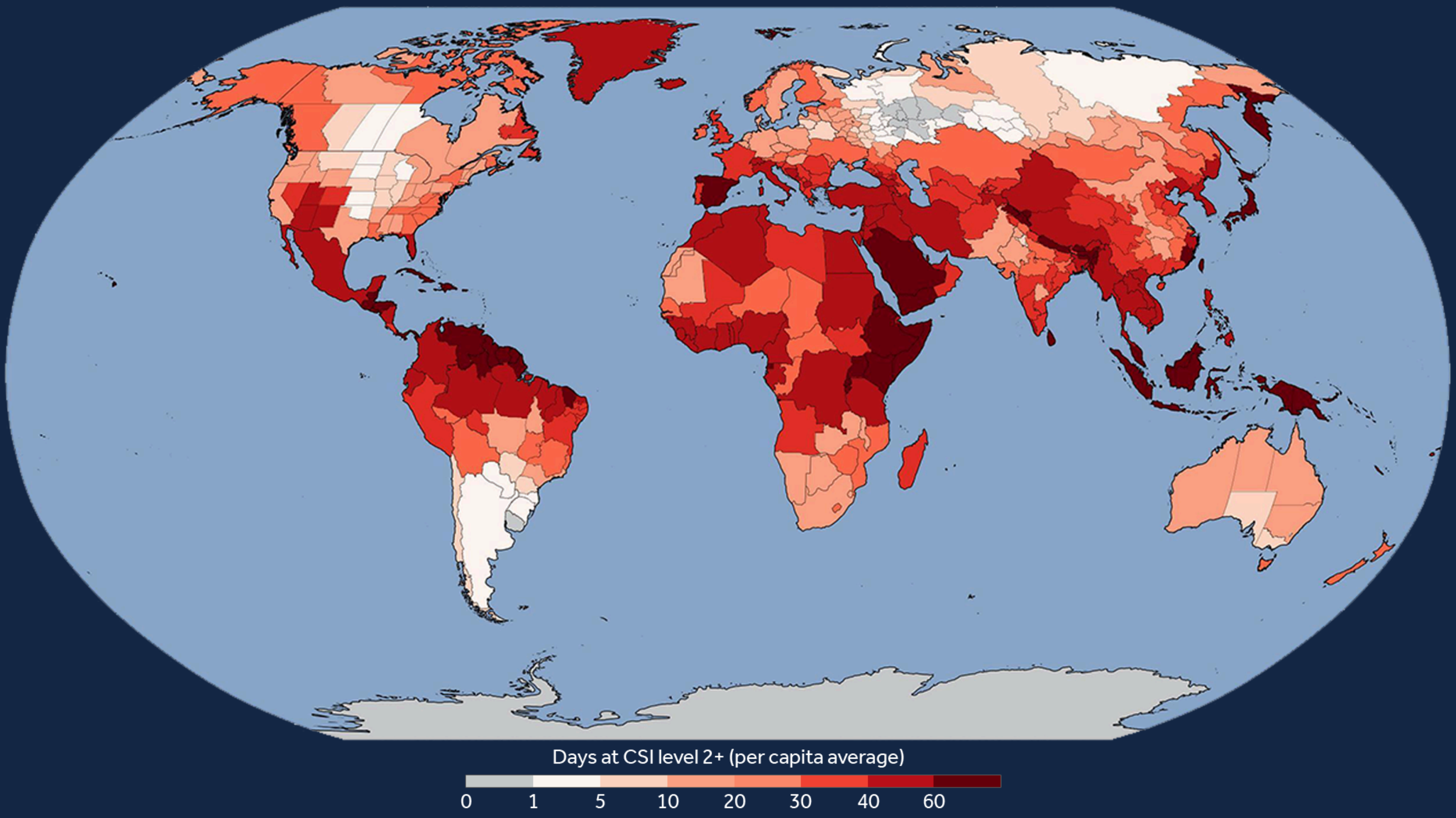
# People Exposed to Climate Change: June-August 2025

A Climate Central seasonal analysis of how climate change boosted temperatures worldwide between June-August 2025




CLIMATE CENTRAL

September 17, 2025

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## KEY FACTS

During the past three months (June, July, and August), the effects of human-induced climate change — mainly from burning coal, oil, and methane gas — were evident in most regions of the world, particularly in the form of extreme heat. This analysis uses Climate Central's Climate Shift Index (CSI) to determine the influence of climate change on temperatures around the globe during this period.

Key findings include:

- Every day from June to August 2025, at least one in five people on the planet felt a strong climate change influence.

- Nearly 955 million people experienced 30 or more days of risky heat added by climate change during the last three months. Risky heat days are days with temperatures hotter than 90% of the temperatures recorded in a local area from 1991 to 2020. Heat-related health risks rise when temperatures climb above this local threshold.

- In 183 countries, the average person experienced at least 30 days with temperatures strongly influenced by climate change. The largest share of these countries is in Asia.

- Cities in Europe and Asia top the list of locations where the average person experienced the most unusual heat this season.

## DATA

➢ **Download data** for June 1 to Aug. 31, 2025, for 240 countries, territories, and dependencies and 940 cities around the world.

➢ **Explore interactive maps and rankings** for countries and cities across six continents.

