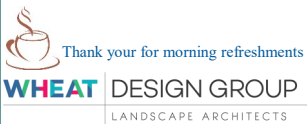




Conservation and Stormwater Resource

Landscape Advisory Committee:

- Darbi Davis, Chair
- Petr Chylik
- Eric Dhruv
- Rebeca Field
- Jenny Moscato
- Flor Sandoval
- Kasey Schug
- Nick Shipley



15TH URBAN HEAT ISLAND WORKSHOP HOT TOPICS / COOL SOLUTIONS

WHAT DID WE DO THIS SUMMER?

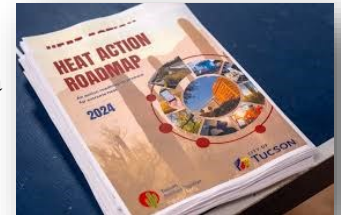
The City of Tucson’s Landscape Advisory Committee (LAC) invite you to the Fifteenth Urban Heat Island (UHI) Workshop. This year the workshop collaborated with University of Arizona CLIMAS. This summer 2024, had record high temperatures, with over 105 days of temperatures of 100°F or higher (National Weather Service); heat relief strategies implemented by multi-jurisdictional and partner collaborations resulted in expanded heat relief resources throughout the region.

A pair of weather trucks from Brookhaven National Laboratory collected data in Tucson in July 2024 as part of a statewide Dept. of Energy research grant studying Arizona urban heat as part of the Southwest Urban Corridor Integrated Field Laboratory (SW-IFL). This year’s workshop will feature presentations on:

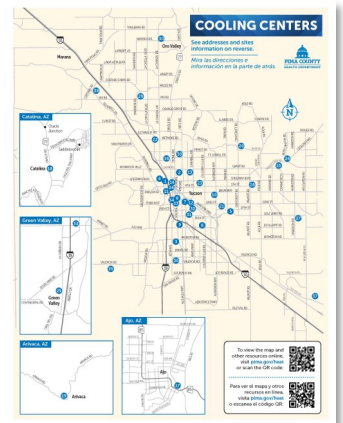
- City of Tucson efforts on-the-ground and policy regulation (Fatima Luna, Chief Resilience Officer, City of Tucson Manager’s Office)
- Pima County Health Dept. Outreach efforts and County policy regulation (Julie Robinson, Program Officer, Office of Climate and Environmental Health Justice, Pima County Health Dept.)
- SW-IFL Research project and phone-based application to characterize vehicle types on the road (Anna Kato, Northern, Arizona University)
- City of Tucson Housing First utilizing federal grant to assist unhoused population and collaborating with local organizations (Thelma Magallanes, Project Coordinator, Housing First, City of Tucson)
- Addressing heat-related illness in humans and animals across southern AZ (Jennifer Wishnie, Assoc. Prof. & Janice Balwin Rowwitt, MPH DVM Candidate (‘25) College of Veterinary Medicine, University of Arizona)
- Update on SW-IFL research data collection and modeling (Kristi Currans, Assoc. Prof., CAPLA, Univ. of Arizona)

Date: Thursday, October 31, 2024
Time: 08:30 to 1:30 p.m.
Place: Hybrid meeting: Limited in-person at ENR2 rm N595

Send inquiries to Irene Ogata, Tucson Water, Conservation & Stormwater Resource
e-mail irene.ogata@tucsonaz.gov or phone: 520-837-6960



Climate Action Hub: [Heat Action Roadmap](#)



Pima County Health Dept.: [Cooling Center Map](#)



SouthWest Integrated Field Lab: [Newsletters](#)



Program



8:30	Welcome / Check-in	
08:40	Introductions	Irene Ogata, Urban Landscape Manager, Tucson Water Stacie Reece, Program Manager, CLIMAS
09:00	City of Tucson	Fatima Luna, Chief Resilience Officer
09:35	Pima County	Julia Robinson, Office of Climate and Environmental Health Justice, Pima County Health Dept.
10:10	SW-IFL Hestia Traffic	Anna Kato, Computing & Cyber Systems, Northern Arizona University.
10:45	Break : Lunch	Networking
11:45	Heat Related Illness in animals	Jennifer Wishnie, Assoc. Prof of Practice & Janice Baldwin Rowitt, DVM Candidate ('25) College of Veterinary Medicine, Univ. of AZ
12:20	Housing First	Thelma Magallanes,
12:55	SW-IFL:	Kristi Currans, Assoc. Prof, Urban Planning, CAPLA, Univ. of AZ
1:25	Closing	Irene Ogata, Tucson Water

