

Building Resilience in an Older and Warmer World

Geoff Dabelko, Ohio University

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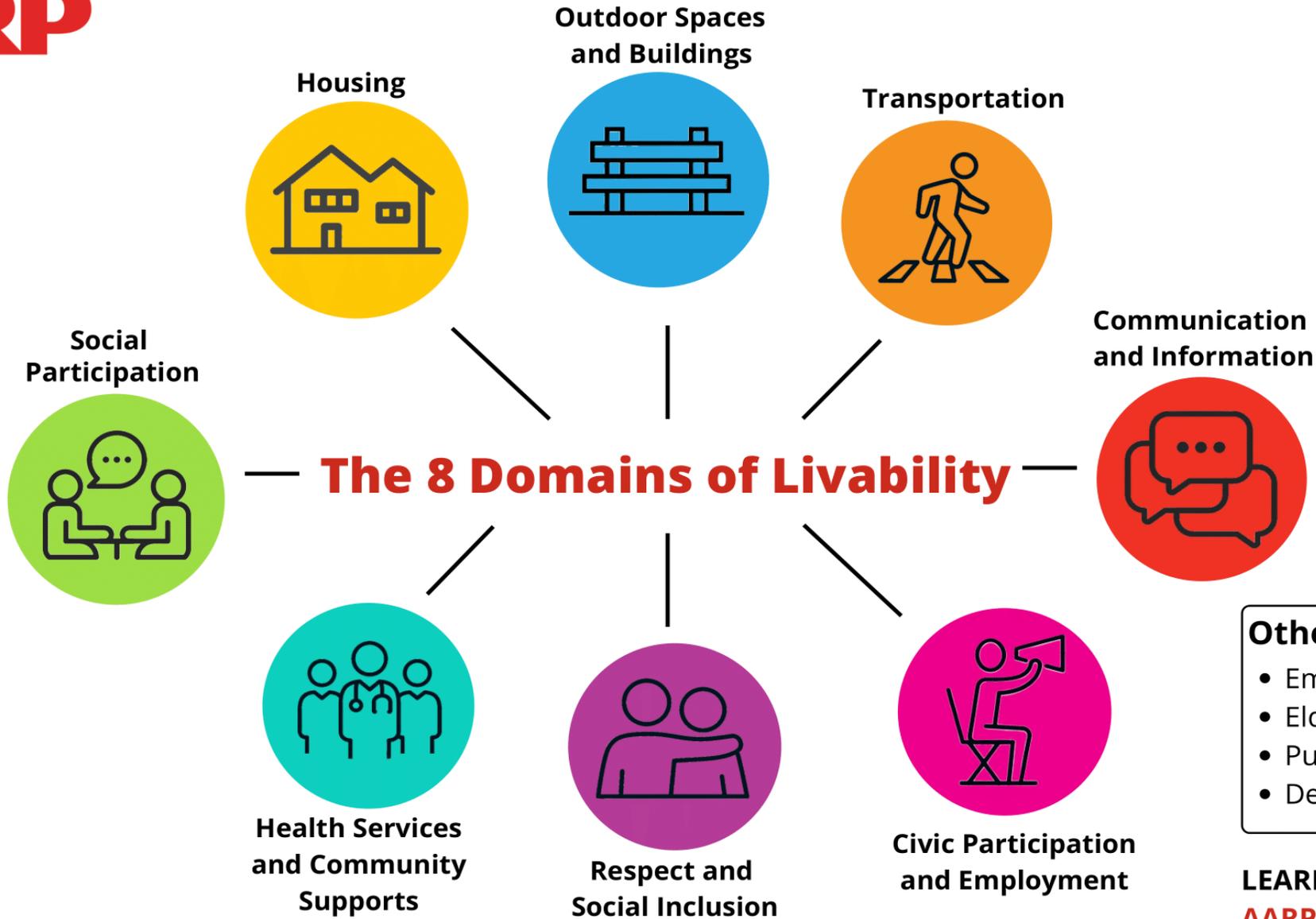
Amista Lipot, Mayors' Partnership for Progress and
Ohio University

Leslie King, Miami Valley Regional Planning Commission



The story literally starts
with a conversation
around the Thanksgiving
dinner table...





- Other Areas**
- Emergency Preparedness
 - Elder abuse
 - Public safety
 - Dementia-friendly

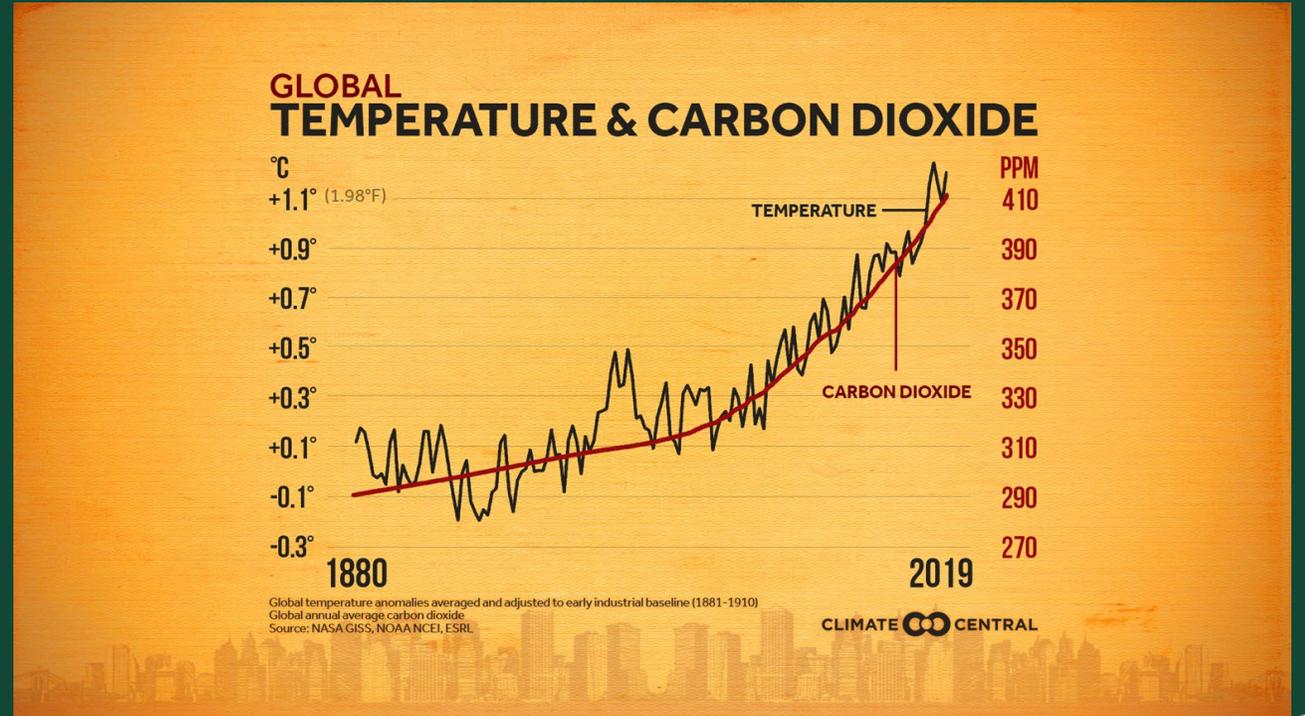
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[AARP.org/Livable](https://www.aarp.org/Livable)

Two Big Trends Yet We Assumed Largely Disconnected

Aging World

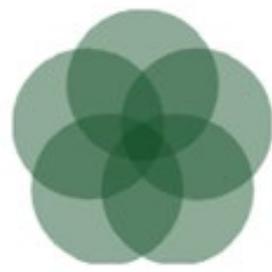
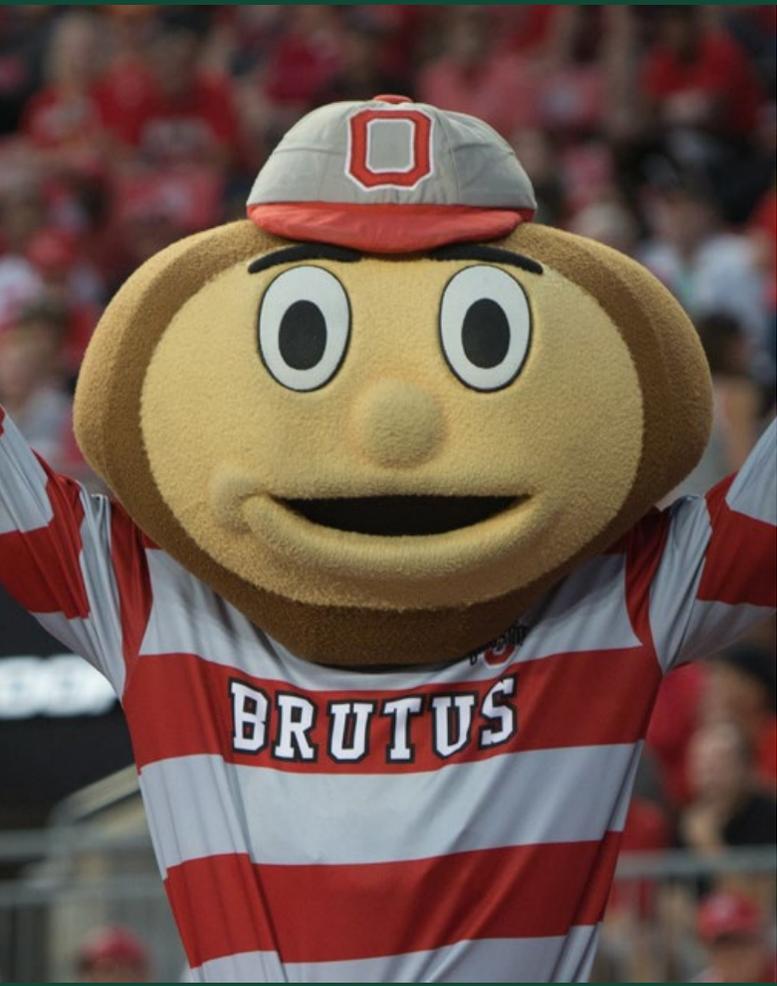


Warming World



Playing in the same sandbox...
but not together!





