



LIVE WELL  
SAN DIEGO

# 2024 Annual Excessive Heat Report



County of San Diego  
Health and Human Services Agency  
Public Health Services

May 2026



# 2024 Annual Excessive Heat Report

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This document was developed by the Public Health Preparedness and Response Branch with contributions from the Community Health Statistics Unit, the Epidemiology and Immunization Services Branch, and the Emergency Medical Services Office, and is in support of *Live Well San Diego*.

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COUNTY OF SAN DIEGO  
HEALTH AND HUMAN SERVICES AGENCY



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# 2024 Annual Excessive Heat Report

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## Introduction

Heat-related deaths and illnesses are preventable, yet heat is the leading weather-related killer in the U.S.<sup>1</sup> During the heat seasons (May-September) of 2018 through 2023, there were 8,344 deaths due to heat-related illnesses in the United States.<sup>2</sup>

Extreme heat is defined as temperatures that are much hotter and/or humid than average for a particular location and for the time of year. Extreme heat events are becoming more frequent due to the warming of our planet. Prolonged hot weather can cause dehydration and increase the body's core temperature, making it difficult for the body to function normally.

In an excessive heat event, the Public Health Preparedness and Response (PHPR) branch of the County of San Diego Health and Human Services Agency is responsible for coordinating response efforts with other County departments and external partners to disseminate information relevant to the heat emergency to the public. San Diego County experienced 9 heat events during 2024, occurring between July and October. The tables and figures contained in this report show the number of activations year-to-year; prehospital data and outcomes, provided by County of San Diego Emergency Medical Services (EMS); medical encounter and death data; and the outreach efforts that County Communications Office (CCO) completed. An appendix is included with trended health data for the years through 2023.



## Historical Assessment: Heat Alerts Issued by Year

Three phases of the *Excessive Heat Response Plan (EHRP)* are recognized.<sup>3</sup>

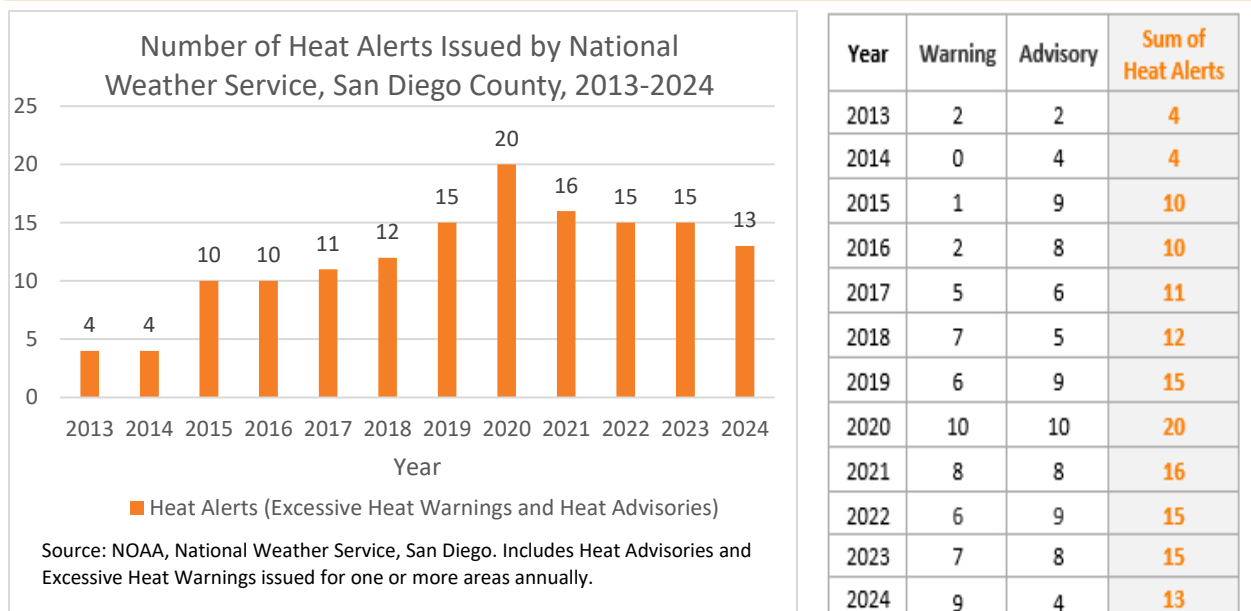
- **Phase I:** Seasonal Readiness
- **Phase II:** Heat Alert (Advisories)
- **Phase III:** Heat Emergency (Warnings)

Phase I is dedicated to planning and awareness, while Phases II and III are initiated based on Heat Advisory and Excessive Heat Warnings, collectively called heat alerts, from the National Weather Service (NWS). When the County of San Diego receives this information, Public Health Services (PHS) initiates the activation procedures.

During the past decade, the region has seen increasing temperatures, evidenced by an increased number of heat alerts. With increasing temperatures due to climate change, even in the coastal areas, it is vital to adequately prepare for excessive temperatures.

