

Weaving the Tapestry of Innovative Dreams to Solve Food Insecurity and Re-Energize Rural Communities

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CEFS



NCSU | NCA&T | NCDA&CS

The Center for Environmental Farming Systems is a partnership of North Carolina Agricultural and Technical State University, the North Carolina Department of Agriculture and Consumer Services, and North Carolina State University.

Home About Field Research Food System Initiatives Extension & Outreach Academics & Education Youth Publications

Resources 



Work with CEFS! CEFS Communications Specialist | Field Research Assistant | Local Food Policy Council Administrative and

<https://cefs.ncsu.edu/>



Farming Systems Research Unit



Pasture-Based Dairy Unit



Pasture-Based Beef Unit



Organic Research Unit



Small Farm Unit



Alternative Swine Unit



Amazing Grazing



CEFS Farm to School



COMMUNITY FOOD STRATEGIES

Community Food Strategies



Committee on Racial Equity in the Food System



Food Youth Initiative



NC 10% Campaign



NC Choices



NC Farm to Early Care and Education



NC Growing Together



University Food Systems

My Work in Food and Farming Systems

Re-build, re-energize, re-connect

- **Stakeholders of NC** in all counties and **Community Listening Sessions**
- **Small Farm Unit in Goldsboro, NC**
 - multifunctional farm enterprise financial analysis
 - organic/conventional comparative studies
 - specialty crops
- **Creative Farming and Healthy Eating** program in rural communities
- **Dollar Enterprise** - Entrepreneurship programs at A&T and communities
- **From academia to reality** - integrated research, teaching, and outreach activities – faculty, staff, students at A&T!

Significant changes in rural communities

- **Labor – demographic and characteristics**
- **Industry shift – customer focused**
- **Income, opportunity, and equality**
- **Education and training**

Rural America at a Glance, 2018 edition, www.ers.usda.gov

Imagine farming in the future....

Aerofarms

212 Rome St, Newark, NJ 07105

AeroFarms In the News

THE WORLD'S MOST INNOVATIVE COMPANIES 2018

Fast Company's Most
Innovative Companies

[READ THE ARTICLE](#)



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Scale IoT Farming
Technologies

[WATCH THE VIDEO](#)



The Foundation for
Food and Agriculture
Research Awards \$1
Million Grant to
AeroFarms for
Research to Improve
Quality of Leafy
Greens



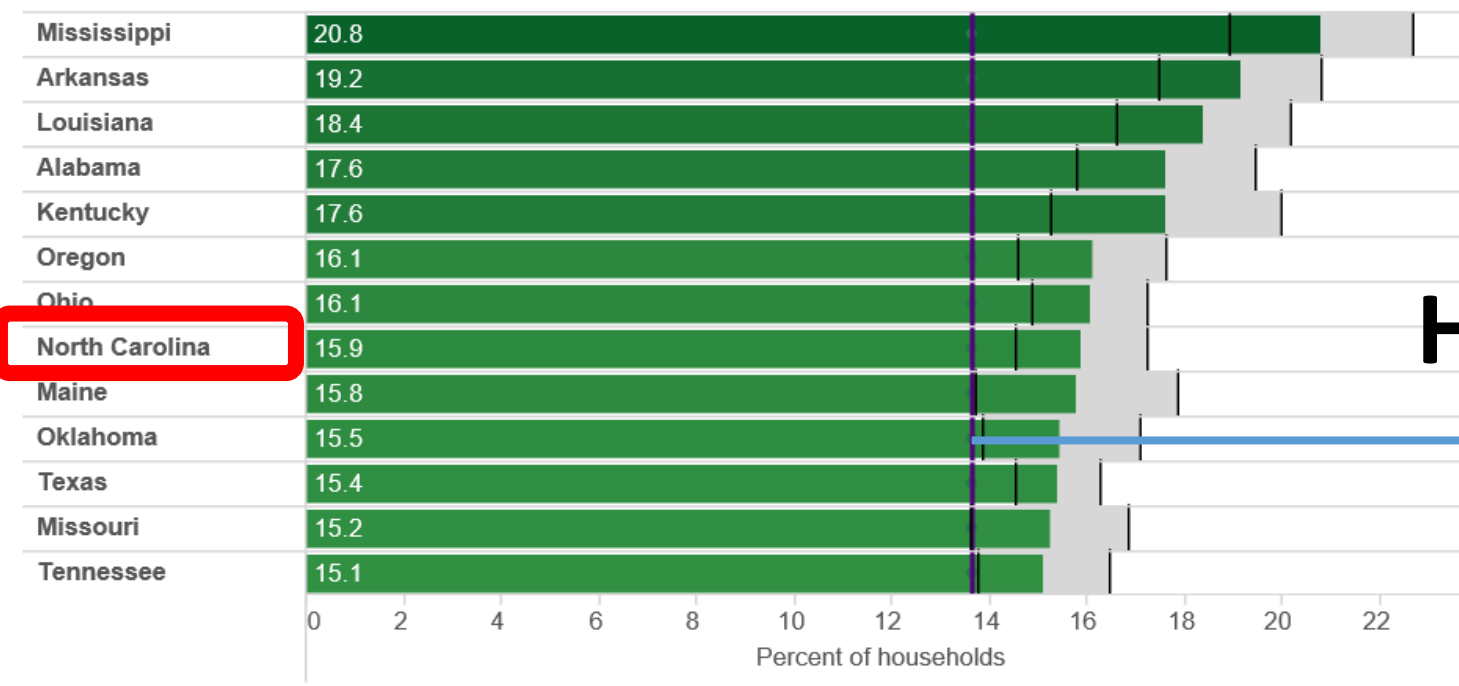
Food Security/Insecurity, Rural/Urban, and Poverty

Definition and Reports

- <https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/interactive-charts-and-highlights/>
- <https://www.ers.usda.gov/webdocs/publications/90556/eib-200.pdf?v=5899.2>
- https://www.census.gov/data-tools/demo/saipe/saipe.html?s_appName=saipe&map_yearSelector=2015&map_geoSelector=aa_c

What is happening in NC?