# INTRODUCTION

Humans have increased Earth's temperature, mainly by burning coal, oil, and methane gas. This heat-trapping pollution has caused global temperatures to rise by about 1.3°C (2.2°F) compared to pre-industrial (1850-1900) levels.

From June through August 2025, the effects of carbon pollution were evident in nearly all regions of the world, particularly in the form of extreme heat. See the ***Heat and Beyond*** box below.

This report documents how human-caused climate change influenced temperatures during this three-month period for people worldwide. We analyzed three measures of heat exposure:

1. **Climate Shift Index (CSI) values:** Developed by Climate Central's scientists, this metric quantifies the local influence of climate change on daily temperatures. People primarily experience climate change through shifts in daily temperatures and weather patterns where they live. Positive CSI levels (1 to 5) indicate temperatures that are increasingly likely because of climate change. This analysis focuses on the average person's experience of unusually warm conditions *strongly* influenced by climate change (CSI level 2 or higher).

2. **Risky heat days:** Risky heat days are days with temperatures hotter than 90% of those observed in a local area over the 1991-2020 period. Heat-related health risks rise when temperatures climb above this local threshold.

3. **Temperature anomalies:** Temperature anomalies show how much warmer or cooler conditions were than the 1991-2020 average. Note that the 1991-2020 baseline already includes about 0.9°C (1.6°F) of warming above pre-industrial levels. Temperature anomalies highlight conditions that people would recognize as unusual. We also refer to anomalies as "temperature differences from normal."

See ***Methodology*** for more details on the measures above. In this analysis, we look at the number of people exposed to temperature anomalies, days at CSI level 2 or higher, and risky heat days in 240 countries, territories, and dependencies (referred to as "countries" in the rest of the report for simplicity) and 940 global cities. We calculated the country-level temperature anomalies and days at CSI 2 or higher as per capita averages, which allows us to more accurately represent the average person's experience of extreme heat.

# RESULTS

## Every day, at least one in five people on the planet experienced a strong climate change influence.

- Each day from June 1 to Aug. 31, 2025, at least 1.8 billion people — 22% of the global population — experienced temperatures made at least twice as likely because of climate change (CSI level 2 or higher).

- Global exposure peaked multiple times during this period — on July 19, Aug. 10, and Aug. 12, around 50% of the global population (about 4.1 billion people) experienced temperatures strongly influenced by climate change (CSI level 2 or higher) each of these days.

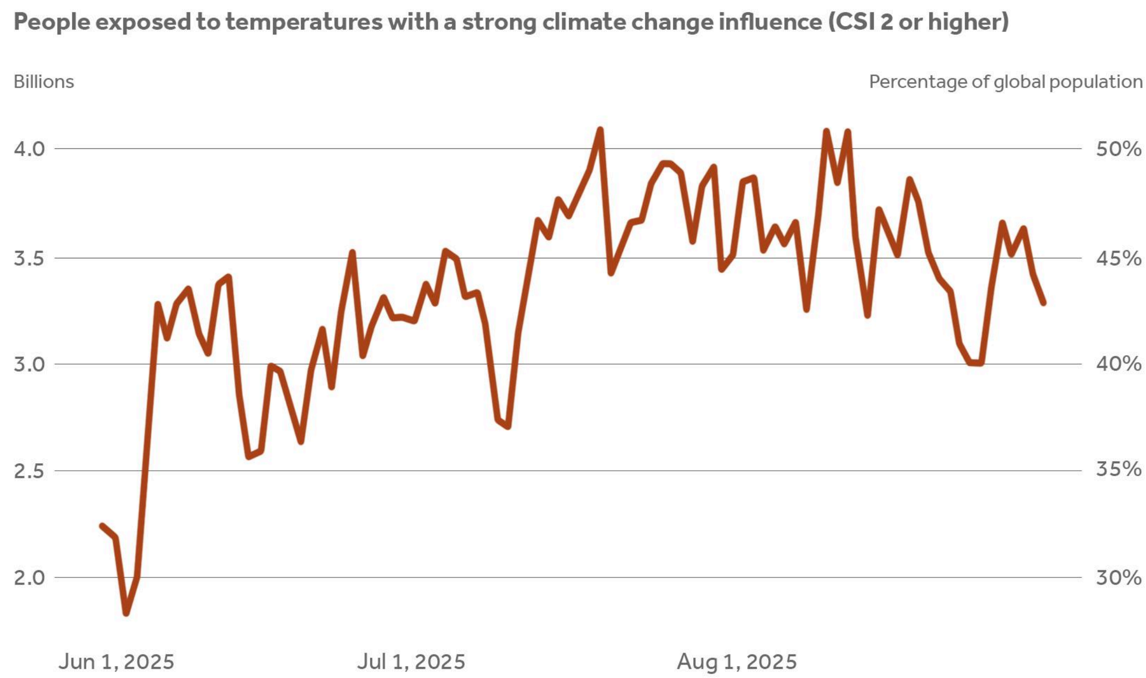


**Figure 1.** Daily global population exposed to temperatures with a Climate Shift Index (CSI) level 2 or higher during the period of analysis (June 1 to Aug. 31, 2025). Analysis based on ECMWF ERA5 data and the Climate Shift Index system. Produced Sept. 8, 2025.

