



**CULTIVATE** KC 

# Climate Resiliency & Kansas City Metro Food System

Annual Farmers & Friends  
Panel Discussion

# Goals

- To learn about 3 farms that are using and creating climate resilient/carbon sequestration strategies
- To think collectively about how climate change might impact farming/ gardening/ food access in KC metro area
- To identify and share positive action steps we can take

# What Will Climate Change Look Like?



*A Better Choice for Climate Analysis*

**Understanding Long-Term Climate Changes  
for Kansas City, Missouri**

# Our current climate zone:

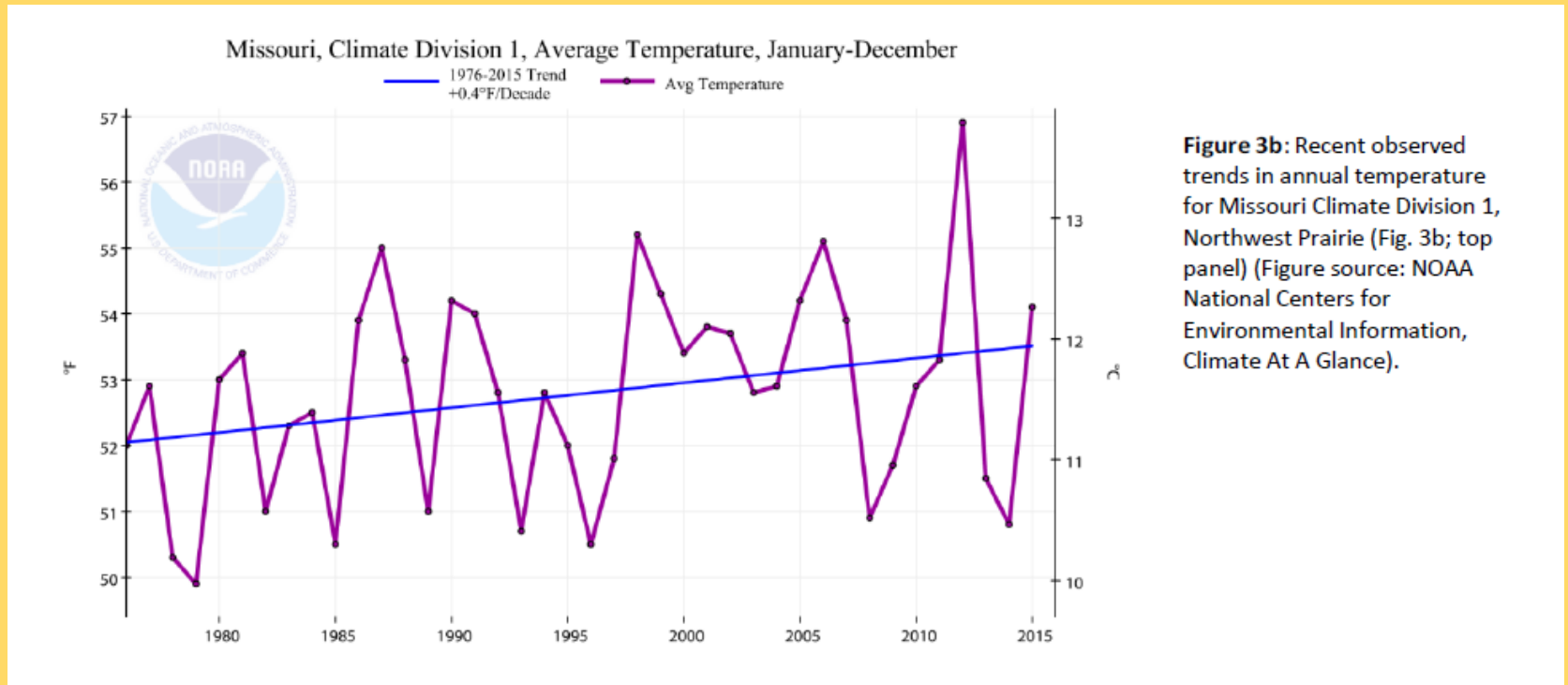
## **Humid Continental Climate Zone**

characterized by extremes of temperature,  
precipitation, and wind.

