



The coldest year of the rest of their lives

Protecting children from
the escalating impacts
of heatwaves



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COVER PHOTOGRAPH

Mara, 5, is having her daily shower after school in Llaurado Bateay District, Kompong Cham Province, Cambodia.

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PHOTOGRAPH ON PAGE 4

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Authors

This report was produced in partnership with the Data for Children's Collaborative (DCC).

Analysis and data

UNICEF: Margaretha Barkhof, Sophie Lee, Tom Slaymaker

DCC: Massimo Bollasina, Sian Henley, Duncan Hornby, Charlotte Marcinko, James Mollard, Kate Sargent, Gary Watmough

Editorial, content, publishing and media

UNICEF: Ahmed Al Izzi Alnaqshbandi, Maud Combier-Perben, Kurtis Cooper, Alexandra Del Castello, Yasmine Hage, Tess Ingram, Elena Muñoz Vico, Charlotte Rutsch, Thomas Sayers, Leah Selim, Jeremy Sprigge, Samantha Wauchope, Eric Zuehlke

DCC: Irena Connon, Lena Dominelli

Guidance and project management

UNICEF: Sophie Lee, Nick Rees, Tom Slaymaker

DCC: Craig Hutton, Alex Hutchinson, Fraser Macdonald

Oversight and leadership

Paloma Escudero, Mark Hereward, Gautam Narasimhan

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Foreword

**UNICEF Executive Director
Catherine Russell**



The climate crisis is a child rights crisis – and it is already taking a devastating toll on children’s lives and futures.

Extreme weather is one of the most visible – and most terrible – ways the climate crisis manifests itself. Over the past year alone, we have seen climate emergency after climate emergency, from historic flooding in Asia to relentless droughts in Africa.

The wildfires and heatwaves that have swept through India, Europe, and North America are yet another sobering example of the impact of climate change on children.

This report, which builds on the groundbreaking 2021 analysis of UNICEF’s Children’s Climate Risk Index, examines the impact of heatwaves on children today – and over the coming decades.

Children, especially young children, are more vulnerable than adults to the effects of extreme heat, which can cause severe dehydration, respiratory trouble and make them more vulnerable to other diseases.

Already, around 559 million children worldwide are exposed to high heatwave frequency – and we estimate that by 2050, every child on the planet will be exposed to more frequent, longer lasting, and more severe heatwaves.

The world urgently needs to invest in building their resilience – and in adapting all the systems children rely on to meet the challenges of a rapidly changing climate.

The world also needs to listen. Children and young people are most affected by the climate crisis. They are not only demanding change, they are driving it – and they must be at the center of our response. So, it is only fitting that the foreword for this important report is ‘taken over’ by Ugandan climate activist and UNICEF Goodwill Ambassador Vanessa Nakate. I’m grateful for her leadership.



Foreword

Climate activist, UNICEF Goodwill Ambassador Vanessa Nakate

“Scorched earth” is a military term that describes troops deliberately destroying assets that are valuable to their enemies. It is also what we are doing to our planet. Through our refusal to curb emissions, we are allowing global warming to continue. We are literally scorching the earth with escalating heat, deliberately destroying the asset most precious to our collective well-being – our planet.

The last seven years have recorded the highest temperatures in history and temperatures will continue rising. As hot as this year was, it may well be the coldest of the rest of our lives.

This report seeks to find out. It provides estimates for the first time on how many children are exposed to four measures of heatwaves, now and in forecasts for 2050, at both a ‘low greenhouse gas emission scenario’ with an estimated 1.7 degrees of warming in 2050 and a ‘very high greenhouse gas emission scenario’ with an estimated 2.4 degrees of warming in 2050.

The new research finds that by 2050, virtually every child on earth – over 2 billion – will be

exposed to a high heatwave frequency, up from only 24 per cent of children in 2020. This is an increase of about 1.5 billion children.

This report also shows the enormous cost of unconstrained fossil-fueled development. The difference between approximately 1.7 and approximately 2.4 degrees Celsius of warming means that by 2050, over 370 million more children will be exposed to heatwaves of long duration.

Every region is affected by heatwaves in different ways, with heatwaves of increasing severity forecast to become more prominent in Europe and with an increasing number of countries in Africa and Asia becoming exposed to more days of extreme temperatures over 35°C /95°F.

This will have a devastating impact on children. The more frequent, longer lasting and more severe heat waves children are exposed to, the greater the impacts on health, safety, nutrition, education, access to water and future livelihoods.

I witnessed this happening to people in the Horn of Africa.

With four consecutive failed rainy seasons and a drought touted as the worst in 40 years, there is insufficient food and water. In the north of Kenya, I spoke to mothers and met children at risk of dying from severe acute malnutrition. It was devastating and that it is avoidable is infuriating.

The children who are least responsible for climate change are bearing its biggest costs. Africa is responsible for less than 4 per cent of global emissions but is suffering some of the climate crisis’s most brutal impacts. Lives are being lost from preventable causes because the world is acting too slowly on mitigation and not providing enough support for adaptation.

How a child survives more frequent, severe and sustained heatwaves often depends on where and how they live; whether they are able to escape the heat indoors, have access to climate-resilient water sources, or whether their daily tasks require physical exertion. We must ensure that countries where children are most vulnerable to the impacts of climate change have the resources needed to adapt the critical social services required to protect them.

These disasters are not inevitable or “natural” – they are of our making. This report is an important reminder that we still have a small window of time to influence how children are affected by various forms of rising temperatures. We can prevent the very worst 2050 scenarios by cutting emissions now. We can urgently adapt to protect children from the climate shocks that are now, sadly, inevitable. We can support communities that have experienced irreversible losses or damages. The actions we take now will determine millions of children's fate.



Kenya, 2022

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Mauritania, 2020

© UNICEF/UN0431961/Pouget

Summary

The climate crisis is rapidly accelerating and with it, heatwaves are becoming longer, stronger, more widespread and more frequent. Already, around **559 million children** are exposed to high heatwave frequency and around **624 million children** are exposed to one of three other high heat measures - high heatwave duration, high heatwave severity or extreme high temperatures.

This report provides yet more evidence that children are on the front lines of the climate crisis.

By 2050, virtually every child on earth – **over 2 billion children** – is forecast to face more frequent heatwaves, regardless of whether the world achieves a ‘low greenhouse gas emission scenario’ with an estimated 1.7 degrees of warming in 2050 or a ‘very high greenhouse

gas emission scenario’ with an estimated 2.4 degrees of warming in 2050. These findings underscore the urgent need to adapt the services children rely on as unavoidable impacts of global heating unfold. It also makes a case for more substantial emissions reduction, to prevent the worst impacts of the other high heat measures. Millions more children will be exposed to high heatwave severity and extreme high temperatures depending on the degree of global heating reached. Children in northern regions will face the most dramatic increases in high heatwave severity while by 2050, nearly half of all children in Africa and Asia will face sustained exposure to extreme high temperatures.

Heat is especially damaging to children’s health and affects their education and future livelihoods.

Countries must act now by:

- **PROTECTING** children from climate devastation by adapting social services.
- **PREPARING** children to live in a climate-changed world.
- **PRIORITIZING** children and young people in climate finance and resources.
- **PREVENTING** a climate catastrophe by drastically reducing greenhouse gas emissions and keep 1.5 degrees Celsius alive

Almost every country is experiencing changing heatwaves. What each government does now will determine the survival of those least responsible for this crisis – our children and young people.



Somalia, 2022

© UNICEF/UN0644298/Fazel

Introduction

Historic drought in the Horn of Africa and the Sahel that unleashed severe malnutrition. Heatwaves in China that dried up rivers and damaged crops. Devastating heat in Pakistan and India with temperatures above 48°C. Record-breaking temperatures throughout Europe that are drastically reducing crop yields. Heatwaves that affected over 100 million Americans this summer. The list of heat-related disasters in 2022 goes on and on. Climate change is making this the new normal.

Globally, heatwaves kill nearly half a million people a year. According to the World Meteorological Organization, the past seven years have been the hottest ever recorded. Heatwaves are increasing in frequency, duration, and magnitude. With each passing year, the stark reality is becoming clearer: the impacts of climate change are not just a threat to the future; climate shocks and stresses are here now.

But this is only the beginning. By 2050, millions more children across every region will have to face more extreme high temperatures and more frequent, longer lasting, and more severe heatwaves.

This report provides estimates and analysis on the number and percentage of children in 2020 and by 2050 expected to be exposed to four measures of heat: high heatwave frequency, duration and severity and extreme high temperatures. It examines two warming scenarios for 2050 – a low greenhouse gas emission scenario with an estimated 1.7°C of warming by 2050 and a very high greenhouse gas emission scenario with an estimated 2.4°C of warming by 2050 – exposing the cost that very high greenhouse gas emissions will have on the lives of children in decades to come. The global average temperature has already warmed 1.1°C above the pre-industrial average. By the end of the century, based on current policies,

global heating is estimated to reach 2.8°C. Without immediate and deep emissions reductions across all sectors, limiting global heating to 1.5°C is beyond reach.

This report is a follow-up to our 2021 report, *The Climate Crisis is a Child Rights Crisis: Introducing the Children's Climate Risk Index*, which provided for the first time a complete – and dire – picture of children's exposure to and vulnerability to climate shocks and stresses, showing how climate and environmental shocks are undermining the full spectrum of child rights. Heatwaves are one clear example.

Heat and heatwave measures and defining 2050 scenarios

For all four heat measures, a global map of the areas exposed to the heat measure was combined with a high-resolution global gridded population dataset to estimate the approximate number of people exposed. The approximate number

of exposed children was estimated by applying the proportion of population under age 18 to the approximate number of exposed people in each country. While three of the measures correspond to heatwaves – high heatwave frequency, duration and severity – extreme high temperatures correspond to heat.

Heatwave: Any period of three days or more when the maximum temperature each day is in the top 10 per cent of the local 15-day average.



High heatwave frequency: Where there are on average 4.5 or more heatwaves per year.



High heatwave duration: Where the average heatwave event lasted 4.7 days or longer.



High heatwave severity: Where the average heatwave event is 2°C or more above the local 15-day average.



Extreme high temperatures: Where, on average, 83.54 or more days a year exceed 35°C.

Scenarios:

Shared Socioeconomic Pathway 1 (SSP1) is a low greenhouse gas emission scenario with an estimated 1.7 degrees of warming by 2050.

Shared Socioeconomic Pathway 5 (SSP5) is a very high greenhouse gas emission scenario with an estimated 2.4 degrees of warming by 2050.

SSP1 is based on international policy agreements and emissions reductions that aim to limit global average temperature rises to 1.5°C above preindustrial levels to meet the Paris Agreement. SSP5 is based on continued economic development based on fossil fuels.



Venezuela, 2020

© UNICEF/UN0458996/Alvarez



Haiti, 2021

© UNICEF/UN0504699/Rouzier

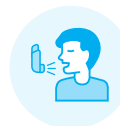
Risks to physical health include:

Allergy development



Heat stroke and heat stress

Increased risk of chronic respiratory conditions



Increased rates of asthma



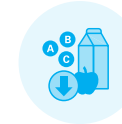
Risks of mosquito-borne disease including dengue fever



Increase in cardiovascular diseases



Low birth weight



Undernutrition



Diarrhoea

From the poles to the tropics, heatwaves are a global problem

Heatwaves are a global phenomenon. As extreme high temperatures increase and the longevity, duration and severity of heatwaves accelerate, children are increasingly exposed to heat-related vulnerabilities.

Although extreme heat is more deadly in tropical areas that are already hot, rising heat has profound effects across geographies. The four heat measures examined in this report affect people living in various regions differently.

For example, although they are sparsely populated, the most dramatic swings in temperature are occurring in polar regions. This is partially due to temperature changes that cause ice to melt creating a cycle whereby melted ice and permafrost prevent refraction of the sun's radiation, and even more absorption of radiant heat into the ground surface, further exacerbating temperature rises. Earlier in 2022, unprecedented temperatures in Antarctica and near the north pole hit 30–40 degrees above normal. These polar heat patterns are a signal of disruption in the climate system and accelerate the climate crisis.

In regions that are already hot, extreme temperatures can quickly become deadly. Since late March 2022, an extreme heatwave with temperatures over 40°C affected parts of India and Pakistan, causing casualties, widespread power failures, fires, crop losses and affecting millions of people in one of the most densely populated parts of the world.

In the Central-West region of Brazil, in August 2021, extremely high temperatures were reported over several days. For example, in the state of Mato Grosso, maximum temperatures reached 41°C, about 7°C above normal, contributing to 184,000 wildfire outbreaks, 75,000 of which occurred in the Brazilian Amazon.

Countries in North Africa have been witnessing an increasing number of wildfires in the past years due to extremely high temperatures, causing a considerable humanitarian impact. For example, the fires in Algeria resulted in the death of 44 people and caused more than 250 injuries, and the displacement of more than 500 families in August 2022.

In the United States, nearly every region experienced above-average temperatures in 2022. At the beginning of September, more than 61 million people were under active extreme heat advisories, watches, and warnings. According to the National Weather Service, heatwaves kill more people than any other weather-related disaster in the United States.

How do heatwaves affect children?

Children are more vulnerable to the impacts of extreme heat and heatwave events than adults. Infants and young children are less able to regulate their body temperature compared to adults, putting them more at risk when exposed to high heat.

Children are more vulnerable to the impacts of extreme heat and heatwave events than adults.

Children also spend more time outdoors than adults for play, sports and other activities, putting them at greater risk for heat injury.

Children are affected by heat in two broad ways:

1. risks to health and well-being, and
2. social and educational risks.

Heat can also affect children's mental and emotional health. High temperatures are linked to increases in mental health problems in children and adolescents, including post-traumatic stress disorder and depression.

