




# Going Green!

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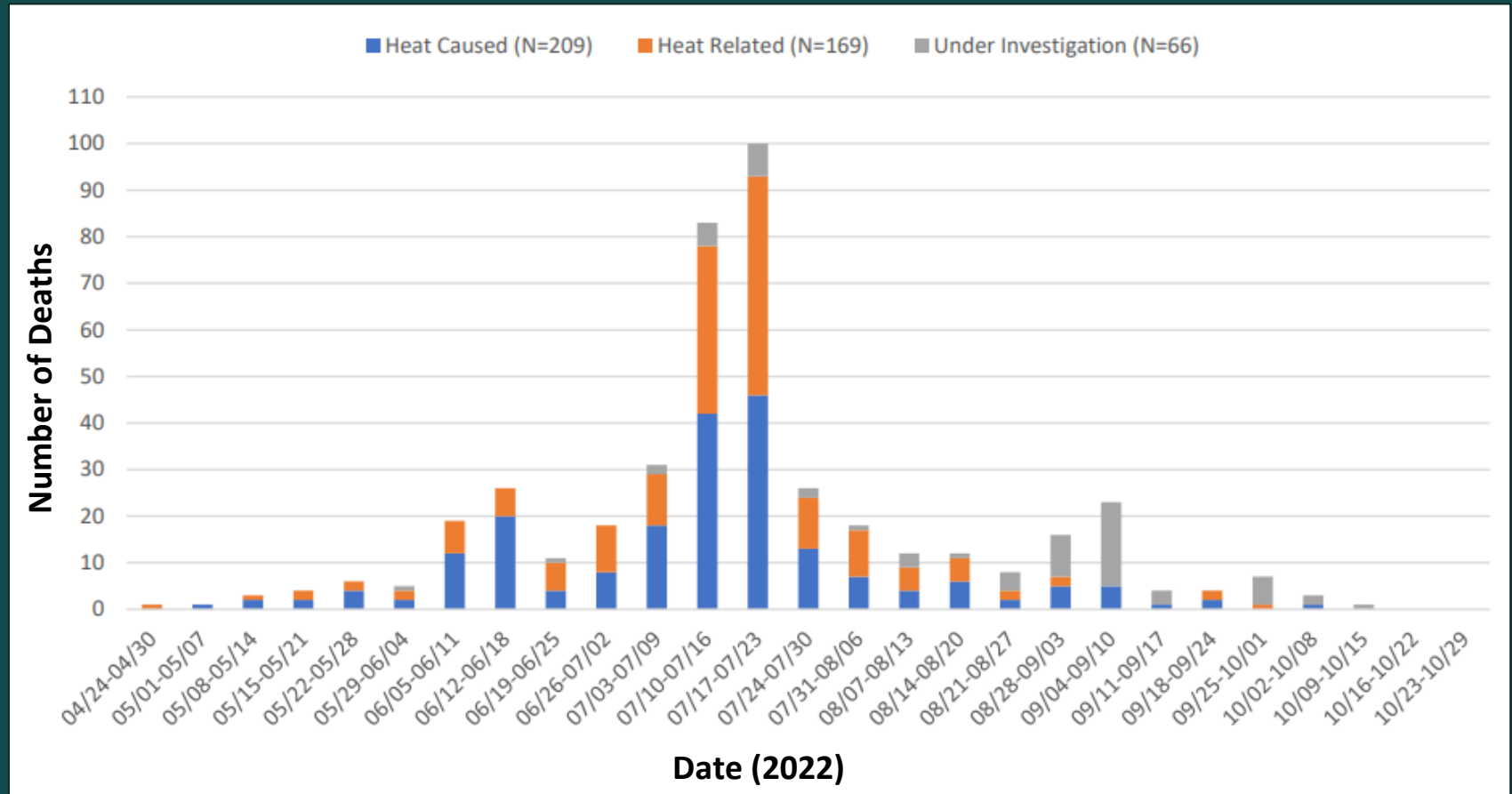