or

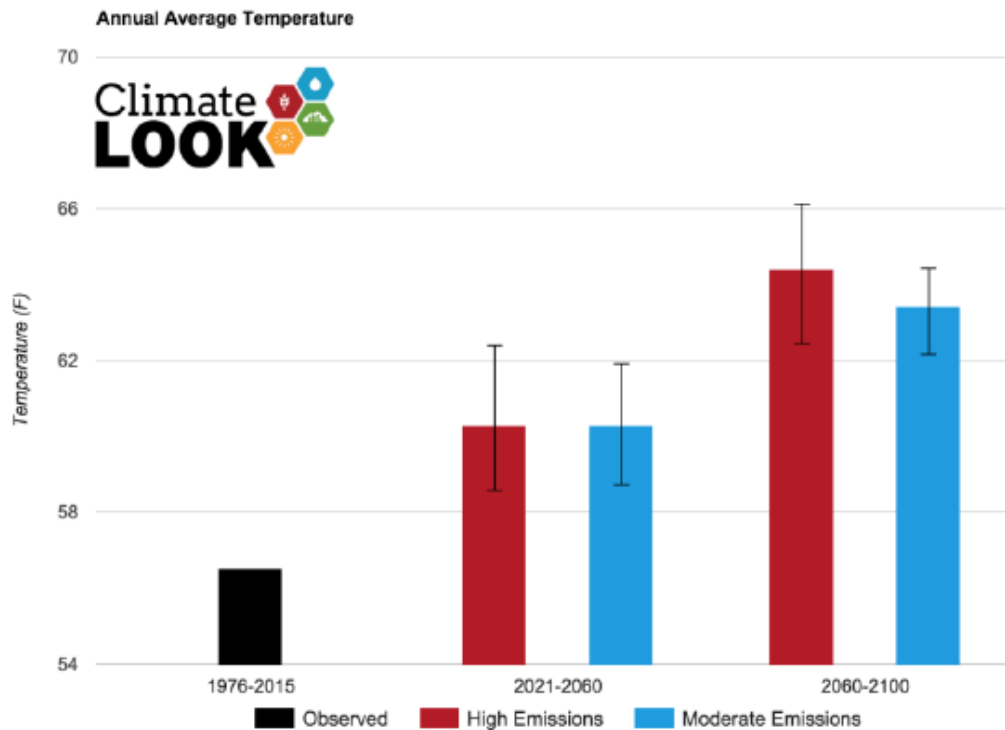
**“Worst of the north, worst of the  
south, worst of the east and  
worst of the west!”**

# Temperature changes in KC area since 1975



**Figure 3b:** Recent observed trends in annual temperature for Missouri Climate Division 1, Northwest Prairie (Fig. 3b; top panel) (Figure source: NOAA National Centers for Environmental Information, Climate At A Glance).

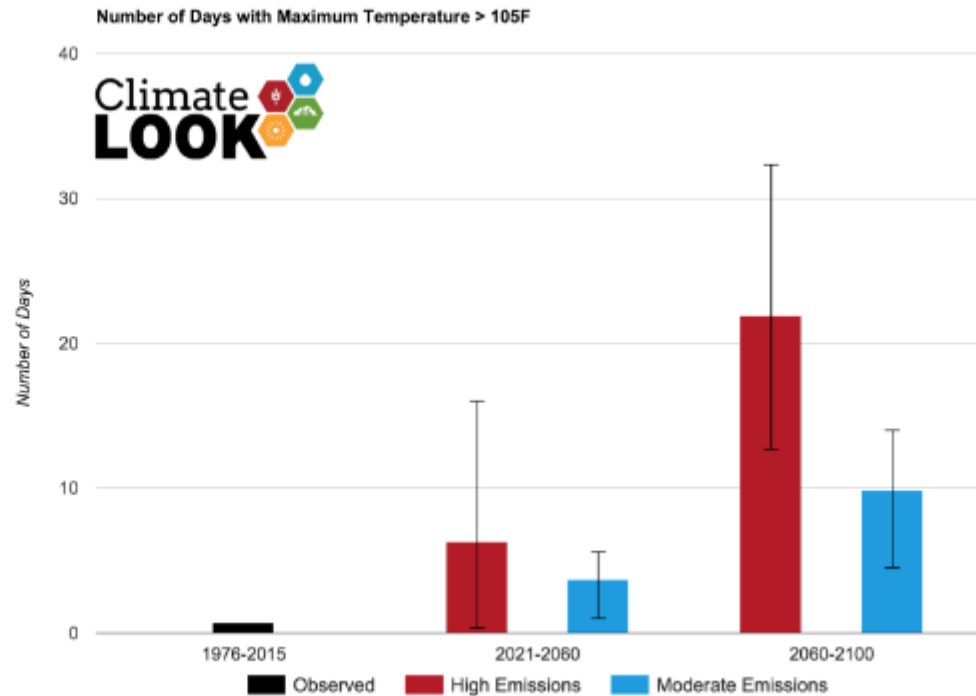
# Projected trends in average temperature 2021-2100