## Climate change increased risky heat — especially for people in Asia

**Risky heat days** are days with temperatures hotter than 90% of temperatures observed in a local area over the 1991-2020 period, also referred to as temperatures above the 90th percentile. See ***Methodology*** for details.

- From June to August 2025, the average person on the planet experienced about 27 days of risky heat, and 17 of those were because of climate change.

- **Nearly 955 million people experienced 30 or more days of risky heat added by climate change**. Most of these people (613 million, or 64%) live in Asia (Table 1).

- Countries across Asia, Europe, and North America experienced the most risky heat days added by climate change (Figure 2 and Table 2).

- Thirty-two U.S. cities (primarily located in the southern and western regions) experienced at least 30 additional risky heat days because of climate change (Table 3).

*Explore the **full dataset** or **interactive maps** for details on specific countries and cities.*

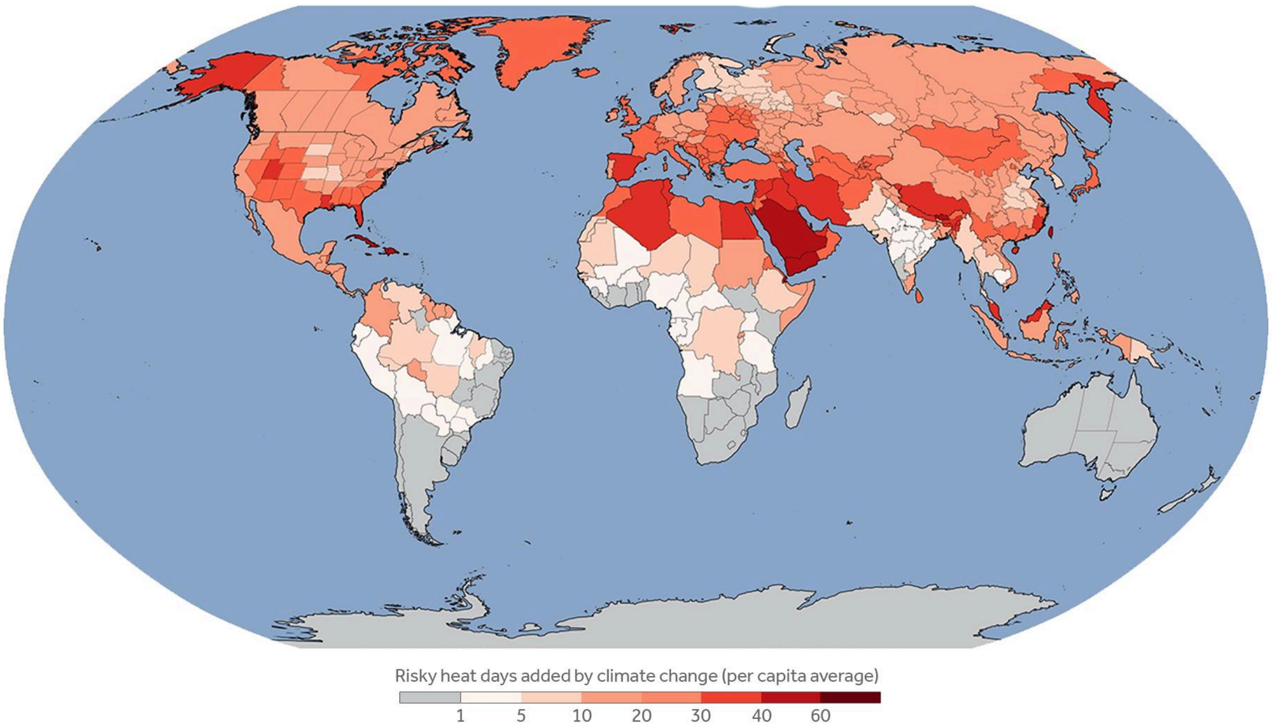


**Figure 2.** Additional days, from June 1 to Aug. 31, 2025, with temperatures above the 90th percentile (risky heat days), because of climate change. Presented as per capita averages for countries and states. Analysis based on ECMWF ERA5 data and the Climate Shift Index (CSI) system. Data for Antarctica were not included in the analysis. Produced Sept. 8, 2025.

**Table 1**
*Countries with the most people exposed to risky heat days added by climate change*

| Country | Continent | People exposed to 30+ days of risky heat (% of country population) | People exposed to 30+ days of risky heat added by climate change (% of country population) |
|---|---|---|---|
| China | Asia | 1.4 billion (96%) | 112 million (8%) |
| India | Asia | 136 million (10%) | 66 million (5%) |
| Egypt | Africa | 109 million (97%) | 64 million (57%) |
| Islamic Republic of Iran | Asia | 89 million (100%) | 61 million (69%) |
| Türkiye | Asia | 85 million (100%) | 49 million (58%) |
| United States of America | North America | 278 million (81%) | 42 million (12%) |
| Iraq | Asia | 43 million (100%) | 34 million (79%) |
| Algeria | Africa | 46 million (95%) | 34 million (71) |
| Saudi Arabia | Asia | 35 million (95%) | 34 million (91%) |
| Bangladesh | Asia | 57 million (34%) | 30 million (18%) |
| Spain | Europe | 46 million (98%) | 30 million (63%) |
| Yemen | Asia | 31 million (91%) | 29 million (84%) |
| United Kingdom | Europe | 69 million (100%) | 24 million (35%) |
| Indonesia | Asia | 26 million (9%) | 24 million (8%) |
| Taiwan | Asia | 24 million (100%) | 24 million (100%) |

*Note*: Risky heat days refer to days with temperatures hotter than 90% of temperatures observed in a local area over the 1991-2020 period. The analysis covers June 1 to Aug. 31, 2025, and is based on ECMWF ERA5 data and the Climate Shift Index (CSI) system. Country populations are estimates based on the U.S. Census Bureau's International Database and rounded to the nearest thousand in the data file, and the nearest million here.