# Climate Change Impacting Health

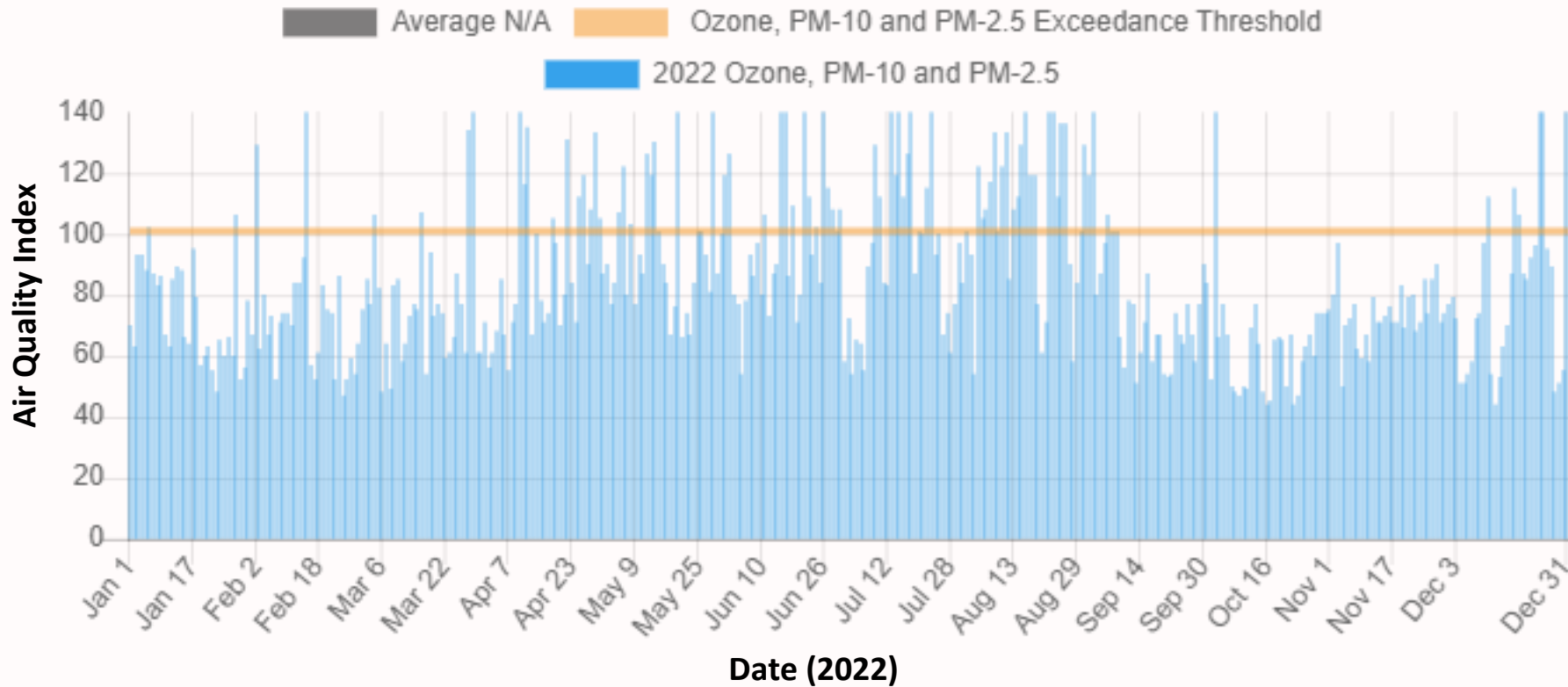
Table 1. Summary of 2022 and 2021 heat-associated cases during the same weeks.

	2022 Cases			2021 Cases		
	Confirmed	Under Investigation	First Death	Confirmed	Under Investigation	First Death
Season Cumulative Total	378	66	3/13/2022	252	86	4/11/2021

- Heat related deaths in Maricopa County increased by 50%
- First death nearly a month earlier!