Extreme heat threatens children's access to food and water. Heatwaves exacerbate drought, causing crop failure and food insecurity, with severe impacts on child nutrition, particularly in communities that depend on agriculture. Higher temperatures also increase demand for water. The resulting water scarcity hinders children's ability to regulate body temperatures and stay hydrated. It can also force communities to rely on unsafe water sources, leading to outbreaks of waterborne diseases like cholera.

Extreme heat affects children's education and future livelihoods. Heatwaves lead to poor health and nutrition in children and are linked to lower achievement in school and lower school attendance. High air temperatures and lower hydration are known to affect children's ability to concentrate.

Heatwaves also threaten children's safety. As pastures and household income dry up, communities are forced to search for and compete over food and water resources. The resulting migration, displacement and conflict exposes children to serious risk of physical harm and violence.

Extreme heat poses unique risks at different stages of childhood. Babies and young children under age 5 are the most at risk of increased heat-related mortality and morbidity. School-aged children are the most affected by asthma exacerbations. Adolescents are vulnerable to exertional heat-related injuries and educational/social risks.

Heatwaves also present significant health risks for pregnant and breastfeeding women. Extreme heat is harmful to children in-utero and can lead to stillbirth, complications from gestational diabetes, and pre-term birth.

The most disadvantaged are the most at risk. Children from the poorest communities from the poorest countries face the greatest risks from heatwaves and yet receive the least support. They often lack access to coping mechanisms that could offer protection such as air conditioning, shelter, water for hydration and healthcare for treatment.

Responses

Despite the many alarming risks children face from heatwaves and other climate hazards, public awareness, policy responses and financing remain deeply inadequate.

We must **protect** children from immediate climate devastation by adapting the critical social services they need such as health, water and sanitation and education to withstand heatwaves and other climate and environmental shocks. We must **prepare** them to live in a climate-changed world by providing them with the education, skills and opportunities to meaningfully participate in climate policy-making. Protecting and preparing children requires **prioritizing** children in climate finance and resource allocation.

However, to **prevent** the very worst scenarios as outlined in this report, we must drastically reduce greenhouse gas emissions. Mitigation is the only long-term solution to climate change.



Youth heatwave experiences: Fatima Faraz, Pakistan, 16

I'm a climate activist from Peshawar, Pakistan. Pakistan is being severely affected by the heatwaves from the unprecedented rainfalls that leads to floods, to heatwaves and droughts. Heatwaves have been a common occurrence in Pakistan since 2015. But these climatic conditions are touching the country earlier and with much more intensity and duration, with the exact toll still unknown. The heatwaves in Pakistan have claimed the lives of thousands of people and caused glacial melting and wildfires in the country. Peshawar was also affected by the recent heatwaves. Many people around me got heatstroke and we couldn't go out during the daytime and we had to reschedule all of our activities to the nighttime. I couldn't go out with my friends. No children could go out to play either. The schools remain closed for the months of June and July because of extreme weather conditions. The people of Pakistan contribute very little to the global heating, yet they are experiencing the brunt of this crisis and will continue to do so if you do not if you do not reduce our global carbon emissions.



Somalia, 2018

© UNICEF/UN0300840/Knowles-Coursin



Youth heatwave experiences: Oumou Hawa Diallo, Guinea, 22

I am a passionate environment advocate, co-founder of the NGO Agir contre le réchauffement climatique and involved with the Jeune Voix du Sahel initiative, a platform of young climate champions set up by UNICEF in the Sahel region of Africa.

Sadly, Guinea is the fourth most affected country in the world according to UNICEF's Children's Climate Risk Index. Unfortunately, the consequences of climate change affect children and young people particularly and most severely.

During heavy rains, we experience flooding, which has cost the lives of many children, especially in the Conakry area where I live. These heavy rains on one hand and lack of water during droughts on the other, leads to the destruction of crops, and malnutrition affecting children.

Bush fires and deforestation cause people to move in search of new land, new homes, and new sources of income, which generally leads to tensions of which children are the first victims.

Climate education is crucial in the fight against climate change. It raises awareness and responsibility for the protection and preservation of our living environment. This is why we are constantly advocating for the introduction

of environmental education in the school curriculum. A child who is educated to respect the environment by adopting eco-citizen gestures will be an ambassador for the climate wherever he or she goes.

But what does not accelerate our response to climate change is viewing young people as beneficiaries of environmental initiatives. We young people are a powerful resource. We are creative, we can sit around the table for the development and implementation of climate change policies, and follow-up with our leaders and development partners.

We need to be involved as actors in the fight against climate change and not just as beneficiaries of climate initiatives.

I would like to give a message to young people: we need to continue to get more involved in the fight against climate change. Let us amplify our voices for this common cause everywhere.

I call on leaders to consider the potential of young people. We need action.

Let's all join hands, let's fight to face this major challenge of our century.

We need to be involved as actors in the fight against climate change and not just as beneficiaries of climate initiatives.



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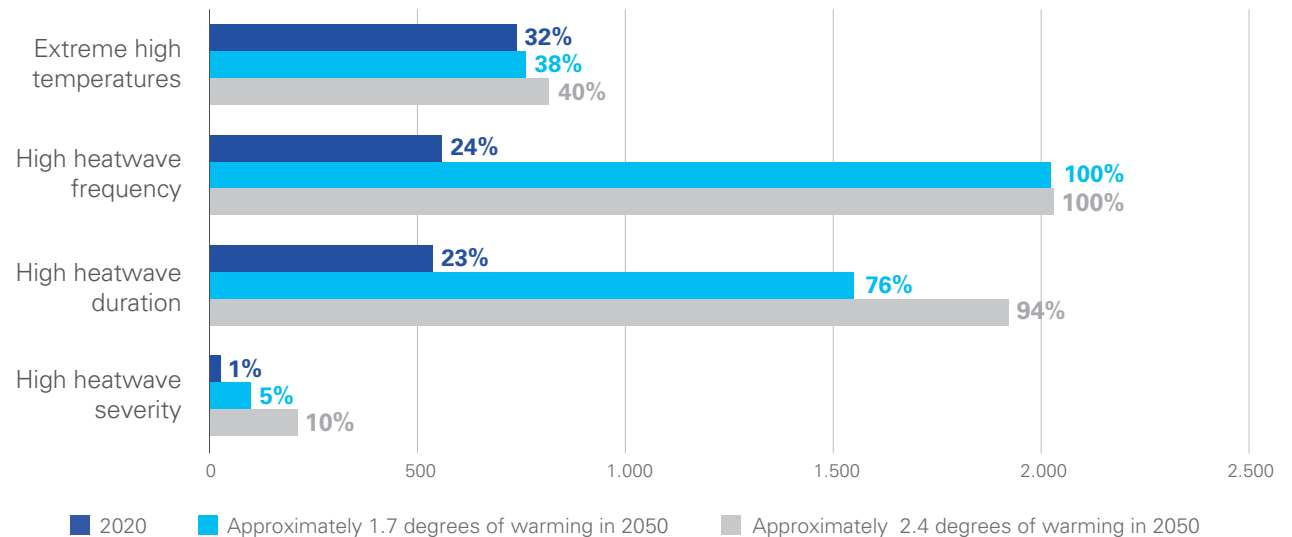
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1

Children and heatwaves in 2020 and 2050 under low and very high emission scenarios

As shown in the following maps, by every measure, more children are expected to be exposed to heatwaves by 2050 compared to 2020. The impact is especially dramatic for high heatwave frequency and duration that are expected to affect over three-quarters of the world's children. High heatwave severity is likely to affect northern regions in particular and extreme high temperatures will particularly affect children in tropical climates. The data make it clear: both adaptation and mitigation are needed urgently.

Figure 1: Approximate number and percentage of children exposed to high heat measures in 2020 and under low emission scenario with approximately 1.7 degrees warming and under a very high emission scenario with approximately 2.4 degrees warming by 2050



Ethiopia, 2022

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Extreme high temperatures

In 2020, around 740 million children (1 in 3 children globally) lived in countries with 83.54 or more days per year exceeding 35°C. By 2050 under a very high emission scenario with approximately 2.4 degrees of warming, this figure is expected to rise to approximately 816 million (2 in 5 children).

Vast swaths of the planet are already exposed to extreme high temperatures including the Middle East, North and Central Africa, South Asia, and parts of Latin America and Australia. At these extremes of temperature and duration, day-to-day routines are impossible, crops and livestock are devastated, and more children fall sick or die.

Child exposure to extreme high temperatures is highest in **Africa** and **Asia** in 2020 and will also be highest in these two regions by 2050.

Currently 23 countries fall into the highest category for child exposure to extreme high temperatures. This will rise to 33 countries by 2050 under the low emissions scenario and 36 countries under the very high emissions scenario. Burkina Faso, Chad, Mali, Niger, Sudan, Iraq, Saudi Arabia, India and Pakistan are expected to remain in the highest category in both scenarios.

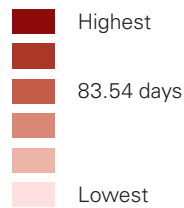
One in three children in Africa is exposed to this factor in 2020 (about 207 million) and at least 2 out of 5 children are expected to be exposed to this factor under both scenarios in 2050 (42 per cent / about 274 million children SSP1 under and 44 per cent / about 287 million under SSP5).

Two out of five children in Asia are exposed to extreme high temperatures in 2020 (about 520 million). About half of children in Asia are expected to be exposed under SSP1 and SSP5 in 2050 (47 per cent / about 471 million children under SSP1 and 50 per cent / about 502 million under SSP5).



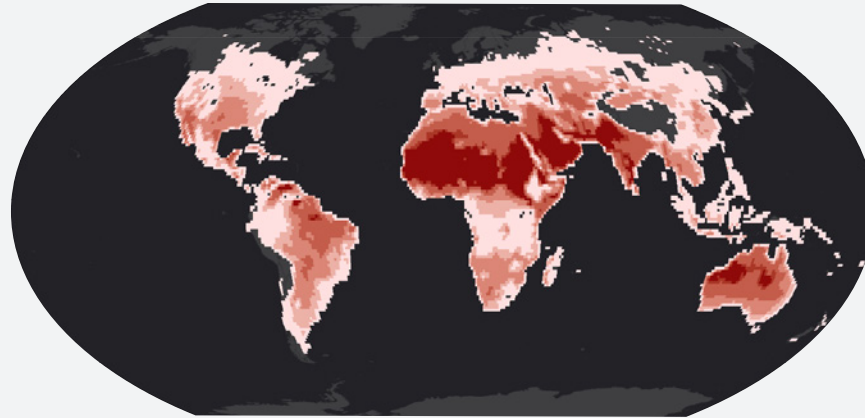
Areas exposed to extreme high temperatures

Extreme high temperatures

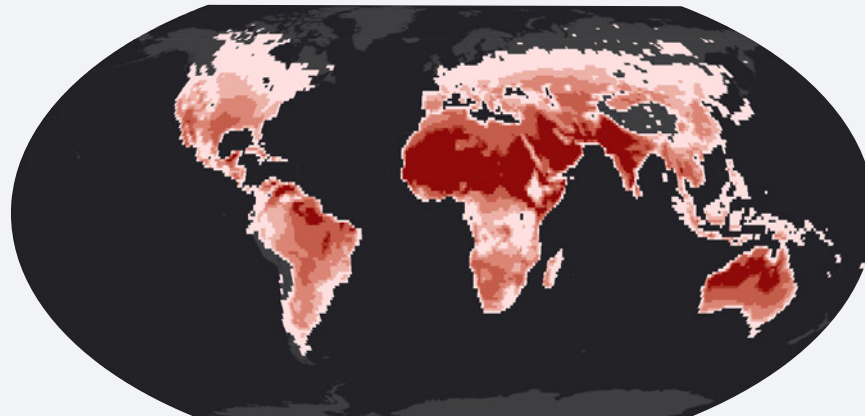


Source: The extreme temperatures metrics were created by the Data for Children Collaborative using the Scenario MIP from the Climate Model Intercomparison Project 6 (CMIP6) climate model simulations for daily maximum temperature and the Berkley Earth Surface Temperature (BEST) dataset (Temperature data). Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community.

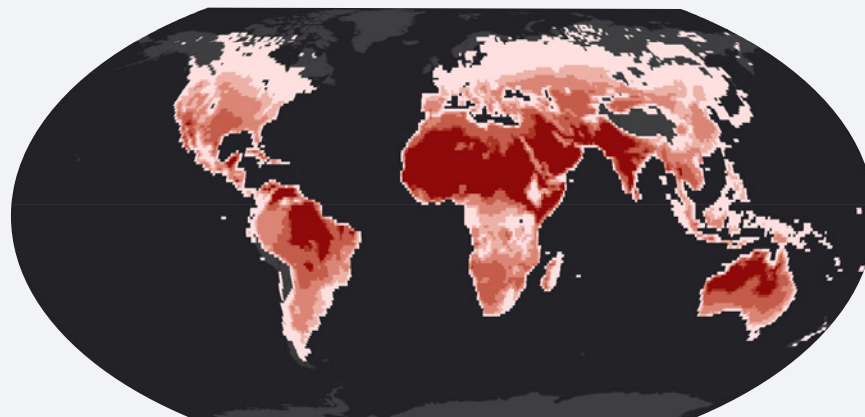
Note: Areas where, on average, 83.54 or more days a year exceed 35°C are included in the analysis of children's exposure to extreme high temperatures.



Map 1a: Areas exposed to extreme high temperatures, 2020



Map 1b: Areas exposed to extreme high temperatures, 2050, low emission scenario with an estimated 1.7 degrees of warming



Map 1c: Areas exposed to extreme high temperatures, 2050, very high emission scenario with an estimated 2.4 degrees of warming



Youth heatwave experiences: Bella, United States, 13

Texas is the second-largest state in America and this summer [2022], we experienced a very bad drought.

Eighty-eight per cent of the state was in a drought and the temperatures were very high. We tried to conserve water and energy by taking shorter showers, refraining from using our dishwasher and laundry machine in the daytime because the temperatures were so hot, and we tried to only water our lawns a couple of times a week. Thousands of people in the US die from heat every year which goes to show how important it is that we take action now so we can have a safer, cooler planet for future generations to come. UNICEF has inspired me to advocate for climate change and take action in my community.