GREY
GREEN
ALLIANCE



What will a warmer world mean for the growing number of older adults?



Trends in Aging

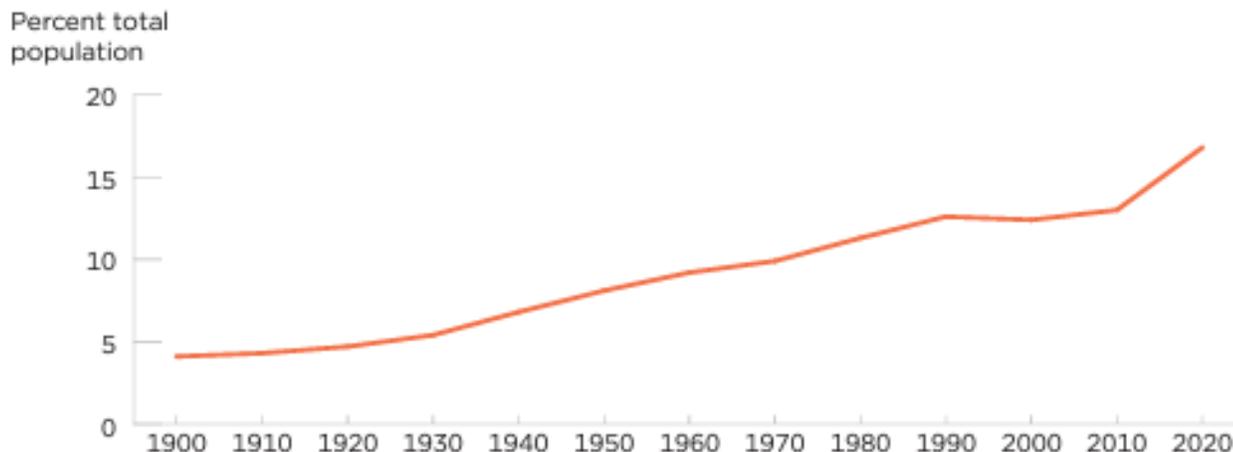
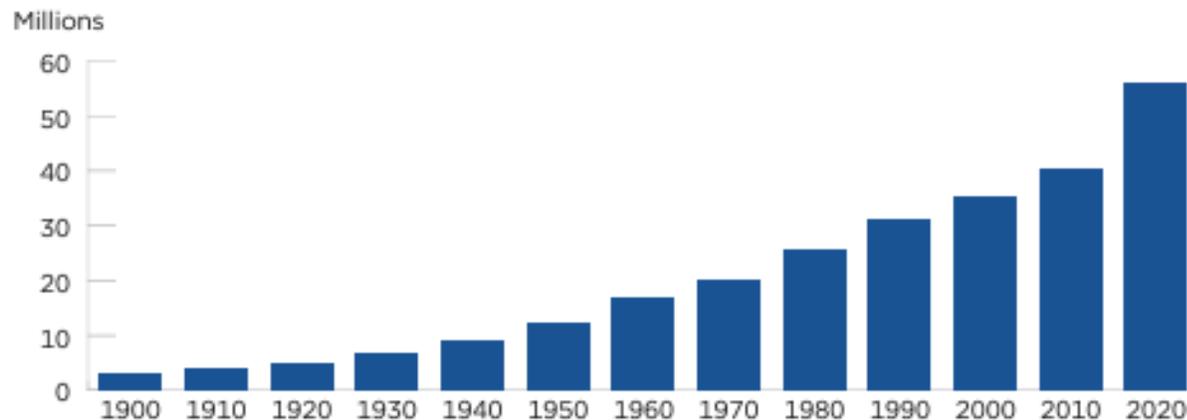




US Aging Trends

1 in 5 Americans will be 65 or older by 2030

Figure 2. Population 65 Years and Over by Size and Percentage of Total Population: 1900 to 2020



Note: For information on data collection, confidentiality protection, nonsampling error, and definitions, refer to <https://www2.census.gov/programs-surveys/decennial/2020/technical-documentation/complete-tech-docs/demographic-and-housing-characteristics-file-and-demographic-profile/2020census-demographic-and-housing-characteristics-file-and-demographic-profile-techdoc.pdf>.

Source: U.S. Census Bureau, Decennial Census of Population, 1900 to 2000; 2010 Census Summary File 1, and 2020 Census Demographic and Housing Characteristics File (DHC).

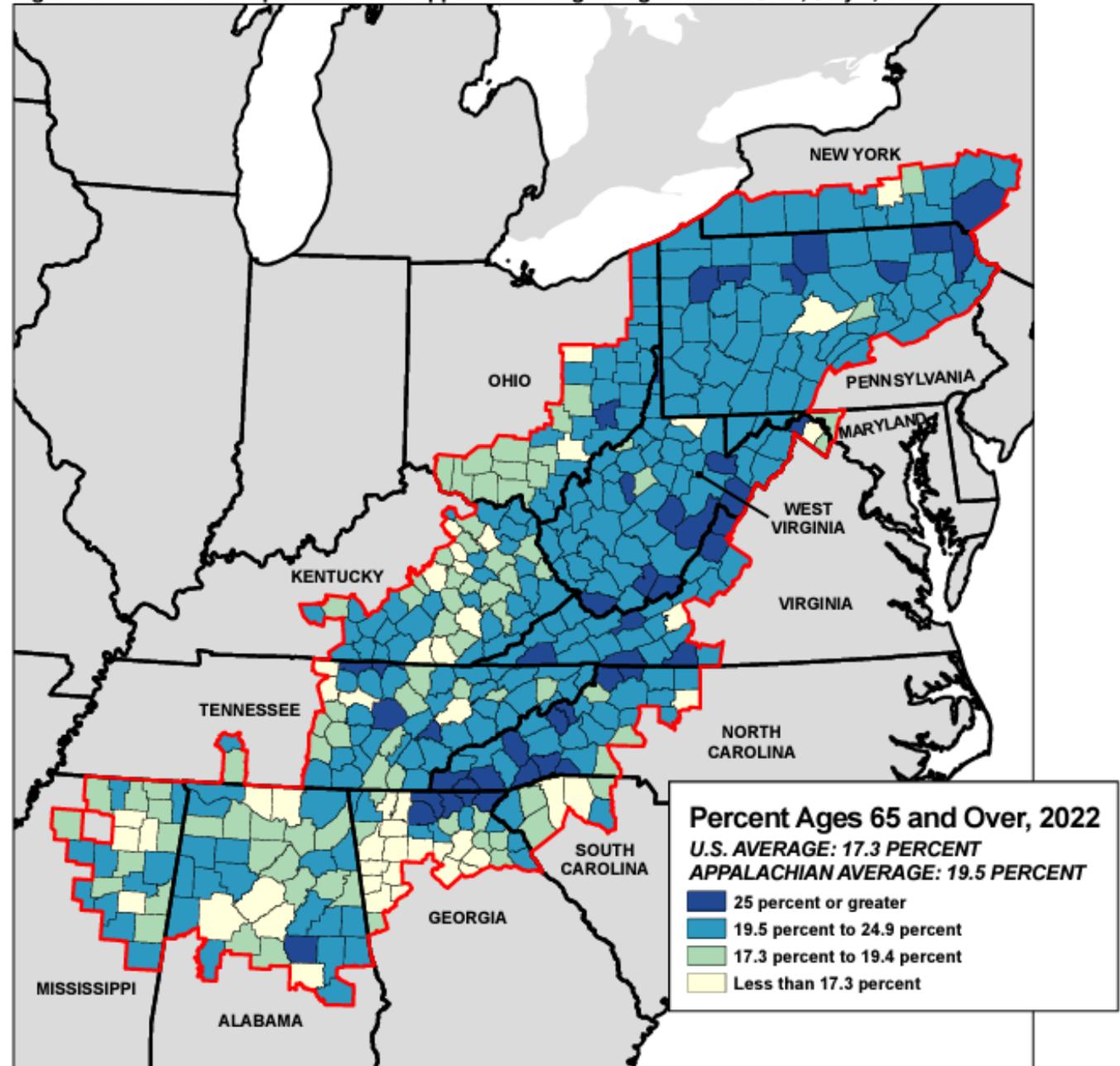
Percentage of Older Adults Higher in Rural Areas (2022)

U.S. Average 65 & over: 17.3%

Appalachian Average: 19.5%

U.S. Rural: 20%

Figure 2.4: Percent of Population in the Appalachian Region Ages 65 and Over, July 1, 2022



Map Title: Percent of Population in the Appalachian Region Ages 65 and Over, July 1, 2022

Data Source: U.S. Census Bureau, Vintage 2022 Population Estimates.

