

UCLA Luskin Center for Innovation

Communicating Heat Risk: A guide to inclusive, effective, and coordinated public information campaigns

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Authorship

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Disclaimer

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Introduction

It's in the news each summer and fall: extreme heat is on the rise, and it [takes more lives](#) than any other weather phenomenon. Heat waves not only disrupt people's lives, but increase mortality rates — for example, California's 10-day heat wave in September 2022 led to 395 more deaths than otherwise expected.¹

Even in between heat waves, chronically high temperatures cause harm, from preventing people from cooling off at [home](#) to reducing students' ability to learn at [school](#). Addressing the many harmful effects of heat requires significant, often costly physical interventions, such as upgrading buildings, installing cooling equipment, and increasing shade cover. But some heat harms can be avoided more easily, by enhancing public understanding of risk and promoting behavioral changes to reduce it.

Throughout California, local and state government agencies, nonprofits, and other heat-concerned organizations — in short, *heat communicators* — are raising awareness about heat risk, management, and resources. But

these efforts often fall short of what is needed to prevent heat harms. As illustrated throughout this report, even when communicators work hard to reach everyone at risk, some people don't get the message, while others may lack resources or capability to protect themselves.

This report collects insights and guidance for communicators in an accessible, practical format that can strengthen communication efforts. It presents recommendations in five areas to support heat communicators to create more inclusive, effective, and coordinated public information campaigns. These recommendations draw on insights from 15 interviews of academic, government, and nonprofit stakeholders with heat communication expertise (see [appendix](#)).

METHODOLOGY

The findings and recommendations presented in this report are based on insights from the interviewees listed in the appendix. The interviewees were selected through convenience sampling with a focus on government communicators and some representation from academic and nonprofit organizations. The sample includes many individuals from California and a few from select cities across the country, which brings helpful perspective on management and communication strategies and geographic differences.

The interviews were semi-structured and ranged from 15 minutes to one hour in length. Almost all were recorded and transcribed. The transcripts were coded to identify themes that were discussed by many participants, areas of general agreement, and areas of disagreement. The themes were summarized into findings and recommendations based on how commonly they were discussed, how much agreement there was among interviewees (and how much the insights aligned with literature), and how pertinent they were to the original research questions of the project.

1 California Department of Public Health, [“Excess Mortality During the September 2022 Heat Wave in California”](#) (2022).

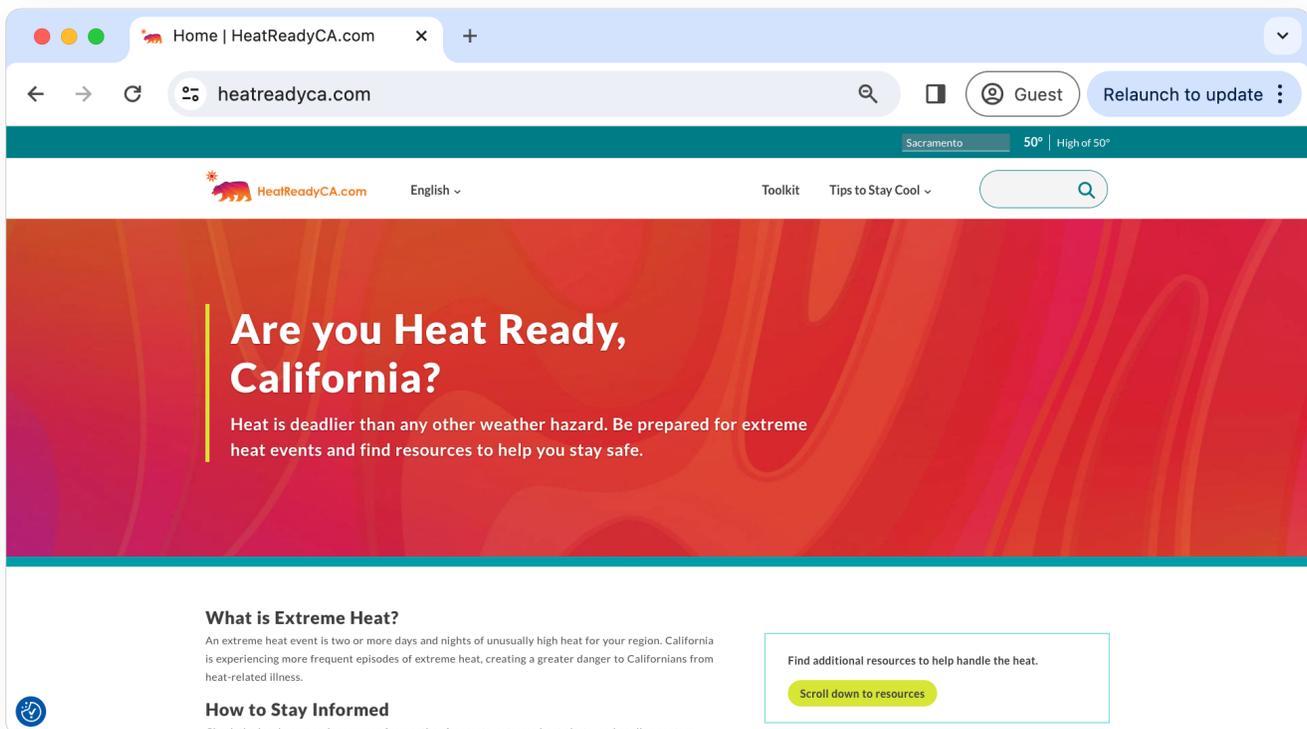
Setting the Stage for Heat Communication in California

Many state agencies play significant roles in heat communication in California. The state’s [Extreme Heat Action Plan](#), codified in 2023 by [Senate Bill 306](#), governs much of the heat management activity in the state. The plan identifies more than 45 departments within 15 agencies as heat management actors, most of which play some role in communications.

Some of the most relevant agencies, based in part on how frequently they are mentioned in the plan’s outreach-related actions, are the California Natural Resources Agency, the California Health and Human Services Agency, the California Environmental Protection Agency, and the Governor’s Office of Planning and Research — but several others play roles as well.