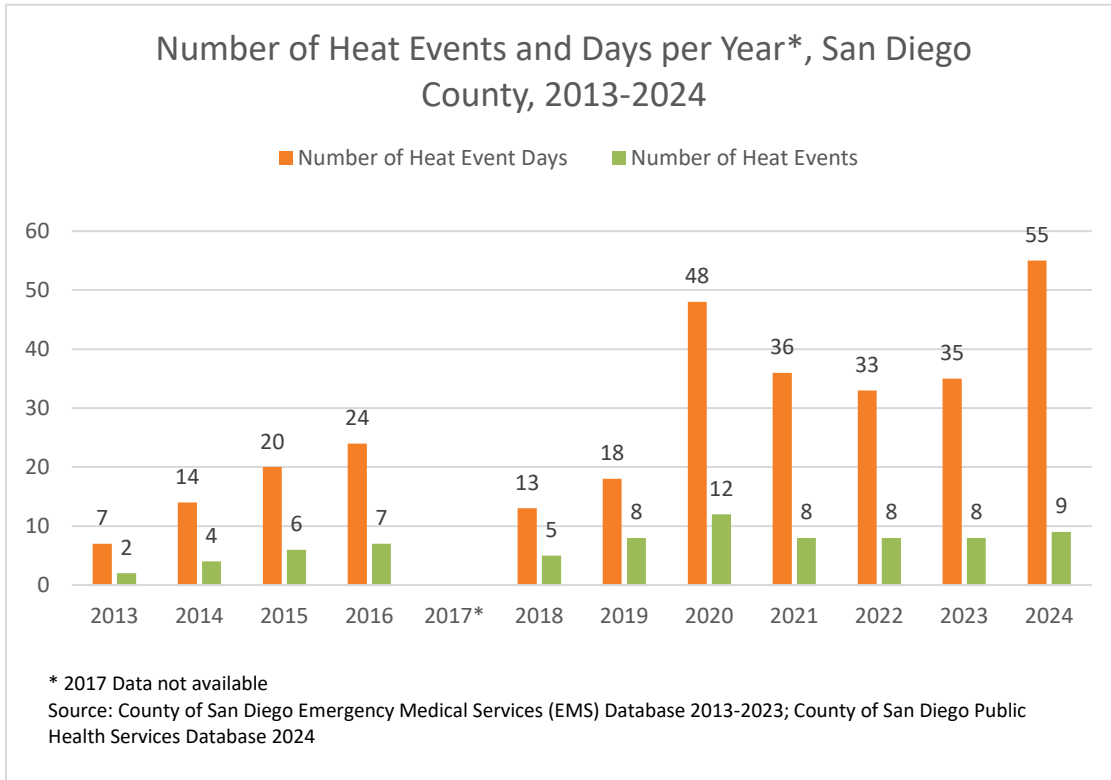
When temperatures are forecast to be significantly above normal, as compared to a 30-year climatology average, the NWS will issue a heat alert for the area (climate zone) at risk. If temperatures are anticipated to be excessively hot, NWS issues an Excessive Heat Warning, the highest alert level. When temperatures are significantly higher than normal, but not the most extreme, a lower-level alert, the Heat Advisory, will be issued. **Figure 1** shows that over the past twelve years, the combined number of Excessive Heat Warnings and Heat Advisories has generally increased from 2013 through 2024. The highest numbers of heat alerts were issued by NWS in 2020 (20) and 2021 (16).

**FIGURE 1: NUMBER OF HEAT ALERTS ISSUED.**



Since heat alerts are issued for affected areas within the county, there may be multiple heat alerts issued by NWS for a single heat event. Overall, the *heat event* indicates the weather condition in which the *EHRP* (Excessive Heat Response Plan) is activated to Phase II or III. In 2024, NWS issued thirteen heat alerts – nine Excessive Heat Warnings and four Heat Advisories – for San Diego County, which resulted in nine heat events that lasted a total of 55 days. The number of events was higher than the previous three years, with a significantly higher number of heat event days, as seen in **Figure 2**. Notably, 2024 had more than 8 times the number of heat event days as 2013.

FIGURE 2: NUMBER OF HEAT EVENTS AND DAYS PER YEAR.



Typically, heat events occur from June through September. In 2024, heat events occurred during those months, with 22 of the 55 total heat event days occurring in the month of July. **Table 1** shows the number of days in a heat event, by month, from 2013 to 2024.

TABLE 1: NUMBER OF DAYS IN HEAT EVENT BY YEAR AND MONTH.

	2013	2014	2015	2016	2017*	2018	2019	2020	2021	2022	2023	2024	Total
January	0	0	0	0	*	0	0	0	0	0	0	0	0
February	0	0	0	0	*	0	0	0	0	3	0	0	3
March	0	0	0	0	*	0	0	0	0	0	0	0	0
April	0	0	0	0	*	0	0	7	0	3	0	0	10
May	0	4	0	0	*	0	0	8	0	0	0	0	12
June	3	0	6	13	*	2	2	4	12	7	0	12	61
July	3	2	0	6	*	8	4	5	5	5	21	22	81
August	0	0	6	2	*	3	8	12	9	2	9	4	55
September	1	5	4	3	*	0	2	6	10	13	2	9	55
October	0	3	4	0	*	0	2	6	0	0	3	8	26
November	0	0	0	0	*	0	0	0	0	0	0	0	0
December	0	0	0	0	*	0	0	0	0	0	0	0	0
<b>Total</b>	<b>7</b>	<b>14</b>	<b>20</b>	<b>24</b>	<b>*</b>	<b>13</b>	<b>18</b>	<b>48</b>	<b>36</b>	<b>33</b>	<b>35</b>	<b>55</b>	<b>303</b>

