

Climate Change and How it Relates to the Food Deserts and Food Markets: Community Health in Virginia

**Presented by Latia Jackson, MIS
Darrell Logan (Second Author)
Essence Georges (Third Author)**

Research Team: Ms. Darlette Meekins, Dr. Shobha Sriharan, Ms. Latia Jackson, Mr. Darrell Logan, and Ms. Essence Georges

www.agriculture.vsu.edu

Overview:

Introduction

Definition of Food Desserts

Purpose and Objects of Research

Methods

Results

Conclusion

Future Research

Introduction

- **Food deserts are more common than some might think.....**
- **The absence of affordable and healthy food for low-income residents prevents a healthy lifestyle**
- **Health issues such as obesity, hypertension, diabetes and heart disease are at epidemic proportions affecting nations worldwide**
- **Corner and convenience stores are abundance in impoverish areas**

Food Deserts

Urban Areas

Populations living **more than one mile** from a supermarket or large grocery store

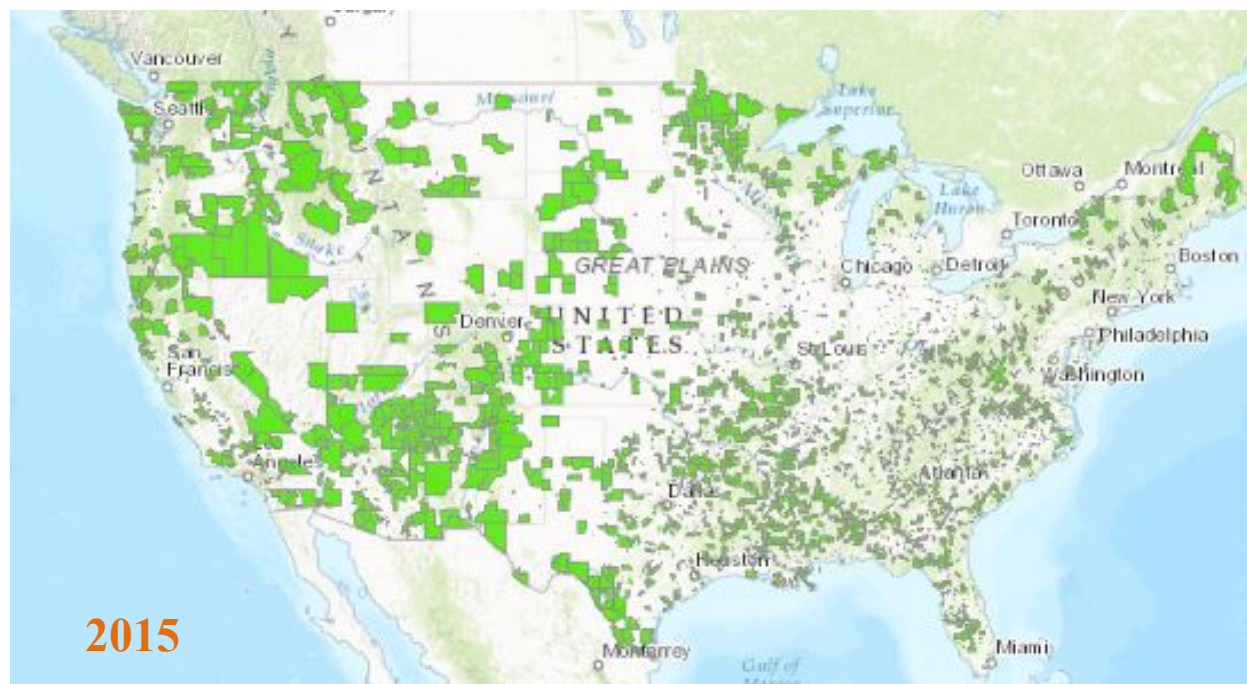
Rural Areas

Populations living **more than ten miles** from a supermarket or large grocery store