High heatwave frequency

By 2050, under both low and very high emission scenarios, virtually every child on earth will be exposed to high heatwave frequency (i.e., living in areas where the average yearly number of heatwaves is equal to or above 4.5), rising from only 1 in 4 children in 2020.

The implications for children's health and well-being and the need for adaptation are dramatic. The more heatwaves children are exposed to, the greater the chance of developing health problems including

chronic respiratory conditions, asthma, and cardiovascular diseases.

While the **Americas** and **Europe** have the highest percentage of children exposed to high heatwave frequency in 2020, **Asia** has the highest absolute number of children exposed.

While only 10 per cent of children in **Africa** are exposed to high heatwave frequency in 2020, this will rise dramatically to 100 per cent by 2050 under both scenarios of warming.



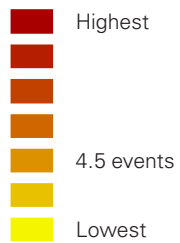
Zambia, 2020

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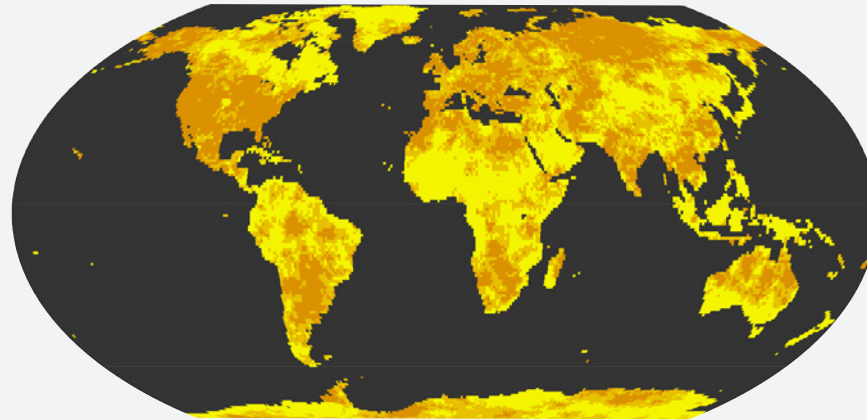
Areas exposed to heatwave frequency

Heatwave frequency

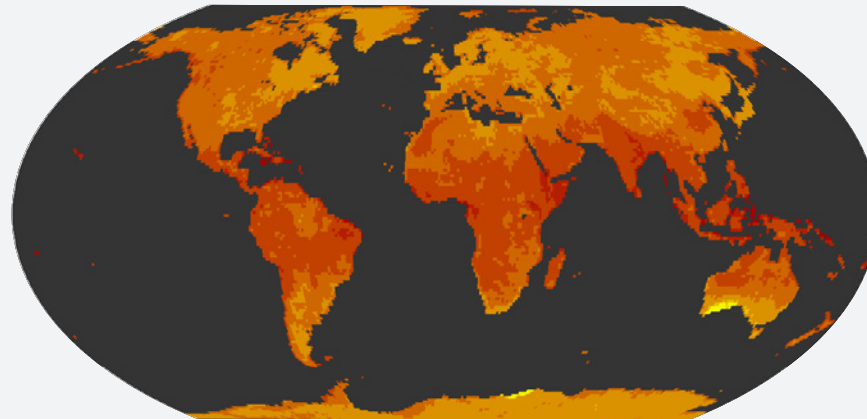


Source: The heatwave frequency temperatures metrics were created by the Data for Children Collaborative using the Scenario MIP from the Climate Model Intercomparison Project 6 (CMIP6) climate model simulations for daily maximum temperature and the Berkley Earth Surface Temperature (BEST) dataset (Temperature data). Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community.

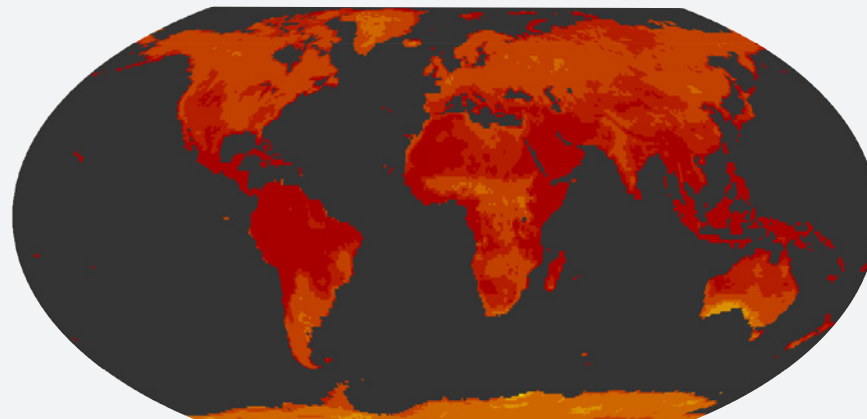
Note: Areas where there are on average 4.5 or more heatwaves per year are included in the analysis of children’s exposure to high heatwave frequency.



Map 2a: Areas exposed to heatwave frequency, 2020



Map 2b: Areas exposed to heatwave frequency, 2050, low emission scenario with an estimated 1.7 degrees of warming



Map 2c: Areas exposed to heatwave frequency, 2050, very high emission scenario with an estimated 2.4 degrees of warming

High heatwave duration

Heatwaves with longer duration pose more risks for children. Prolonged exposure to higher temperatures increases the risk of hospitalization or health impacts.

While about 1 in 4 children live in areas where the average heatwave event lasts 4.7 days or longer as of 2020, by 2050, this percentage will rise dramatically to over 3 in 4 children under a low emission scenario of approximately 1.7 degrees of warming with children in much of Southern, Western and South-eastern Asia, Eastern and Southern Europe, Northern Africa experiencing heatwaves of longer duration. At approximately 2.4 degrees of warming, 94 per cent of children will be exposed with only small areas of southern America, central Africa, Australasia and Asia not exposed to high heatwave duration.

There are deep and terrible effects of failing to limit global heating to 1.7 degrees. Although exposure to high heatwave duration is expected to increase in both emission scenarios, the difference in projections between low and very high emission scenarios means that by 2050, over **370 million more children** will be exposed to high heatwave duration under the very high emission scenario.

Absolute child exposure to high heatwave duration is highest in **Asia** in 2020 (around 402 million children, or about 1 in 3 children). Relative child exposure is highest in Europe in 2020 (around 53 million children, or almost 2 in 5 children).

Exposure to high heatwave duration is expected to increase dramatically in all regions, particularly in **Africa**, where only a small proportion of children (<5 per cent) is exposed in 2020. This will rise dramatically to 72 per cent and 91 per cent by 2050 under the low and very high emission scenarios.



Youth heatwave experiences: **Mujtaba Jafar Abdulazeez Alshawi, Iraq, 20**

I got involved in climate change advocacy because climate change has a huge impact on Iraq, especially my city Misan. During the summer months the temperatures can reach as high as 50°C . The air conditioning is not available in all public places or at stops on the road, making it challenging to move around and deal with the heat.

The high summer temperatures have also caused the drought of marshes in the south of Iraq where I live, a UNESCO World Heritage Site. The drought has caused the death of many animals and forced people who depend on this land to move elsewhere. Migrating to other areas has increased their chances of being exposed to unsafe working and living conditions.

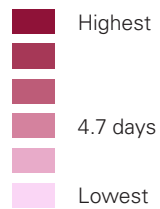
In my community, people use large air conditioners to deal with the heat, but these consume a lot of energy. Electricity is sometimes cut off, not only for homes, but also for hospitals and other government buildings, causing major problems. In southern Iraq, the humidity can be high due to its proximity to the Gulf and with the increase in temperatures, breathing becomes difficult for many people. Additionally, there has been an increase in dust storms recently due to climate change. This has impacted many people suffering with asthma or those who have a sensitivity to dust.

Climate change hurts young people who are the most vulnerable and often forced to migrate. We need investments in green growth now so that young people can benefit from the positive impact in the short term and be protected from the accelerating climate threats in the long term.

We need to take action now. We need to implement and take previous climate agreements more seriously, like the Paris Agreement, as well as move to sustainability and not rely on materials that increase pollution.

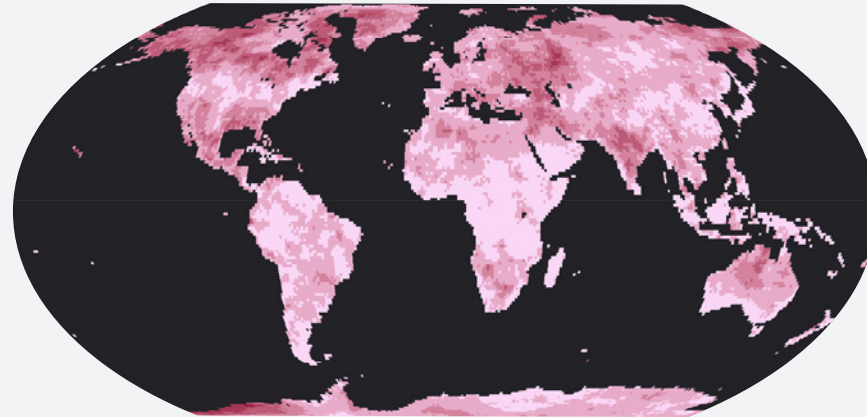
Areas exposed to heatwave duration

Heatwave duration

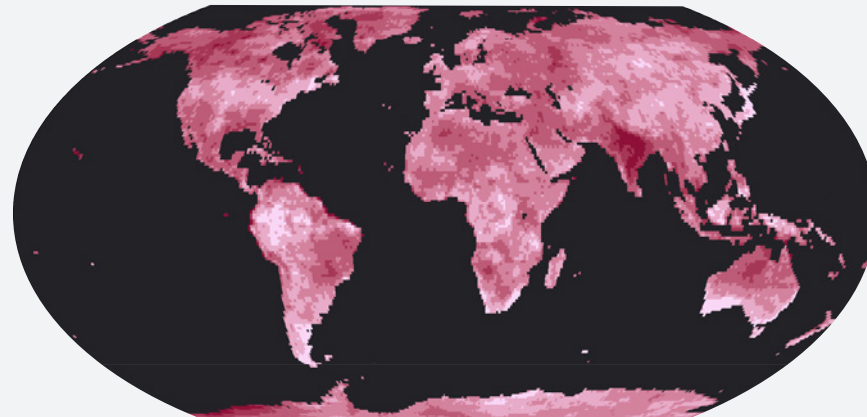


Source: The heatwave duration metrics were created by the Data for Children Collaborative using the Scenario MIP from the Climate Model Intercomparison Project 6 (CMIP6) climate model simulations for daily maximum temperature and the Berkley Earth Surface Temperature (BEST) dataset (Temperature data). Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community.

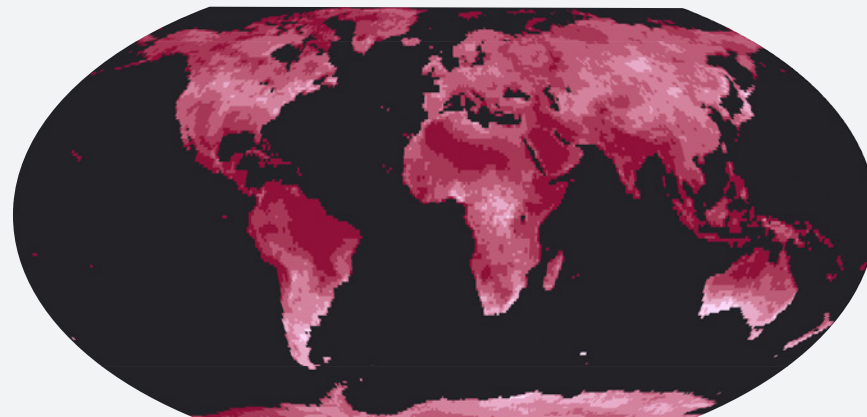
Note: Areas where the average heatwave event lasted 4.7 days or longer are included in the analysis of children’s exposure to high heatwave duration.



Map 3a: Areas exposed to heatwave duration, 2020



Map 3b: Areas exposed to heatwave duration, 2050, low emission scenario with an estimated 1.7 degrees of warming



Map 3c: Areas exposed to heatwave duration, 2050, very high emission scenario with an estimated 2.4 degrees of warming



Youth heatwave experiences: Mila, Hungary, 19

We experienced heatwaves this summer in Hungary. At first, I didn't realize it because it wasn't so obvious. It was just a few more hot days, instead of three or four in a week. We had like one or two weeks without any rain and with extreme heat. But I thought it might just be an anomaly. But then we got the news that there are towns in Hungary [where] there's no water anymore. People can't get access to water. And it really hit me. It made me anxious because I thought that it could never happen in the middle of Europe. I thought it's something too big. I didn't know what I could do. And I am very anxious about future summers, because I don't know what the future will bring, but it doesn't look like it will be any better.

High heatwave severity

Because mortality and hospitalization rates increase with temperature, higher heatwave severity will result in greater health impacts on children.

Under a low emissions scenario with approximately 1.7 degrees of warming, the number of children in areas where the average exceedance of a heatwave event is equal to or above 2°C will almost **quadruple** (from around 28 to 100 million) and see an **almost eight-fold increase** under a very high emissions scenario with 2.4 degrees of warming (from around 28 to 212 million).

Northern regions will see the most dramatic increases in exposure to high heatwave severity.

Child exposure to high heatwave severity will be highest in **Europe** by 2050 (around 1 in 3 children under SSP1 and almost 2 in 3 children under SSP5).

While only a small proportion of children (about 5 per cent) is exposed to high heatwave severity in the **Americas** in 2020, the approximate number of children exposed is expected to increase five-fold by 2050 (from 13 million to 62 million).