State Level: Older Adults in Ohio

Percentage of Ohioans 60 and older

2010: 19.8%
 2015: 22.3%
 2020: 24.3%
 2025: 25.9%
 2030: 26.3%

Aging Ohio

Where people age 60 and up outnumber those under 20

2000 census



2010 census



2017 estimate



2020 projection



RICH EXNER/CLEVELAND.COM

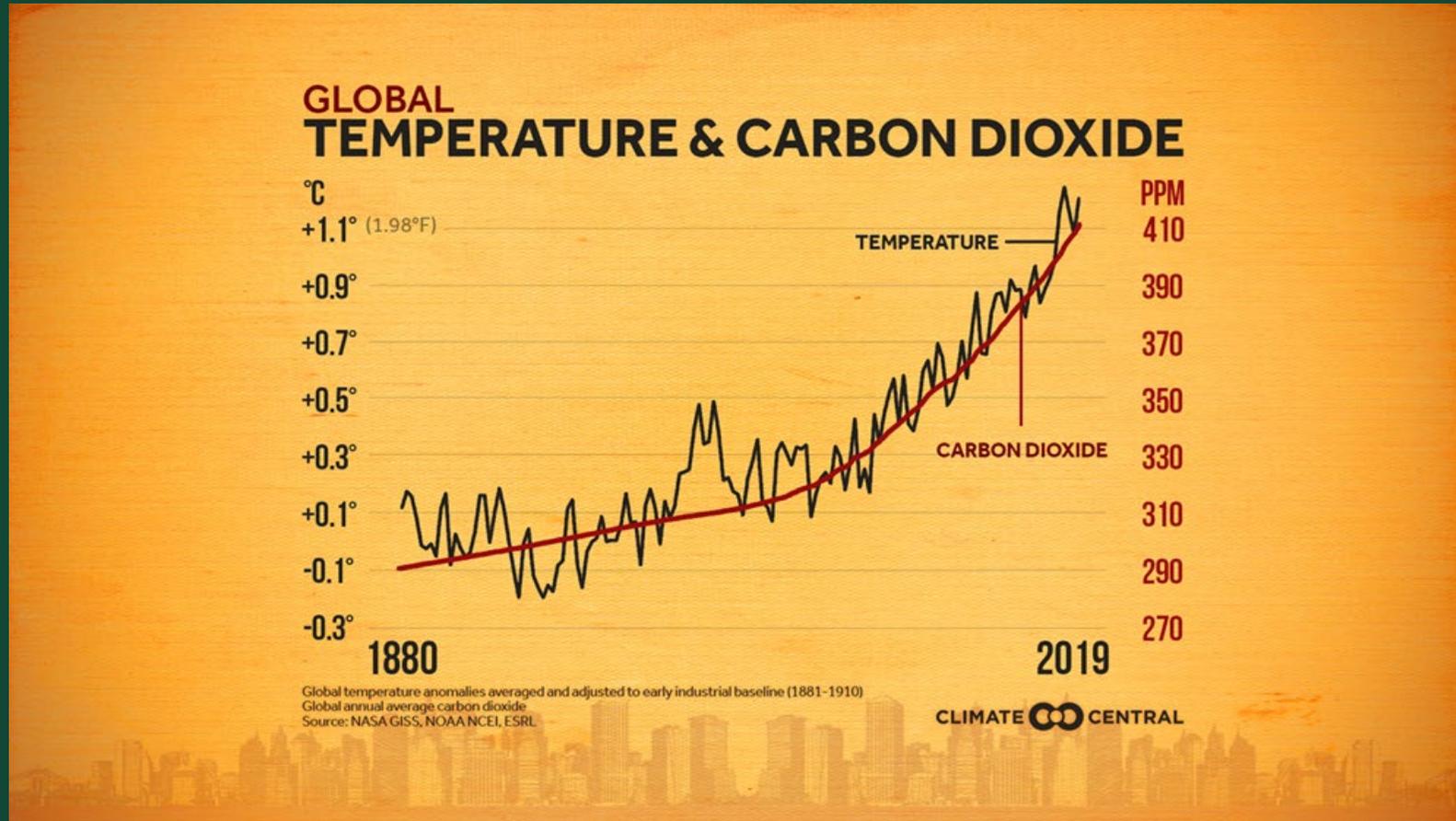
The number of Ohio counties where there are more people 60 and older than there are residents under age 20 has grown from none in 2000 to what likely will be well more than half of the state in 2020.

Older Adults in Your Part of the Country

- Scan the QR to be taken to the Census Bureau's Census Reporter site
- Enter your community or county
- What is your percentage of residents 60 or 65 and older?



Trends in Warming



What Do We Mean When We Say a Warmer World?



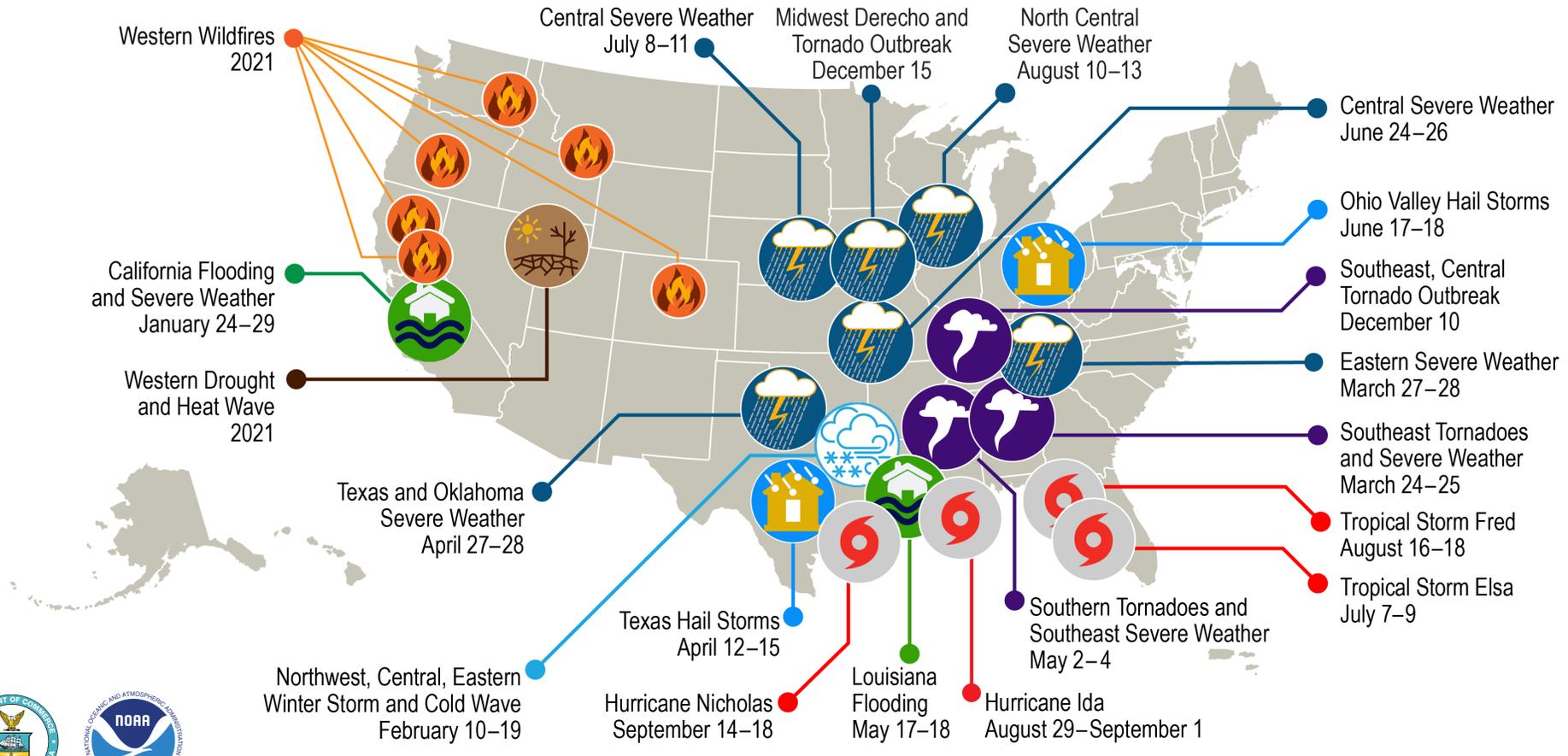
Source: NASA Climate Spiral <https://science.nasa.gov/resource/video-climate-spiral-1880-2022/>



What Do We Mean When We Say a Warmer United States?

U.S. 2021 Billion-Dollar Weather and Climate Disasters

-  Drought/Heat Wave
-  Flooding
-  Hail
-  Hurricane
-  Tornado Outbreak
-  Severe Weather
-  Wildfire
-  Winter Storm/Cold Wave

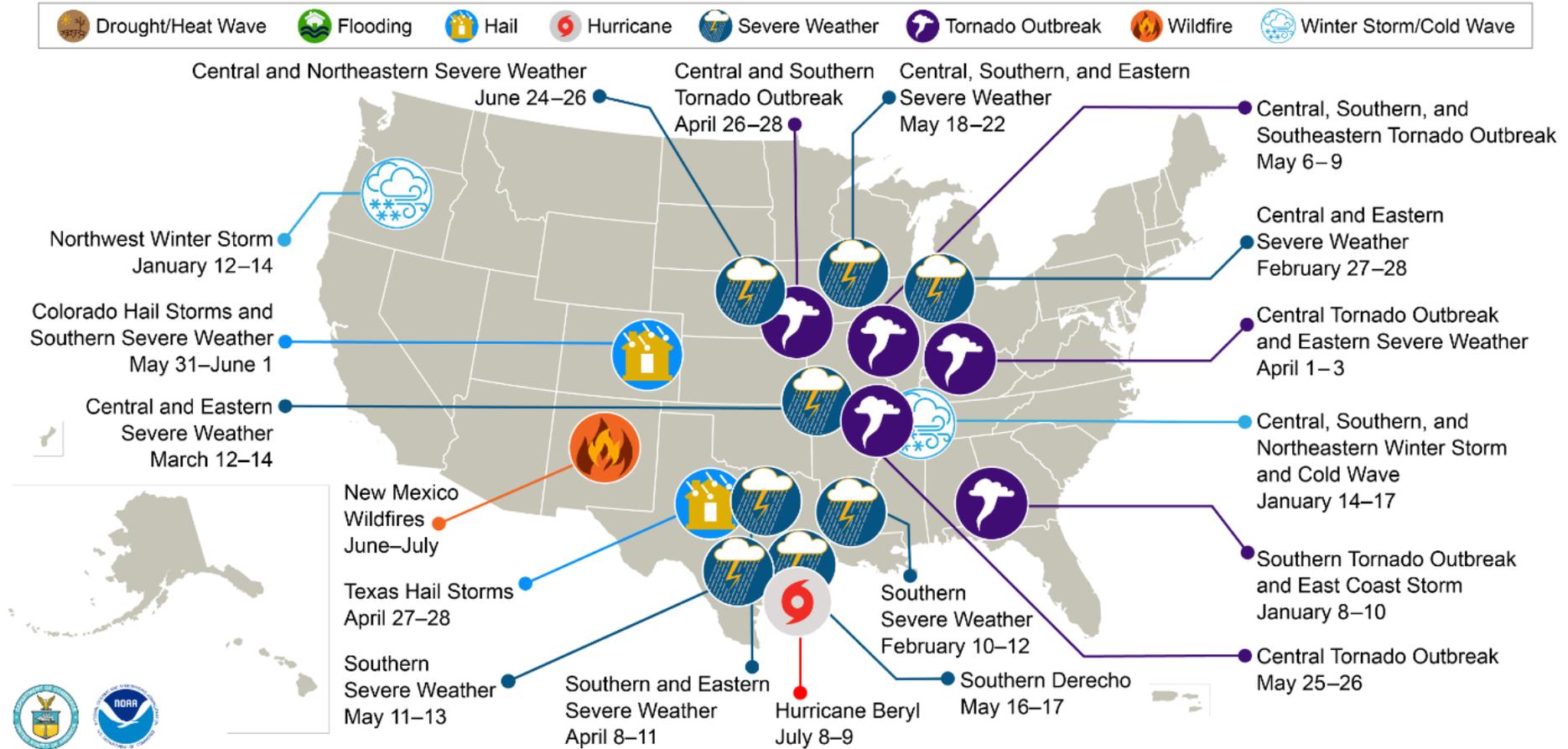


This map denotes the approximate location for each of the **20 separate billion-dollar weather and climate disasters that impacted the United States in 2021**