Ref: Ver Ploeg et al., 2012



**Low Income/ Low Access:
1 mile or more from
nearest supermarket**

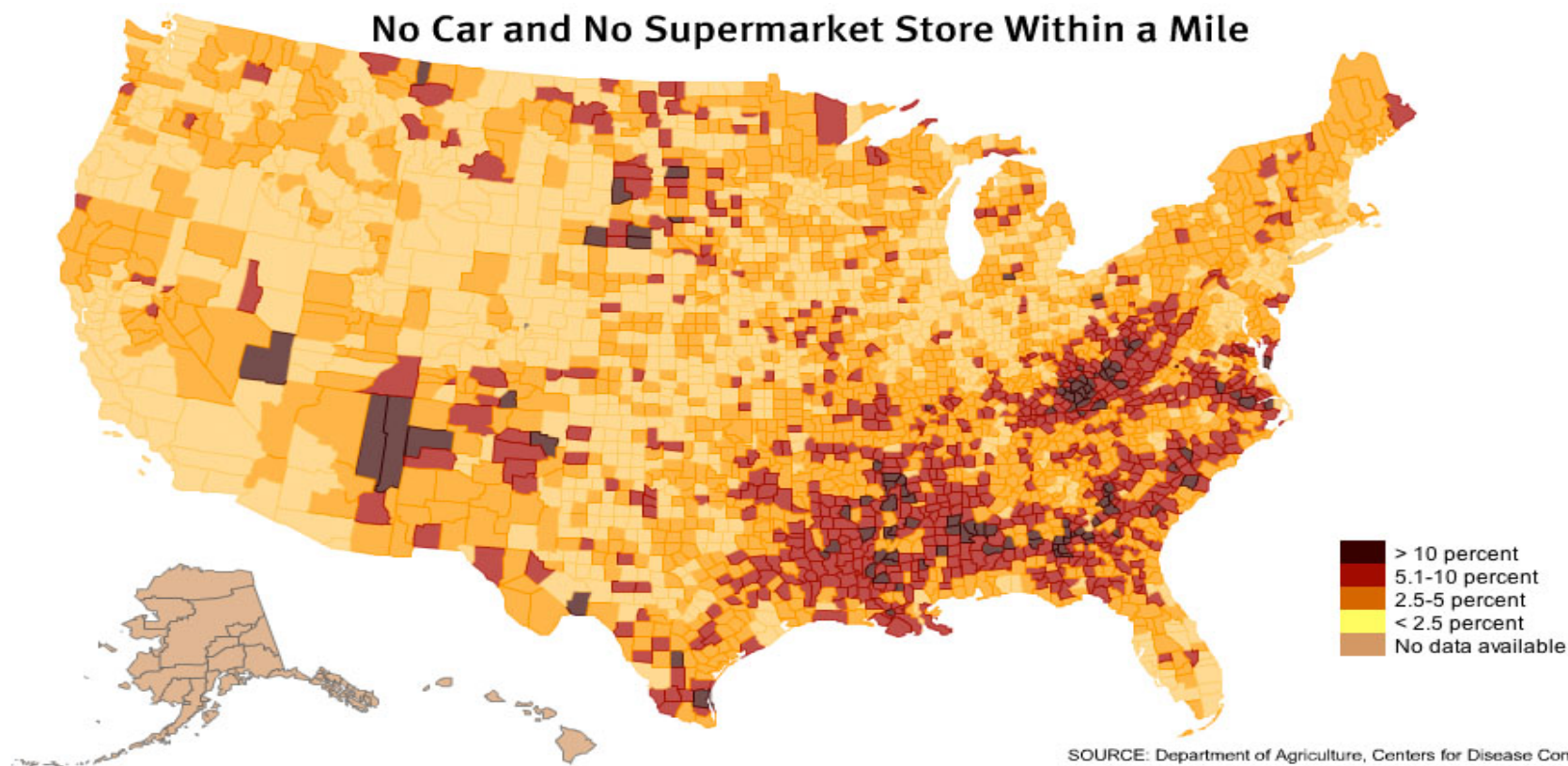


<https://www.ers.usda.gov/data-products/food-access-research-atlas/go-to-the-atlas/>