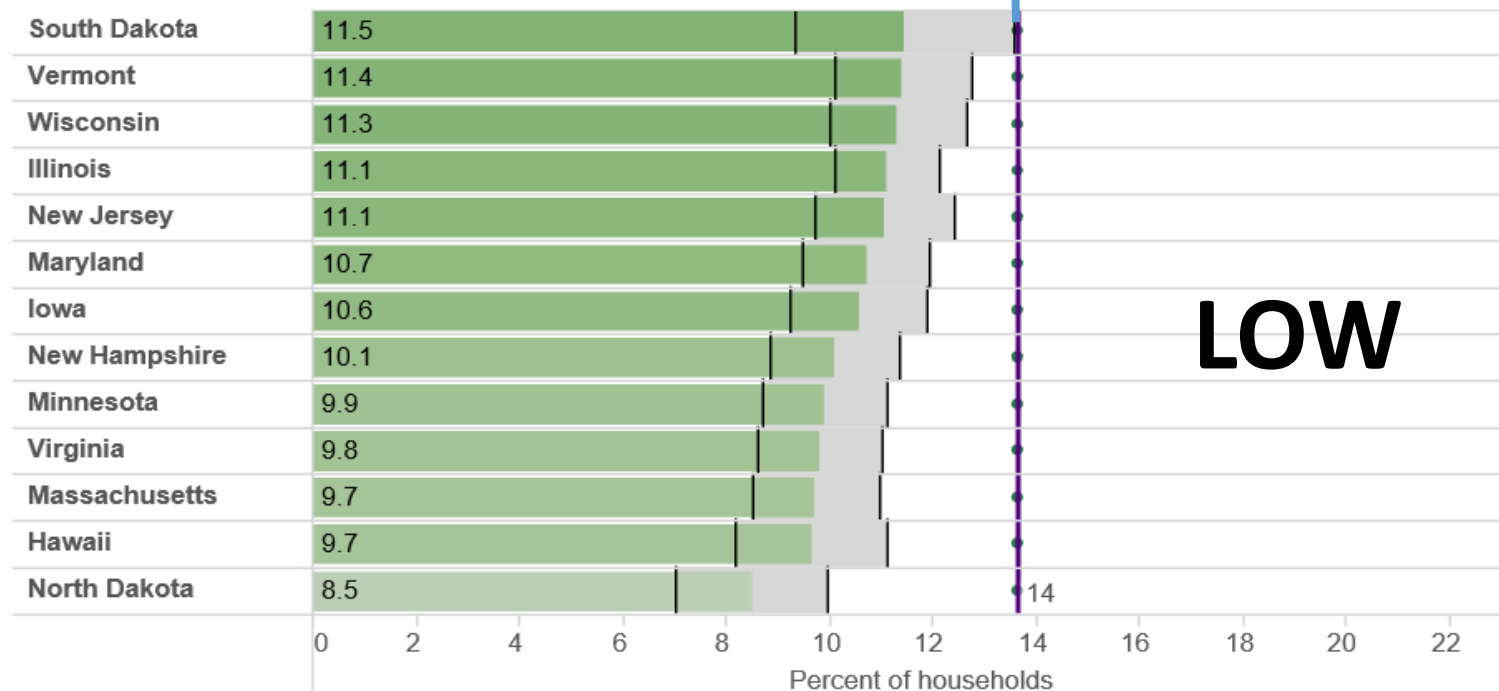
Food insecurity (2013-2015) Percent of households



HIGH

US average

Food-insecure households are uncertain of having, or unable to acquire, at some time during the year, enough food to meet the needs of all their members because they had insufficient money or other resources for food