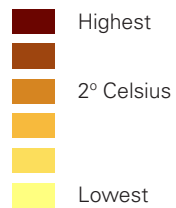
Somalia, 2022

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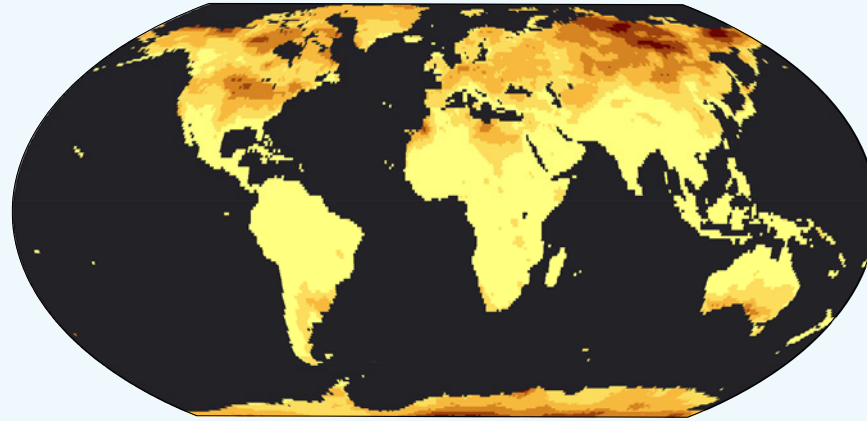
Areas exposed to heatwave severity

Heatwave severity

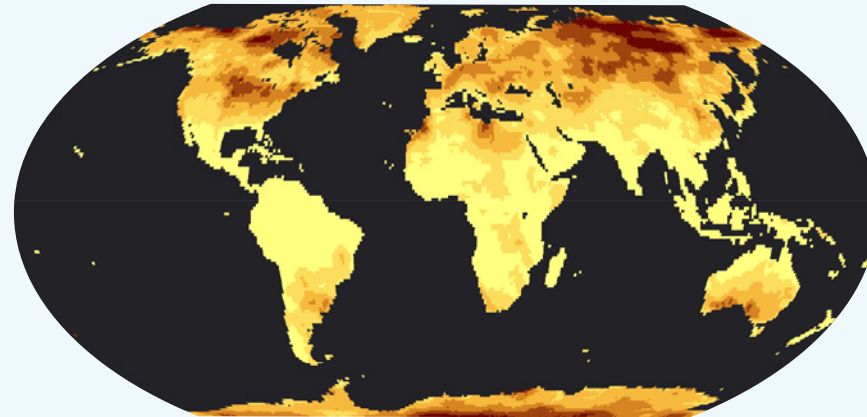


Source: The heatwave severity metrics were created by the Data for Children Collaborative using the Scenario MIP from the Climate Model Intercomparison Project 6 (CMIP6) climate model simulations for daily maximum temperature and the Berkley Earth Surface Temperature (BEST) dataset (Temperature data). Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community.

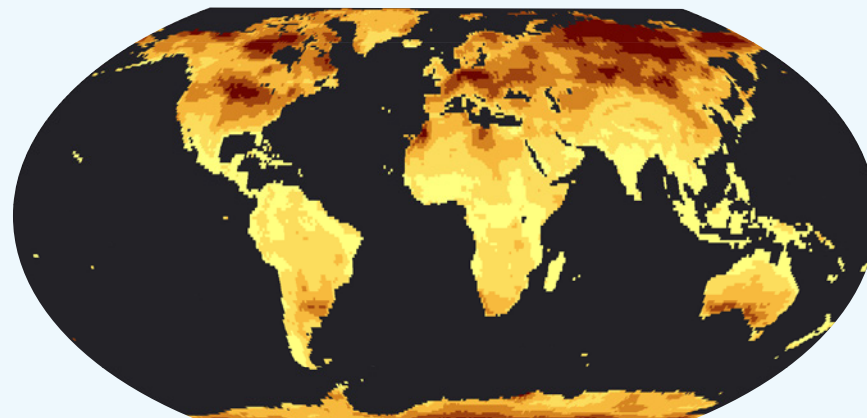
Note: Areas where the average heatwave event is 2°C or more above the local 15-day average are included in the analysis of children's exposure to high heatwave severity.



Map 4a: Areas exposed to heatwave severity, 2020



Map 4b: Areas exposed to heatwave severity, 2050, low emission scenario with an estimated 1.7 degrees of warming



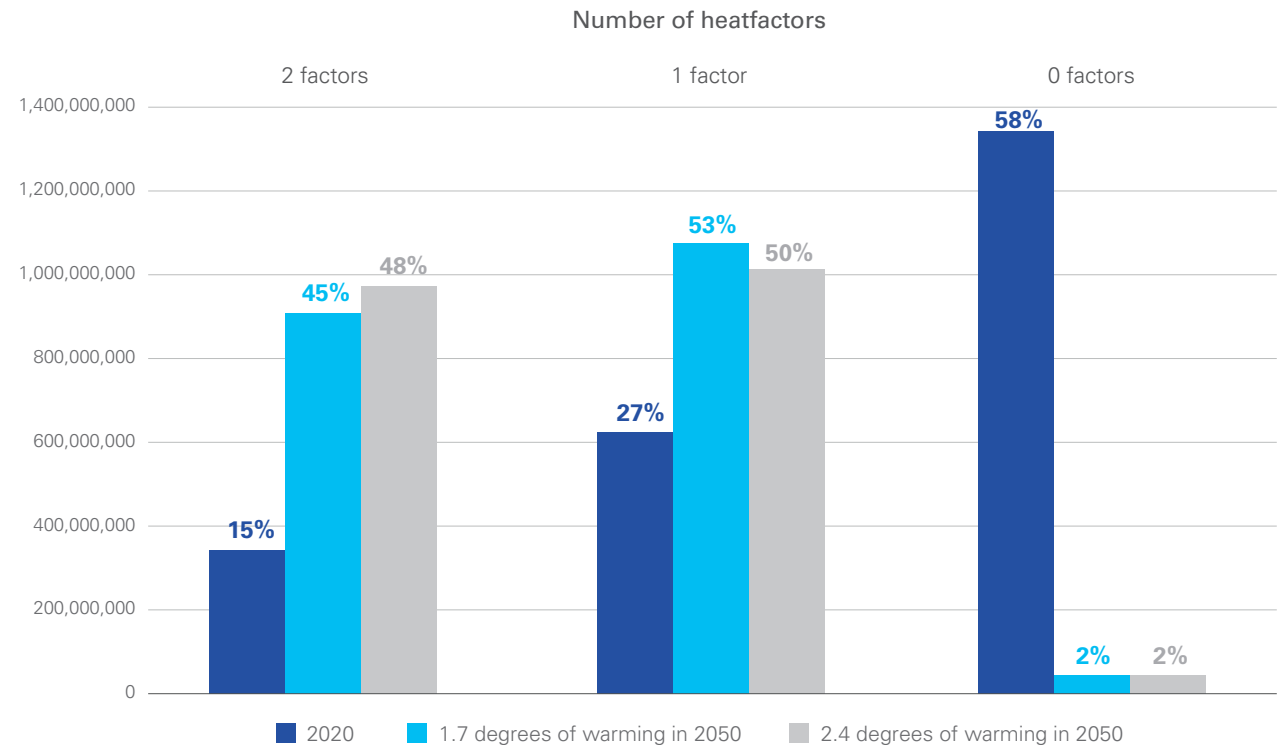
Map 4c: Areas exposed to heatwave severity, 2050, very high emission scenario with an estimated 2.4 degrees of warming

Children’s exposure to high heat measures

Almost all children worldwide will be exposed to at least one high heat measure by 2050. An analysis of the approximate number of children under 18 exposed to three high heat measures (high heatwave duration, high heatwave severity and extreme high temperatures) has found that:

- While over half (58 per cent) of children were not yet exposed to any of these three high heat measures in 2020, by 2050 this figure will fall to only 2 per cent under either scenario.
- Under either scenario, around half of all children (over 1 billion) is expected to be exposed to one of the three high heat measures by 2050, up from just 27 per cent in 2020.
- The approximate number of children exposed to two of the high heat measures will almost triple by 2050 (from 342 million in 2020 to 907 million under a low emissions scenario with approximately 1.7 degrees of warming and 973 million under a very high emission scenario with approximately 2.4 degrees of warming).
- In 2020, no children are exposed to all of the three high heat measures. By 2050, this will rise to between 5 and 8 million, depending on the heating pathway.

Figure 2: Approximate number and percentage of children exposed to 0, 1 or 2 high heat measures: in 2020; by 2050 under low-emission scenario (+1.7 °C); and by 2050 under a very high-emission scenario (+2.4 °C)



Note: Three of the four high heat measures are considered in the analysis of children’s exposure to different numbers of measures: high heatwave duration, high heatwave severity and extreme high temperatures.



Youth heatwave experiences: **Nkosi Nyathi, Zimbabwe, 19**

Imagine walking 5 kilometers to school under the scorching sun without shade in sight. Imagine writing final exams outside in the dry, sweltering heat, and still being expected to pass with flying colours. I don't have to imagine this because this is the daily life for myself and over thousands of schoolchildren in my city alone.

Climate change is real. I live climate change; my friends and family live it too. We experience droughts, floods, and heatwave in our day-to-day lives. Sometimes we go from excessive rains and floods that wash away our topsoil, which we depend on for agriculture. Then suddenly, the weather patterns are the opposite. We experience periods of high temperatures and extreme droughts. Land is dry and cracked, crops fail, and animals die.

Because of these erratic weather patterns, some farmers have been forced to shift to growing small grains. Residential areas have also been affected with homes and schools being destroyed. The extreme heat makes it challenging for young people to study or even attend school.

It's hard to be a child no matter what, but especially hard to have a childhood torn apart by climate disaster after climate disaster and wonder what the future holds. This is why I became an activist to fight to have a future. At age 10, I started to recognize these changes and decided to speak up about the effects of climate change and raise awareness about the impacts in my home country.

Now, I am working on a solar pump project to help alleviate the water shortages caused by unpredictable power cuts. My vision as a young person is to advocate while implementing because how can I hold decision makers accountable without putting in an effort on the ground myself?

Time is ticking and there is no better time to act than now. The best solution is to include young people in the climate decision-making processes.

We are here, we are smart, we have the solutions. Most importantly, nothing for us that is done without us is indeed for us.

It's hard to be a child no matter what, but especially hard to have a childhood torn apart by climate disaster after climate disaster and wonder what the future holds.

2

We must act now: protect, prepare, prioritize, prevent

The climate crisis is rapidly getting worse. Children and young people face changes on a scale we are only now starting to experience. Heatwaves are just one manifestation. Although heatwaves are already becoming longer, stronger, more widespread and more frequent, by 2050, virtually every child on earth – over 2 billion children – is forecast to face more frequent heatwaves under either warming scenario in this report.

How deadly and damaging the impact of climate hazards become for children and young people is dependent on the action taken now, to limit global heating to 1.5°C and to prepare for and adapt to climate impacts.

UNICEF urges leaders and governments to take immediate action to:

PROTECT children from climate devastation by adapting social services

Children and young people are the most vulnerable to climate shocks including heatwaves.

- Every country must **adapt critical social services** - WASH, health, education, nutrition, social protection and child protection – to protect children and young people.
- **Food and social protection systems** made fragile by climate change, environmental crises and conflict must be strengthened to withstand hazards and ensure continued access to healthy diets. Increased investments must be made in the early prevention, detection and treatment of severe malnutrition in children, mothers and vulnerable populations.
- **Health systems** must be resilient to climate events and must be equipped to treat children and pregnant and breastfeeding women facing the impacts of heatwaves and other climate hazards.
- **WASH services** must be adapted to withstand climate-related disasters and weather variability to protect against contamination and shortages of drinking water supply. Risk assessments, early warning systems, and innovative technologies to monitor water supply and safety must be implemented to protect against water scarcity and contamination.
- **At COP27**, children and their rights must be prioritized in decisions on adaptation.

PREPARE children to live in a climate-changed world

Children and young people have a unique stake in the climate agenda, as a direct threat to their rights and future prospects.

- Every country must provide children and young people with **climate change education, disaster risk reduction education, green skills training** and opportunities to meaningfully participate and influence climate policy-making.
- **COP27** must see countries strengthen the focus on children's climate education and empowerment in the ACE action plan, adopt it, and implement previous commitments to build youth capacity.

PRIORITIZE children and young people in climate finance and resources

Protecting and preparing children and young people requires urgent funding and resources.

- Developed countries must deliver on their COP26 agreement to **double adaptation funding to \$40bn per year by 2025** at a minimum, as a step to delivering at least \$300bn per year for adaptation by 2030.
- **Adaptation funding** must make up half of all climate finance.
- **COP27** must unlock progress on loss and damage, placing the resilience of children and their communities at the center of discussions on action and support.

PREVENT a climate catastrophe by drastically reducing greenhouse gas emissions and keep 1.5 degrees Celsius alive

Emissions are projected to rise by 14 per cent this decade, putting us on a path to catastrophic global heating.

- All governments must revisit their national climate plans and policies to increase ambition and action. They **must cut emissions by at least 45 per cent by 2030** to keep heating to no more than 1.5°C.
- **G20 countries** - emitters of 80 per cent of all greenhouse gas emissions - must take the lead, yet all countries must act.
- The world must accelerate the transition to renewable energy production, all fossil fuel subsidies must end, windfall profits from fossil fuel producers must be taxed and redirected to the vulnerable, as urged by the United Nations Secretary General.



Yemen, 2021

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Chad, 2021

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Methodology and data limitations

The Shared Socioeconomic Pathways (SSPs) are scenarios established by the Intergovernmental Panel on Climate Change Sixth Assessment Report and CMIP6 in order to facilitate the integrated analysis of future climate impacts, vulnerabilities, adaptation, and mitigation. They describe plausible major global developments that together would lead in the future to different challenges for mitigation and adaptation to climate change.