**Figure 5.** Projected trends in annual average temperature. Columns show the average by period (left columns, 1976 – 2015; middle columns, 2021 – 2060; right columns, 2061 – 2100) and emissions scenario (black column—observed; blue columns—moderate emissions scenario; red columns—high emissions scenario).

# Projected trends in # days over 105 degrees

**Figure 7.** Projected trends in annual number of days with maximum temperature exceeding 105°F indicating frequency of heat waves. Columns show the average by period (left columns, 1976 – 2015; middle columns, 2021 – 2060; right columns, 2061 – 2100) and emissions scenario (black column—observed; blue columns—moderate emissions scenario; red columns—high emissions scenario).



# Projected Heat Wave Temps

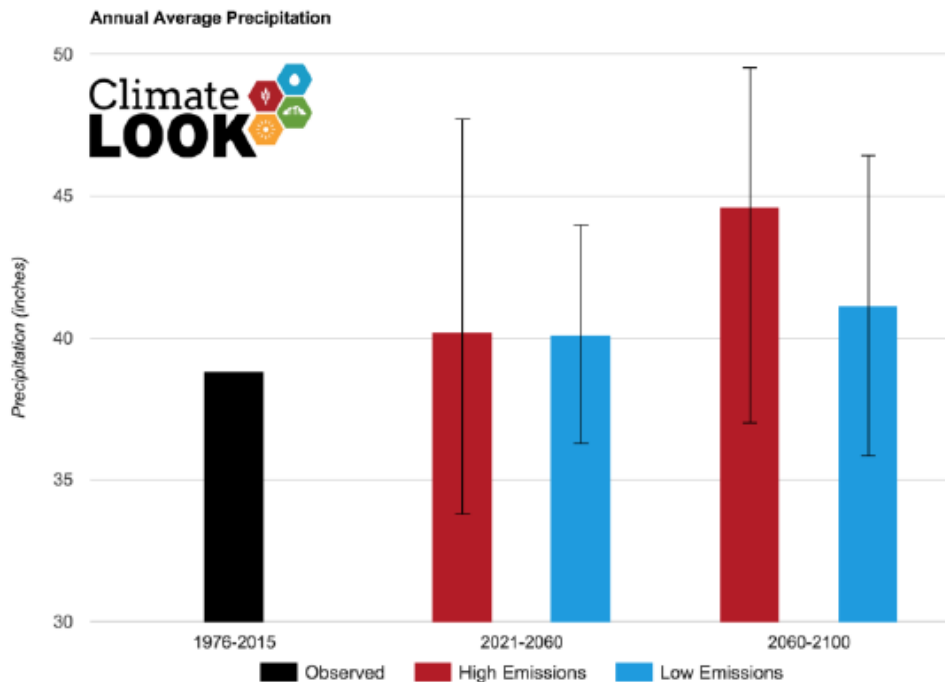
Climate Indicator (Annual Average For Period)	1976 - 2015	2021 - 2060		2061 - 2100	
	Observed	A1FI (High)	A1B (Mod)	A1FI (High)	A1B (Mod)
Temperature (°F)	56.5	60.3	60.3	64.4	63.4
Heat Wave Daytime Temperature (°F)	100.3	105.3	103.5	111.4	107.5
Heat Wave Nighttime Temperature (°F)	79.8	83.9	83.4	90.2	87.2

