

2020

# Healthcare Hazard Vulnerability Assessment



Region 3 Healthcare  
Coalition Alliance

Approved: June 15, 2018, Update May 2020  
emPower & SVI Data Updated May 2020

# REGION 3 HEALTHCARE HAZARD VULNERABILITY ASSESSMENT

2020

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## **REGION 3 HEALTHCARE COALITION ALLIANCE**

### **2019 HEALTHCARE HAZARD VULNERABILITY ASSESSMENT**

#### **INTRODUCTION**

The Region 3 Healthcare Coalition Alliance is made up of three existing Healthcare Coalitions: Northeast Florida Healthcare Coalition (NEFLHCC), North Central Florida Health Care Coalition (NCFHCC) and Coalition for Health and Medical Preparedness (CHAMP). The 18 counties served by the Alliance include: Alachua, Baker, Bradford, Clay, Columbia, Dixie, Duval, Flagler, Gilchrist, Hamilton, Lafayette, Levy, Marion, Nassau, Putnam, St. Johns, Suwannee, and Union Counties. Planning for response and recovery for this 12,000 square mile geographic area can be challenging as it includes immense diversity from rural to urban areas and includes both coastal and inland counties.

#### **BACKGROUND**

Each Coalition developed a Hazard Identification and Risk Assessment (HIRA) as a contract deliverable for Fiscal Year 2013-2014 and expanded into a more comprehensive assessment for 2014-2015. These early HIRA reports used data from each County Comprehensive Emergency Management Plans, CEMP, and the Florida Public Health Risk Assessment Tool, FPHRAT, presented by each Coalition to create the first unified assessment of hazard risk, vulnerability, capabilities, resources, and gaps as they impact and relate to the healthcare system in each sub-region. The 2014-2015 HIRA described the methodology used for the assessment, which served as the basis for the 2015-2016 Community Hazard Vulnerability Assessment (CVA).

With the creation of the Region 3 Healthcare Coalition Alliance, and as a contract deliverable for 2017-18, the Alliance developed this Region 3 Healthcare Hazard Vulnerability Assessment. The Alliance created a team of emergency management, public health and planning subject matter experts (SME) to combine and evaluate the regional data to create the 2018 Region 3 Healthcare Hazard Vulnerability Assessment (HVA). Data was updated in 2019, but there were no significant changes requiring changes to the overall strategies and outcomes of the HVA. The 2020 response to COVID-19 is used to update and validate the current HVA.

#### **PURPOSE**

The Region 3 Healthcare Hazard Vulnerability Assessment is used to identify hazards that will have the highest impact on the regional healthcare system. This assessment of

hazards and vulnerabilities to the healthcare system will be used to further develop an assessment of risk and gaps in the response capabilities of the regional healthcare system.

## METHODS and PROCESS

The SME team met to review various HVA tools and determined the Regional Hazard Vulnerability Assessment found on the ASPR Tracie website and developed by the South Carolina Department of Health and Environmental Control was the template that best meet the needs of Region 3.

EVENT	Regional HVA								
	Probability	Severity = Magnitude + Mitigation						SEVERITY	RISK (Severity x Probability)
		Magnitude (negative consequences of impact)			Mitigation				
		Human Impact	Property Impact	Business Impact	Regional Preparedness	Internal Resources	Regional Resources		
	Likelihood this will occur	Possibility of Patient Surge	Response Costs and Damages	Interruption of Services	Pre-planning	Type, Volume and Availability of Resources	Type, Volume and Availability of Resources	Relative Impact if this event occurs	Relative Threat
Natural Events	Earthquake likely to cause structural damage								0%
	Flood with potential for disruption/harm								0%
	Heat Wave								0%
	Hurricane/Tropical Storm								0%
	Ice Storm								0%
	Infectious Disease Pandemic								0%
	Large Wild Fire								0%
	Severe Thunderstorm								0%
	Tornado or Microburst								0%
	Winter Weather Event								0%
MCI & Man-Made Events	Armed Individual/Active Shooter incident								0%
	Attack biological weapons								0%
	Attack with chemical weapons								0%
	Incident General Injuries / Trauma (MCI)								0%
	Major HazMat Incident								0%
	MCI from explosives involving radiological contamination								0%
	Mental Health Type Incident								0%
	Nuclear Event								0%
Facility & Technological Events	VBED or IED								0%
	Cyber Terrorism								0%
	Fuel Shortage								0%
	Massive Transportation Disruption / Failure								0%
	Regional Communications Disruption								0%
	Regional Electrical Failure (i.e. blackout)								0%
	Regional Natural Gas Disruption								0%
	Regional Sewer / Water Treatment Failure								0%
	Regional Water Disruption / Interruption								0%

The SME Team then reviewed previous Coalition CVA documents; county Comprehensive Emergency Management Plans (CEMP) and healthcare facility HVA documents to determine a baseline of the primary natural, manmade and technological hazards events impacting the healthcare system for these north Florida counties.

Using the de-identified data from emPOWER **Attachment 1 emPower data** and the Social Vulnerability Index (SVI) **Attachment 2 SVI data** each identified regional hazard was then scored on Probability and Severity to determine the Level of Risk Region 3 faces as a result of each event type occurring in the Region.

**Probability** = Likelihood it will occur



**Severity** = Magnitude + Mitigation

Magnitude (Human + Property + Business Impacts)

Magnitude (Regional Preparedness + Internal and Regional Resources)

After scoring all hazards across all categories, the **Risk** or **Relative Threat** to Region 3 was determined as a percentage. The hazards were then ordered from highest to lowest and grouped into Major, Moderate and Minor severity levels.

The hazard severity levels were presented to each Coalition Board for feedback and approval in its respective April 2018 Board meeting. Each Board approved the process and agreed with the results.

Each succeeding annual update will consist of a review of the previous year's data (updating where appropriate), and integration of relevant new information as it becomes available. The annual Region 3 Healthcare HVA update will also take into account lessons learned and corrective actions identified through plan updates and revisions, exercises, and real-world events.

## HAZARD RISK AND VULNERABILITY - 2020 REVIEW

Review of hazard risk and vulnerability data from the multiple data sources identified the following hazards for healthcare in Region 3. These were the hazards used to complete the Regional HVA Tool.

**Table 1: Region 3 Healthcare Hazards - 2020**

Region 3 Healthcare Hazards	
Cause	Hazard
Natural Hazards (Acts of nature)	Flooding with potential for disruption / harm
	Temperature Extremes
	Hurricane / Tropical Storm (including storm surge)
	Pandemic
	Infectious Disease
	Multi-Jurisdictional Wild Fire
	Tornado or Microburst
	Winter Weather Event
Human Caused (Intentional Actions)	Armed Individual/Active Shooter incident
	MCI Incident General Injuries
	MCI involving chemical, biological or radiological materials
	MCI involving conventional weapons
	Cyber Terrorism
Technological (failure of systems)	Multiple Facility Evacuations
	Widespread Supply Chain Interruption

	Widespread Transportation Disruption / Failure
	Regional Fuel Shortage(s)
	Regional Electrical Failure (i.e. blackout)
	Regional Communications Disruption
	Regional Sewer / Water Treatment Failure
	Regional Water Disruption / Interruption

## DATA USED TO DETERMINE HAZARD SEVERITY

Historical data found in each county CEMP and facility HVA provided the information for probability. The use of emPower and SVI data assisted in determining the severity scores for each hazard.

**Table 2: REGION 3 emPower DATA**

County	Medicare Beneficiaries	Electric Dependent Beneficiaries
Alachua	42,980	1,794
Baker	4,538	275
Bradford	4,871	331
Clay	39,949	1,906
Columbia	14,833	851
Dixie	3,731	302
Duval	153,530	7,076
Flagler	35,409	1,244
Gilchrist	3,705	209
Hamilton	2,980	145
Lafayette	1,035	67
Levy	10,448	580
Marion	105,995	4,759
Nassau	21,150	899
Putnam	17,973	1,053
St. Johns	54,926	1,812
Suwannee	10,436	583
Union	2,091	156
<b>Totals</b>	<b>530,580</b>	<b>24,042</b>

Data from <https://empowermap.hhs.gov/> May 2020

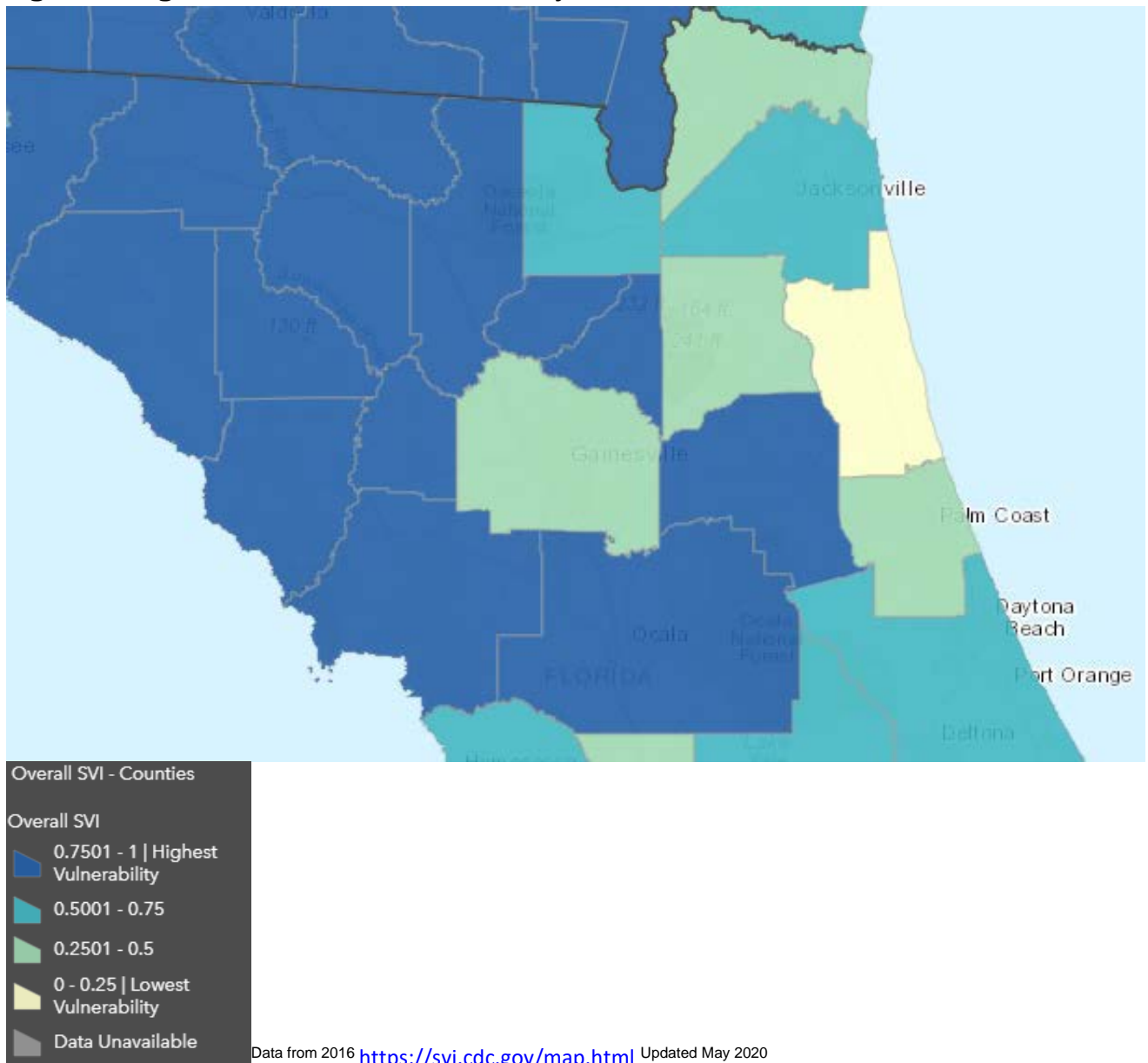
Data updated, as of May 2020. No major changes requiring changes to the overall strategies and outcomes of the HVA.

## REGION 3 SOCIAL VULNERABILITY DATA

The Social Vulnerability Index (SVI) uses U.S. Census data to determine the social vulnerability of every Census tract. Census tracts are subdivisions of counties for which the Census collects statistical data. The SVI ranks each tract on 14 social factors,

including poverty, lack of vehicle access, and crowded housing, and groups them into four related themes. Each tract receives a separate ranking for each of the four themes, as well as an overall ranking. The map below provides an overall view of the social vulnerability rankings in Region 3. The most current maps available from the CDC are 2016. <https://svi.cdc.gov/prepared-county-maps.html> Individual county maps are included in **Attachment 2**.

**Figure 1: Region 3 Alliance SVI Vulnerability Levels**



## HAZARD RANKING

Results of the probability and severity scoring using the Regional HVA tool determined the following priority levels of hazards.

**Table 3: Prioritized Healthcare Hazards for Region 3**

Region 3 Healthcare Hazards	
Level of Risk	Hazard
Major	Hurricane / Tropical Storm (including storm surge)
	Regional Electrical Failure (i.e. blackout)
	Flooding with potential for disruption / harm
	Cyber Terrorism
	Infectious Disease
	MCI Incident General Injuries
Moderate	Regional Communications Disruption
	Multi-Jurisdictional Wild Fire
	Widespread Supply Chain Interruption
	Armed Individual/Active Shooter incident (Large Scale)
	Tornado or Microburst
	Pandemic
	Multiple Facility Evacuations
	Regional Sewer / Water Treatment Failure
	Regional Water Disruption / Interruption
Minor	Widespread Transportation Disruption / Failure
	Regional Fuel Shortage(s)
	Temperature Extremes
	MCI involving chemical, biological or radiological materials
	MCI involving conventional weapons
	Winter Weather Event

## USE OF HEALTHCARE HVA DATA

Future activities planned for this analysis include identifying the capabilities of the regional healthcare system to respond to the identified impacts found in the HVA. Evaluation of these capabilities will better define the gaps across the region, which will better inform the future planning, training and exercises and special funding projects for the Region 3 Healthcare Coalition Alliance.

The annual work plan is determined from the grant requirements, as well as the gaps found using this HVA data. Future training and exercise priorities are based in the results of the HVA.

### **DISTRIBUTION OF REGION 3 HEALTHCARE HVA RESULTS**

This Region 3 Healthcare Hazard Vulnerability Assessment is combined with the Healthcare Risk Assessment (JRA) and provided to all Coalition Board members. Coalition membership includes Emergency Management, EMS and Public Health officials and other organizations involved in the healthcare delivery system.

Copies of these reports are be posted on each Coalition's website for use by Coalition members. Members are encouraged to use this data to develop projects that will improve the capabilities of the regional healthcare response.

### **LIST of RESOURCES**

- Health and Human Services emPower Map 2.0
- Agency for Toxic Substances and Disease Registry (ATSDR) Social Vulnerability Index
- Florida Department of Health, CHARTS, vulnerable populations profile reports
- DOH Public Health risk Assessment (PHRAT) for 11 counties in the region
- Comprehensive Emergency Management Plans for counties in the region
- County Mitigation Plans for counties in the region

**Attachment 1: Region 3 Alliance emPower Data**

**Attachment 2: Region 3 Alliance SVI data**

[Skip to main content](#)[HHS.gov](https://www.hhs.gov) U.S. Department of Health & Human Services [PHE.GOV](https://www.phe.gov)[Skip to main content](#)

# HHS emPOWER Map 3.0

Over 2.5 million Medicare beneficiaries rely on electricity-dependent medical equipment, such as ventilators, to live independently in their homes. Severe weather and other emergencies, especially those with long power outages, can be life-threatening for these individuals.

The HHS emPOWER Map is updated monthly and displays the total number of at-risk electricity-dependent Medicare beneficiaries in a geographic area, down to the ZIP Code.

The HHS emPOWER Map gives every public health official, emergency manager, hospital, first responder, electric company, and community member the power to discover the electricity-dependent Medicare population in their state, territory, county, and ZIP Code. When combined with real-time severe weather and hazard maps, communities can easily anticipate and plan for the needs of this population during an emergency.

For more information on when and how to use the HHS emPOWER Map please see the resources section.

## Resources

- [HHS emPOWER Program Fact Sheet](#)
- [HHS emPOWER Program Executive Summary](#)
- [HHS emPOWER AI Fact Sheet](#)
- [HHS emPOWER AI Job Aid](#)
- [HHS emPOWER AI Supplemental Job Aid for Home Devices](#)
- [HHS emPOWER Program Web-Based Training](#)
- [HHS emPOWER Program Web-Based Training Job Aid](#)
- [HHS emPOWER Map Job Aid](#)
- [HHS emPOWER REST Service Public](#)
- [HHS emPOWER REST Service Job Aid](#)

## Select data type

[Reset Map](#)

- [Single Location](#)
- [Multiple Locations](#)

## Select map attributes to display data

Natural Hazards Map Style (Optional) 

Region for Health Data

Selected

State

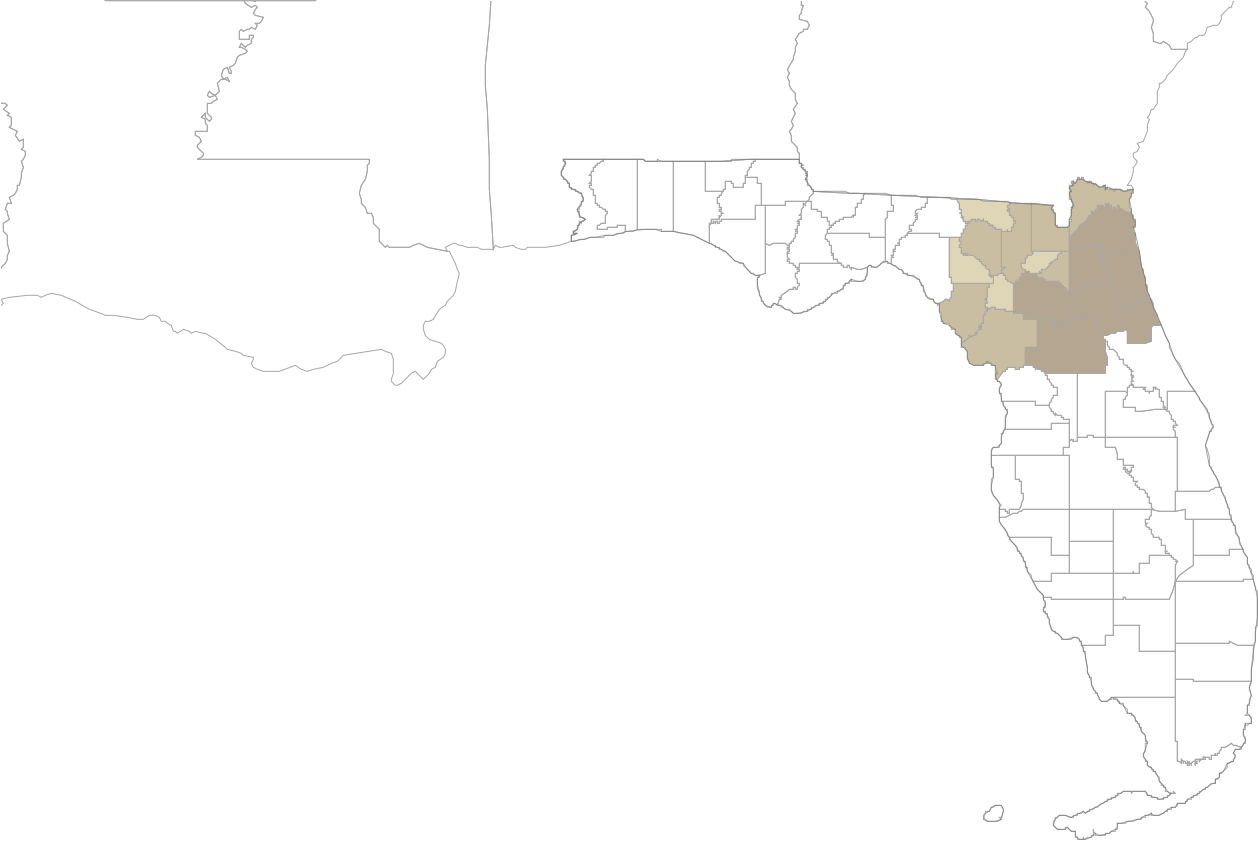
[Florida X](#)

County

[Alachua X](#)

- [Baker X](#)
- [Bradford X](#)
- [Clay X](#)
- [Columbia X](#)
- [Dixie X](#)
- [Duval X](#)
- [Flagler X](#)
- [Gilchrist X](#)
- [Lafayette X](#)
- [Levy X](#)
- [Marion X](#)
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- [Hamilton X](#)
- [Putnam X](#)

County  ▼



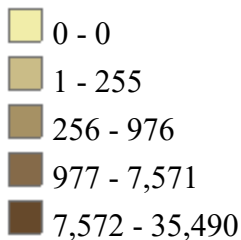
FDEP, Esri, HERE, Garmin, FAO, NOAA/

**Medicare Data Totals**

Geographical Area:	Alachua, Baker, Bradford, Clay, Columbia, Dixie, Duval, Flagler, Gilchrist, Lafayette, Levy, Marion, Nassau, Saint Johns, Suwannee, Union, Hamilton, Putnam
Beneficiaries:	530,580
Electricity-	24,042

Dependent  
Beneficiaries:

## Electricity-Dependent Scale



## Natural Hazard Legend

## Electricity-Dependent Medicare Population by Selected Region

- [States/Territories](#)
- [Counties](#)
- [ZIP Codes](#)

Geographic Area Beneficiaries Electricity-Dependent Beneficiaries

Alachua	42,980	1,794
Baker	4,538	275
Bay	35,156	2,026
Bradford	4,871	331
Brevard	146,911	6,519
Broward	302,623	9,868
Calhoun	2,680	201
Charlotte	67,009	2,614
Citrus	56,484	2,420
Clay	39,949	1,906
Collier	96,767	2,506
Columbia	14,833	851
De Soto	6,948	365
Dixie	3,731	302
Duval	153,530	7,076
Escambia	65,527	2,613
Flagler	35,409	1,244
Franklin	2,838	189
Gadsden	9,543	484
Gilchrist	3,705	209
Glades	1,421	84
Gulf	3,860	217
Hamilton	2,980	145
Hardee	4,293	292
Hendry	6,105	263



# Geographic Area Beneficiaries Electricity-Dependent Beneficiaries

Hernando	55,449	2,835
Highlands	32,241	2,297
Hillsborough	225,307	9,231
Holmes	4,949	296
Indian River	51,071	1,560
Jackson	11,142	550
Jefferson	3,358	169
Lafayette	1,035	67
Lake	105,194	4,776
Lee	186,053	6,438
Leon	40,856	1,715
Levy	10,448	580
Liberty	1,303	110
Madison	4,408	226
Manatee	100,123	3,358
Marion	105,995	4,759
Martin	44,749	1,409
Miami-Dade	445,616	16,759
Monroe	16,036	379
Nassau	21,150	899
Okaloosa	39,876	1,836
Okeechobee	8,957	530
Orange	179,703	6,776
Osceola	54,896	2,123
Palm Beach	308,511	8,586
Pasco	123,356	6,072
Pinellas	230,088	8,495
Polk	150,808	6,666
Putnam	17,973	1,053
Saint Johns	54,926	1,812
Saint Lucie	73,501	2,635
Santa Rosa	34,182	1,498
Sarasota	137,280	4,381
Seminole	68,405	3,046
Sumter	73,128	2,072
Suwannee	10,436	583
Taylor	4,623	318
Union	2,091	156
Volusia	142,207	6,211
Wakulla	5,755	325
Walton	13,246	575
Washington	5,049	302

Note (1): The map uses de-identified claims data, updated monthly, on Medicare Fee-for-Service and Medicare Advantage (Parts A, B and C) beneficiaries, which includes Americans age 65 and over, and disabled Americans under age 65. The totals listed here may underestimate the total at-risk Medicare beneficiary population due to certain Medicare policies and processes.

Note (2): The "electricity-dependent" number, by location, represents the total number of beneficiaries with claims in Centers for Medicare and Medicaid Services (CMS) databases from the prior month for: ventilator, BiPAP, enteral feeding machine, intravenous (IV) infusion pump, suction pump, at-home dialysis machine, electric wheelchair, electric scooter, and electric bed equipment in the past 13 months; oxygen concentrator equipment in the past 36 months; and implanted cardiac devices that include left ventricular assistive device (LVAD), right ventricular assistive device (RVAD), bi-ventricular assistive device (BIVAD), and total artificial heart (TAH) in the past 5 years. To protect individual privacy, the following de-identification methodologies have been implemented: removal of all personal identifiers; aggregating data totals at the geographic level; and replacing any small cell size between 1 and 10 (e.g., a ZIP Code with only 3 individuals ) with an 11. Some ZIP Codes may not be represented on the map because they do not have geographical boundaries (e.g. post office boxes, a large building, etc.). In these instances, we add their total to the geographical ZIP Code where the post office box or building can be found.

Note (3): The map is provided to inform and support community partner emergency preparedness, mitigation, response, recovery, and resilience activities. Use of this tool and data signifies your agreement to: use it for the specified purposes; make no attempt to identify any individual in this data; and send an email to [empower@hhs.gov](mailto:empower@hhs.gov) if a small size between 1 and 10 is identified at any geographic level. Send any additional questions to [empower@hhs.gov](mailto:empower@hhs.gov).

Note (4): The public emPOWER REST Service that contains emPOWER Program geospatial data can be found at:

[https://geohealth.hhs.gov/dataaccess/rest/services/CMS\\_DME/HHS\\_CMS\\_DME\\_ESRD\\_onlyAll/MapServer](https://geohealth.hhs.gov/dataaccess/rest/services/CMS_DME/HHS_CMS_DME_ESRD_onlyAll/MapServer).

Note (5): Information regarding the Natural Hazards can be found from the source webpages:

- National Oceanic and Atmospheric Administration (NOAA) National Weather Service active weather alerts can be found at: <http://www.weather.gov>.
- Hurricanes, Radar, Flood, Precipitation, and Storm Prediction: <https://idpgis.ncep.noaa.gov/arcgis/rest/services>.
- Long Duration and Short Duration Hazards: <https://new.nowcoast.noaa.gov/arcgis/rest/services>.
- Wildfire: <https://geohealth.hhs.gov/arcgis/home/item.html?id=81934f7c953240de89405da4602a7a5a>.
- Seismic Activity: [https://earthquake.usgs.gov/arcgis/rest/services/eq/dyfi\\_30DaySignificant/MapServer](https://earthquake.usgs.gov/arcgis/rest/services/eq/dyfi_30DaySignificant/MapServer).

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**Data last updated:** 17 April 2020

**Webpage last updated:** 30 December 2016

**Webpage first published:** 23 June 2015

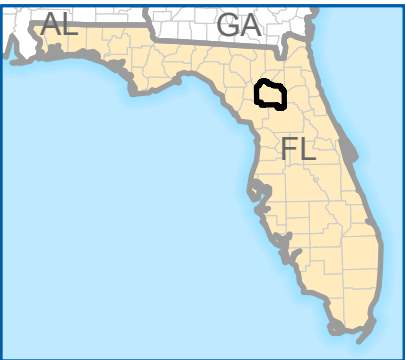
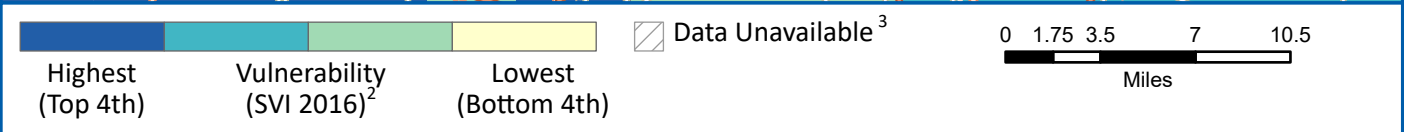
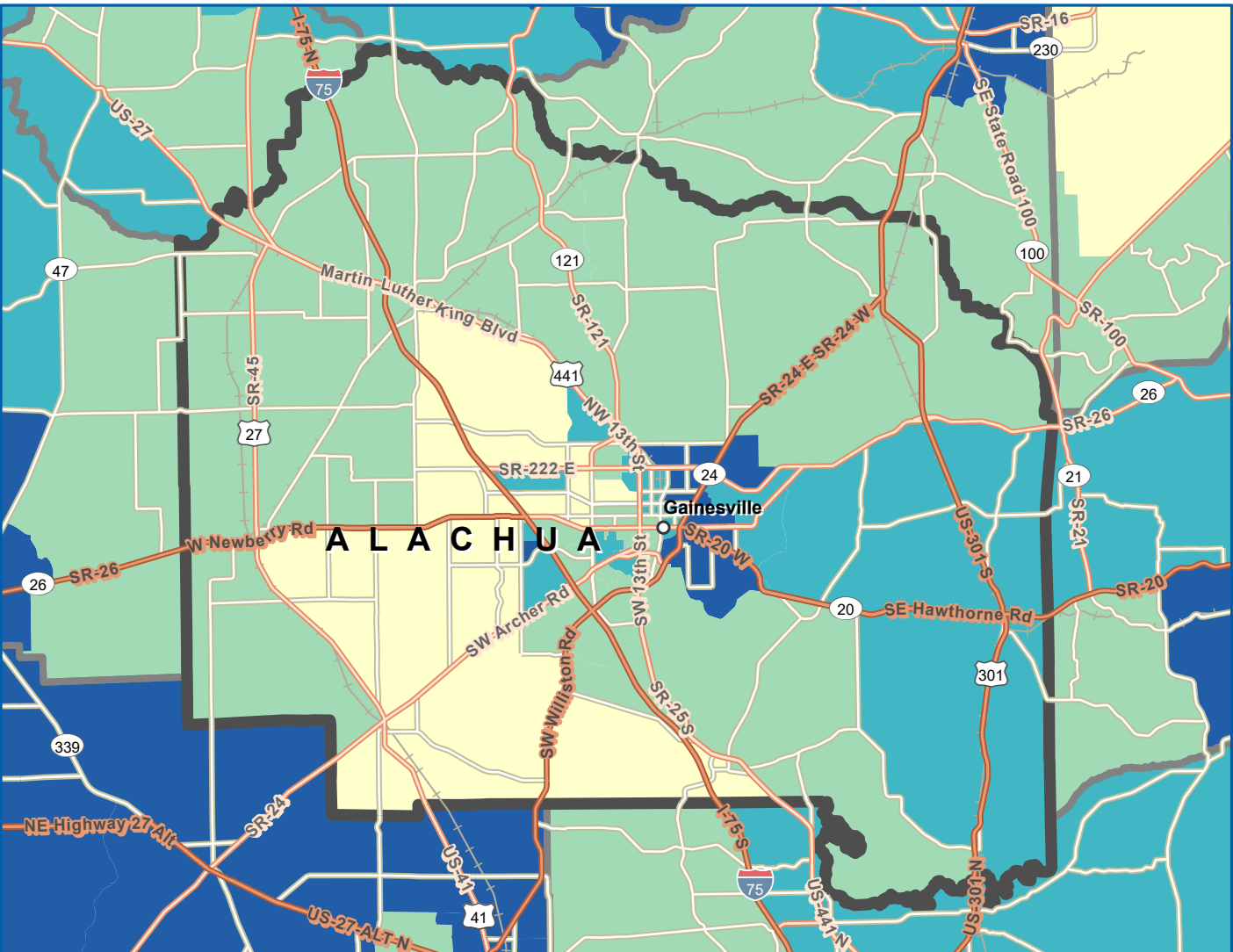
CDC's Social Vulnerability Index 2016

Alachua County, Florida

PART 1



Overall Social Vulnerability<sup>1</sup>



**Social vulnerability** refers to a community's capacity to prepare for and respond to the stress of hazardous events ranging from natural disasters, such as tornadoes or disease outbreaks, to human-caused threats, such as toxic chemical spills. The **Social Vulnerability Index (SVI 2016)**<sup>4</sup> County Map depicts the social vulnerability of communities, at census tract level, within a specified county. SVI 2016 groups fifteen

**census-derived factors** into **four themes** that summarize the extent to which the area is socially vulnerable to disaster. The factors include economic data as well as data regarding education, family characteristics, housing, language ability, ethnicity, and vehicle access. Overall Social Vulnerability combines all the variables to provide a comprehensive assessment.