The plan details many actions that were already underway when it was published in 2022. For example, two programs are particularly relevant:

- » [The Governor’s Office of Planning and Research’s Extreme Heat and Community Resilience Program](#) “funds and supports local, regional, and tribal efforts to reduce the impacts of extreme heat.”
- » [The California Strategic Growth Council’s Community Resilience Center Program](#) “will fund new construction and upgrades of neighborhood-level resilience centers to provide shelter and resources during climate and other emergencies.”



The State of California’s “Heat Ready California” website

In addition to the Extreme Heat Action Plan, the state has an [“Extreme Temperature Response Plan”](#) enacted by the Governor’s Office of Emergency Services in 2022 as an annex to the state emergency plan. This plan provides the procedure to activate different actions depending on the threat posed by heat (or cold), based on National Weather Service alerts and other factors, such as health data and deviation from average. It outlines roles that state agencies, nongovernmental organizations, and other actors play and offers guidance to local governments on how to respond to temperature risks.

The state legislature is also taking action to improve heat awareness and communication. Many heat-related bills have been proposed; some passed, and some have been signed into law. For example, [Assembly Bill 2238](#), signed into law in 2022, requires the California Environmental Protection Agency by January 2025 to develop a system for ranking extreme heat events, similar to how natural disasters are classified. The Governor’s Office of Planning and Research’s Integrated Climate Adaptation and Resiliency Program must then develop a communication strategy for the ranking system.

RECENT CALIFORNIA HEAT AWARENESS CAMPAIGNS

Many organizations lead campaigns to raise awareness about extreme heat. Two campaigns that ran during summer 2023 were:

#HeatReadyCA: The California Office of Community Partnerships and Strategic Communications launched a statewide heat awareness campaign in July 2023. The office created communication materials — including social media content, talking points, newsletter content, fact sheets, flyers, and door hangers — and worked with more than 100 community-based organizations to distribute these materials. The campaign included the launch of [HeatReadyCA.com](#), a website with information and resources (including tailored content for heat-vulnerable groups such as adults 65 years or older, children, people with chronic health conditions or disabilities, pregnant people, people in urban communities, workers, and people experiencing homelessness).

#HeatSafeLA: The Los Angeles Regional Collaborative for Climate Action and Sustainability (LARC) partnered with the Los Angeles County Department of Public Health to raise awareness about local heat risk and protections. The campaign included social media content, printed flyers, and advertisements on buses and bus shelters. From June through October 2023, LARC worked with more than 75 local agencies, community-based organizations, and others to distribute and amplify the materials at strategic, coordinated times. With tailored content, the campaign targeted “high risk populations,” including older adults, children, disabled and chronically ill people, pregnant people, workers, people experiencing homelessness, and pets. The 2023 campaign built upon content and lessons from the 2022 #HeatSafeLA campaign.

Summary of Recommendations

The remainder of this report presents the following five recommendation areas, crafted based on insights from interviewees and drawing on past research and literature, with specific recommendations within each area.

RECOMMENDATION AREA 1

Deeply engage heat-impacted communities — and decision-makers, too. Identify the most heat-impacted communities (e.g., young children, outdoor workers, and unhoused people), then collaborate with them to understand their needs and communication preferences.

RECOMMENDATION AREA 2

Use strategic timing and inclusive messaging to convey the very real threat of heat. Conveying the life-threatening nature of heat is essential and requires nuanced, tailored messaging; well-timed outreach throughout the year; and careful consideration of the variation of needs and barriers faced by communities. For example, accurately translating materials into several languages can make communications more inclusive and relevant to target audiences.

RECOMMENDATION AREA 3

Build campaigns that use all feasible tactics and prioritize trusted messenger networks. No one (or two, or three) communication channel will reach everyone harmed by heat, but some tactics may work better than others — especially communicating through community-trusted, local organizations and leaders.

RECOMMENDATION AREA 4

Distribute responsibilities among state and local communicators. State and local governments alike should embrace an all-hands-on-deck approach to collaboration that makes use of state resources to create consistency and local knowledge to reach affected communities effectively.

RECOMMENDATION AREA 5

Take multiple approaches to evaluate the effectiveness of communications, with community knowledge at the center. While evaluation is difficult (especially with present data and research limitations), communicators can learn substantial lessons from additional research, including by engaging the communities they hope to reach.



Ads targeting transit users (a heat-impacted community), created for the 2023 #HeatSafeLA campaign and distributed by LA City's Climate Emergency Mobilization Office. Credit: Tom Watanabe

Recommendation Area 1: Deeply engage heat-impacted communities — and decision-makers, too

Recommendation 1.1: Identify heat-impacted communities

To effectively reach the most heat-impacted communities, communicators must first identify who they are. Two considerations that affect this identification are risk factors (characteristics and circumstances that cause higher heat impacts) and exposure settings (locations where people are affected).

Risk factors:

- » **High sensitivity:** personal characteristics that make people sensitive to heat (e.g., pregnancy, health conditions),
- » **High exposure:** circumstances that lead people to spend time in hot environments without protection (e.g., being unhoused or working outdoors), and

- » **Low adaptive capacity:** lack of resources or capacity (e.g., money, choice, agency) to respond to heat threats — often as a result of systemic inequality and racism.²