Food Desert Atlas: ERS

www.agriculture.vsu.edu

No Car and No Supermarket Store Within a Mile



SOURCE: Department of Agriculture, Centers for Disease Control

Corner Markets

Disadvantages:

- **High prices**
- **Limited healthy choices**
- **Limited amount of fresh fruits and vegetables**



Purpose and Objective

The purpose of this research was to locate areas considered to be food deserts and show the effect of climate change on these impacted areas

Objectives:

- Research closest food deserts near Virginia State University**
- Identify local areas that are at risk of food insecurity**
- Provide solutions for local areas to combat food insecurity**
- Inform and educate the public**
- Maintain healthy food options in communities**

Methodology

Inspection of Local Stores:

- Browse or call local stores to inquiry about food products
- Searched Social Services website in each county accepting EBT
- Interview with consumers at store
- Provide information of possible food market locations



Methodology Cont.

GPS Data Collection and Mapping with ArcGIS:

- GPS points collected using the Montana 650t for every store site
- Garmin GPS points were downloaded with geotagged pictures of sample sites
- ArcGIS and Google Earth were used to create maps for each county

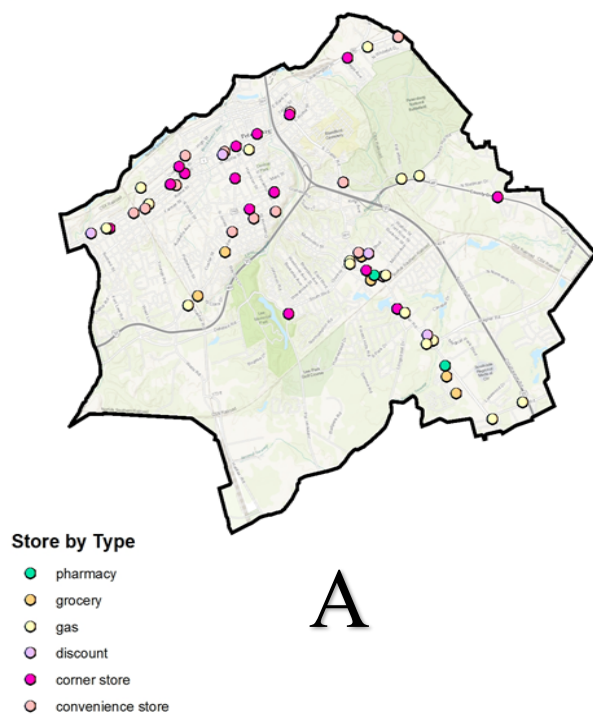


Garmin Montana 650t

Results:

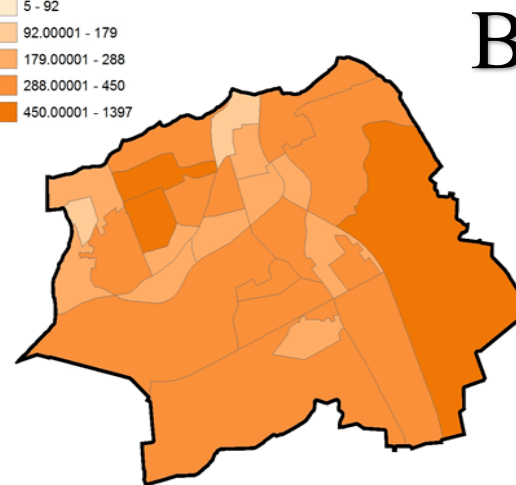
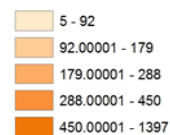


Store Locations by Type in Petersburg, VA



Black Or African American Alone Or In Combination
With One Or More Other Races

Population by Race

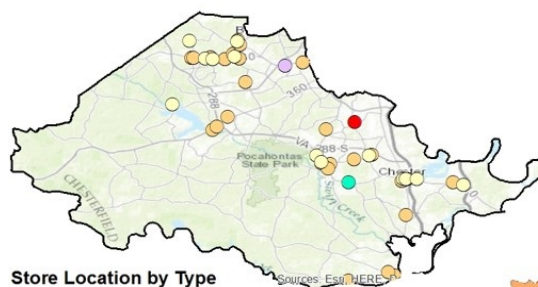


Data Retrieved from U.S. Census Bureau

Results Cont.