Agency for Toxic Substances and Disease Registry  
Division of Toxicology and Human Health Sciences

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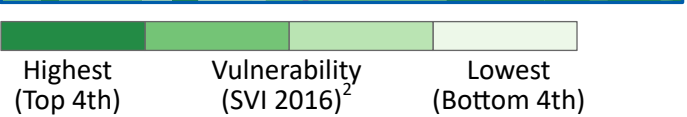
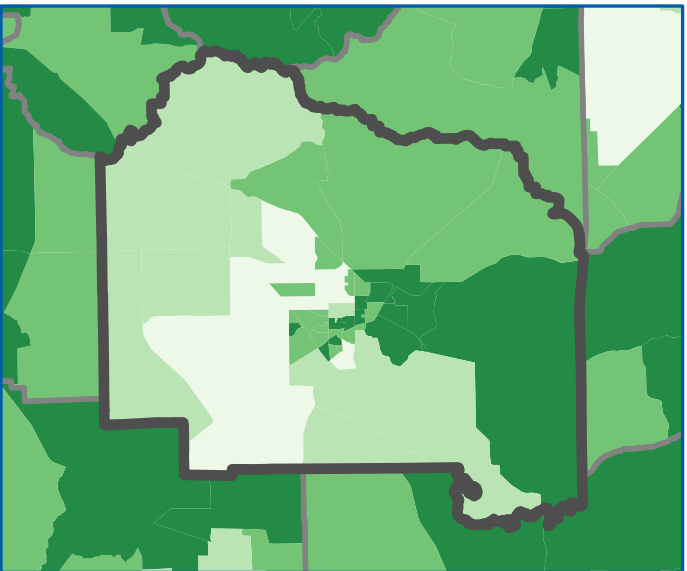
PART 2

SVI 2016 – ALACHUA COUNTY, FLORIDA

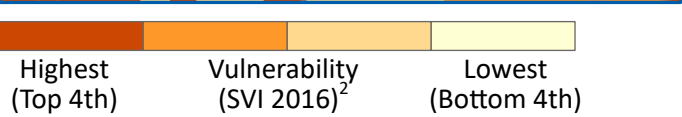
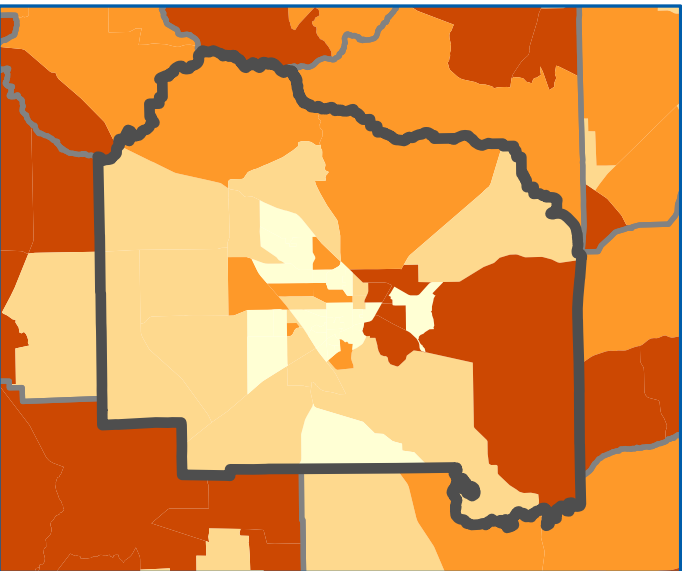
PART 2

SVI Themes

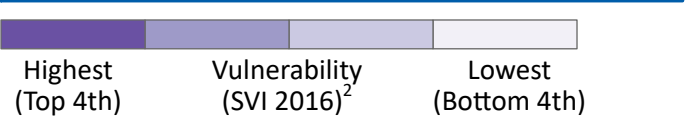
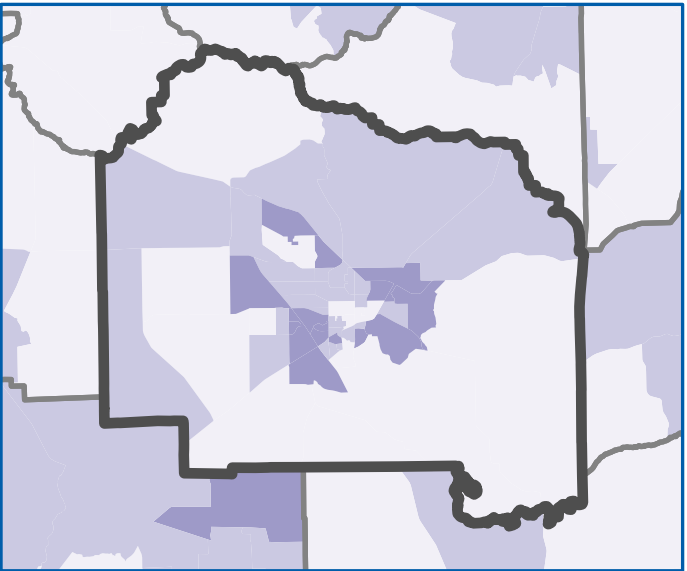
Socioeconomic Status<sup>5</sup>



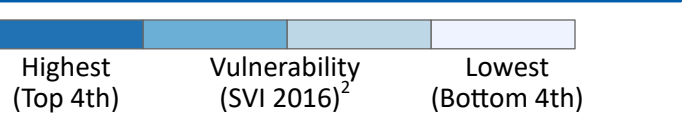
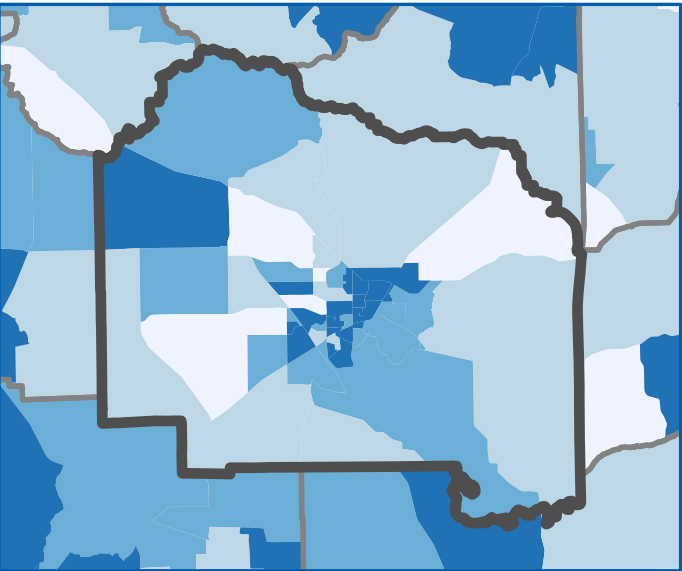
Household Composition/Disability<sup>6</sup>



Race/Ethnicity/Language<sup>7</sup>



Housing/Transportation<sup>8</sup>



**Data Sources:** <sup>2</sup>CDC/ATSDR/GRASP, U.S. Census Bureau, Esri® StreetMap™ Premium.  
**Notes:** <sup>1</sup>Overall Social Vulnerability: All 15 variables. <sup>3</sup>Census tracts with 0 population. <sup>4</sup>The SVI combines percentile rankings of US Census American Community Survey (ACS) 2012-2016 variables, for the state, at the census tract level. <sup>5</sup>Socioeconomic Status: Poverty, Unemployed, Per Capita Income, No High School Diploma. <sup>6</sup>Household Composition/Disability: Aged 65 and Over, Aged 17 and Younger, Single-parent Household, Aged 5 and over with a Disability. <sup>7</sup>Race/Ethnicity/Language: Minority, English Language Ability. <sup>8</sup>Housing/Transportation: Multi-unit, Mobile Homes, Crowding, No Vehicle, Group Quarters.  
**Projection:** NAD 1983 Florida GDL Albers.  
**References:** Flanagan, B.E., et al., A Social Vulnerability Index for Disaster Management. *Journal of Homeland Security and Emergency Management*, 2011. 8(1).  
CDC's SVI web page: <http://svi.cdc.gov>.

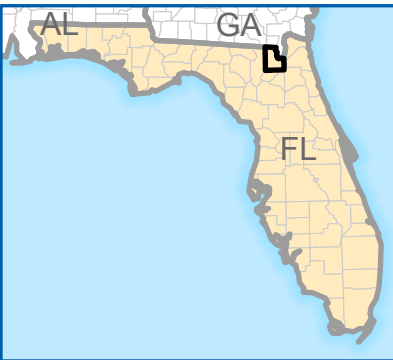
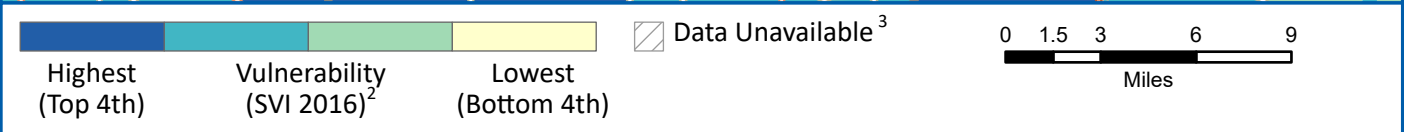
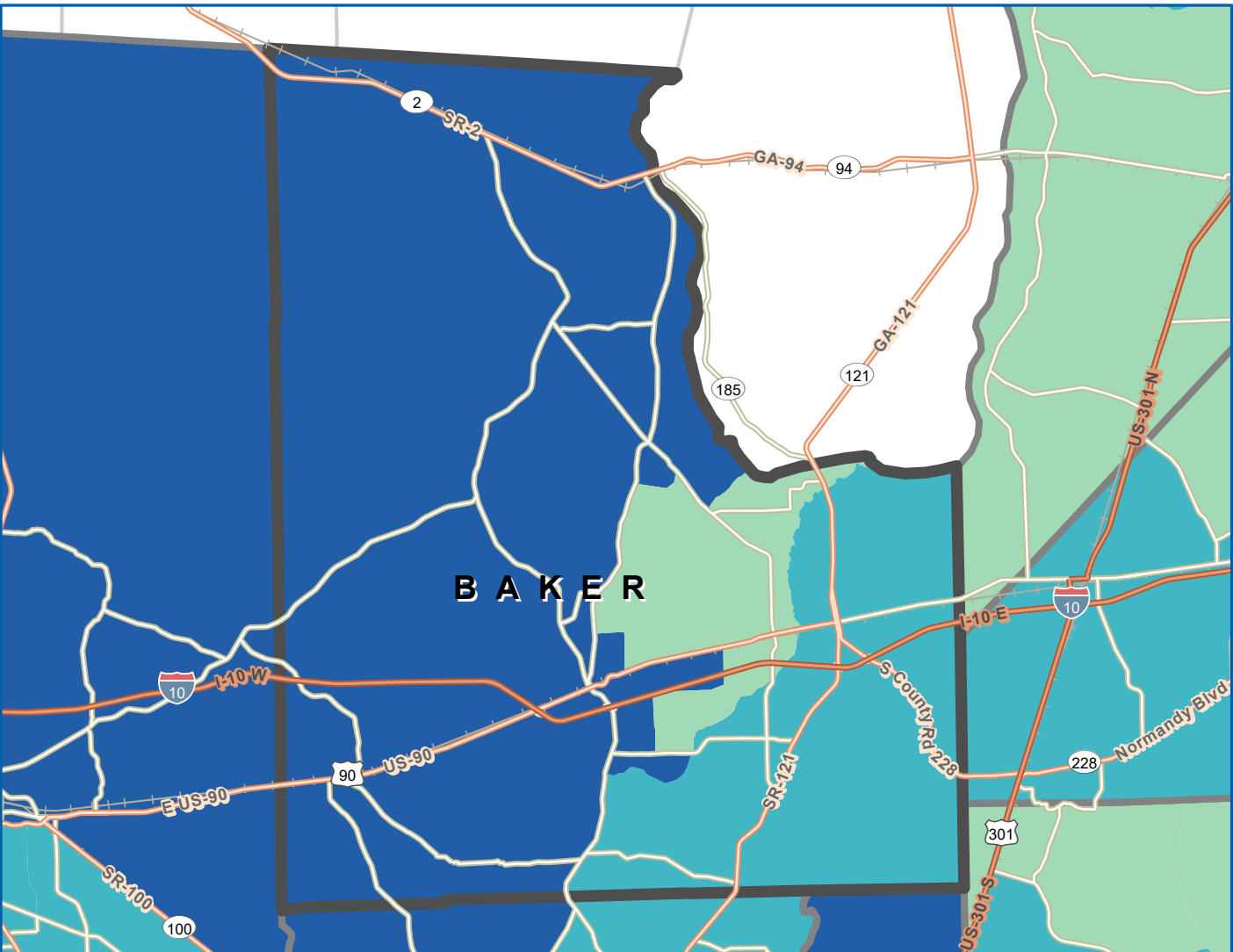
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# CDC's Social Vulnerability Index 2016

Baker County, Florida

PART 1

## Overall Social Vulnerability<sup>1</sup>



**Social vulnerability** refers to a community's capacity to prepare for and respond to the stress of hazardous events ranging from natural disasters, such as tornadoes or disease outbreaks, to human-caused threats, such as toxic chemical spills. The **Social Vulnerability Index (SVI 2016)**<sup>4</sup> **County Map** depicts the social vulnerability of communities, at census tract level, within a specified county. SVI 2016 groups **fifteen**

**census-derived factors** into **four themes** that summarize the extent to which the area is socially vulnerable to disaster. The factors include economic data as well as data regarding education, family characteristics, housing, language ability, ethnicity, and vehicle access. Overall Social Vulnerability combines all the variables to provide a comprehensive assessment.



Agency for Toxic Substances and Disease Registry  
Division of Toxicology and Human Health Sciences

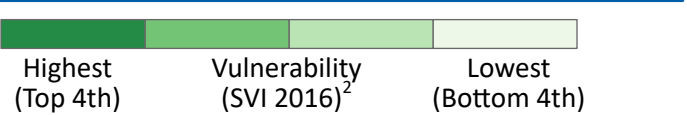
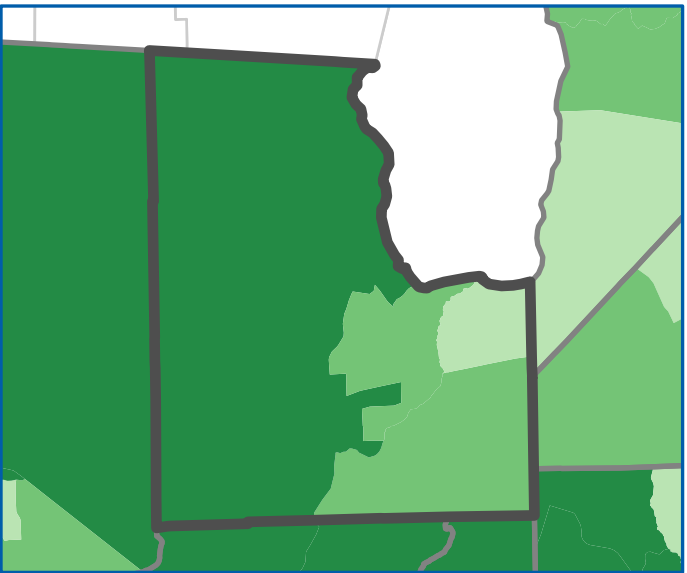
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SVI 2016 – BAKER COUNTY, FLORIDA

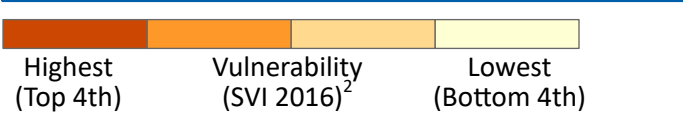
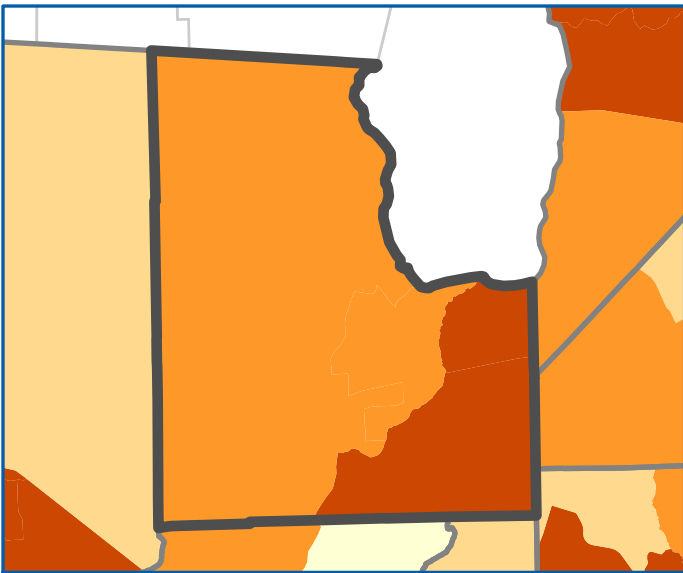
PART 2

## SVI Themes

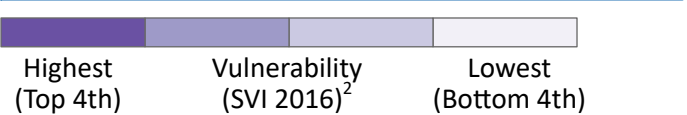
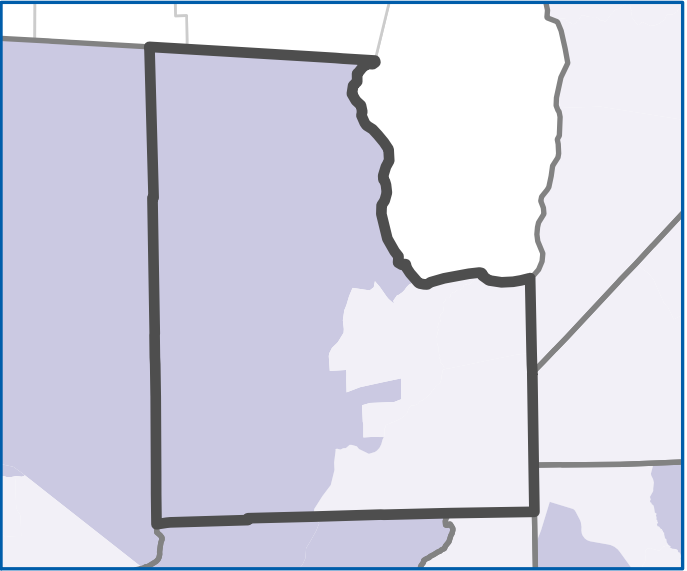
### Socioeconomic Status<sup>5</sup>



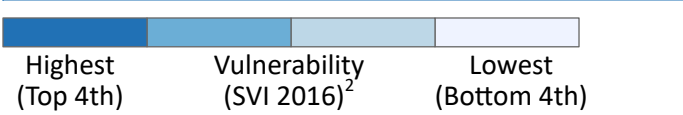
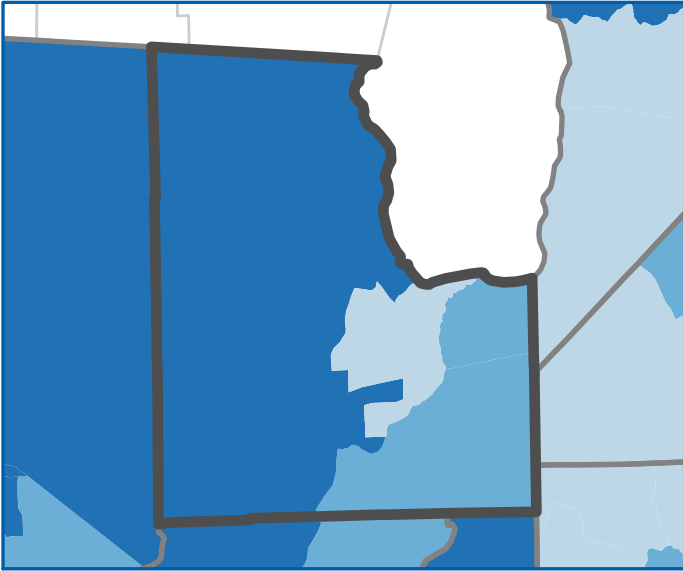
### Household Composition/Disability<sup>6</sup>



### Race/Ethnicity/Language<sup>7</sup>



### Housing/Transportation<sup>8</sup>



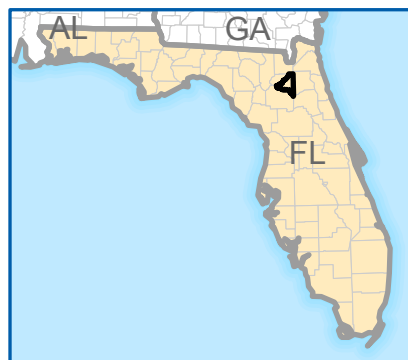
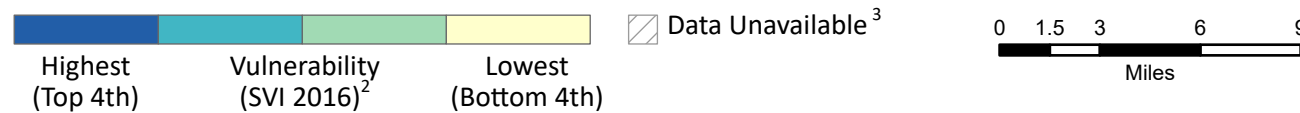
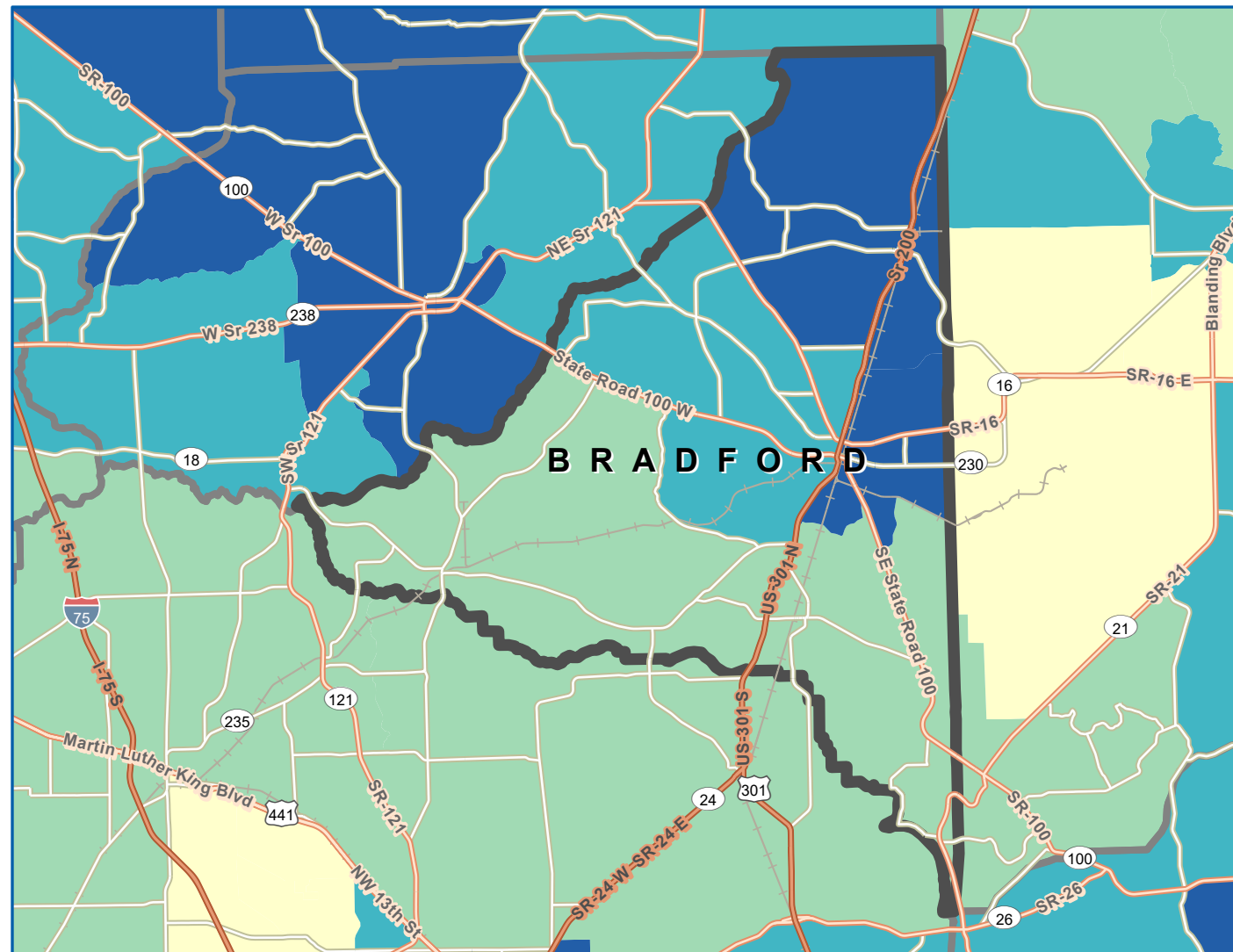
**Data Sources:** <sup>2</sup>CDC/ATSDR/GRASP, U.S. Census Bureau, Esri® StreetMap™ Premium.  
**Notes:** <sup>1</sup>Overall Social Vulnerability: All 15 variables. <sup>3</sup>Census tracts with 0 population. <sup>4</sup>The SVI combines percentile rankings of US Census American Community Survey (ACS) 2012-2016 variables, for the state, at the census tract level. <sup>5</sup>Socioeconomic Status: Poverty, Unemployed, Per Capita Income, No High School Diploma. <sup>6</sup>Household Composition/Disability: Aged 65 and Over, Aged 17 and Younger, Single-parent Household, Aged 5 and over with a Disability. <sup>7</sup>Race/Ethnicity/Language: Minority, English Language Ability. <sup>8</sup>Housing/Transportation: Multi-unit, Mobile Homes, Crowding, No Vehicle, Group Quarters.  
**Projection:** NAD 1983 Florida GDL Albers.  
**References:** Flanagan, B.E., et al., A Social Vulnerability Index for Disaster Management. *Journal of Homeland Security and Emergency Management*, 2011. 8(1).  
CDC's SVI web page: <http://svi.cdc.gov>.

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## Overall Social Vulnerability<sup>1</sup>

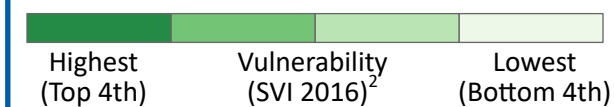
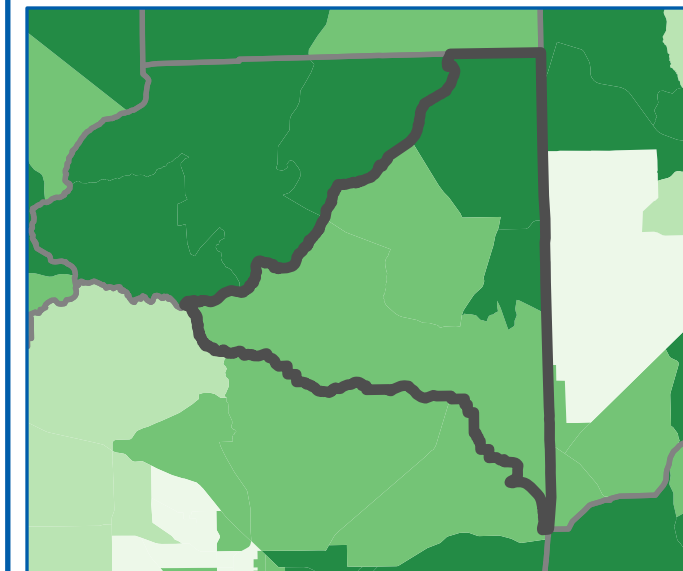


**Social vulnerability** refers to a community's capacity to prepare for and respond to the stress of hazardous events ranging from natural disasters, such as tornadoes or disease outbreaks, to human-caused threats, such as toxic chemical spills. The **Social Vulnerability Index (SVI 2016)<sup>4</sup> County Map** depicts the social vulnerability of communities, at census tract level, within a specified county. SVI 2016 groups **fifteen**

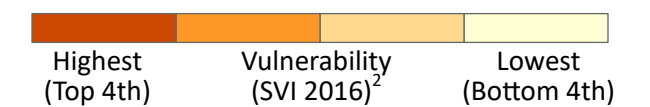
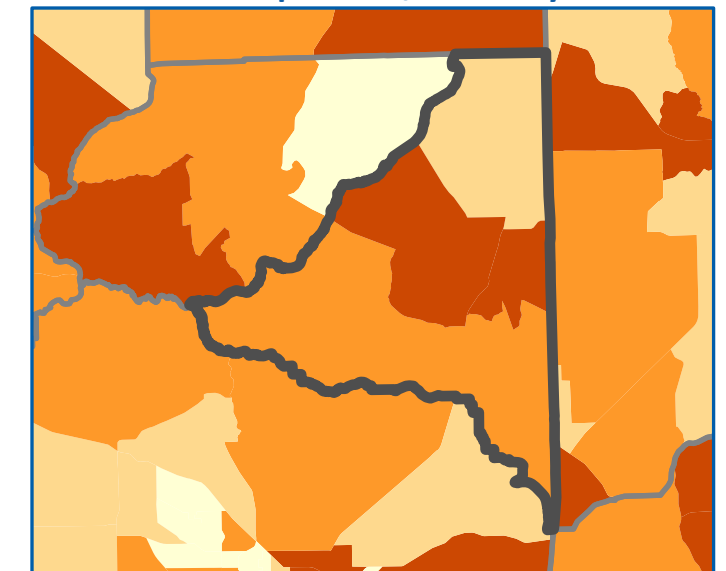
**census-derived factors** into **four themes** that summarize the extent to which the area is socially vulnerable to disaster. The factors include economic data as well as data regarding education, family characteristics, housing, language ability, ethnicity, and vehicle access. Overall Social Vulnerability combines all the variables to provide a comprehensive assessment.