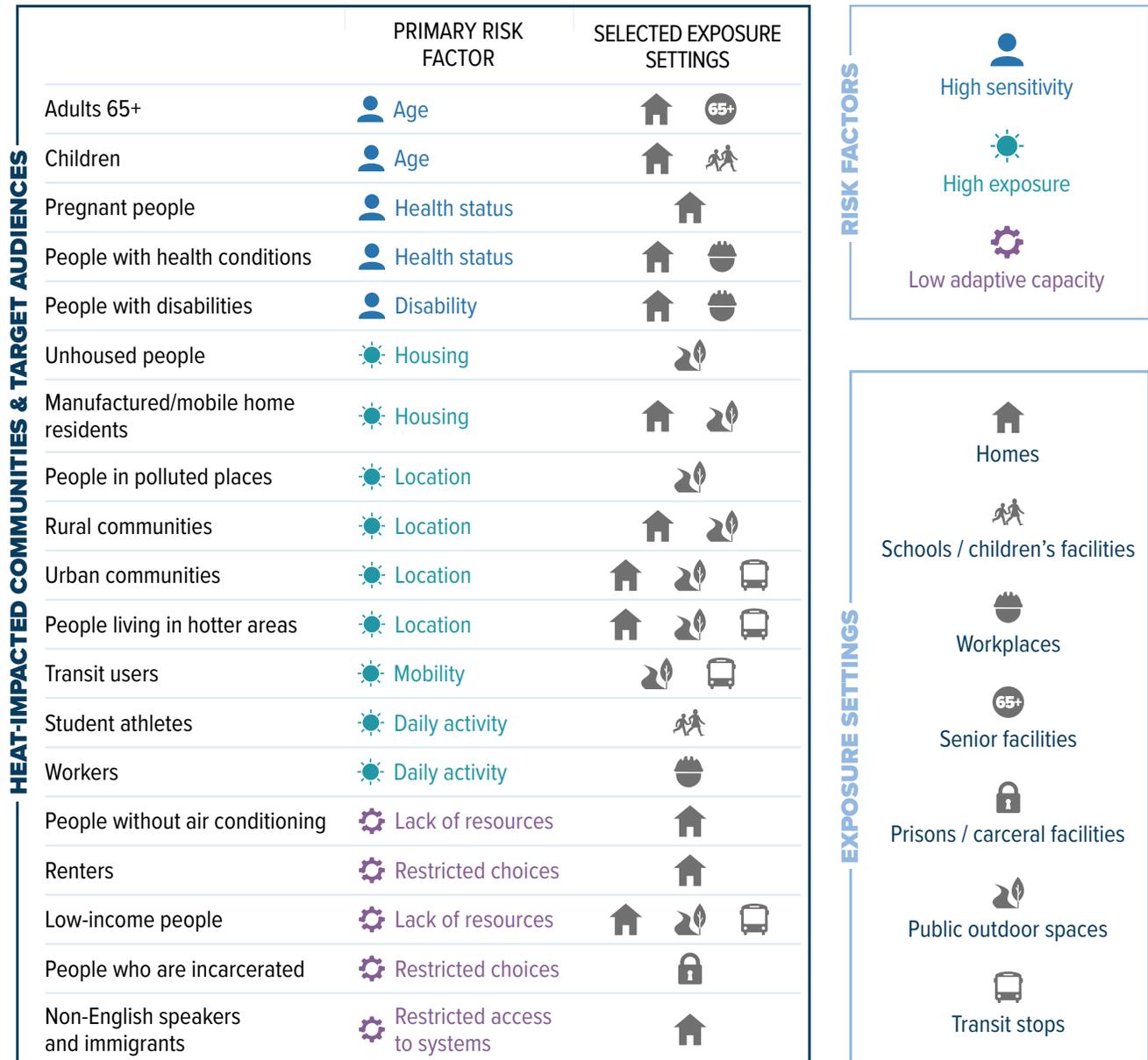
Exposure settings: Previous UCLA Luskin Center for Innovation (LCI) [research](#) identifies seven settings in which people are often exposed to heat: homes; workplaces; schools and child care facilities; senior facilities; prisons and other carceral facilities; public outdoor spaces; and transit stops.

Figure 1, on the next page, lists specific groups to reach, with notes about their primary risk factors and a few particularly relevant exposure settings. In many instances, individuals belong to multiple of the communities listed, compounding their heat risk. This figure does not show this intersectionality, listing only the exposure settings that are relevant for a given group by definition.

² Based on the well-established framework of “vulnerability” as a function of exposure, sensitivity, and adaptive capacity. For example, see Guardaro et al., [“Adaptive Capacity to Extreme Urban Heat”](#) (2022)

FIGURE 1

Heat-Impacted Communities and Target Audiences



Recommendation 1.2: Ask communities what does and doesn’t work for them

Once communicators identify their target audiences (heat-impacted populations), working closely with these communities is the best way

to understand what information audiences need, which communication tactics to prioritize, and, broadly, what will motivate behavior changes enabling improved outcomes.³ In a study sponsored by the City of Los Angeles Climate Emergency Mobilization Office, Abdelatty and

³ VanderMolen, Kimutis, and Hatchett, “Recommendations for Increasing the Reach and Effectiveness of Heat Risk Education and Warning Messaging” (2022; page 3).

colleagues asked community members directly about their preferred communication channels, awareness of heat adaptation resources, and more.⁴ The study suggests that Los Angeles communities are not widely aware of available heat adaptation and management resources and illustrates the value of directly engaging target audiences. The researchers recommended that decision-makers conduct community-based research to understand how residents get and share information.

By definition, meaningful dialogue requires two-way communication: communities must not only receive information, but have ongoing opportunities to share feedback with decision-makers. In turn, decision-makers must act on the feedback they receive to ensure effective outreach and to build trust. Interviewees shared two examples of deep community collaboration in which dialogue informed action:

- » In Philadelphia, the city has deeply involved community members in multiple campaigns, with one culminating in a resident-led steering committee that decided how to spend a heat adaptation grant.
- » Miami-Dade County held a public workshop to learn which communication channels work best for residents. Staff heard directly from members of the exact communities they were hoping to reach, which led them to increase outreach through Spanish and Creole radio.

Community-based organizations (CBOs) can help facilitate community engagement. For example, the Office of Community Partnerships and Strategic Communications worked with CBOs to establish 10 focus groups with specific target groups (such as parents of young children, people with limited English proficiency, rural communities, and several others). The focus groups helped the office

understand communities' heat risk perception, communication channels they use to get information, and perceptions of government services for heat management. Such community-engaged research is one of the most helpful tools for understanding effective communication, as several interviewees asserted.

Recommendation 1.3: Work with communities to understand and navigate the limitations of communication

Many interviewees brought up the same critical point: there is only so much that communication can do to improve heat adaptation and resilience. Some people lack information and understanding of heat health risks, protective actions, and available resources. For those who know heat is dangerous but can't do anything about it, warnings and awareness-building “ring hollow” (as one interviewee put it) without enhanced services, access to resources, and social infrastructure — not to mention systemic changes that remove structural barriers to personal action.

