

# CREATING A TRIANGLE REGIONAL RESILIENCE PARTNERSHIP



TOWN of CARY



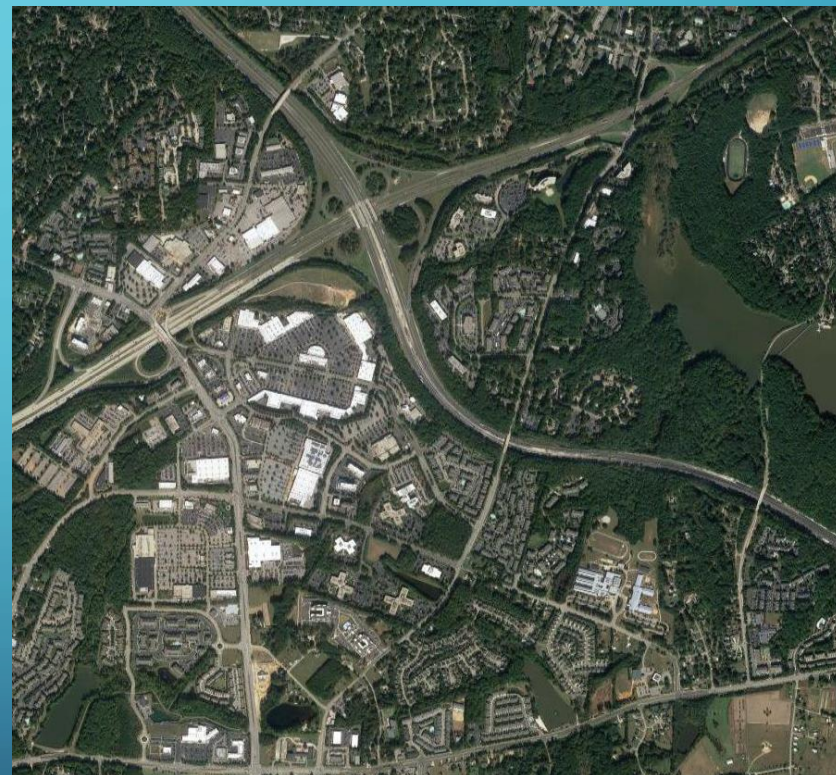
An abstract graphic on the left side of the slide, consisting of a network of light blue lines and small circles, resembling a circuit board or a neural network, set against a dark blue background.