## SVI Themes

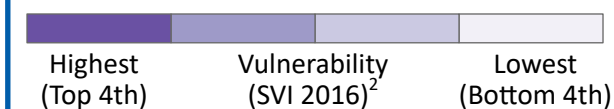
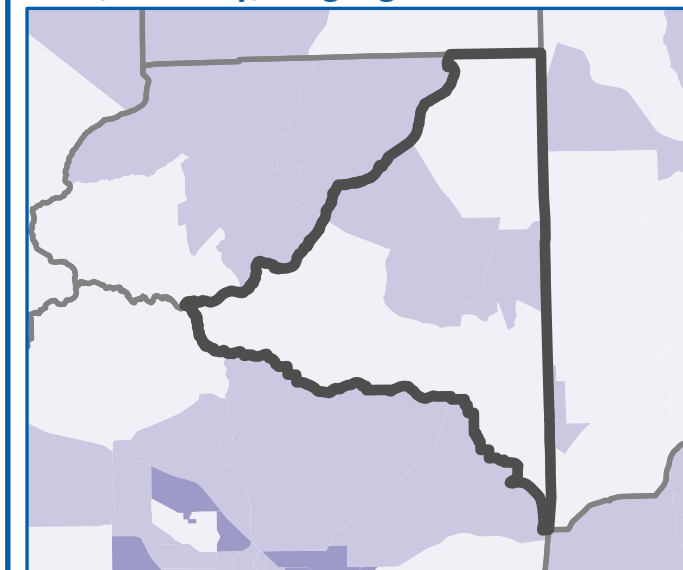
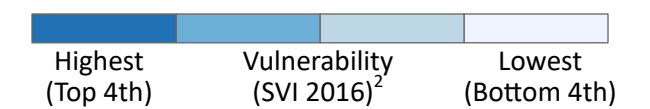
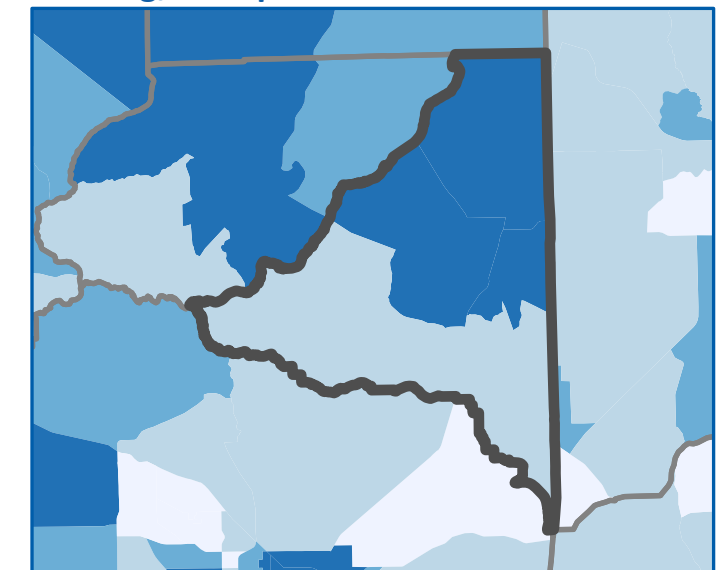
## Socioeconomic Status<sup>5</sup>



## Household Composition/Disability<sup>6</sup>



## Race/Ethnicity/Language<sup>7</sup>

Housing/Transportation<sup>8</sup>

**Data Sources:** <sup>2</sup>CDC/ATSDR/GRASP, U.S. Census Bureau, Esri® StreetMap™ Premium.

**Notes:** <sup>1</sup>Overall Social Vulnerability: All 15 variables. <sup>2</sup>Census tracts with 0 population. <sup>3</sup>The SVI combines percentile rankings of US Census American Community Survey (ACS) 2012-2016 variables, for the state, at the census tract level. <sup>4</sup>Socioeconomic Status: Poverty, Unemployed, Per Capita Income, No High School Diploma. <sup>5</sup>Household Composition/Disability: Aged 65 and Over, Aged 17 and Younger, Single-parent Household, Aged 5 and over with a Disability. <sup>6</sup>Race/Ethnicity/Language: Minority, English Language Ability. <sup>7</sup>Housing/Transportation: Multi-unit, Mobile Homes, Crowding, No Vehicle, Group Quarters.

**Projection:** NAD 1983 Florida GDL Albers.

**References:** Flanagan, B.E., et al., A Social Vulnerability Index for Disaster Management. *Journal of Homeland Security and Emergency Management*, 2011. 8(1). CDC's SVI web page: <http://svi.cdc.gov>.

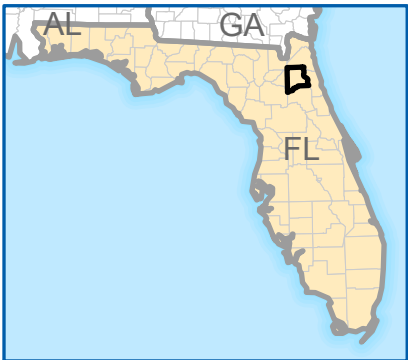
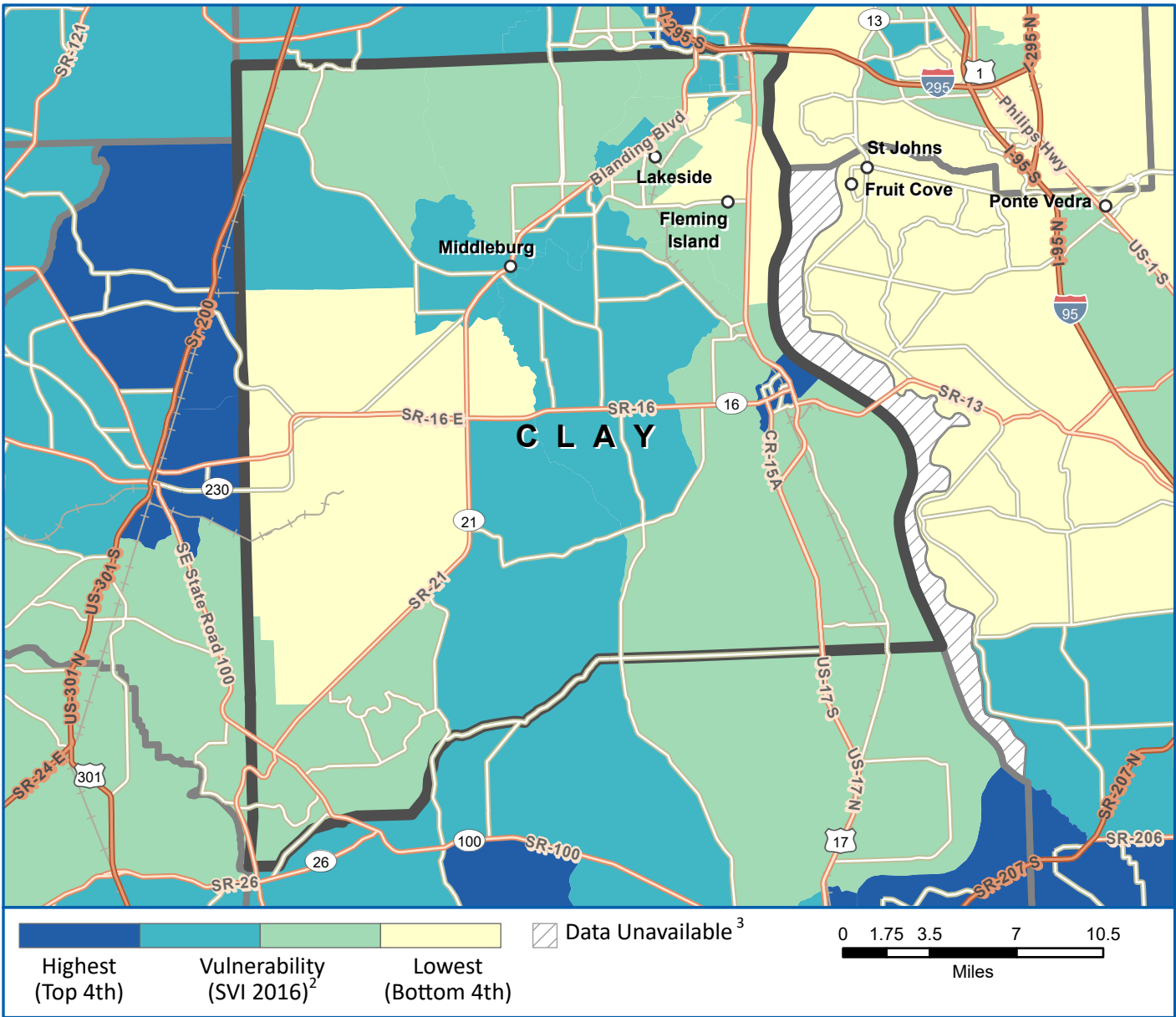
CDC's Social Vulnerability Index 2016

Clay County, Florida

PART 1



Overall Social Vulnerability<sup>1</sup>



**Social vulnerability** refers to a community's capacity to prepare for and respond to the stress of hazardous events ranging from natural disasters, such as tornadoes or disease outbreaks, to human-caused threats, such as toxic chemical spills. The **Social Vulnerability Index (SVI 2016)**<sup>4</sup> **County Map** depicts the social vulnerability of communities, at census tract level, within a specified county. SVI 2016 groups **fifteen**

**census-derived factors** into **four themes** that summarize the extent to which the area is socially vulnerable to disaster. The factors include economic data as well as data regarding education, family characteristics, housing, language ability, ethnicity, and vehicle access. Overall Social Vulnerability combines all the variables to provide a comprehensive assessment.



Agency for Toxic Substances and Disease Registry  
Division of Toxicology and Human Health Sciences

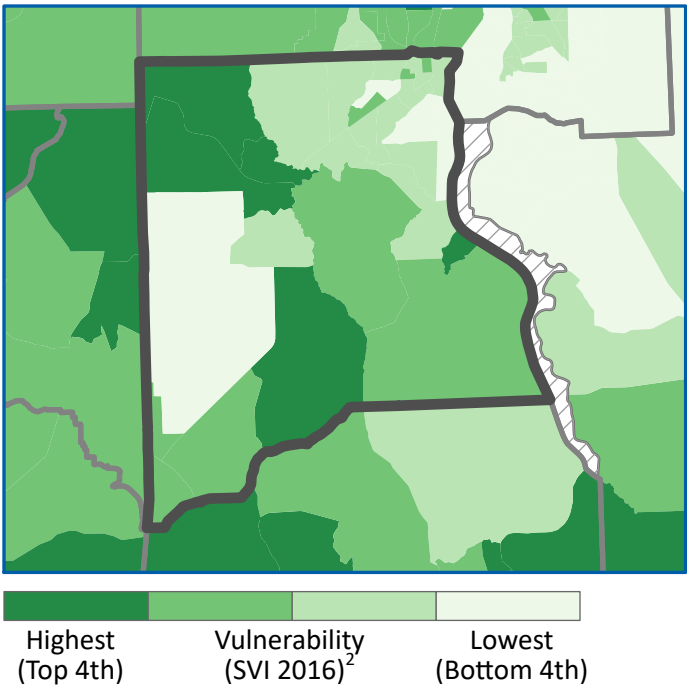
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SVI 2016 – CLAY COUNTY, FLORIDA

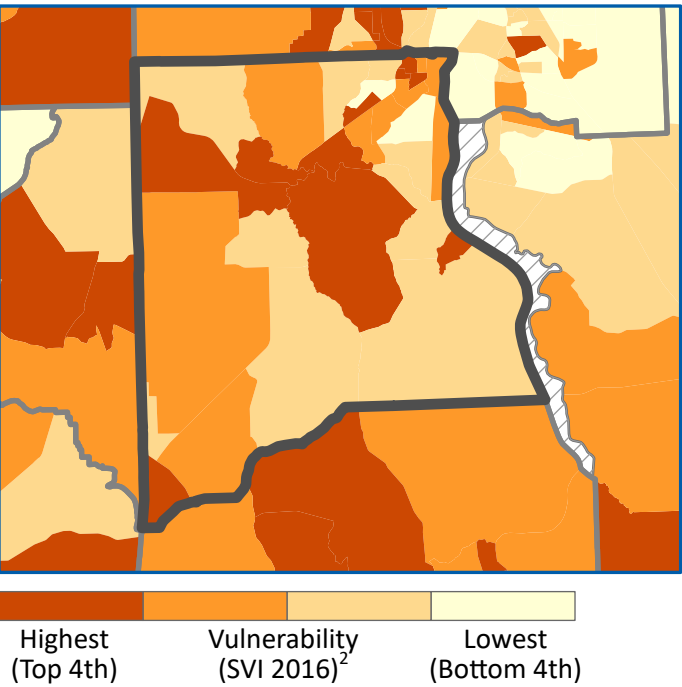
PART 2

SVI Themes

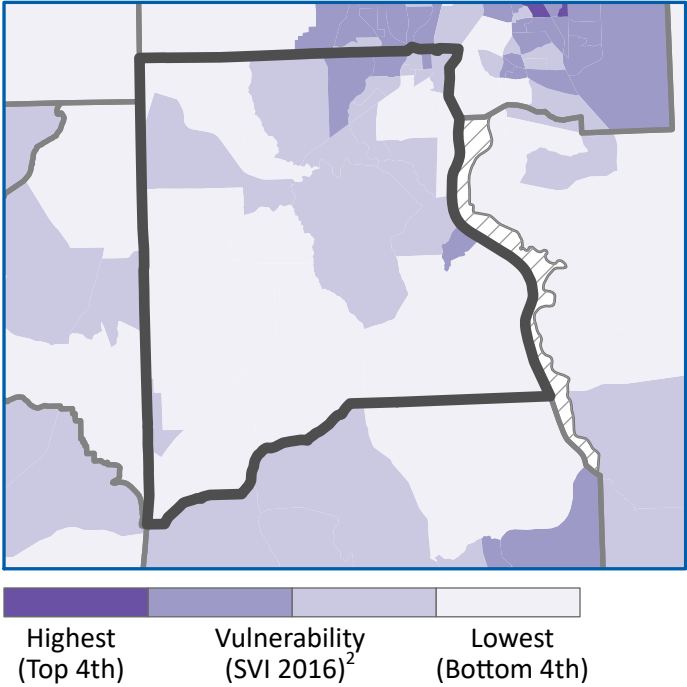
Socioeconomic Status<sup>5</sup>



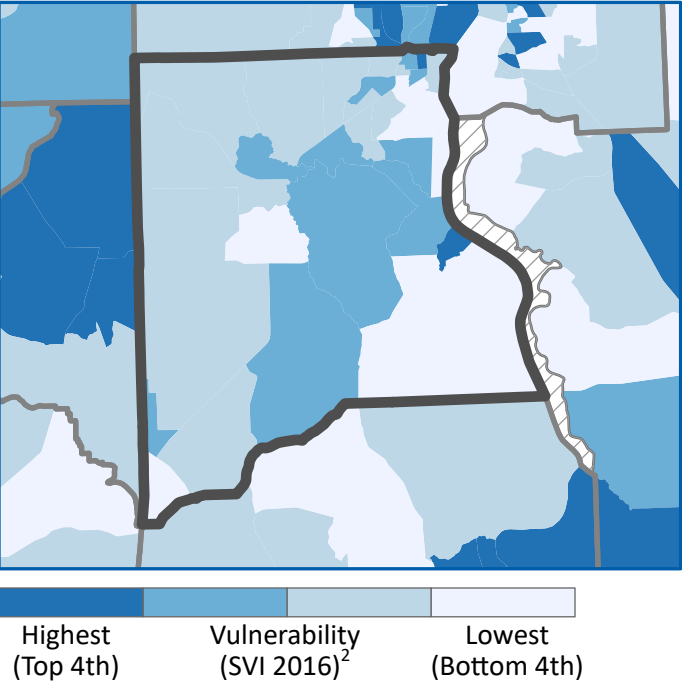
Household Composition/Disability<sup>6</sup>



Race/Ethnicity/Language<sup>7</sup>



Housing/Transportation<sup>8</sup>



**Data Sources:** <sup>2</sup>CDC/ATSDR/GRASP, U.S. Census Bureau, Esri® StreetMap™ Premium.  
**Notes:** <sup>1</sup>Overall Social Vulnerability: All 15 variables. <sup>3</sup>Census tracts with 0 population. <sup>4</sup>The SVI combines percentile rankings of US Census American Community Survey (ACS) 2012-2016 variables, for the state, at the census tract level. <sup>5</sup>Socioeconomic Status: Poverty, Unemployed, Per Capita Income, No High School Diploma. <sup>6</sup>Household Composition/Disability: Aged 65 and Over, Aged 17 and Younger, Single-parent Household, Aged 5 and over with a Disability. <sup>7</sup>Race/Ethnicity/Language: Minority, English Language Ability. <sup>8</sup>Housing/Transportation: Multi-unit, Mobile Homes, Crowding, No Vehicle, Group Quarters.  
**Projection:** NAD 1983 Florida GDL Albers.  
**References:** Flanagan, B.E., et al., A Social Vulnerability Index for Disaster Management. *Journal of Homeland Security and Emergency Management*, 2011. 8(1).  
CDC's SVI web page: <http://svi.cdc.gov>.

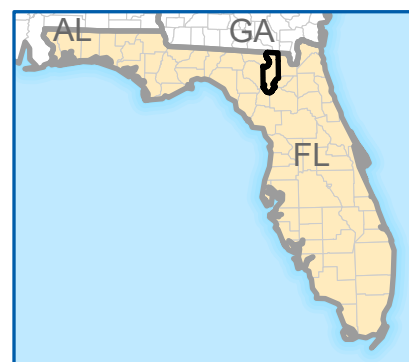
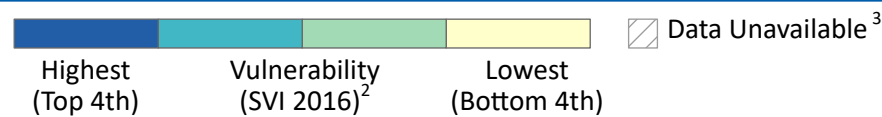
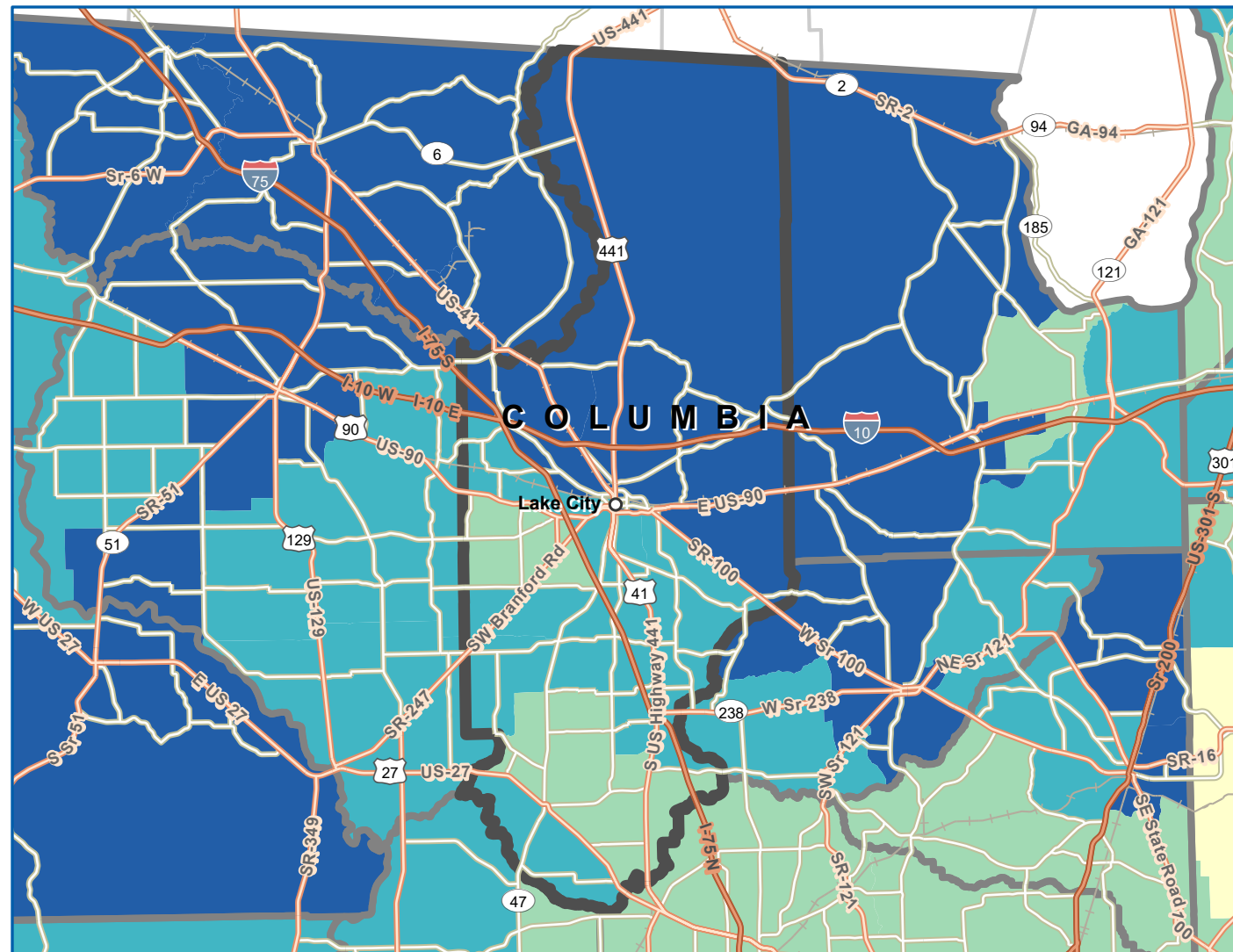
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## CDC's Social Vulnerability Index 2016

Columbia County, Florida

PART 1

Overall Social Vulnerability<sup>1</sup>

**Social vulnerability** refers to a community's capacity to prepare for and respond to the stress of hazardous events ranging from natural disasters, such as tornadoes or disease outbreaks, to human-caused threats, such as toxic chemical spills. The **Social Vulnerability Index (SVI 2016)**<sup>4</sup> County Map depicts the social vulnerability of communities, at census tract level, within a specified county. SVI 2016 groups **fifteen**

**census-derived factors** into **four themes** that summarize the extent to which the area is socially vulnerable to disaster. The factors include economic data as well as data regarding education, family characteristics, housing, language ability, ethnicity, and vehicle access. Overall Social Vulnerability combines all the variables to provide a comprehensive assessment.

MAP PRODUCED 2/7/2018

Agency for Toxic Substances and Disease Registry

Division of Toxicology and Human Health Sciences

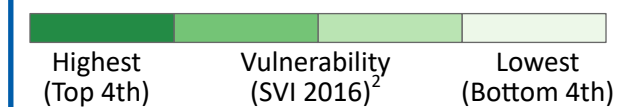
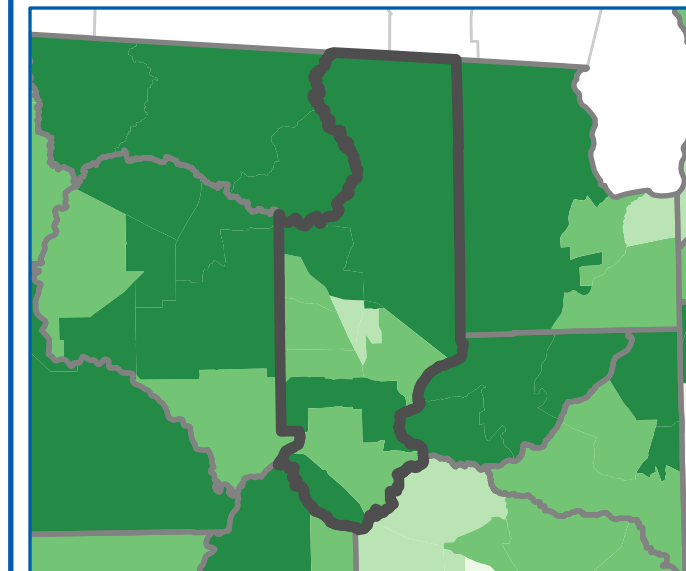
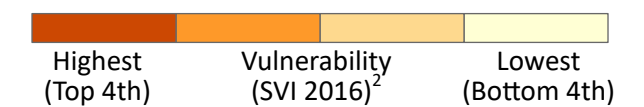
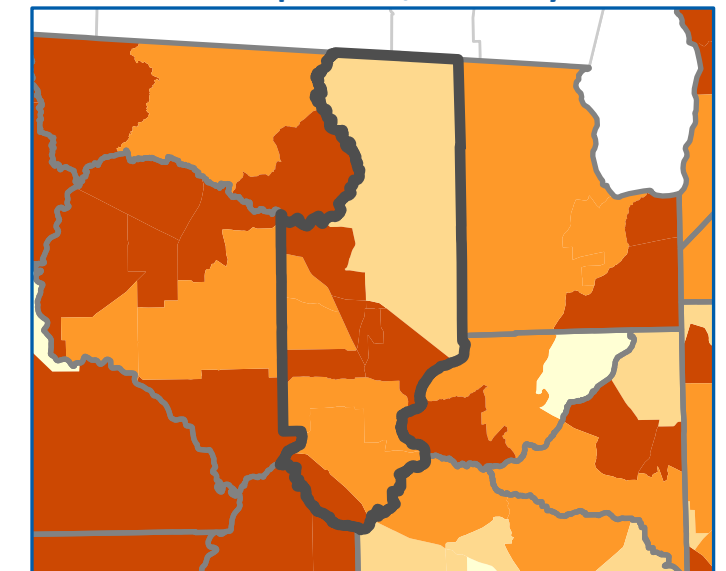
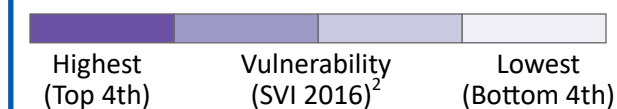
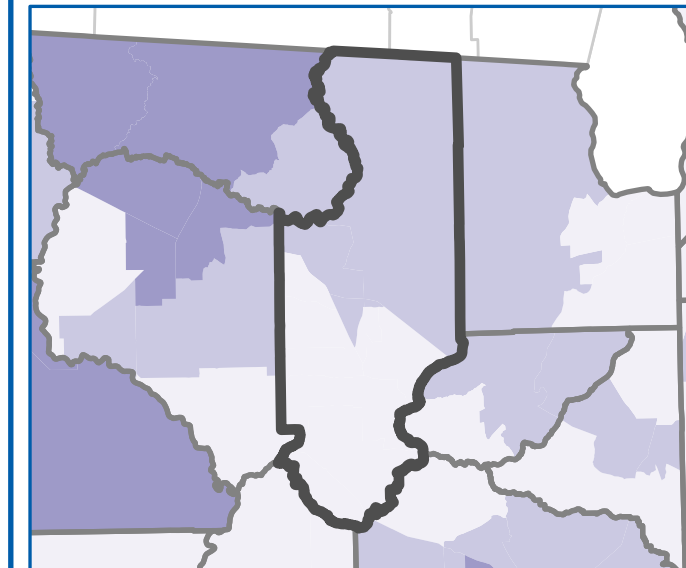
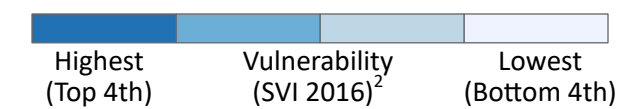
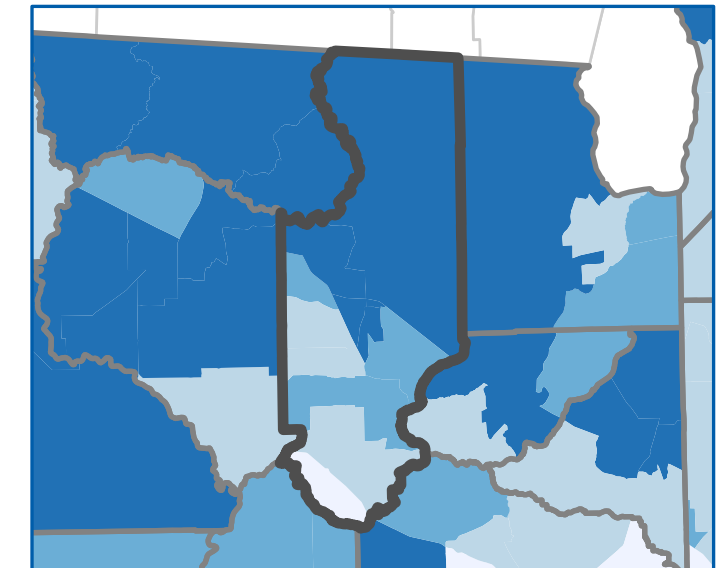
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SVI 2016 – COLUMBIA COUNTY, FLORIDA

PART 2

## SVI Themes

Socioeconomic Status<sup>5</sup>Household Composition/Disability<sup>6</sup>Race/Ethnicity/Language<sup>7</sup>Housing/Transportation<sup>8</sup>

**Data Sources:** <sup>2</sup>CDC/ATSDR/GRASP, U.S. Census Bureau, Esri® StreetMap™ Premium.

**Notes:** <sup>1</sup>Overall Social Vulnerability: All 15 variables. <sup>3</sup>Census tracts with 0 population. <sup>4</sup>The SVI combines percentile rankings of US Census American Community Survey (ACS) 2012-2016 variables, for the state, at the census tract level. <sup>5</sup>Socioeconomic Status: Poverty, Unemployed, Per Capita Income, No High School Diploma. <sup>6</sup>Household Composition/Disability: Aged 65 and Over, Aged 17 and Younger, Single-parent Household, Aged 5 and over with a Disability. <sup>7</sup>Race/Ethnicity/Language: Minority, English Language Ability. <sup>8</sup>Housing/Transportation: Multi-unit, Mobile Homes, Crowding, No Vehicle, Group Quarters.

**Projection:** NAD 1983 Florida GDL Albers.

**References:** Flanagan, B.E., et al., A Social Vulnerability Index for Disaster Management. *Journal of Homeland Security and Emergency Management*, 2011. 8(1).  
CDC's SVI web page: <http://svi.cdc.gov>.

