



## What is it?

The Harlem Heat Project is a pioneering news initiative to investigate how summer heat affects the health of Harlem residents, and to explore ways to build community resilience.

## Who's part of it?

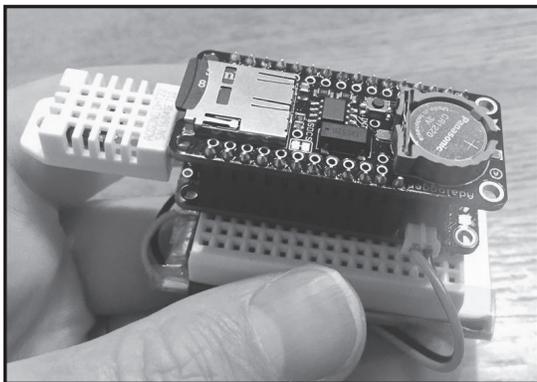


We're a team of non-profit journalism and community partners: *Climate news service **AdaptNY**, New York's flagship public radio station **WNYC**, community climate and weather journal **ISeeChange**, **WE ACT for Environmental Justice**, and residents of Harlem.*



**I SEE CHANGE**  
COMMUNITY CLIMATE & WEATHER JOURNAL

## What are we all doing?



Source: John Keefe/WNYC

residents told their own stories, and we are sharing ideas about urban heat at a collaborative community workshop.

We organized community-based citizen scientists to place DIY heat-and-humidity sensors in homes around Harlem to capture hard-to-access indoor air conditions. Reporters and researchers documented the results,

## Why do all this?

We hope that the project will serve as a model solution for one of the most vexing public health challenges of our time: how to monitor the heat that vulnerable residents are experiencing inside their homes, and when to intervene to save their lives.

# What is the urban heat island effect?

This is a long term that basically means:

**Cities get really hot in the summer.**

Concrete and asphalt soak in the sun's rays. Cars and even cooling systems generate a lot of heat. But there's too little greenery to keep up with the task of cooling things down.

And things get even worse with heat waves, which are expected to triple in New York by the 2080s



Source: Urban Gazelle/Flickr Creative Commons

## And how does urban heat affect Harlem?

Certain parts of the city tend to be hotter, like Harlem. In fact, Central Harlem is on the city's list of top 10 **most heat vulnerable neighborhoods**. Harlem as a whole has almost twice

as many ER visits from heat stress as the rest of the city, and has fewer ACs, particularly among the elderly.

Extreme heat is a danger to everyone, but particularly for **at-risk populations such as the elderly and the sick**. And because Harlem is poorer, residents are generally at higher risk because their housing tends to be: low-quality, high density, poorly ventilated, and lacking open space and shade

## How bad is it?

**80** percent of the New Yorkers who die of heat die inside their own homes

**600** the number of New Yorkers a year, on average, treated for heat-related illness

More people die of **extreme heat** in the U.S. every year than in hurricanes and other natural disasters *combined*

# Some Solutions

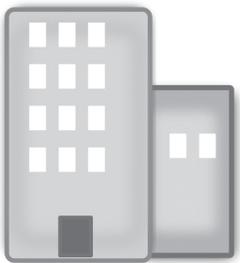
*How can we improve them or improve upon them?*



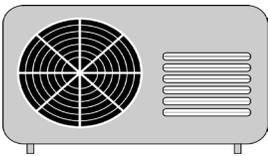
**VEGETATION:** Plants can cool off a city through evapotranspiration the same way sweating cools off the human body. **Drawbacks:** Green roofs are expensive. And even New York’s ambitious 1 Million Trees program only increased the tree population by 20 percent.



**EARLY WARNING:** The National Weather Service issues a “Heat Advisory” when the heat index is forecast to reach 95-99F for two consecutive days, a lower threshold than the rest of the country. **Drawbacks:** Based on outdoor, not indoor, temperatures.



**AREAS OF REFUGE:** New York and other cities designate senior centers, libraries and other public buildings as “cooling centers” and keep them open extended hours during heat waves. **Drawbacks:** People don’t want to leave their homes just to cool off.



**GIVEAWAYS:** The state offers qualified applicants free AC window units. **Drawbacks:** Residents still have to pay for energy usage and installation.



**REFLECTIVE SURFACES:** The city’s Cool Roofs program offers landlords incentives to paint their roofs with special paint. **Drawbacks:** The benefits have little effect on surrounding temperatures.



**SOCIAL RESILIENCE:** WE ACT is holding a charrette next month to design a climate-proof kiosk that would connect residents with resources during a climate crisis, such as a heat wave, power outage, flood, etc. **Drawbacks:** Only a partial solution.

# Case Studies

**Tammy's Story:** *"Tammy" has lived on the 18th floor of the same public housing building her whole life. She didn't have AC for most of her life – until she finally had enough money to buy one when she was in her 30s.*

Fewer than half of public housing residents have AC. They must get approval from the New York City Housing Authority, and pay to remove the bars from their windows and to get the unit professionally installed. There's also a yearly \$120 fee for each window unit.

Tammy, her three children, and their dad have **a second** AC that the housing authority doesn't know about it. They didn't ask for approval, and they're not paying the usage fee, but risk back fees if it is discovered.

**Helen's Story:** *After temperatures in her East Harlem apartment surpassed 90 degrees Fahrenheit for several days in a row, 69-year-old "Helen" called 911.*

An ambulance brought Helen to Mount Sinai Hospital, where she was admitted for heat exhaustion. "My head starts to hurt, and then I start to throw-up and I feel a little dizzy," she says from the hospital bed with her eyes closed. She doesn't want to leave the hospital and go back to her hot apartment. "Oh, God. The fan ain't doing no good, at all."