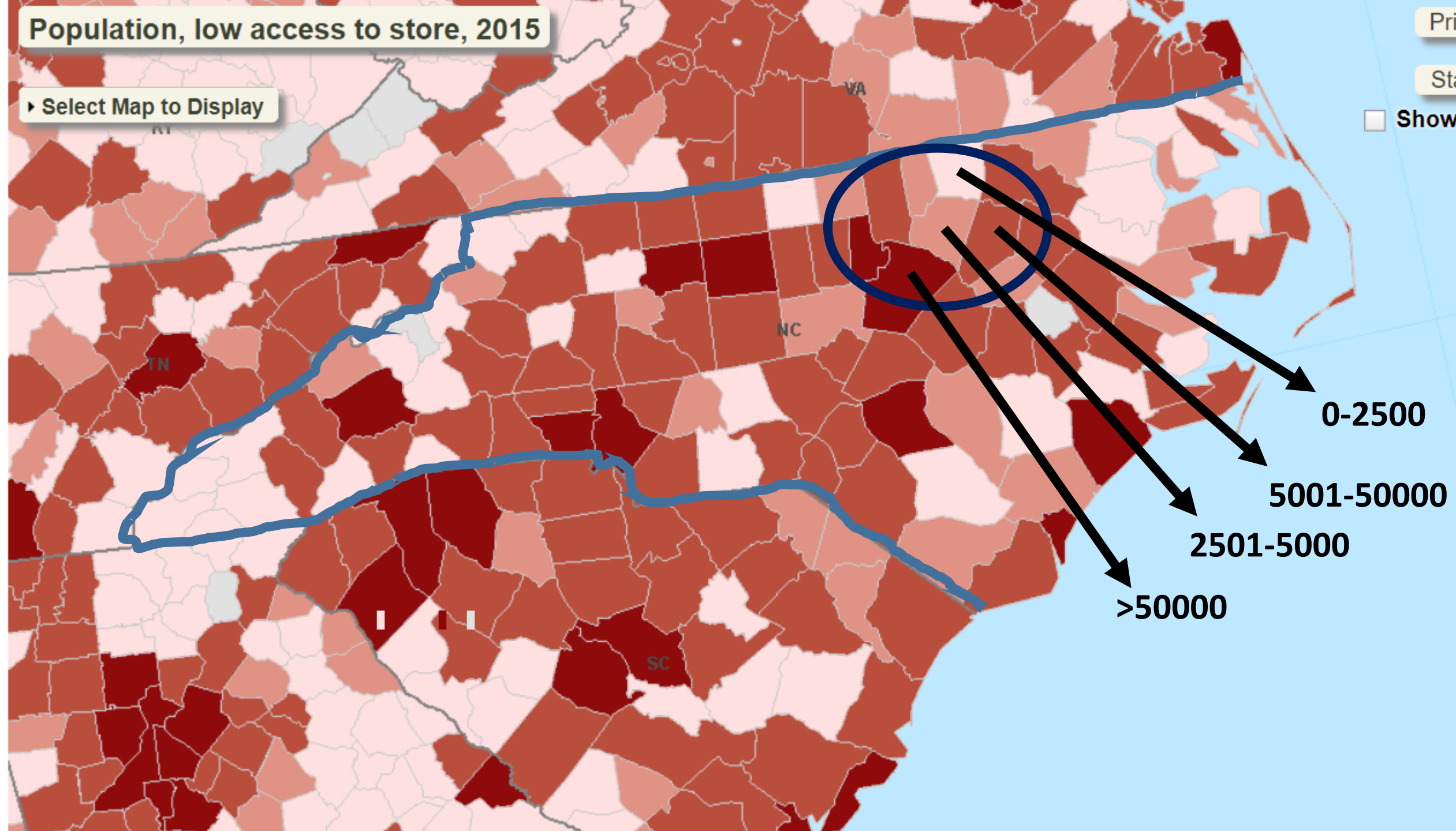


LOW

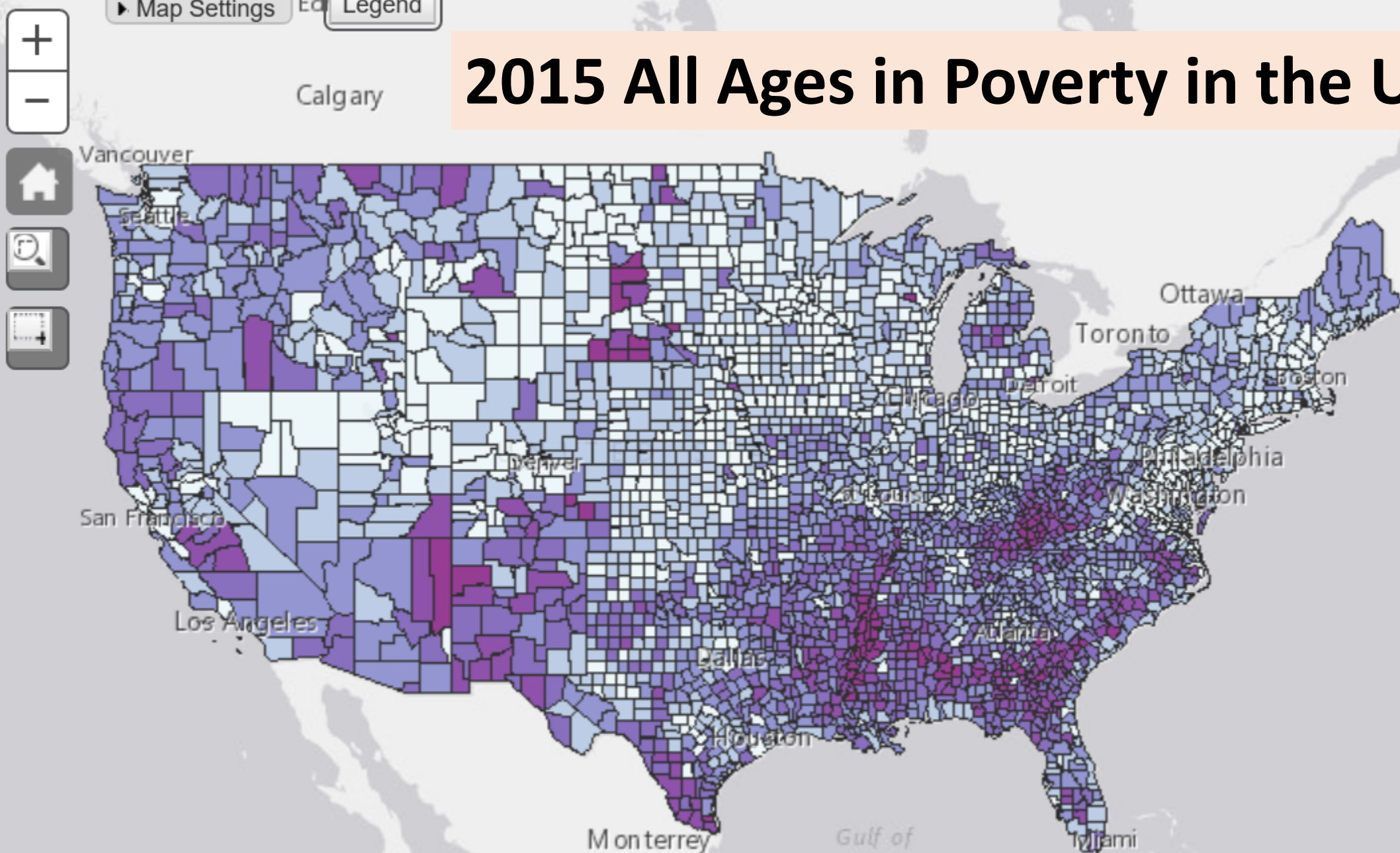
Population, low access to store, 2015

▶ Select Map to Display

Show

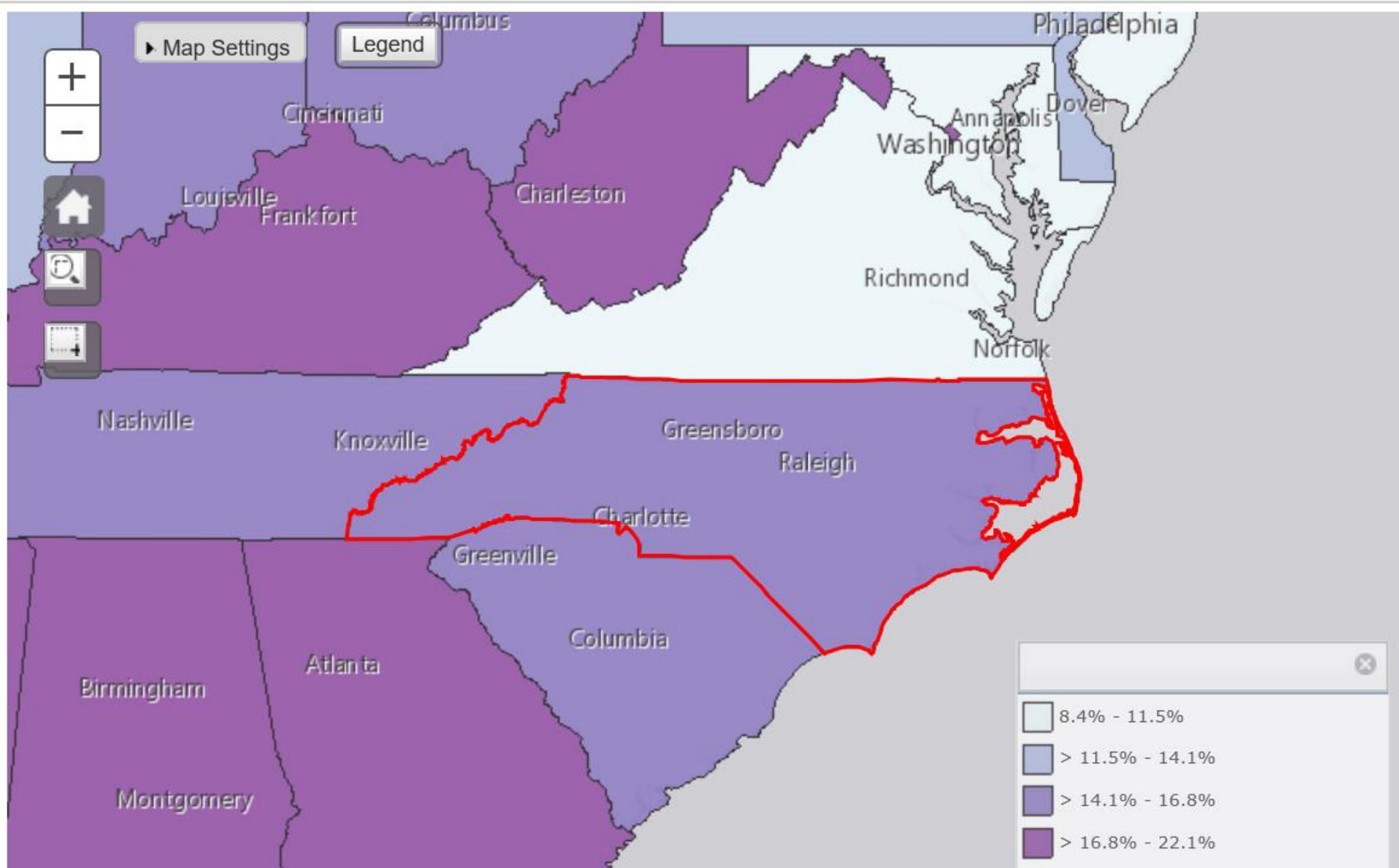


2015 All Ages in Poverty in the US

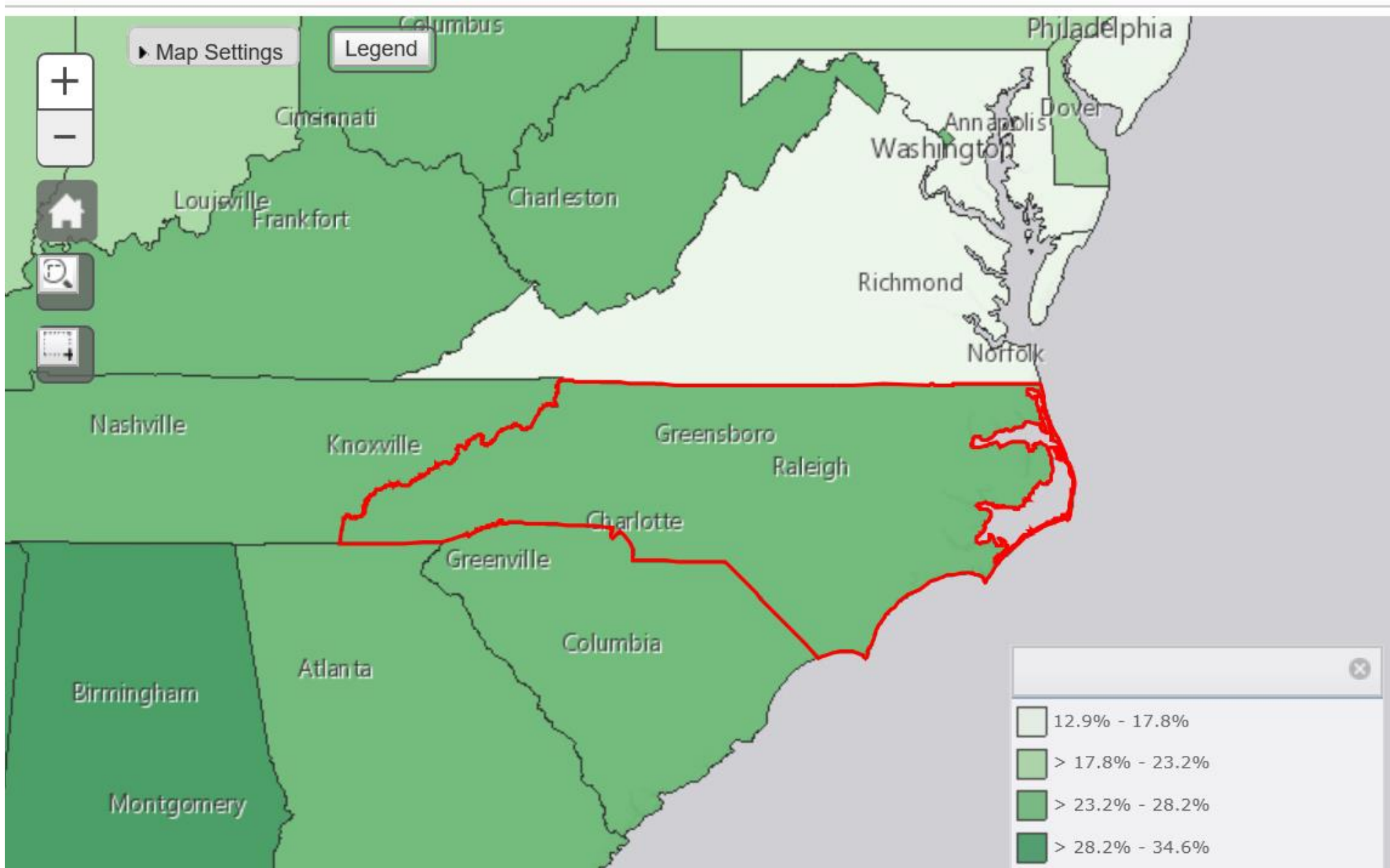