So far in 2024 (through July)

U.S. 2024 Billion-Dollar Weather and Climate Disasters



This map denotes the approximate location for each of the 19 separate billion-dollar weather and climate disasters that impacted the United States through July 2024.





[Home](#) / [Health Topics A-Z](#) / [Hot Weather Safety For Older Adults](#)

Hot Weather Safety for Older Adults

On this page:

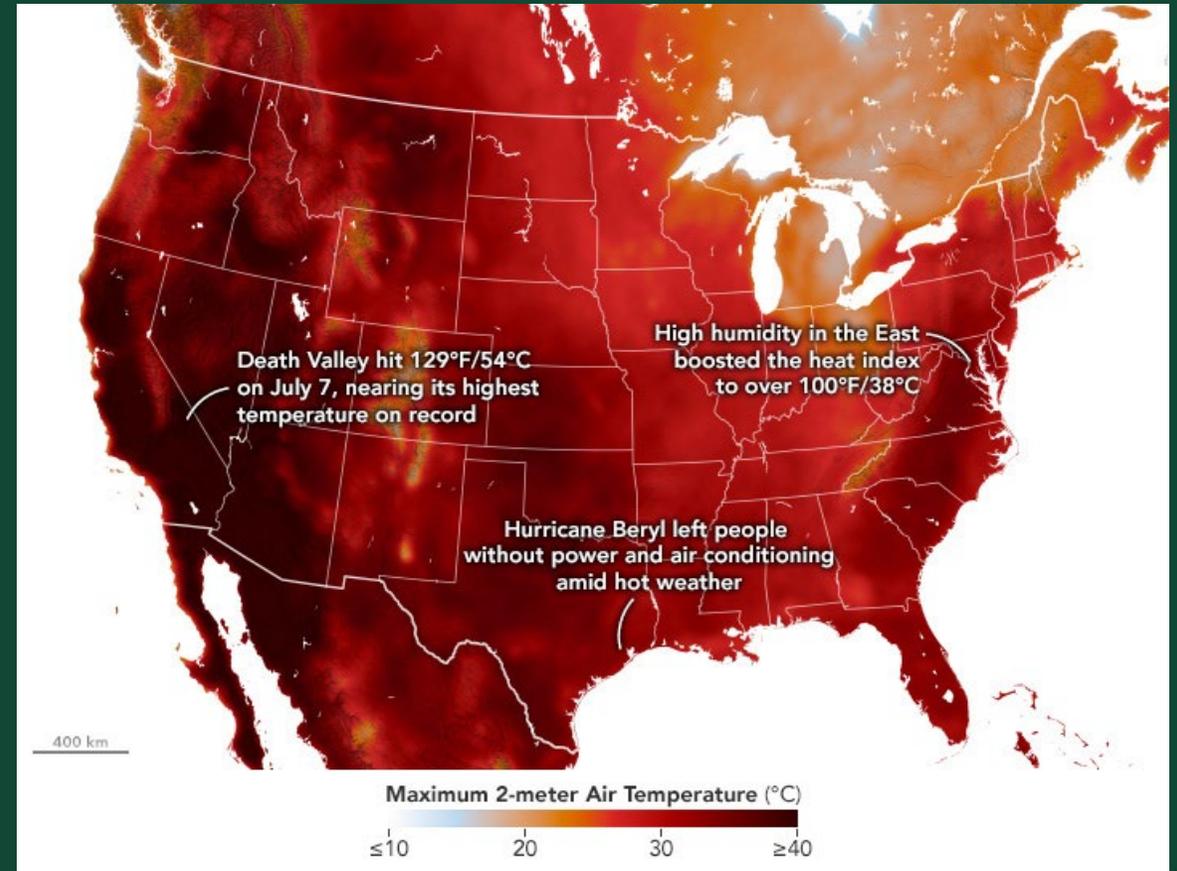
- [Heat-related illnesses](#)
- [What raises the risk of heat-related illnesses for older adults?](#)
- [Tips to stay safe in hot weather](#)
- [Key points to remember about hot weather safety](#)



Check out our free publications. Order here!

Heat Realities: Deadliest of all Weather-Related Threats in the United States

- Heat is leading cause of weather-related deaths in the U.S.
- More than all other weather-related hazards combined
- Approximately 12,000 heat-related deaths in 2020
- 80% of those deaths above 60 years old
- About the same # as lost to gun violence that same year
- Likely undercounts & likely to rise



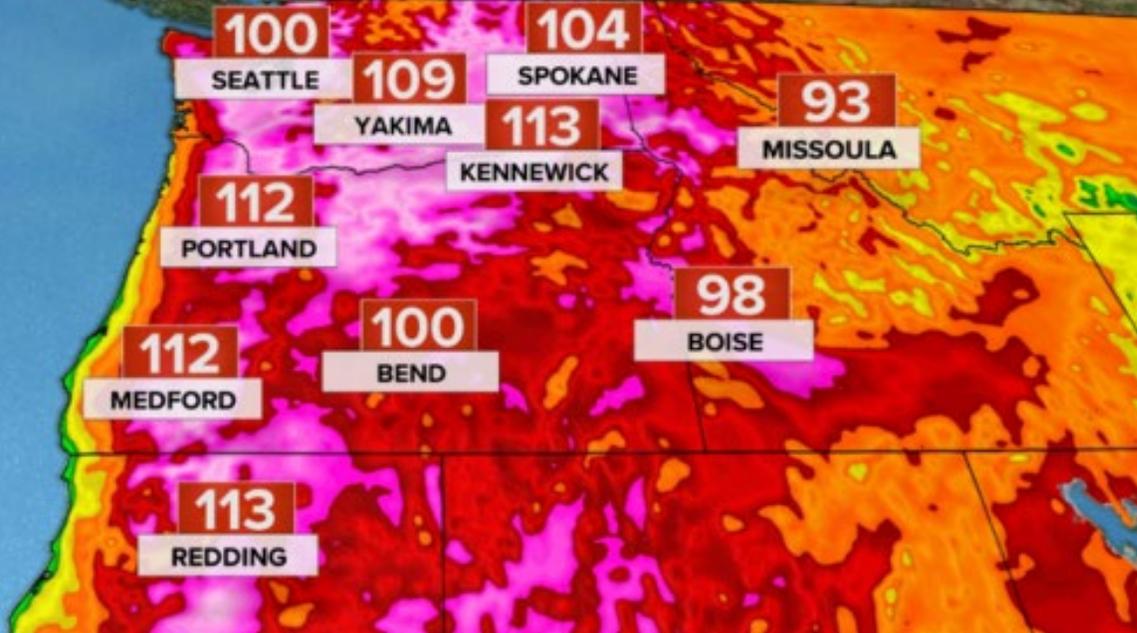
Adapting Existing Programs & Taking a Holistic Approach

- **Cooling support, not just winter heating support** - AAAs & partners have new expenses yet can capture synergies and savings from housing retrofits & solar
- **Adapting typical interventions** – fans for cooling come with water bottles and warnings on meds that don't work when dehydrated
- **Not just direct fixes** – increasing social connection is best way to lower heat threat – WARM Project in affordable housing for older adults & disabled in Columbus, OH



