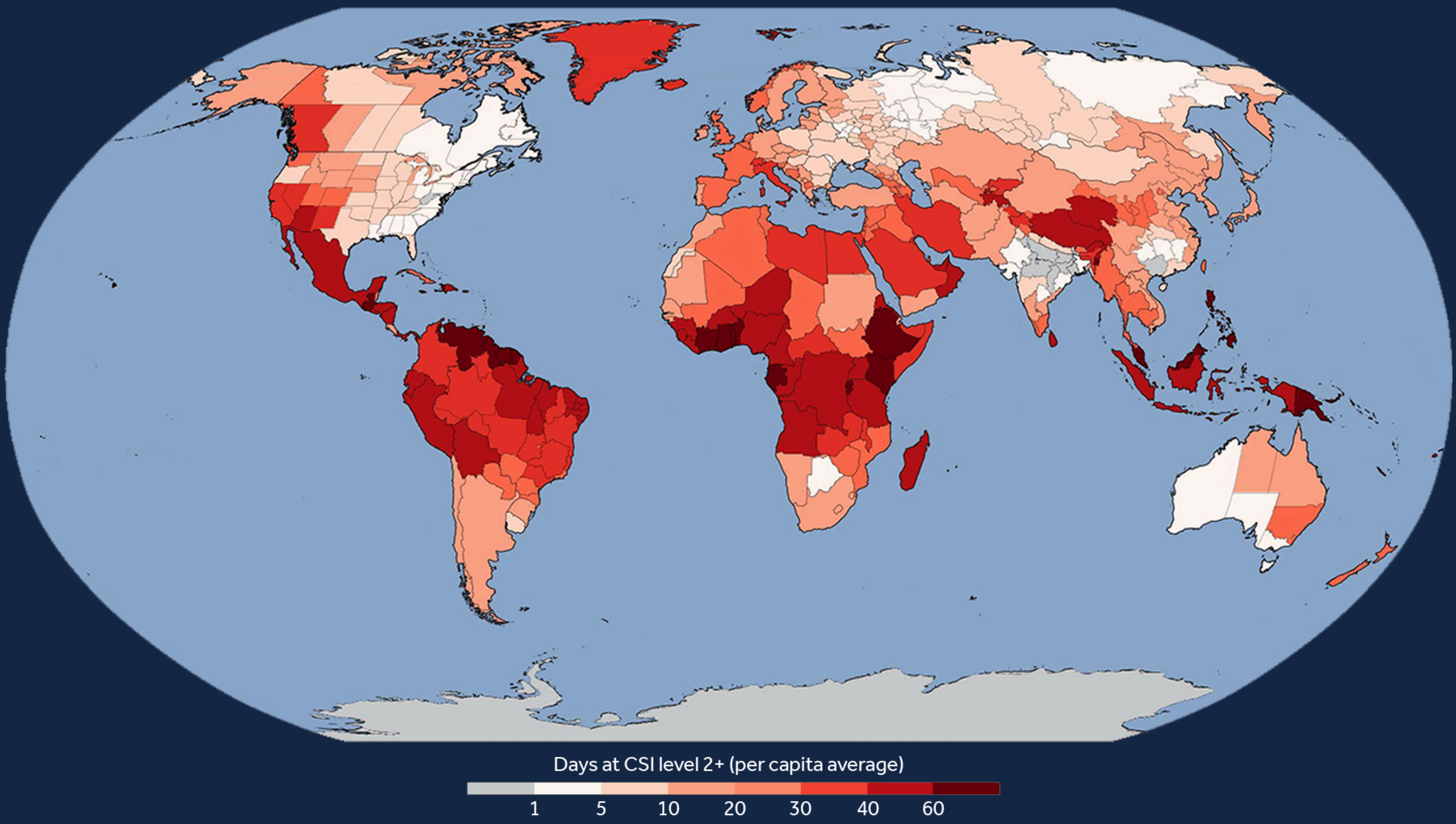
People Exposed to Climate Change:

December 2025-February 2026

A Climate Central seasonal analysis of how climate change boosted temperatures worldwide between December 2025 and February 2026



Number of days with temperatures made twice as likely by climate change (CSI 2 or higher) during Dec 1, 2025-Feb 28, 2026.

