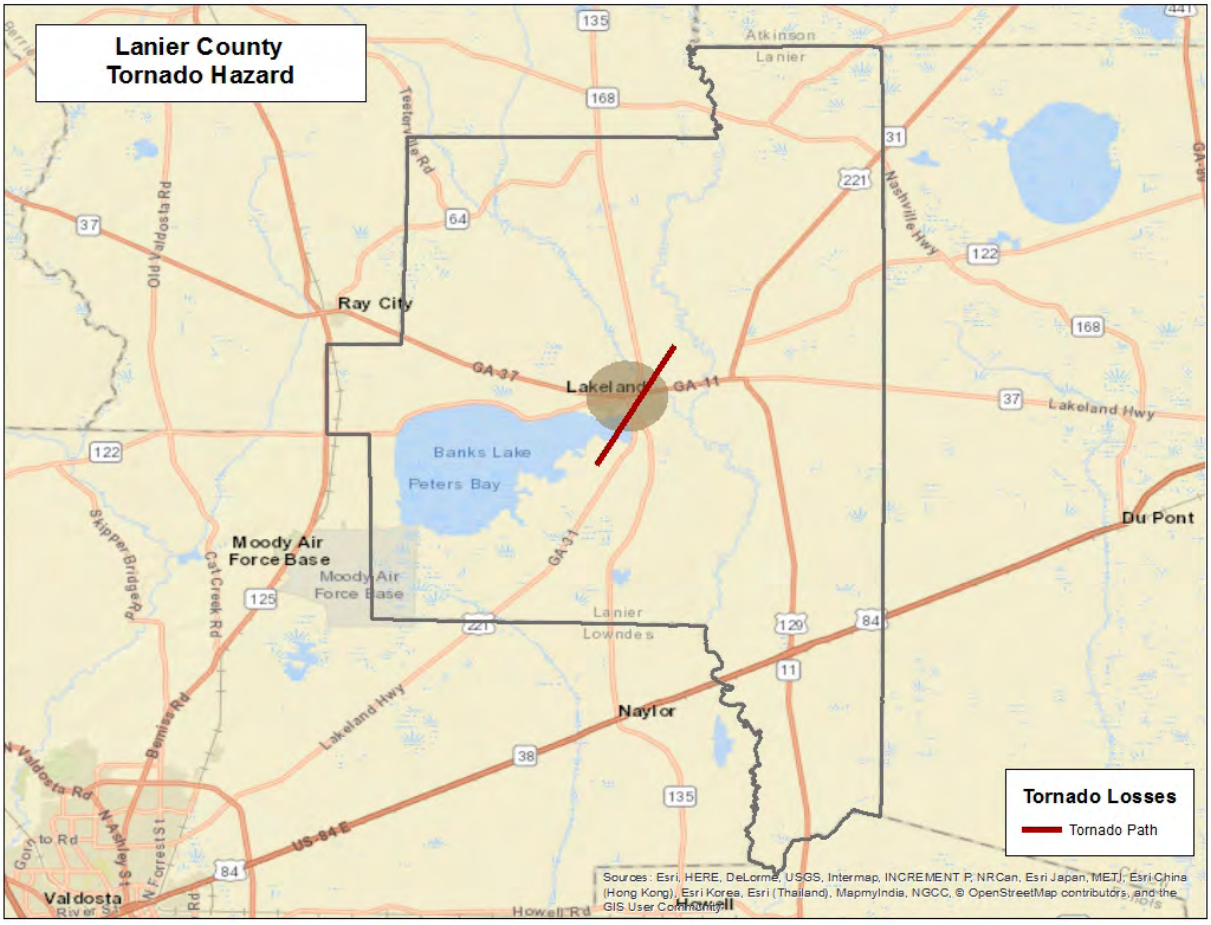

Figure 13: Hypothetical EF3 Tornado Path

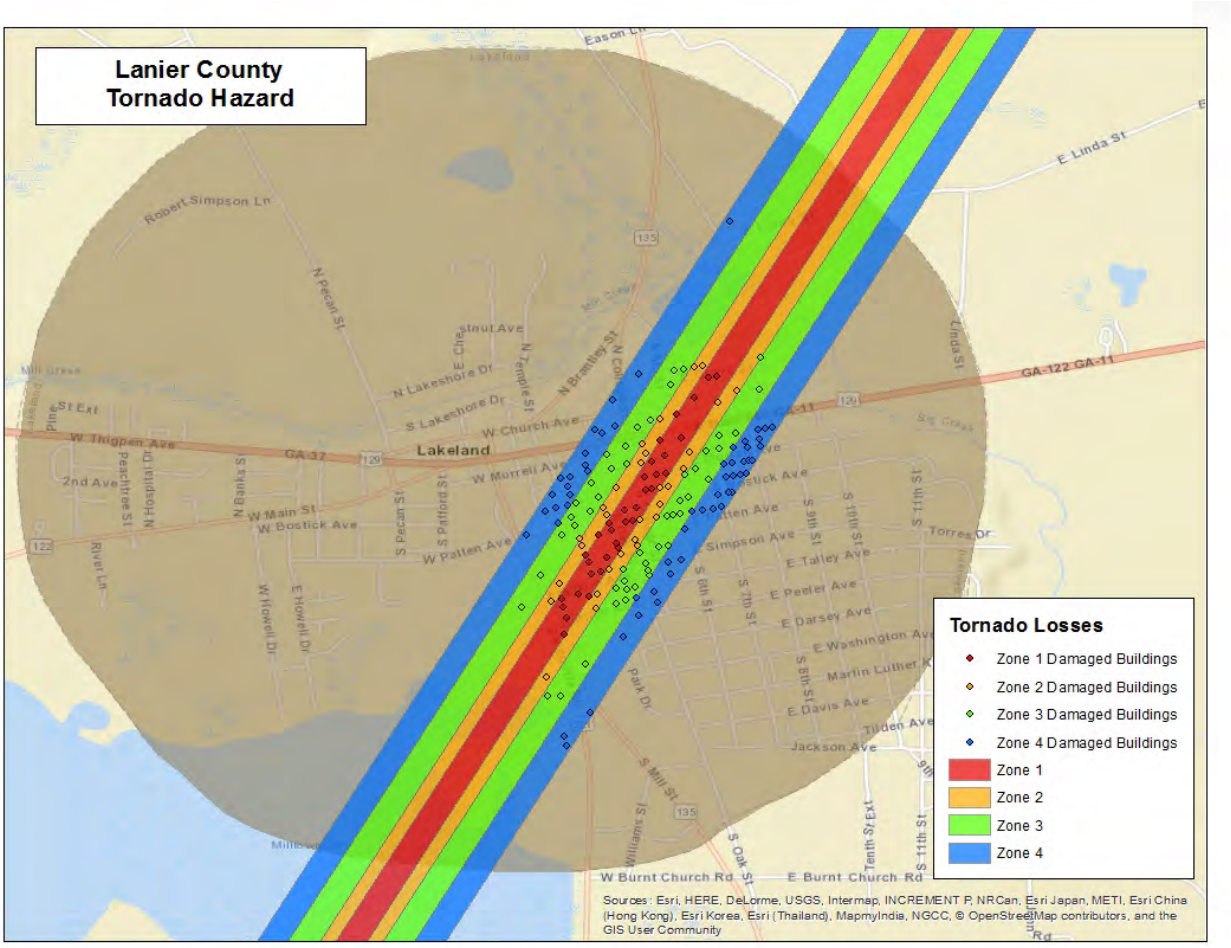

Figure 14: Modeled EF3 Tornado Damage Buffers

EF3 Tornado Building Damages

The analysis estimated that approximately 182 buildings could be damaged, with estimated building losses of approximately $12.3 million. The building losses are an estimate of building replacement costs multiplied by the percentages of damage. The overlay was performed against parcels provided by Lanier County that were joined with Assessor records showing estimated property replacement costs. The Assessor records often do not distinguish parcels by occupancy class if the parcels are not taxable and thus the number of buildings and replacement costs may be underestimated. The results of the analysis are depicted in Table 14.

Table 14: Estimated Building Losses by Occupancy Type

Occupancy Classification	Buildings Damaged	Building Losses	
Commerical	23	$	3,368,314
Educational	2	$	790,128
Religious	9	$	2,129,032
Industrial	10	$	364,585
Residential	143	$	5,623,734
Total	**187**	**$**	**12,275,793**

EF3 Tornado Essential Facility Damage

There were 3 essential facilities located in the tornado path according to the modeling, these 3 facilities would suffer moderate to major damage should such a tornado strike occur.

The location of the damaged Essential Facilities is mapped in Figure 15.