**Table 2**
*Countries with the most risky heat days added by climate change*

| Country | Continent | Risky heat days | Risky heat days added by climate change |
|---|---|---|---|
| Jamaica | North America | 74 | 59 |
| Cayman Islands | North America | 66 | 59 |
| Haiti | North America | 66 | 56 |
| Jersey | Europe | 67 | 47 |
| Dominican Republic | North America | 60 | 47 |
| Cuba | North America | 54 | 46 |
| Yemen | Asia | 54 | 45 |
| Taiwan | Asia | 48 | 45 |
| Guernsey | Europe | 60 | 44 |
| Malta | Europe | 59 | 44 |

*Note*: Risky heat days refer to days with temperatures hotter than 90% of temperatures observed in a local area over the 1991-2020 period. The period of analysis is June 1 to Aug. 31, 2025, and is based on ECMWF ERA5 data and the Climate Shift Index (CSI) system.

**Table 3**
*U.S. cities with the most risky heat days added by climate change*

| City | State | Risky heat days | Risky heat days added by climate change |
|---|---|---|---|
| West Palm Beach | Florida | 60 | 49 |
| Anchorage | Alaska | 62 | 48 |
| Miami | Florida | 50 | 47 |
| San Juan | Puerto Rico | 49 | 46 |
| Grand Junction | Colorado | 62 | 44 |
| Salt Lake City | Utah | 56 | 44 |
| Lafayette | Louisiana | 55 | 42 |
| Gainesville | Florida | 55 | 41 |
| Tampa | Florida | 54 | 41 |
| Lake Charles | Louisiana | 48 | 40 |
| Corpus Christi | Texas | 44 | 40 |

*Note*: Risky heat days refer to days with temperatures hotter than 90% of temperatures observed in a local area over the 1991-2020 period. The period of analysis is June 1 to Aug. 31, 2025, and is based on ECMWF ERA5 data and the Climate Shift Index (CSI) system.

## More than three-quarters of countries experienced at least 30 days with unusual heat strongly influenced by climate change

- In more than three-quarters of analyzed countries (183 out of 240), the average person experienced daily temperatures with a *strong* influence of climate change (CSI 2 or higher) for at least 30 days during the last three months (Figure 3).
- Fifty-three of these countries were in Asia, and are collectively home to nearly 3.1 billion people.
- Many countries that experienced at least 30 days at CSI 2 or higher also experienced exceptionally warm temperatures during the past three months, mostly in Asia and Europe (Table 4 and Figure 4).

*Explore the **full dataset** or **interactive maps** for details on specific countries.*