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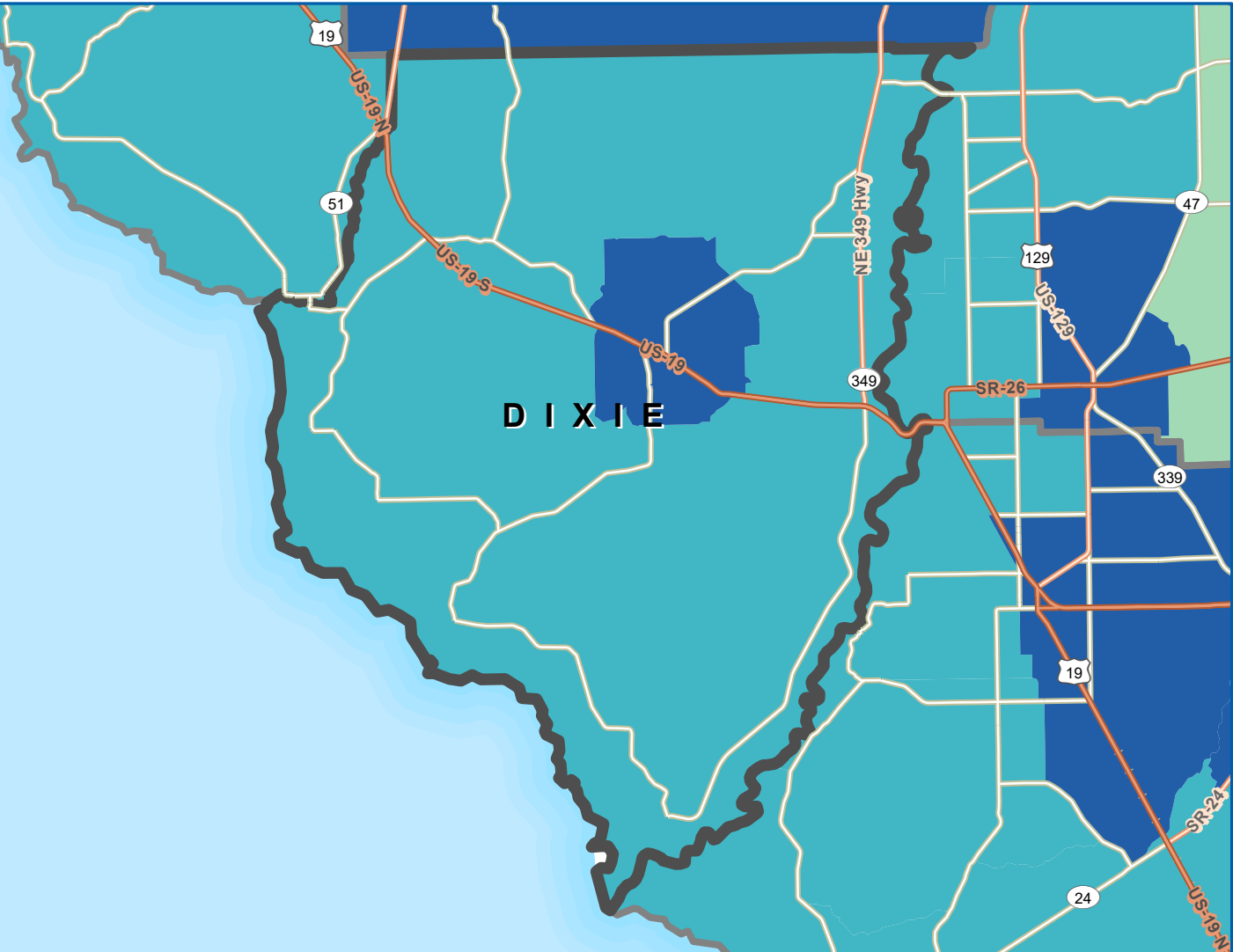
CDC's Social Vulnerability Index 2016

Dixie County, Florida

PART 1



Overall Social Vulnerability<sup>1</sup>



**Social vulnerability** refers to a community's capacity to prepare for and respond to the stress of hazardous events ranging from natural disasters, such as tornadoes or disease outbreaks, to human-caused threats, such as toxic chemical spills. The **Social Vulnerability Index (SVI 2016)**<sup>4</sup> County Map depicts the social vulnerability of communities, at census tract level, within a specified county. SVI 2016 groups **fifteen**

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Agency for Toxic Substances and Disease Registry  
Division of Toxicology and Human Health Sciences

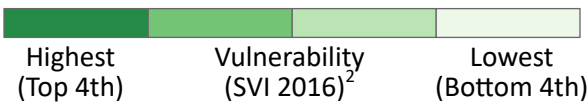
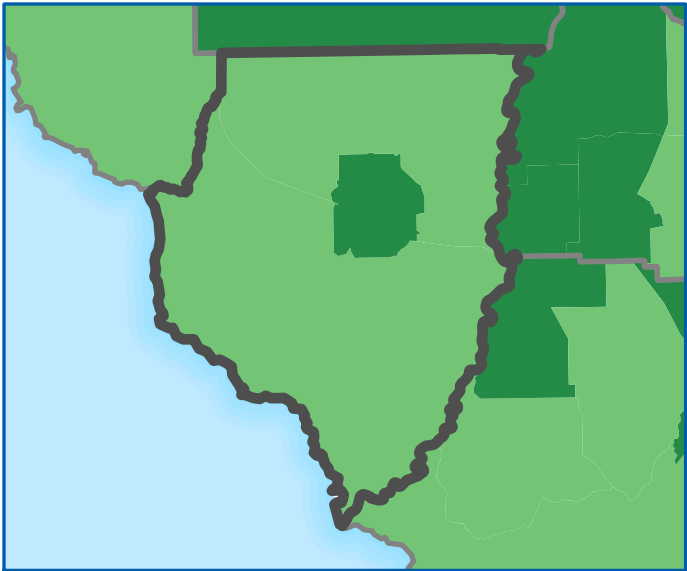
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SVI 2016 – DIXIE COUNTY, FLORIDA

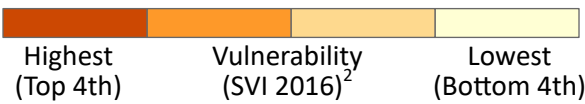
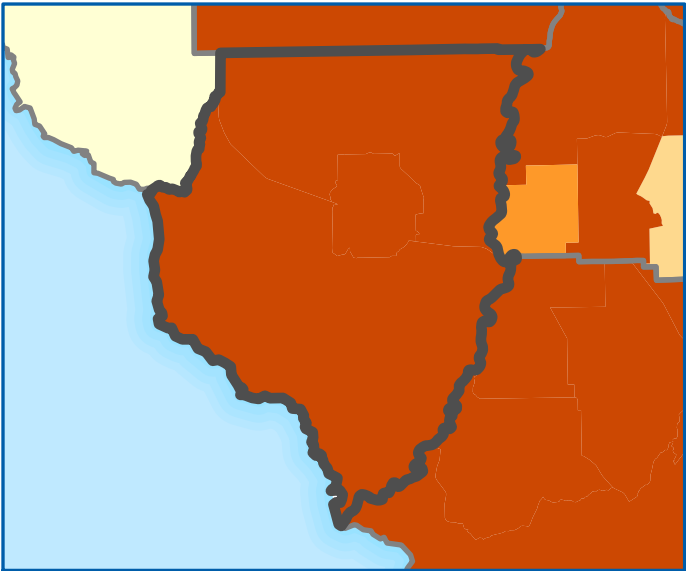
PART 2

SVI Themes

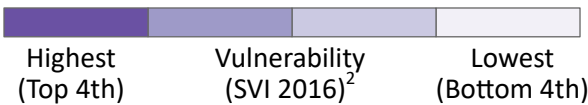
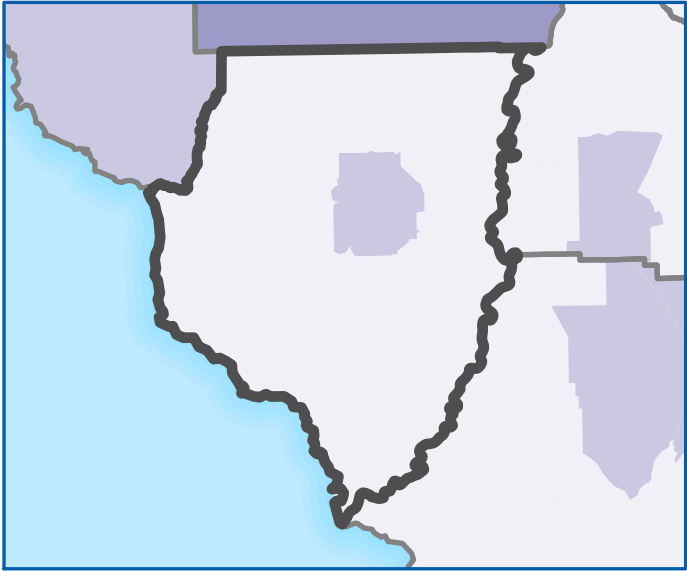
Socioeconomic Status<sup>5</sup>



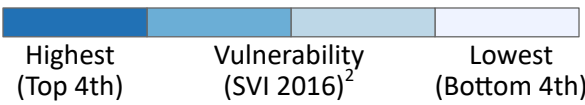
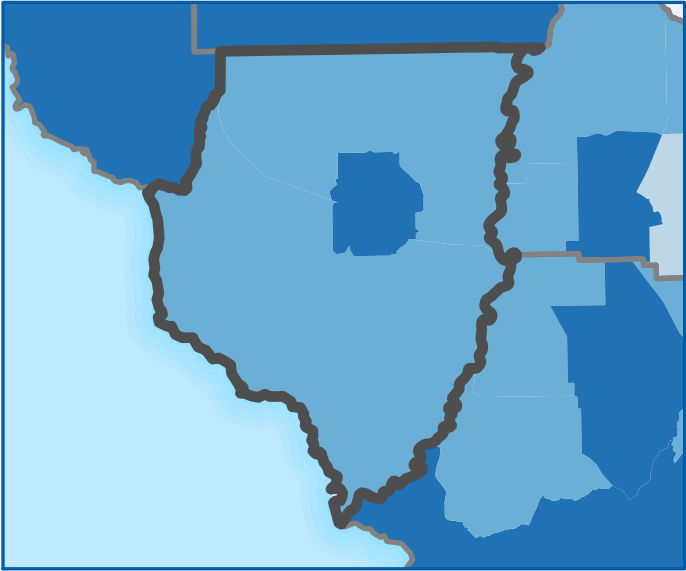
Household Composition/Disability<sup>6</sup>



Race/Ethnicity/Language<sup>7</sup>



Housing/Transportation<sup>8</sup>



**Data Sources:** <sup>2</sup>CDC/ATSDR/GRASP, U.S. Census Bureau, Esri® StreetMap™ Premium.  
**Notes:** <sup>1</sup>Overall Social Vulnerability: All 15 variables. <sup>3</sup>Census tracts with 0 population. <sup>4</sup>The SVI combines percentile rankings of US Census American Community Survey (ACS) 2012-2016 variables, for the state, at the census tract level. <sup>5</sup>Socioeconomic Status: Poverty, Unemployed, Per Capita Income, No High School Diploma. <sup>6</sup>Household Composition/Disability: Aged 65 and Over, Aged 17 and Younger, Single-parent Household, Aged 5 and over with a Disability. <sup>7</sup>Race/Ethnicity/Language: Minority, English Language Ability. <sup>8</sup>Housing/Transportation: Multi-unit, Mobile Homes, Crowding, No Vehicle, Group Quarters.  
**Projection:** NAD 1983 Florida GDL Albers.  
**References:** Flanagan, B.E., et al., A Social Vulnerability Index for Disaster Management. *Journal of Homeland Security and Emergency Management*, 2011. 8(1).  
CDC's SVI web page: <http://svi.cdc.gov>.

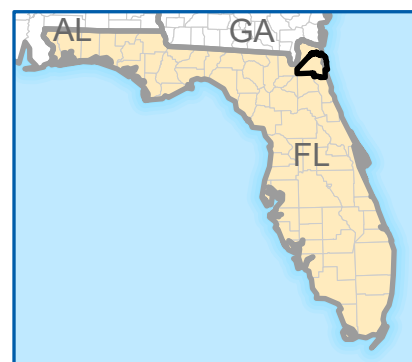
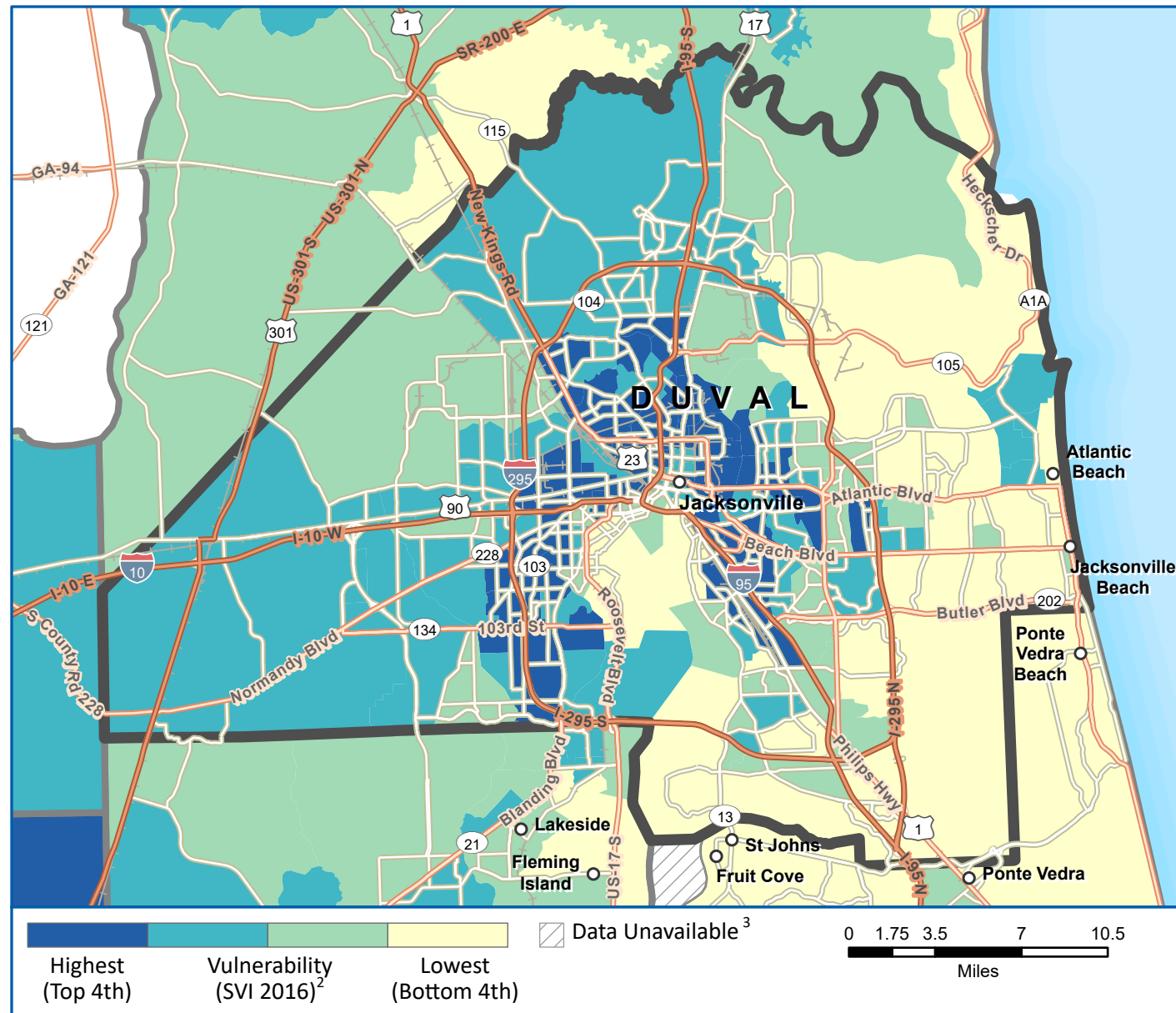
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## CDC's Social Vulnerability Index 2016

Duval County, Florida

PART 1

Overall Social Vulnerability<sup>1</sup>

**Social vulnerability** refers to a community's capacity to prepare for and respond to the stress of hazardous events ranging from natural disasters, such as tornadoes or disease outbreaks, to human-caused threats, such as toxic chemical spills. The **Social Vulnerability Index (SVI 2016)**<sup>4</sup> County Map depicts the social vulnerability of communities, at census tract level, within a specified county. SVI 2016 groups fifteen

**census-derived factors** into **four themes** that summarize the extent to which the area is socially vulnerable to disaster. The factors include economic data as well as data regarding education, family characteristics, housing, language ability, ethnicity, and vehicle access. Overall Social Vulnerability combines all the variables to provide a comprehensive assessment.

MAP PRODUCED 2/7/2018

Agency for Toxic Substances and Disease Registry

Division of Toxicology and Human Health Sciences

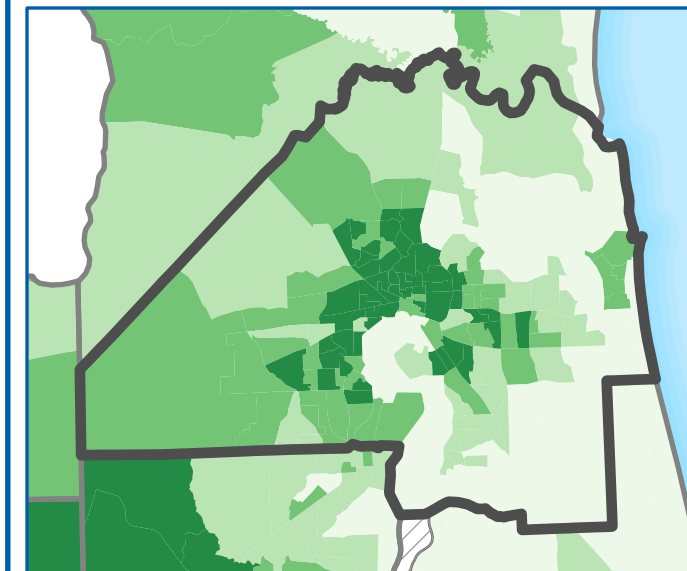
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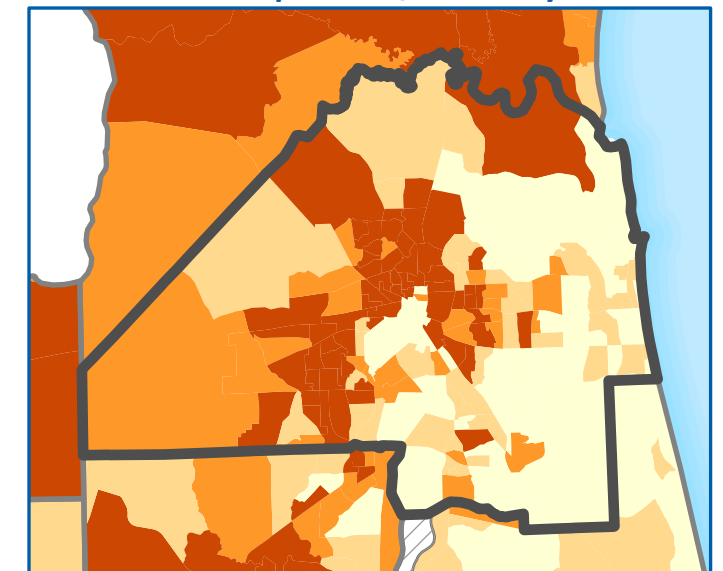
SVI 2016 – DUVAL COUNTY, FLORIDA

PART 2

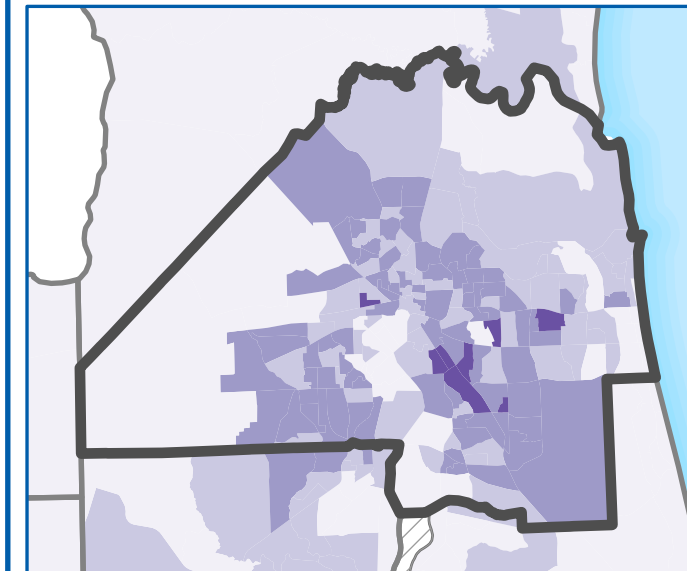
## SVI Themes

Socioeconomic Status<sup>5</sup>

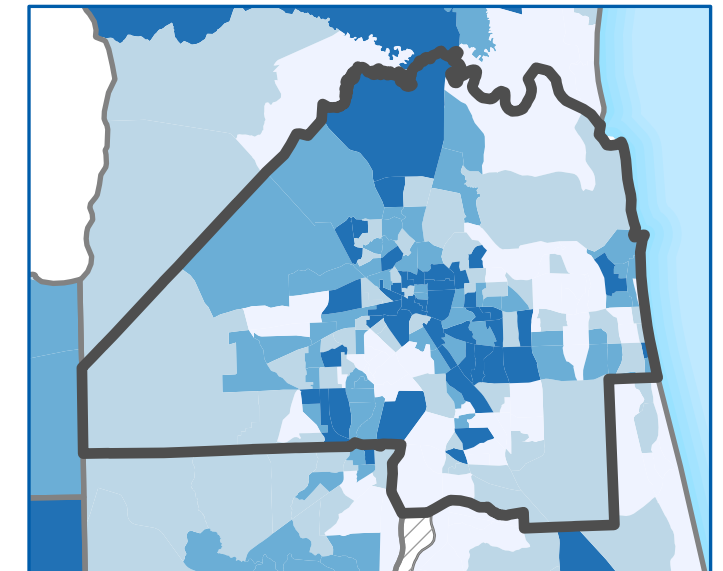
Highest (Top 4th) Vulnerability (SVI 2016)<sup>2</sup> Lowest (Bottom 4th)

Household Composition/Disability<sup>6</sup>

Highest (Top 4th) Vulnerability (SVI 2016)<sup>2</sup> Lowest (Bottom 4th)

Race/Ethnicity/Language<sup>7</sup>

Highest (Top 4th) Vulnerability (SVI 2016)<sup>2</sup> Lowest (Bottom 4th)

Housing/Transportation<sup>8</sup>

Highest (Top 4th) Vulnerability (SVI 2016)<sup>2</sup> Lowest (Bottom 4th)

**Data Sources:** <sup>2</sup>CDC/ATSDR/GRASP, U.S. Census Bureau, Esri® StreetMap™ Premium.

**Notes:** <sup>1</sup>Overall Social Vulnerability: All 15 variables. <sup>2</sup>Census tracts with 0 population. <sup>3</sup>The SVI combines percentile rankings of US Census American Community Survey (ACS) 2012-2016 variables, for the state, at the census tract level. <sup>4</sup>Socioeconomic Status: Poverty, Unemployed, Per Capita Income, No High School Diploma. <sup>5</sup>Household Composition/Disability: Aged 65 and Over, Aged 17 and Younger, Single-parent Household, Aged 5 and over with a Disability. <sup>6</sup>Race/Ethnicity/Language: Minority, English Language Ability. <sup>7</sup>Housing/Transportation: Multi-unit, Mobile Homes, Crowding, No Vehicle, Group Quarters.

**Projection:** NAD 1983 Florida GDL Albers.

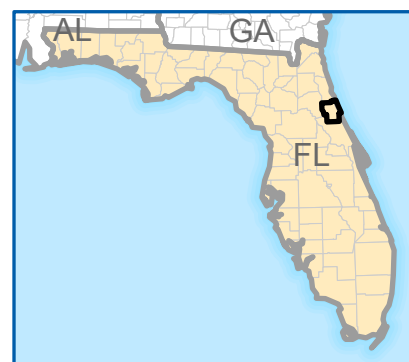
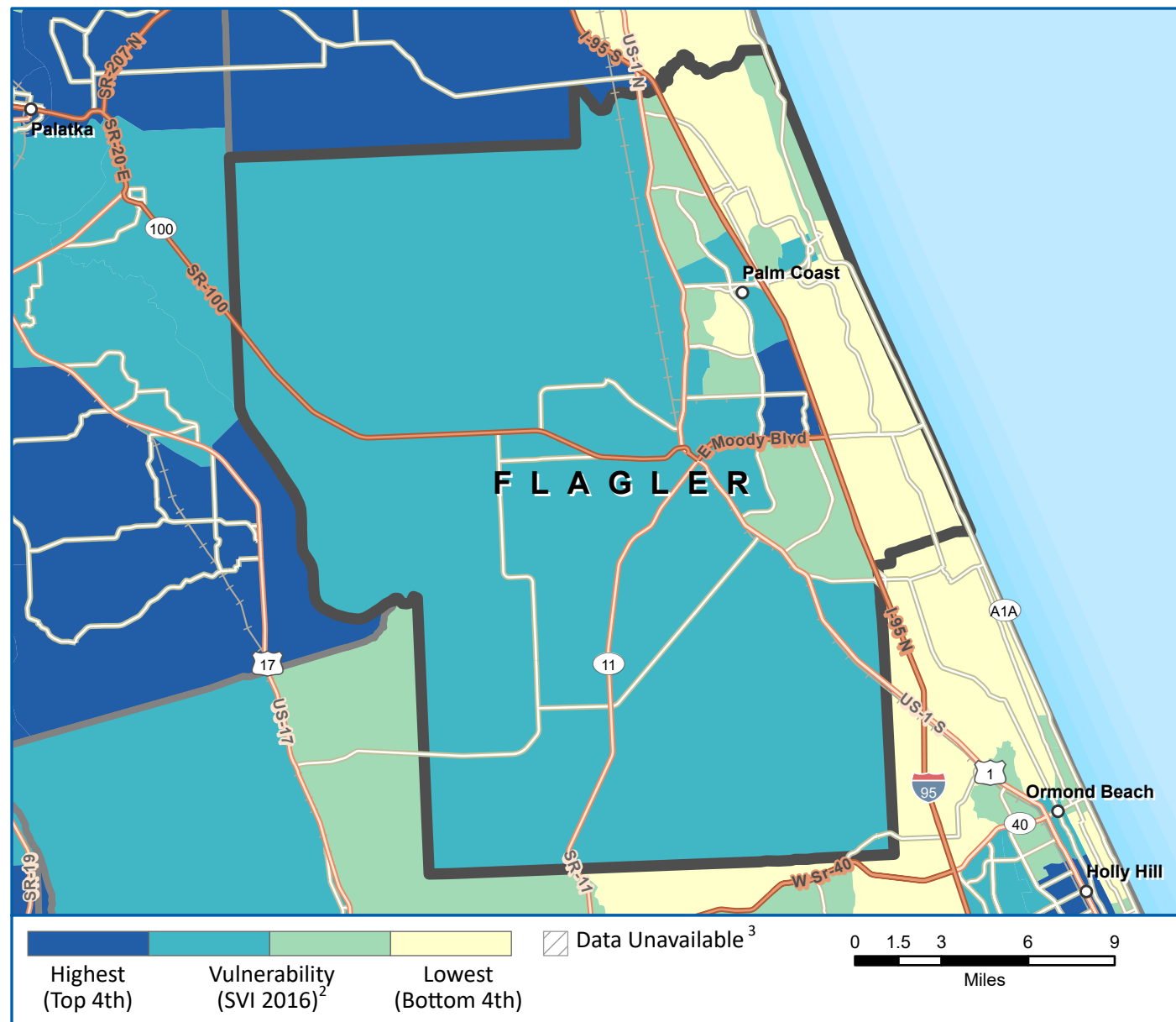
**References:** Flanagan, B.E., et al., A Social Vulnerability Index for Disaster Management. *Journal of Homeland Security and Emergency Management*, 2011. 8(1).  
CDC's SVI web page: <http://svi.cdc.gov>.

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## CDC's Social Vulnerability Index 2016

Flagler County, Florida

PART 1

Overall Social Vulnerability<sup>1</sup>

**Social vulnerability** refers to a community's capacity to prepare for and respond to the stress of hazardous events ranging from natural disasters, such as tornadoes or disease outbreaks, to human-caused threats, such as toxic chemical spills. The **Social Vulnerability Index (SVI 2016)**<sup>4</sup> County Map depicts the social vulnerability of communities, at census tract level, within a specified county. SVI 2016 groups fifteen

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MAP PRODUCED 2/7/2018

Agency for Toxic Substances and Disease Registry

Division of Toxicology and Human Health Sciences

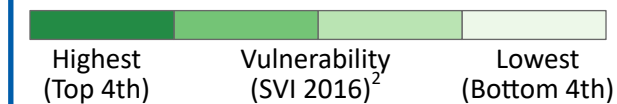
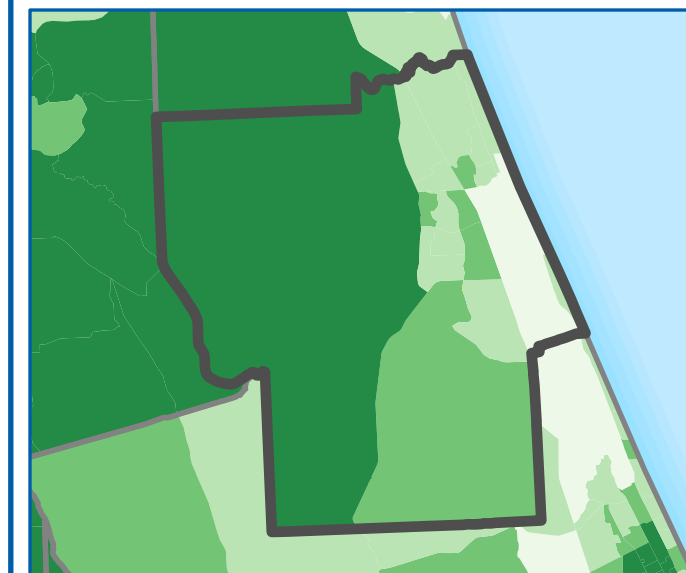
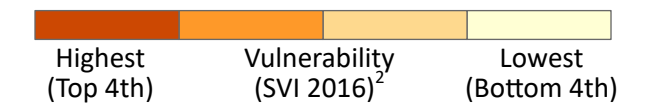
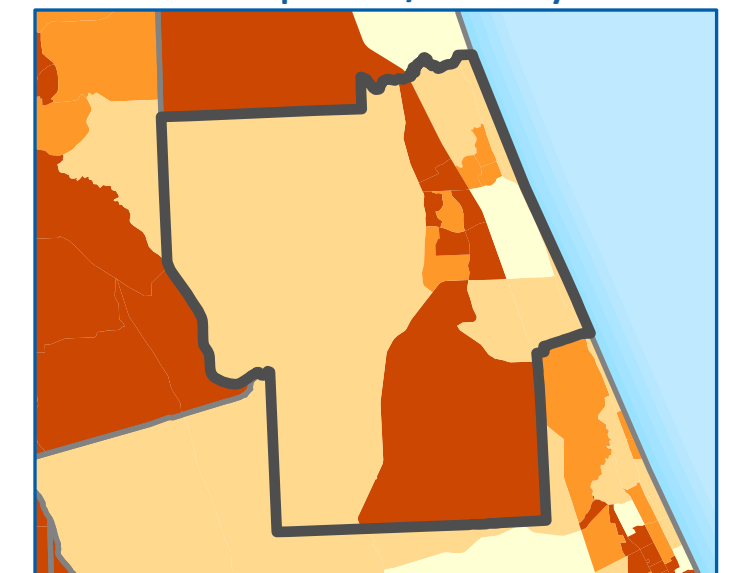
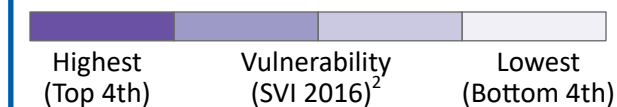
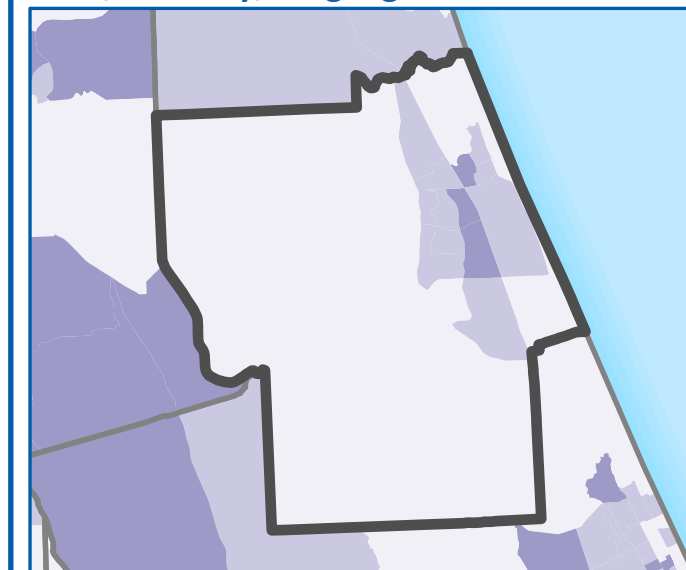
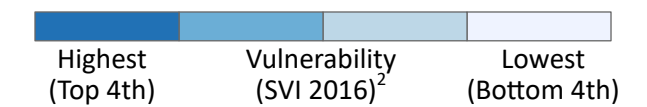
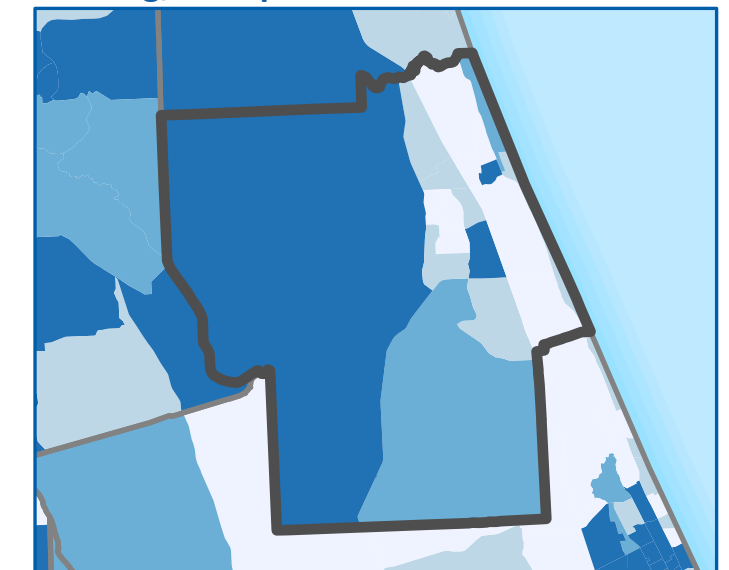
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SVI 2016 – FLAGLER COUNTY, FLORIDA

PART 2

## SVI Themes

Socioeconomic Status<sup>5</sup>Household Composition/Disability<sup>6</sup>Race/Ethnicity/Language<sup>7</sup>Housing/Transportation<sup>8</sup>Data Sources: <sup>2</sup>CDC/ATSDR/GRASP, U.S. Census Bureau, Esri® StreetMap™ Premium.

Notes: <sup>1</sup>Overall Social Vulnerability: All 15 variables. <sup>3</sup>Census tracts with 0 population. <sup>4</sup>The SVI combines percentile rankings of US Census American Community Survey (ACS) 2012-2016 variables, for the state, at the census tract level. <sup>5</sup>Socioeconomic Status: Poverty, Unemployed, Per Capita Income, No High School Diploma. <sup>6</sup>Household Composition/Disability: Aged 65 and Over, Aged 17 and Younger, Single-parent Household, Aged 5 and over with a Disability. <sup>7</sup>Race/Ethnicity/Language: Minority, English Language Ability. <sup>8</sup>Housing/Transportation: Multi-unit, Mobile Homes, Crowding, No Vehicle, Group Quarters.