# Climate Change Impacting Health

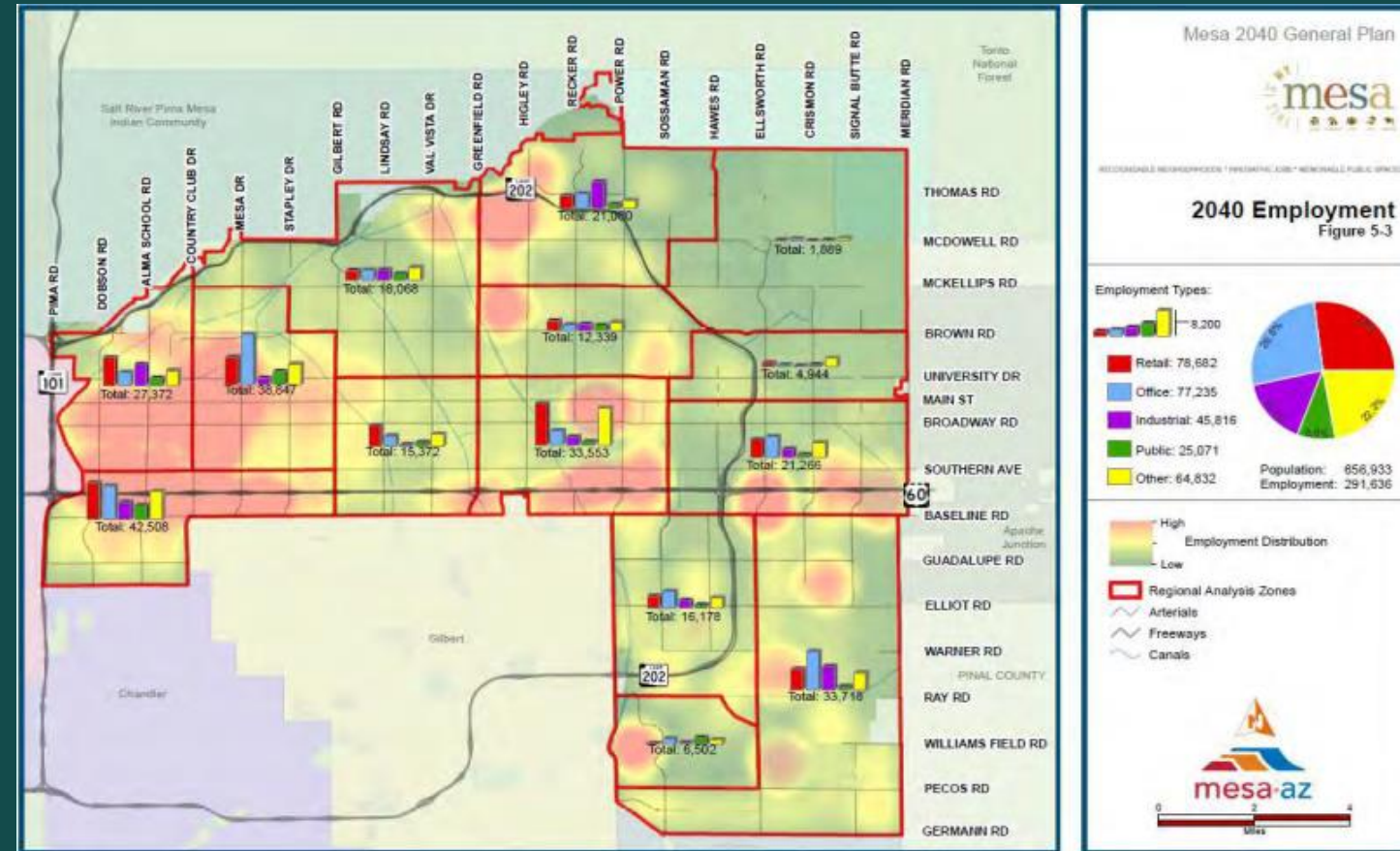


Health concerns like respiratory infections, inflammations, and diseases can be attributed to poor air quality

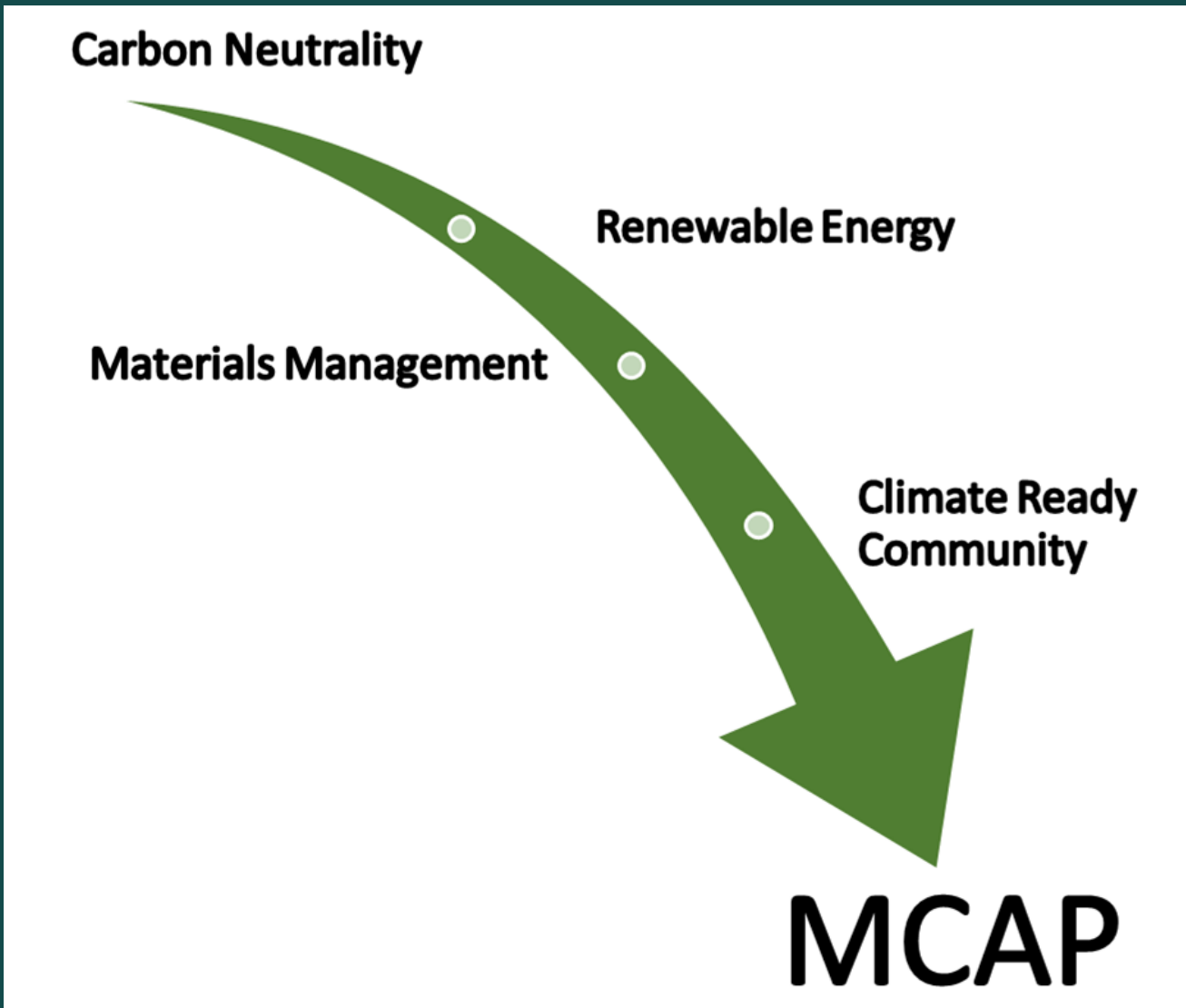
# Current Efforts - Mesa 2040 General Plan

The general plan aims to improve the quality of life within Mesa through...

- growing employment opportunities
- Increasing the walkability of areas.
- Improving infrastructure
- Promoting community collaboration



Mesa  
Climate  
Action  
Plan  
(MCAP)





Is **planting trees** throughout Mesa the most **equitable** and **sustainable** way to address current climate issues in the valley?