Summary

Fatima Luna, Chief Resilience Officer, City of Tucson

This year worked on implementing the Heat Action Roadmap, a part of Tucson Resilient Together Plan. Roadmap created from input from the first Southern AZ Heat Summit in February. Roadmap was developed in 4 months. 3 major goals with total of 61 actions. Goal 1: Inform, Prepare and Protect People. Goal 2: Cool People’s Homes, and Community Centers. Goal 3: Cool Tucson Neighborhoods. Mayor & Council passed a Heat

Protection Ordinance for City contractors and Directive for City Employees. Creation of a Heat Advisory Committee to assist with community guidance. Also a Joint Heat Action Team (J-HAT) with Pima County Health Dept to deliver consistent messaging. Worked with Red Cross to check on mobile home residents and distribute heat relief kits. Installing solar panels in low income homes. Increase cooling centers = approx. 30 additional

sites; deployment of mobile showers; distribution of 915 heat relief kits. Continue to improve shade in neighborhoods via tree plantings, transit have remained free with a number of routes connected to cooling centers, bus fleet transitioning to electric, FTA grant to redesign bus stops with shade, construction may begin end of this year.



Julie Robinson, Program Officer, Office of Climate & Environmental Health Justice, PC Health Dept.

Role of Public Health and how heat relief was organized: overarching in Pima County is the Emergency Mitigation & Preparedness (EMAP), which includes Public Health Emergency Preparedness divisions (PHEP). Office of Climate & Environmental Health Justice (OCEHJ) formed in 2024 via CDC grant. This Office is charged with mitigating effects of

climate change on public health and preparing responses to climate related disasters. Extreme Heat was the single focus in 2024. ARPA funds available to provide shelter, cooling, grid stability, and address health and disaster responses. Implementation included diverse community partners (Joint Heat Action Team—JHAT) increasing number of cooling cen-

ters, distribution of cooling packets, notifications of Heat Advisories, and purchase of heat safety equipment for Public Health Dept.. Heat is an equity issue, with interest from community members. 2024 implementation were short-term responses; long term issues will need to be planned for (grid security, housing, living affordability).



Summary

Anna Kato, Postdoc, School of Informatics, Computing & Cyber Systems, NAU

What is emissions and affect on climate change and how fossil fuel CO₂ emission connect to atmospheric heat. Data currently available is based on building infrastructure and ADOT traffic volume data. Greatest emissions from onroad sector. This research enlists citizen science involvement for traffic counting using a phone

based app to improve estimated counts of onroad fossil fuel CO₂; provide increase in type of vehicles on-road, location and temporal data. App currently available in Apple store (Android version coming): Hestia Traffic app. App developed by graduate student; short training video. App testing done by Maricopa community

college students. Model has other data input, onroad inputs of local traffic adds local county-level significant traffic data. Also asking for feedback on app usage to improve usage and data quality. To start data collection on app, need to indicate type of vehicle, app automatically does GPS locations. Looking for users to test.



Jennifer Wishnie Assoc. Professor of Practice, College of Veterinary Medicine, UA

Not conventional course study, no classroom study. Team-based active learning. Students stay in teams for the semester, active learning environment; students go into clinical practice (vs vet hospital onsite) for last year. Year one had 518 applicants, this past

year—2646 applicants. One health/one world views interconnection between animals, humans, plants and their shared environment. Every day is One Health Day. One Health Transdisciplinary course brought together Public Health, Medical and Veterinary

students together. Student run One Health Club worked on pets and heat responses this year.