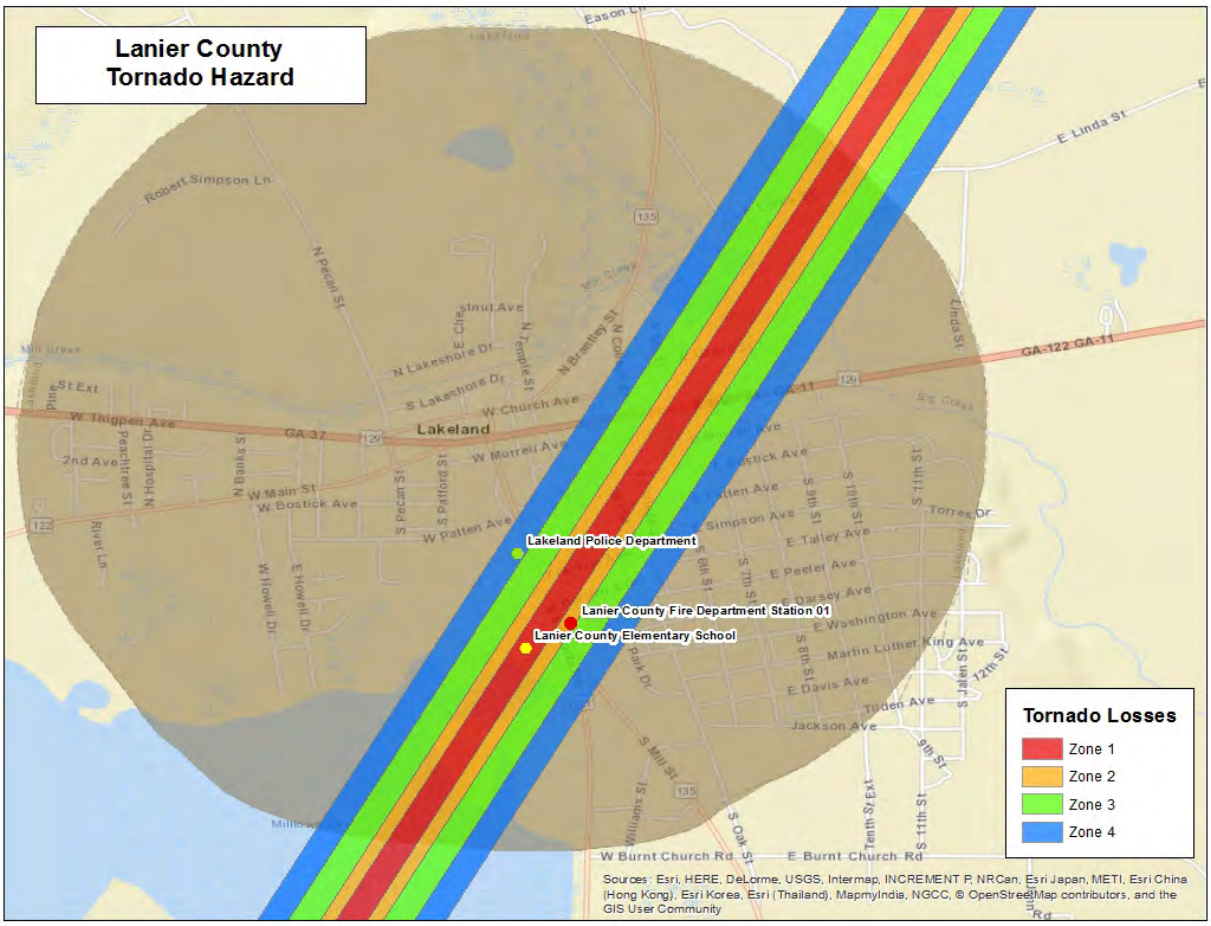

Figure 15: Modeled Essential Facility Damage in Lanier County

Exceptions Report

Hazus Version 2.2 SP1 was used to perform the loss estimates for Lanier County, Georgia. Changes made to the default Hazus-MH inventory and the modeling parameters used to setup the hazard scenarios are described within this document.

Reported losses reflect the updated data sets. Steps, algorithms and assumptions used during the data update process are documented in the project workflow developed by the Polis Center.

Statewide Inventory Changes

The default Hazus-MH Essential Facility inventory was updated for the entire state prior to running the hazard scenarios for Lanier County.