# WHY WORK TOGETHER?

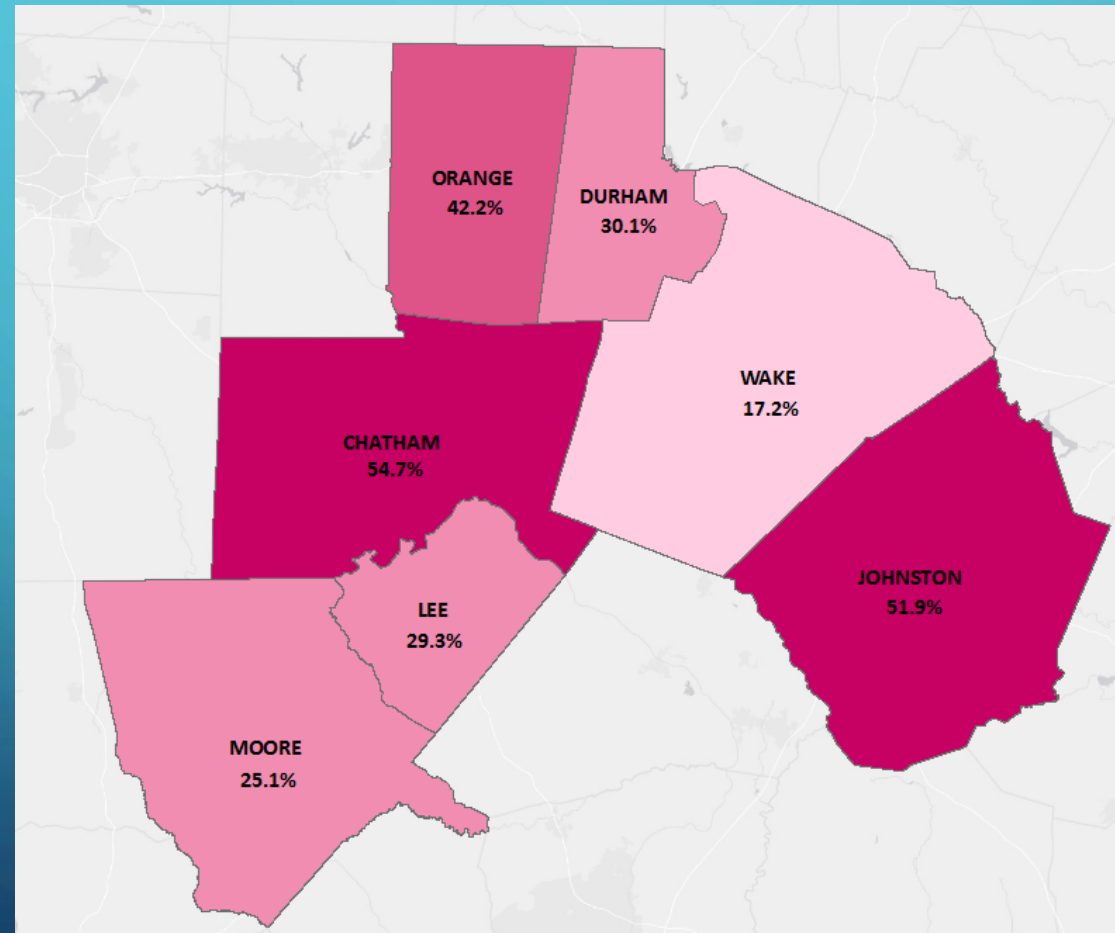
**Two Generations Ago...**



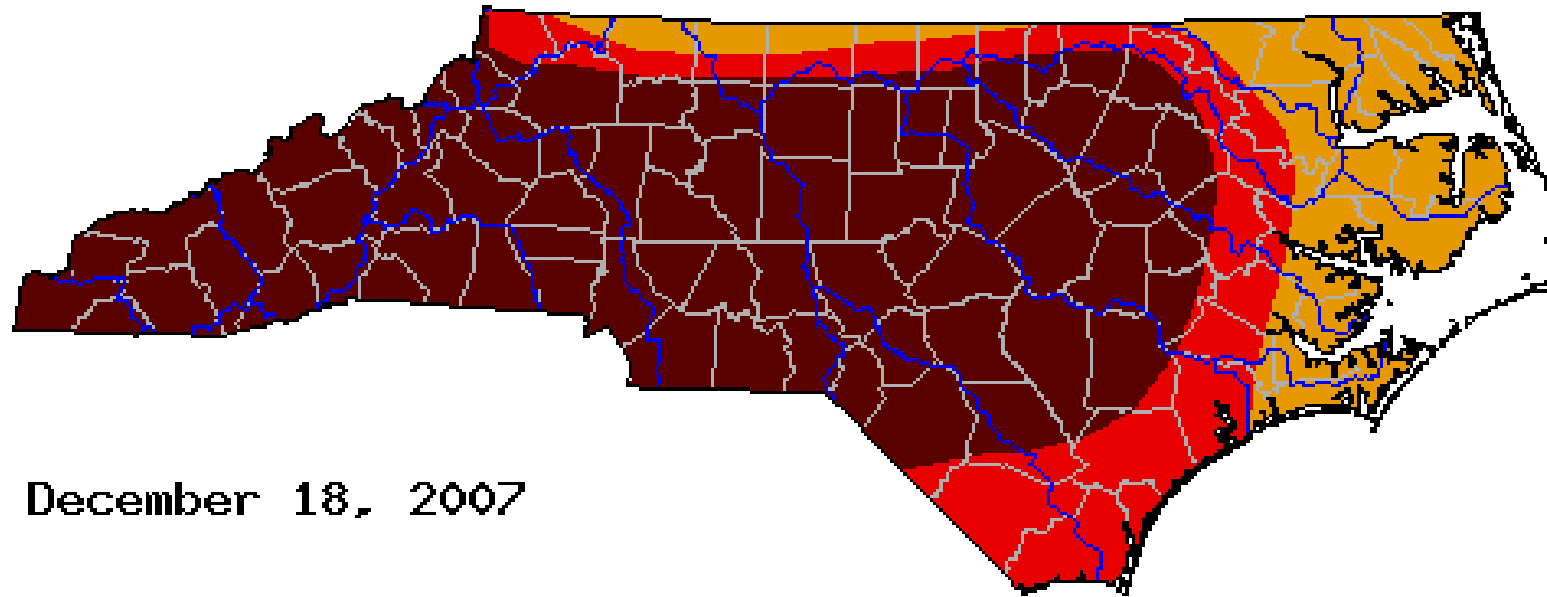
**Today...**



# PORTION OF WORKERS WHO WORK OUTSIDE THEIR COUNTY OF RESIDENCE



Data source: 2010-2014  
American Community  
Survey








December 18, 2007

[PLAY](#) | [PAUSE](#) | [RESET](#)

Data courtesy of the N.C. Drought Management Advisory Council

**Drought Classifications**

-  D0 - Abnormally Dry
-  D1 - Moderate Drought
-  D2 - Severe Drought
-  D3 - Extreme Drought
-  D4 - Exceptional Drought