\* 2017 Data not available

Source: County of San Diego Emergency Medical Services (EMS) Database 2013-2023; County of San Diego Public Health Services (PHS) Data 2024

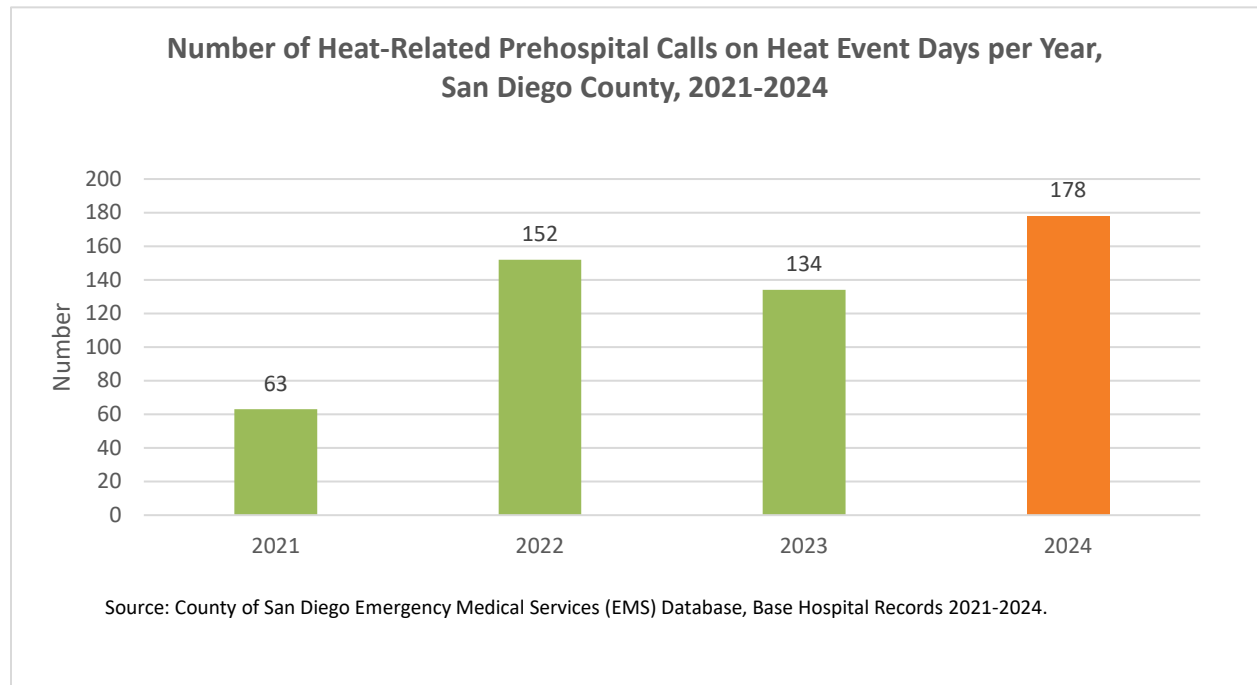
## Prehospital Calls Related to Excessive Heat

During extreme or excessive heat events, the risk of heat-related illnesses increases. Heat illness occurs when the body cannot cool down. The body normally cools itself by sweating; however, sometimes that is not enough. In excessive heat, especially when humidity is high, sweat does not evaporate as quickly, and the body must work harder to maintain its normal temperature. Other factors can also contribute to how our body regulates temperature, such as age, health conditions, and medication or drug use.<sup>1</sup>

Prehospital care is an essential part of emergency health care that is frequently initiated by a 911 call to a dispatch center. Trained personnel, such as emergency medical technicians (EMT) and other emergency medical services (EMS) responders triage, treat, and transport the patient(s) to the appropriate health care facility, where definitive care is ultimately provided.<sup>4</sup>

In 2024, there were 178 heat-related prehospital calls on heat event days, which was an increase from the number of calls in 2023, as seen in **Figure 3**. This was an average of 3.2 heat-related prehospital calls on heat event days, which is similar to the overall (multi-year) average of 3.3.

FIGURE 3: NUMBER OF HEAT-RELATED PREHOSPITAL CALLS ON HEAT EVENT DAYS PER YEAR.



**Table 2** shows how many calls were made for each heat event. The heat events starting on June 30 and July 19, 2024, were the longest events, with 32 and 23 calls, respectively. The event starting September 4, 2024, had the most calls at 75 calls in seven days. This corresponds to a period of significant excessive heat in San Diego County. Over the course of the nine heat events, 87% of individuals were transported to an emergency department (ED).