SSP1 (sustainability/low emission scenarios) and SSP5 (fossil-fueled development/very high emission scenarios) both envision a development path with increased investment in education and health and relatively high-income growth, leading to a relatively rapid demographic transition and therefore, low population growth in the high fertility countries. In contrast, in currently low fertility countries, optimism about economic prospects sustains fertility at medium (SSP1) or high levels (SSP5). Migration is substantial in both pathways, and urbanization is rapid, although it is less well managed in SSP5.

Individual heat measure maps were constructed for 2020 and the 2050 scenarios. Heatwave events were calculated using the CTX90pct threshold method - the calendar day when maximum temperature equals or exceeds the 90th percentile of Tmax, based on a 15-day window.

Global gridded population datasets have been used to estimate (child) population exposure to the four heat measures in 2020 and 2050. Global gridded population datasets have been used for the population exposure analysis in the 2050 SSP1 and SSP5 scenarios that are consistent with the population scenario for each pathway.

The 2020 and 2050 percentages of population under 18 of the medium variant of the World Population Prospects (WPP) are used to estimate the number of children under 18 exposed by country/area. In general, the proportion of population under 18 decreases between 2020 and 2050.

The maps and estimates in this report are based on data derived from a combination of models, expert assumptions and underlying data sets that have been incorporated into plausible scenarios of future states.





The spatial resolution of the climate data does not necessarily allow for the consideration of impacts such as the Urban Heat Island effect, which may lead to an underestimation of some regions' extreme high temperatures. The incorporation of a standard grid system, and the interpolation that was used are also likely to have led to underestimations of extreme high temperatures.





Similarly, the time resolution of the models (often 20 minutes to 1 hour) will also lead to underestimations of the exact maximum temperature. This approach does not consider the impact of humidity, which when combined with temperature to form a Heat Index, can improve the relationship with health impacts.

There are rounding issues in all modelling systems which can lead to uncertainty in projections, particularly where data are standardized to a unifying scale from multiple scales. However, efforts have been taken here to reduce these uncertainties and provide the most reliable estimates of current and future states.





Annex: data tables

Table 1: Estimates of children's exposure to high heat measures in 2020

UN REGION		HIGH HEATWAVE FREQUENCY 		HIGH HEATWAVE DURATION 		HIGH HEATWAVE SEVERITY 		EXTREME HIGH TEMPERATURES 	
		No. of children (under 18)	%	No. of children (under 18)	%	No. of children (under 18)	%	No. of children (under 18)	%
Africa		60 million	9.6%	16 million	2.6%	1 million	0.2%	207 million	33.3%
Americas		123 million	45.8%	67 million	24.8%	13 million	5.0%	13 million	5.0%
Asia		310 million	24.4%	402 million	31.7%	2 million	0.1%	520 million	41.0%
Europe		66 million	47.2%	53 million	38.1%	11 million	8.2%	–	–
Oceania		270 thousand	2.6%	80 thousand	0.8%	370 thousand	3.6%	70 thousand	0.6%
<i>Total</i>		<i>559 million</i>	<i>24%</i>	<i>538 million</i>	<i>23%</i>	<i>28 million</i>	<i>1%</i>	<i>740 million</i>	<i>32%</i>
COUNTRY									
Afghanistan	Asia	1.2 million	7%	3.2 million	18%	–	–	2.2 million	12%
Albania	Europe	450 thousand	73%	560 thousand	91%	–	–	–	–
Algeria	Africa	4.3 million	29%	320 thousand	2%	5 thousand	0%	1.7 million	12%
Angola	Africa	810 thousand	5%	440 thousand	3%	–	–	–	–
Argentina	Americas	6.4 million	49%	110 thousand	1%	–	–	–	–
Armenia	Asia	5 thousand	0%	740 thousand	100%	–	–	–	–
Australia	Oceania	270 thousand	5%	80 thousand	1%	370 thousand	7%	70 thousand	1%
Austria	Europe	1.3 million	85%	20 thousand	2%	–	–	–	–
Azerbaijan	Asia	160 thousand	6%	2.8 million	100%	–	–	–	–
Bahrain	Asia	–	–	–	–	–	–	20 thousand	6%
Bangladesh	Asia	2.6 million	5%	3.9 million	7%	–	–	25.2 million	48%
Belarus	Europe	1.8 million	95%	560 thousand	30%	–	–	–	–
Belgium	Europe	–	–	20 thousand	1%	20 thousand	1%	–	–
Belize	Americas	110 thousand	78%	10 thousand	7%	–	–	–	–
Benin	Africa	–	–	60 thousand	1%	–	–	3.3 million	56%
Bhutan	Asia	–	–	–	–	–	–	–	–
Bolivia (Plurinational State of)	Americas	670 thousand	16%	30 thousand	1%	–	–	20 thousand	0%
Bosnia and Herzegovina	Europe	530 thousand	81%	350 thousand	54%	–	–	–	–
Botswana	Africa	640 thousand	66%	310 thousand	32%	–	–	5 thousand	0%
Brazil	Americas	9.6 million	18%	3 million	5%	–	–	5.1 million	10%
Brunei Darussalam	Asia	–	–	–	–	–	–	–	–
Bulgaria	Europe	800 thousand	67%	130 thousand	11%	–	–	–	–
Burkina Faso	Africa	–	–	310 thousand	3%	–	–	10.7 million	100%

COUNTRY	Region	HIGH HEATWAVE FREQUENCY 		HIGH HEATWAVE DURATION 		HIGH HEATWAVE SEVERITY 		EXTREME HIGH TEMPERATURES 	
		No. of children (under 18)	%	No. of children (under 18)	%	No. of children (under 18)	%	No. of children (under 18)	%
Burundi	Africa	–	–	–	–	–	–	–	–
Cambodia	Asia	2.2 million	37%	820 thousand	14%	–	–	–	–
Cameroon	Africa	–	–	–	–	–	–	3.5 million	27%
Canada	Americas	1.8 million	26%	480 thousand	7%	1.6 million	23%	–	–
Central African Republic	Africa	–	–	–	–	–	–	560 thousand	20%
Chad	Africa	20 thousand	0%	–	–	–	–	8.6 million	99%
Chile	Americas	140 thousand	3%	70 thousand	2%	–	–	–	–
China	Asia	64.9 million	22%	8.2 million	3%	10 thousand	0%	–	–
Colombia	Americas	310 thousand	2%	1.3 million	9%	–	–	240 thousand	2%
Congo	Africa	160 thousand	6%	–	–	–	–	–	–
Costa Rica	Americas	–	–	110 thousand	9%	–	–	–	–
Côte d'Ivoire	Africa	–	–	–	–	–	–	3.6 million	29%
Croatia	Europe	490 thousand	69%	340 thousand	48%	–	–	–	–
Cuba	Americas	–	–	–	–	–	–	–	–
Cyprus	Asia	120 thousand	55%	230 thousand	100%	–	–	–	–
Czechia	Europe	1.1 million	58%	–	–	5 thousand	0%	–	–
Democratic People's Republic of Korea	Asia	–	–	–	–	–	–	–	–
Democratic Republic of the Congo	Africa	2 million	4%	40 thousand	0%	–	–	–	–
Denmark	Europe	700 thousand	69%	700 thousand	68%	–	–	–	–
Djibouti	Africa	300 thousand	93%	–	–	–	–	320 thousand	100%
Dominican Republic	Americas	–	–	920 thousand	26%	–	–	–	–
Ecuador	Americas	–	–	990 thousand	18%	–	–	–	–
Egypt	Africa	2.4 million	6%	20 thousand	0%	–	–	30.9 million	80%
El Salvador	Americas	1.3 million	64%	780 thousand	39%	–	–	–	–
Equatorial Guinea	Africa	–	–	–	–	–	–	–	–
Eritrea	Africa	50 thousand	2%	–	–	–	–	2.2 million	79%
Estonia	Europe	30 thousand	12%	200 thousand	85%	–	–	–	–
Eswatini	Africa	110 thousand	18%	–	–	–	–	–	–
Ethiopia	Africa	3.7 million	7%	–	–	–	–	3.5 million	7%
Finland	Europe	720 thousand	72%	230 thousand	22%	–	–	–	–
France	Europe	2.1 million	15%	3.4 million	25%	2.3 million	17%	–	–
Gabon	Africa	10 thousand	1%	–	–	–	–	–	–
Gambia	Africa	–	–	–	–	–	–	1.1 million	100%
Georgia	Asia	–	–	930 thousand	100%	–	–	–	–
Germany	Europe	3.3 million	25%	2.6 million	20%	4.1 million	31%	–	–

COUNTRY	Region	HIGH HEATWAVE FREQUENCY		HIGH HEATWAVE DURATION		HIGH HEATWAVE SEVERITY		EXTREME HIGH TEMPERATURES	
		No. of children (under 18)	%	No. of children (under 18)	%	No. of children (under 18)	%	No. of children (under 18)	%
Ghana	Africa	–	–	60 thousand	0%	–	–	4.6 million	35%
Greece	Europe	1.3 million	81%	910 thousand	56%	–	–	–	–
Guatemala	Americas	1.5 million	21%	840 thousand	12%	–	–	40 thousand	1%
Guinea	Africa	–	–	–	–	–	–	3.8 million	55%
Guinea-Bissau	Africa	–	–	–	–	–	–	540 thousand	55%
Guyana	Americas	10 thousand	3%	–	–	–	–	10 thousand	3%
Haiti	Americas	–	–	–	–	–	–	–	–
Honduras	Americas	2.2 million	69%	2.7 million	86%	–	–	–	–
Hungary	Europe	1.5 million	87%	380 thousand	23%	–	–	–	–
Iceland	Europe	–	–	–	–	–	–	–	–
India	Asia	156.2 million	36%	294.9 million	68%	–	–	361.7 million	83%
Indonesia	Asia	1.3 million	2%	2.4 million	3%	–	–	–	–
Iran (Islamic Republic of)	Asia	5.4 million	23%	12.3 million	51%	–	–	5.8 million	24%
Iraq	Asia	1.2 million	6%	18.3 million	99%	–	–	16.9 million	92%
Ireland	Europe	800 thousand	71%	–	–	–	–	–	–
Israel	Asia	630 thousand	23%	1 million	38%	–	–	5 thousand	0%
Italy	Europe	6.1 million	67%	7.2 million	78%	–	–	–	–
Japan	Asia	–	–	–	–	–	–	–	–
Jordan	Asia	1.1 million	35%	20 thousand	1%	–	–	1 million	32%
Kazakhstan	Asia	2.4 million	39%	1.2 million	19%	1 million	17%	160 thousand	3%
Kenya	Africa	3.3 million	14%	–	–	–	–	2.5 million	10%
Kuwait	Asia	–	–	5 thousand	1%	–	–	920 thousand	100%
Kyrgyzstan	Asia	1.2 million	48%	240 thousand	10%	–	–	–	–
Lao People's Democratic Republic	Asia	2.5 million	90%	270 thousand	9%	–	–	–	–
Latvia	Europe	130 thousand	36%	300 thousand	81%	–	–	–	–
Lebanon	Asia	–	–	1.6 million	100%	–	–	–	–
Lesotho	Africa	770 thousand	91%	–	–	–	–	–	–
Liberia	Africa	–	–	–	–	–	–	–	–
Libya	Africa	740 thousand	34%	80 thousand	4%	60 thousand	3%	1 million	47%
Liechtenstein	Europe	5 thousand	100%	–	–	–	–	–	–
Lithuania	Europe	400 thousand	80%	100 thousand	20%	–	–	–	–
Luxembourg	Europe	–	–	–	–	–	–	–	–
Madagascar	Africa	5.9 million	45%	–	–	–	–	–	–
Malawi	Africa	1.8 million	18%	–	–	–	–	–	–
Malaysia	Asia	–	–	590 thousand	7%	–	–	–	–

COUNTRY	Region	HIGH HEATWAVE FREQUENCY 		HIGH HEATWAVE DURATION 		HIGH HEATWAVE SEVERITY 		EXTREME HIGH TEMPERATURES 	
		No. of children (under 18)	%	No. of children (under 18)	%	No. of children (under 18)	%	No. of children (under 18)	%
Mali	Africa	–	–	500 thousand	5%	–	–	11.1 million	100%
Malta	Europe	5 thousand	7%	–	–	–	–	–	–
Mauritania	Africa	5 thousand	0%	110 thousand	5%	–	–	1.9 million	90%
Mexico	Americas	29.4 million	70%	31.2 million	75%	–	–	2.3 million	6%
Mongolia	Asia	60 thousand	6%	10 thousand	1%	820 thousand	73%	–	–
Montenegro	Europe	140 thousand	100%	50 thousand	36%	–	–	–	–
Morocco	Africa	10.8 million	94%	160 thousand	1%	1.2 million	10%	120 thousand	1%
Mozambique	Africa	90 thousand	1%	270 thousand	2%	–	–	–	–
Myanmar	Asia	4.1 million	24%	2 million	12%	–	–	5.1 million	29%
Namibia	Africa	660 thousand	57%	370 thousand	32%	–	–	–	–
Nepal	Asia	6 million	56%	3.4 million	32%	–	–	2.8 million	26%
Netherlands	Europe	–	–	120 thousand	4%	490 thousand	15%	–	–
New Zealand	Oceania	–	–	5 thousand	0%	–	–	–	–
Nicaragua	Americas	5 thousand	0%	1.4 million	61%	–	–	720 thousand	32%
Niger	Africa	840 thousand	6%	60 thousand	0%	–	–	13.7 million	100%
Nigeria	Africa	5 thousand	0%	–	–	–	–	59.6 million	58%
North Macedonia	Europe	350 thousand	83%	320 thousand	76%	–	–	–	–
Norway	Europe	880 thousand	80%	120 thousand	11%	–	–	–	–
Oman	Asia	240 thousand	20%	–	–	–	–	1.2 million	97%
Pakistan	Asia	2.8 million	3%	20.2 million	24%	–	–	67.3 million	81%
Panama	Americas	–	–	10 thousand	1%	–	–	–	–
Papua New Guinea	Oceania	5 thousand	0%	–	–	–	–	–	–
Paraguay	Americas	2.4 million	100%	120 thousand	5%	–	–	30 thousand	1%
Peru	Americas	360 thousand	4%	180 thousand	2%	–	–	–	–
Philippines	Asia	1.1 million	3%	1.9 million	5%	–	–	–	–
Poland	Europe	3.3 million	49%	80 thousand	1%	1.1 million	16%	–	–
Portugal	Europe	1.5 million	94%	–	–	–	–	–	–
Qatar	Asia	–	–	–	–	–	–	380 thousand	100%
Republic of Korea	Asia	–	–	–	–	–	–	–	–
Republic of Moldova	Europe	440 thousand	58%	530 thousand	70%	80 thousand	10%	–	–
Romania	Europe	3 million	86%	1.2 million	34%	60 thousand	2%	–	–
Russian Federation	Europe	7.7 million	25%	23.7 million	78%	3.3 million	11%	–	–
Rwanda	Africa	–	–	–	–	–	–	–	–
Saudi Arabia	Asia	110 thousand	1%	590 thousand	6%	–	–	9.4 million	96%
Senegal	Africa	–	–	–	–	–	–	6.3 million	74%