This highlights the important distinction between communication and provision of services. Communication is usually not enough to fully address some target audiences' needs — increased direct services are often needed. For some, as Guardaro and colleagues (2022) identify, “heat is a catastrophe.” Barriers prevent these groups from adapting with current resources — for example, their jobs may have uniform requirements or limited breaks; they may not be able to afford cooling their homes; or they might rely on public transit with unshaded stops.

Nevertheless, communication is crucial. When communicators engage communities enough to understand barriers to action, they should adjust content to ensure it is useful. If

4 Abdelatty et al., “[Turning Down the Heat](#)” (2023).

communities already understand the basics of heat management (such as the importance of hydration and signs of heat illness), communicators can determine what information is still lacking and broaden their campaigns.

Recommendation 1.4: Target decision-makers, too

Several interviewees asserted that communication efforts should not only target people at risk of heat harms, but also those who play a role in heat management, from city

sustainability officers to county public health officials to state lawmakers. Decision-makers do not always have the information needed for optimal heat management, and communicators can help to provide comprehensive, up-to-date knowledge of heat threats and solutions. For instance, one interviewee noted the importance of emergency managers having a foundation of climate change knowledge. Another interviewee said lawmakers and their staff often turn to air conditioning and trees as solutions to heat without fully acknowledging their limitations, and may not consider other solutions.

COOLING CENTERS ILLUSTRATE THE LIMITS OF COMMUNICATION

Cooling centers provide short-term refuge during acute heat events. Interviewees have split views on their usefulness: some say people don't use them, while others assert that they are used if well designed. Addressing these issues requires more than communications — it calls for addressing the underlying reasons people do not use the resource.

There are many reasons people may not go to centers, including the following:

- » **lack of knowledge** of availability or location;
- » **lack of trust** in government and law enforcement;
- » **restrictions** on who can enter, what they can do there, and what they can bring with them (e.g., pets or, for unhoused individuals, their belongings);
- » **inaccessible location** and a lack of free transportation options;
- » **preference or need to stay home** such as among those who cannot (or prefer not to) leave the house; and
- » a generally **unwelcoming atmosphere** — whether due to active discrimination or lack of entertainment and friendly decor.

Overcoming these barriers requires decision-makers to work closely with target communities to understand their barriers and motivations to using cooling centers. To increase use, decision-makers should design cooling centers to be welcoming, minimize restrictions when possible, be conveniently located, and support existing, unofficial cooling spaces like cafés, restaurants, grocery stores, and malls (all of which can serve different types of people and address different use barriers). Empirical research is needed to examine the best uses for cooling centers.

Note: Cooling centers and resilience centers were both discussed in the interviews. Resilience centers may offer a wider range of services than cooling — and in fact, may not offer cooling at all. Both are relevant to this discussion, but this box speaks specifically to cooling centers as the more widely known and heat-specific of the two.

Recommendation Area 2: Use strategic timing and inclusive messaging to convey the very real threat of heat

Recommendation 2.1: Treat heat like the emergency it is

Many heat-threatened individuals do not take the threat seriously. Several interviewees emphasized this point, saying that many people know they will be hot and uncomfortable but don't realize how quickly or severely heat can harm their health. It's crucial for communicators to shift the narrative and emphasize the danger of heat, its health risks, and compounding risk factors (like health conditions).

Communicators must consider that some audiences will not take warnings seriously or personally. For instance, an elderly person may hear "seniors need to take precautions" and think, "that means people older than me!" And people who live in particularly hot places are desensitized to the effects of heat, and often minimize the threat it poses.

Interviewees also noted that heat is not generally treated as an emergency in legal and policy contexts. For example, the federal government does not include heat as an emergency: it is not considered a "major disaster" by the Stafford Disaster Relief and Emergency Assistance Act, which governs federal disaster relief (and specifically the Federal Emergency Management Agency's activities). The Extreme Heat Emergency Act of 2023 ([H.R.3965](#)) has been introduced in Congress to change this. The heat wave ranking system that will be created under

California's AB 2238 (see page 3) can help to address this as well — a few interviewees noted that ranking heat waves (or even naming them, like hurricanes) can emphasize their threat, draw media attention, help with resource allocation, and trigger actions (like canceling events or opening resilience centers).

Recommendation 2.2: Tailor content to be highly relevant to each audience

One way to help people understand the seriousness of heat is to convey exactly how it will affect them personally in a relevant and specific way. For instance, to guide communications in a specific community, answer questions like: what is the heat risk in that neighborhood?; what risk factors make each person sensitive or exposed to heat?; and what is the address of the nearest resilience center?

Communicators can provide people with tailored information based on geography (down to the neighborhood), age, race and ethnicity, health and disability status, housing status, and possibly other dimensions. Many communication tactics can provide such personalized information. For example, local media can give addresses for cooling centers or other resources; healthcare providers can communicate with patients about how heat affects them based on their own health conditions; and targeted text messages and social media posts can provide geographically and otherwise tailored information.⁵

⁵ Although it did not come up in detail in interviews, the structure of messages (e.g., the length, whether a link is included, capitalization, and other details of the presentation) affects the message's effect just as much as content and framing. See, for example, Sutton, Olson, and Waugh, "[Communicating Extreme Heat to At Risk Publics](#)" (2022) and Sutton et al., "[What It Takes to Get Passed On](#)" (2015).

Recommendation 2.3: Employ radically inclusive messaging and tactics

To support every individual facing the threat of heat, communicators must strive for what one interviewee called “radically inclusive” communications and engagement that enables each person to access messaging, regardless of disabilities, cultural or language differences, and other potential communication barriers.

Language justice is an example of inclusion that several interviewees mentioned. Communicators must be prepared to interact with community members, as well as other communicators, in many languages. If communications are to be accessible for everyone in a given audience, content must be available in all languages spoken by that group. Communicators should strive to understand which languages their audiences speak. It is also critical that translated messaging is accurate — Trujillo-Falcón (2022) showed that messaging translated to Spanish has often conveyed less urgency than in the original English.⁶

Recommendation 2.4: Balance personal and societal responsibility

Communication content should balance an emphasis on personal actions (placing responsibility on individuals) with information about resources and government support (placing responsibility on broader societal structures) to protect community members. Several interviewees asserted that current communications place too much emphasis on individual action, which is burdensome for those who know it’s hot but have no way to address the risk.