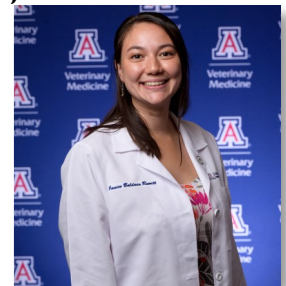


Janice Baldwin Rowitt, DVM candidate ('25), College of Veterinary Medicine, UA

Student run One Health Club: has addressed unhoused and their pets. Initially worked with Dr. Heidi Brown and cooling centers; worked on heat relief initiative. People and pets is part of One Health. 4 total events, 2 with Tohono O'odham nation and 2 with Pima County cooling centers. Educate community on heat risk

factors for pets and what to do. Cooling centers usually restrict to 'service animals' but they will not ask if pet is a 'service animal.' Flier in English and Spanish; currently do not have data on heat stroke of pets; able to crowd source to gather number of items to give away (i.e., pet bowls, doggy sunscreen, pet food,

shade); started to collect data (first attempt limited: 20 pre-surveys, 8 post surveys). Majority aware of not leaving pet in car during summer months. Population not aware of symptoms of pet heat stroke. People and pets are very connected. No standard kit as needs were varied; highest request was for kiddie pool.



Thelma Magallanes, MDOT—Project Coordinator, Housing First Team, City of Tucson

Coordinates the Multi-Disciplinary Outreach Team (MDOT), main goal to promote housing stability for unsheltered homeless. Medical team, collaboration with El Rio, go out to locations providing basic services. OPCS provides re-entry services, substance abuse treatment and work programs. Reaching out to community to assist with volun-

teering and additional services. Utilize homeless reporting data to better understand homelessness crisis; but also works with low-income population. Will work on specific sites for 3-4 months. Main heat objective is to advocate and provide information about heat risks, cooling centers and safety measures. In addition to cooling centers, 2 COOLtain-

ers served to provide relief from extreme heat days; also deployed the mobile showers. Additional training provided to staff doing field work so they are aware of their own health condition while working. Program evolving as incorporating feedback from volunteers and community/agency/other department participants.



Kristi Currans, Assoc. Prof. Urban Planning, CAPLA, UA

Goal of DOE Integrated Field Lab (IFL) grant to advance climate science and provide information focused at the local level and return on investment. Anna's CO₂ modeling is part of this study. Data collected, inserted into models is to provide some scenario planning for solutions. Brookhaven National Lab was in Arizona for a month collecting

data. Tucson's focus area is Oracle corridor, Thrive in '05 project area, where data is being collected. Data has included weather, flood, traffic counts, plant sampling. 4 science questions: (1) neighborhood variability — buildings and temperatures/air quality; (2) cool air convection—how large green space cool the air and impact neighborhoods; (3)

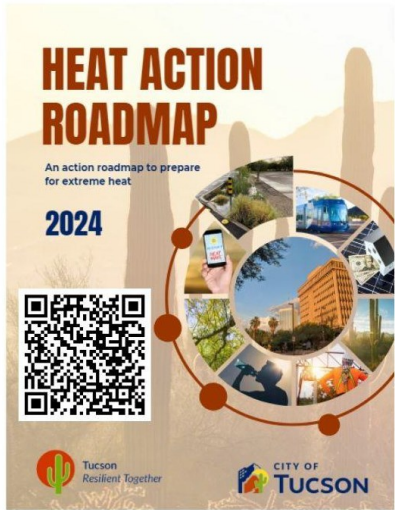
urban dome — tracking atmospheric boundary layer (4) heat resilient — track neighborhood change through time, zip code '05 neighborhood involved due to diverse land use/population. Primary themes tracking in Oracle area: housing, green infrastructure, cool pavement and air pollution (focus on schools in area).





Community Resilience

3 GOALS * 10 STRATEGIES * 61 ACTIONS



GOAL 1: Inform, Prepare and Protect People (IP)



IP-1 Build a comprehensive heat safety mobilization campaign to broaden community awareness and preparedness for extreme heat.
 IP-2 Develop a comprehensive worker heat safety initiative to better protect workers exposed to extreme heat.
 IP-3 Establish a heat advisory committee for community resilience dedicated to guiding local efforts with collaborative, equity-focused, and data-driven approaches.

GOAL 2: Cool People's Homes, and Community Centers (CH)



CH-1 Improve cooling centers by establishing operational standards, optimizing accessibility, and supporting transportation.
 CH-2 Enhance support for energy efficiency and home upgrades to improve heat resilience, especially for low-income households.
 CH-3 Expand heat relief resources for people facing housing insecurity to reduce heat-related illnesses.