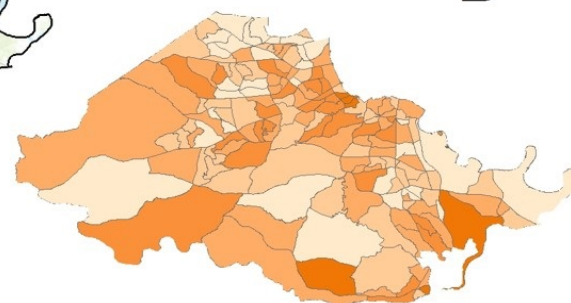
Chesterfield, VA
 Map A; Store Location by Type
 Map B; Black or African American Alone or in
 Combination With One or More Other Races



Store Location by Type

- Gas Station
- Grocery
- Pharmacy
- Discount Stores
- Convenience Stores

A



B

**Black or African American Alone
 or in Combination With One or
 More Other Races**

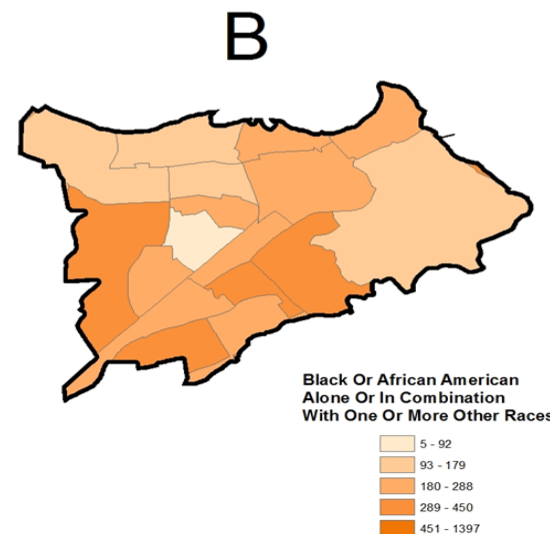
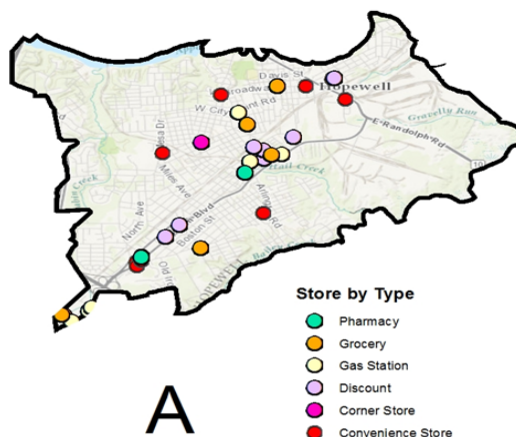
- 5 - 92
- 93 - 179
- 180 - 288
- 289 - 450
- 451 - 1397