# Advantages/Disadvantages

## Solar - Advantages

- Clean energy
- **Shade**
- Unsuitable areas

## Solar - Disadvantages

- Have to **install**
- Maintenance

*Provides up to 21.13 square feet of shade per solar panel*



*Trees can become large enough to shade a roof after around 7 years.*

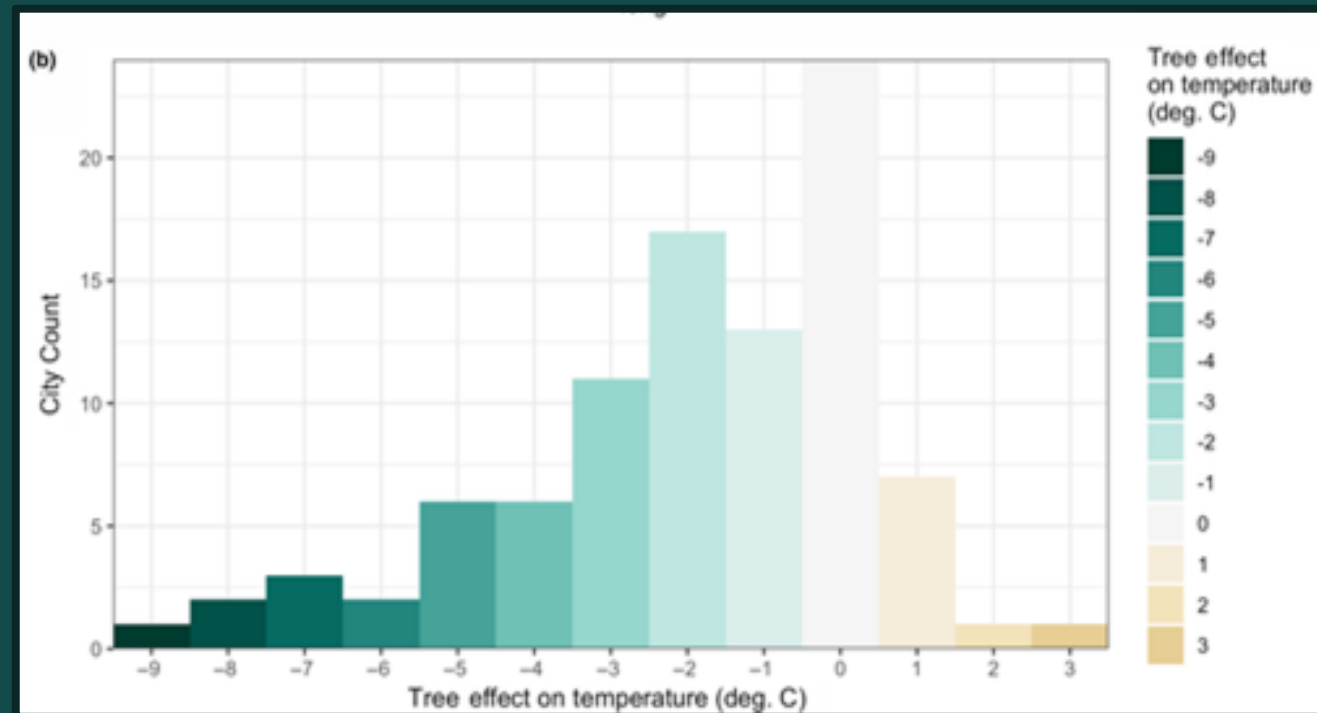


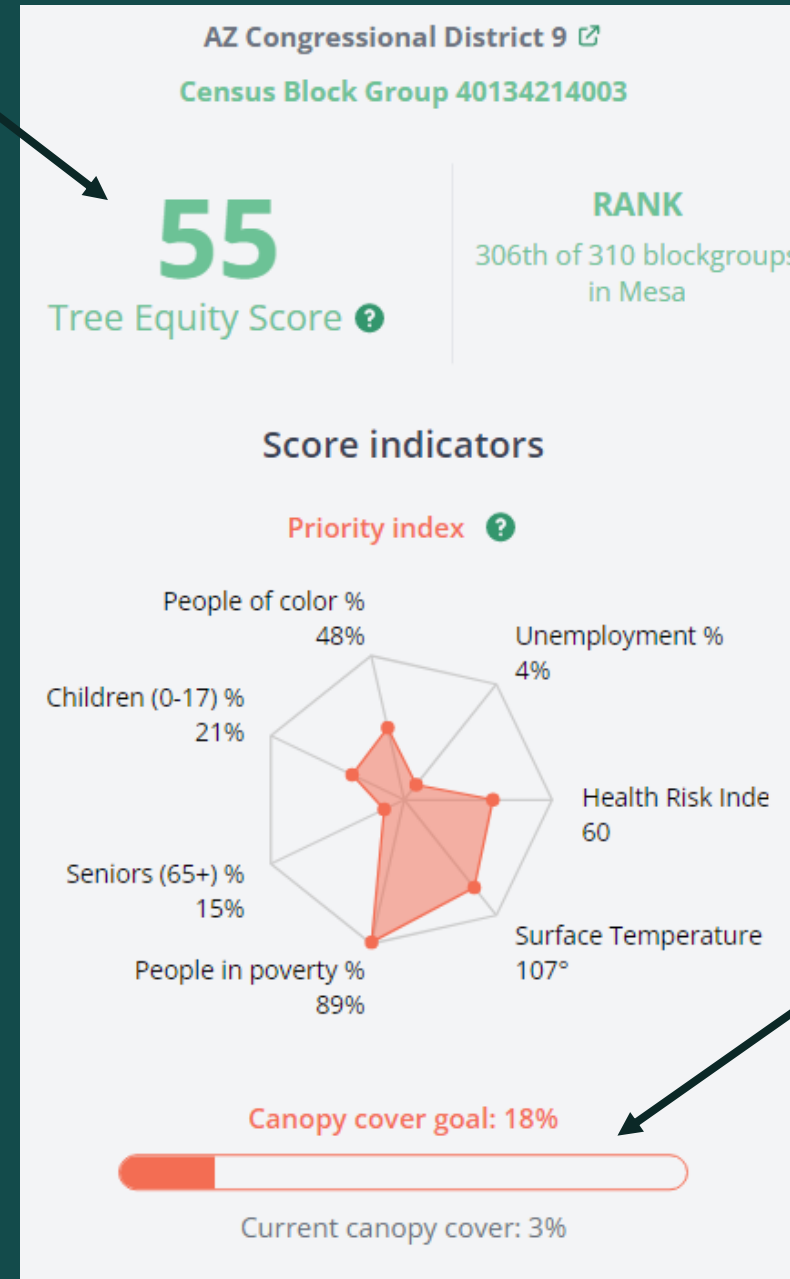
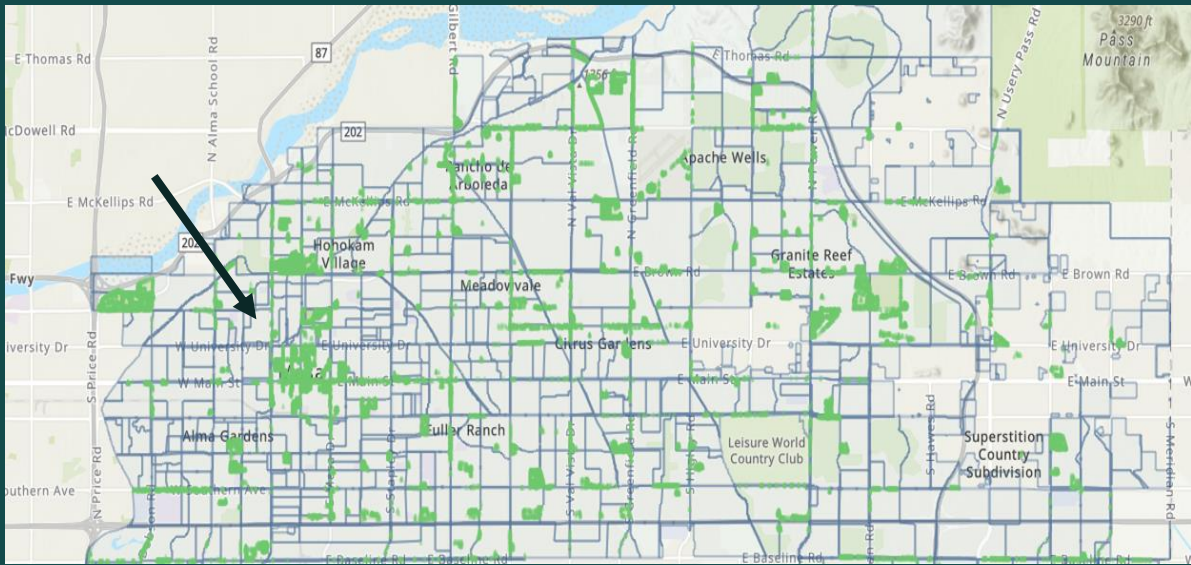
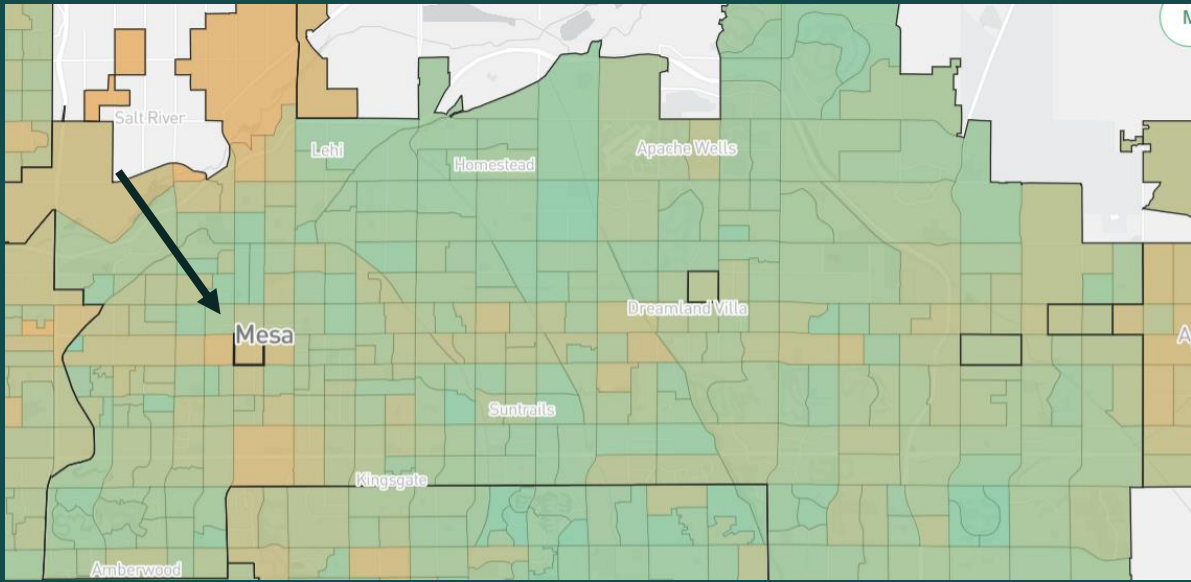
## Trees - Advantages