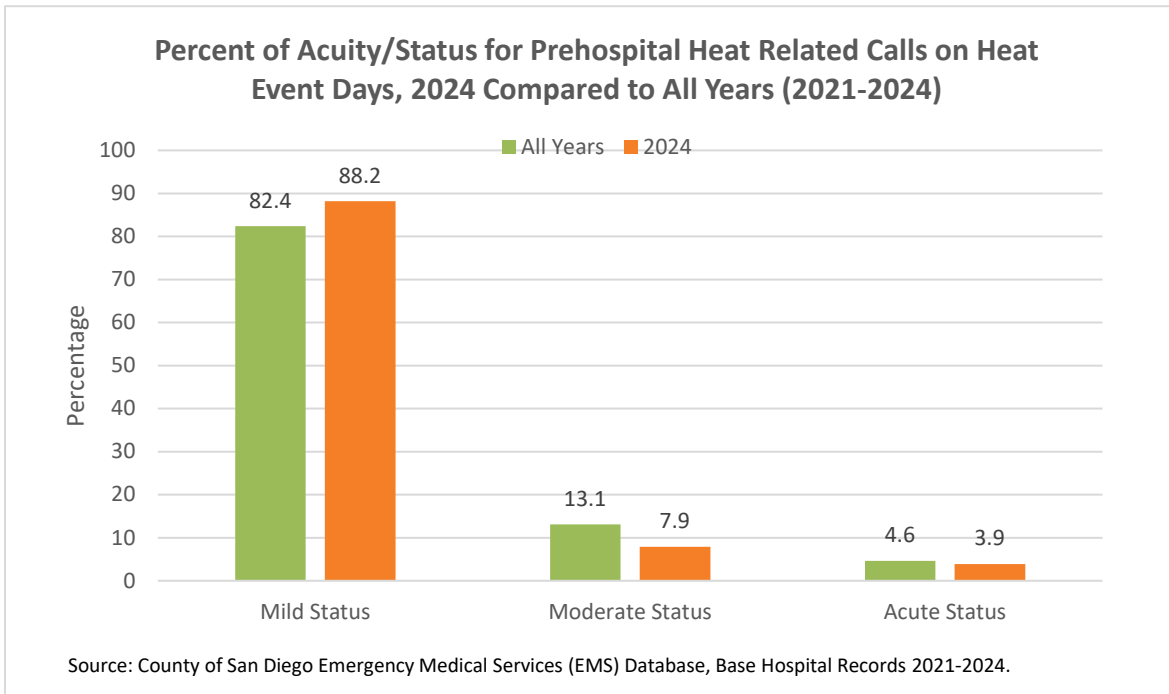
TABLE 2: PREHOSPITAL CALLS RELATED TO EXCESSIVE HEAT, SAN DIEGO COUNTY, 2024.

Heat Event Start Date	Length of Event (days)	Total Calls	Run Outcome	Run Outcome Count
6/5/2024	3	1	Transported to Hospital	1
			No Transport	0
6/14/2024	2	4	Transported to Hospital	3
			No Transport	1
6/22/2024	6	21	Transported to Hospital	18
			No Transport	3
6/30/2024	15	32	Transported to Hospital	28
			No Transport	4
7/19/2024	8	23	Transported to Hospital	14
			No Transport	9
8/3/2024	4	13	Transported to Hospital	13
			No Transport	0
9/4/2024	7	75	Transported to Hospital	69
			No Transport	6
9/27/2024	2	3	Transported to Hospital	2
			No Transport	1
10/1/2024	8	6	Transported to Hospital	6
			No Transport	0

Data compiled and reported by County of San Diego Emergency Medical Services (EMS), Base Hospital Records. Dates only include days when a heat event occurred; not every month has a heat event.  
 NOTE: Run Outcomes exclude Blank, Other, Transported to landing zone

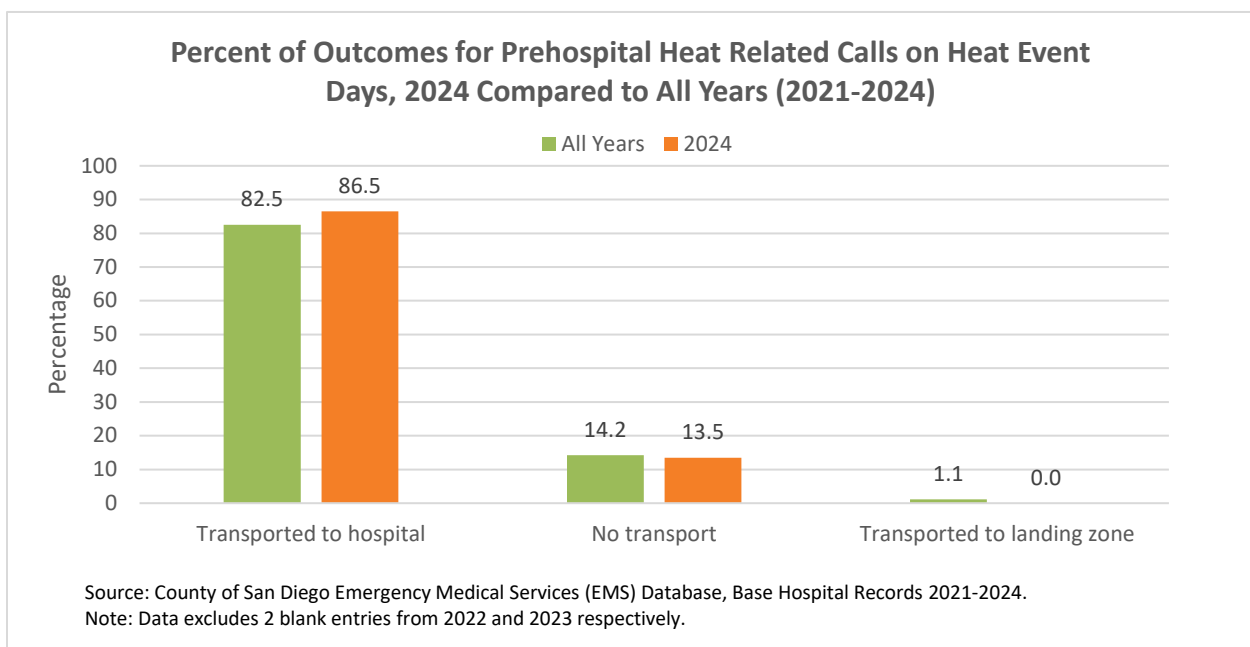
When first responders arrive for prehospital calls, they record the severity of the call. **Figure 4** shows that the percentage of mild acuity/status for prehospital heat-related calls for 2024 was slightly higher than the overall percent between 2021 and 2024 (88.2% compared to 82.4%) and moderate and acute status were proportionately lower.