**Victor's Story:** *Victor is one of 10 percent of New Yorkers without AC.*

"I can tell when it's reached uncomfortable levels of heat in my apartment. I get dizzy, it's hard to focus and think, and if I'm still inside after 1:30-2:00pm, it's a risk to my health. On the strange side, toothpaste comes flowing out of the tube because the heat has softened the contents inside. Hot water comes out of my cold water pipes. The glass on the windows facing west are too hot to touch. When I step out from a cold shower to cool, that is when I notice how hot my wooden floors are."

**Philly's Story:** *Even though 84-year-old "Philly" has one small AC in her living room, the heat index in other rooms stayed above 85 degrees for a full week in August.*

One of the city's lines of defense during extreme heat is "cooling centers" - one of more than 500 air-conditioned public spaces around the city. Philly has visited a cooling center before and thinks they're a good idea. but says they're hard to find, or too hard to get to – the closest one is about 10 blocks away. The Harlem Heat Project tried to visit three centers near her house on a hot day in August - it discovered wrong addresses, misleading directions, and very few users.

# Sample Profiles

**1. Dinah Thomson**, 34, black, single mother of three kids (ages 2, 5 & 7). Bachelor's in accounting, works for the city. Lives in 2BR apartment on 18th floor of public housing high-rise, central Harlem. Recently had knee surgery, active in community affairs, stays up on news and social media with laptop. Two youngest kids stay cool sleeping in living room with AC; she also worries about high temperatures in building lobby and elevator.

**2. Janet Diamond**, 57, black, lives with husband on two floors of four-story townhouse, West Harlem. Income from renting apartments in the two rowhouses they own. No AC, but surrounded by trees, with fans throughout. Both have HS degrees. No major health problems, close ties to neighbors, doesn't follow news much or own a laptop, but has smartphone.

**3. Manuel Suarez**, 42, part-time warehouse worker from the Dominican Republic, left HS early, now lives alone in 1BR apartment on 12th floor of 18-story public housing high rise, East Harlem. Recovering from broken ankle at home, has one AC in bedroom. No laptop and spends little time on Internet or email, but uses smartphone to keep in touch with neighborhood seniors and the wheelchair bound he tries to help in bad weather. He also worries about his dog suffering when it's hot.

**4. Tony Delorio**, 26-year-old janitor from Puerto Rico, caring for infant son with 22-year-old girlfriend. Shares 1BR apartment on first floor of 10-story pre-war building in Central Harlem, with no AC. Both graduated HS and work full-time, but their incomes don't make ends meet. His mother and sister live nearby. He doesn't have many friends in the neighborhood, but keeps in contact with others via social media using his smartphone.

**5. Ellen Stone**, black, 74-year-old widow, lives alone in 1BR apartment on second floor of four-story brownstone, West Harlem. No AC, but a fan and shade from surrounding trees. College degree, worked for 30 years as a librarian before retiring, on fixed income. In good health, but has problems with asthma and arthritis. Has many friends in the neighborhood, but no longer goes out much, and doesn't have a laptop or a smartphone.

**6. Lynne Wall**, white, 36-year-old secretary in small business, lives in 1BR on an upper floor of large 1970s-era public housing complex, Central Harlem. Income supports her husband, out of work for two years. Only one room of her residence has AC. Uses smartphone to keep in touch with elderly neighbors she worries about because of their health concerns and lack of AC. Says a small neighborhood park nearby does little to help with heat.

# WORKSHOP CHALLENGE

*“How can we protect vulnerable Harlem residents from heat extremes in their daily lives?”*

## Brainstorming

Before you can delve into the challenge, first you need to define who is affected. Use the sample profiles we’ve provided to identify vulnerable individuals directly affected by urban heat in Harlem, think briefly about their motivations, goals, frustrations and obstacles.



**Motivations:** *what drives your user?*

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**Frustrations:** *what upsets your user?*

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**Goals:** *what does your user want to accomplish?*

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**Obstacles:** *what gets in the way of your user's goals?*

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*Now it's time to solve your user's problem.*

**The prominent design firm IDEO suggests these rules for brainstorming:**

1. Defer judgment
2. Encourage wild ideas
3. Build on the ideas of others
4. Stay focused on the topic
5. One conversation at a time
6. Be visual
7. Go for quantity
8. No devil's advocate

# Prototyping

## “Fail Faster, Succeed Sooner

*David Kelley, Founder of IDEO*

Now that you've narrowed down your ideas, it's time to develop one further. Storyboard your idea by drawing the key interactions involved in your potential solution, scene by scene.

### Think about:

- What is it?
- What is new about your prototype?
- Who's going to use it?
- When? Where?
- How will they experience it?
- Why should they care?
- What's the simplest version of your prototype that could still get the job done?

The faster you iterate, the faster you'll be able to get your solution to your user, receive feedback, and refine your prototype.

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## Your Pitch

- 1.** Tell the story of your solution from the point of view of the user you defined
- 2.** Make sure their story syncs up with the original problem
- 3.** Paint us a picture of the solution first, then explain your rationale

### Receiving feedback

Be open to constructive critiques

Ask clarifying questions

Respect and consider, but do not necessarily adapt, all feedback.

### Giving feedback

Be specific

Put yourself in the user's shoes

Provide potential solutions to the problems you identify