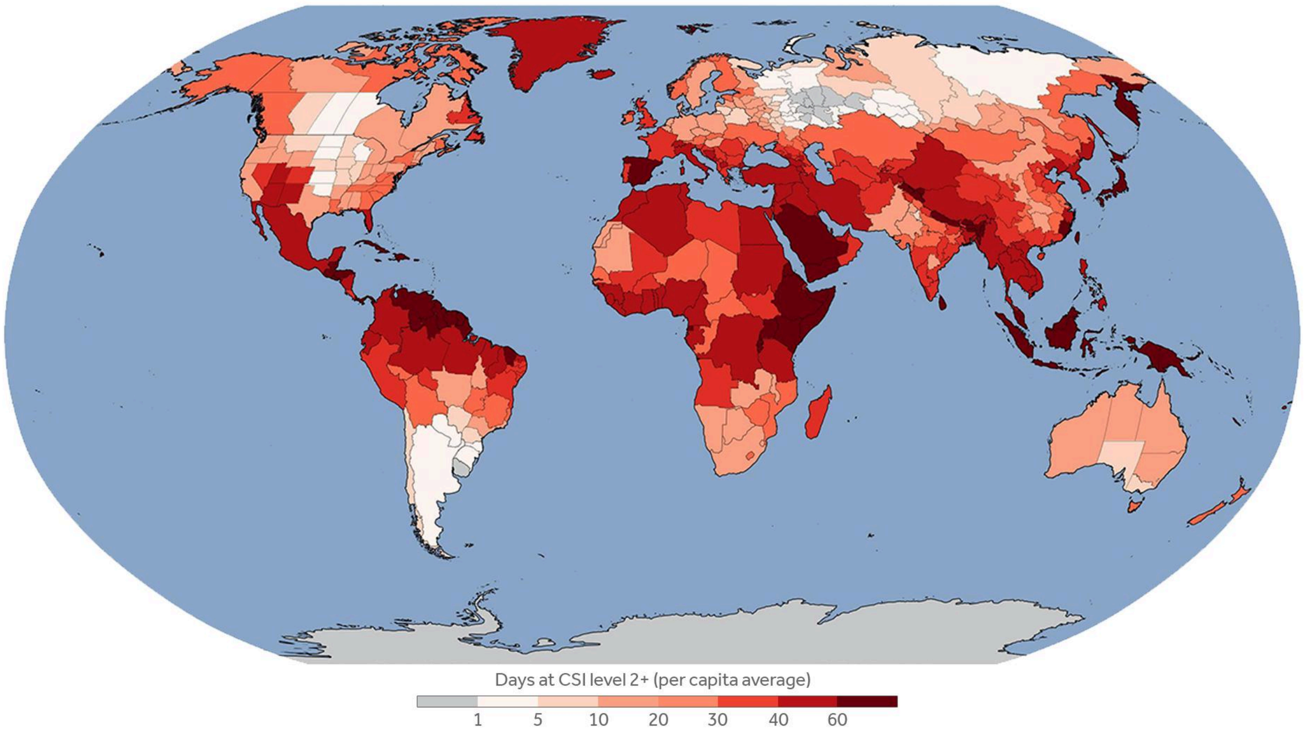


**Figure 3.** Number of days with temperatures made twice as likely by climate change (CSI 2 or higher) during June 1 to Aug. 31, 2025. Presented as per capita averages for countries and states. Analysis based on ECMWF ERA5 data and the Climate Shift Index (CSI) system. Data for Antarctica were not included in the analysis. Produced Sept. 8, 2025

**Table 4**
*Countries with the highest average seasonal temperature difference from normal*

| Country | Continent | Seasonal temperature difference from normal (°C) | Days at CSI 2 or higher |
|---|---|---|---|
| Kuril Islands | Asia | 3.6 | 82 |
| Tajikistan | Asia | 2.2 | 53 |
| Andorra | Europe | 2.2 | 49 |
| Japan | Asia | 2.1 | 61 |
| Monaco | Europe | 2.1 | 47 |
| Aksai Chin | Asia | 2 | 67 |
| Holy See | Europe | 2 | 65 |
| Democratic People's Republic of Korea | Asia | 1.9 | 54 |
| Republic of Korea | Asia | 1.9 | 53 |
| Spain | Europe | 1.8 | 60 |
| Montenegro | Europe | 1.7 | 41 |
| Uzbekistan | Asia | 1.7 | 34 |
| Morocco | Africa | 1.6 | 44 |
| United Kingdom | Europe | 1.6 | 38 |

| | | | |
|---|---|---|---|
| France | Europe | 1.6 | 36 |
| Albania | Europe | 1.6 | 35 |
| Jersey | Europe | 1.5 | 74 |
| Bosnia & Herzegovina | Europe | 1.5 | 42 |
| Bulgaria | Europe | 1.5 | 38 |
| Serbia | Europe | 1.5 | 37 |
| Greece | Europe | 1.5 | 36 |
| Kyrgyzstan | Europe | 1.5 | 31 |

*Note*: Temperature anomalies (difference from normal) are per capita averages, in °C, compared to the 1991-2020 normal. The period of analysis is June 1 to Aug. 31, 2025, and is based on ECMWF ERA5 data and the Climate Shift Index (CSI) system. Days at CSI 2 or higher refers to days made at least twice as likely by human-caused climate change.