Statewide facility data were supplied by GEMA through the GMIS in November 2018. The Regional Commission updated the essential facilities in 2018. The updated data was used for this analysis. Table 15 summarizes the difference between the original Hazus-MH default data and the updated data for Lanier County.

Table 15: Essential Facility Updates

Occupancy Classification	Default Replacement Cost	Default Count	Updated Replacement Cost	Updated Count
Care	$ 10,706,000	2	$ 10,706,000	2
EOC	$ 880,000	1	$ 880,000	1
Fire	$ 20,608,000	6	$ 20,845,000	7
Police	$ -	0	$ 6,484,000	2
School	$ 22,861,000	3	$ 26,166,000	3

County Inventory Changes

The GBS records for Lanier County were replaced with data derived from parcel and property assessment data obtained from Lanier County. The county provided property assessment data was current as of November 2018 and the parcel data current as of November 2018.

General Building Stock Updates

The parcel boundaries and assessor records were obtained from Lanier County. Records without improvements were deleted. The parcel boundaries were converted to parcel points located in the centroids of each parcel boundary unless there were building footprints. Each parcel point was linked to an assessor record based upon matching parcel numbers. The generated Building Inventory represents the approximate locations (within a parcel) of building exposure. The Building Inventory was aggregated by Census Block and imported into Hazus-MH using the Hazus-MH Comprehensive Data Management System (CDMS). Both the 2010 Census Tract and Census Block tables were updated.

The match between parcel records and assessor records was based upon a common Parcel ID. For this type of project, unless the hit rate is better than 85%, the records are not used to update the default aggregate inventory in Hazus-MH. The Parcel-Assessor hit rate for Lanier County was 99.9%.

Adjustments were made to records when primary fields did not have a value. In these cases, default values were applied to the fields. Table 16 outlines the adjustments made to Lanier County records.

Table 16: Building Inventory Default Adjustment Rates

Type of Adjustment	Building Count	Percentage
Area Unknown	254	9%
Construction Unknown	260	9%
Condition Unknown	221	7%
Foundation Unknown	259	9%
Year Built Unknown	392	13%

Portions of the CAMA values were either missing (<Null> or '0'), did not match CAMA domains or were unusable ('Unknown', 'Other', 'Pending'). These were replaced with 'best available' values. Missing YearBuilt values were populated from average values per Census Block. Missing Condition, Construction and Foundation values were populated with the highest-frequency CAMA values per Occupancy Class. Missing Area values were populated with the average CAMA values per Occupancy Class.

The resulting Building Inventory was used to populate the Hazus-MH General Building Stock and User Defined Facility tables. The updated General Building Stock was used to calculate flood and tornado losses. Changes to the building counts and exposure that were modeled in Lanier County are sorted by General Occupancy in Table 1 at the beginning of this report. If replacements cost or building value were not present for a given record in the Assessor data, replacement costs were calculated from the Building Area (sqft) multiplied by the Hazus-MH RS Means ($/sqft) values for each Occupancy Class.

Differences between the default and updated data are due to various factors. The Assessor records often do not distinguish parcels by occupancy class when the parcels are not taxable; therefore, the total number of buildings and the building replacement costs for government, religious/non-profit, and education may be underestimated.

User Defined Facilities

Local parcel and CAMA data were used to develop points representing the locations of buildings in the county, referred to as User Defined Facilities (UDF) in the Hazus model. For the flood model, this includes only buildings located in the 1% Annual Chance Riverine Flood Area. Table 17 identifies the total building count & exposure for the county and the total building count & exposure for buildings located in the 1% Annual Chance Riverine Flood Area.

Table 17: Building Count and Exposure for County and Riverine Flood Area

Feature	Counts	Exposure
Total buildings in the County	2,950	$536,163,082
Total buildings inside the 1% Annual Chance Riverine Flood Area	120	$15,444,290

It should be noted that UDFs are only used in the flood modeling process, due to the fact that it is important to identify if individual buildings are located within the flood area to obtain the depth of flood.

Assumptions

- Flood analysis was performed on UDF. The point locations are parcel centroid accuracy.
- The analysis is restricted to the county boundary within the flood area. Events that occur near the county boundary do not contain loss estimates from adjacent counties.
- The following attributes were defaulted or calculated:
  - First Floor Height was set from Foundation Type
  - Content Cost was calculated from Building Cost