FIGURE 4: PERCENT OF ACUITY/STATUS FOR PREHOSPITAL HEAT-RELATED CALLS ON HEAT EVENT DAYS.



Outcomes for prehospital heat-related calls for 2024 were similar to previous years and the overall percent (**Figure 5**). Most calls (86.5%) resulted in transportation to an emergency department (ED).

FIGURE 5: PERCENT OF OUTCOMES FOR PREHOSPITAL HEAT-RELATED CALLS ON HEAT EVENT DAYS.

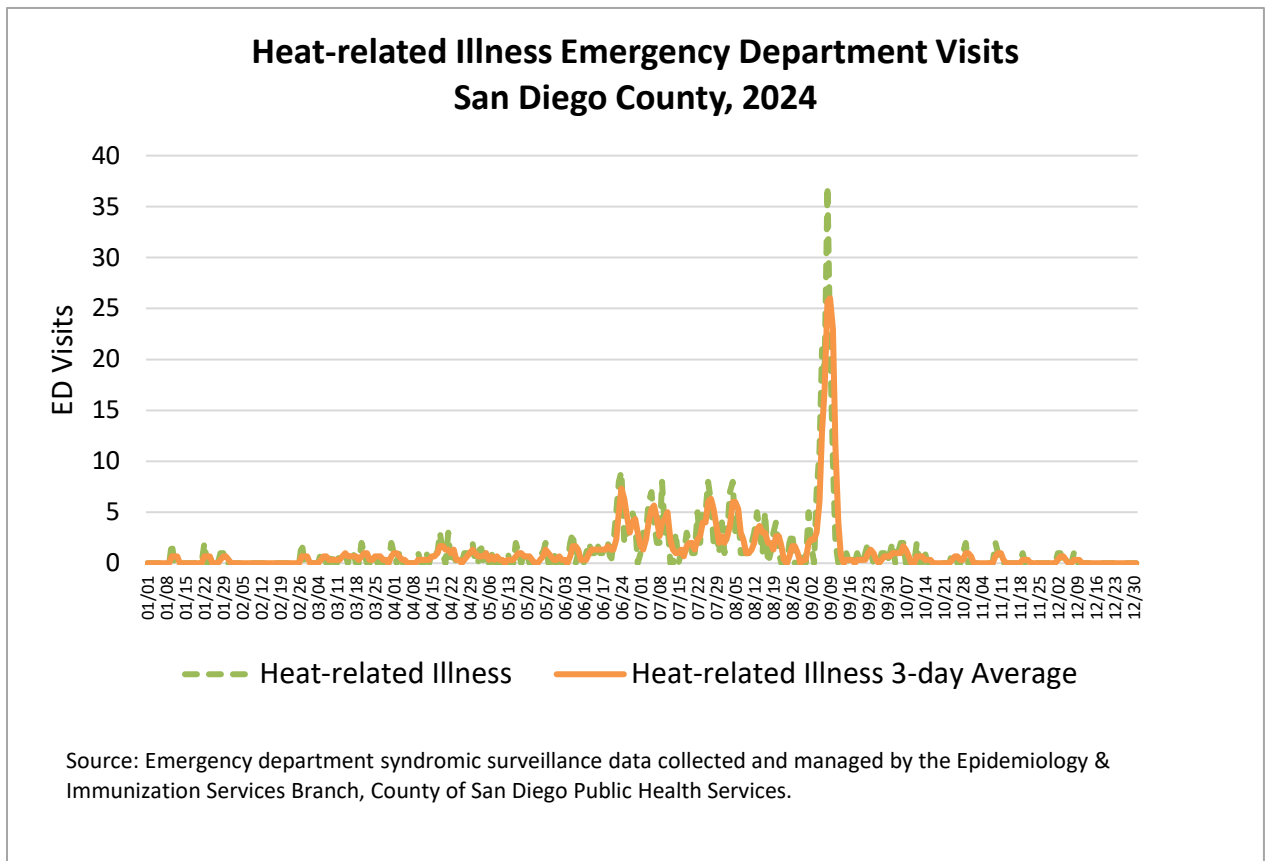


## Trends in Medical Encounters and Death Due to Heat Illness or Injury

### SYNDROMIC SURVEILLANCE (DAY-TO-DAY MONITORING)

Throughout 2024, there were increased emergency department (ED) visits due to heat-related illness surrounding heat event days. **Figure 6** shows increased ED visits due to heat-related illness in June through September, with a significant spike in September corresponding to the September 4-10 heat event.