Projection: NAD 1983 Florida GDL Albers.

References: Flanagan, B.E., et al., A Social Vulnerability Index for Disaster Management. *Journal of Homeland Security and Emergency Management*, 2011. 8(1).  
CDC's SVI web page: <http://svi.cdc.gov>.

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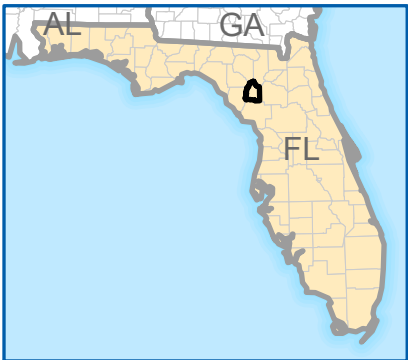
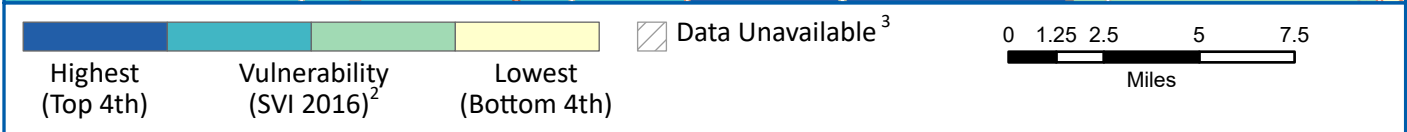
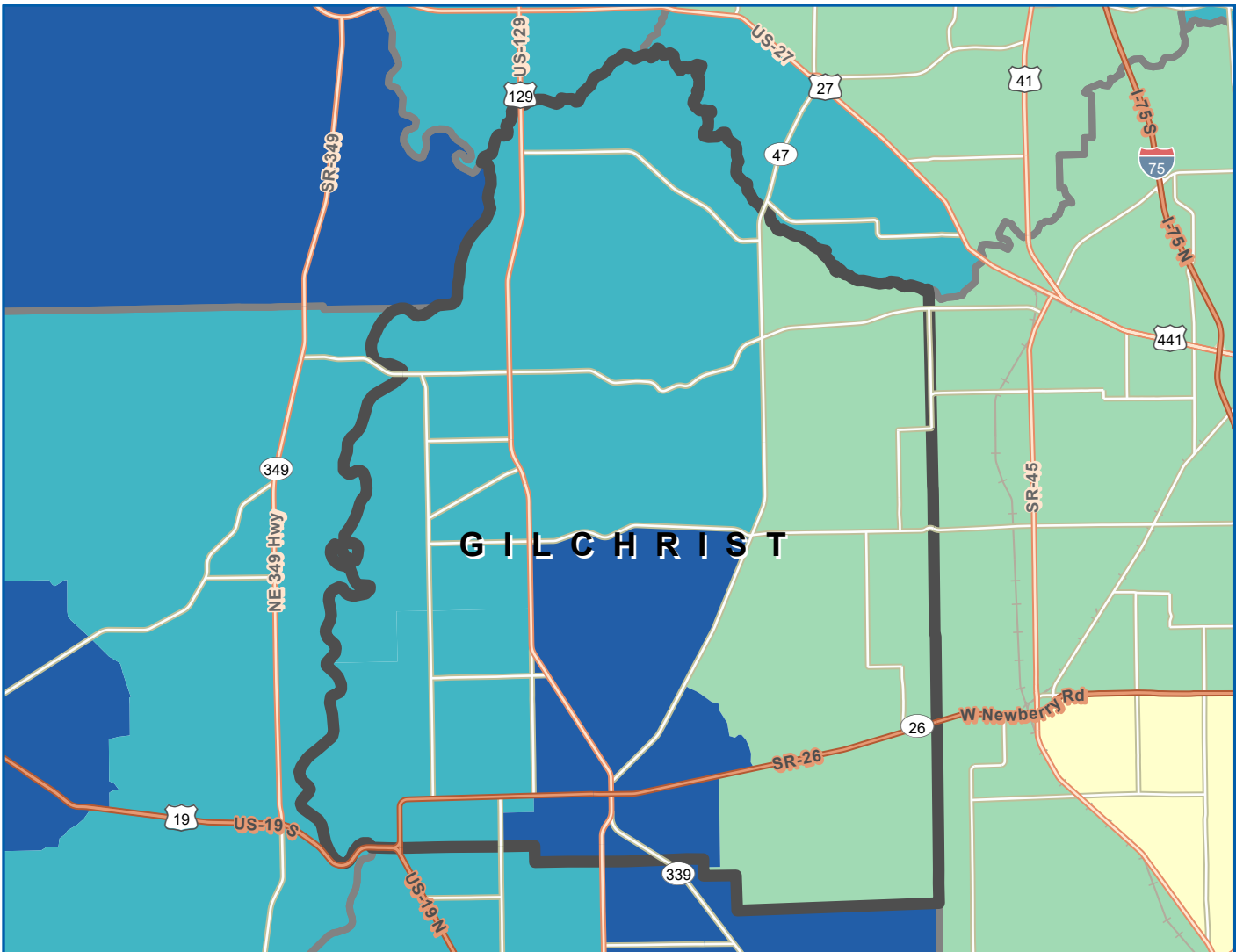
CDC's Social Vulnerability Index 2016

Gilchrist County, Florida

PART 1



Overall Social Vulnerability<sup>1</sup>



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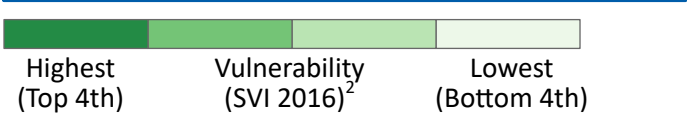
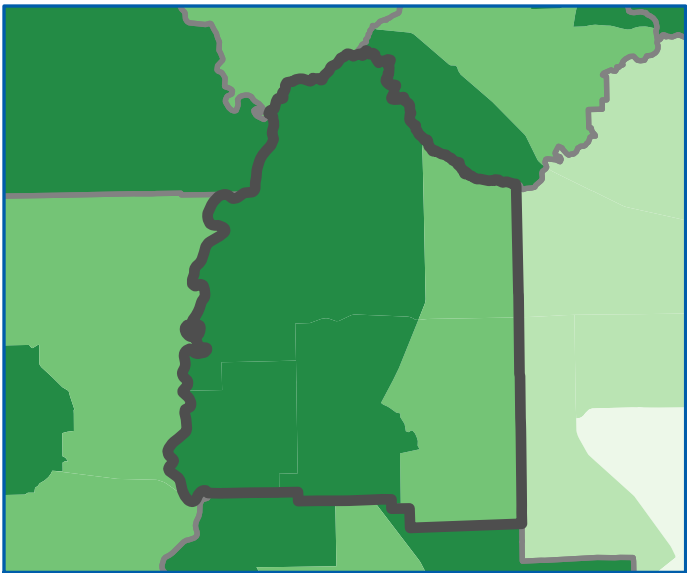


SVI 2016 – GILCHRIST COUNTY, FLORIDA

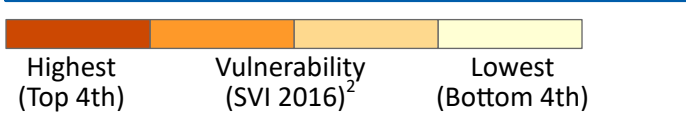
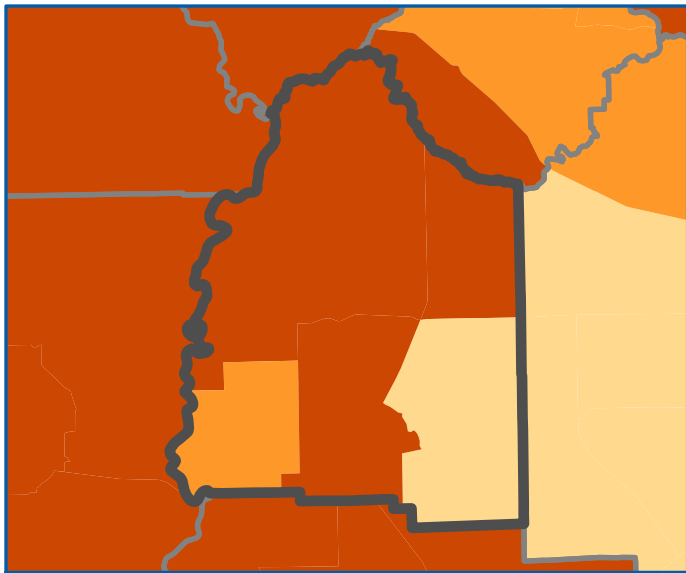
PART 2

SVI Themes

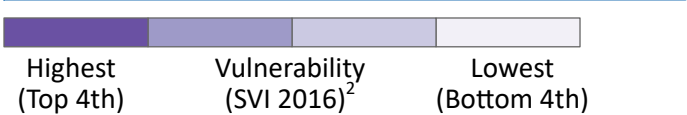
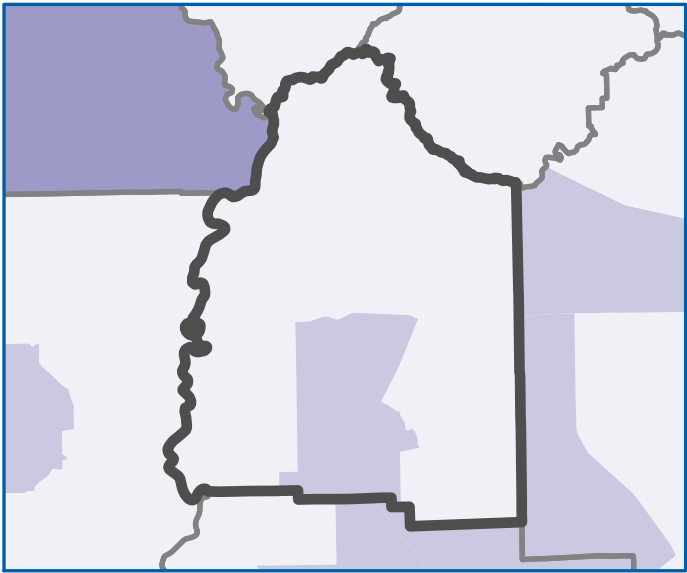
Socioeconomic Status<sup>5</sup>



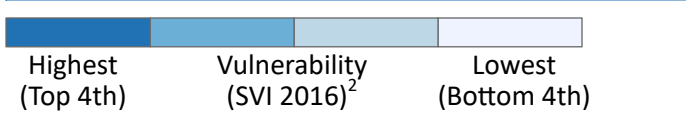
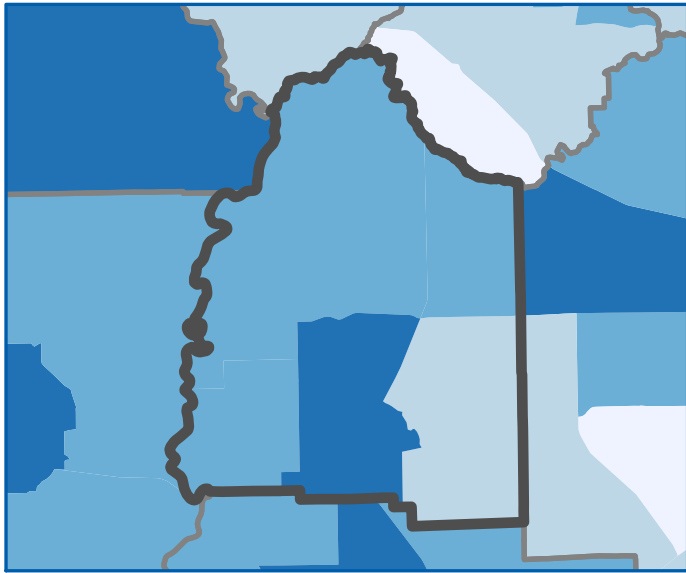
Household Composition/Disability<sup>6</sup>



Race/Ethnicity/Language<sup>7</sup>



Housing/Transportation<sup>8</sup>



**Data Sources:** <sup>2</sup>CDC/ATSDR/GRASP, U.S. Census Bureau, Esri® StreetMap™ Premium.  
**Notes:** <sup>1</sup>Overall Social Vulnerability: All 15 variables. <sup>3</sup>Census tracts with 0 population. <sup>4</sup>The SVI combines percentile rankings of US Census American Community Survey (ACS) 2012-2016 variables, for the state, at the census tract level. <sup>5</sup>Socioeconomic Status: Poverty, Unemployed, Per Capita Income, No High School Diploma. <sup>6</sup>Household Composition/Disability: Aged 65 and Over, Aged 17 and Younger, Single-parent Household, Aged 5 and over with a Disability. <sup>7</sup>Race/Ethnicity/Language: Minority, English Language Ability. <sup>8</sup>Housing/Transportation: Multi-unit, Mobile Homes, Crowding, No Vehicle, Group Quarters.  
**Projection:** NAD 1983 Florida GDL Albers.  
**References:** Flanagan, B.E., et al., A Social Vulnerability Index for Disaster Management. *Journal of Homeland Security and Emergency Management*, 2011. 8(1).  
CDC's SVI web page: <http://svi.cdc.gov>.

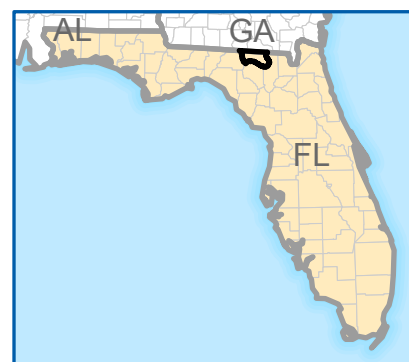
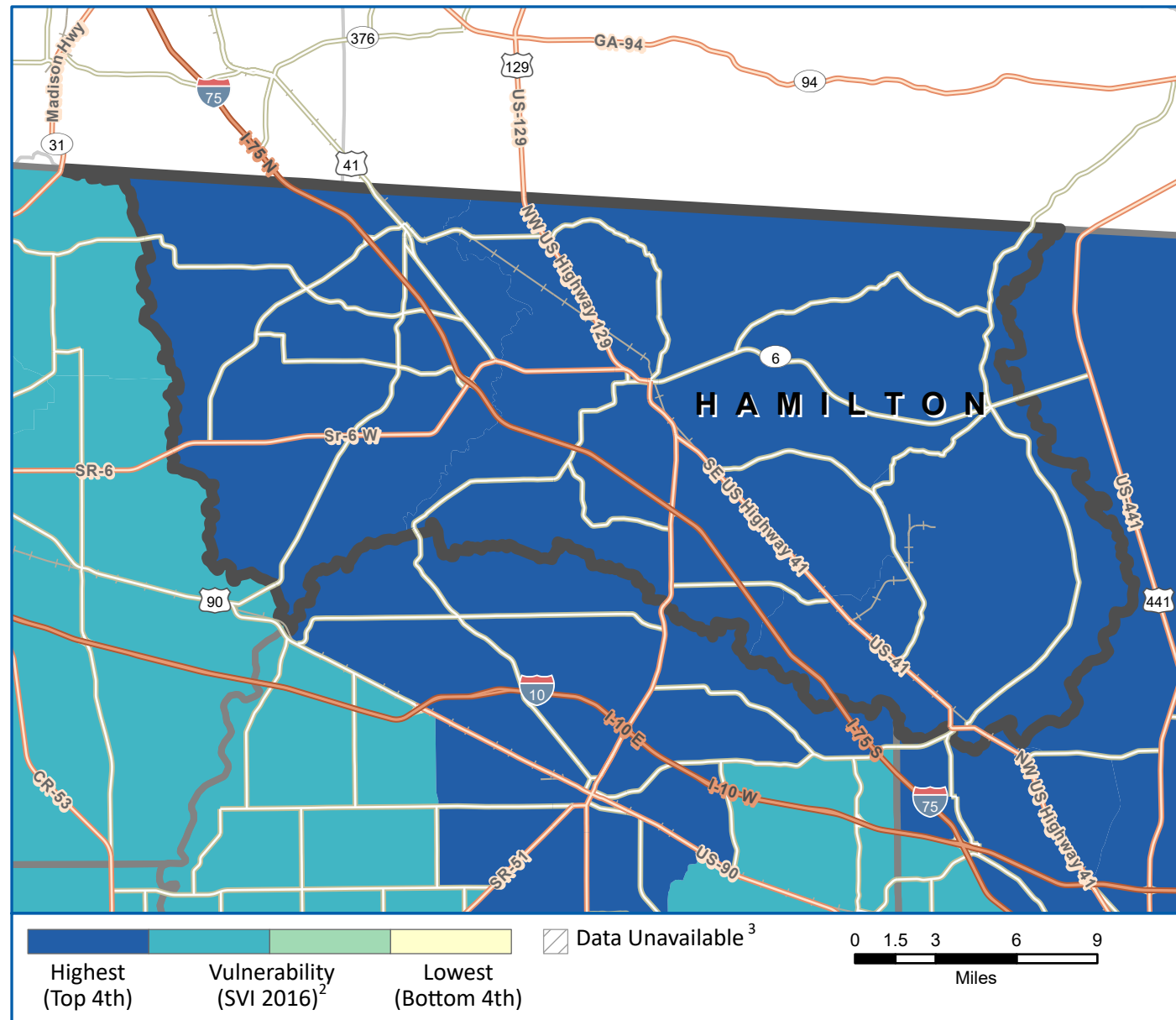
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# CDC's Social Vulnerability Index 2016

Hamilton County, Florida

PART 1

## Overall Social Vulnerability<sup>1</sup>



**Social vulnerability** refers to a community's capacity to prepare for and respond to the stress of hazardous events ranging from natural disasters, such as tornadoes or disease outbreaks, to human-caused threats, such as toxic chemical spills. The **Social Vulnerability Index (SVI 2016)**<sup>4</sup> County Map depicts the social vulnerability of communities, at census tract level, within a specified county. SVI 2016 groups **fifteen**

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MAP PRODUCED 2/7/2018

Agency for Toxic Substances and Disease Registry

Division of Toxicology and Human Health Sciences

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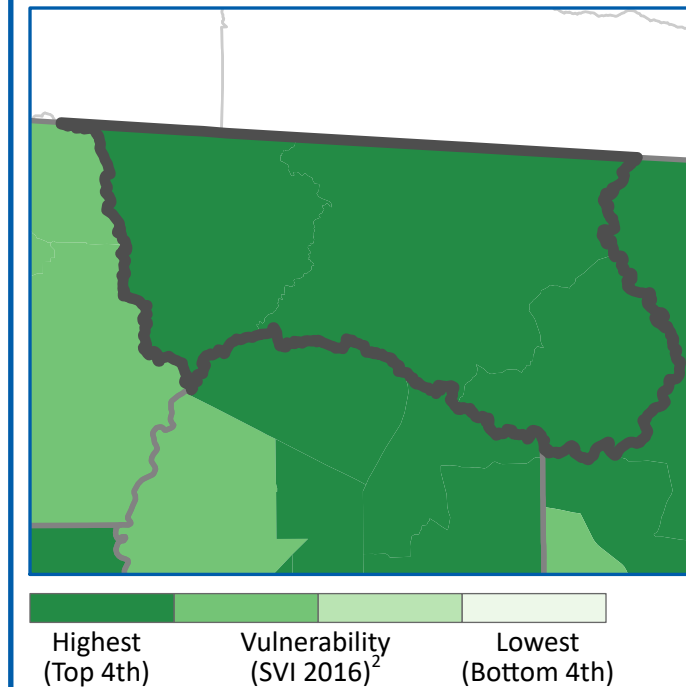


SVI 2016 – HAMILTON COUNTY, FLORIDA

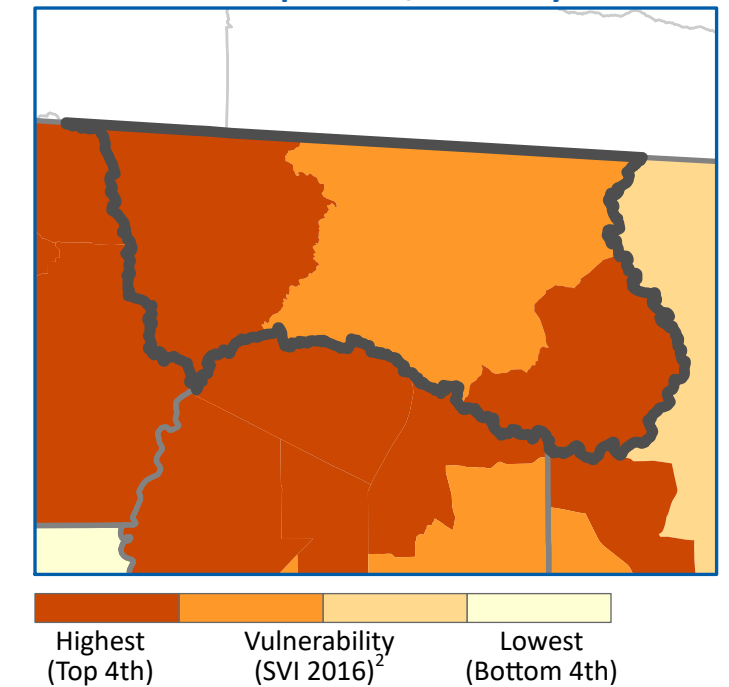
PART 2

## SVI Themes

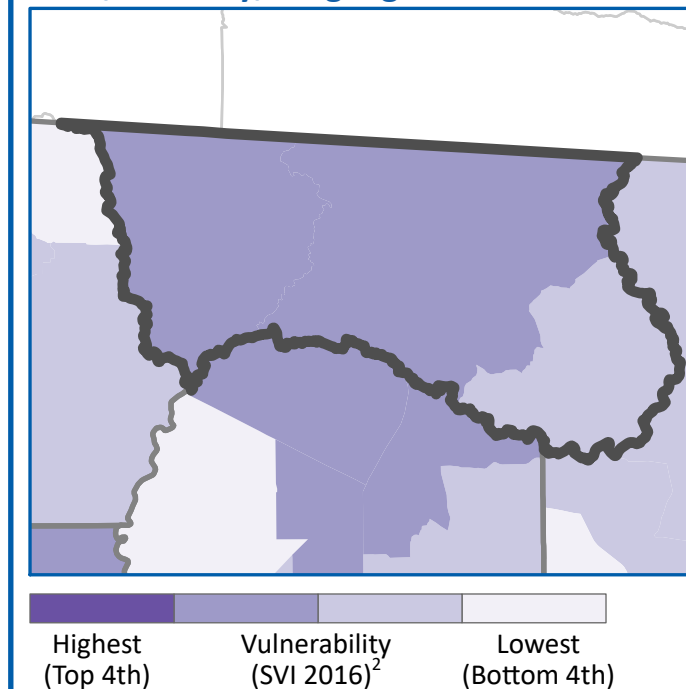
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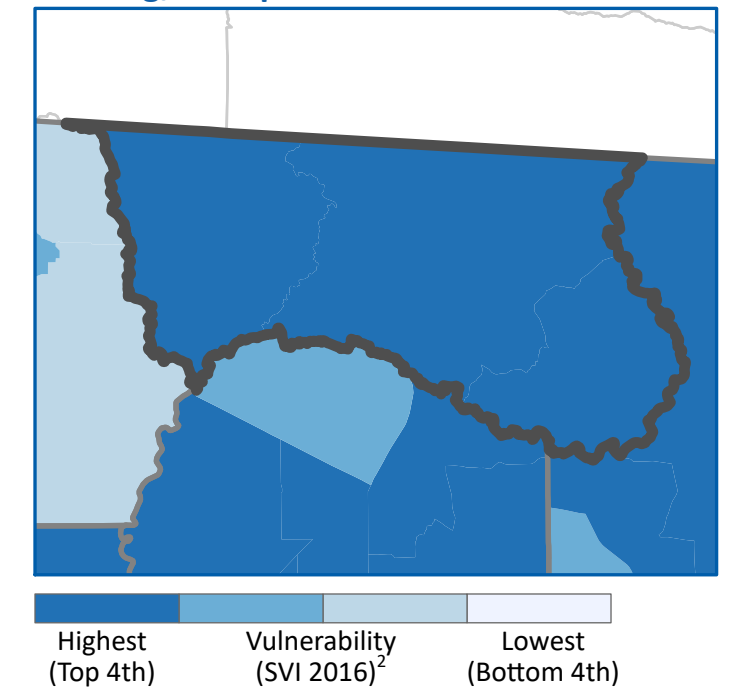
### Household Composition/Disability<sup>6</sup>



### Race/Ethnicity/Language<sup>7</sup>



### Housing/Transportation<sup>8</sup>



**Data Sources:** <sup>2</sup>CDC/ATSDR/GRASP, U.S. Census Bureau, Esri® StreetMap™ Premium.

**Notes:** <sup>1</sup>Overall Social Vulnerability: All 15 variables. <sup>3</sup>Census tracts with 0 population. <sup>4</sup>The SVI combines percentile rankings of US Census American Community Survey (ACS) 2012-2016 variables, for the state, at the census tract level. <sup>5</sup>Socioeconomic Status: Poverty, Unemployed, Per Capita Income, No High School Diploma. <sup>6</sup>Household Composition/Disability: Aged 65 and Over, Aged 17 and Younger, Single-parent Household, Aged 5 and over with a Disability. <sup>7</sup>Race/Ethnicity/Language: Minority, English Language Ability. <sup>8</sup>Housing/Transportation: Multi-unit, Mobile Homes, Crowding, No Vehicle, Group Quarters.

**Projection:** NAD 1983 Florida GDL Albers.

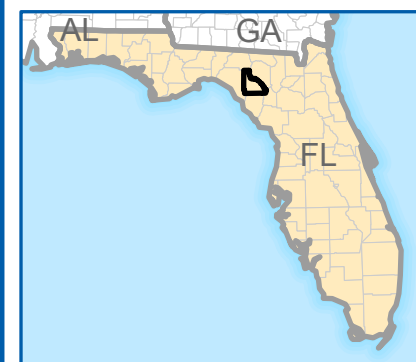
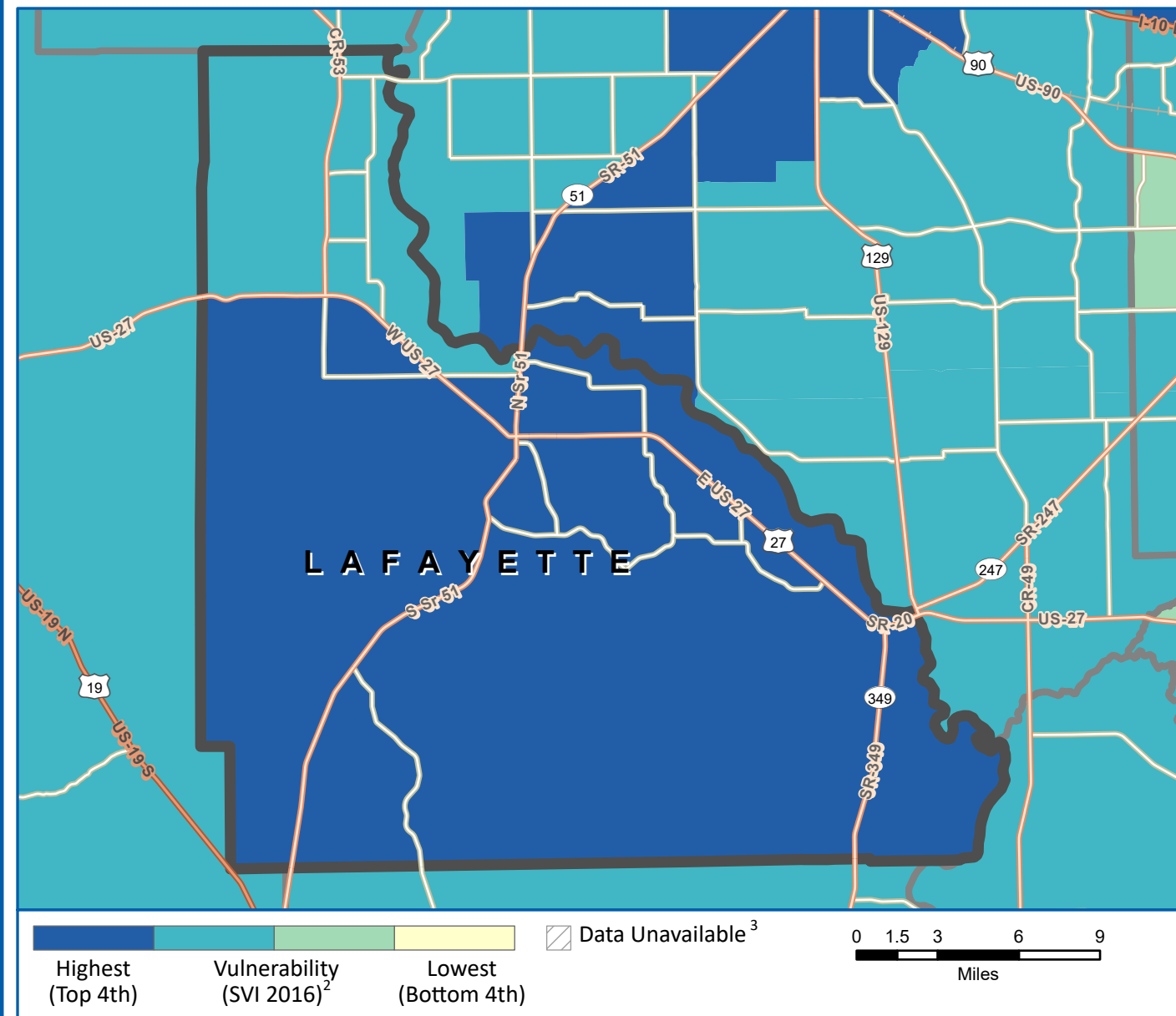
**References:** Flanagan, B.E., et al., A Social Vulnerability Index for Disaster Management. *Journal of Homeland Security and Emergency Management*, 2011. 8(1).  
CDC's SVI web page: <http://svi.cdc.gov>.