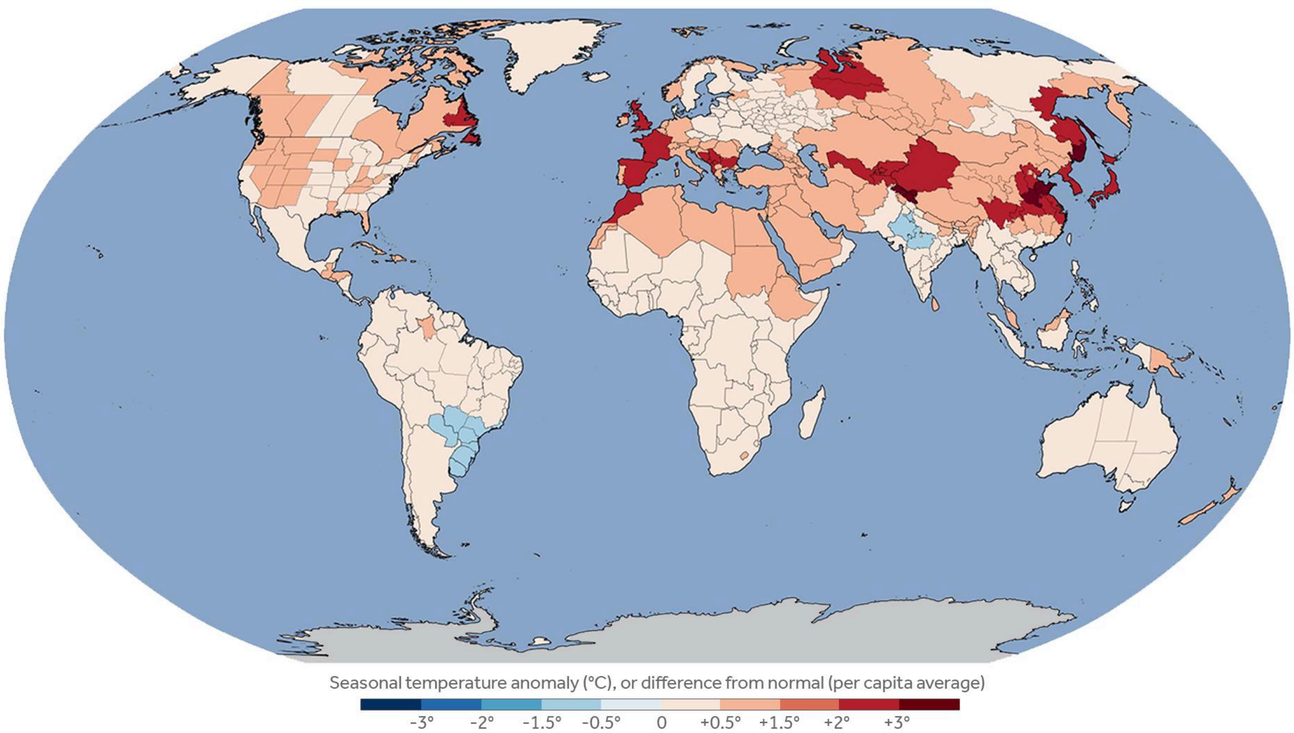


**Figure 4.** Temperature anomalies (°C) during June 1 to Aug. 31, 2025, compared to the 1991-2020 normal. Presented as per capita averages for countries and states. Analysis based on ECMWF ERA5 data and the Climate Shift Index (CSI) system. Data for Antarctica were not included in the analysis. Produced Sept. 8, 2025

## Nearly half of global cities experienced at least 30 days of unusual heat fueled by climate change

- In 461 global cities (of 940 analyzed), the average person experienced at least 30 days with a *strong* influence of climate change — CSI level 2 or higher (Table 5).

**Table 5**
*Global cities with the most days with a strong climate change influence*

| City | Country | Continent | Days at CSI 2 or higher | Seasonal temperature difference from normal (°C) |
|---|---|---|---|---|
| Kingston | Jamaica | North America | 92 | 0.9 |
| Guatemala City | Guatemala | North America | 92 | 0.8 |
| Dushanbe | Tajikistan | Asia | 91 | 3.9 |
| Honolulu | United States of America | North America | 91 | 0.5 |
| Mecca | Saudi Arabia | Asia | 90 | 1.1 |
| Saint Peter Port | Guernsey | Europe | 89 | 1.4 |
| Jeddah | Saudi Arabia | Asia | 88 | 1 |
| Sri Jayewardenepura Kotte | Sri Lanka | Asia | 87 | 0.8 |
| Bamenda | Cameroon | Africa | 87 | 0.5 |
| Saint-Denis | Reunion | Africa | 87 | 0.2 |
| Kathmandu | Nepal | Asia | 86 | 0.8 |
| George Town | Cayman Islands | North America | 86 | 0.7 |
| San Juan | United States of America | North America | 86 | 0.5 |

*Note*. A strong climate influence refers to days at CSI 2 or higher. All CSI values refer to average daily temperature. Temperature anomalies (difference from normal) are averages, in °C, compared to the 1991-2020 normal. The period of analysis is June 1 to Aug. 31, 2025, and is based on ECMWF ERA5 data and the Climate Shift Index (CSI) system.

## Global megacities

Cities are hotspots of heat risk due to their high population density and land development patterns that intensify heat in urban heat islands. This is especially true for the world's largest cities. This analysis includes 39 megacities — cities with populations over 10 million.

- Of those 39 megacities, 23 (with a combined population of nearly 439 million) endured heat that was *strongly* influenced by climate change (CSI level 2 or higher) for 30 days or more (Table 6).

**Table 6**
*Global megacities with the most days with a strong climate change influence*

| Megacity | Country | Continent | Days at CSI 2 or higher | Seasonal temperature anomaly (°C) |
|---|---|---|---|---|
| Lagos | Nigeria | Africa | 73 | 0.3 |
| Osaka | Japan | Asia | 71 | 1.9 |
| Tehran | Islamic Republic of Iran | Asia | 70 | 0.9 |
| Tokyo | Japan | Asia | 62 | 2.9 |
| Mumbai | India | Asia | 58 | 0.2 |
| Cairo | Egypt | Africa | 58 | 0.9 |
| Bangkok | Thailand | Asia | 58 | 0.2 |
| Ho Chi Minh City | Vietnam | Asia | 55 | 0.3 |
| Seoul | Republic of Korea | Asia | 54 | 1.9 |
| Dhaka | Bangladesh | Asia | 52 | 0.3 |

*Note*: A strong climate influence refers to days at CSI 2 or higher. All CSI values refer to average daily temperature. Temperature anomalies (difference from normal) are averages, in °C, compared to the 1991-2020 normal. The analysis covers June 1 to Aug. 31, 2025, and is based on ECMWF ERA5 data and the Climate Shift Index (CSI) system.

*Explore **interactive maps** for details on specific U.S. states and cities.*

## U.S. cities

- In 42 U.S. cities (mostly in the southern and western regions), the average person experienced at least 30 days with a *strong* influence of climate change — CSI level 2 or higher (Table 7).