 Major River Basins

A = Agricultural  
(crops, pastures, grasslands)

H = Hydrological (water)



# PROJECT HISTORY

- Sustainability Managers from several different local governments in the Triangle region were smitten with a conference presentation by NEMAC
  - Quickly realized that working with the other interested parties would provide economy of scale

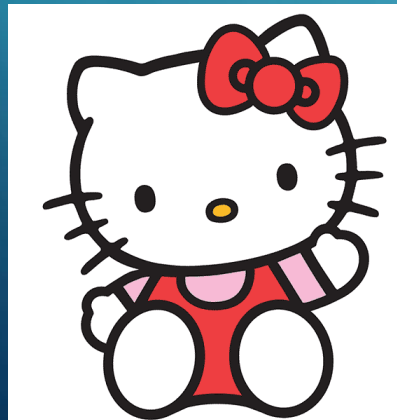
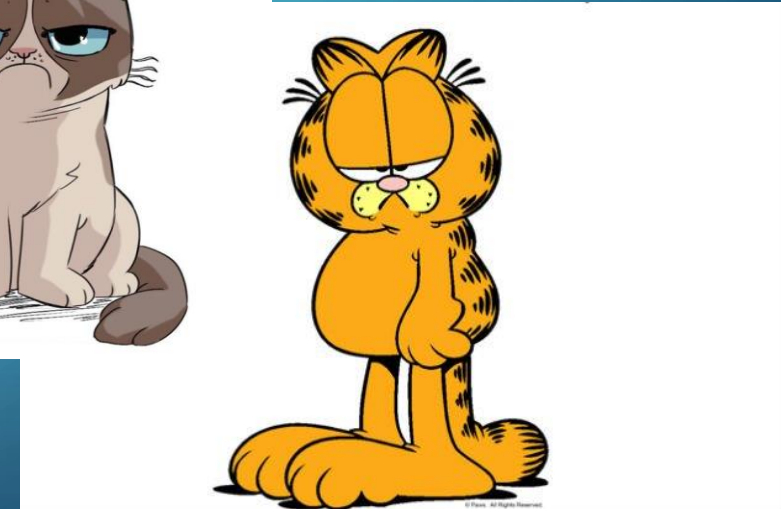
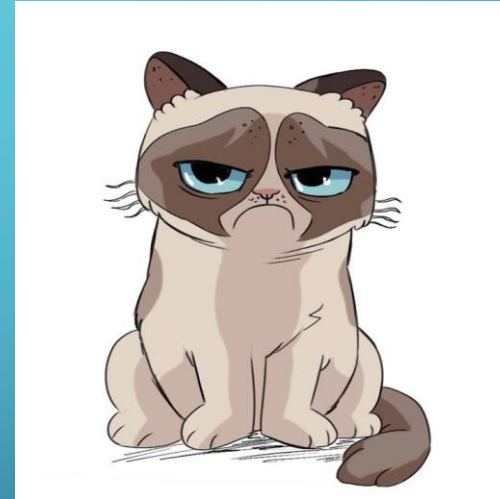
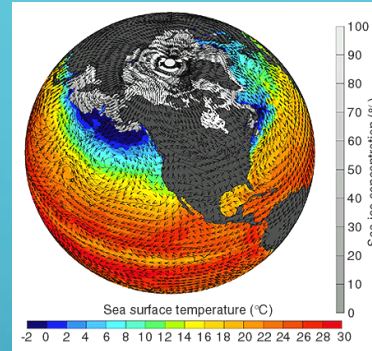
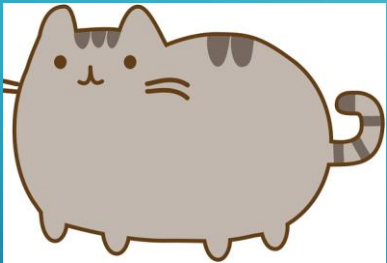