Extremes in Surprising Places & No True Climate Havens

RECORD SHATTERING HEAT HIGH TEMPERATURES - SUNDAY

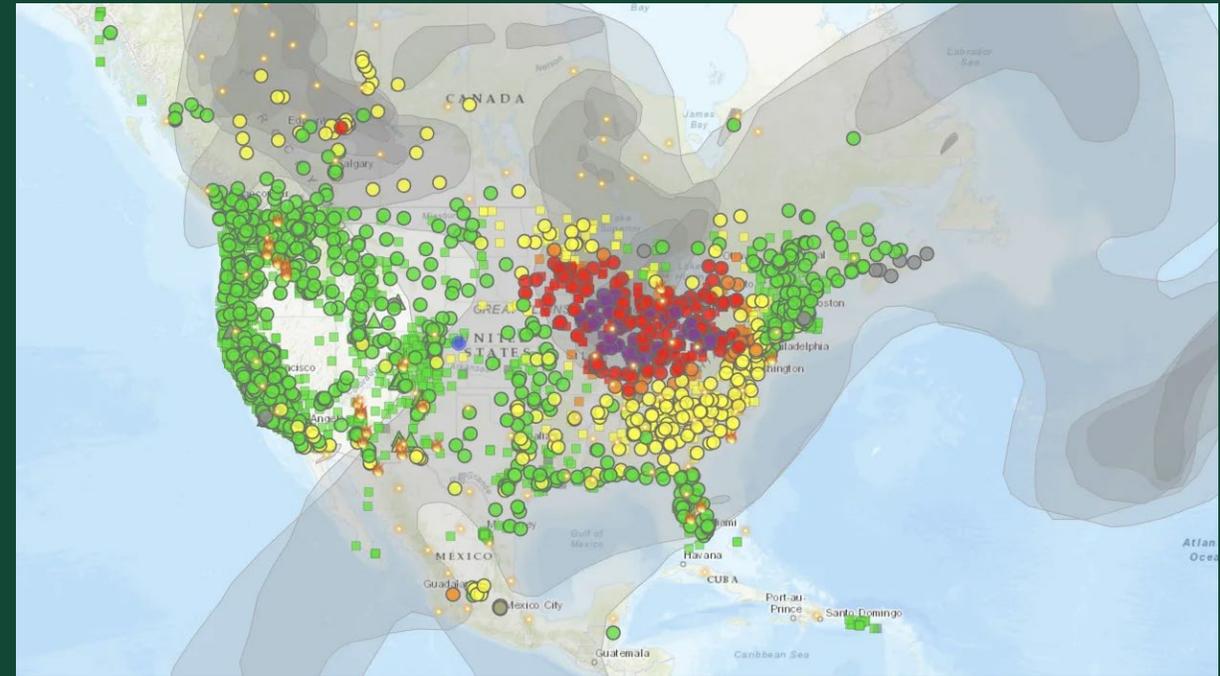


2021



Unwelcome Surprises from Remote Sources

- Air Quality – Columbus, Ohio had some of the worst air quality in the United States in 2023 due to smoke from Canadian forest fires
- Bigger respiratory challenges
 - Adding air quality including in unexpected places ie rural areas



June 28, 2023

NIH RESEARCH MATTERS

September 5, 2023

Air pollution linked to dementia cases

At a Glance

- Higher levels of a type of air pollution called PM_{2.5} were linked to a higher number of dementia cases developing over time.
- The strongest links between pollution and dementia were seen for PM_{2.5} from agriculture and wildfires.
- Reducing such exposures might help lower the incidence of dementia.

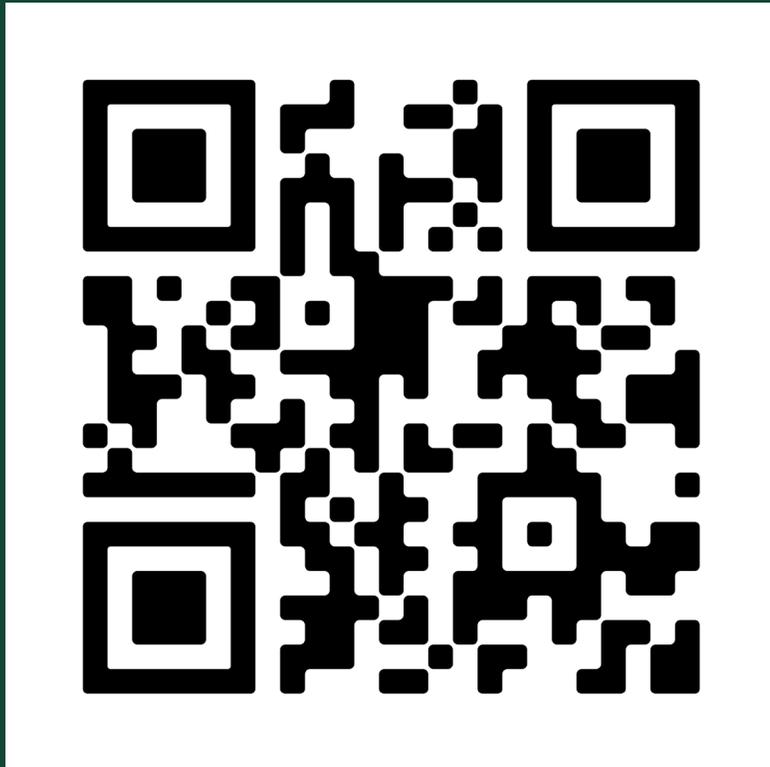
Dementia is a loss of thinking, remembering, and reasoning skills. It's not a normal part of aging. But the risk of developing dementia grows as people get older. Millions of Americans, along with their families and caregivers, are living with the effects of dementia. This number is expected to continue to grow as the population ages.

Exposure to a type of air pollution called fine particulate matter, or PM_{2.5},



Federal Resources to Understand Climate in Your Locality

5th National Climate Assessment



U.S. Climate Resilience Toolkit



Finding Connection: Elders as a Source of Insight

Lessons from Adversity

- Economic depressions
- Pandemics
- Wars hot and cold
- Immigration histories
- Extreme weather events



Yet the past not necessarily good predictor of the future in a warmer world

Lessons from Climate Science

- Uncharted territory
 - Rapid rate of change
 - “Unimaginable extremes”
 - Implications for day to day
 - Implications for emergencies
-
- Bottom line: Creates new challenges for working with older adults



New Assumptions for a Warmer World

- Greater variability and unpredictability is new normal
- Impacts are not incremental or gradual
- Yet challenges go beyond disasters



New Assumptions for a Warmer World

- Challenges today, not in the future
- Impacts for ALL sectors and ALL geographies – just different
- Flexibility undergirds resilience
- Ways forward, not just catastrophe



Emerging Research Resources

The Gerontologist, 2024, 64, 1–6
<https://doi.org/10.1093/geront/gnad137>
Advance access publication 6 October 2023
Special Issue: Climate Change and Aging: Forum



Age-Friendly and Climate Resilient Communities: A Grey–Green Alliance

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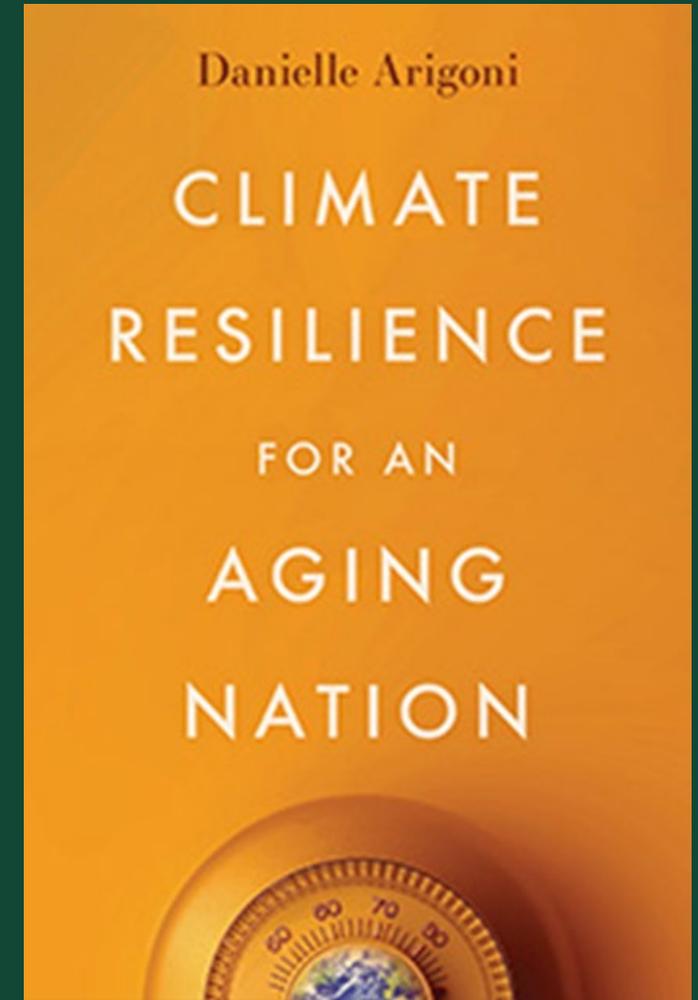
Decision Editor: Nicholas G. Castle, PhD, FGSA

Abstract

The world's population is aging while the Earth's climate is warming. The climate change crisis poses threats to our aging population and requires concerted action. Steps to address these threats present opportunities for improving livability for people of all ages while addressing the underlying drivers of climate change. Yet prominent action frameworks such as the World Health Organization's (WHO) Global Network of Age-Friendly Cities and Communities do not explicitly include climate resilience and sustainability as essential elements of age-friendly communities. In this essay, we argue for the creation of a cross-cutting and interdependent sustainability and climate resilience domain to complement the existing interconnected WHO age-friendly domains of community and healthcare, communication and information, housing, civic participation and employment, outdoor spaces and buildings, social participation, respect and social inclusion, and transportation. These domains drive the community engagement, planning, action, and evaluation required by the communities who join the Global Network for Age-Friendly Cities and Communities. The age-friendly network currently includes 1,445 communities, across 51 countries. We discuss how the alignment of age-friendly and climate resilience networks strengthens local action and global advocacy through a shared vision for an age-friendly and climate resilient future.

Keywords: Aging, Climate change, Environment, Sustainability.

Downloaded from <https://academic.oup.com/gerontologist/article/64/3/gnad137/725>



RDOs, COGs, PDDs, RPCs, ADDs, LDDs: Where these topics come together

Especially well-
positioned because so
many of these portfolios
under one roof!



What Does Innovation Look Like? Miami Valley Regional Planning Authority

- IRA and Infrastructure federal dollars building climate resilience with special coordination with their 12 Age-Friendly Communities
- \$1 million IRA EPA Climate Pollution Reduction Grant focused on free retrofits & solar to older adults



MIAMI VALLEY
Regional Planning Commission

More Examples from Leslie King and MVRPC

- Mitigation efforts such as weatherizing, energy efficiency, retrofits from IRA and Infrastructure to older adults
 - More \$ for fixed income
 - Reduce threat from heat & cold
 - Carbon savings
- Repurposing remaining portion of EDA tornado recovery grant to develop a resiliency toolkit and guidebook for vulnerable populations including older adults



Creative Win-Win Solutions in Housing?