CLIMATE CENTRAL

March 18, 2026

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KEY FACTS

During the past three months (December, January, and February), the effects of human-caused 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 December 2025 to February 2026, more than one in six people on the planet experienced temperatures with a strong climate change influence.
- In 124 countries (home to nearly 2.5 billion people), the average person experienced at least 30 days with temperatures strongly influenced by climate change.
- In 45 countries, all of the risky heat days in the past three months were driven by climate change.
- Nearly 228 million people experienced 30 or more days of risky heat added by climate change during the last three months, and **most of these people (81%) live in Africa.**

DATA

- ➢ **Download data** for Dec 1, 2025-Feb 28, 2026, for 252 countries, territories, and dependencies and 960 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 December 2025 through February 2026, 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 more 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 252 countries, territories, and dependencies (referred to as "countries" in the rest of the report for simplicity) and 960 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 from December 2025 to February 2026, more than one in six people on the planet felt a strong climate change influence.

- Each day from December 1, 2025, to February 28, 2026, about 1.4 billion people — 17% of the global population — experienced warmer temperatures made at least twice as likely because of climate change (CSI level 2 or higher).
- Global exposure peaked multiple times during this period (see figure 1). On February 13, 14, and 21, about 42% of the global population (over 3 billion people) experienced temperatures strongly influenced by climate change.
- For 47 days in the past three months, at least one in four people on the planet experienced a strong daily climate change influence.

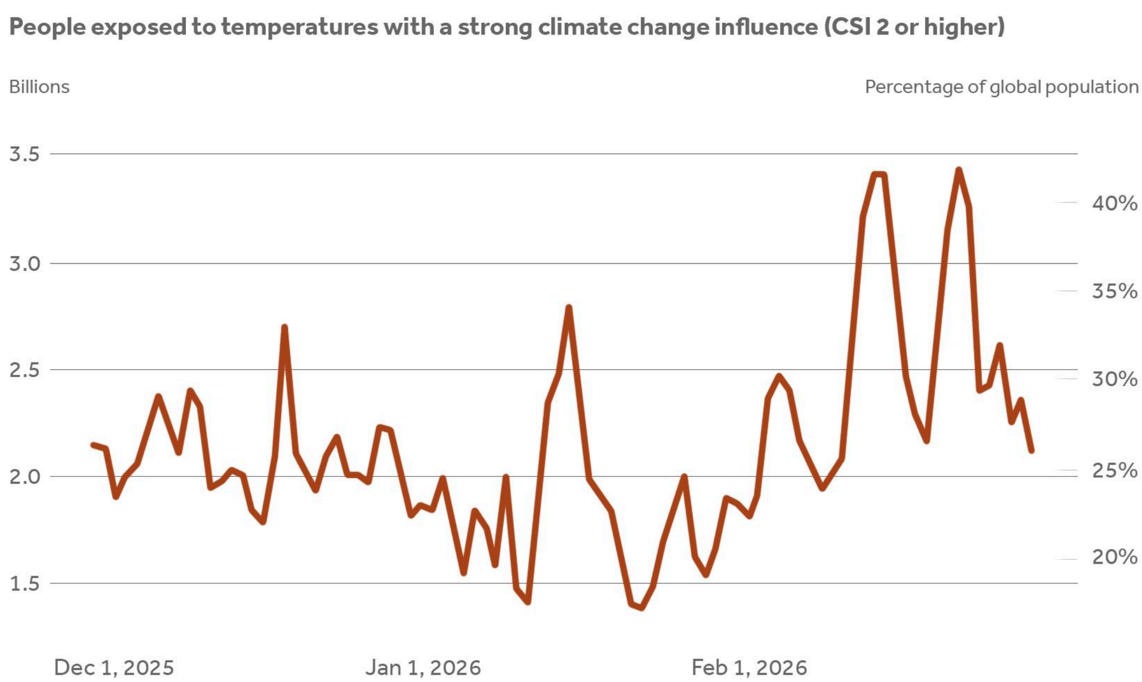

Figure 1. Daily global population exposed to temperatures with a Climate Shift Index (CSI) level 2 or higher during the period of analysis (Dec 1, 2025-Feb 28, 2026). Analysis based on ECMWF ERA5 data and the Climate Shift Index system. Produced Mar 9, 2026.