https://www.census.gov/data-tools/demo/saipe/saipe.html?s_appName=saipe&map_yearSelector=2015&map_geoSelector=aa_c

2015 All Ages in Poverty











2015 Under Age 5 in Poverty



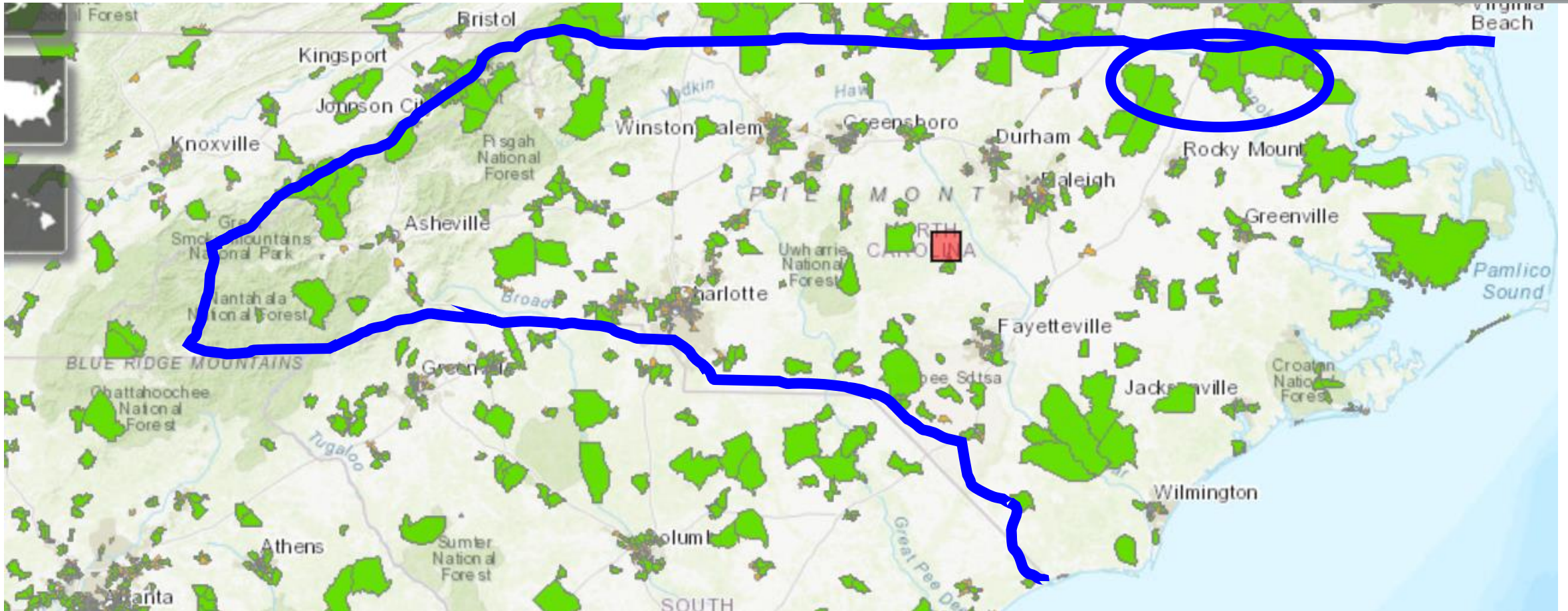
Food Desert

- <https://www.ers.usda.gov/data/fooddesert/>

▼ Low Income & Low Access Layers 2015 ?

LI and LA at 1 and 10 miles ?	<input checked="" type="checkbox"/>		
LI and LA at 1/2 and 10 miles ?	<input checked="" type="checkbox"/>		
LI and LA at 1 and 20 miles ?	<input checked="" type="checkbox"/>		
LI and LA using vehicle access ?	<input type="checkbox"/>		

► Component Layers 2015 ?