FIGURE 6: HEAT-RELATED ILLNESS EMERGENCY DEPARTMENT VISITS.



### HISTORICAL TRENDS

Historical trends in emergency department discharge, hospitalization, and death due to heat illness or injury are shown in the appendix. The health data available through 2023 (the most recent data available to trend) show an upward trend in the number of residents experiencing heat illness or injury during May to September.

## Emergency Department

Between 2006 and 2023, there were 3,449 ED discharges for heat illness/injury among San Diego County residents (**Appendix A**). The average number of discharges per year was 192. There were 158 ED discharges due to heat illness/injury reported in 2023. This was a 30% decrease in the number of ED discharges from the year prior (227).

## Hospitalization

Between 1991 and 2023, there was a total of 827 hospitalizations for heat illness/injury (**Appendix B**). The average number per year was 25. There were 41 hospital discharges due to heat illness/injury reported in 2023. This was a 30% decrease in the number of hospital discharges from the year prior (59).

## Death

Between 1991 and 2023, there were 99 heat illness/injury deaths among San Diego County residents (**Appendix C**). On average, there were 3 deaths per year. In 2021, there were 8 deaths, the highest number of deaths from heat illness/injury since 1991, followed by 7 deaths in both 2022 and 2023.

## Infectious Disease Prevention and Control at Cool Zones

The Cool Zones program is a network of free, air-conditioned settings across the county, including San Diego County libraries and County of San Diego Parks and Recreation spaces, available to anyone looking to escape excessive heat. This program was launched out of concern for older adults, persons with disabilities, and those with health conditions leading to increased heat illness risk. Cool Zones are also a way for residents to lower individual utility usage and help conserve energy for the whole community.

During a heat event, there is potential for a congregating of people indoors at Cool Zones, increasing risk of infectious disease transmission. The following recommendations are provided in the Extreme Heat Response Plan for the prevention and control of infectious diseases at Cool Zones.

1. Maintain Good Hygiene

Wash your hands often with soap and water for at least 20 seconds, especially after you have been in a public place, or after blowing your nose, coughing, or sneezing.

2. Stay Current on All Recommended Vaccinations

Regardless of age, regularly consult with your medical provider on appropriate vaccinations, including flu and COVID-19, as well as booster vaccinations.

### 3. Mask and Social Distance If You Have Medical Concerns

If you are at greater risk for medical complications or are otherwise concerned about becoming sick, take additional precautions, even if your vaccinations are current:

- Wear a good-quality, well-fitting mask around others, particularly in indoor public settings and/or where multiple people are present.
- Attempt to socially distance where possible from others not in your household to reduce exposure risk.

## County Communications Office Excessive Heat Outreach Activities

The County Communications Office (CCO) recognizes the importance of communicating directly with the public about programs and services that add value to their health, safety, neighborhood, and environment. To that end, CCO uses a variety of communication tools including social media, the County Website, and traditional media to keep San Diegans informed. When excessive heat is expected, the County Communications Office works with Public Health Services and other County departments to determine public messaging and whether those messages will be delivered via social media, news release, or both.

Examples of social media communications are shown in **Figures 13-15**. These examples provide up-to-date Cool Zone information as well as tips for keeping yourself and your pet cool during heat events.

### FIGURES 13-15: SOCIAL MEDIA COMMUNICATIONS DURING HEAT EVENTS.



Information and resources are posted to the County’s X/Twitter ([@SanDiegoCounty](#)), Instagram ([@countyofsandiego](#)), and Facebook ([County of San Diego - Government](#)) accounts.

CCO also publishes articles to the [County News Center](#). These articles alert readers to upcoming extreme heat events and provide information about how to stay safe, reaching an estimated 1,000 to 2,500 people for each heat-related article. Links are embedded into the articles to direct people to Cool Zone sites, to learn the signs of heat illness, and to learn general safety tips, among other topics. Examples of County News Center articles are shown in **Figures 16-17**.

FIGURE 16-17: COUNTY NEWS CENTER ARTICLES DURING HEAT EVENTS.

HEALTH

## The Heat is On, Here are Tips on How to Protect Yourself

Jul. 3, 2024 | 9:46 AM

Reading Time: 2 minutes

Summer and even the fall months in San Diego County can bring extremely high temperatures that can be dangerous to people and pets. So, here are tips that can help keep you, your friends and loved ones safe!




PUBLIC SAFETY

## Exercise Safety First When Hiking in the Heat

Jun. 26, 2024 | 10:11 AM

Reading Time: 3 minutes

There are hundreds of hiking trails available to San Diego County residents and visitors, but it can be dangerous, and even deadly, to not take the heat into consideration before lacing up your boots.



## Conclusion

As temperatures, and subsequent excessive heat events, increase, the County of San Diego's focus is on preventing adverse health effects in an equitable manner for all residents. Typically, heat events occur from June through September. The 2024 heat season kicked off in June and peaked in July with 22 of the 55 heat event days occurring that month. There was a total of nine heat events, the longest event lasting 14 days.

