

# National Academies of Science, Engineering and Medicine



## *Hazard Mitigation and Resilience for Applied Research Topics* **Workshop 2 – Compounding and Cascading Events** **Panel 1: Towards a Better Understanding of Cascading and Compounding Disasters: Characterizing Drivers, Systems and Relationships**

Felicia Jefferson, MS, PhD  
*Associate Professor*  
Biology Dept., College of Arts & Sciences,  
Fort Valley State University

May 31, 2022



# Fort Valley, GA, USA



## The City of Fort Valley – Featured Events

- Peach Capitol of the World
- One of 10 Georgia “Cities of Excellence.”
- Established in 1856, is the county seat of Peach County
- Host of the Georgia Peach Festival (originally Peach Blossom Festival)
- Home of [Blue Bird Buses](#), [American Camellia Society](#), and [Fort Valley State University](#)

PEARSON  
SINCE 1885 FARM

Lane  
SOUTHERN ORCHARDS



## Fort Valley State University

### Degrees Offered

- 28 Bachelor's
- 9 Master's



### Four (4) Colleges and Schools

- College of Agriculture, Family and Consumer Sciences
- College of Arts & Sciences
- College of Education and Professional Studies
- University College
  - 1890 Morrell Act Land-Grant Institution
  - Public, apart of the University System of GA
  - Rural, located in Central and Middle Georgia
  - A Historically Black Colleges and Universities (HBCU)
  - Primarily Undergraduate Teaching Institution
    - Graduate Programs
    - Research Capacity

# Purpose of the Research

- Provide insights on how many American rural communities are impacted and respond to hazards in a manner that has created challenges, and, if understood may reshape hazard preparation and resilience for rural communities in the future.
- This briefing specifically addresses challenges in:
  - Understanding disaster drivers in rural communities,
  - Systems, relationships, and responses to disasters in rural communities, and
  - Impacts of cascading events and compounding effects to rural communities

# Resilience

“Problem...problem...CRISIS!  
Problem...problem...CRISIS!”



