

Community Fact Sheet

Heat and Industrial Zones

How Does Heat Impact Human Health?

- **Heat Related Illnesses (HRI)** include **heat cramps, heat exhaustion, and heatstroke**, which can be deadly
- Each year in AZ, nearly **3,000 people** visit emergency rooms because of HRI¹
- Research has found that for every **1°C increase in temperature**, direct heat illness morbidity and mortality increased by **18%** and **35%**, respectively²

Pregnancy and Heat

- Research shows extreme heat impacts **maternal mental health**.³
- Reported associations between high temperatures and adverse **pregnancy outcomes** (such as **stillbirth** or **low birth weight**).⁴

Diseases and Heat

- Individuals taking certain **medications** are more sensitive to heat.⁵
- Extreme heat is associated to **greater risks of emergency dept visits** for kidney disease.⁶
- Hospital admissions for **mental and behavioral disorders increase** by **7.3%** during heat waves.⁷

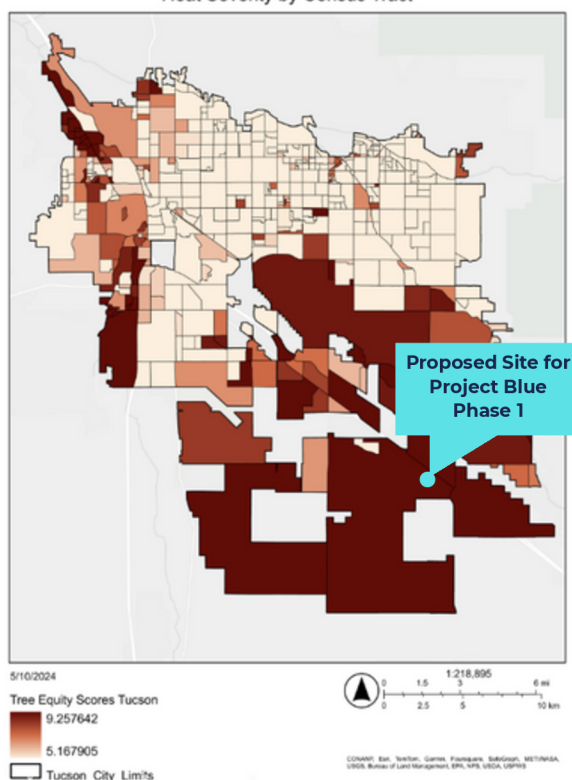
Vulnerable Groups and Heat

- **Older adults** and **children** have a higher risk of **dying** or **becoming ill** due to extreme heat.⁸
- **Outdoor workers** and **athletes** are more at-risk for HRI's.
- **50%** of **heat-related** deaths in 2024 were listed with **drug** or **alcohol use**.¹
- Studies suggest excessive heat can make people **more vulnerable** to the **toxicity** of **airborne pollutants**, such as **ozone** and **particulate matter**.⁹
- Extreme heat is unevenly distributed across cities, with **people of color** more likely to live in census tracts with **higher heat island effects**.¹⁰
- In Maricopa County, only **5%** of housing are **mobile homes**, but **38%** of **indoor deaths** happened in these homes in 2019.



Heat in Pima County and Tucson, AZ

Heat Severity by Census Tract



- Pima County's heat related death rate in 2024 **exceeded** Maricopa County's, despite the fact that Pima County summer temperatures are about 7 degrees cooler¹
- This implies that Pima County's population is **more vulnerable** to heat than Maricopa County's population
- Tucson average summer median temperatures have **risen 4.1°F** in the past hundred years¹¹
- Heat severity is **not equal** throughout Tucson, with the hottest areas highlighted in darker red in the map to the left¹²

Pima County Heat Related Deaths

176 deaths¹²
2024

43 deaths¹¹
2023

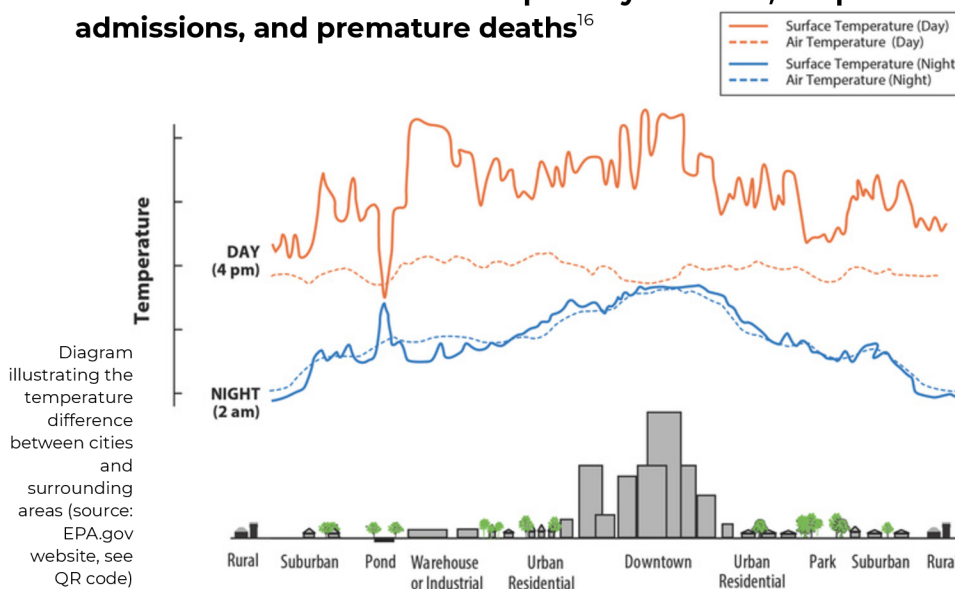
28 deaths¹¹
2022

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Urban Heat Islands and Industrial Zones

- Research has found that the **land surface temperature** of urban industrial zones is **hotter** than urban areas, bare soil, vegetated areas, and bodies of water¹⁴
- Expansion of urban industrial zones can lead to an **increase** of land surface temperature by **32°F (0.39°C)**¹⁴
- Increased heat is directly correlated with **higher ozone levels**, since high temperatures and bright sunshine are needed to create ozone from air pollutants¹⁵
- Increased **drought** and **higher temperatures** are related to higher levels of fine dust (particulate matter) in the air, which increase **cardiovascular and respiratory diseases, hospital admissions, and premature deaths**¹⁶



Cost of Electricity in Tucson

Increased urban heat means Tucson residents will need to use more power to keep their homes at a safe and comfortable temperature. The average electric bill in Tucson, AZ is **\$280/month**¹⁷. A 14% rate hike would mean the following:

\$150/month bill → \$171/month bill or a **\$252 increase** per year

\$280/month bill → \$319/month bill or a **\$468 increase** per year

\$300/month bill → \$342/month bill or a **\$504 increase** per year



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Website



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AZDHS Heat
Safety Website



SCORCH
Website



EPA Website
on Heat
Islands



References

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