While there is still a need for more societal structures to protect people from heat, and

setting those up requires resources, there are already some supports available that many residents do not know about. To illustrate, the survey and focus groups conducted by Abdelatty and colleagues (2023) found that Los Angeles frontline residents often did not realize there were government-provided resources to help with heat adaptation.⁷ To ensure heat-threatened people know about available resources, communications must clearly identify available resources and how they can help people access cooling and generally protect themselves from heat.

Recommendation 2.5: Strategically communicate about heat year-round

With constant information overload in the age of digital communication, timing is a crucial part of outreach strategy. Timing the delivery of heat messaging is important to ensure that audiences not only receive relevant, timely information, but pay attention to it. Interviewees highlighted two key factors:

Alignment with weather: It is important to communicate early in the heat season, when people are least prepared and heat deaths are most prevalent.⁸ Additionally, communication about each heat wave must start well before it begin — when alerted at the last minute, people may not be able to prepare. Additionally, an interviewee made the point that communicating about heat in cold weather may feel out of touch and lead to pushback from audiences; communicators should consider halting heat communications when temperatures approach freezing.

Frequency: Communicators should weigh the trade-offs of frequent messaging and

6 Trujillo-Falcón et al., “¿Aviso o Alerta?”

7 Abdelatty et al., “Turning Down the Heat” (2023).

8 Anderson and Bell, “Heat Waves in the United States” (2011).

the potential for audiences to tune out. One interviewee asserted that communicating too much during cooler seasons makes people less likely to take it seriously when it is hot. But the majority of interviewees said that more frequent communication increases the likelihood that people will absorb the messaging. Lambrecht and colleagues (2021) suggest that repeated communication has benefits even later in the heat season, when attention wanes.⁹ However, emergency heat alerts should be reserved for the worst heat waves, when people should take immediate action to protect themselves in real time. These emergency communications should be sparing to avoid [alert fatigue](#), when audiences become inured to urgent messages.

Non-emergency heat communication can occur year round with relatively high frequency, as long as it is intentionally designed:

- » **Plan content appropriate for the time of year** — promote home preparedness (such as insulation upgrades) during winter and spring; then, as temperatures rise, shift messaging toward health and safety information.
- » **Keep communications fresh** by focusing day-to-day communications on news and updates, such as policy changes and new programs, to keep things fresh. Share tips and tricks for staying safe during hotter weather when they are most relevant.
- » **Refresh campaign content** each year so that audiences continue to pay attention.
- » **Use creative content and formats** later in the season (videos, infographics, etc.).¹⁰

Recommendation 2.6: Ensure local communicators have guidance and tools to align messaging with weather

Aligning heat messaging with weather requires an understanding of the complex dynamics of how heat risk varies depending on temperature. While it would be feasible to simply set guidelines based on set thresholds (such as, “we only communicate about the risk of heat stroke when it’s over 90 degrees”), the reality of heat requires a more nuanced approach. Heat mortality and other harms depend on a wide array of factors, and communicators need to take these factors into account when planning heat campaigns.

Many factors play a role in heat risk:

- » **Personal characteristics:** As described on page 5, personal characteristics can make people more sensitive to heat. For instance, health conditions such as heart disease can [increase risk of heat illness](#), and people with these conditions may face risk at lower temperatures as a result.
- » **Weather variables:** Humidity, airflow, and other weather variables affect how human bodies experience heat, influencing the risk a given temperature poses to health and comfort.
- » **Weather patterns and seasonality:** Heat waves earlier in the season tend to be more deadly, and sudden temperature shifts may be more harmful than sustained hot weather.¹¹ One interviewee noted that they have seen a steady increase in deaths as temperature increases, rather than a threshold at which suddenly mortality

9 Lambrecht et al., [“Identifying Community Values Related to Heat”](#) (2021).

10 Ibid

11 Anderson and Bell, [“Heat Waves in the United States”](#) (2011).

shoots up (and studies of heat wave mortality thresholds seem to align with this observation).¹²

- » **Local climate:** In places with lower average temperatures, heat-related deaths occur at lower temperatures because people are not used to the heat.¹³ As previously described, local climate also affects people's preparedness and response to heat.
- » **Daily temperature range:** As one interviewee noted, the highest daily temperature may not always be the biggest threat: if it doesn't cool off at night, people don't have a chance to recover from the heat of the day, which can be a bigger problem than a high peak temperature.

Communicators must consider all of these factors when deciding when and what to communicate and pay attention to local health data and guidelines. There are resources to inform these choices; for example, the National Weather Service's [HeatRisk tool](#) provides health-based heat risk estimates for the Western United States (with planned expansion to the rest of the country). The tool considers not only temperature, but also how unusual the weather is for the time of year and whether temperatures are high enough to increase health risk. And when it has been created, the heat wave ranking system created under AB 2238 will provide another tool that local communicators can use in accordance with state guidelines (see page 3 for more about AB 2238).

12 Anderson and Bell, "[Heat Waves in the United States](#)" (2011) and Basu and Samet, "[Relation between Elevated Ambient Temperature and Mortality](#)" (2002)

13 Basu and Samet, "[Relation between Elevated Ambient Temperature and Mortality](#)" (2002).

Recommendation Area 3: Build campaigns that use all feasible tactics and prioritize trusted messenger networks

Recommendation 3.1: Create cohesive campaigns using many tactics

To reach target audiences, use a wide array of tactics and thoughtfully selected communication channels and avoid relying heavily on any one method.¹⁴ These tactics should be built into cohesive, strategically planned campaigns:

- » Plan out a portfolio of heat **content** that follows [Recommendations 2.1 through 2.4](#)
- » Organize content into a **timeline** for delivery that aligns with Recommendation [2.5](#)
- » Deliver content using the **tactics** identified below, with a clear strategy for reaching each target audience

Figure 2, on the next page, illustrates how some tactics may reach target audiences better than others — but note that it is just a starting point and is neither comprehensive nor definitive.