- Worst case scenario: average heat wave day time temp 111 degrees compared to 100 to date and 90 degrees at night versus 80 degrees



# Projected precipitation 2021-2100

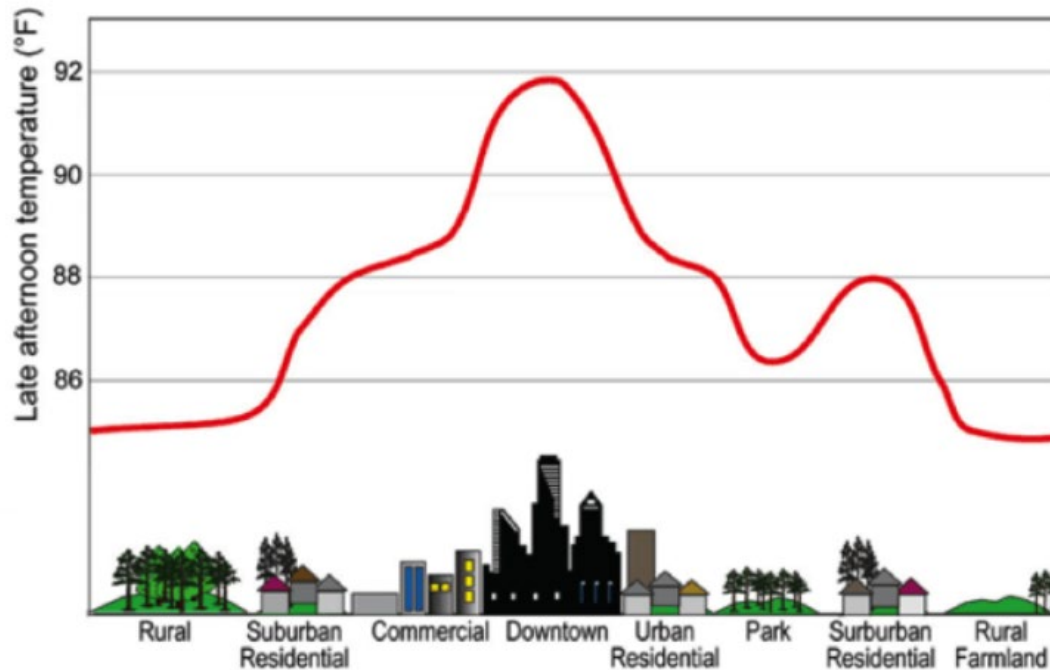
*Understanding Long-Term Climate Changes for Kansas City, Missouri: A Climate Assessment*



**Figure 14.** Projected trends in annual average precipitation. Columns show the average by period (left columns, 1976 – 2015; middle columns, 2021 – 2060; right columns, 2061 – 2100) and emissions scenario (black column—observed; blue columns—moderate emissions scenario; red columns—high emissions scenario).

# Urban Heat Island

Figure 2. Urban heat island temperature profile.<sup>5</sup>



<https://www.climatecentral.org/news/urban-heat-islands-threaten-us-health-17919>

# Urban Heat Island

SUMMER HEAT IN

## Kansas City

UP TO

**28.0°** HOTTER IN THE CITY  
THAN IN NEARBY  
RURAL AREAS

AVERAGE

**4.6°** CITY SUMMERS ARE  
HOTTER THAN IN  
RURAL AREAS

**20** MORE DAYS ABOVE  
90° F EACH YEAR,  
THAN RURAL AREAS

**No.7** BIGGEST DIFFERENCE  
BETWEEN URBAN AND  
RURAL TEMPERATURES



<https://www.climatecentral.org/news/urban-heat-islands-threaten-us-health-17919>

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# From Project Drawdown

“No other mechanism known to humankind is as effective in addressing global warming as capturing carbon dioxide from the air through photosynthesis.”

# Audience Discussion

- In your farming/ gardening work, what are you already doing that helps reduce greenhouse gases like CO<sub>2</sub> and methane or that helps sequester carbon?
- What else could you do in your farming/ gardening work? (Do any of the strategies that the panel members talked about inspire you to change practices?)
- What is your circle of influence- who else could you help to do their piece of work to reduce CO<sub>2</sub> / sequester carbon?