Weave the Tapestry of Innovative Dreams

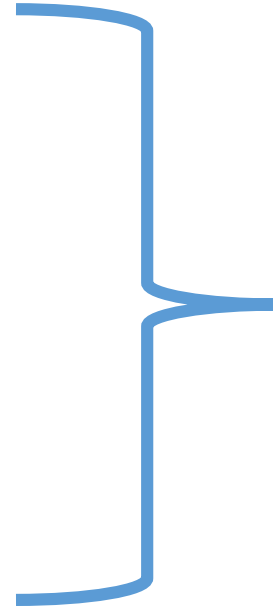
- **Creating and seeking** opportunities for individuals and/or teams
- **Transforming** ideas into opportunities with or without resources
 - Expanding markets for existing products/services
 - Creating new products/services
- **Integrating** value added across industries
- **Developing** entrepreneurial characteristics
 - Independent
 - Risk taking
 - Taking control
 - Realistic optimism

A Framework to Stimulate Innovation, Creativity, and Entrepreneurship

- **Needs and Priorities**
- **Culture**
- **Endowment**
- **Capacity**
- **Infrastructure**
- **Opportunities**



Problem Solving Strategies



- **Social Characteristics**
- **Economic Characteristics**
- **Ecological Characteristics**
- **Political Characteristics**

Ranked #1 in the US



Ranked #3



Ranked #4



Ranked #2 in the US



Ranked #5 in the US



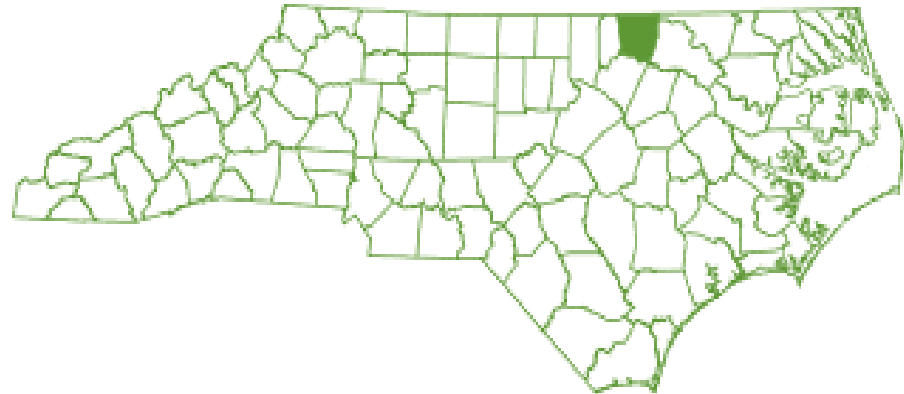
Ranked #6



WARREN COUNTY

Census of Agriculture - 2012

Total Acres in County	274,207
Number of Farms	256
Total Land in Farms, Acres	65,699
Average Farm Size, Acres	257
Harvested Cropland, Acres	18,774
Average Age of Farmers	62.4
Average Value of Farm & Buildings	\$168,317,000
Average Market Value of Machinery & Equipment	\$15,582,000
Average Total Farm Production Expense	\$77,471



Crops - 2016

	Acres Harvested	Yield	Production	Rank
Corn for Grain: Bu.	*	*	*	*
Cotton: Lbs.: Production in 480 Lb. Bales	*	*	*	*
Hay, Other: Tons	7,200	2.20	16,000	37
Peanuts: Lbs.	*	*	*	*
Soybeans: Bu.	8,000	25	200,000	57
Sweet Potatoes: Cwt.	*	*	*	*
Tobacco, Burley: Lbs.	*	*	*	*
Tobacco, Flue-Cured: Lbs.	1,420	2,360	3,350,000	33
Wheat: Bu.	1,730	50	87,000	51