COUNTRY	Region	HIGH HEATWAVE FREQUENCY		HIGH HEATWAVE DURATION		HIGH HEATWAVE SEVERITY		EXTREME HIGH TEMPERATURES	
		No. of children (under 18)	%	No. of children (under 18)	%	No. of children (under 18)	%	No. of children (under 18)	%
Serbia	Europe	1 million	63%	70 thousand	4%	–	–	–	–
Sierra Leone	Africa	760 thousand	23%	–	–	–	–	420 thousand	13%
Slovakia	Europe	1 million	100%	140 thousand	14%	–	–	–	–
Slovenia	Europe	330 thousand	87%	100 thousand	28%	–	–	–	–
Solomon Islands	Oceania	–	–	–	–	–	–	–	–
Somalia	Africa	120 thousand	2%	–	–	–	–	3.2 million	48%
South Africa	Africa	10.3 million	54%	7.6 million	40%	–	–	20 thousand	0%
South Sudan	Africa	950 thousand	14%	–	–	–	–	5.6 million	82%
Spain	Europe	6.1 million	79%	20 thousand	0%	–	–	–	–
Sri Lanka	Asia	2 million	33%	–	–	–	–	370 thousand	6%
State of Palestine	Asia	940 thousand	39%	5 thousand	0%	–	–	–	–
Sudan	Africa	20 thousand	0%	440 thousand	2%	–	–	20.6 million	98%
Suriname	Americas	–	–	–	–	–	–	10 thousand	6%
Sweden	Europe	1.4 million	70%	140 thousand	7%	–	–	–	–
Switzerland	Europe	1.5 million	100%	620 thousand	41%	–	–	–	–
Syrian Arab Republic	Asia	640 thousand	8%	7.2 million	94%	–	–	1.9 million	25%
Tajikistan	Asia	1.7 million	42%	700 thousand	18%	–	–	660 thousand	17%
Thailand	Asia	10.3 million	75%	2.9 million	21%	–	–	1.6 million	11%
Togo	Africa	–	–	470 thousand	12%	–	–	2.1 million	56%
Tunisia	Africa	10 thousand	0%	–	–	–	–	150 thousand	5%
Türkiye	Asia	14.3 million	62%	6.7 million	29%	–	–	1.1 million	5%
Turkmenistan	Asia	1.1 million	52%	–	–	–	–	1.5 million	73%
Uganda	Africa	–	–	4.1 million	17%	–	–	–	–
Ukraine	Europe	3.7 million	45%	7.2 million	88%	–	–	–	–
United Arab Emirates	Asia	–	–	–	–	–	–	1.6 million	99%
United Kingdom	Europe	9.8 million	72%	740 thousand	5%	–	–	–	–
United Republic of Tanzania	Africa	5.2 million	17%	–	–	–	–	–	–
United States	Americas	65.6 million	89%	22 million	30%	11.8 million	16%	1.9 million	3%
Uruguay	Americas	700 thousand	83%	–	–	–	–	–	–
Uzbekistan	Asia	5.4 million	51%	1.2 million	11%	–	–	2.5 million	24%
Venezuela (Bolivarian Republic of)	Americas	300 thousand	3%	440 thousand	4%	–	–	3 million	28%
Viet Nam	Asia	12.4 million	47%	1.8 million	7%	–	–	–	–
Yemen	Asia	3.7 million	28%	–	–	–	–	8.3 million	62%
Zambia	Africa	1.3 million	14%	400 thousand	4%	–	–	–	–
Zimbabwe	Africa	2.1 million	24%	40 thousand	0%	–	–	–	–

Table 2: Estimates of children's exposure to high heat measures by 2050
SSP1 2050: low emission scenario, with an estimated 1.7 degrees of warming





REGION	HIGH HEATWAVE FREQUENCY		HIGH HEATWAVE DURATION		HIGH HEATWAVE SEVERITY		EXTREME HIGH TEMPERATURES	
	No. of children (under 18)	%	No. of children (under 18)	%	No. of children (under 18)	%	No. of children (under 18)	%
Africa	658 million	99.9%	474 million	72.0%	2 million	0.3%	274 million	41.6%
Americas	224 million	99.1%	158 million	69.7%	34 million	15.0%	17 million	7.6%
Asia	998 million	99.8%	808 million	80.8%	21 million	2.1%	471 million	47.1%
Europe	132 million	99.8%	109 million	82.5%	42 million	32.0%	–	–
Oceania	12 million	98.6%	3 million	26.2%	590 thousand	5.0%	110 thousand	0.9%
<i>Total</i>	<i>2023 million</i>	<i>100%</i>	<i>1551 million</i>	<i>76%</i>	<i>100 million</i>	<i>5%</i>	<i>762 million</i>	<i>38%</i>

COUNTRY

Afghanistan	Asia	19.3 million	100%	18 million	93%	–	–	4.1 million	21%
Albania	Europe	450 thousand	100%	450 thousand	100%	–	–	–	–
Algeria	Africa	11.4 million	100%	4.4 million	38%	–	–	3.1 million	27%
Angola	Africa	17 million	100%	9.8 million	58%	–	–	1.5 million	9%
Argentina	Americas	10.4 million	100%	2.4 million	23%	240 thousand	2%	5 thousand	0%
Armenia	Asia	490 thousand	100%	490 thousand	100%	–	–	–	–
Australia	Oceania	7 million	99%	880 thousand	12%	590 thousand	8%	110 thousand	1%
Austria	Europe	1.5 million	100%	420 thousand	27%	230 thousand	15%	–	–
Azerbaijan	Asia	2.1 million	100%	2.1 million	100%	–	–	–	–
Bahrain	Asia	460 thousand	100%	460 thousand	100%	–	–	460 thousand	100%
Bangladesh	Asia	35.5 million	99%	35.5 million	99%	–	–	18.7 million	52%
Belarus	Europe	1.5 million	100%	1.4 million	96%	280 thousand	19%	–	–
Belgium	Europe	2.4 million	100%	2.4 million	100%	2.2 million	89%	–	–
Belize	Americas	90 thousand	99%	90 thousand	99%	–	–	10 thousand	13%
Benin	Africa	6.6 million	100%	5.8 million	87%	–	–	4.4 million	66%
Bhutan	Asia	210 thousand	100%	190 thousand	87%	–	–	–	–
Bolivia (Plurinational State of)	Americas	3.2 million	100%	1.3 million	39%	–	–	50 thousand	2%
Bosnia and Herzegovina	Europe	460 thousand	100%	460 thousand	100%	–	–	–	–
Botswana	Africa	710 thousand	100%	710 thousand	100%	–	–	300 thousand	42%
Brazil	Americas	36.4 million	98%	29.3 million	79%	210 thousand	1%	4.2 million	11%
Brunei Darussalam	Asia	90 thousand	99%	–	–	–	–	–	–
Bulgaria	Europe	1 million	100%	1 million	100%	510 thousand	48%	–	–
Burkina Faso	Africa	13.3 million	100%	13.3 million	100%	–	–	13.3 million	100%

COUNTRY	Region	HIGH HEATWAVE FREQUENCY 		HIGH HEATWAVE DURATION 		HIGH HEATWAVE SEVERITY 		EXTREME HIGH TEMPERATURES 	
		No. of children (under 18)	%	No. of children (under 18)	%	No. of children (under 18)	%	No. of children (under 18)	%
Burundi	Africa	6.4 million	100%	6.4 million	100%	–	–	–	–
Cambodia	Asia	4.2 million	100%	4.2 million	100%	–	–	2.3 million	56%
Cameroon	Africa	11.7 million	100%	7 million	60%	–	–	3 million	26%
Canada	Americas	8.3 million	99%	5.1 million	61%	4.6 million	56%	–	–
Central African Republic	Africa	2.5 million	100%	1.1 million	42%	–	–	1.7 million	68%
Chad	Africa	9.2 million	100%	8.2 million	89%	–	–	9.2 million	100%
Chile	Americas	3.3 million	100%	2.4 million	72%	–	–	–	–
China	Asia	208.3 million	100%	81 million	39%	14.9 million	7%	20 thousand	0%
Colombia	Americas	10.6 million	100%	9.4 million	89%	–	–	240 thousand	2%
Congo	Africa	2.9 million	100%	550 thousand	19%	–	–	–	–
Costa Rica	Americas	1.1 million	100%	100 thousand	10%	–	–	–	–
Côte d'Ivoire	Africa	10.9 million	100%	10.2 million	93%	–	–	4.7 million	43%
Croatia	Europe	580 thousand	100%	580 thousand	100%	5 thousand	1%	–	–
Cuba	Americas	1.4 million	99%	1.2 million	84%	–	–	180 thousand	13%
Cyprus	Asia	210 thousand	100%	210 thousand	100%	–	–	–	–
Czechia	Europe	2.1 million	100%	410 thousand	19%	1.2 million	58%	–	–
Democratic People's Republic of Korea	Asia	4.6 million	100%	70 thousand	2%	80 thousand	2%	–	–
Democratic Republic of the Congo	Africa	54.7 million	100%	22.3 million	41%	–	–	1.2 million	2%
Denmark	Europe	1.2 million	100%	1.2 million	100%	–	–	–	–
Djibouti	Africa	300 thousand	100%	300 thousand	100%	–	–	300 thousand	100%
Dominican Republic	Americas	2.7 million	100%	2.7 million	100%	–	–	–	–
Ecuador	Americas	4.3 million	100%	2.1 million	50%	–	–	–	–
Egypt	Africa	35.6 million	100%	35.6 million	100%	–	–	28.1 million	79%
El Salvador	Americas	1.2 million	100%	1.2 million	100%	–	–	30 thousand	3%
Equatorial Guinea	Africa	460 thousand	100%	200 thousand	43%	–	–	–	–
Eritrea	Africa	3.6 million	100%	3.4 million	94%	–	–	3.2 million	89%
Estonia	Europe	210 thousand	100%	210 thousand	100%	–	–	–	–
Eswatini	Africa	470 thousand	100%	–	–	–	–	–	–
Ethiopia	Africa	47.2 million	100%	47 million	100%	–	–	5.4 million	12%
Finland	Europe	1 million	100%	1 million	100%	30 thousand	3%	–	–
France	Europe	14.8 million	100%	13.3 million	90%	7.3 million	50%	–	–
Gabon	Africa	740 thousand	100%	510 thousand	70%	–	–	–	–
Gambia	Africa	1 million	100%	820 thousand	80%	–	–	1 million	100%
Georgia	Asia	660 thousand	100%	660 thousand	100%	–	–	–	–
Germany	Europe	13.5 million	100%	8.9 million	66%	9.5 million	70%	–	–

COUNTRY	Region	HIGH HEATWAVE FREQUENCY		HIGH HEATWAVE DURATION		HIGH HEATWAVE SEVERITY		EXTREME HIGH TEMPERATURES	
		No. of children (under 18)	%	No. of children (under 18)	%	No. of children (under 18)	%	No. of children (under 18)	%
Ghana	Africa	13.8 million	99%	7.6 million	55%	–	–	9.9 million	71%
Greece	Europe	1.4 million	99%	1.4 million	99%	–	–	–	–
Guatemala	Americas	5.6 million	100%	5.6 million	100%	–	–	130 thousand	2%
Guinea	Africa	5.3 million	100%	5.2 million	98%	–	–	3.4 million	64%
Guinea-Bissau	Africa	860 thousand	100%	430 thousand	50%	–	–	520 thousand	61%
Guyana	Americas	160 thousand	100%	150 thousand	90%	–	–	20 thousand	15%
Haiti	Americas	3.2 million	100%	2.8 million	89%	–	–	–	–
Honduras	Americas	2.4 million	100%	2.4 million	100%	–	–	210 thousand	9%
Hungary	Europe	1.6 million	100%	1.6 million	100%	160 thousand	10%	–	–
Iceland	Europe	90 thousand	100%	90 thousand	100%	–	–	–	–
India	Asia	343.7 million	100%	342.8 million	100%	–	–	293.2 million	85%
Indonesia	Asia	62.1 million	99%	57.4 million	92%	–	–	2.3 million	4%
Iran (Islamic Republic of)	Asia	18.5 million	100%	16.6 million	89%	–	–	5 million	27%
Iraq	Asia	19.6 million	100%	19.6 million	100%	–	–	19.3 million	98%
Ireland	Europe	1.1 million	99%	480 thousand	42%	–	–	–	–
Israel	Asia	3.8 million	100%	3.8 million	100%	–	–	1.2 million	30%
Italy	Europe	8.7 million	100%	8.7 million	100%	–	–	–	–
Japan	Asia	15.6 million	99%	140 thousand	1%	–	–	–	–
Jordan	Asia	3.1 million	100%	3.1 million	100%	–	–	3.1 million	100%
Kazakhstan	Asia	5.1 million	100%	3 million	59%	2.7 million	53%	160 thousand	3%
Kenya	Africa	23 million	99%	22.6 million	98%	–	–	1.3 million	6%
Kuwait	Asia	980 thousand	100%	980 thousand	100%	–	–	980 thousand	100%
Kyrgyzstan	Asia	1.8 million	100%	1.6 million	91%	–	–	–	–
Lao People's Democratic Republic	Asia	1.9 million	100%	1.9 million	100%	–	–	170 thousand	9%
Latvia	Europe	320 thousand	100%	320 thousand	100%	40 thousand	12%	–	–
Lebanon	Asia	830 thousand	100%	830 thousand	100%	–	–	–	–
Lesotho	Africa	780 thousand	100%	420 thousand	54%	–	–	–	–
Liberia	Africa	3.5 million	99%	3.1 million	87%	–	–	–	–
Libya	Africa	2 million	100%	970 thousand	49%	400 thousand	20%	1.6 million	81%
Liechtenstein	Europe	5 thousand	100%	5 thousand	100%	–	–	–	–
Lithuania	Europe	450 thousand	100%	450 thousand	100%	280 thousand	63%	–	–
Luxembourg	Europe	140 thousand	100%	140 thousand	100%	140 thousand	100%	–	–
Madagascar	Africa	13.9 million	100%	5.2 million	37%	–	–	–	–
Malawi	Africa	12.7 million	100%	7.1 million	55%	–	–	450 thousand	3%
Malaysia	Asia	7.8 million	100%	7.1 million	91%	–	–	–	–