Intergenerational Living

- Less vulnerable in extreme weather
- Zoning changes for greater flexibility in ADUs
- Matchmaking to connect those who need housing with those who want to stay in their homes
 - Social connection benefits
 - Reduced emissions in housing & transportation sectors



Transportation: New Normal in a Wetter World

Climate often means more precipitation with more frequent & more intense storms

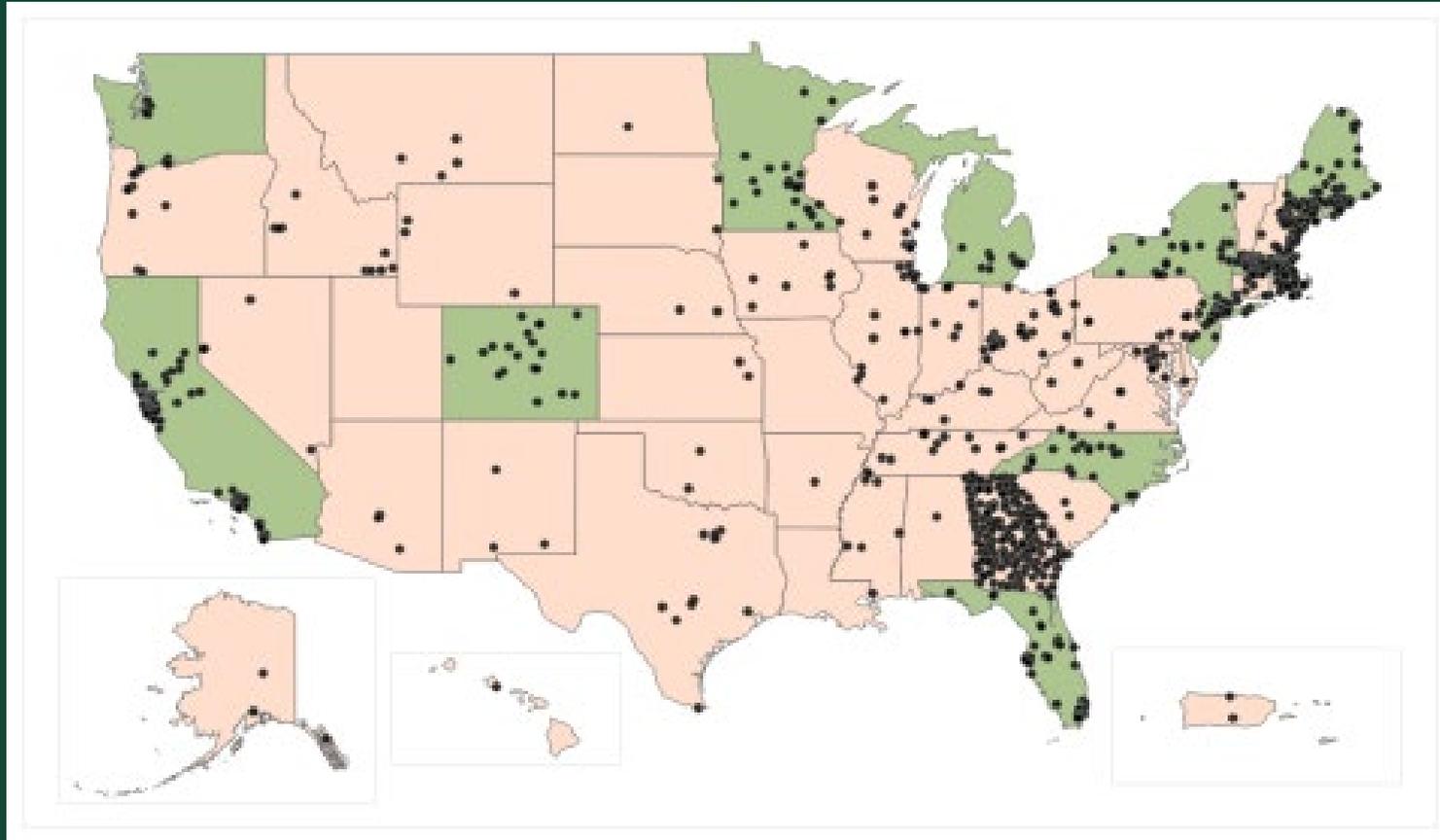
What does a changed profile of flooding mean for older adults in rural areas?

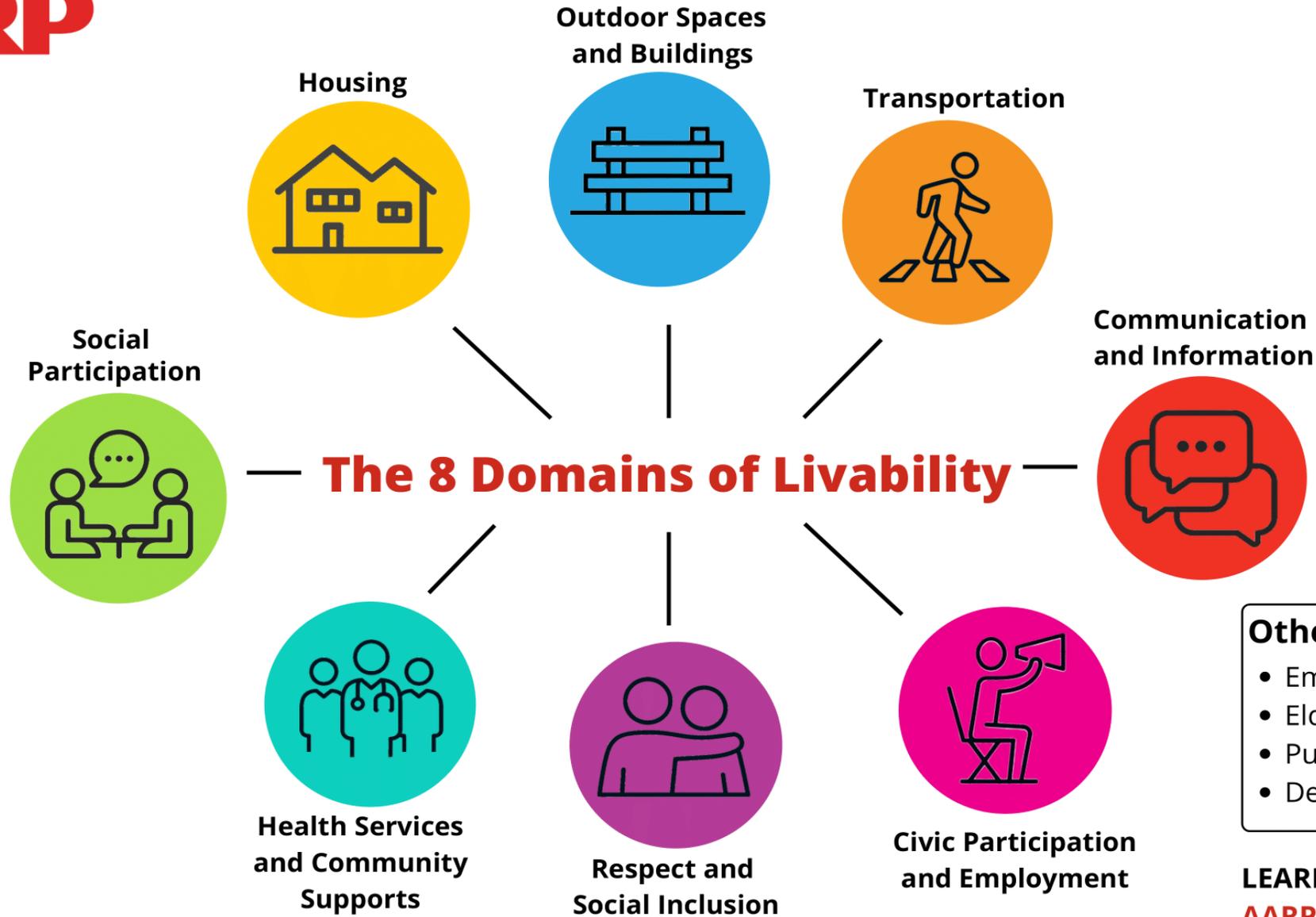
- More missed appointments & time at work
- Less social connection
- More vulnerability in extreme weather events
- Bigger costs for public and private stakeholders serving older adults



Adapting within Existing Partners

AARP Network of Age-Friendly Communities





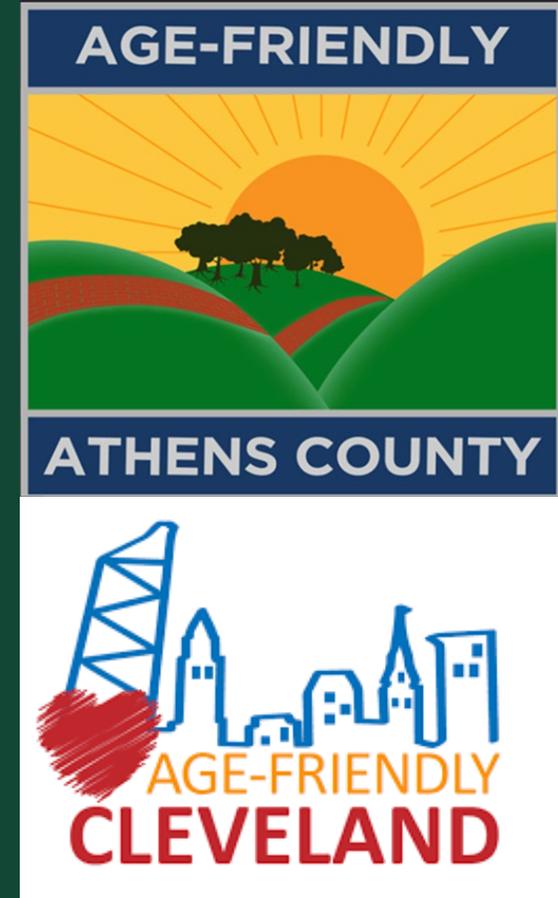
- Other Areas**
- Emergency Preparedness
 - Elder abuse
 - Public safety
 - Dementia-friendly

LEARN MORE
[AARP.org/Livable](https://www.aarp.org/Livable)

Innovating with New Cross-cutting Approaches

Examples of new Age-Friendly livability domains:

- Sustainability & Climate Resilience (Age-Friendly Athens County, OH)
- Sustainability and Emergency Response (Age-Friendly Cleveland)



Options When Using “Climate” Frame is Problematic

- Leading with economics & resilience
 - Solar panels in Amesville, Ohio to insure the venison stays frozen
- AARP California wanted to address climate change with membership without using “climate” framing
 - Explainers & connections to rebates on heat pumps, EVs, induction stoves, home solar
 - Cost savings
 - Health benefits (indoor air quality)



Questions Misty Crosby Would Ask Us

- How do these aging and warming links factor into planning processes?
 - Comprehensive Economic Development Strategy
 - Long Range/Comprehensive Transportation Plan
 - Area Plan for Aging
 - Climate Action Plan – when there is one...
 - Hazard Mitigation Plan
- What ways are you doing it already?
- What ways could it be done more/differently/better?
- What do you need to move forward?