Recommendation 3.2: Prioritize development and use of trusted messenger networks

Trusted messengers are established, respected members of a community who understand its dynamics, needs, and priorities. They are individuals and groups that can convey important information in a way that is relevant, accessible, and (crucially) well received by the audience (see Figure 2 for examples).

Trusted messengers are likely to be the most effective communication tactic for several reasons:

Trust: Individuals and groups within target audiences can be perceived by their community as having more credibility than government agencies or other outside, unknown entities. And community members already believe the information they provide.

Access to networks: They often have access to private communication channels — such as forums, listservs, WhatsApp groups, word-of-mouth communication, etc. — which can help reach people who don't use social media, visit government websites, or otherwise access public-facing communication channels.

Ability to tailor content: Trusted messengers know their audiences and can tailor content accordingly. For example, one interviewee described how a Native American workforce development nonprofit used cultural frameworks and storytelling to share relevant, specific heat information with specific tribes.

Another type of trusted messengers are ambassadors — individuals paid and trained by government agencies or other entities to disseminate information within their community through their personal networks. They may be compensated with stipends, gift cards, or as employees. One model to consider or utilize are [promotoras](#), who share health information in their communities.

¹⁴ E.g., VanderMolen, Kimutis, and Hatchett, "[Recommendations for Increasing the Reach and Effectiveness of Heat Risk Education and Warning Messaging](#)" (2022).

FIGURE 2

Potential Heat Communication Tactics for Each Target Audience

HEAT-IMPACTED COMMUNITIES & TARGET AUDIENCES

Adults 65+	
Children	
Pregnant people	
People with health conditions	
People with disabilities	
People without air conditioning	
Manufactured/mobile home residents	
Unhoused people	
People in polluted places	
Rural communities	
Urban communities	
People living in hotter areas	
Transit users	
Student athletes	
Workers	
Renters	
Low-income people	
People who are incarcerated	
Non-English speakers and immigrants	

HEAT COMMUNICATION TACTICS

TRUSTED MESSENGERS

ambassadors

community-based organizations

healthcare providers

local businesses

religious & faith networks

school staff

senior facilities

unions

... and many more!

SOCIAL MEDIA

E.g., Facebook, Instagram, Nextdoor, Reddit, TikTok, X, Youtube

Each platform will reach different audiences, but this breakdown is out of scope.

PHYSICAL MATERIALS

billboards

bus wraps and bus stop ads

handouts (flyers, pamphlets, etc.)

ON-DEMAND INFORMATION

apps

phone hotlines

websites

TRADITIONAL MEDIA

digital news

ethnic media

newspapers

radio

television

DIRECT ENGAGEMENT

in-person canvassing

text messages

emergency alerts

emails (e.g., newsletters)

surveys

outreach through govt. programs

public meetings & workshops

focus groups & listening sessions

Note: As discussed in Recommendation Area 5, there have not been in-depth evaluations to show which tactics are most effective, nor which are best for reaching each target audience. This figure represents a suggested starting point, but is not comprehensive nor definitive.

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Recommendation 3.3: Be thoughtful and creative about direct engagement

Direct outreach to community members can help not just to convey information, but to learn about audiences' needs and preferences (see Recommendation Areas [1](#) and [5](#)).

In-person communication: In-person outreach strategies include one-on-one tactics (such as door-to-door canvassing) and group tactics (such as public meetings, workshops, and events). Several interviewees told stories about gaining useful feedback through listening sessions, focus groups, community committees, and other in-depth engagement efforts. With these tactics, communicators can reach target audiences that would be difficult to communicate with through indirect methods. However, this is resource-intensive, as staff must spend time understanding target communities and then engaging them with cultural sensitivity, relevant information, and willingness to listen and act in response.

Direct digital communication: Text messages and Wireless Emergency Alerts deliver warnings directly to people's mobile phones. These can

be targeted with information about the risk and resources available in each recipient's neighborhood. Interviewees expressed varied opinions on using these tactics. Some consider them to be the best way to reach people, as almost everyone has a phone (even most people experiencing homelessness, though without consistent phone numbers and service).¹⁵ Others had concerns about overwhelming or inuring recipients by sending too many messages.

Texts and alerts must be well crafted and thoughtful to be effective:

- » **Avoid sending too many messages**, which may overwhelm people or be ignored.
- » **Communicate in recipients' primary languages** to improve access and avoid individuals receiving messages they can't read, which could be confusing or alarming.
- » **Use plain language** free from acronyms or technical words, and **provide enough information** that recipients can understand the threat. Bean and colleagues (2016) found that many alerts that do not follow this guidance are "fear inducing, uninformative, and confusing."¹⁶

THE NATIONAL WEATHER SERVICE (NWS) EXTREME WEATHER ALERT SYSTEM

NWS broadcasts heat outlooks, advisories, watches, and warnings to notify people of impending heat events; each type of notice corresponds to a different level of risk. Decision-makers can use these broadcasts to help shape group behavior, such as school staff choosing whether to have recess outdoors or emergency room staff preparing for a particularly hot day. The NWS also uses Wireless Emergency Alerts (mobile phone pop-ups) to warn about extreme weather events and natural disasters. State and local governments can also transmit Wireless Emergency Alerts, through the Federal Emergency Management Agency's Integrated Public Alert & Warning System. Although extreme heat does not currently qualify for these alerts, interviewees suggest that there is movement toward more federal recognition of heat as an emergency, as discussed on page 9.

¹⁵ Rhoades et al., "[No Digital Divide?](#)"

¹⁶ Bean et al., "[Disaster Warnings in Your Pocket](#)" (2016).