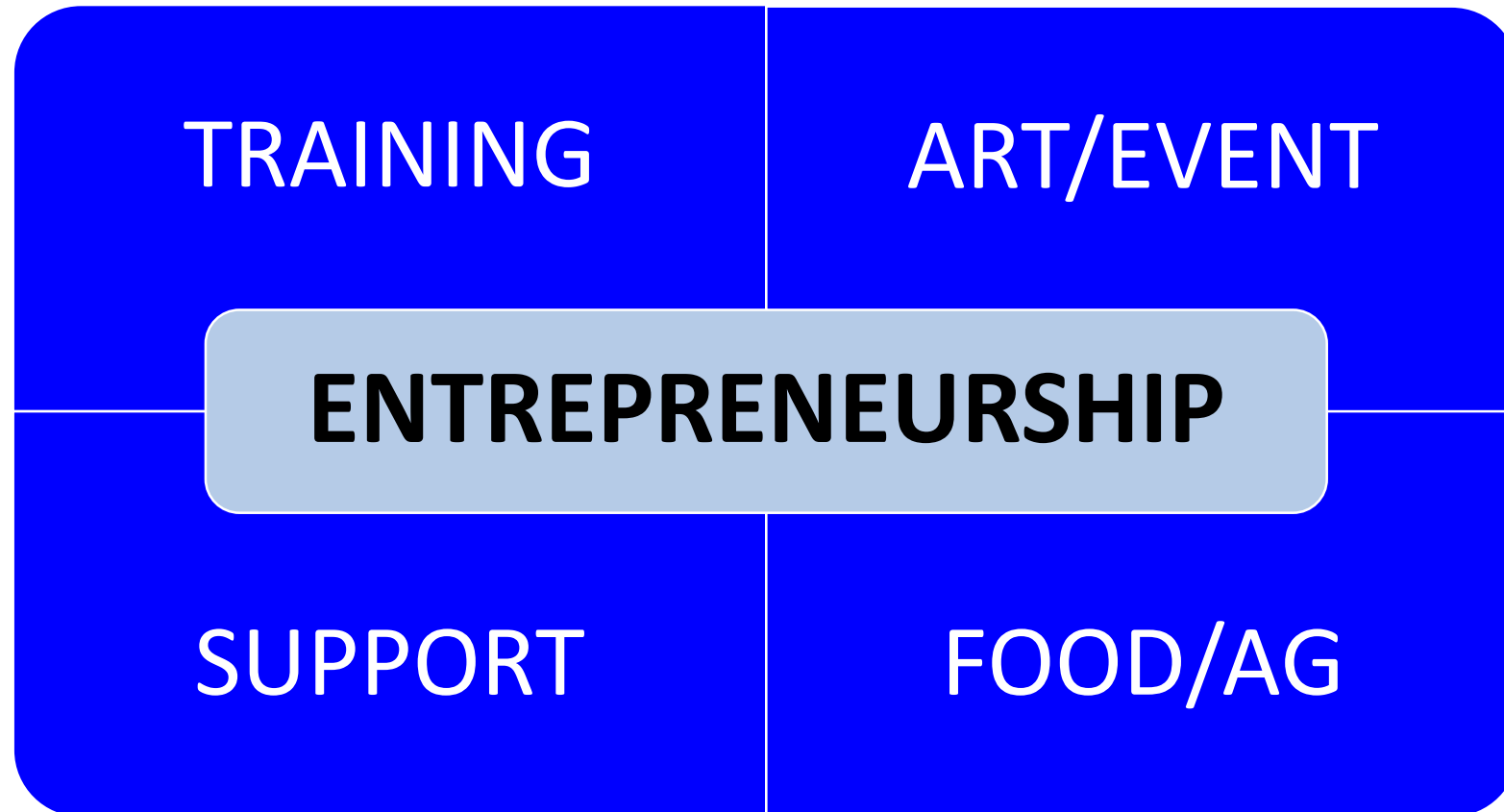
Livestock

	Number	Rank
Broilers Produced (2016)	*	*
Cattle, All (Jan. 1, 2017)	7,500	42
Beef Cows (Jan. 1, 2017)	*	*
Milk Cows (Jan. 1, 2017)	*	*
Hogs and Pigs (Dec. 1, 2016)	*	*
Layers (Dec. 1, 2016)	*	*
Turkeys Raised (2016)	*	*

Cash Receipts - 2016

	Dollars	Rank
Livestock, Dairy and Poultry	12,186,638	64
Crops	11,804,981	71
Government Payments	184,383	61
Total	24,176,002	76

PEOPLE ARE WEAVING DREAMS ON YOUR MAIN STREET!



WORKING LANDSCAPES


Main Street Kitchen

A shared space supporting food entrepreneurs, the arts, and community happenings

We offer:


- A commercial kitchen for rent by the hour
- Kids workshops
- Community arts events
- An event space for your next thang


108

 140,000
pounds of produce
purchased from local
and regional farms

 12,000
students engaged through
educational programming

 440
community arts
events hosted

 440,000
servings of fresh-cut veggies
served in school cafeterias
across 20 school districts

 40+
farmers supported
through trainings
and purchases

Hardware Cafe

Historic Site Est. 1907

SHEET METAL
WORK.

MILL
SUPPLIES

PAINTS • ENAMELS
VARNISHES

FARMING
SUPPLIES

SPORTING
GOODS

GARDEN &
FIELD SEEDS

TOOLS
CUTLERY

IF ITS
HARDWARE
WE HAVE IT

W.A. MILES HARDWARE CO.

HOUSEWARES

W.A. MILES HARDWARE CO.

HOUSEWARES

Homemade Desserts

Gourmet Sandwiches

Coffee • Beer • Wine

Coffee • Beer • Wine

Gourmet Sandwiches

Homemade Desserts

Shanell's Boutique

AVON
MAC LIPSTICK
PANTY HOSE

DESIGNER BAGS
BODY OILS
SOCKS

LAMPS
BURNING OILS
BELTS

SOUL FOOD

W·I·S·E 3in1

Southern Cooking

Transportation



MEDICAL, LOCAL, AND LONG DISTANCE
BUS, VAN, AND CAR

OPEN

124

CHAIR CANING

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LIVE-LIFE TRIUMPHANTLY

OUR LITTLE SHOP

ANTIQUES & COLLECTABLES

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CHAIR CANING

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Medicaid?

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Medicare?

 **Get**
more benefits.

Step inside to
learn more

 **UnitedHealthcare**
Community Plan

OTHER OPPORTUNITIES

DIY Hydroponic Garden Tower - The ULTIMATE hydroponic system growi...



The Green Wall - Educational Vertical Garden Bottle System Project



Climbing Plants on Balconies, Patios and Decks – Screening and Greening



Bring agriculture to our living environment

- Schools
- Senior centers
- Hospitals
- Library, park and recreation centers, YMCA
- Our homes

Dollar Enterprise - 22630 - ABM 250 – 001
Tuesday 4:30pm to 7:20pm Proctor Hall 160
(open to all majors and all classifications)

Dollar Enterprise has been recognized as one of the best entrepreneurship courses in America.

We are seeking confident, energetic, enthusiastic, self-motivated, team oriented, and serious entrepreneur want-to-be to join us in learning about the entrepreneurship process and how it impacts our life and society.

The objectives of this course are:

- 1. To create a real business on campus and practice business skills, professional communication, and teamwork.**
- 2. To support students to develop critical thinking as successful entrepreneurs.**
- 3. To create future entrepreneurial leaders across industries and labor force.**



Practice entrepreneurship and innovation to support rural communities

Issues in food AND agricultural systems

- **Availability** – production, intermediary
- **Affordability** – price, preparation
- **Accessibility** – transportation, time of traveling
- **Accountability** – food safety, health

Grow

knowledge, information,
networks, opportunity



Enrich People
Imagine Place
Cultivate Prosperity

Open Discussion and Thank you!