Millions of people faced risky heat that would not have happened without climate change.

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. The calculation uses the full-year temperature distribution, so the threshold applies irrespective of season. See ***Methodology*** for details.

- From December 2025 to February 2026, the average person on the planet experienced about seven days of risky heat, and five of those were because of climate change.
- **Nearly 228 million people experienced 30 or more days of risky heat added by climate change during the last three months.** Most of these people (185 million, or 81%) live in Africa (see table 1).
- In 45 countries, every risky heat day in the past three months was driven by climate change.
- Countries with the most risky heat days added by climate change are located in Oceania and Africa (see table 2).
- Climate change drove 88% of risky heat days on average across the 174 cities that experienced at least one risky heat day in the past three months.

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

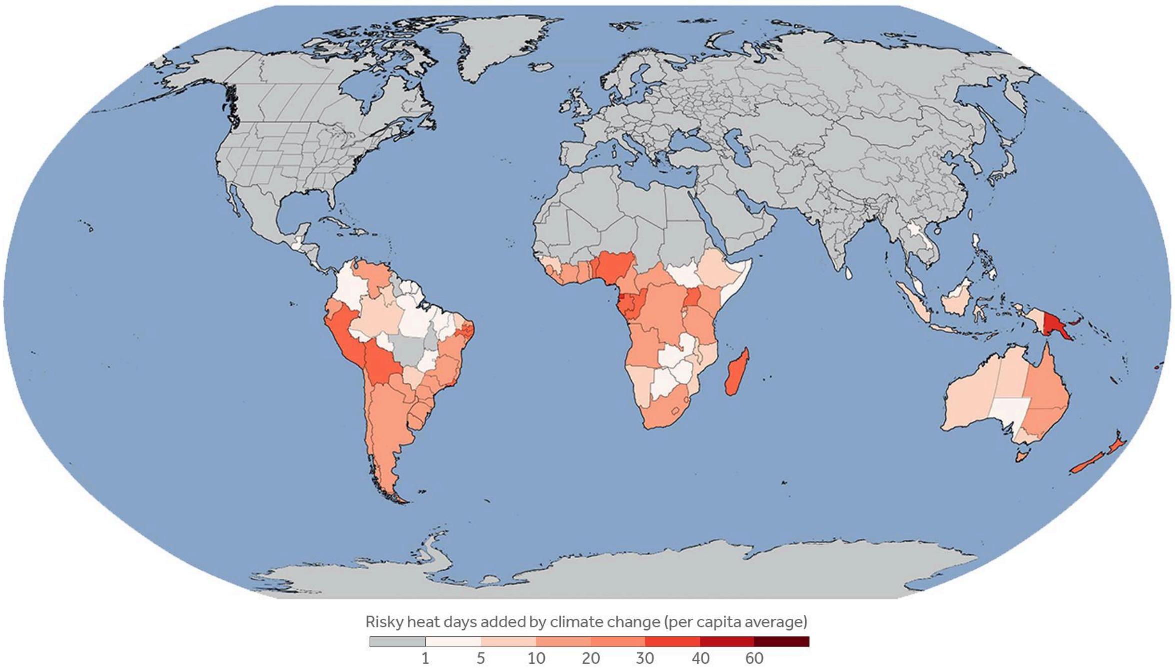

Figure 2. Additional days, from Dec 1, 2025-Feb 28, 2026, with temperatures above the 90th percentile (risky heat days), because of climate change. Presented as per capita averages for countries and states. Analysis based on ECMWF ERA5 data and the Climate Shift Index (CSI) system. Data for Antarctica were not included in the analysis. Produced Mar 9, 2026.