Getting Connected

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**Scan here for more on
Ohio University's
Voinovich School**

An aerial photograph of a university campus at sunset. A large river curves through the center of the campus, reflecting the golden light of the setting sun. The campus is densely packed with brick buildings, interspersed with green lawns and trees. A prominent white, circular building is visible on the left side of the campus. In the foreground, a golf course with several green fairways and sand traps is visible. A multi-lane road runs along the bottom edge of the frame. The background shows rolling hills and a hazy horizon under a soft, orange sky.

Thank You

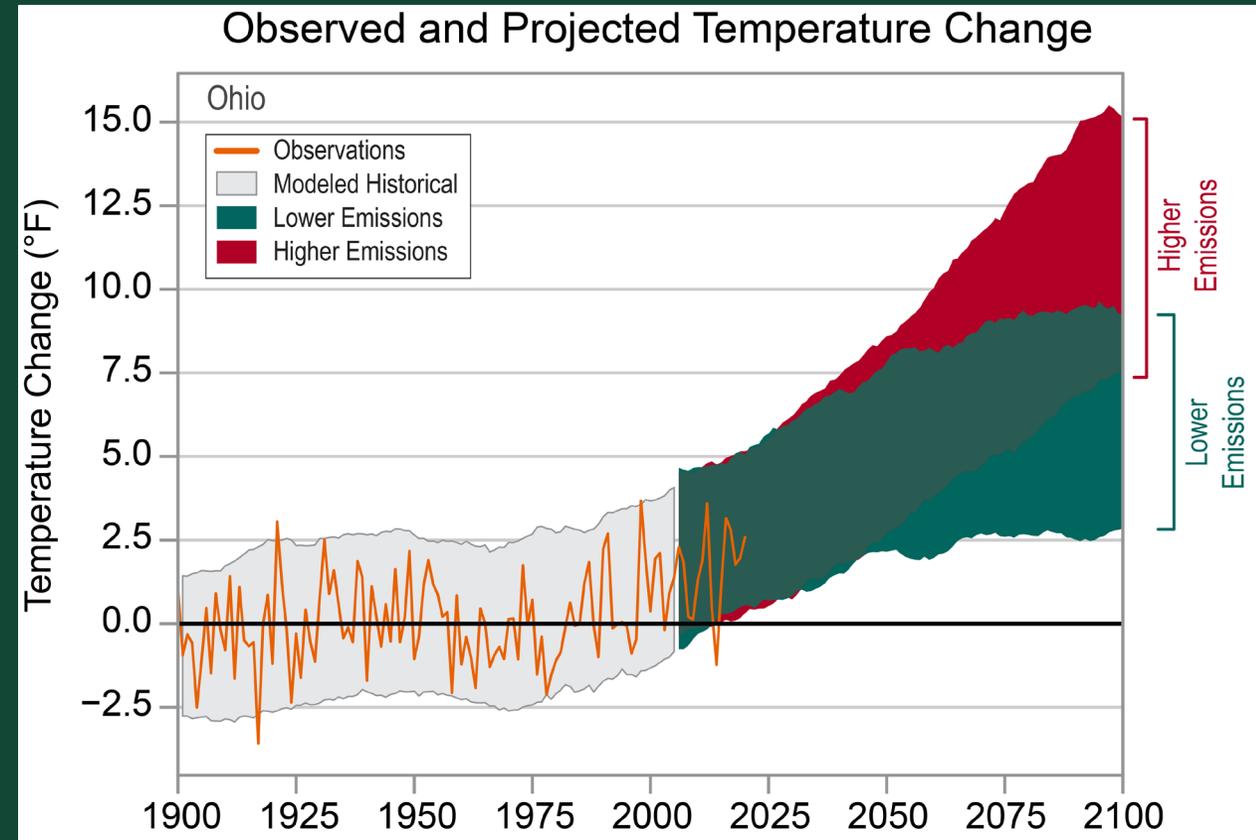
Ohio example slides

Changing Temperatures in Ohio

Since the beginning of 20th century, temperatures in OH have risen more than 1.5°F, and temperatures since 2000 have been warmer than in any other historical period.

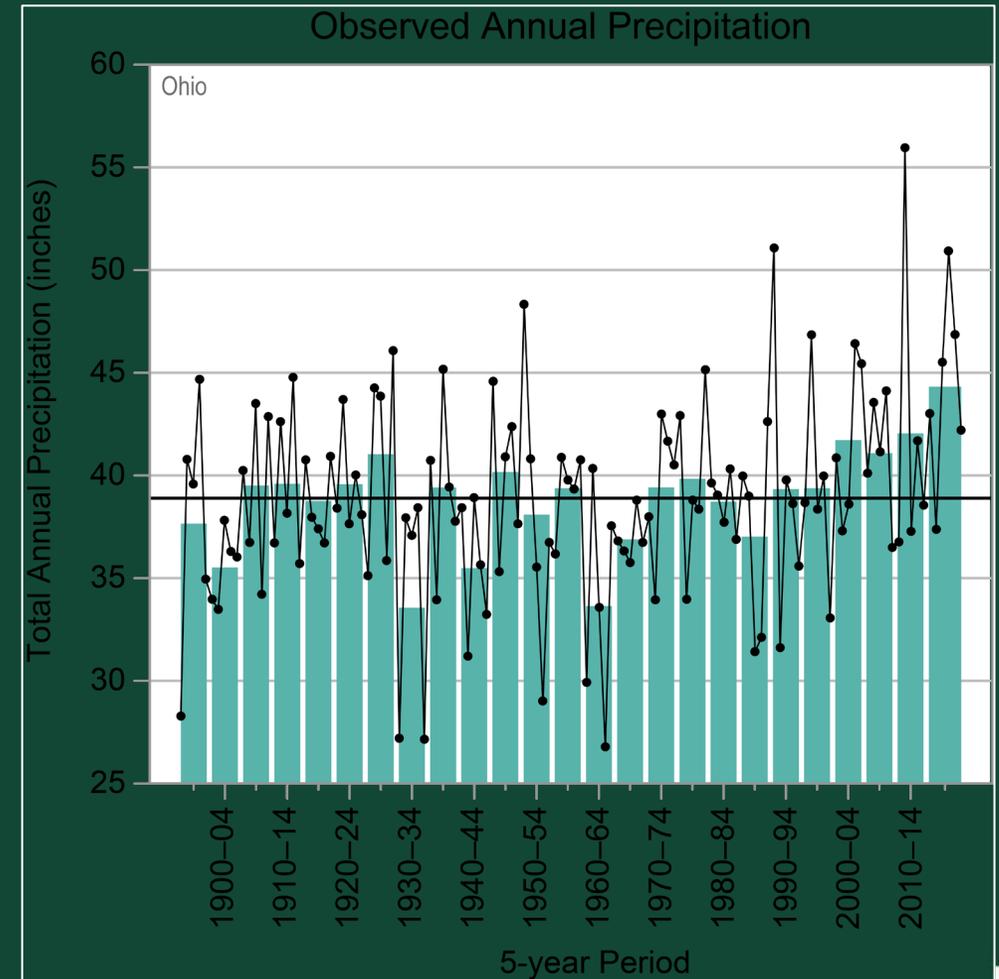
Since 2000, Cleveland and Columbus averaged 17 and 22 warm nights (70 degrees F or higher) a year as compared to 8 and 9 nights from 1950-1970.

Source: National Oceanic and Atmospheric Administration
National Centers for Environmental Information Ohio Report



Changing Precipitation Patterns in Ohio

- Ohio experienced a significant increases in the number of extreme precipitation events since mid-1990s.
- Dangerous storms can now occur in every season: loss of life, property damage, and disruptions to economic and social activity.
- Winter and spring precipitation is projected to increase.
- The intensity of future droughts is projected to increase.