- Contracting together on such a plan was going to be daunting, difficult, and unprecedented... they would need a neutral party!



# THE TRIANGLE REGIONAL RESILIENCY PARTNERSHIP

- Six (5.5??) distinct government entities
  - Cary, Chapel Hill, Raleigh, Orange County, Durham, and Durham County
  - Durham and Durham County share a Sustainability office = 1.5 entities
- One modeling group (NEMAC)



- One facilitative entity (TJCOG)



# COLLABORATIVE GOVERNMENT – AN OXYMORON?

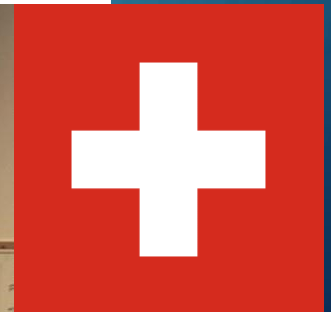
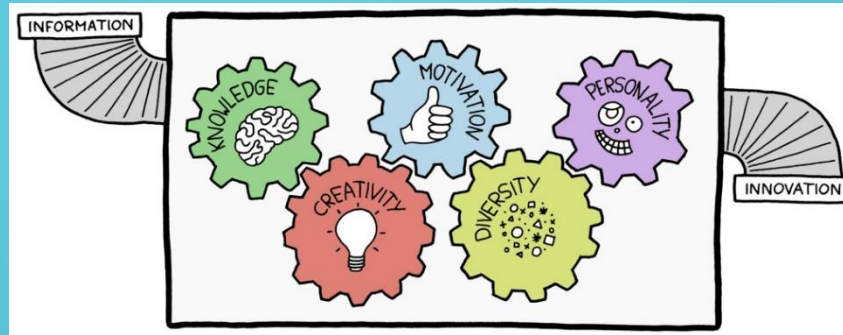
- Bureaucracy
- Red Tape
- Slow-moving Processes
- Siloing



# INNOVATION → REINVENTION

- Innovative processes
- Difficult questions
- Neutral entity
- Steering Committee
- Lots and lots of calls, emails, and meetings