Table 1

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

Country	Continent	Risky heat days added by climate change	People exposed to 30+ days of risky heat added by climate change (% of country population)
Nigeria	Africa	23 out of 26 days	103.6 million (99%)
United Republic of Tanzania	Africa	19 out of 19 days	15.2 million (93%)
Uganda	Africa	20 out of 20 days	13.4 million (98%)
Cameroon	Africa	19 out of 19 days	12.1 million (99%)
Indonesia	Asia	8 out of 8 days	12.0 million (98%)
Democratic Republic of the Congo	Africa	12 out of 13 days	11.0 million (80%)
Angola	Africa	18 out of 19 days	10.4 million (94%)
Peru	South America	23 out of 25 days	7.0 million (48%)
Venezuela (Bolivarian Republic Of)	South America	11 out of 11 days	5.7 million (99%)
Brazil	South America	14 out of 19 days	5.4 million (14%)
Papua New Guinea	Oceania	30 out of 31 days	5.3 million (94%)
Benin	Africa	22 out of 24 days	4.2 million (87%)
Ethiopia	Africa	9 out of 10 days	3.8 million (100%)
Madagascar	Africa	21 out of 22 days	3.5 million (56%)
Ecuador	South America	17 out of 19 days	2.3 million (57%)

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 Dec 1, 2025-Feb 28, 2026, 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 added by climate change
Vanuatu	Oceania	37 out of 44 days
Solomon Islands	Oceania	35 out of 37 days
Comoros	Africa	34 out of 35 days
Mayotte	Africa	34 out of 34 days
Palau	Oceania	34 out of 34 days
Nauru	Oceania	34 out of 34 days
Equatorial Guinea	Africa	32 out of 32 days
Papua New Guinea	Oceania	30 out of 31 days
Fiji	Oceania	30 out of 37 days
Federated States of Micronesia	Oceania	30 out of 30 days

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 Dec 1, 2025-Feb 28, 2026, and is based on ECMWF ERA5 data and the Climate Shift Index (CSI) system.

In 124 countries (home to nearly 2.5 billion people), the average person experienced at least 30 days with unusual temperatures strongly influenced by climate change.

- In more than half of analyzed countries (124 out of 252), 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 (see figure 3).
- The average person in 58 countries experienced daily temperatures with a *strong* influence of climate change (CSI 2 or higher) for at least 60 days of the past three months.
- The average person in Palau, Réunion, and Suriname experienced the most compared to other countries — at least 85 such days in the past 90 days.
- Many countries that experienced exceptionally warm temperatures (at least a 2°C difference from normal) during the past three months also experienced at least 30 days with a strong influence of climate change (see table 4 and figure 4).