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## CDC's Social Vulnerability Index 2016

Lafayette County, Florida

PART 1

Overall Social Vulnerability<sup>1</sup>

**Social vulnerability** refers to a community's capacity to prepare for and respond to the stress of hazardous events ranging from natural disasters, such as tornadoes or disease outbreaks, to human-caused threats, such as toxic chemical spills. The **Social Vulnerability Index (SVI 2016)**<sup>4</sup> County Map depicts the social vulnerability of communities, at census tract level, within a specified county. SVI 2016 groups **fifteen**

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MAP PRODUCED 2/7/2018

Agency for Toxic Substances and Disease Registry

Division of Toxicology and Human Health Sciences

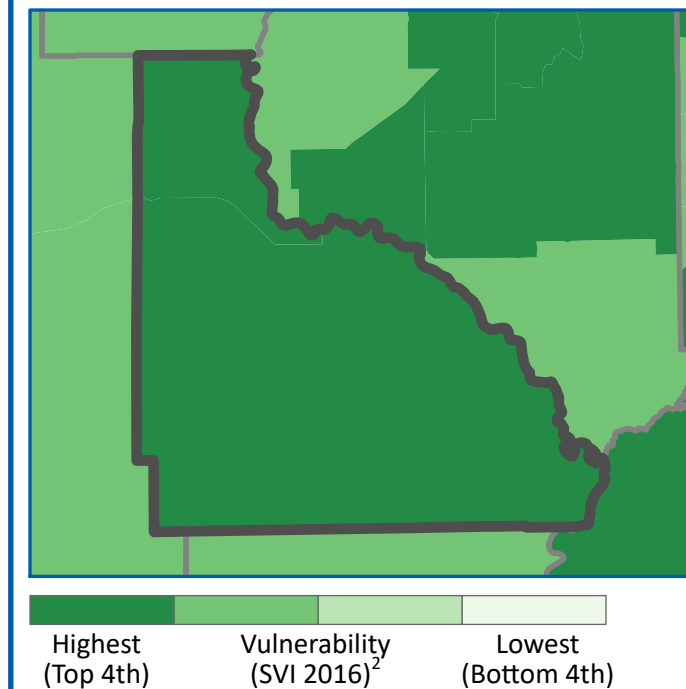
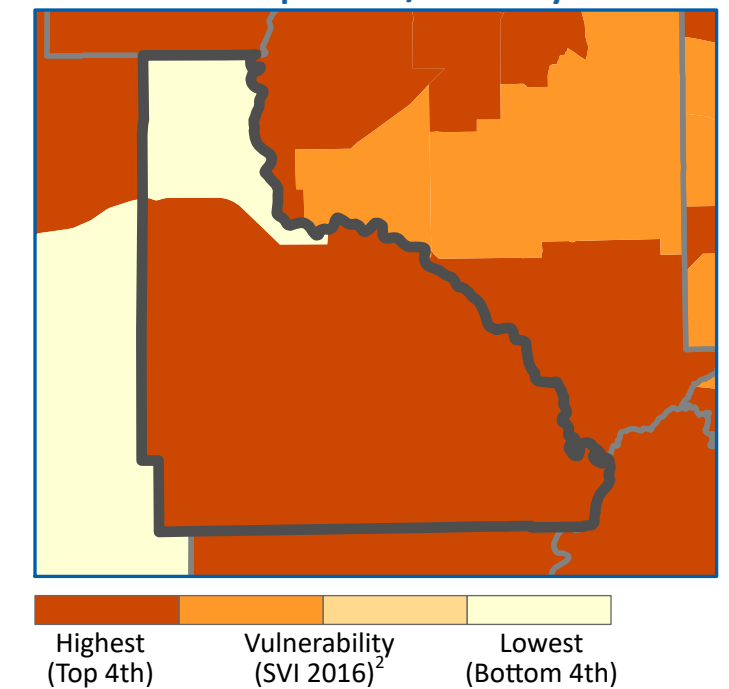
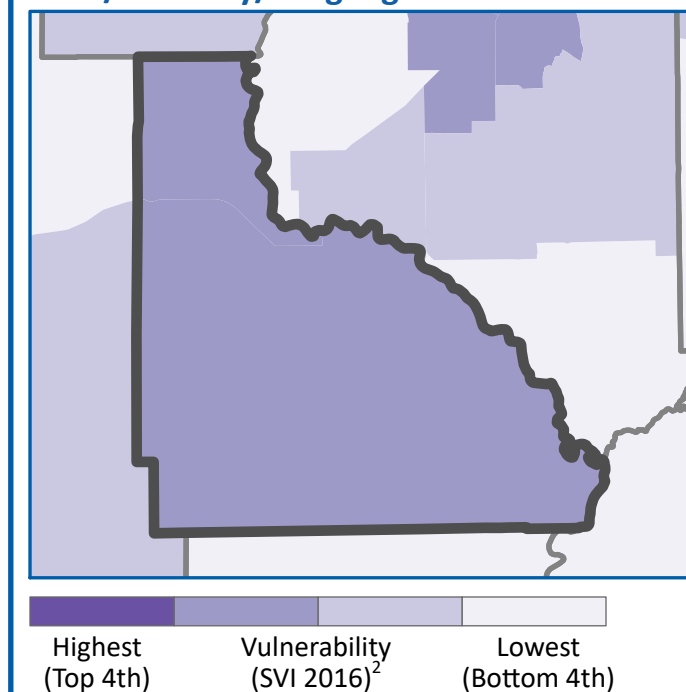
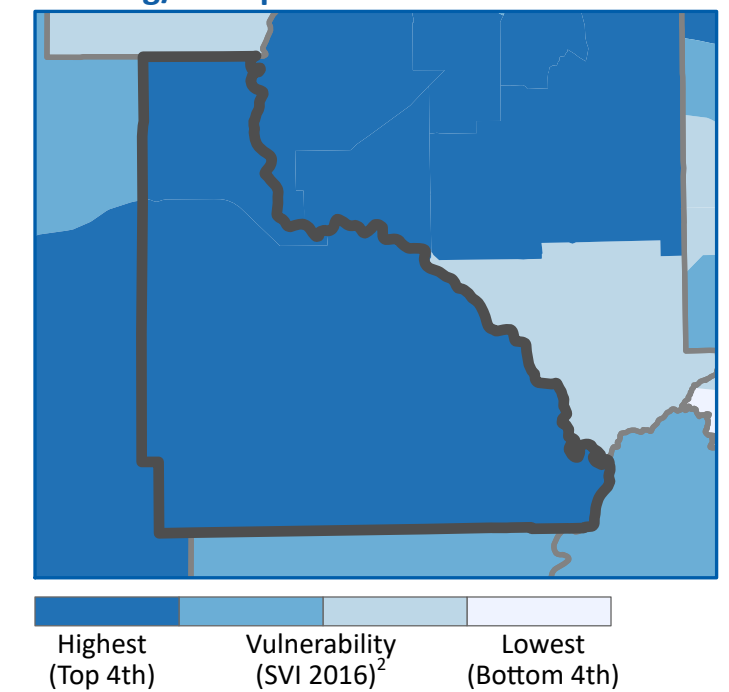
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SVI 2016 – LAFAYETTE COUNTY, FLORIDA

PART 2

## SVI Themes

Socioeconomic Status<sup>5</sup>Household Composition/Disability<sup>6</sup>Race/Ethnicity/Language<sup>7</sup>Housing/Transportation<sup>8</sup>

**Data Sources:** <sup>2</sup>CDC/ATSDR/GRASP, U.S. Census Bureau, Esri® StreetMap™ Premium.

**Notes:** <sup>1</sup>Overall Social Vulnerability: All 15 variables. <sup>3</sup>Census tracts with 0 population. <sup>4</sup>The SVI combines percentile rankings of US Census American Community Survey (ACS) 2012-2016 variables, for the state, at the census tract level. <sup>5</sup>Socioeconomic Status: Poverty, Unemployed, Per Capita Income, No High School Diploma. <sup>6</sup>Household Composition/Disability: Aged 65 and Over, Aged 17 and Younger, Single-parent Household, Aged 5 and over with a Disability. <sup>7</sup>Race/Ethnicity/Language: Minority, English Language Ability. <sup>8</sup>Housing/Transportation: Multi-unit, Mobile Homes, Crowding, No Vehicle, Group Quarters.

**Projection:** NAD 1983 Florida GDL Albers.

**References:** Flanagan, B.E., et al., A Social Vulnerability Index for Disaster Management. *Journal of Homeland Security and Emergency Management*, 2011. 8(1).  
CDC's SVI web page: <http://svi.cdc.gov>.

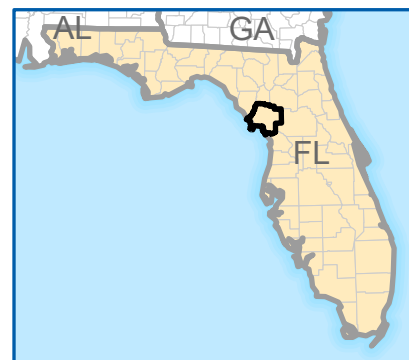
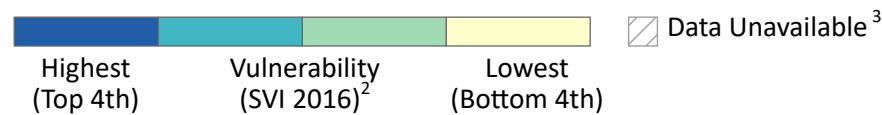
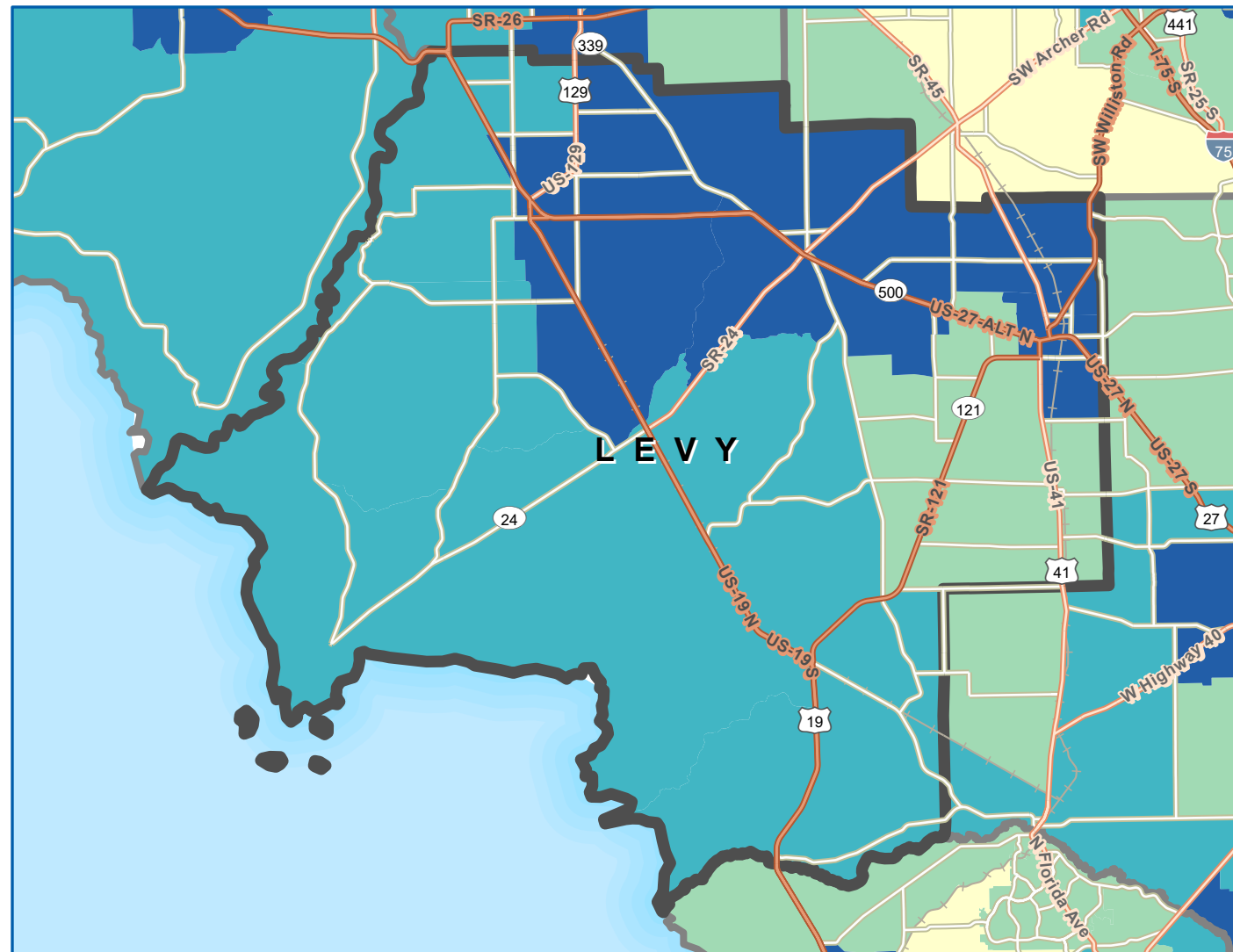
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## CDC's Social Vulnerability Index 2016

Levy County, Florida

PART 1

Overall Social Vulnerability<sup>1</sup>

**Social vulnerability** refers to a community's capacity to prepare for and respond to the stress of hazardous events ranging from natural disasters, such as tornadoes or disease outbreaks, to human-caused threats, such as toxic chemical spills. The **Social Vulnerability Index (SVI 2016)**<sup>4</sup> County Map depicts the social vulnerability of communities, at census tract level, within a specified county. SVI 2016 groups **fifteen**

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MAP PRODUCED 2/7/2018

Agency for Toxic Substances and Disease Registry

Division of Toxicology and Human Health Sciences

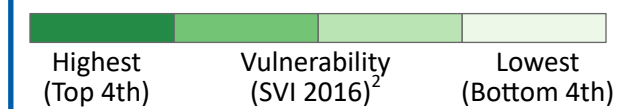
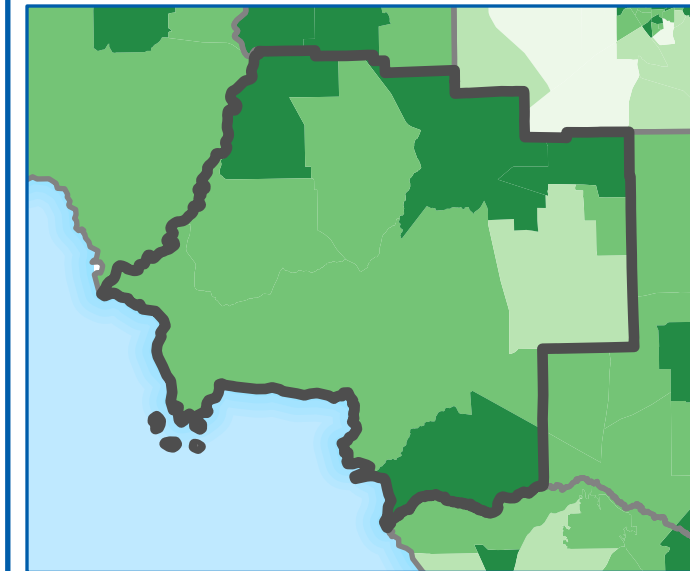
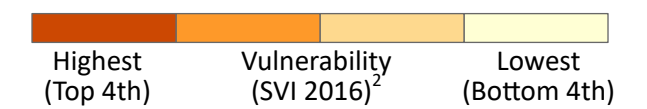
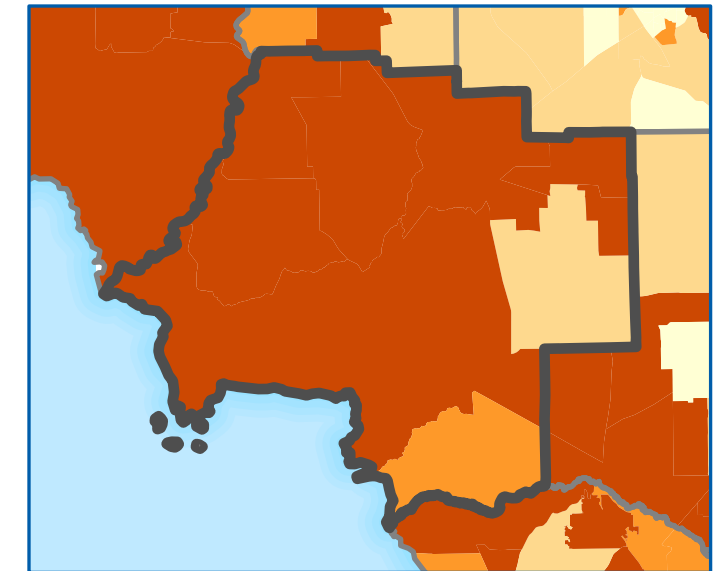
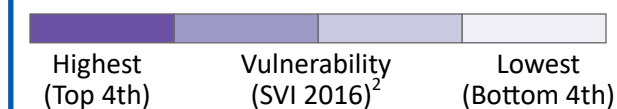
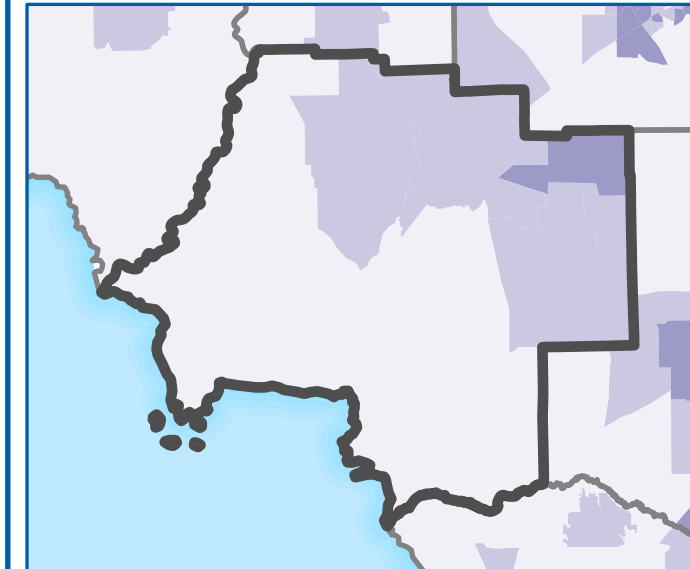
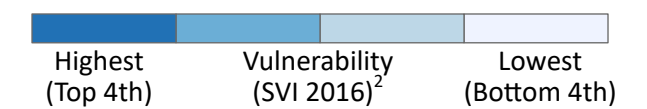
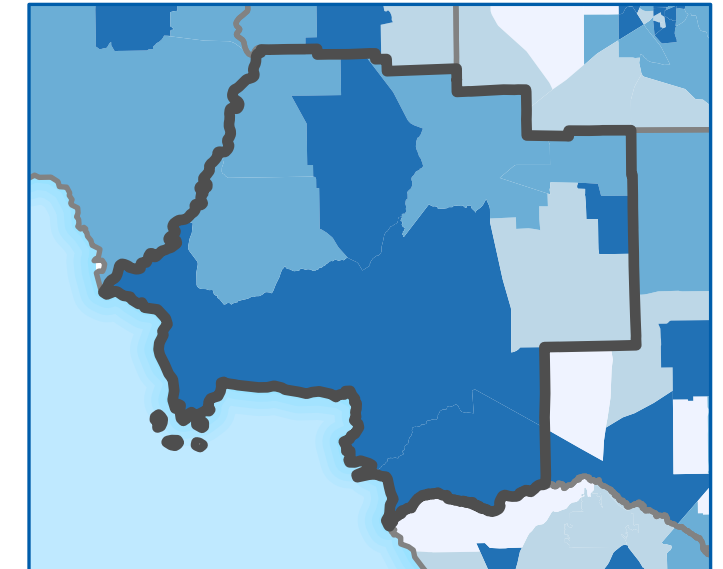
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SVI 2016 – LEVY COUNTY, FLORIDA

PART 2

## SVI Themes

Socioeconomic Status<sup>5</sup>Household Composition/Disability<sup>6</sup>Race/Ethnicity/Language<sup>7</sup>Housing/Transportation<sup>8</sup>

**Data Sources:** <sup>2</sup>CDC/ATSDR/GRASP, U.S. Census Bureau, Esri® StreetMap™ Premium.

**Notes:** <sup>1</sup>Overall Social Vulnerability: All 15 variables. <sup>3</sup>Census tracts with 0 population. <sup>4</sup>The SVI combines percentile rankings of US Census American Community Survey (ACS) 2012-2016 variables, for the state, at the census tract level. <sup>5</sup>Socioeconomic Status: Poverty, Unemployed, Per Capita Income, No High School Diploma. <sup>6</sup>Household Composition/Disability: Aged 65 and Over, Aged 17 and Younger, Single-parent Household, Aged 5 and over with a Disability. <sup>7</sup>Race/Ethnicity/Language: Minority, English Language Ability. <sup>8</sup>Housing/Transportation: Multi-unit, Mobile Homes, Crowding, No Vehicle, Group Quarters.

**Projection:** NAD 1983 Florida GDL Albers.

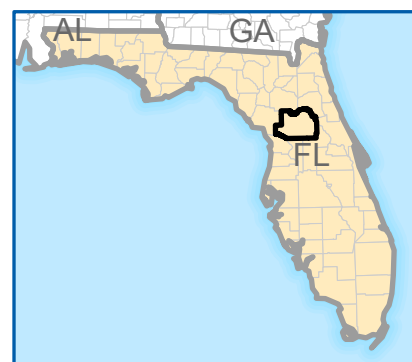
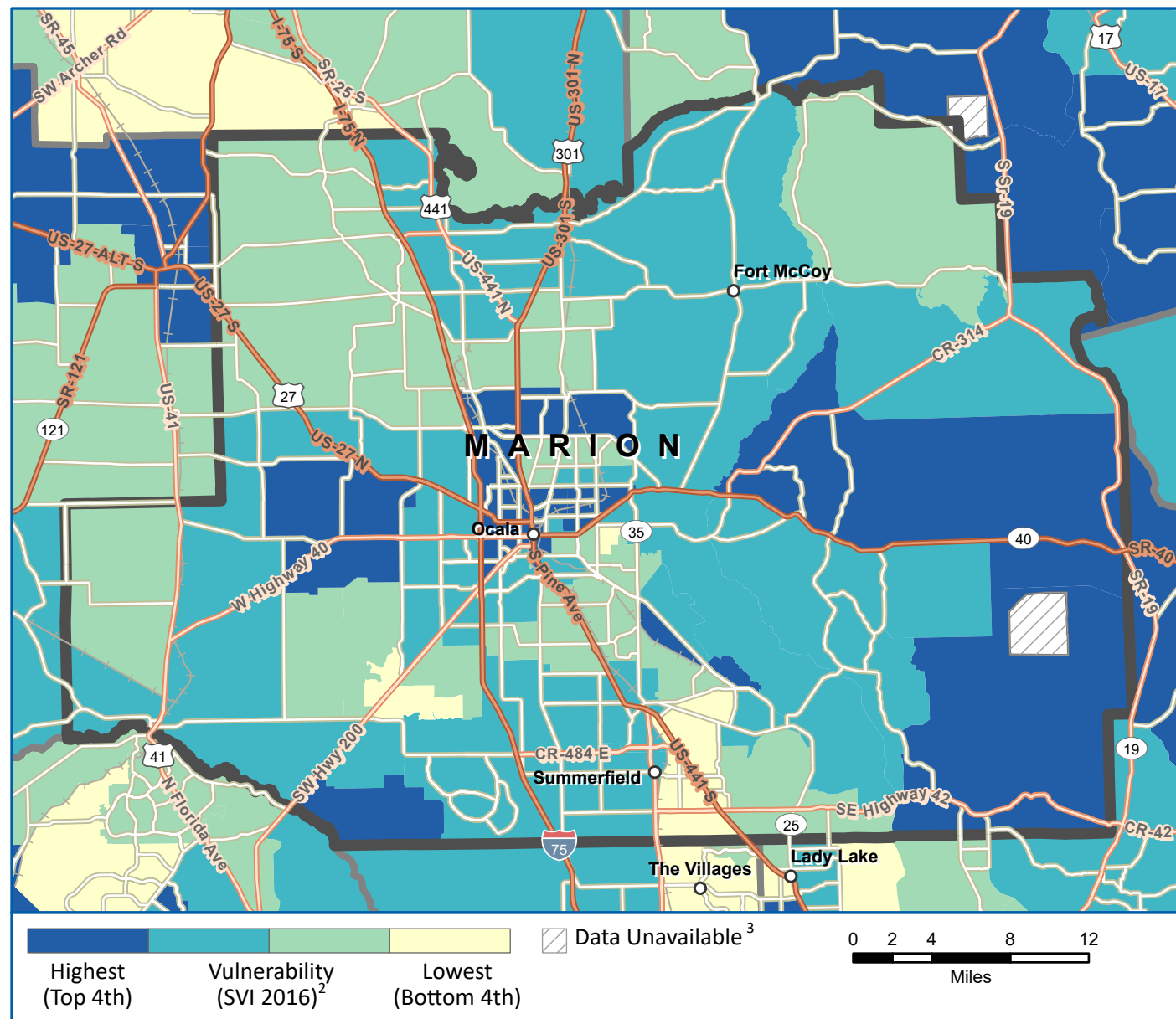
**References:** Flanagan, B.E., et al., A Social Vulnerability Index for Disaster Management. *Journal of Homeland Security and Emergency Management*, 2011. 8(1).  
CDC's SVI web page: <http://svi.cdc.gov>.

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## CDC's Social Vulnerability Index 2016

Marion County, Florida

PART 1

Overall Social Vulnerability<sup>1</sup>

**Social vulnerability** refers to a community's capacity to prepare for and respond to the stress of hazardous events ranging from natural disasters, such as tornadoes or disease outbreaks, to human-caused threats, such as toxic chemical spills. The **Social Vulnerability Index (SVI 2016)**<sup>4</sup> County Map depicts the social vulnerability of communities, at census tract level, within a specified county. SVI 2016 groups fifteen

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MAP PRODUCED 2/7/2018

Agency for Toxic Substances and Disease Registry

Division of Toxicology and Human Health Sciences

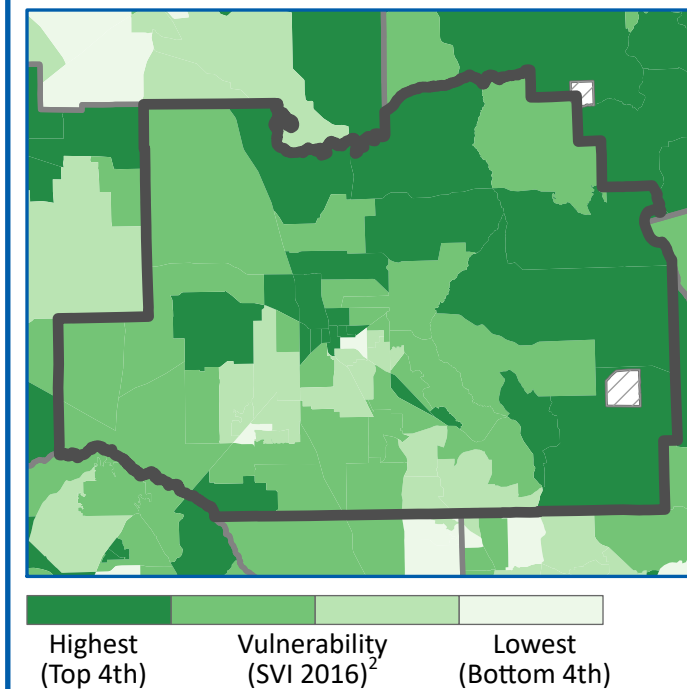
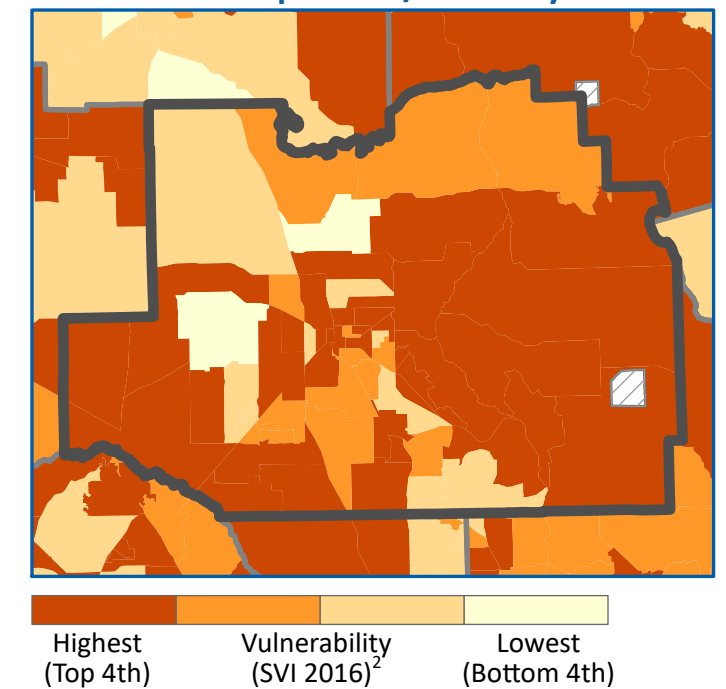
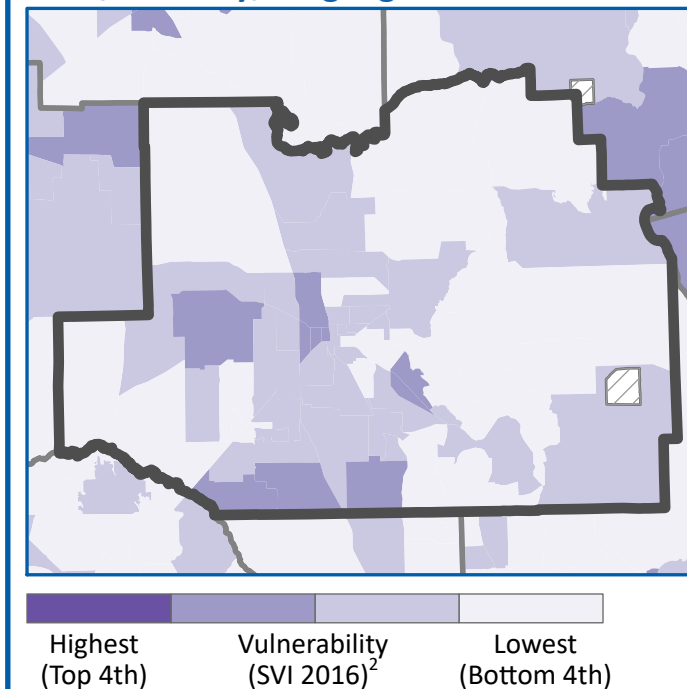
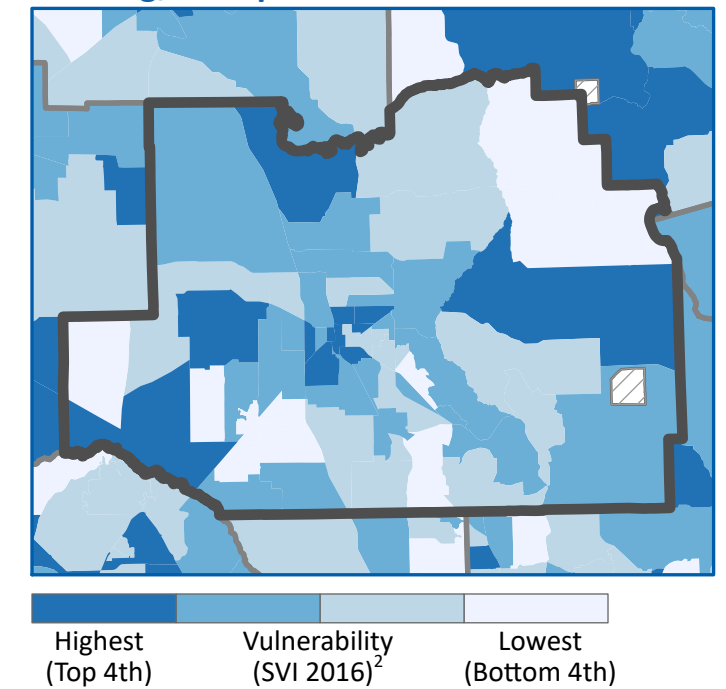
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SVI 2016 – MARION COUNTY, FLORIDA

PART 2

## SVI Themes

Socioeconomic Status<sup>5</sup>Household Composition/Disability<sup>6</sup>Race/Ethnicity/Language<sup>7</sup>Housing/Transportation<sup>8</sup>Data Sources: <sup>2</sup>CDC/ATSDR/GRASP, U.S. Census Bureau, Esri® StreetMap™ Premium.

Notes: <sup>1</sup>Overall Social Vulnerability: All 15 variables. <sup>3</sup>Census tracts with 0 population. <sup>4</sup>The SVI combines percentile rankings of US Census American Community Survey (ACS) 2012-2016 variables, for the state, at the census tract level. <sup>5</sup>Socioeconomic Status: Poverty, Unemployed, Per Capita Income, No High School Diploma. <sup>6</sup>Household Composition/Disability: Aged 65 and Over, Aged 17 and Younger, Single-parent Household, Aged 5 and over with a Disability. <sup>7</sup>Race/Ethnicity/Language: Minority, English Language Ability. <sup>8</sup>Housing/Transportation: Multi-unit, Mobile Homes, Crowding, No Vehicle, Group Quarters.

Projection: NAD 1983 Florida GDL Albers.

References: Flanagan, B.E., et al., A Social Vulnerability Index for Disaster Management. *Journal of Homeland Security and Emergency Management*, 2011. 8(1).  
CDC's SVI web page: <http://svi.cdc.gov>.