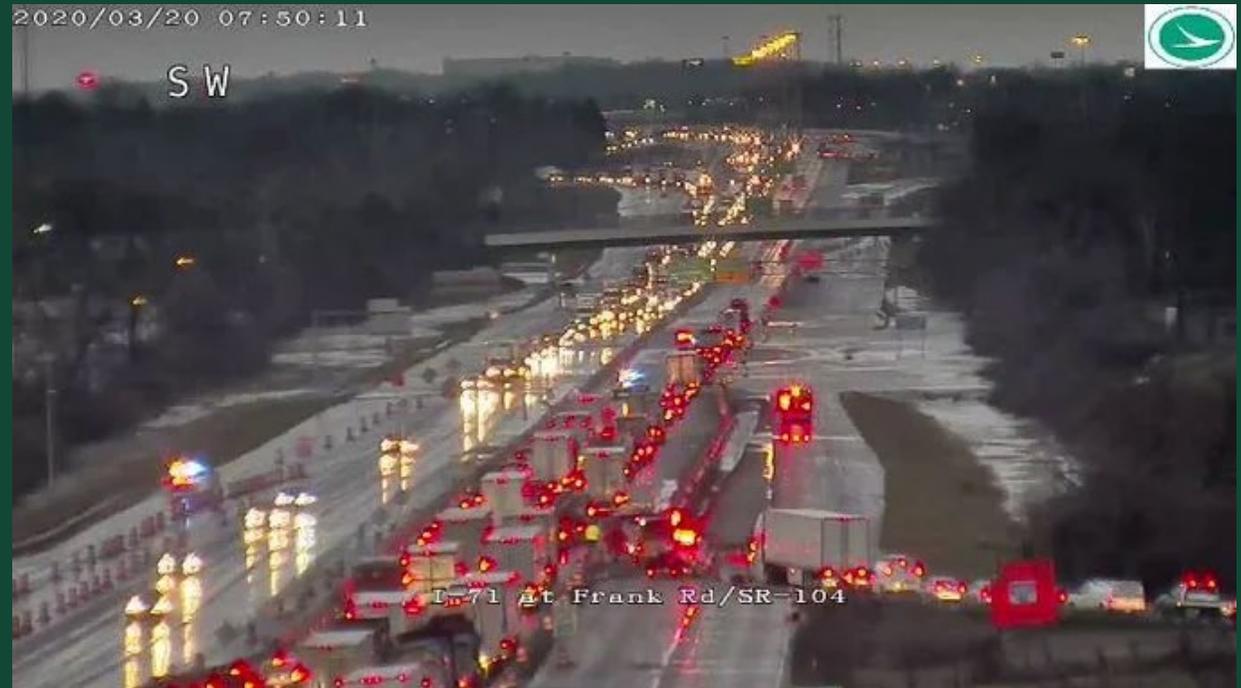
Challenges from Change –Temperatures

- **Warmer temperatures mean:**
 - Greater threat of more frequent and severe harmful algal blooms in Lake Erie and Ohio River – health, recreation, and economic impacts
 - Increased heat-related health threats
 - High March temperatures followed by April freezes threatening crops
 - Increased summer droughts (even when increased precipitation) with loss of soil moisture

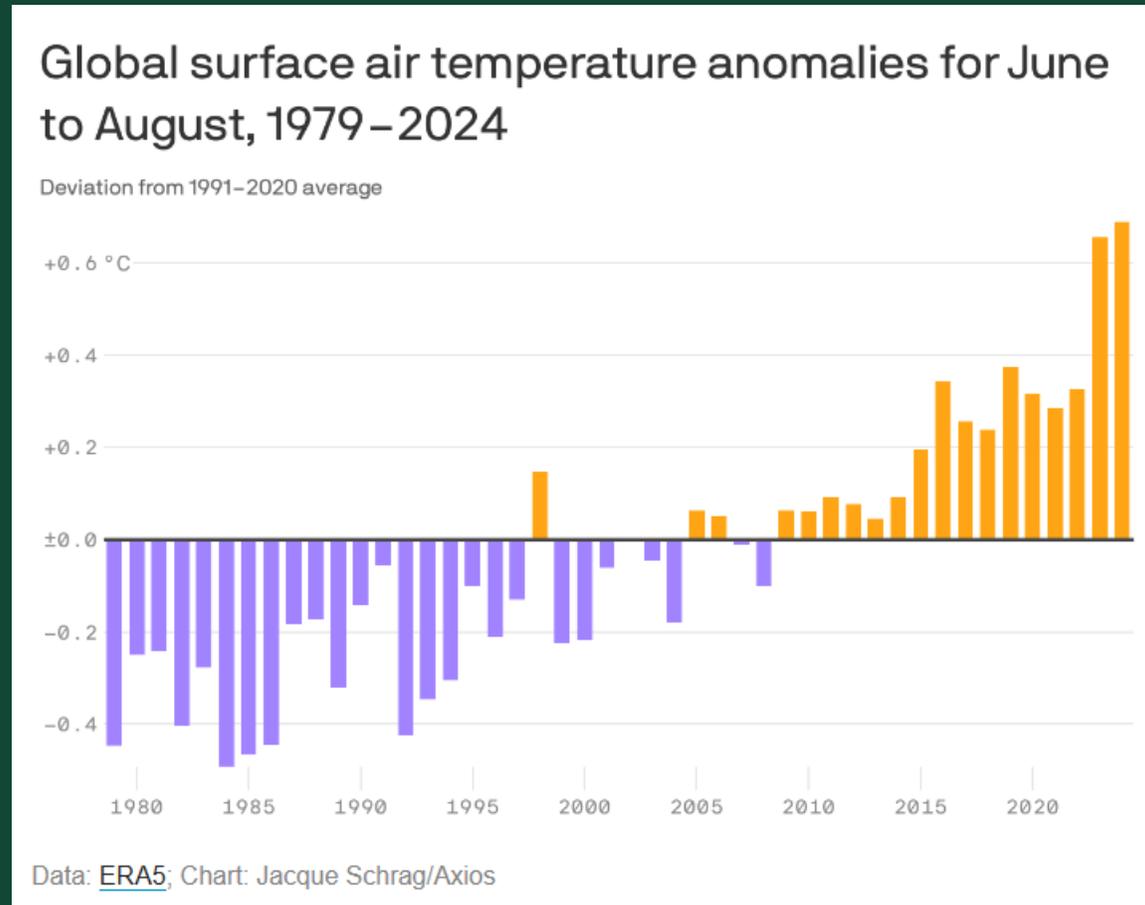


Challenges from Change –Precipitation

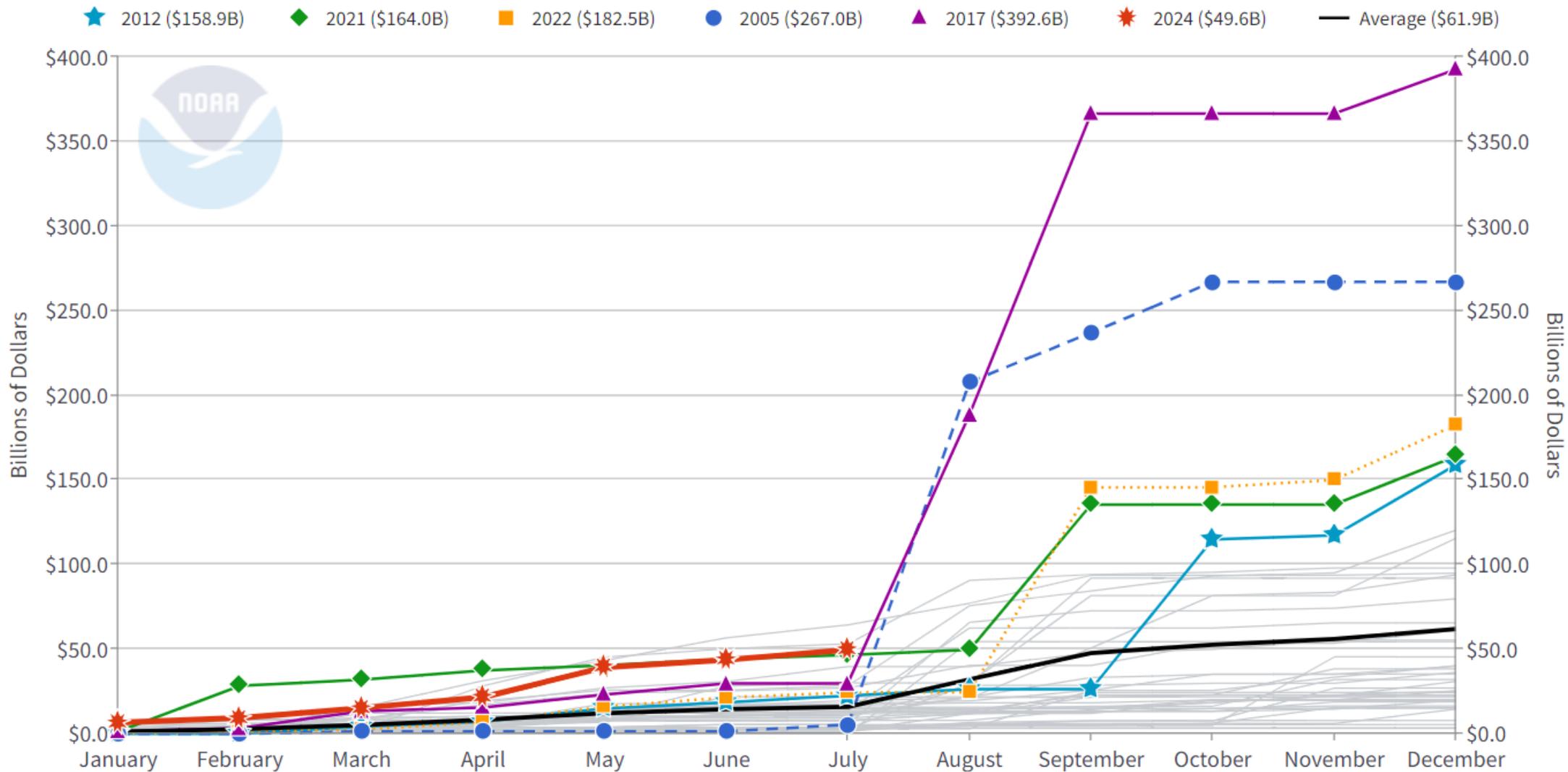
- **Changing precipitation patterns mean:**
 - Increased flooding events by frequency and time of year
 - Increased damage to property & economic infrastructure
 - Increased health threats from overwhelmed aging water infrastructure
 - Increased disruptions to agriculture and rural livelihoods



2024 Hottest Summer on Record



1980-2024 United States Billion-Dollar Disaster Year-to-Date Event Cost (CPI-Adjusted)



Updated: August 8, 2024

Event statistics are added according to the date on which they ended. Powered by ZingChart



Security Community Takeaway

Act to build RESILIENCE in the face of (uncertain) change

Resilience: The ability to anticipate, prepare for, and adapt to changing conditions and withstand, respond to, and recover rapidly from disruptions. -*U.S. Army Climate Strategy 2022*



Grey Green Alliance Activities

- Climate resilient emergency management resources
 - Fans and dehydration
 - Medicine availability during evacuations
 - Medicine efficacy under extreme heat
- Content for AARP-supported resource for communities considering Age-Friendly
- Sustainability performance as attraction for retaining older adults in rural communities
- Climate services to local public health offices