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

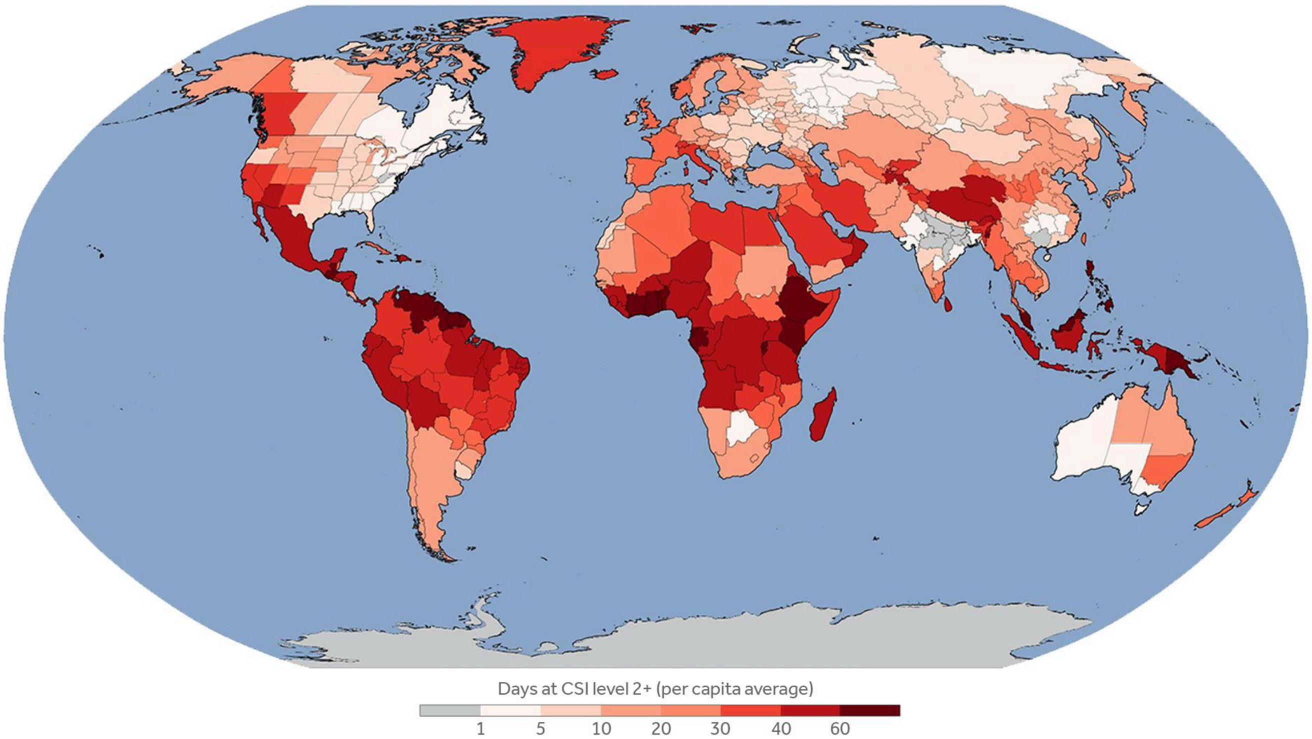

Figure 3. Number of days with temperatures made twice as likely by climate change (CSI 2 or higher) during Dec 1, 2025-Feb 28, 2026. Presented as per capita averages for countries and states. Analysis based on ECMWF ERA5 data and the Climate Shift Index (CSI) system. Data for Antarctica were not included in the analysis. Produced Mar 9, 2026.

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
Greenland	North America	4.5°	33
Kyrgyzstan	Asia	3.6°	32
Tajikistan	Asia	3.4°	40
Disputed Area(xxx)*	Asia	3.4°	16
Uzbekistan	Asia	3.3°	28
Svalbard and Jan Mayen Islands	Europe	3.1°	49
Aksai Chin	Asia	2.8°	25
Turkmenistan	Asia	2.7°	19
Liechtenstein	Europe	2.6°	40
Armenia	Asia	2.5°	25
Afghanistan	Asia	2.3°	19

Niger	Africa	2.3°	46
Iran (Islamic Republic Of)	Asia	2.3°	36
North Macedonia	Europe	2.3°	20
Jammu And Kashmir	Asia	2.2°	37
Greece	Europe	2.2°	19
Kazakhstan	Asia	2.2°	18
Bosnia and Herzegovina	Europe	2.1°	22
Holy See	Europe	2.1°	22
Albania	Europe	2°	11
Libya	Africa	2°	30

Note: Temperature anomalies (difference from normal) are per capita averages, in °C, compared to the 1991-2020 normal. The period of analysis is Dec 1, 2025-Feb 28, 2026, 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. *Note: This is a disputed territory near the China-India border. Map layers and geographic boundaries are from the Food and Agriculture Organization of the United Nations. See *Methodology* for more details on our geographic data source.