Recommendation 3.4: Use social media — but don't rely on it to reach everyone

Social media can be a helpful outreach strategy but can't be relied upon too heavily. Some audiences (such as unhoused people, elderly people, and outdoor workers) may not regularly use social media or follow accounts that share reliable heat information. But social media can be effective as part of a larger communication plan, particularly with creative, strategic use. Strategies to improve effectiveness include the following:

- » **Ensure the right accounts share material.** Government accounts may not have sufficient followings to spread information effectively. Work with community groups and other trusted messengers to share or repost inclusive, effective, and coordinated material.
- » **Work with celebrities and influencers.** Such partnerships can increase the relevance and relatability of content, reaching a wider audience through sources that interest target audiences. For example, student athletes may pay attention to a professional football player talking about the risk of heat stroke during practice. There are challenges associated with this tactic, such as which influencers to reach out to and how to balance the need to plan content ahead of time with social media's rapidly shifting trends and need for spontaneity. The Los Angeles Regional Collaborative for Climate Action and

Sustainability (LARC) is among communicators exploring these issues and will enter into paid partnerships with influencers for the 2024 [#HeatSafeLA](#) campaign.

- » **Create content that algorithms prioritize.** Social media communications are dependent on the priorities of platforms and algorithms. For example, videos and trendy content are prioritized and more likely to show up in people's feeds.

Recommendation 3.5: Invest in traditional and ethnic media outlets

TV, news, and radio may effectively reach specific communities who are not on social media and do not frequent government websites. One interviewee said they can be expensive, particularly for limited local government budgets, and suggested that the state enter into contracts with major news stations for TV and radio coverage.

Ethnic media outlets are news providers run by and for specific ethnic groups, and therefore are ideal partners for distributing information to a wide array of audiences — particularly to non-English speakers. They may be some of the most effective, helpful partners in reaching people of diverse ethnicities about heat risks. Communicators must be prepared to work with these outlets in multiple languages to ensure quality, in-depth coverage.



A bus ad created for the 2023 #HeatSafeLA campaign and distributed by LA City's Climate Emergency Mobilization Office. Credit: Tom Watanabe

FEEDBACK ON 2023 #HEATSAFE LA CAMPAIGN

Some interviewees who were directly involved in the [#HeatSafeLA campaign](#) offered specific feedback and suggestions to improve future iterations (read more about the campaign on page 3):

- » Coordinate with other campaigns, like #HeatReadyCA
- » Coordinate messaging across the county
- » Incorporate more communication with professionals, government actors, and other stakeholders in addition to the general public
- » Release content year-round, focusing on preparedness during the off-season
- » Incorporate more direct outreach to individuals, like texting
- » Expand trusted messengers' outreach to include more direct communications
- » Use radio and TV, including ethnic media
- » Incorporate video content, like Instagram Reels
- » Work with influencers and celebrity partners to reach wider social media audiences

Overall, interviewees said the campaign presented good information. They noted that it was helpful to have a centralized plan to coordinate and time heat communication on hot days, as well as to have content prepared to share throughout the summer.

Recommendation Area 4: Distribute responsibilities among state and local communicators

Recommendation 4.1: Collaborate and coordinate to achieve consistent, efficient, and effective communication

Strong collaboration and coordination among communicators are critical to produce consistent messaging, work through differences of opinion and priority, and use resources efficiently. Communicators within any given jurisdiction (state, county, city, or otherwise) must work together to create effective, clear, and trustworthy campaigns.

Consistency of messaging: Communicators may share temperature thresholds, emphasize protective actions (e.g., installing A/C versus going to a cooling center), or other information with audiences. But they should strive for consistency to ensure they are perceived as trustworthy and are not confusing. Interviewees noted that message variation can undermine trust in communicators and reduce the likelihood that residents act on guidance and recommendations.

Compromise among agencies: Coordination among agencies is also necessary to work through and compromise on goals and priorities. For example, air conditioning is a point of conflict: some agencies might stress the importance of cooling equipment at home, while others might emphasize the need to reduce use of these energy-intensive appliances during heat waves. Cross-agency coordination can minimize contradictions, confusion, and mistrust.

Resource efficiency: If communicators work toward the same (or similar) goals without coordinating and collaborating, they may

conduct either duplicative or contradictory work, which is an inefficient use of collective resources. Limited funding and manpower should be used as efficiently as possible, and collaboration is a means to this end.

Coordination at the state level: The State of California has improved coordination on heat communications in recent years, but more can be done. Some interviewees said that the Extreme Heat Action Plan has facilitated coordination by identifying each agency's purview, but it doesn't mandate which agencies implement which actions. However, others asserted that state agencies could be more coordinated internally on heat, including by establishing a single entity through which all heat work flows. Indeed, prior LCI [research](#) has highlighted the fact that California does not have a single, centralized person or office responsible for heat management and communication. One [report](#) asserted that "a coordinating agency dedicated to addressing the issue of heat could be valuable in providing leadership," including on the matter of public education and outreach.¹⁷ Some interviewees' responses support this idea, while others said that the state's coordination is fairly strong already.

Coordination at the local level: Local communicators must also work together toward consistency. Many county and city government offices play roles in heat communication, but they do not always work together on messaging and implementation. For example, counties often house departments of public health and emergency management, while cities may have offices dedicated to sustainability, resilience,

17 DeShazo, Lim, and Pierce, "[Adapting to Extreme Heat in California](#)" (2021).

and other relevant areas. These agencies should coordinate efforts and share resources when possible — and they should also coordinate with community-based organizations to achieve the most inclusive and effective local communication.

Recommendation 4.2: State agencies should provide coordination, resources, and support

Several state agencies, such as the California Department of Public Health and the California Natural Resources Agency, can and do play a guiding role to create consistency and provide resources to local communicators.

Basic messaging and information: The state can support local governments by providing basic, core messaging about overarching heat impacts and solutions. Several interviewees said that locals would welcome key messaging and expert advice, as it's resource-intensive to produce. The state already provides some direction through its public health guidelines, and the Extreme Heat Action Plan outlines existing and potential actions that state agencies can take to continue to develop guidance.

Tools and metrics: The state can increase message consistency by encouraging all communicators and agencies to use the same tools and metrics to assess heat risk. Multiple interviewees recommended using the National Weather Service's HeatRisk tool (as discussed under Recommendation 2.6). The state endorses the use of this tool as the best practice for identifying extreme heat events, per the Extreme Temperature Response Plan.¹⁸ The California Department of Public Health uses the tool to inform guidance for schools, local health jurisdictions, and others. However, when the AB 2238 heat wave ranking system is developed, state agencies may shift to use this more

California-specific tool. It will be important for the state to maintain consistency if this shift occurs. (See page 3 for more about AB 2238.)