- Reduce temperature (graph)
- Shade
- Carbon sequestration

## Trees - Disadvantages

- Takes time to grow
- Requires water
- Maintenance

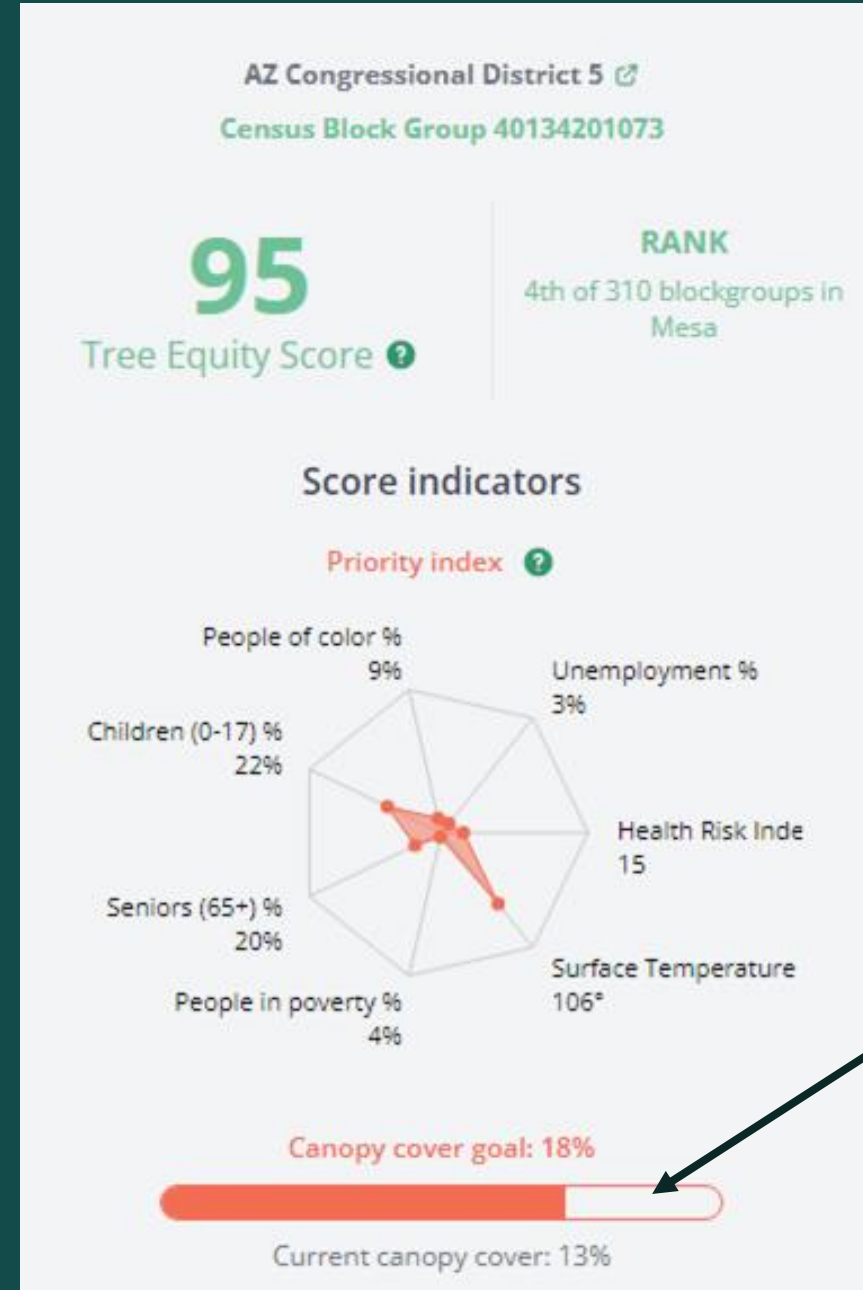
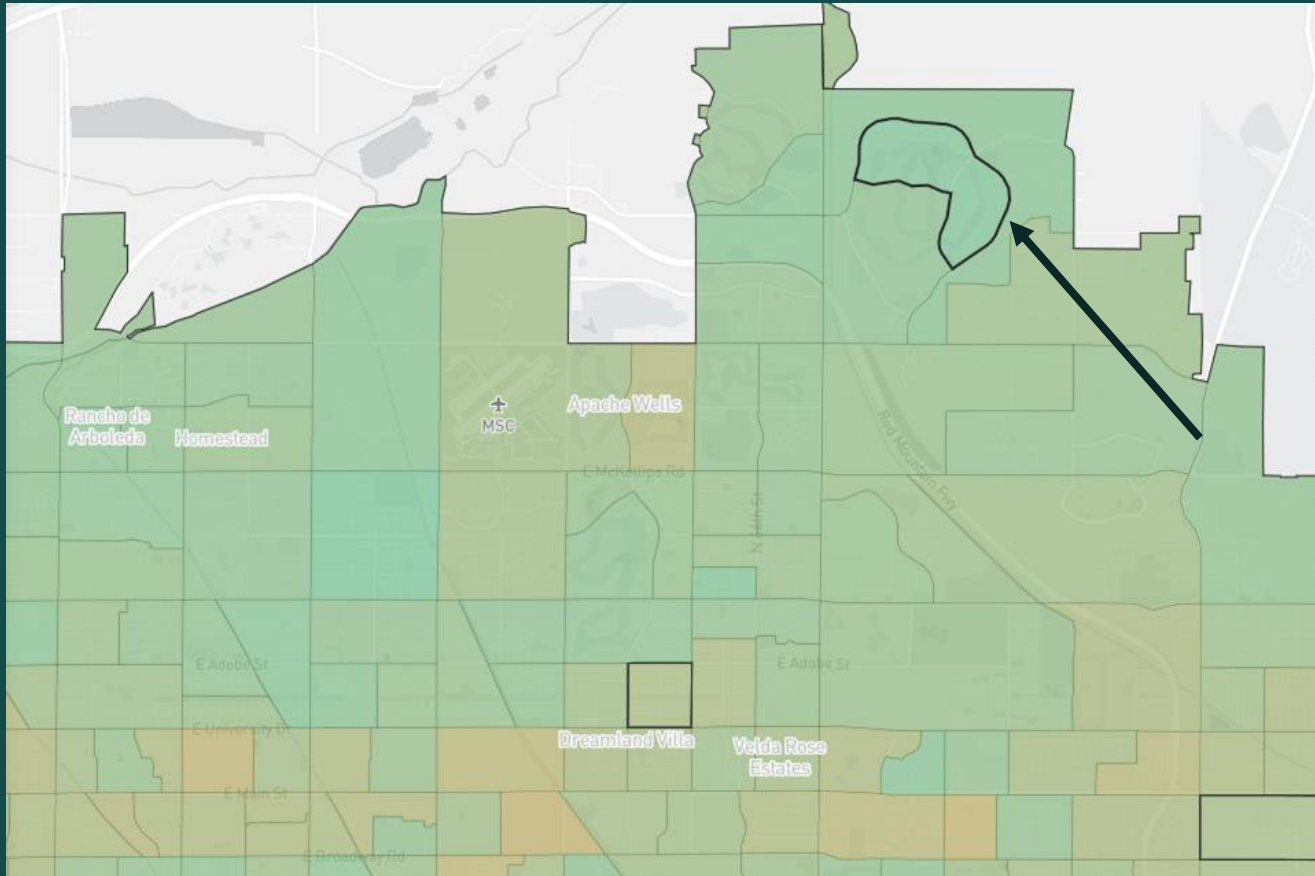