**Table 7**
*U.S. cities with the most days with a strong climate change influence*

| City | State | Days at CSI 2 or higher | Seasonal temperature difference from normal (°F) |
|---|---|---|---|
| Honolulu | Hawaii | 91 | 0.9 |
| San Juan | Puerto Rico | 86 | 0.9 |
| West Palm Beach | Florida | 67 | 1.3 |
| Miami | Florida | 65 | 0.9 |
| Tampa | Florida | 61 | 1.1 |
| Sarasota | Florida | 60 | 1.2 |

| | | | |
|---|---|---|---|
| Flagstaff | Arizona | 56 | 2.2 |
| Prescott | Arizona | 55 | 1.7 |
| Victoria | Texas | 55 | 1.6 |
| Gainesville | Florida | 55 | 1.5 |
| Fort Myers | Florida | 55 | 0.5 |
| Tucson | Arizona | 52 | 2.4 |
| Salt Lake City | Utah | 51 | 2.6 |
| Phoenix | Arizona | 51 | 1.7 |
| Albuquerque | New Mexico | 51 | 1.6 |

*Note*: A strong climate influence refers to days at CSI 2 or higher. All CSI values refer to average daily temperature. Temperature anomalies (difference from normal) are averages, in °F, compared to the 1991-2020 normal. The period of analysis is June 1 to Aug. 31, 2025, and is based on ECMWF ERA5 data and the Climate Shift Index (CSI) system.

## Heat and Beyond: Impacts of extreme weather over the past 3 months

### Dangerous extreme heat

*Human-caused climate change is fueling dangerous heat waves for billions and making these events longer and more likely. Exposure to extreme heat can cause serious but preventable heat-related illness and, in severe cases, fatal heat stroke. Heat hazards often have under-reported impacts on health, agriculture, water supplies, and more.*

During June to August 2025, severe heat waves hit **Europe** repeatedly, leading to the closure of over 1,350 schools in **France** and the banning of outdoor work in parts of **Italy.** In one tragic incident, a tour guide collapsed and died near the Colosseum. **Spain** experienced record high temperatures, as did traditionally cooler countries such as the **United Kingdom**, **Norway, Sweden, and Finland**.

In **Japan**, over 10,000 people were hospitalized due to heat-related illnesses amidst heatstroke alerts issued in 19 prefectures. **South Korea** also felt the impacts of extreme heat, recording 21 tropical nights in July and reporting 19 heat-related deaths.

Dangerous heat conditions were reported in **Egypt**, where some regions faced temperatures of around 43°C. **Iraq** and **Iran** became regional hotspots, with temperatures nearing 50°C, while residents endured power outages amid the suffocating heat.

Official figures on heat-related deaths will likely be released later in the year, but public health officials have already estimated that more than 400 people died from extreme heat this season in **Maricopa County, Arizona**, alone. In **Europe**, scientists predict that the heat caused approximately 2,300 deaths across 12 cities, with around 1,500 of those attributable to climate change.

*Find more resources for reporting on extreme heat from Climate Central in our* ***Extreme Weather Toolkit: Extreme Heat*****.**

**Destructive, deadly flooding**

*Climate change is bringing heavier rain and increased flood risk to many parts of the world. The events below from the past three months are consistent with what is expected in a world warmed by carbon pollution.*

In **China**, severe storms brought record rainfall, displacing thousands and causing widespread destruction. In the Western Pacific, Tropical Storm Wutip and Typhoons Podul, Danas, and Wipha brought torrential rains, school and business closures, and significant damage and death in **Japan**, **Myanmar**, the **Philippines**, and **Vietnam**. In **Hong Kong**, the heaviest daily rainfall since 1984 shut down schools, disrupted hospital services, and forced road closures, while in **South Korea**, the rain killed at least 18 people.

In **India** and **Pakistan**, monsoon rains and flash floods have continuously swept provinces and claimed at least 1,860 lives. Heavy rainfall also led to devastation in **South Africa**, killing at least 78 people, many of whom were children. In **Nigeria**, flash floods killed at least 23 people and left thousands homeless, while **Cape Verde** declared a state of emergency after some regions received more than 150% of their average annual rainfall in just five hours, overwhelming emergency services.

In the **U.S.**, four 1-in-1,000-year rainfall events destroyed entire communities within a single week. A nightmare flash flood in central **Texas** killed more than 130 people — many of whom were children — becoming one of the deadliest floods in American history.

*Find more resources for reporting on rainfall and flooding from Climate Central in our* ***Extreme Weather Toolkit: Rain and Flooding*****.**

**Wildfires fueled by hotter, drier weather**

*More frequent hot, dry, and windy conditions contribute to more wildfires that put people and ecosystems at risk. Human-caused warming, poor land management practices, and sprawling development have increased both the availability of fuel and the frequency of weather conditions that spark and spread dangerous fires.*

Over the past three months, the world has witnessed a devastating surge in wildfires, with **Europe** experiencing its worst recorded year in history. More than one million hectares burned across the continent, with some of the hardest-hit countries including **Italy**, **Portugal**, **Romania**, and **Spain**. In **Türkiye**, **Greece**, **Cyprus**, **Bulgaria**, and **Syria**, dry conditions, strong winds, and unseasonably high temperatures fueled deadly fires. These unprecedented fires have been directly linked to increasingly extreme weather conditions driven by climate change.