The health effects of increasing heat events are evident. In 2024, there were 178 heat-related prehospital calls on heat event days. Over the course of the nine heat events, 86.5% of individuals were transported to an emergency department (ED). Historical surveillance, updated through 2023, continues to show an upward trend in ED visits and hospitalizations among residents experiencing heat illness or injury. Between 2022 and 2023, there have been 14 deaths due to heat illness/injury.

The County Communications Office continues to provide public messaging to social media and news to alert San Diegans to upcoming hazards. Opening Cool Zones is an additional strategy to address excessive heat. The County continues to support infectious disease prevention and control by providing best practices to Cool Zones in the Excessive Heat Response Plan, publicly available on the County website.

There are several ways to keep yourself and those around you safe during heat events to prevent heat-related illnesses and injuries.<sup>7</sup>

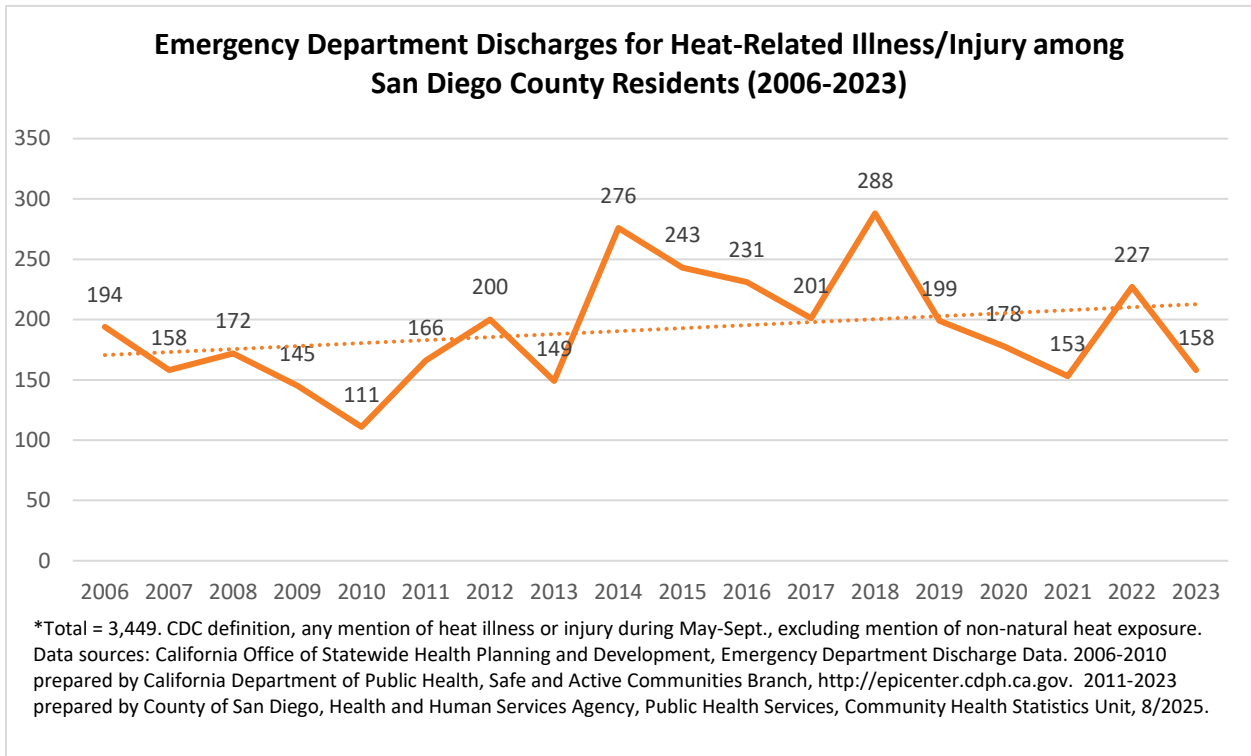
- Stay somewhere cool or get to one of the Cool Zones.
- Take a cold shower or bath.
- Stay hydrated and drink plenty of water.
- Avoid drinks that contain alcohol, caffeine, and lots of sugar.
- Wear light clothing and hats.
- Avoid being outdoors during hottest part of the day (10am-4pm).
- Avoid strenuous activity.
- Do not leave children in cars on hot days.
- Do not leave pets in cars.
- Check in on neighbors, family, or friends at increased risk, especially if they live alone.