-Brian Tracey

# Specific to Rural America

## 1) *Distance and Communication*

*a) Emergency Response Systems*

*b) Information Sharing*

## 2) *Timeline to Action*

*a) Repair, Remove, Replace*

*b) Financial*

## 3) *Community*

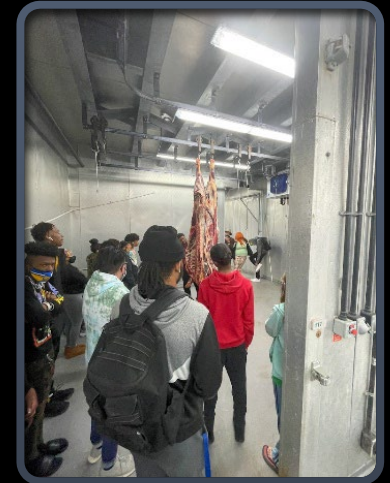
*a) Federal, State, Local Governments*

*b) Supportive Community Organizations*

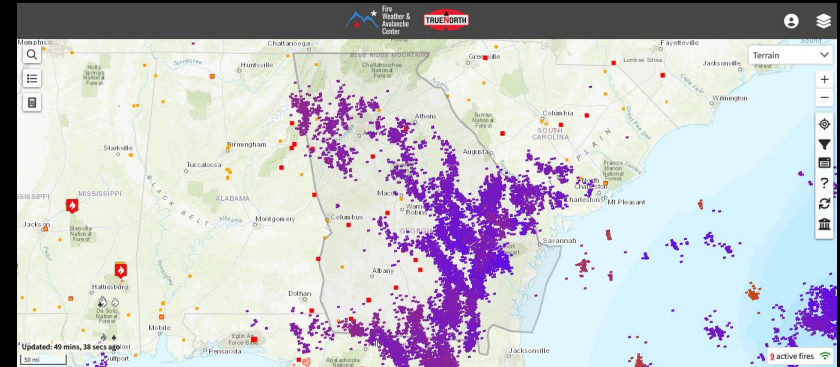
# Drivers for Rural America



Food and Land –  
Agriculture

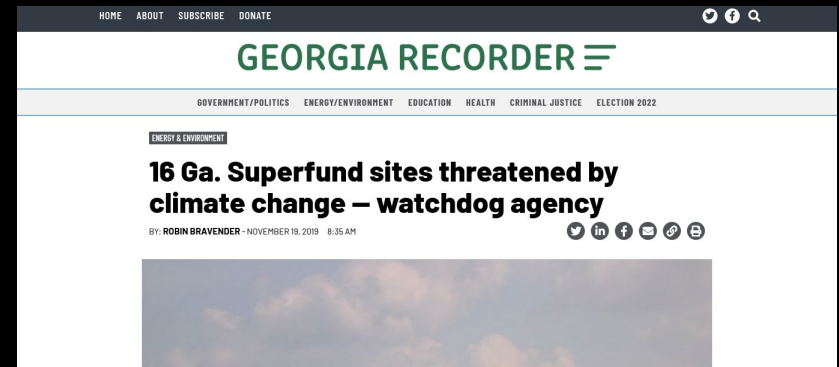
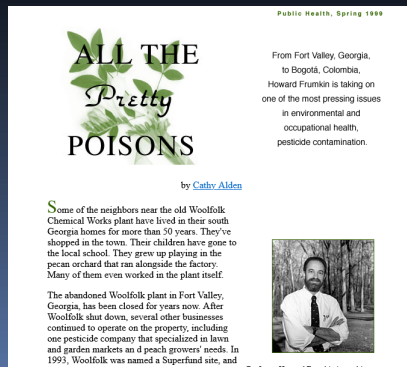


# Wildfires

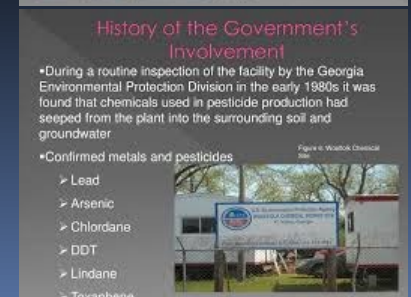
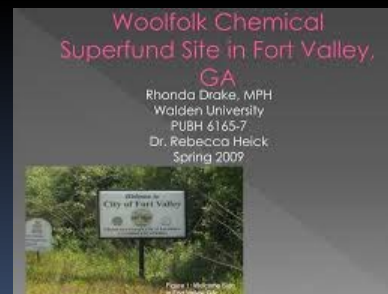


# Woolfork Chemical Superfund Site

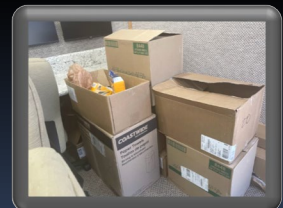
- Began in the 1920s when the Woolfork Chemical company started manufacturing and packaging inorganic pesticides for use on the peach orchards.
- Production expanded during the 1950s to include various organic pesticides, including DDT, lindane, toxaphene, and other chlorinated products.
- In 1993, Woolfork was named a Superfund site, and the EPA began a series of clean-up actions.



The Woolfolk Chemical Works, Inc., site in Fort Valley, Ga., a pesticide plant that has contaminated the soil and ground water, is in an area with high wildfire potential.



# Community Systems and Relationships: More Effective Support to Communities



# Acknowledgements

- National Academies of Science, Engineering and Medicine



# National Academies of Science, Engineering and Medicine

The National  
Academies of  
SCIENCES  
ENGINEERING  
MEDICINE



# QUESTIONS?

**Felicia Jefferson, MS, Ph.D.**

*Associate Professor*

**Biology Department, College of Arts & Sciences,  
Fort Valley State University**



May 31, 2022