Amidst record-breaking temperatures that at times exceeded 40°C, the intensity of fires forced mass evacuations, destroyed homes, and overwhelmed emergency services. In **Portugal**, an area 10 times the size of Manhattan burned while **France** grappled with an unprecedented fire the size of Paris. Even countries less frequently affected, such as **Germany**, experienced wildfires that displaced thousands.

Across the Atlantic, **Canada** faced its second-worst wildfire season on record, with more than 200 active fires reported in a single day. First Nations communities were among the most affected. Thousands of people were forced to evacuate, and smoke plumes degraded air quality not only in Canada but also in **Europe**. The smoke also reached parts of the **U.S.**, where additional wildfires were also being reported; **Colorado** and **Oregon** battled some of the largest wildfires in their histories.

Recent research suggests that wildfire-related mortality and long-term health impacts are largely underestimated.

*Find more resources for reporting on wildfires from Climate Central in our* ***Extreme Weather Toolkit: Wildfires***.

## METHODOLOGY

**Calculating the Climate Shift Index (CSI)**

The CSI is grounded in peer-reviewed attribution science and was launched by Climate Central in 2022. The data is accessible via our free map tool. Positive CSI levels 1 to 5 indicate conditions that are increasingly likely in today's climate. A CSI level of 1 means that climate change is detectable (technically, the temperature is at least 1.5 times more likely). CSI levels 2 and higher correspond with the multipliers (2 = at least 2 times more likely, 3 = at least 3 times more likely, etc.). CSI level 5 events would be very difficult to encounter in a world without climate change — not impossible, but extremely unlikely.

All CSI levels reported in this brief are based on daily average temperatures and ECMWF ERA5 data from June 1 to Aug. 31, 2025. See the frequently asked questions for details on computing the CSI, including a summary of the multi-model approach described in Gilford et al. (2022).

**Daily Global Population Exposure**

For each day, we identified the grid cells with CSI values of 2 or higher. Using 2020 Gridded Population of the World v4 estimates, we calculated the proportion of the population living in each of these cells. Where CSI values were 2 or higher, we summed the proportions globally and multiplied by the estimated global population of 8.2 billion to produce an up-to-date estimate of the global population exposed to CSI level 2 or higher.

**Country Analysis**

The country-level analysis includes 240 countries, territories, and dependencies. It excludes entities that are smaller than 0.25°, the size of a grid cell. We calculated the average temperature anomaly, number of days at or above CSI 2, and population exposure to CSI 2 (based on average temperature) over the June 1 to Aug. 31, 2025, period. For each country, we then selected the data within its geographical boundary and found the population-weighted temperature anomaly and the population-weighted number of days at CSI level 2. Reported temperature anomalies are relative to each country's 1991-2020 normal daily June, July, and August temperatures.

Where possible, population estimates were drawn from the U.S. Census Bureau's International Database and rounded to the nearest thousand. Other estimates were drawn from the Gridded Population of the World v4.

**U.S. State Analysis**

The state-level analysis includes 50 states and the District of Columbia in the United States. It excludes entities that are smaller than 0.25°, the size of a grid cell. We calculated the temperature anomaly, number of days at or above CSI 2, and population exposure to CSI 2 (based on average temperature) over the June 1 to Aug. 31, 2025 period. For each state, we then selected the data within its geographical boundary and found the population-weighted temperature anomaly and the population-weighted number of days at CSI 2. Reported temperature anomalies are relative to each state's 1991-2020 normal daily June, July, and August temperatures.

Population estimates were drawn from the Gridded Population of the World v4.

**City Analysis**

We analyzed 940 cities from around the world, drawn from Simplemaps. We include cities that meet one or more of the following criteria: it has a population of more than 1 million; it is the capital of a country, territory, or province; it has the largest population in a country or territory; or it is one of the 100 most-populated cities in China (which excludes some cities that have a population of 1 million or more). We also include a selected list of additional U.S. cities.

For each city, we found the CSI and temperature anomaly time series from the nearest 0.25° grid cell. We then computed the mean temperature anomalies over June 2025, July 2025, and August 2025, and the number of days at CSI level 2 (based on average temperature). Reported temperature anomalies are relative to each city's 1991-2020 normal daily June, July, and August temperatures.

**Risky Heat Days**

The analysis of risky heat days considered days with temperatures hotter than 90% of temperatures observed in a local area over the 1991-2020 period. This 90th temperature percentile is a conservative approximation of the local minimum mortality temperature (MMT) — the daily average temperature with the lowest risk of heat-related death — based on Tobías et al. (2021) and Gasparrini et al. (2015). Above the MMT, relative risks of heat-related illness and death increase steeply, because people are not used to or cannot cope with these temperatures. MMTs vary across climatic zones, tending to be higher in temperate and continental regions and lower in arid and tropical ones, because health-related heat thresholds depend on the local climate and related long-term adaptation among local populations.

To find the risky days added by climate change, we calculated counterfactual temperatures — estimates of what temperatures would have been in a world without climate change. Using our CSI model, we determined the probability of meeting or exceeding an observed temperature in today's climate, then found the equivalent temperature in a world without climate change. For each day and location, if the counterfactual temperature was below the threshold but the observed temperature was above it, we counted that day as added by climate change.

## REPORT CONTRIBUTIONS

Analysts: Brandon Bourassa (lead), Joseph Giguere, Kaitlyn Trudeau (data visualization)
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