COUNTRY	Region	HIGH HEATWAVE FREQUENCY 		HIGH HEATWAVE DURATION 		HIGH HEATWAVE SEVERITY 		EXTREME HIGH TEMPERATURES 	
		No. of children (under 18)	%	No. of children (under 18)	%	No. of children (under 18)	%	No. of children (under 18)	%
Mali	Africa	13.1 million	100%	13 million	99%	–	–	13.1 million	100%
Malta	Europe	5 thousand	6%	5 thousand	6%	–	–	–	–
Mauritania	Africa	2.1 million	100%	2 million	96%	–	–	1.9 million	93%
Mexico	Americas	28.7 million	100%	28.7 million	100%	–	–	1.7 million	6%
Mongolia	Asia	950 thousand	100%	660 thousand	69%	850 thousand	90%	–	–
Montenegro	Europe	100 thousand	100%	100 thousand	100%	–	–	–	–
Morocco	Africa	7.8 million	100%	7.4 million	95%	1.5 million	19%	230 thousand	3%
Mozambique	Africa	14.9 million	100%	10.7 million	72%	–	–	880 thousand	6%
Myanmar	Asia	10.3 million	100%	10 million	97%	–	–	4.2 million	41%
Namibia	Africa	1.1 million	100%	990 thousand	94%	–	–	660 thousand	63%
Nepal	Asia	8.6 million	100%	8.6 million	100%	–	–	2.9 million	34%
Netherlands	Europe	3.3 million	100%	3 million	92%	1.6 million	50%	–	–
New Zealand	Oceania	1.2 million	100%	620 thousand	54%	–	–	–	–
Nicaragua	Americas	1.4 million	100%	1.4 million	96%	–	–	540 thousand	37%
Niger	Africa	18.4 million	100%	18.4 million	100%	–	–	18.4 million	100%
Nigeria	Africa	136.7 million	100%	67.1 million	49%	–	–	98.6 million	72%
North Macedonia	Europe	360 thousand	100%	360 thousand	100%	110 thousand	29%	–	–
Norway	Europe	1.3 million	99%	1.3 million	98%	10 thousand	1%	–	–
Oman	Asia	780 thousand	100%	440 thousand	57%	–	–	750 thousand	97%
Pakistan	Asia	76.6 million	100%	76.6 million	100%	–	–	66.1 million	86%
Panama	Americas	1.1 million	100%	1 million	97%	–	–	–	–
Papua New Guinea	Oceania	3.3 million	99%	1.5 million	44%	–	–	–	–
Paraguay	Americas	2.1 million	100%	2.1 million	99%	–	–	50 thousand	3%
Peru	Americas	5.4 million	82%	3.8 million	58%	–	–	–	–
Philippines	Asia	33.5 million	99%	26.3 million	77%	–	–	–	–
Poland	Europe	5.7 million	100%	3.7 million	66%	4.6 million	82%	–	–
Portugal	Europe	1.6 million	97%	640 thousand	39%	–	–	–	–
Qatar	Asia	430 thousand	100%	430 thousand	100%	–	–	430 thousand	100%
Republic of Korea	Asia	5.7 million	100%	20 thousand	0%	–	–	–	–
Republic of Moldova	Europe	330 thousand	100%	330 thousand	100%	250 thousand	75%	–	–
Romania	Europe	3 million	100%	3 million	100%	2.7 million	89%	–	–
Russian Federation	Europe	26.4 million	100%	23.7 million	90%	8 million	30%	–	–
Rwanda	Africa	6.9 million	100%	6.9 million	100%	–	–	–	–
Saudi Arabia	Asia	9.7 million	100%	8.6 million	88%	–	–	9.7 million	100%
Senegal	Africa	7.4 million	100%	6.6 million	90%	–	–	5.1 million	70%

COUNTRY	Region	HIGH HEATWAVE FREQUENCY		HIGH HEATWAVE DURATION		HIGH HEATWAVE SEVERITY		EXTREME HIGH TEMPERATURES	
		No. of children (under 18)	%	No. of children (under 18)	%	No. of children (under 18)	%	No. of children (under 18)	%
Serbia	Europe	1.5 million	100%	1.5 million	100%	1.2 million	77%	–	–
Sierra Leone	Africa	3.5 million	100%	3.5 million	100%	–	–	1.8 million	51%
Slovakia	Europe	940 thousand	100%	930 thousand	99%	–	–	–	–
Slovenia	Europe	390 thousand	100%	390 thousand	100%	–	–	–	–
Solomon Islands	Oceania	290 thousand	91%	160 thousand	50%	–	–	–	–
Somalia	Africa	5.8 million	100%	4 million	68%	–	–	4.6 million	78%
South Africa	Africa	16.2 million	100%	8.6 million	53%	–	–	180 thousand	1%
South Sudan	Africa	5.2 million	100%	4.9 million	94%	–	–	5 million	96%
Spain	Europe	7.6 million	98%	5.1 million	66%	50 thousand	1%	–	–
Sri Lanka	Asia	4.6 million	99%	4.3 million	92%	–	–	320 thousand	7%
State of Palestine	Asia	1.8 million	100%	1.8 million	100%	–	–	1.1 million	59%
Sudan	Africa	21.4 million	100%	16.8 million	79%	–	–	21.4 million	100%
Suriname	Americas	140 thousand	100%	140 thousand	98%	–	–	5 thousand	4%
Sweden	Europe	2.4 million	100%	2.3 million	95%	5 thousand	0%	–	–
Switzerland	Europe	1.5 million	100%	1.5 million	100%	–	–	–	–
Syrian Arab Republic	Asia	7.4 million	100%	7.4 million	100%	–	–	6.1 million	82%
Tajikistan	Asia	2.6 million	100%	2.6 million	99%	–	–	750 thousand	29%
Thailand	Asia	10.5 million	100%	10.5 million	100%	–	–	7.8 million	74%
Togo	Africa	3.6 million	100%	3.6 million	100%	–	–	3.6 million	100%
Tunisia	Africa	2.5 million	97%	2.2 million	86%	370 thousand	15%	800 thousand	32%
Türkiye	Asia	17.7 million	100%	15.9 million	90%	–	–	990 thousand	6%
Turkmenistan	Asia	1.6 million	100%	430 thousand	27%	870 thousand	53%	1.6 million	96%
Uganda	Africa	28.3 million	100%	28.3 million	100%	–	–	90 thousand	0%
Ukraine	Europe	6.3 million	100%	6.3 million	100%	1.8 million	28%	–	–
United Arab Emirates	Asia	2.7 million	100%	2.6 million	95%	–	–	2.7 million	99%
United Kingdom	Europe	14.3 million	100%	9.7 million	68%	–	–	–	–
United Republic of Tanzania	Africa	35.4 million	100%	26.3 million	74%	–	–	–	–
United States	Americas	81.4 million	100%	43.9 million	54%	28.4 million	35%	6.8 million	8%
Uruguay	Americas	610 thousand	100%	10 thousand	2%	490 thousand	80%	–	–
Uzbekistan	Asia	7.6 million	100%	3.8 million	50%	2.1 million	27%	2.6 million	35%
Venezuela (Bolivarian Republic of)	Americas	8.6 million	99%	8.2 million	94%	–	–	2.9 million	33%
Viet Nam	Asia	19.8 million	99%	15.4 million	77%	–	–	2 million	10%
Yemen	Asia	14.3 million	98%	10.4 million	72%	–	–	10 million	69%
Zambia	Africa	10.4 million	100%	8.9 million	86%	–	–	–	–
Zimbabwe	Africa	4.3 million	100%	3.5 million	81%	–	–	90 thousand	2%





Table 3: Estimates of children's exposure to high heat measures by 2050
SSP5 2050: very high emission scenario, with an estimated 2.4 degrees of warming





BY REGION	HIGH HEATWAVE FREQUENCY		HIGH HEATWAVE DURATION		HIGH HEATWAVE SEVERITY		EXTREME HIGH TEMPERATURES	
	No. of children (under 18)	%	No. of children (under 18)	%	No. of children (under 18)	%	No. of children (under 18)	%
Africa	648 million	99.9%	591 million	91.1%	8 million	1.2%	287 million	44.2%
Americas	233 million	99.2%	213 million	90.3%	62 million	26.4%	27 million	11.6%
Asia	992 million	99.8%	972 million	97.7%	50 million	5.1%	502 million	50.5%
Europe	145 million	99.7%	141 million	97.2%	91 million	62.7%	270 thousand	0.2%
Oceania	14 million	99.2%	7 million	48.4%	890 thousand	6.5%	140 thousand	1.0%
Total	2032 million	99.7%	1923 million	94.0%	212 million	10.0%	816 million	40.1%

BY COUNTRY

Afghanistan	Asia	18.2 million	100%	18.2 million	100%	–	–	6.4 million	35%
Albania	Europe	430 thousand	100%	420 thousand	98%	80 thousand	18%	–	–
Algeria	Africa	11.3 million	100%	10.9 million	97%	2.1 million	18%	3.7 million	33%
Angola	Africa	17.2 million	100%	17.2 million	100%	–	–	2.2 million	13%
Argentina	Americas	10.2 million	100%	4.7 million	46%	6.1 million	60%	10 thousand	0%
Armenia	Asia	440 thousand	100%	440 thousand	100%	–	–	–	–
Australia	Oceania	8.6 million	99%	2.2 million	26%	890 thousand	10%	140 thousand	2%
Austria	Europe	1.7 million	100%	1.7 million	100%	1.6 million	94%	–	–
Azerbaijan	Asia	2.1 million	100%	2.1 million	100%	–	–	190 thousand	9%
Bahrain	Asia	530 thousand	100%	430 thousand	80%	–	–	430 thousand	80%
Bangladesh	Asia	34.2 million	99%	33.9 million	99%	–	–	24.4 million	71%
Belarus	Europe	1.5 million	100%	1.5 million	100%	1.5 million	100%	–	–
Belgium	Europe	2.8 million	100%	2.8 million	100%	2.7 million	99%	–	–
Belize	Americas	80 thousand	99%	80 thousand	100%	–	–	20 thousand	30%
Benin	Africa	6.7 million	100%	6.2 million	93%	–	–	6.2 million	93%
Bhutan	Asia	230 thousand	100%	230 thousand	100%	–	–	–	–
Bolivia (Plurinational State of)	Americas	3 million	100%	2.9 million	96%	–	–	460 thousand	15%
Bosnia and Herzegovina	Europe	470 thousand	100%	470 thousand	100%	360 thousand	77%	–	–
Botswana	Africa	750 thousand	100%	750 thousand	100%	–	–	540 thousand	72%
Brazil	Americas	36.1 million	98%	34.6 million	94%	1.2 million	3%	5.9 million	16%
Brunei Darussalam	Asia	90 thousand	99%	70 thousand	77%	–	–	–	–
Bulgaria	Europe	1.1 million	100%	1.1 million	100%	930 thousand	86%	–	–
Burkina Faso	Africa	12.8 million	100%	12.8 million	100%	–	–	12.8 million	100%