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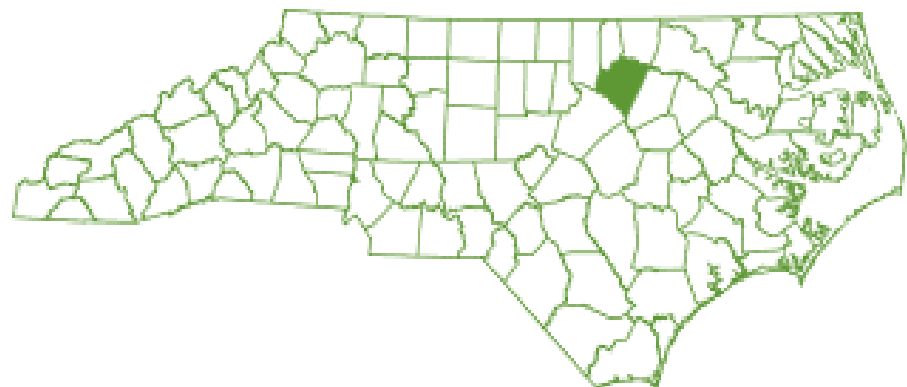
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FRANKLIN COUNTY

Census of Agriculture - 2012

Total Acres in County	314,701
Number of Farms	542
Total Land in Farms, Acres	116,889
Average Farm Size, Acres	216
Harvested Cropland, Acres	50,291
Average Age of Farmers	58.7
Average Value of Farm & Buildings	\$499,189,000
Average Market Value of Machinery & Equipment	\$59,067,000
Average Total Farm Production Expense	\$128,671



Crops - 2016

	Acres Harvested	Yield	Production	Rank
Corn for Grain: Bu.	900	133	119,600	75
Cotton: Lbs.: Production in 480 Lb. Bales	*	*	*	*
Hay, Other: Tons	13,400	2.65	35,200	13
Peanuts: Lbs.	*	*	*	*
Soybeans: Bu.	17,600	22	387,000	45
Sweet Potatoes: Cwt.	*	*	*	*
Tobacco, Burley: Lbs.	*	*	*	*
Tobacco, Flue-Cured: Lbs.	4,080	1,960	8,000,000	13
Wheat: Bu.	6,000	29	174,000	27

Livestock

	Number	Rank
Broilers Produced (2016)	1,750,000	50
Cattle, All (Jan. 1, 2017)	16,000	16
Beef Cows (Jan. 1, 2017)	6,100	20
Milk Cows (Jan. 1, 2017)	*	*
Hogs and Pigs (Dec. 1, 2016)	27,000	33
Layers (Dec. 1, 2016)	*	*
Turkeys Raised (2016)	*	*

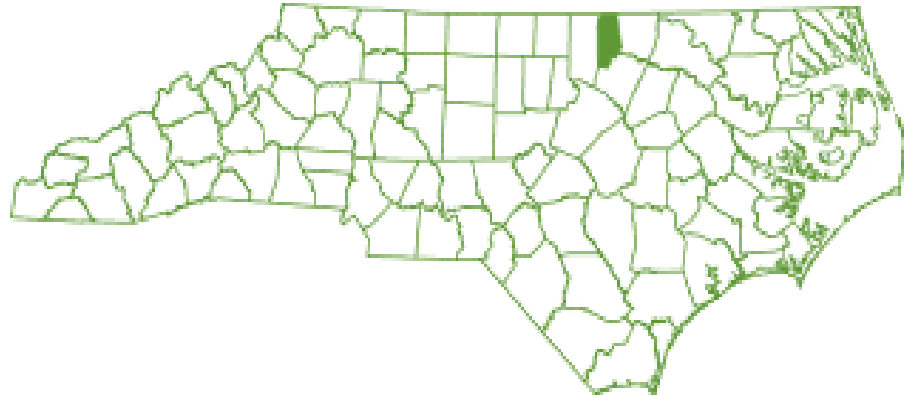
Cash Receipts - 2016

	Dollars	Rank
Livestock, Dairy and Poultry	21,381,444	51
Crops	43,048,840	28
Government Payments	155,851	62
Total	64,586,135	48

VANCE COUNTY

Census of Agriculture - 2012

Total Acres in County	162,248
Number of Farms	242
Total Land in Farms, Acres	54,880
Average Farm Size, Acres	227
Harvested Cropland, Acres	13,890
Average Age of Farmers	62.1
Average Value of Farm & Buildings	\$189,883,000
Average Market Value of Machinery & Equipment	\$19,270,000
Average Total Farm Production Expense	\$52,538



Crops - 2016

	Acres Harvested	Yield	Production	Rank
Corn for Grain: Bu.	*	*	*	*
Cotton: Lbs.: Production in 480 Lb. Bales	*	*	*	*
Hay, Other: Tons	3,200	1.90	6,000	61
Peanuts: Lbs.	*	*	*	*
Soybeans: Bu.	6,700	27	182,000	58
Sweet Potatoes: Cwt.	*	*	*	*
Tobacco, Burley: Lbs.	*	*	*	*
Tobacco, Flue-Cured: Lbs.	1,820	2,410	4,390,000	26
Wheat: Bu.	1,900	51	96,700	46

Livestock

	Number	Rank
Broilers Produced (2016)	*	*
Cattle, All (Jan. 1, 2017)	1,600	72
Beef Cows (Jan. 1, 2017)	800	73
Milk Cows (Jan. 1, 2017)	*	*
Hogs and Pigs (Dec. 1, 2016)	*	*
Layers (Dec. 1, 2016)	*	*
Turkeys Raised (2016)	*	*

Cash Receipts - 2016

	Dollars	Rank
Livestock, Dairy and Poultry	714,109	94
Crops	12,697,629	69
Government Payments	115,822	72
Total	13,527,560	86