## Sources

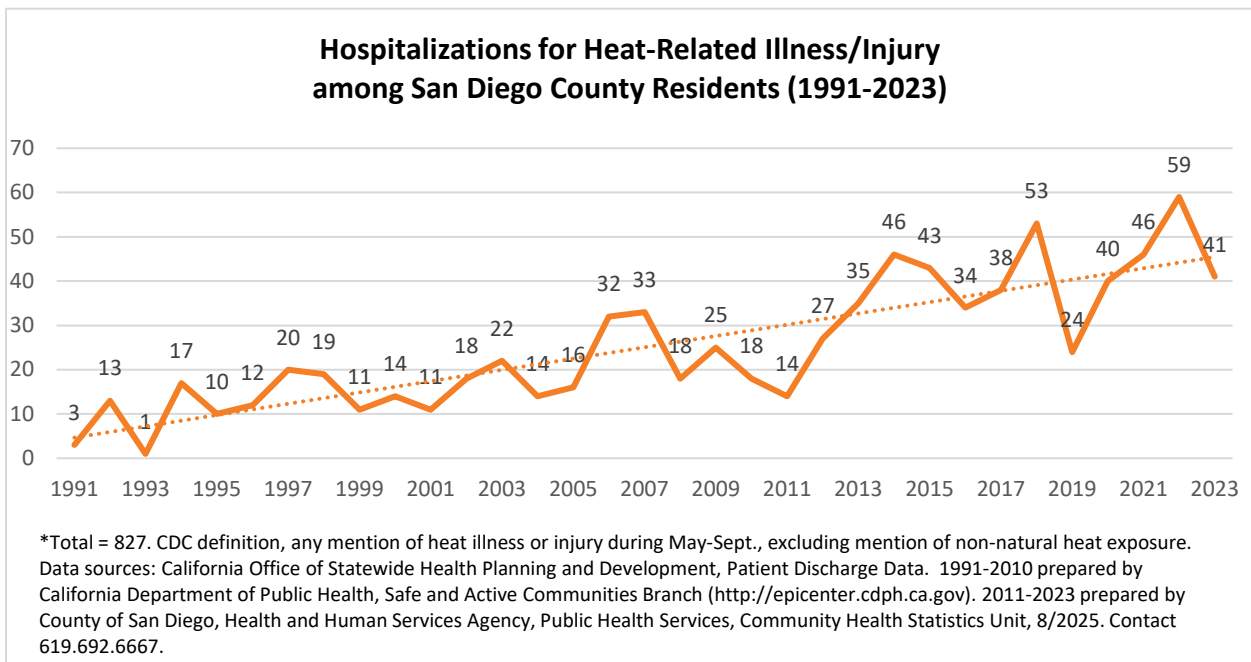
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## Appendix: Historical Trends Through 2023

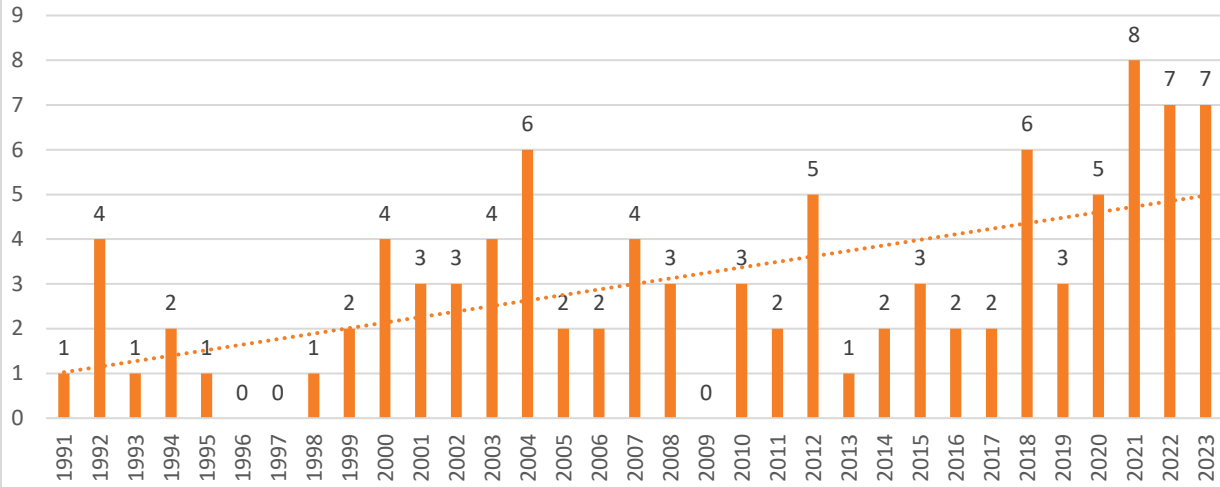
### APPENDIX A: EMERGENCY DEPARTMENT DISCHARGES FOR HEAT ILLNESS/INJURY AMONG SAN DIEGO COUNTY RESIDENTS (2006-2023).



### APPENDIX B: HOSPITALIZATIONS FOR HEAT ILLNESS/INJURY AMONG SAN DIEGO COUNTY RESIDENTS (1991-2023).



### Heat-Related Illness/Injury Deaths among San Diego County Residents (1991-2023)



\*Total = 99. CDC definition, any mention of heat illness or injury during May-Sept., excluding mention of non-natural heat exposure. The COVID-19 pandemic was associated with increases in all-cause mortality. COVID-19 deaths have affected the patterns of mortality including deaths from heat illness/injury.

Sources: California Department of Public Health (CDPH), Vital Statistics Death Statistical Master Files for California Department of Public Health, Injury and Violence Prevention Branch. 1991-2020. CDPH, Center for Health Statistics, Office of Health Information and Research, Vital Records Business Intelligence System, 2021, 2022. Prepared by County of San Diego, Health and Human Services Agency, Public Health Services, Community Health Statistics Unit, 8/2025. Contact 619.692.6667.