BY COUNTRY	Region	HIGH HEATWAVE FREQUENCY		HIGH HEATWAVE DURATION		HIGH HEATWAVE SEVERITY		EXTREME HIGH TEMPERATURES	
		No. of children (under 18)	%	No. of children (under 18)	%	No. of children (under 18)	%	No. of children (under 18)	%
Burundi	Africa	6.9 million	100%	6.9 million	100%	–	–	–	–
Cambodia	Asia	3.8 million	100%	3.8 million	100%	–	–	3.3 million	87%
Cameroon	Africa	11.7 million	100%	11.7 million	100%	–	–	3 million	26%
Canada	Americas	10 million	100%	9.5 million	95%	7 million	70%	–	–
Central African Republic	Africa	2.5 million	100%	2 million	79%	–	–	1.5 million	62%
Chad	Africa	8.9 million	100%	8.9 million	100%	–	–	8.9 million	100%
Chile	Americas	3.3 million	100%	2.7 million	83%	–	–	–	–
China	Asia	208.3 million	100%	206 million	99%	36.9 million	18%	310 thousand	0%
Colombia	Americas	10.5 million	100%	10.5 million	99%	–	–	1.5 million	14%
Congo	Africa	3 million	100%	2.9 million	95%	–	–	–	–
Costa Rica	Americas	1.1 million	100%	1.1 million	99%	–	–	–	–
Côte d'Ivoire	Africa	10 million	100%	9.9 million	99%	–	–	6.5 million	65%
Croatia	Europe	600 thousand	100%	570 thousand	93%	430 thousand	71%	–	–
Cuba	Americas	1.3 million	99%	1.2 million	93%	–	–	450 thousand	35%
Cyprus	Asia	230 thousand	100%	190 thousand	83%	–	–	–	–
Czechia	Europe	2.4 million	100%	2.4 million	100%	2.4 million	100%	–	–
Democratic People's Republic of Korea	Asia	4.6 million	100%	4.2 million	91%	70 thousand	1%	–	–
Democratic Republic of the Congo	Africa	54.5 million	100%	49.4 million	91%	–	–	1.4 million	3%
Denmark	Europe	1.4 million	100%	1.2 million	85%	30 thousand	2%	–	–
Djibouti	Africa	300 thousand	100%	280 thousand	94%	–	–	280 thousand	94%
Dominican Republic	Americas	2.5 million	100%	2.4 million	94%	–	–	–	–
Ecuador	Americas	4.2 million	100%	4.1 million	98%	–	–	–	–
Egypt	Africa	35 million	100%	34.5 million	99%	–	–	27.6 million	79%
El Salvador	Americas	930 thousand	100%	920 thousand	99%	–	–	20 thousand	2%
Equatorial Guinea	Africa	490 thousand	100%	450 thousand	91%	–	–	–	–
Eritrea	Africa	3.7 million	100%	3.7 million	100%	–	–	3.3 million	89%
Estonia	Europe	230 thousand	100%	230 thousand	100%	10 thousand	5%	–	–
Eswatini	Africa	460 thousand	100%	330 thousand	72%	–	–	–	–
Ethiopia	Africa	46.4 million	100%	46.4 million	100%	–	–	6.8 million	15%
Finland	Europe	1.2 million	100%	1.1 million	91%	300 thousand	25%	–	–
France	Europe	16.7 million	100%	16.3 million	97%	13.7 million	82%	–	–
Gabon	Africa	730 thousand	100%	680 thousand	92%	–	–	–	–
Gambia	Africa	960 thousand	100%	960 thousand	100%	–	–	960 thousand	100%
Georgia	Asia	580 thousand	100%	550 thousand	95%	30 thousand	5%	–	–
Germany	Europe	15.1 million	100%	15.1 million	100%	14.8 million	98%	–	–

BY COUNTRY	Region	HIGH HEATWAVE FREQUENCY 		HIGH HEATWAVE DURATION 		HIGH HEATWAVE SEVERITY 		EXTREME HIGH TEMPERATURES 	
		No. of children (under 18)	%	No. of children (under 18)	%	No. of children (under 18)	%	No. of children (under 18)	%
Ghana	Africa	13.6 million	99%	13.3 million	97%	–	–	10 million	73%
Greece	Europe	1.6 million	99%	1.3 million	83%	5 thousand	0%	–	–
Guatemala	Americas	5.2 million	100%	5.1 million	100%	–	–	120 thousand	2%
Guinea	Africa	4.5 million	100%	4.5 million	99%	–	–	3.3 million	73%
Guinea-Bissau	Africa	830 thousand	100%	790 thousand	95%	–	–	510 thousand	61%
Guyana	Americas	130 thousand	100%	130 thousand	98%	–	–	30 thousand	25%
Haiti	Americas	2.8 million	100%	2.7 million	95%	–	–	–	–
Honduras	Americas	2.2 million	100%	2.2 million	98%	–	–	200 thousand	9%
Hungary	Europe	1.7 million	100%	1.7 million	100%	1.7 million	100%	–	–
Iceland	Europe	100 thousand	100%	80 thousand	78%	–	–	–	–
India	Asia	342.9 million	100%	340.7 million	99%	–	–	299.6 million	87%
Indonesia	Asia	61.5 million	99%	59.2 million	96%	–	–	7.1 million	11%
Iran (Islamic Republic of)	Asia	18.4 million	100%	18.3 million	100%	100 thousand	1%	6.8 million	37%
Iraq	Asia	19.1 million	100%	19.1 million	100%	–	–	18.8 million	99%
Ireland	Europe	1.3 million	99%	1.3 million	97%	–	–	–	–
Israel	Asia	4.5 million	100%	4.5 million	100%	–	–	1.5 million	33%
Italy	Europe	9.7 million	100%	9.2 million	95%	10 thousand	0%	–	–
Japan	Asia	16.8 million	99%	9.7 million	58%	110 thousand	1%	–	–
Jordan	Asia	3.3 million	100%	3.3 million	99%	90 thousand	3%	3.3 million	99%
Kazakhstan	Asia	5.1 million	100%	5.1 million	100%	3.7 million	72%	400 thousand	8%
Kenya	Africa	22.3 million	99%	22.1 million	99%	–	–	1.9 million	9%
Kuwait	Asia	1.1 million	100%	940 thousand	84%	–	–	940 thousand	84%
Kyrgyzstan	Asia	1.6 million	100%	1.6 million	100%	20 thousand	2%	–	–
Lao People's Democratic Republic	Asia	1.8 million	100%	1.8 million	100%	–	–	250 thousand	14%
Latvia	Europe	320 thousand	100%	290 thousand	91%	230 thousand	73%	–	–
Lebanon	Asia	830 thousand	100%	630 thousand	76%	–	–	10 thousand	2%
Lesotho	Africa	760 thousand	100%	690 thousand	91%	–	–	–	–
Liberia	Africa	3.9 million	99%	3.9 million	98%	–	–	220 thousand	6%
Libya	Africa	1.9 million	100%	1 million	53%	440 thousand	23%	1.5 million	78%
Liechtenstein	Europe	5 thousand	100%	5 thousand	100%	5 thousand	100%	–	–
Lithuania	Europe	430 thousand	100%	420 thousand	98%	420 thousand	97%	–	–
Luxembourg	Europe	170 thousand	100%	150 thousand	87%	150 thousand	87%	–	–
Madagascar	Africa	13.9 million	100%	13.7 million	98%	–	–	620 thousand	4%
Malawi	Africa	12.5 million	100%	12.4 million	99%	–	–	440 thousand	3%
Malaysia	Asia	7.9 million	100%	7.6 million	96%	–	–	–	–

BY COUNTRY	Region	HIGH HEATWAVE FREQUENCY 		HIGH HEATWAVE DURATION 		HIGH HEATWAVE SEVERITY 		EXTREME HIGH TEMPERATURES 	
		No. of children (under 18)	%	No. of children (under 18)	%	No. of children (under 18)	%	No. of children (under 18)	%
Mali	Africa	12.7 million	100%	12.7 million	100%	–	–	12.7 million	100%
Malta	Europe	5 thousand	6%	–	–	–	–	–	–
Mauritania	Africa	2.1 million	100%	2 million	97%	–	–	1.9 million	94%
Mexico	Americas	27 million	100%	26.7 million	99%	–	–	2.4 million	9%
Mongolia	Asia	930 thousand	100%	910 thousand	98%	910 thousand	98%	–	–
Montenegro	Europe	100 thousand	100%	100 thousand	98%	30 thousand	30%	–	–
Morocco	Africa	7.1 million	100%	6.9 million	96%	4 million	57%	1.5 million	21%
Mozambique	Africa	14.8 million	100%	12.4 million	84%	–	–	1.8 million	12%
Myanmar	Asia	9.9 million	100%	9.9 million	100%	–	–	6.3 million	64%
Namibia	Africa	1 million	100%	1 million	99%	5 thousand	0%	810 thousand	77%
Nepal	Asia	8.4 million	100%	8.4 million	100%	–	–	2.8 million	34%
Netherlands	Europe	3.7 million	100%	3.6 million	98%	3.5 million	96%	–	–
New Zealand	Oceania	1.3 million	100%	910 thousand	68%	–	–	–	–
Nicaragua	Americas	1.2 million	100%	1.2 million	99%	–	–	570 thousand	47%
Niger	Africa	18.1 million	100%	18.1 million	100%	–	–	18.1 million	100%
Nigeria	Africa	135.7 million	100%	98.9 million	73%	–	–	100.2 million	74%
North Macedonia	Europe	380 thousand	100%	380 thousand	100%	380 thousand	100%	–	–
Norway	Europe	1.5 million	99%	1.5 million	97%	340 thousand	22%	–	–
Oman	Asia	800 thousand	100%	780 thousand	97%	–	–	760 thousand	94%
Pakistan	Asia	74.7 million	100%	74.3 million	99%	–	–	69.4 million	93%
Panama	Americas	1.1 million	100%	1.1 million	99%	–	–	–	–
Papua New Guinea	Oceania	3.3 million	99%	3.2 million	97%	–	–	–	–
Paraguay	Americas	2.1 million	100%	1.9 million	92%	–	–	70 thousand	4%
Peru	Americas	4.8 million	82%	4.8 million	82%	–	–	10 thousand	0%
Philippines	Asia	33 million	99%	30.6 million	92%	–	–	–	–
Poland	Europe	6.1 million	100%	6 million	99%	6 million	99%	–	–
Portugal	Europe	1.8 million	97%	1.6 million	84%	940 thousand	50%	–	–
Qatar	Asia	500 thousand	100%	370 thousand	74%	–	–	370 thousand	74%
Republic of Korea	Asia	6.1 million	100%	6 million	99%	–	–	–	–
Republic of Moldova	Europe	280 thousand	100%	280 thousand	100%	270 thousand	96%	–	–
Romania	Europe	3 million	100%	2.9 million	100%	2.8 million	95%	–	–
Russian Federation	Europe	27.9 million	100%	27.4 million	98%	22.8 million	82%	–	–
Rwanda	Africa	6.8 million	100%	6.7 million	98%	–	–	–	–
Saudi Arabia	Asia	10.6 million	100%	10.6 million	99%	10 thousand	0%	10.6 million	99%
Senegal	Africa	6.9 million	100%	6.5 million	93%	–	–	4.8 million	69%

BY COUNTRY	Region	HIGH HEATWAVE FREQUENCY		HIGH HEATWAVE DURATION		HIGH HEATWAVE SEVERITY		EXTREME HIGH TEMPERATURES	
		No. of children (under 18)	%	No. of children (under 18)	%	No. of children (under 18)	%	No. of children (under 18)	%
Serbia	Europe	1.6 million	100%	1.6 million	99%	1.6 million	99%	–	–
Sierra Leone	Africa	3.6 million	100%	3.5 million	97%	–	–	2.8 million	79%
Slovakia	Europe	1 million	100%	1 million	100%	1 million	100%	–	–
Slovenia	Europe	440 thousand	100%	440 thousand	100%	400 thousand	90%	–	–
Solomon Islands	Oceania	290 thousand	91%	250 thousand	81%	–	–	–	–
Somalia	Africa	4.9 million	100%	4.7 million	95%	–	–	3.7 million	75%
South Africa	Africa	17 million	100%	10.8 million	63%	220 thousand	1%	220 thousand	1%
South Sudan	Africa	5.3 million	100%	5.3 million	100%	–	–	5.2 million	99%
Spain	Europe	8.7 million	98%	8.1 million	92%	1.2 million	14%	270 thousand	3%
Sri Lanka	Asia	4.4 million	99%	4.3 million	95%	–	–	610 thousand	14%
State of Palestine	Asia	1.7 million	100%	1.1 million	64%	–	–	890 thousand	53%
Sudan	Africa	21.5 million	100%	21.5 million	100%	–	–	21.5 million	100%
Suriname	Americas	140 thousand	100%	130 thousand	92%	–	–	120 thousand	87%
Sweden	Europe	2.8 million	100%	2.8 million	99%	310 thousand	11%	–	–
Switzerland	Europe	1.8 million	100%	1.7 million	96%	1.7 million	93%	–	–
Syrian Arab Republic	Asia	7.3 million	100%	7.3 million	100%	–	–	6.4 million	87%
Tajikistan	Asia	2 million	100%	2 million	99%	–	–	540 thousand	27%
Thailand	Asia	10.8 million	100%	10.7 million	99%	–	–	8.4 million	77%
Togo	Africa	3.5 million	100%	3.5 million	100%	–	–	3.5 million	100%
Tunisia	Africa	2.4 million	97%	2.3 million	92%	1.1 million	43%	980 thousand	39%
Türkiye	Asia	17.7 million	100%	17.3 million	98%	4.1 million	23%	1.8 million	10%
Turkmenistan	Asia	1.5 million	100%	1.6 million	100%	940 thousand	60%	1.5 million	97%
Uganda	Africa	27.7 million	100%	27.6 million	99%	–	–	1.9 million	7%
Ukraine	Europe	6.6 million	100%	6.6 million	99%	6.2 million	93%	–	–
United Arab Emirates	Asia	3.2 million	100%	3.1 million	98%	–	–	3.1 million	98%
United Kingdom	Europe	16.3 million	100%	15.9 million	98%	–	–	–	–
United Republic of Tanzania	Africa	34.4 million	100%	33.6 million	98%	–	–	–	–
United States	Americas	94.3 million	100%	83.3 million	88%	47.2 million	50%	12 million	13%
Uruguay	Americas	580 thousand	100%	70 thousand	13%	520 thousand	90%	–	–
Uzbekistan	Asia	7 million	100%	6.9 million	98%	3.5 million	50%	3 million	43%
Venezuela (Bolivarian Republic of)	Americas	8.7 million	99%	8.6 million	98%	–	–	3.5 million	40%
Viet Nam	Asia	19.5 million	99%	19.3 million	98%	–	–	2 million	10%
Yemen	Asia	13.9 million	98%	13.8 million	98%	–	–	9.6 million	68%
Zambia	Africa	10.1 million	100%	10.1 million	100%	–	–	420 thousand	4%
Zimbabwe	Africa	3.4 million	100%	3.3 million	99%	–	–	230 thousand	7%

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Contact: pubdoc@unicef.org

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