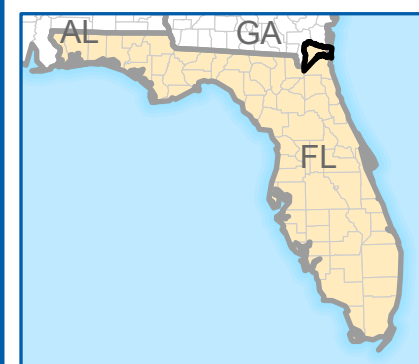
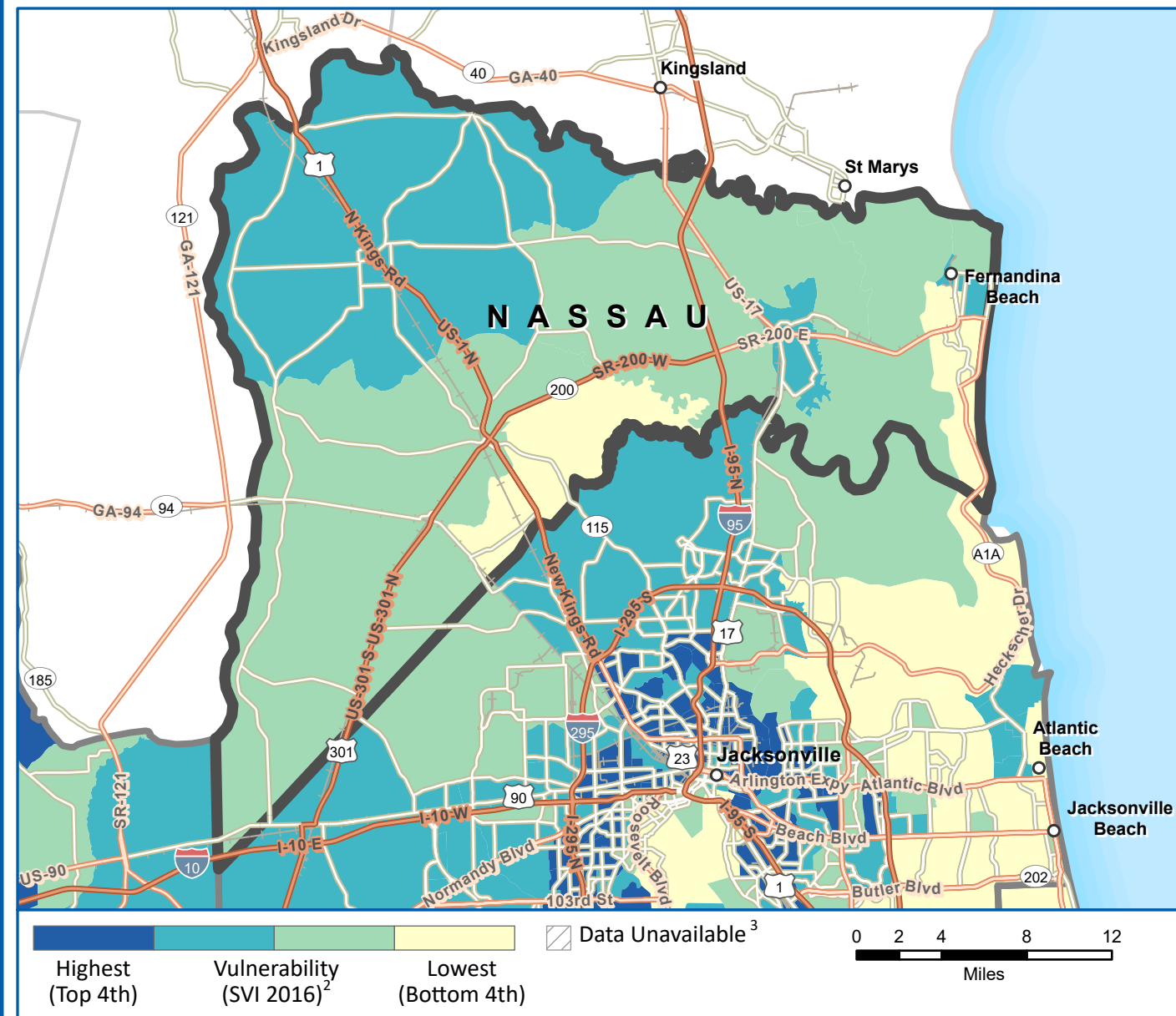
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## CDC's Social Vulnerability Index 2016

Nassau County, Florida

PART 1

Overall Social Vulnerability<sup>1</sup>

**Social vulnerability** refers to a community's capacity to prepare for and respond to the stress of hazardous events ranging from natural disasters, such as tornadoes or disease outbreaks, to human-caused threats, such as toxic chemical spills. The **Social Vulnerability Index (SVI 2016)**<sup>4</sup> County Map depicts the social vulnerability of communities, at census tract level, within a specified county. SVI 2016 groups fifteen

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MAP PRODUCED 2/7/2018

Agency for Toxic Substances and Disease Registry

Division of Toxicology and Human Health Sciences

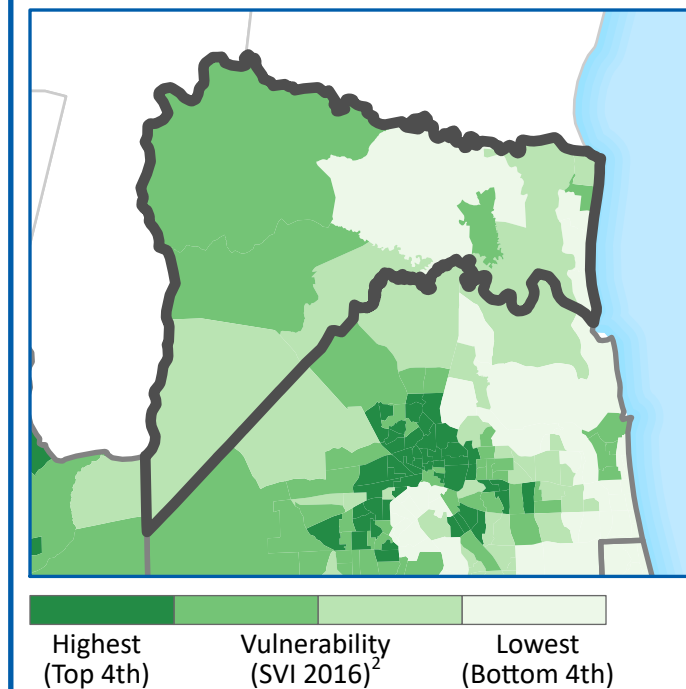
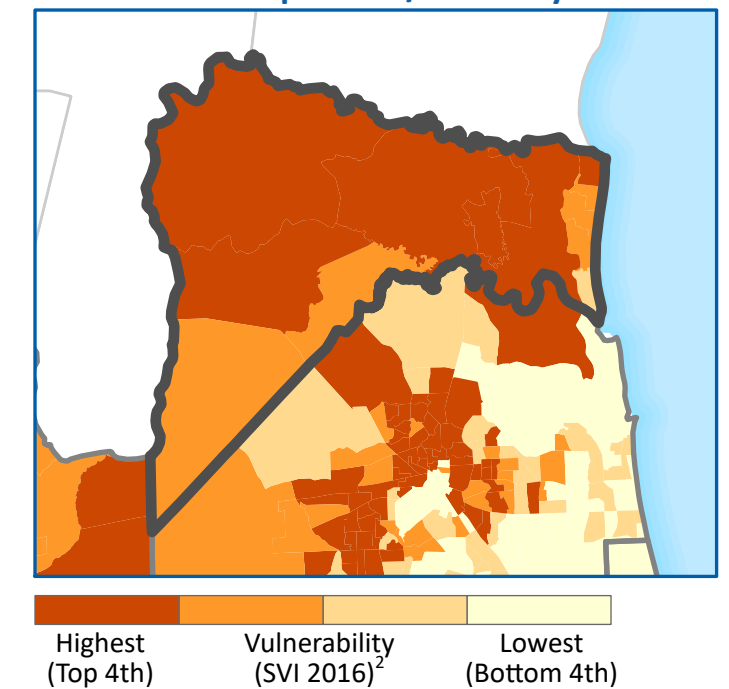
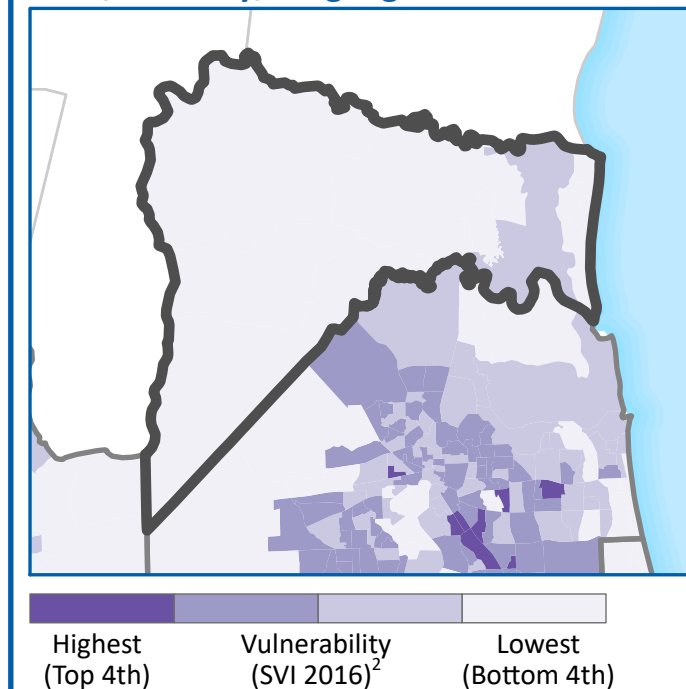
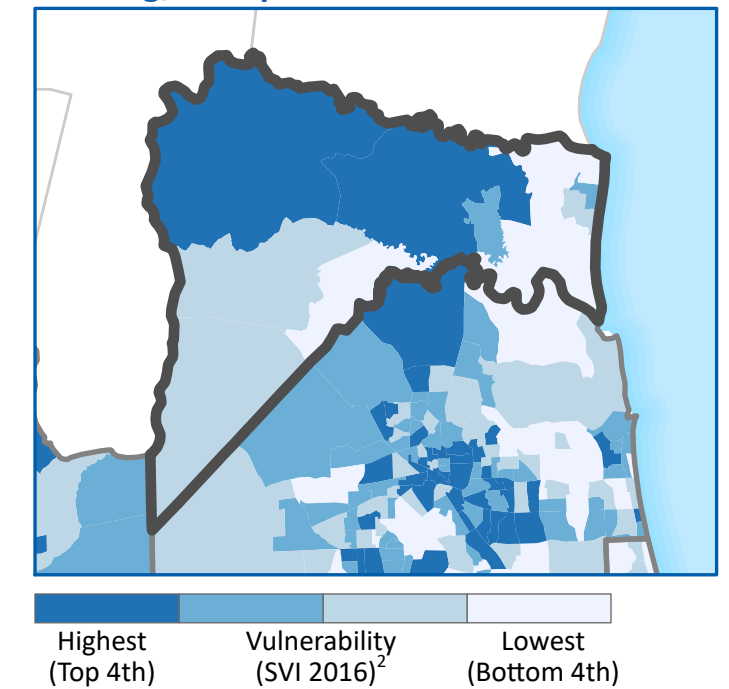
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SVI 2016 – NASSAU COUNTY, FLORIDA

PART 2

## SVI Themes

Socioeconomic Status<sup>5</sup>Household Composition/Disability<sup>6</sup>Race/Ethnicity/Language<sup>7</sup>Housing/Transportation<sup>8</sup>

**Data Sources:** <sup>2</sup>CDC/ATSDR/GRASP, U.S. Census Bureau, Esri® StreetMap™ Premium.

**Notes:** <sup>1</sup>Overall Social Vulnerability: All 15 variables. <sup>3</sup>Census tracts with 0 population. <sup>4</sup>The SVI combines percentile rankings of US Census American Community Survey (ACS) 2012-2016 variables, for the state, at the census tract level. <sup>5</sup>Socioeconomic Status: Poverty, Unemployed, Per Capita Income, No High School Diploma. <sup>6</sup>Household Composition/Disability: Aged 65 and Over, Aged 17 and Younger, Single-parent Household, Aged 5 and over with a Disability. <sup>7</sup>Race/Ethnicity/Language: Minority, English Language Ability. <sup>8</sup>Housing/Transportation: Multi-unit, Mobile Homes, Crowding, No Vehicle, Group Quarters.

**Projection:** NAD 1983 Florida GDL Albers.

**References:** Flanagan, B.E., et al., A Social Vulnerability Index for Disaster Management. *Journal of Homeland Security and Emergency Management*, 2011. 8(1).  
CDC's SVI web page: <http://svi.cdc.gov>.

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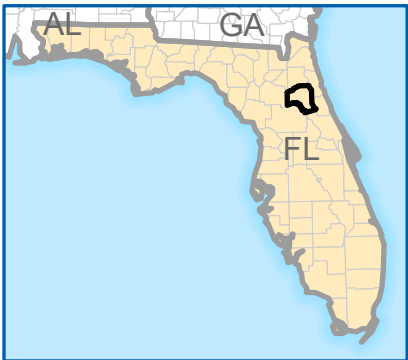
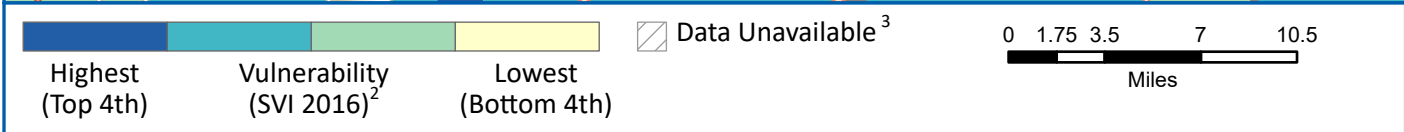
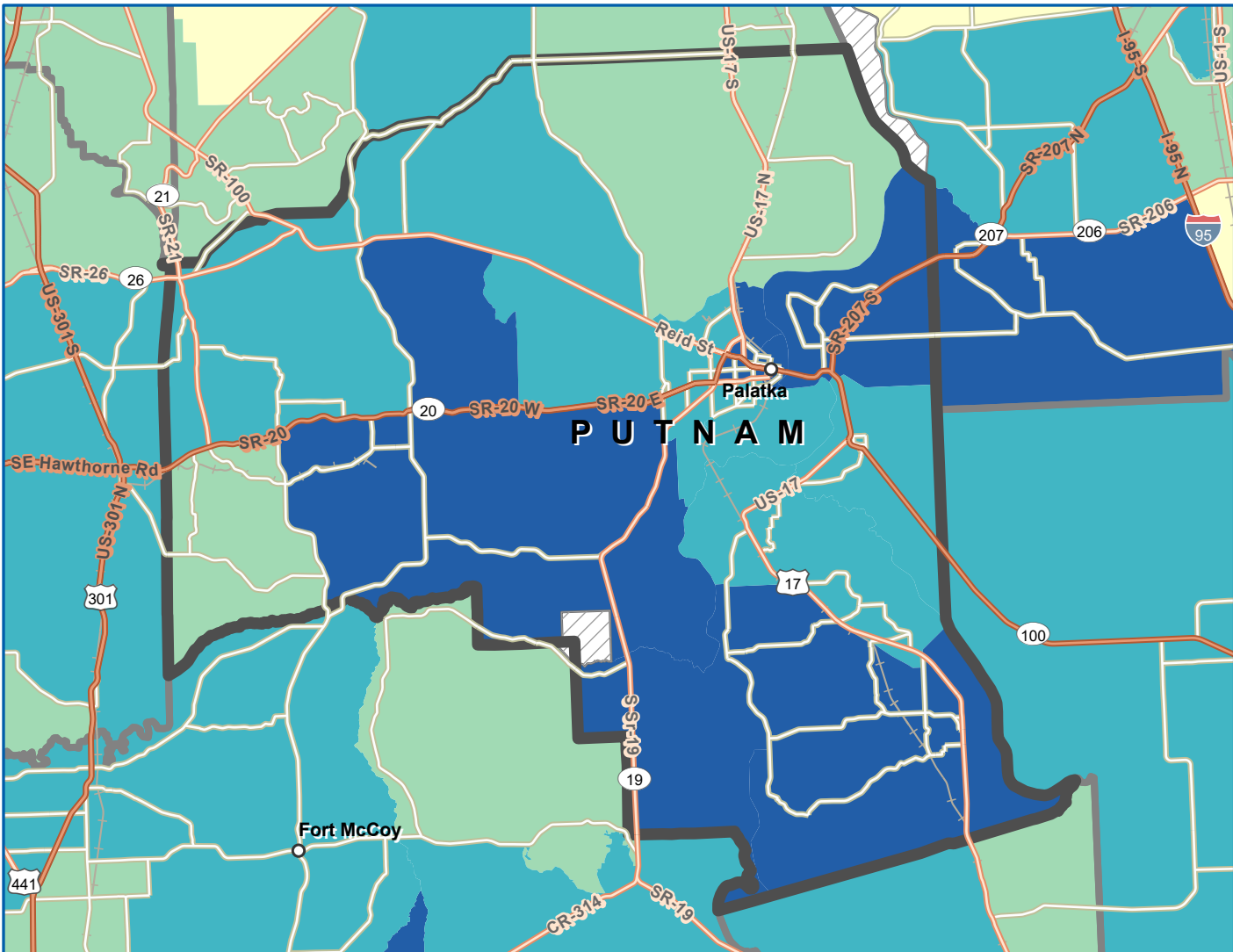
CDC's Social Vulnerability Index 2016

Putnam County, Florida

PART 1



Overall Social Vulnerability<sup>1</sup>



**Social vulnerability** refers to a community's capacity to prepare for and respond to the stress of hazardous events ranging from natural disasters, such as tornadoes or disease outbreaks, to human-caused threats, such as toxic chemical spills. The **Social Vulnerability Index (SVI 2016)**<sup>4</sup> County Map depicts the social vulnerability of communities, at census tract level, within a specified county. SVI 2016 groups fifteen

**census-derived factors** into **four themes** that summarize the extent to which the area is socially vulnerable to disaster. The factors include economic data as well as data regarding education, family characteristics, housing, language ability, ethnicity, and vehicle access. Overall Social Vulnerability combines all the variables to provide a comprehensive assessment.



Agency for Toxic Substances and Disease Registry  
Division of Toxicology and Human Health Sciences

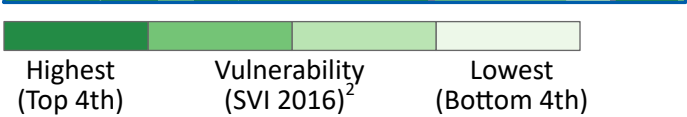
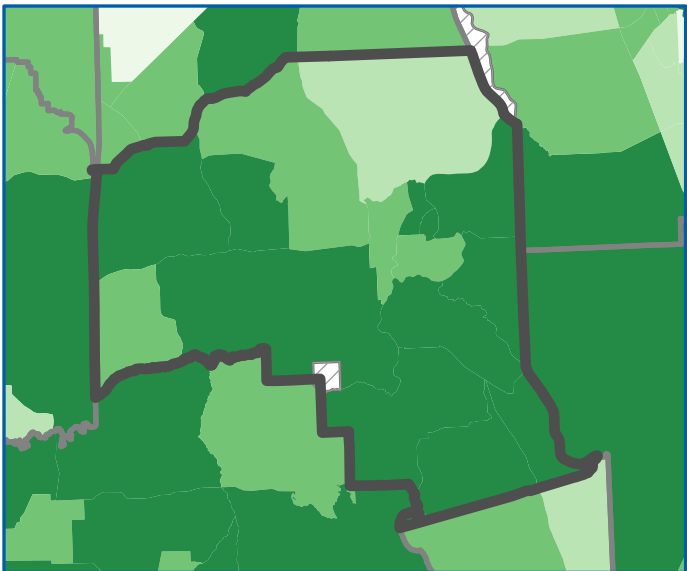
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SVI 2016 – PUTNAM COUNTY, FLORIDA

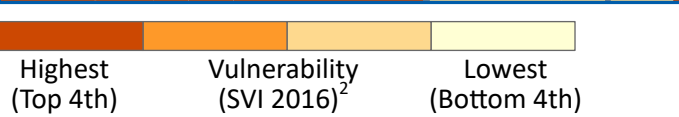
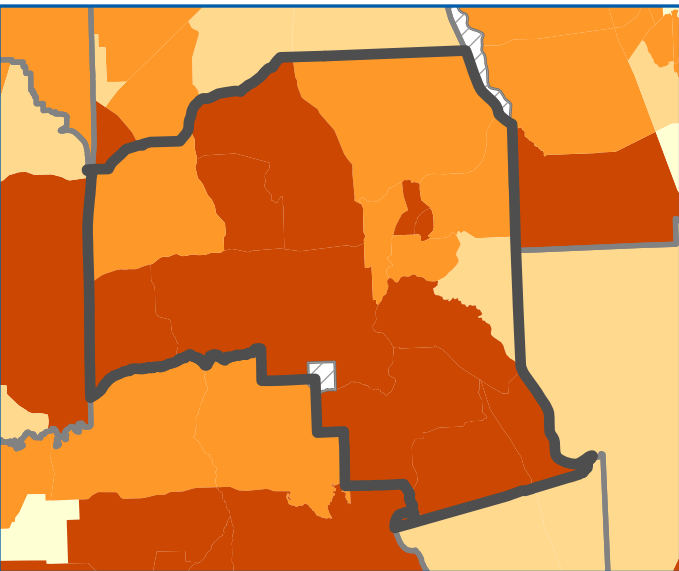
PART 2

SVI Themes

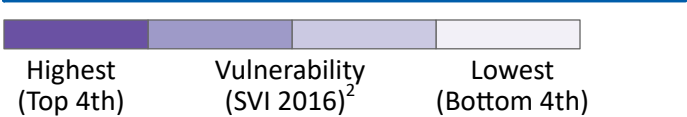
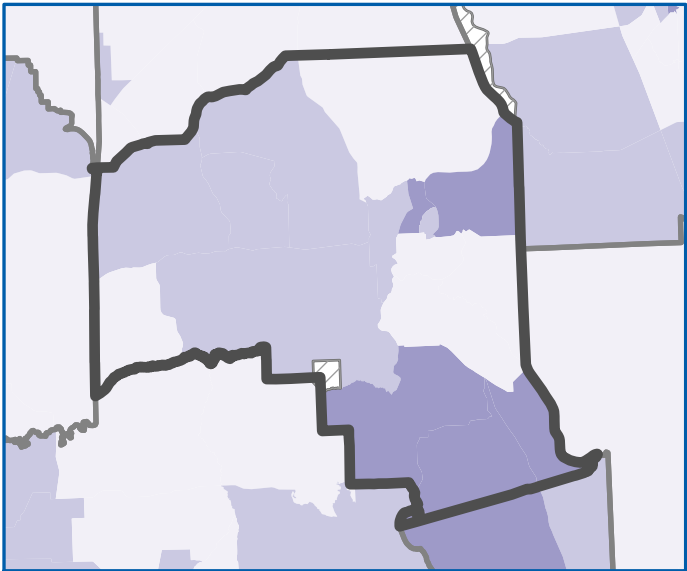
Socioeconomic Status<sup>5</sup>



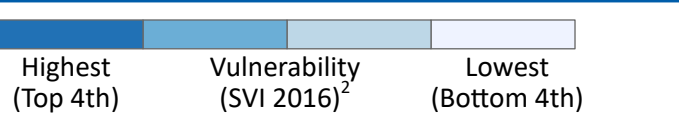
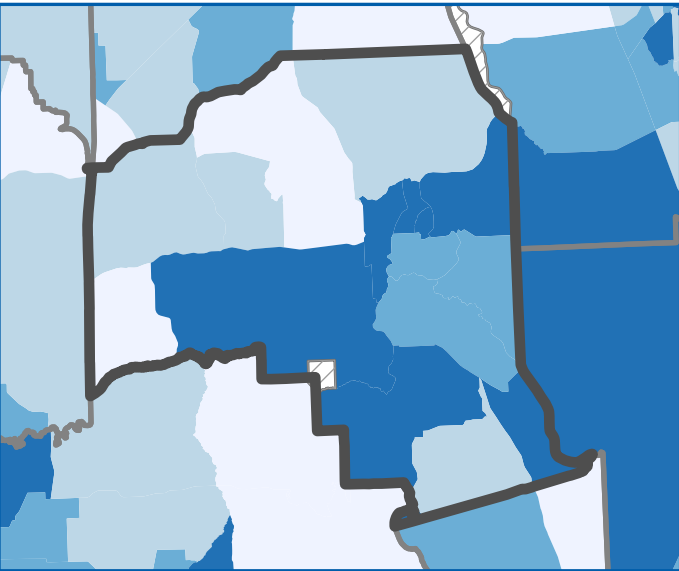
Household Composition/Disability<sup>6</sup>



Race/Ethnicity/Language<sup>7</sup>



Housing/Transportation<sup>8</sup>



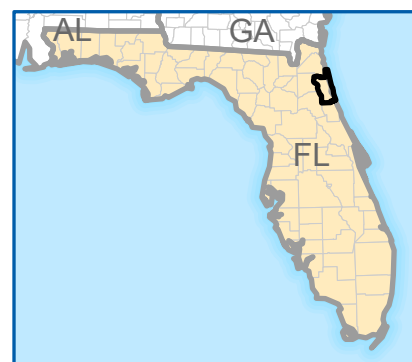
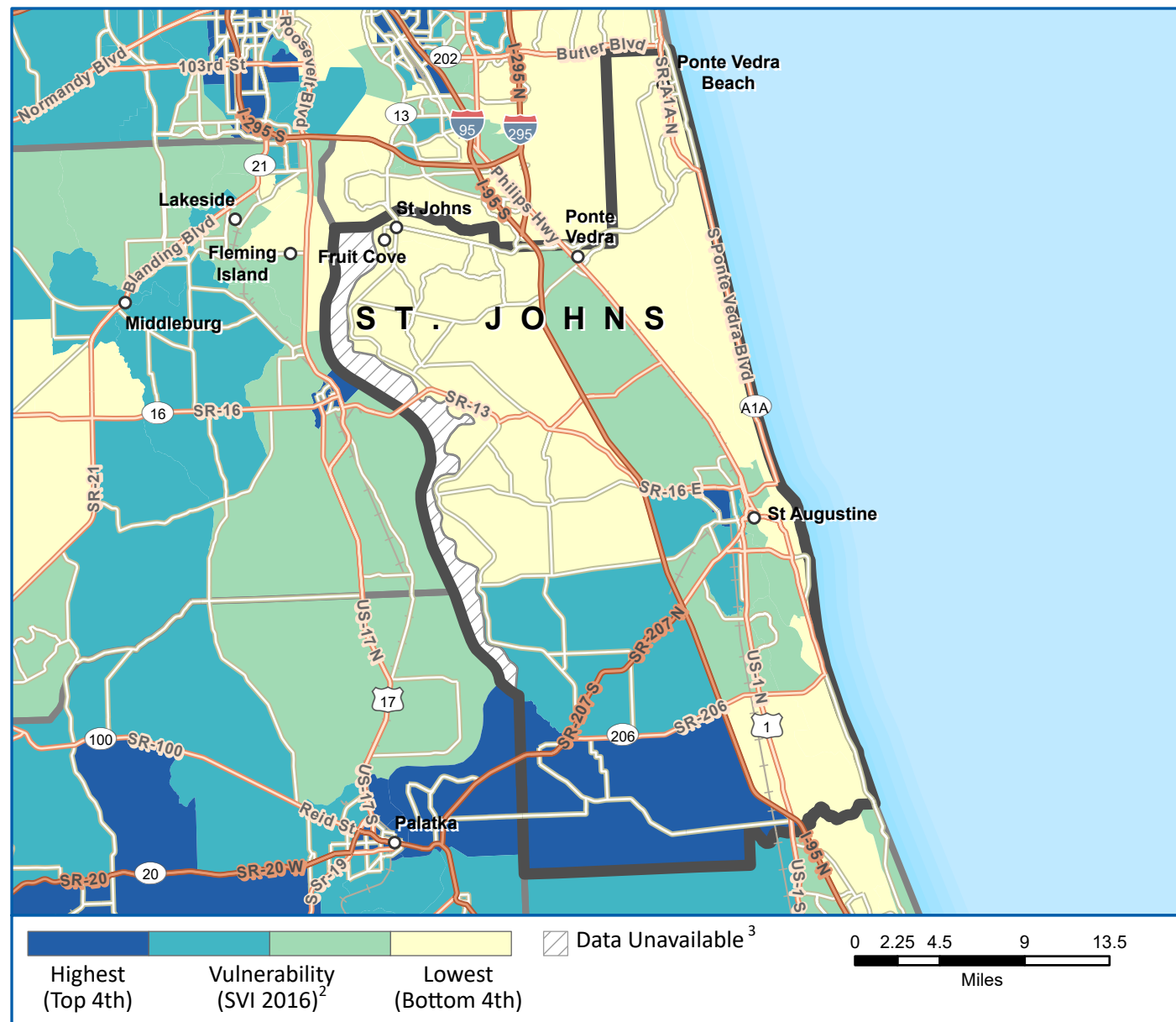
**Data Sources:** <sup>2</sup>CDC/ATSDR/GRASP, U.S. Census Bureau, Esri® StreetMap™ Premium.  
**Notes:** <sup>1</sup>Overall Social Vulnerability: All 15 variables. <sup>3</sup>Census tracts with 0 population. <sup>4</sup>The SVI combines percentile rankings of US Census American Community Survey (ACS) 2012-2016 variables, for the state, at the census tract level. <sup>5</sup>Socioeconomic Status: Poverty, Unemployed, Per Capita Income, No High School Diploma. <sup>6</sup>Household Composition/Disability: Aged 65 and Over, Aged 17 and Younger, Single-parent Household, Aged 5 and over with a Disability. <sup>7</sup>Race/Ethnicity/Language: Minority, English Language Ability. <sup>8</sup>Housing/Transportation: Multi-unit, Mobile Homes, Crowding, No Vehicle, Group Quarters.  
**Projection:** NAD 1983 Florida GDL Albers.  
**References:** Flanagan, B.E., et al., A Social Vulnerability Index for Disaster Management. *Journal of Homeland Security and Emergency Management*, 2011. 8(1).  
CDC's SVI web page: <http://svi.cdc.gov>.

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## CDC's Social Vulnerability Index 2016

St. Johns County, Florida

PART 1

Overall Social Vulnerability<sup>1</sup>

**Social vulnerability** refers to a community's capacity to prepare for and respond to the stress of hazardous events ranging from natural disasters, such as tornadoes or disease outbreaks, to human-caused threats, such as toxic chemical spills. The **Social Vulnerability Index (SVI 2016)**<sup>4</sup> County Map depicts the social vulnerability of communities, at census tract level, within a specified county. SVI 2016 groups fifteen

**census-derived factors** into **four themes** that summarize the extent to which the area is socially vulnerable to disaster. The factors include economic data as well as data regarding education, family characteristics, housing, language ability, ethnicity, and vehicle access. Overall Social Vulnerability combines all the variables to provide a comprehensive assessment.