West Mesa



- Drastic difference between East/West Mesa
- Much closer to canopy coverage goal



# Get all block groups to a Tree Equity Score of 100

310 of 310 have a Tree Equity Score below 100.



Drag to adjust target score

**720,811** trees will be needed to get all block groups to a score of **100**. See the significant benefits to the community this will create.

Sources: i-Tree Landscape, American Forests. For more details, review our [methodology](#).

Total Canopy Added

**11.3 %**

Annual Ecosystem Service Value

**\$5.7 Million**

Jobs Supported

**5,243.0**

## Annual Service Benefits

Carbon Sequestered

**14,233.2 tons**

Carbon Monoxide

**9.3 tons**

Nitrogen Dioxide

**49.4 tons**

Sulfur Dioxide

**9.1 tons**

PM10\* Pollution

**143.8 tons**

PM2.5 Pollution

**3.7 tons**

Ozone

**216.5 tons**

Runoff Avoided

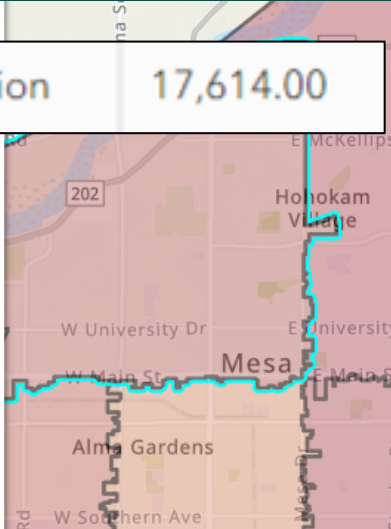
**320,730 m<sup>3</sup>**

Rain Interception

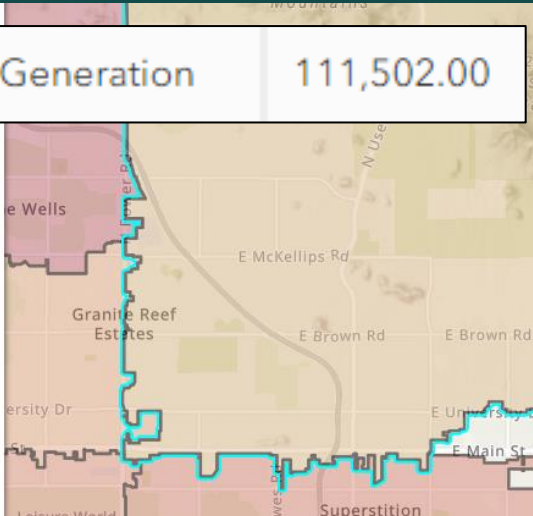
**1,348,246 m<sup>3</sup>**

# Income v. Solar Energy

TARGET_FID	11	
BdName	System Size Energy Generation	17,614.00
BdVal		
USPSCityAlias	MESA	
TID	24733	
Zip Code of Installation	85201	
Technology	SWH	
System Size Capacity	48.60	
System Size Energy Generation	17,614.00	
Incentive Program Name	UFI Commercial	