Data Retrieved from U.S. Census Bureau

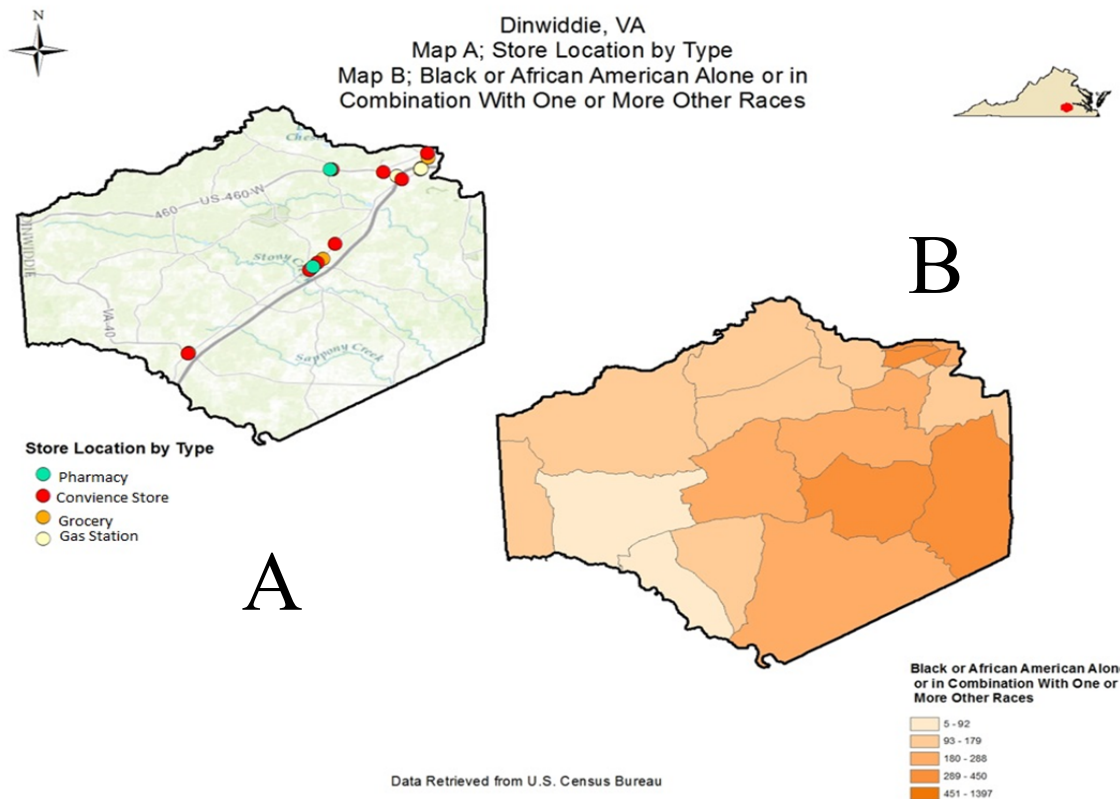
Results:



Hopewell, VA
Map A; Store Location by Type
Map B; Black or African American Alone or in Combination
With One or More Other Races



Results:

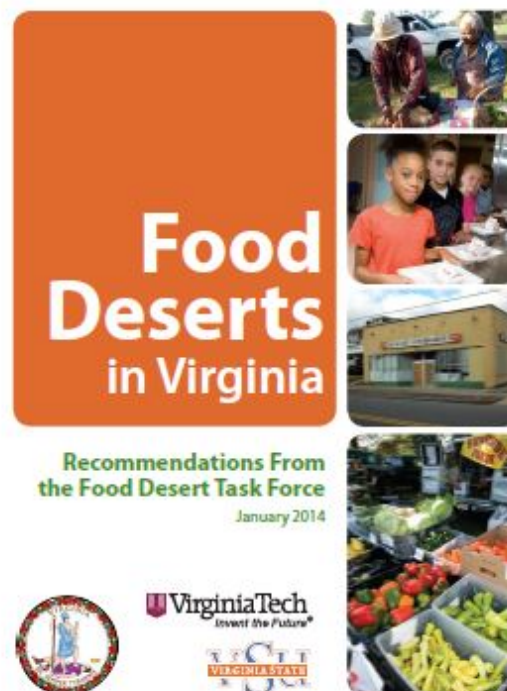


Food Deserts in Relation to Climate Change

- **Food production will decrease as there will be less resources.**
- **Changing weather patterns disrupt the growth of crops.**
- **Food prices will increase.**
- **Food distribution will be limited as the economical benefits will be halted such as shipping to convince stores.**

Conclusion

- Accessibility
- Transportation
- Life style
 - Stressors
 - Time
 - Convenience



Future Research

- **Further Community Studies**

Target Solutions

- **Work on Establishment of Community Gardens**
- **Continued Education**
- **Healthy Corner Stores**
- **Bus Stop Markets**



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