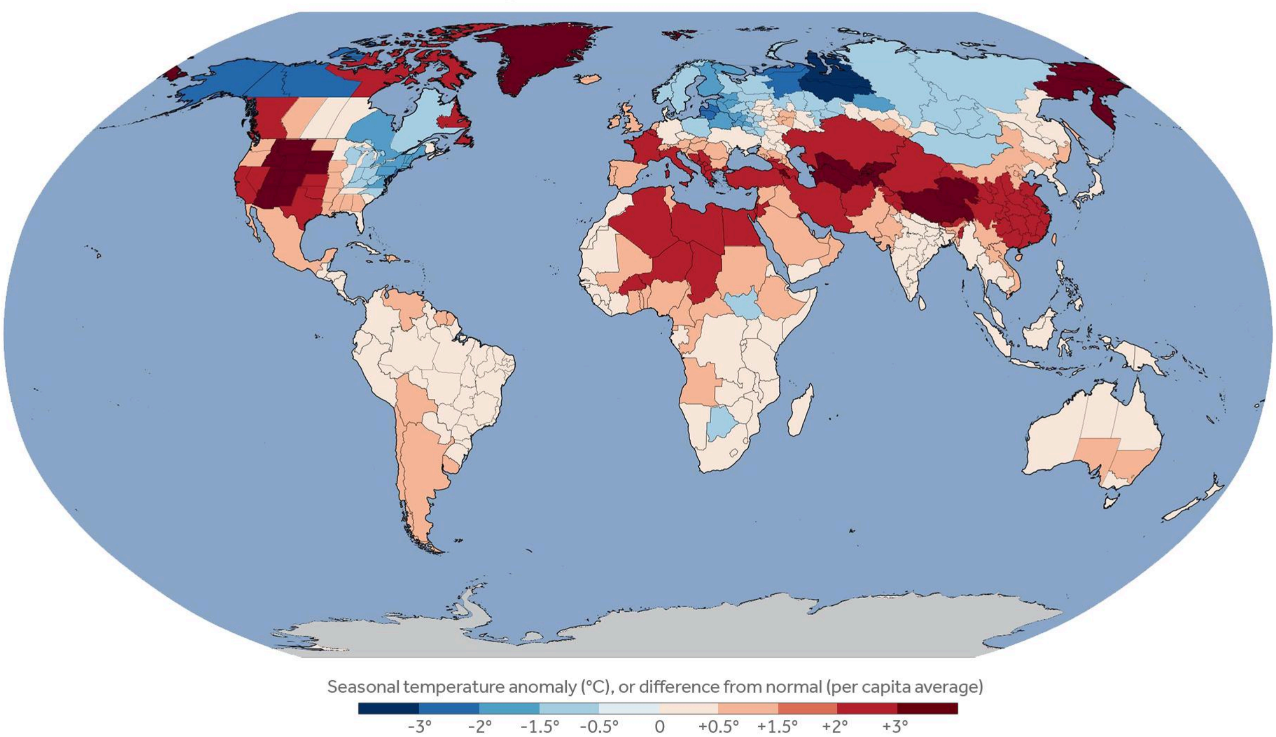

Figure 4. Temperature anomalies (°C) during Dec 1, 2025-Feb 28, 2026, compared to the 1991-2020 normal. Presented as per capita averages for countries and states. Analysis based on ECMWF ERA5 data and the Climate Shift Index (CSI) system. Data for Antarctica were not included in the analysis. Produced Mar 9, 2026.

Nearly 30% of global cities experienced at least 30 days of unusual temperatures fueled by climate change

- In 276 global cities (of 960 analyzed), the average person experienced at least 30 days with a *strong* influence of climate change — CSI level 2 or higher (see table 5).
- For 80 or more of the past 90 days, the average person in 27 cities experienced unusual temperatures with a strong influence of climate change. Barquisimeto, Venezuela topped the list with every one of the past 90 days having temperatures strongly influenced by climate change.
- Among the 960 global cities analyzed, 13 of the top 15 cities with seasonal temperature averages farthest above normal were located in the western contiguous United States.

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 20 megacities — cities with populations over 10 million.

- Almost a quarter of global megacities (4 of 20, with a combined population of more than 56 million) endured unusual temperatures that were *strongly* influenced by climate change (CSI level 2 or higher) for 30 days or more (see 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	79	0.6°
Mexico City	Mexico	North America	57	0.6°
Kinshasa	Democratic Republic of the Congo	Africa	55	0.6°
Sao Paulo	Brazil	South America	30	0.1°
Ho Chi Minh City	Vietnam	Asia	28	0.0°
Beijing	China	Asia	21	0.7°
Tianjin	China	Asia	19	1.0°
Mumbai	India	Asia	17	0.6°
Shenzhen	China	Asia	16	1.9°
Shanghai	China	Asia	16	1.7°

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 Dec 1, 2025, to Feb 28, 2026, 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. trends

- The average person living in Puerto Rico, Hawaii, Arizona, California, Nevada, and New Mexico experienced at least 30 days of unusually warm temperatures made at least twice as likely because of climate change.
- Average temperatures over the past three months in Wyoming, Colorado, Montana, and Utah were more than 7°F (3.9°C) higher than normal, with average temperatures in Wyoming averaging 9.3°F (5.2°C) above average. Temperatures in the Eastern U.S. were close to average or cooler than average.