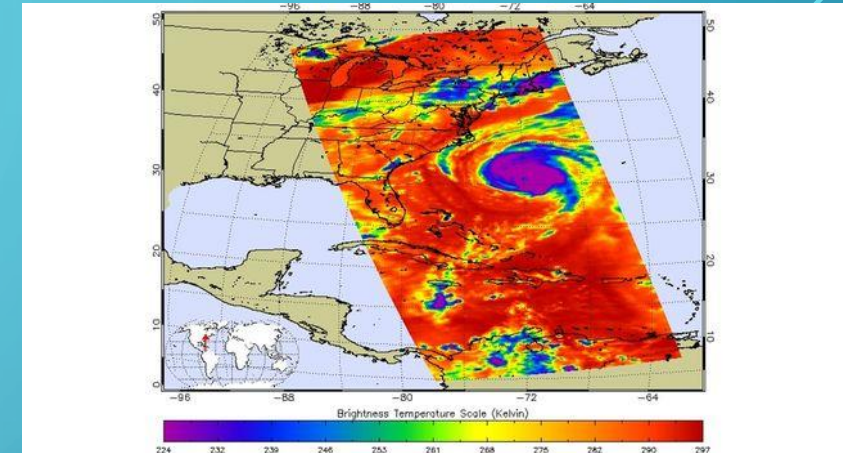
So in other words.....





# RESILIENCY ASSESSMENT BASICS

- Understand threats (both climate and non-climate) and the assets they threaten
  - Each entity may have a different set of assets/threats!
- Assess the vulnerability and risk (modeling magic...)
  - Quantify level of exposure (location, etc.)
  - Quantify level of vulnerability (status today)
    - Quantify sensitivity
    - Quantify adaptive capacity
  - Quantify level of risk (future status)
    - Quantify consequence
    - Quantify probability
- Combine vulnerability and risk to assess and visualize level of resilience to threats.



Shawn Rocco via News and Observer

The assessment identified **climate and non-climate stressors** that impact the region's most valued assets, primarily:



Increased extreme precipitation events that lead to local flooding



Increasing night-time temperatures and other temperature variability



Increased frequency and duration of drought conditions

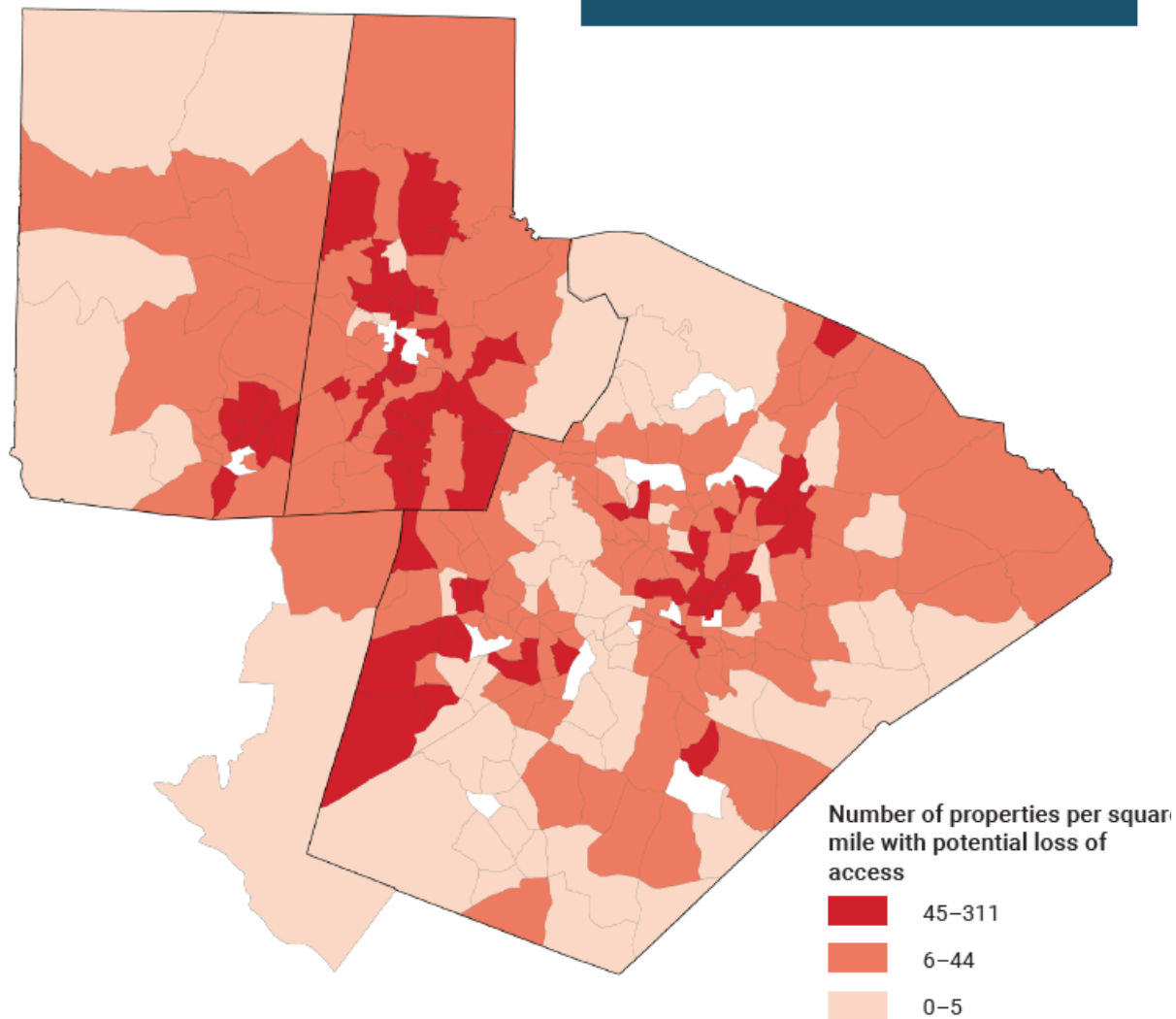


Robust population growth leading to an increased demand for resources and services and increasing social vulnerability for some populations

## Road Access and Flooding

Beyond day-to-day transportation needs, roads provide vitally important access for safety and emergency services. Many of these are in areas with a single access point. Red areas on the map have the highest estimated number of properties with the potential for loss of access.

Depending on the circumstances, a flooding event in the region could result in more than 30,000 properties becoming inaccessible to residents and emergency vehicles due to either inundated or damaged roads.