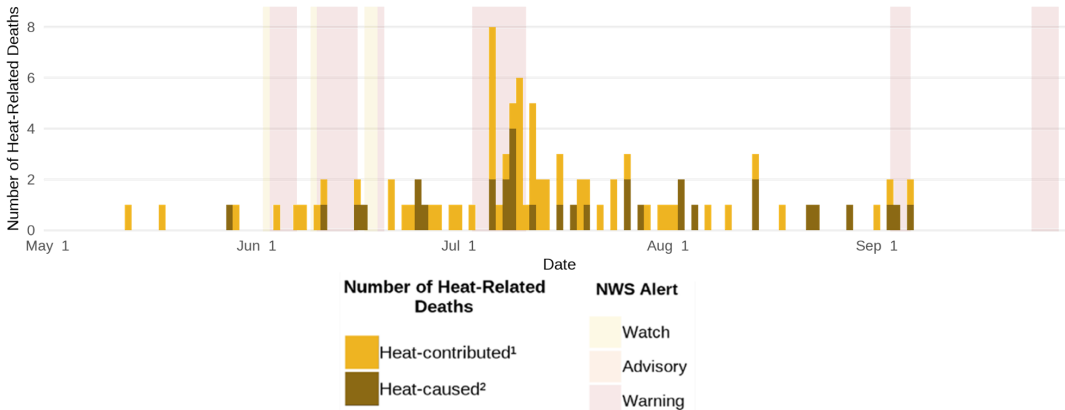
GOAL 3: Cool Tucson Neighborhoods (CN)



CN-1 Integrate heat risk into urban and regional planning to create more resilient and heat-safe communities.
 CN-2 Expand tree canopy and green infrastructure on public land, including parks and transportation corridors.
 CN-3 Cool commutes by enhancing accessibility, comfort, and safety for multimodal transportation systems.
 CN-4 Enhance urban forestry and green job workforce development.

Between May 1 and September 30, there were **95 certified heat-related deaths³** in Pima County.

Graph 6: Heat-Related Deaths and Heat Alerts in Pima County, 2024



¹ Heat-contributed includes deaths where environmental heat exposure was a contributing factor in the death.
² Heat-caused includes deaths where environmental heat exposure is the primary cause of death.
³ Data represents all deaths that occurred within Pima County, excluding deaths of undocumented border crossers (UBC). For information on UBCs, please see the PCOME heat-related deaths [dashboard](#). Deaths within a 3-week period of the end date may fluctuate due to certification.

HAVE PETS?
 COME LEARN HOW TO KEEP THEM SAFE FROM SUMMER HEAT
 INFORMATION & RESOURCES TO PREVENT HEATSTROKE IN PETS
 Presented by the University of Arizona College of Veterinary Medicine
 Learn about heatstroke in dogs & cats and pick up **free goodies** for your pets!

WEDNESDAY, JULY 17TH
 Get info on heatstroke in cats and dogs!

FLORIAN WELLS LIBRARY
 1750 W. WAREHOUS BL., TUCSON, AZ 85705

10AM TO 1PM
 Pick up treats for your pet, while supplies last!

HESTIA TRAFFIC APP
 CITIZEN SCIENCE APP TO IMPROVE CO2, AIR QUALITY, AND HEAT EMISSIONS

FOR APPLE DEVICES: [Download on the App Store](#)

FOR ANDROID DEVICES: [GET IT ON Google Play](#)

About MDOT

Multi-Disciplinary Outreach Team:

This is a team of skilled outreach professionals from multiple organizations that work together to address high-needs encampments identified in the Continuum of Care service area through City and County homeless protocol actions, local law enforcement agencies and other community stakeholders.



- COT
- OPCS
- El Rio



HOUSING FIRST

Housing First provides a direct pathway into permanent housing, allowing households to achieve stability and a foundation to support sustainability goals.

Housing First removes barriers to permanent housing, such as first obtaining sobriety, employment, program participation, or citizenship.



Collaborators:

Mayor & Council Appointed Landscape Advisory Committee