For a more detailed summary of the ways that climate change influenced temperatures in the U.S. over the past three months, see the Climate Matters brief, ***Climate Change Drove Record Winter Warmth in the Western U.S.***

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

From December 2025 to February 2026, the world experienced a series of climate change-driven extremes. An unusually early Australian heat wave — made five times more likely by climate change — persisted into January and February, breaking records before giving way to intense downpours that flooded several towns. In the Arctic, Greenland recorded its warmest January, accelerating sea-ice loss. Meanwhile, a heat spell across Argentina contributed to a power outage that left more than one million people without electricity.

In many places, the combination of heat, low humidity, and strong winds created ideal fire weather conditions. Wildfires in Patagonia, fueled by climate change, claimed 23 lives, prompting Chile to declare an emergency. Similar events occurred in the U.S., Australia, and South Africa, where thousands of hectares burned. In most cases, high temperatures amplified the intensity of these fires.

Across the world, climate change manifested as a cascade of other extremes: Severe drought, record-breaking precipitation, powerful storms, and snow storms.

Kenya endured its driest season since 1981, threatening more than two million people with hunger. In Somalia and southeastern Ethiopia, drought is expected to cause crop failures and yield losses. In the U.S., drought covered over 40% of the country.

At the same time, subzero temperatures swept the U.S. and Canada, killing at least 85 people, dumping metres of snow, straining power grids, and costing billions. Florida's agriculture alone is facing more than $3.7 billion in losses from the winter storms. Japan experienced deadly snowfall that scientists attributed to climate change. Other severe winter storms claimed at least 61 lives in Afghanistan and another six in Europe, with freezing conditions disrupting transport and power systems. Scientists found that the amount of snow experienced in some regions in Germany in January is expected to occur every 50 years now, but in the pre-industrial era — with a climate that was 1.3°C colder — it was expected to occur every six years.

Ocean temperatures remained high, sustaining sea ice decline and fueling powerful storms. Heavy rainfall — made more intense by climate change — killed more than 1,750 people in Sri Lanka, Indonesia, and Thailand. Koto, Ada, and Penha are some of the storms that added to the billions of dollars in losses across the region.

The Mediterranean region similarly saw a series of powerful storms that overwhelmed drainage systems and forced emergency declarations; Tunisia recorded its worst rainfall in 70 years; Morocco suffered fatal floods that displaced around 300,000; and France registered its highest soil moisture ever, raising national flood risk. In Italy's Sicily, a cyclone made stronger by climate change caused over $1 billion in damages, while in the United Kingdom and Ireland, successive storms — including Bram, Goretti, and Chandra — produced gale-force winds, widespread power outages, and extensive flooding.

Heavy rains in Colombia and Peru caused deadly landslides, and intense storms over the Democratic Republic of Congo produced flash floods that isolated communities and damaged infrastructure. Southern Africa also experienced climate change-driven storms that triggered floods that killed hundreds and devastated livelihoods.

These co-occurring events underscore how rising heat-trapping pollution in our atmosphere, from the burning of fossil fuels, intensifies the climate impacts far beyond temperature rise.

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 Dec 1, 2025, to Feb 28, 2026. 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 252 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 Dec 1, 2025, to Feb 28, 2026, 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 December, January, and February temperatures.

Map layer data comes from the Global Administrative Unit Layers (2024) from the Food and Agriculture Organization of the United Nations (FAO). The boundaries used in this analysis reflect this record of disputed boundaries and the naming conventions for such territories. The layers are aligned with guidance from the United Nations Cartographic Section.

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 in our underlying data. 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 Dec 1, 2025, to Feb 28, 2026 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 December, January, and February temperatures.

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

City Analysis
We analyzed 960 cities from around the world, drawn from GeoNames. 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 December 2025, January 2026, and February 2026, 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 December, January, and February 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

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