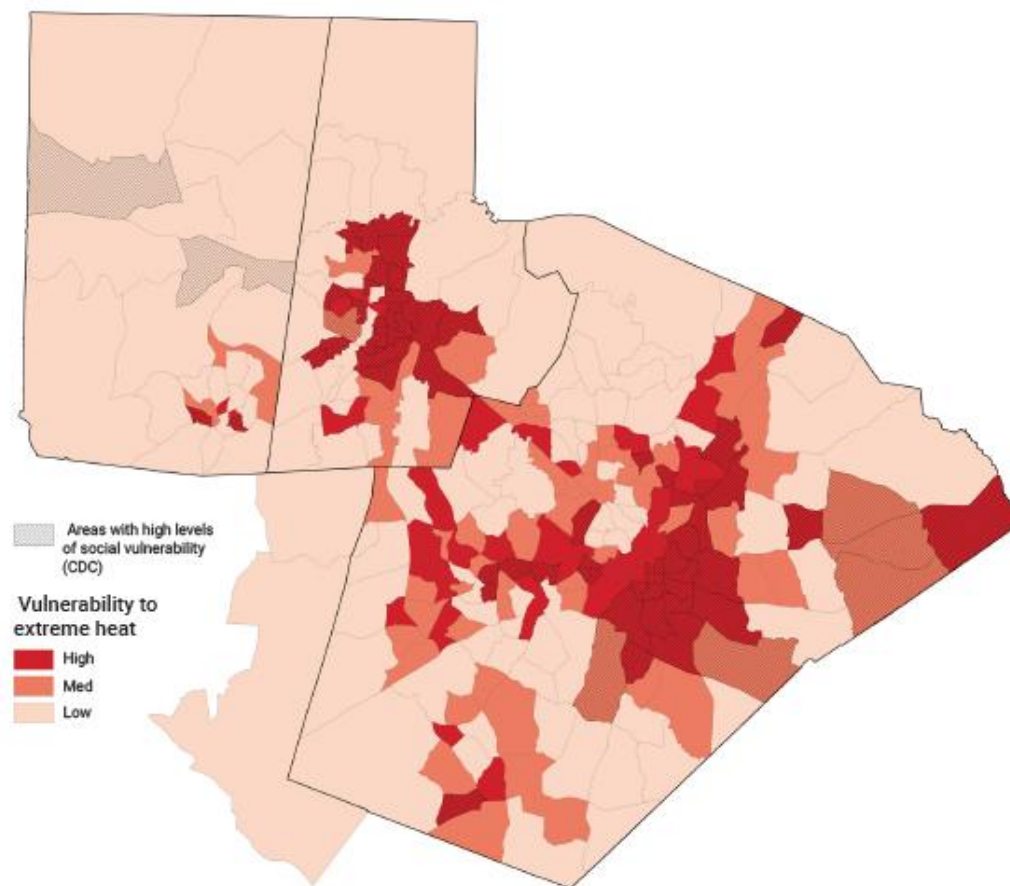


## Residents and Extreme Heat

Extreme heat can cause negative health impacts, which causes concern for the region's socially vulnerable populations.

The Triangle region has a history of extreme heat events, and their number is expected to increase. For example, from 2005 to 2012 the City of Raleigh experienced a higher than normal number of days over 92°F, particularly in 2010—with 48, the most on record.