Join_Count		System Size Energy Generation	111,502.00
TARGET_FID			
BdName	MESA AZ 85207		
BdVal	85207		
USPSCityAlias	MESA		
TID	SRP-39057		
Zip Code of Installation	85207		
Technology	PV		
System Size Capacity	68.04		
System Size Energy Generation	111,502.00		
Incentive Program Name	Non-Incentive Commercial		



# Tree/Solar Limitations

## Tree Replacement Cost

- Average \$923 for installation (larger tree=more \$)
- Average \$429 for maintenance

## Solar Panels Cost

- Average \$275.50 per panel for installation
- Average \$25 per panel, per year for maintenance



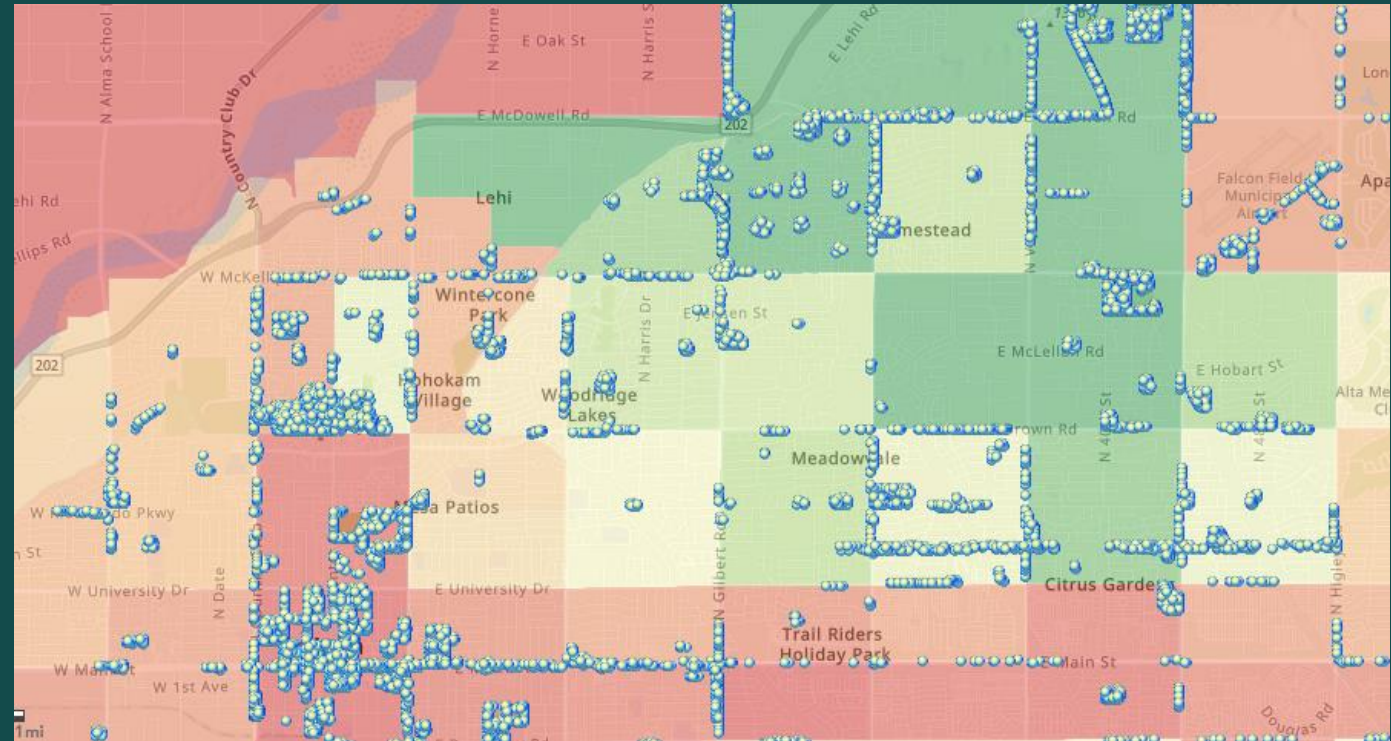
The 1 million trees being added in Mesa, should be strategically placed in West Mesa in conjunction with solar panels.



# Why?

- Cheaper upkeep
- Economic opportunity
- Trees planted prior to industry plans
- Trees need 10-20 years before reaching max benefits
- Need for additional mitigation strategies
- Consider how air quality will play a role in more solar-panel dominant areas

CITY-OWNED TREE LOCATIONS AND AVERAGE HOUSEHOLD INCOME



# 3 Step Plan to Establish Trees In West Mesa





Through a combination of both solar panels and trees, the advantages of both can be maximized while mitigating the disadvantages.



# Sources

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Here's to a brighter future!