Funding and resources: While California is increasingly devoting resources to respond to heat, more dedicated funding for heat management and communications is needed. This funding would be especially helpful if it were to support groups and individuals who share heat information directly with affected audiences (trusted messengers, healthcare providers, and even local government staff), many of which are overworked and under-resourced. The California Strategic Growth Council's Community Resilience Center Program could be a good way for the state to provide some support on heat; program administrators could consider requiring the centers to provide heat mitigation resources.

Recommendation 4.3: Local communicators are best placed for highly tailored, community-specific outreach

To adequately customize and tailor messaging, local governments and communicators need to be at the forefront. Federal and state agencies can't realistically reach every community with tailored information: locals are better positioned to communicate about specific local risks and resources. Local governments and community-based organizations are likely to have more knowledge of the communities they serve and more ability to provide granular information about resources and threats specific to neighborhoods. While federal and state communicators can certainly reach out to audiences directly, they may mostly provide more general guidance, while locals give the most tailored information.

18 Ghilarducci, ["Extreme Temperature Response Plan"](#) (2022; page 26)

Recommendation Area 5: Take multiple approaches to evaluate the effectiveness of communications, with community knowledge at the center

Recommendation 5.1: Conduct more research to concretely assess how communication improves outcomes

Evaluating the impacts of communications strategies is challenging, and many interviewees said they are not able to evaluate their campaigns thoroughly. For example, it is difficult to assess how communication efforts affect public health outcomes from heat due to a lack of data, methods, and resources. An interviewee noted that even when it is possible to track the outcomes of heat waves (for example, reduced mortality or other improvements), it can be difficult or impossible to link those outcomes to communication efforts as the cause. This and other barriers to evaluation are also detailed in the literature.¹⁹

Continuing to build a better understanding of how communication can improve heat outcomes will require additional research. Both empirical, quantitative analysis and community-based, qualitative analysis are needed to answer important questions, such as the following:

- » How can communication (both public education and two-way dialogue between communities and decision-makers) reduce heat harms?
- » How can communications motivate people to take action to reduce heat risk when they can do so?
- » Which tactics and channels are best suited to reach each heat-impacted community?

Direct collaboration with impacted communities is essential to better answer these questions — even if quantitative data on health and other heat impacts are available, per the next recommendation.

Recommendation 5.2: Work toward comprehensive, centralized data collection and sharing

The lack of unified, formalized data collection and sharing is a core barrier to causal evaluation of heat communications. In some cases, data collection and sharing are improving as heat is more formally recognized as a serious threat. For example, one interviewee said that Arizona's recent [emergency declaration for heat](#) will improve data sharing. However, more accessible, comprehensive data is needed to evaluate heat communication efforts and how they can be integrated with dedicated resources and public support to improve health and well-being when temperatures rise.

Recommendation 5.3: When formal evaluation is not possible, assess the success of campaigns through strategic, targeted data collection and analysis

In the absence of funding for large-scale statistical studies and comprehensive data collection efforts, smaller evaluations can be useful for shaping communication strategies. Interviewees noted that they have received helpful feedback through word-of-mouth and by

¹⁹ VanderMolen, Kimutis, and Hatchett, "[Recommendations for Increasing the Reach and Effectiveness of Heat Risk Education and Warning Messaging](#)" (2022).

surveying people who use heat resources, such as cooling centers, to understand where they learned about resources. With scarce resources, balancing the benefits and costs of evaluation is important.

For the #HeatSafeLA campaign, the Los Angeles Regional Collaborative for Climate Action and Sustainability (LARC) is evaluating each social media post, and tracking how audiences

respond, by cross-referencing the number of reposts, likes, and comments, tallying not only responses to LARC's own posts but across all campaign partners' platforms. Although engagement and reach are not direct measures of tactics' effectiveness, by tracking each post, LARC is learning what type of content performs best and can adjust messaging in response.

Conclusion

Inclusive, effective, and coordinated public information campaigns about heat save lives. To achieve these ideals, communicators must employ targeted tactics, share tailored information, and coordinate efforts.

Perhaps most importantly, they must work closely with those most impacted by heat, creating dialogue through which they can not only share information, but also learn what information communities need — and what other resources they require to adapt to rising temperatures.

Identifying where people truly lack information and better communication is needed — and where communication is already effective but resources are insufficient to mitigate heat risk — is a crucial part of communication efforts and heat management more broadly.

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Appendix: Interview Details

Below is a list of experts and practitioners interviewed for this report. Please note that none of these individuals speak on behalf of their organizations or agencies — organizations are listed for identification purposes only.

TABLE A

Interview Details

Interviewee(s)	Organization	Date of Interview	Approx. duration
Marc Courdert	City of Austin, Texas	November 27, 2023	30 min
Louis Blumberg	ClimateResolve	November 27, 2023	45 min
Yumi Sera and Lori Hanley	California Governor’s Office of Planning and Research	November 27, 2023	45 min
Melissa Guardaro	Arizona State University	November 28, 2023	45 min
Deborah Halberstadt	California Department of Insurance	November 29, 2023	45 min
Jane Gilbert and Ludovica Martella	Miami-Dade County, Florida	November 29, 2023	60 min
Ali Frazzini	Los Angeles County	November 30, 2023	45 min
John Dumas	National Weather Service	November 30, 2023	30 min
Enrique Huerta and Erick Huerta	ClimateResolve	December 1, 2023	45 min
Elizabeth Rhoades and Daniel Woo	California Department of Public Health	December 1, 2023	45 min
Erin Coutts	The Los Angeles Regional Collaborative for Climate Action and Sustainability	December 5, 2023	60 min
Cheyne Flores	City of Philadelphia, Pennsylvania	December 5, 2023	45 min
Braden Kay	California Governor’s Office of Planning and Research	December 6, 2023	30 min
Tori Kjer	Los Angeles Neighborhood Land Trust	December 6, 2023	15 min
Joyce Coffee	Climate Resilience Consulting	December 12, 2023	30 min



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