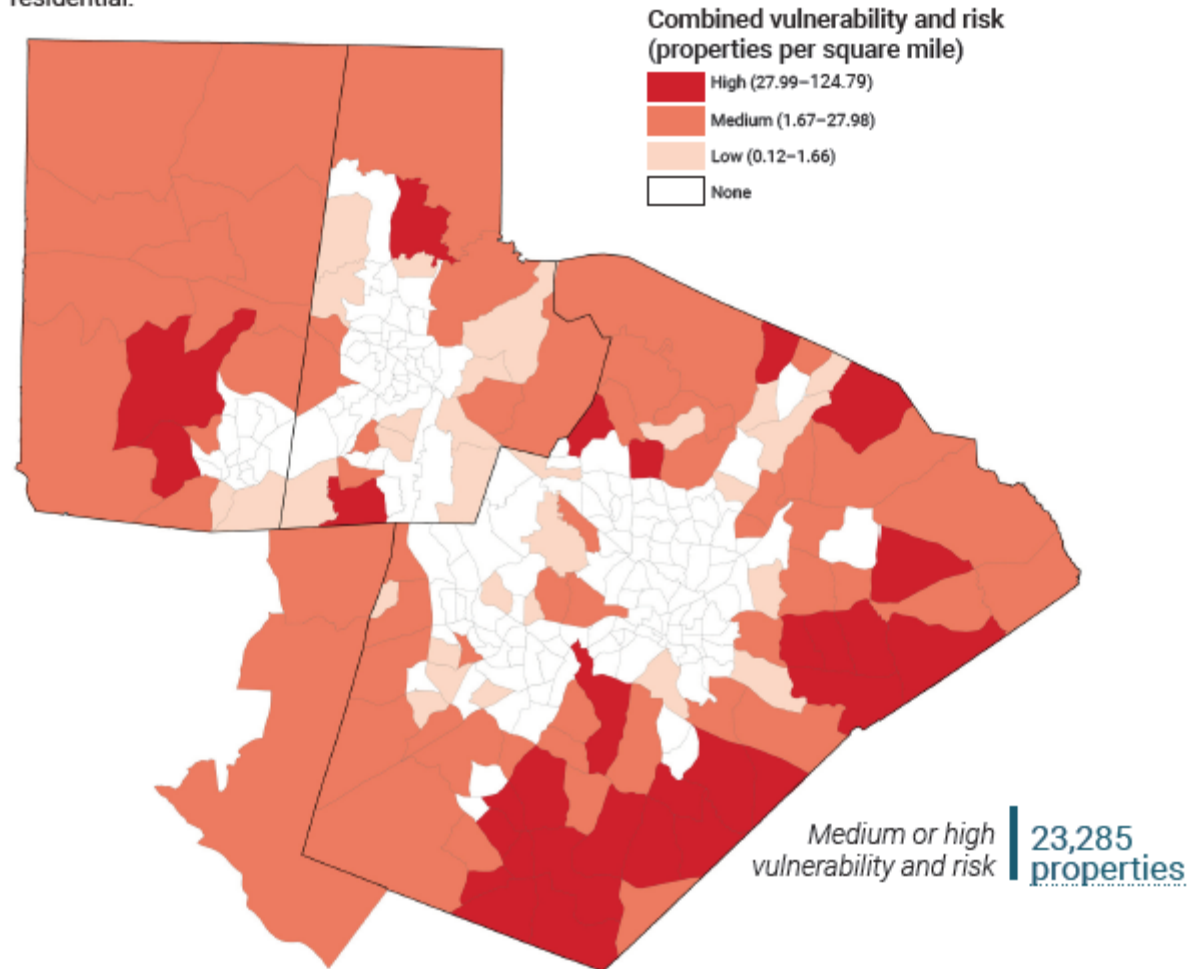
The assessment considers socially vulnerable populations (using the CDC's Social Vulnerability Index, or SVI) who live in proximity to developed land cover. The SVI includes families living below the poverty line, households with disabilities and members who are age 65 and older, and households who have limited English language proficiency, among other metrics. Socially vulnerable populations in areas with a high percentage of developed land cover and low tree canopy are most vulnerable to negative health effects related to heat stress and due to the urban heat island effect.



## Residential Properties and Wildfire

The southeastern U.S. leads the nation in number of wildfires, averaging 45,000 fires per year. Increasing temperatures and drought conditions will contribute to increased fire frequency, intensity, and size. In the Triangle region, most of the properties with relatively high wildfire vulnerability and risk are residential.

Over 23,000 residential properties are located in the wildland-urban interface and are outside an eight-minute drive time from their local fire station.






# WHAT'S NEXT?

- Results of assessment will be used to improve resilience in the region in the following ways (and more!)
  - Enhance hazard mitigation and emergency response
  - Encourage further analysis (expand region)
  - Promote communication, education, and outreach
  - Develop partnerships with stakeholders and elected officials
  - Support healthy communities and people
  - Revise ordinances, design standards, and other policies
  - Protect and conserve natural areas
  - Improve regional infrastructure
  - Increase regionalization!



# LESSONS LEARNED

- Working in partnership takes longer, is messier, and harder – but it is worth it.
  - All partners need to believe it is in their best interest to be in.
  - Getting some data is easy, getting all the data is hard.
  - Communicating is key and needs to be figured out early on.
  - Resilience is still abstract – real examples make it real to people.
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# QUESTIONS?



Tobin Freid  
Durham City-County  
Sustainability Manager  
(919) 560-7999  
[tfreid@dconc.gov](mailto:tfreid@dconc.gov)  
[www.GreenerDurham.net](http://www.GreenerDurham.net)

Triangle Regional Resilience  
Partnership  
<http://www.tjcog.org/regional-resiliency-assessment.aspx>