MAP PRODUCED 2/7/2018

Agency for Toxic Substances and Disease Registry

Division of Toxicology and Human Health Sciences

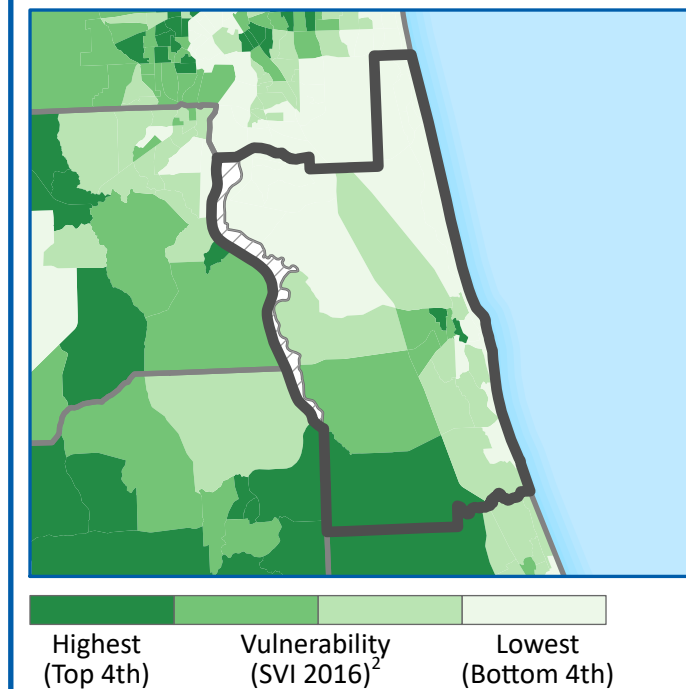
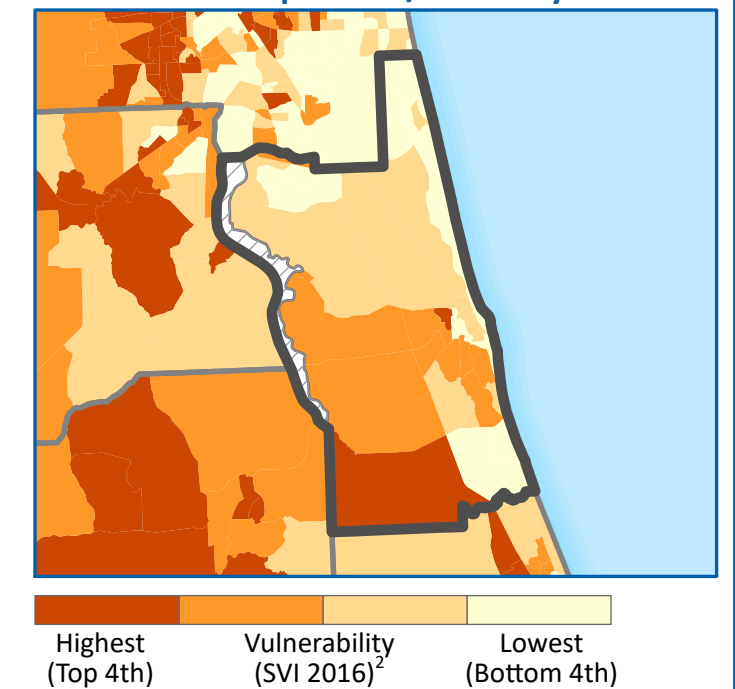
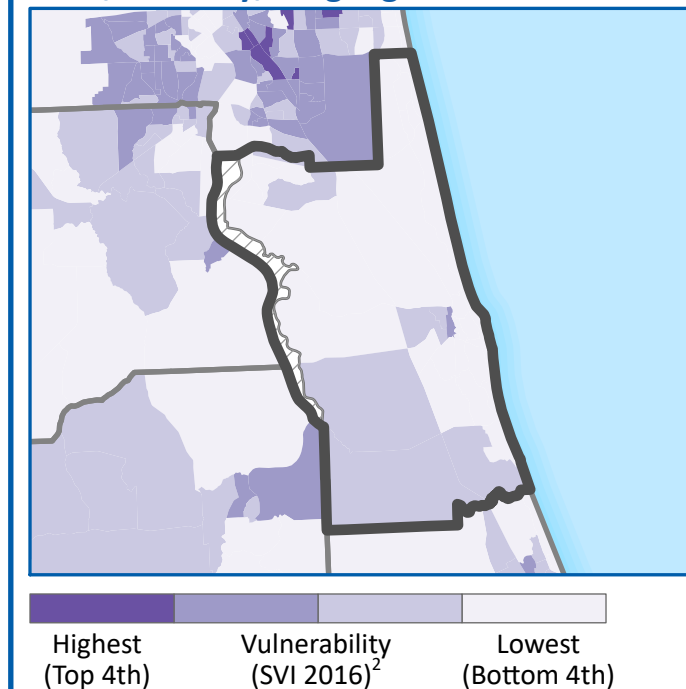
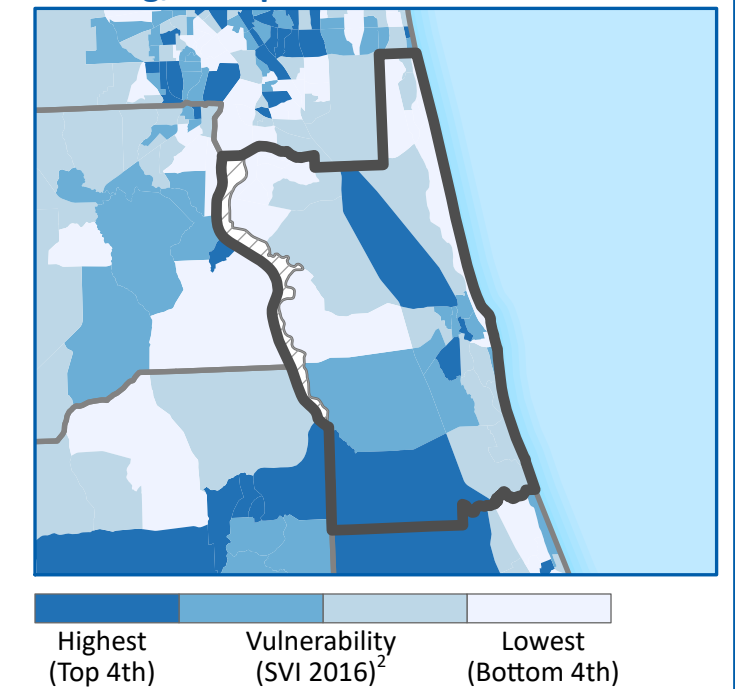
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SVI 2016 – ST. JOHNS COUNTY, FLORIDA

PART 2

## SVI Themes

Socioeconomic Status<sup>5</sup>Household Composition/Disability<sup>6</sup>Race/Ethnicity/Language<sup>7</sup>Housing/Transportation<sup>8</sup>Data Sources: <sup>2</sup>CDC/ATSDR/GRASP, U.S. Census Bureau, Esri® StreetMap™ Premium.

Notes: <sup>1</sup>Overall Social Vulnerability: All 15 variables. <sup>3</sup>Census tracts with 0 population. <sup>4</sup>The SVI combines percentile rankings of US Census American Community Survey (ACS) 2012-2016 variables, for the state, at the census tract level. <sup>5</sup>Socioeconomic Status: Poverty, Unemployed, Per Capita Income, No High School Diploma. <sup>6</sup>Household Composition/Disability: Aged 65 and Over, Aged 17 and Younger, Single-parent Household, Aged 5 and over with a Disability. <sup>7</sup>Race/Ethnicity/Language: Minority, English Language Ability. <sup>8</sup>Housing/Transportation: Multi-unit, Mobile Homes, Crowding, No Vehicle, Group Quarters.

Projection: NAD 1983 Florida GDL Albers.

References: Flanagan, B.E., et al., A Social Vulnerability Index for Disaster Management. *Journal of Homeland Security and Emergency Management*, 2011. 8(1).  
CDC's SVI web page: <http://svi.cdc.gov>.

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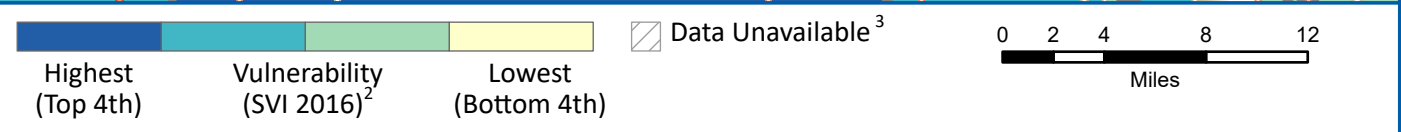
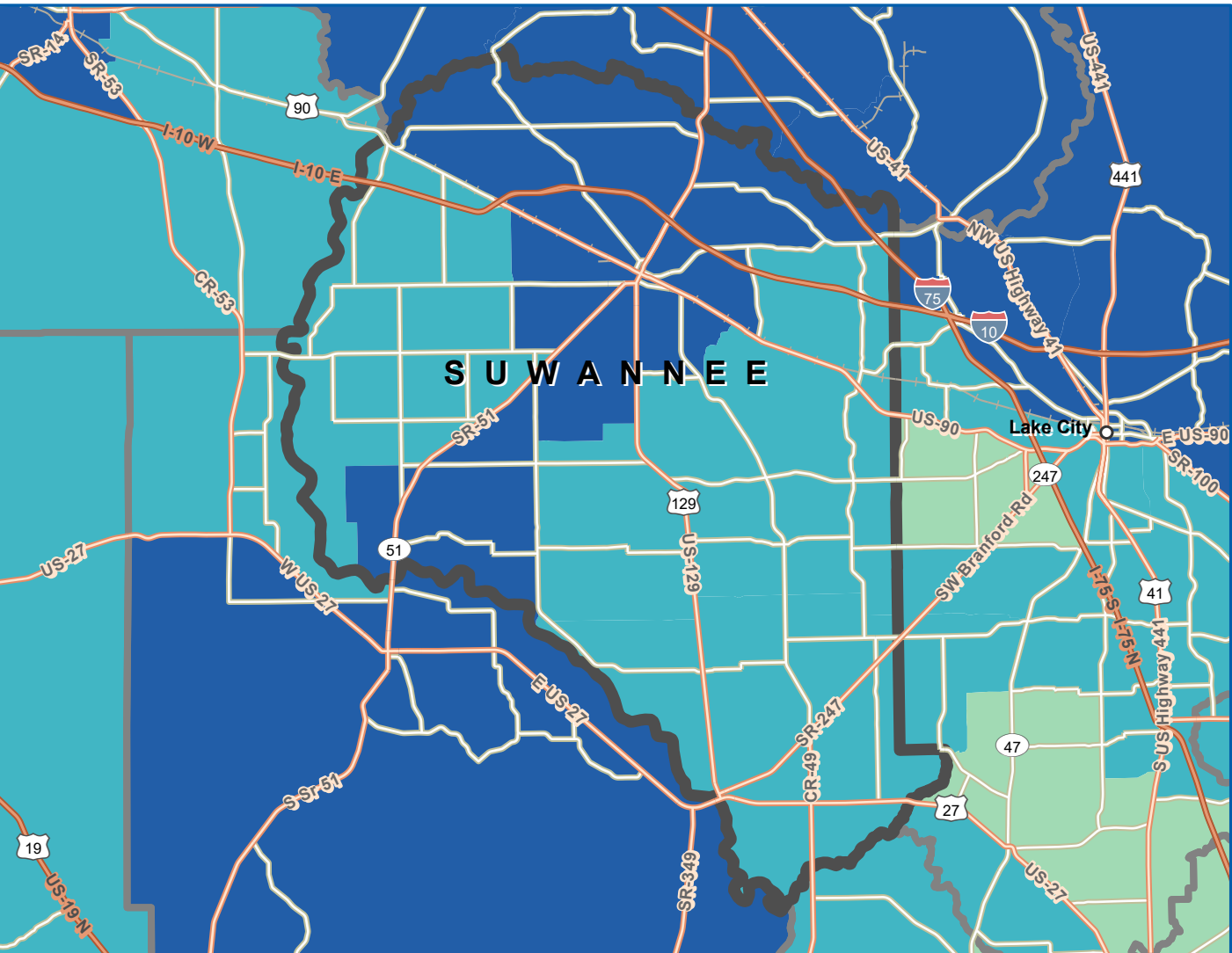


# CDC's Social Vulnerability Index 2016

Suwannee County, Florida

PART 1

## Overall Social Vulnerability<sup>1</sup>



**Social vulnerability** refers to a community's capacity to prepare for and respond to the stress of hazardous events ranging from natural disasters, such as tornadoes or disease outbreaks, to human-caused threats, such as toxic chemical spills. The **Social Vulnerability Index (SVI 2016)**<sup>4</sup> **County Map** depicts the social vulnerability of communities, at census tract level, within a specified county. SVI 2016 groups **fifteen**

**census-derived factors** into **four themes** that summarize the extent to which the area is socially vulnerable to disaster. The factors include economic data as well as data regarding education, family characteristics, housing, language ability, ethnicity, and vehicle access. Overall Social Vulnerability combines all the variables to provide a comprehensive assessment.



Agency for Toxic Substances and Disease Registry  
Division of Toxicology and Human Health Sciences

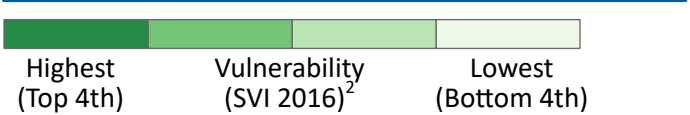
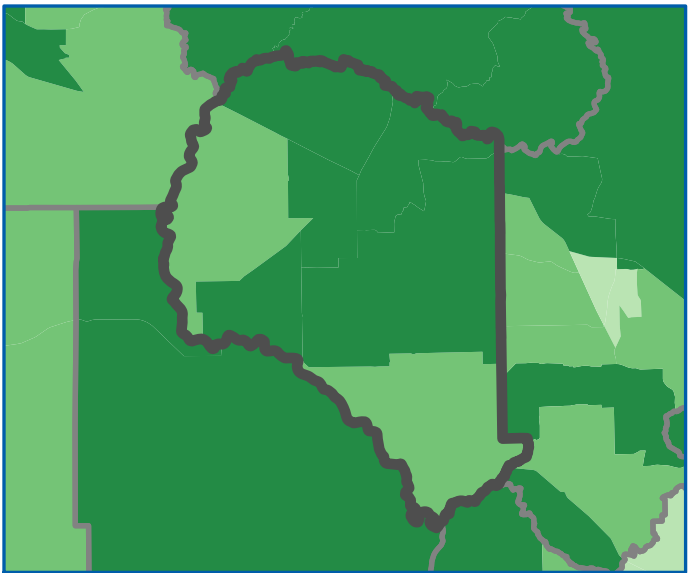
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SVI 2016 – SUWANNEE COUNTY, FLORIDA

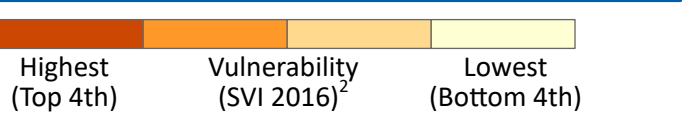
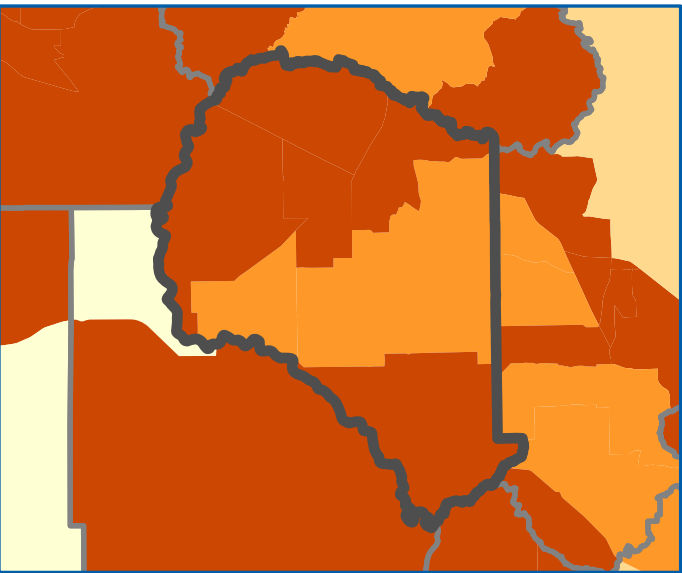
PART 2

## SVI Themes

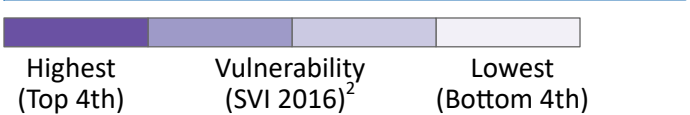
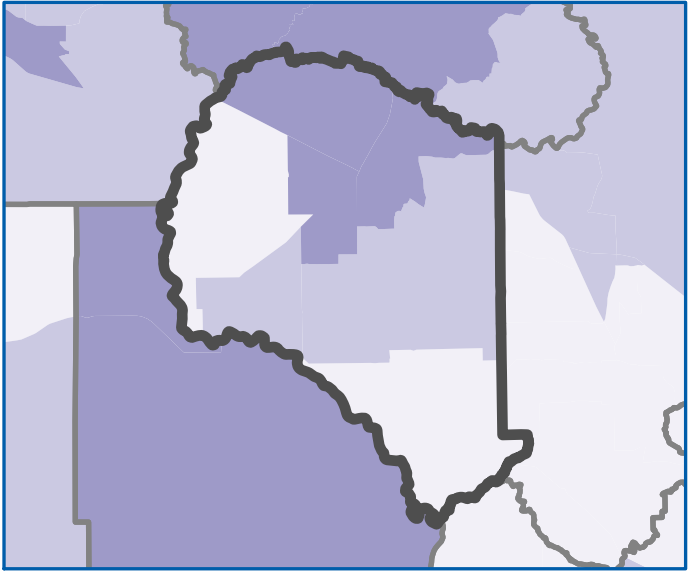
### Socioeconomic Status<sup>5</sup>



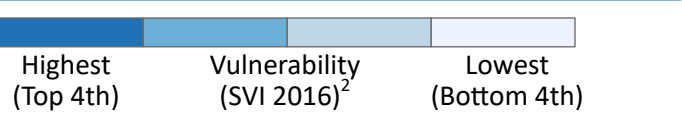
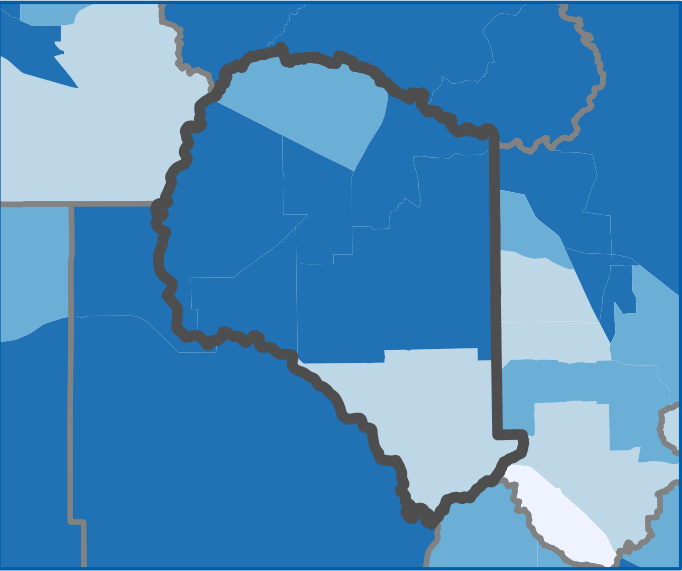
### Household Composition/Disability<sup>6</sup>



### Race/Ethnicity/Language<sup>7</sup>



### Housing/Transportation<sup>8</sup>



**Data Sources:** <sup>2</sup>CDC/ATSDR/GRASP, U.S. Census Bureau, Esri® StreetMap™ Premium.  
**Notes:** <sup>1</sup>Overall Social Vulnerability: All 15 variables. <sup>3</sup>Census tracts with 0 population. <sup>4</sup>The SVI combines percentile rankings of US Census American Community Survey (ACS) 2012-2016 variables, for the state, at the census tract level. <sup>5</sup>Socioeconomic Status: Poverty, Unemployed, Per Capita Income, No High School Diploma. <sup>6</sup>Household Composition/Disability: Aged 65 and Over, Aged 17 and Younger, Single-parent Household, Aged 5 and over with a Disability. <sup>7</sup>Race/Ethnicity/Language: Minority, English Language Ability. <sup>8</sup>Housing/Transportation: Multi-unit, Mobile Homes, Crowding, No Vehicle, Group Quarters.  
**Projection:** NAD 1983 Florida GDL Albers.  
**References:** Flanagan, B.E., et al., A Social Vulnerability Index for Disaster Management. *Journal of Homeland Security and Emergency Management*, 2011. 8(1).  
CDC's SVI web page: <http://svi.cdc.gov>.

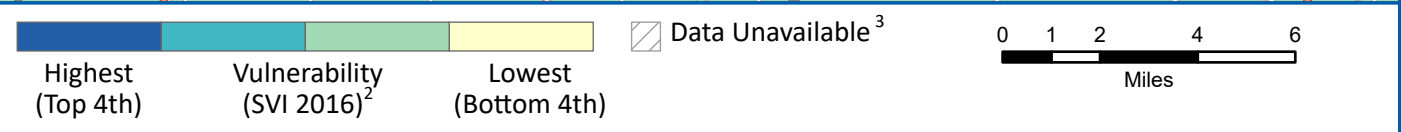
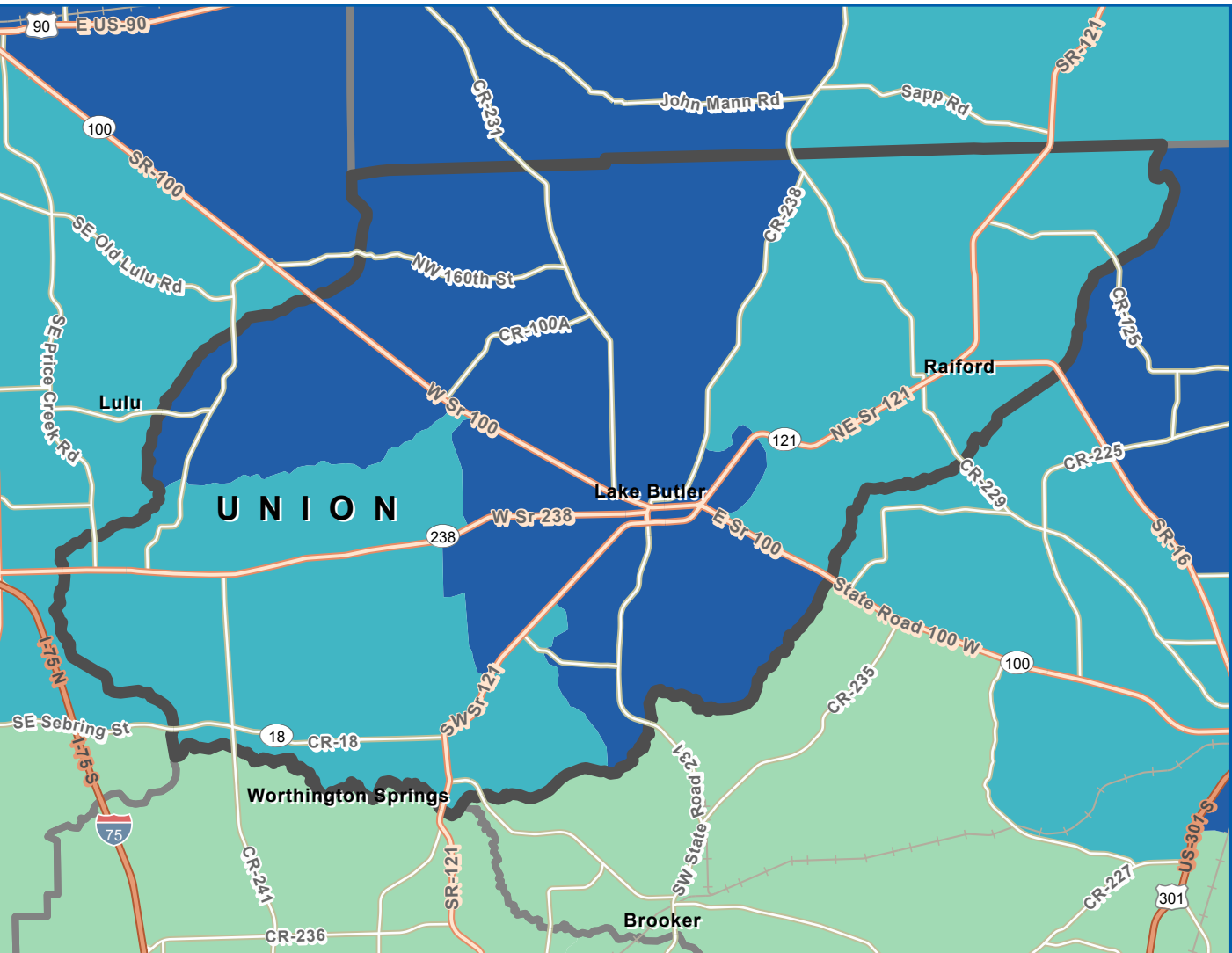
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CDC's Social Vulnerability Index 2016

Union County, Florida

PART 1

Overall Social Vulnerability<sup>1</sup>



**Social vulnerability** refers to a community's capacity to prepare for and respond to the stress of hazardous events ranging from natural disasters, such as tornadoes or disease outbreaks, to human-caused threats, such as toxic chemical spills. The **Social Vulnerability Index (SVI 2016)**<sup>4</sup> County Map depicts the social vulnerability of communities, at census tract level, within a specified county. SVI 2016 groups **fifteen**

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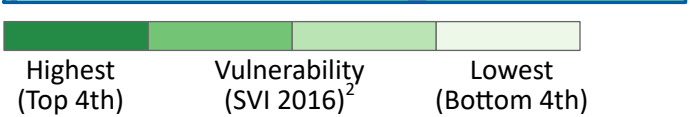
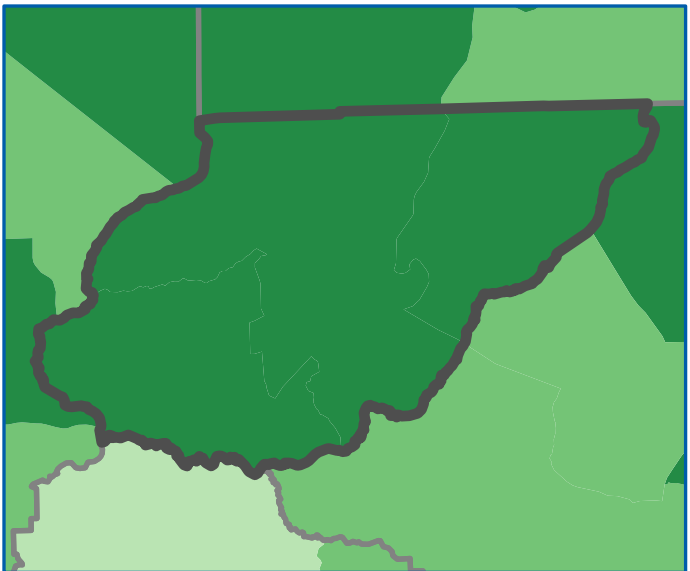


SVI 2016 – UNION COUNTY, FLORIDA

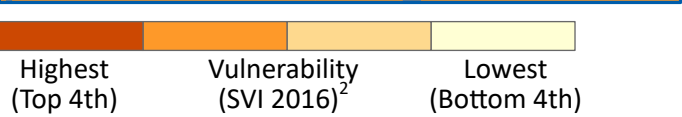
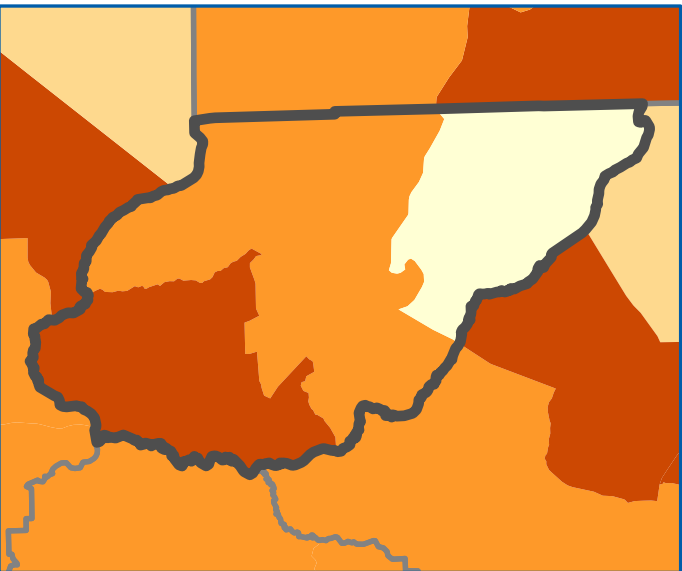
PART 2

SVI Themes

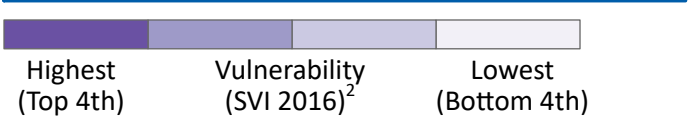
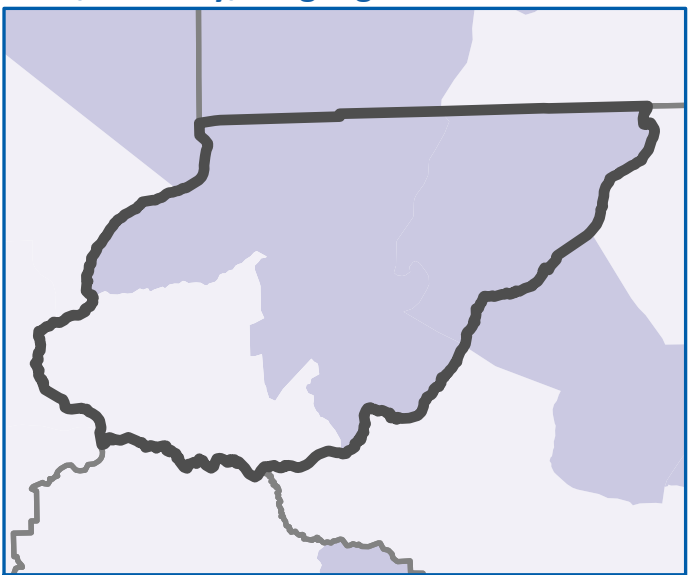
Socioeconomic Status<sup>5</sup>



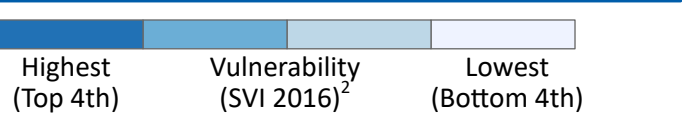
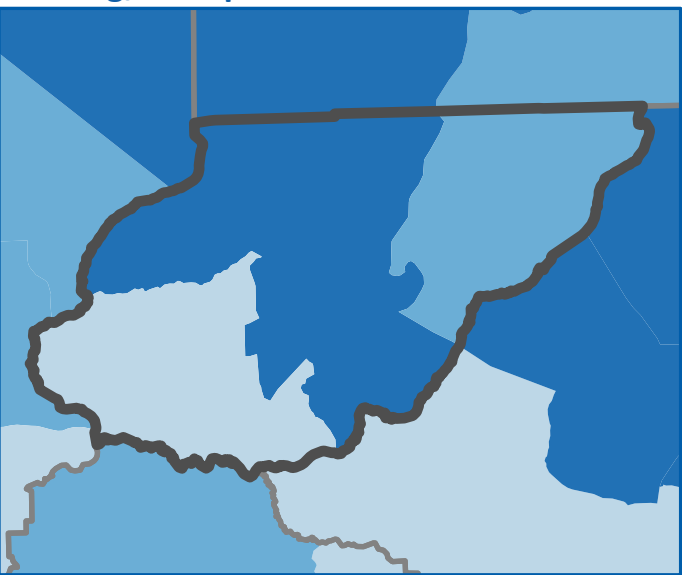
Household Composition/Disability<sup>6</sup>



Race/Ethnicity/Language<sup>7</sup>



Housing/Transportation<sup>8</sup>



**Data Sources:** <sup>2</sup>CDC/ATSDR/GRASP, U.S. Census Bureau, Esri® StreetMap™ Premium.  
**Notes:** <sup>1</sup>Overall Social Vulnerability: All 15 variables. <sup>3</sup>Census tracts with 0 population. <sup>4</sup>The SVI combines percentile rankings of US Census American Community Survey (ACS) 2012-2016 variables, for the state, at the census tract level. <sup>5</sup>Socioeconomic Status: Poverty, Unemployed, Per Capita Income, No High School Diploma. <sup>6</sup>Household Composition/Disability: Aged 65 and Over, Aged 17 and Younger, Single-parent Household, Aged 5 and over with a Disability. <sup>7</sup>Race/Ethnicity/Language: Minority, English Language Ability. <sup>8</sup>Housing/Transportation: Multi-unit, Mobile Homes, Crowding, No Vehicle, Group Quarters.  
**Projection:** NAD 1983 Florida GDL Albers.  
**References:** Flanagan, B.E., et al., A Social Vulnerability Index for Disaster Management. *Journal of Homeland Security and Emergency Management*, 2011. 8(1).  
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