

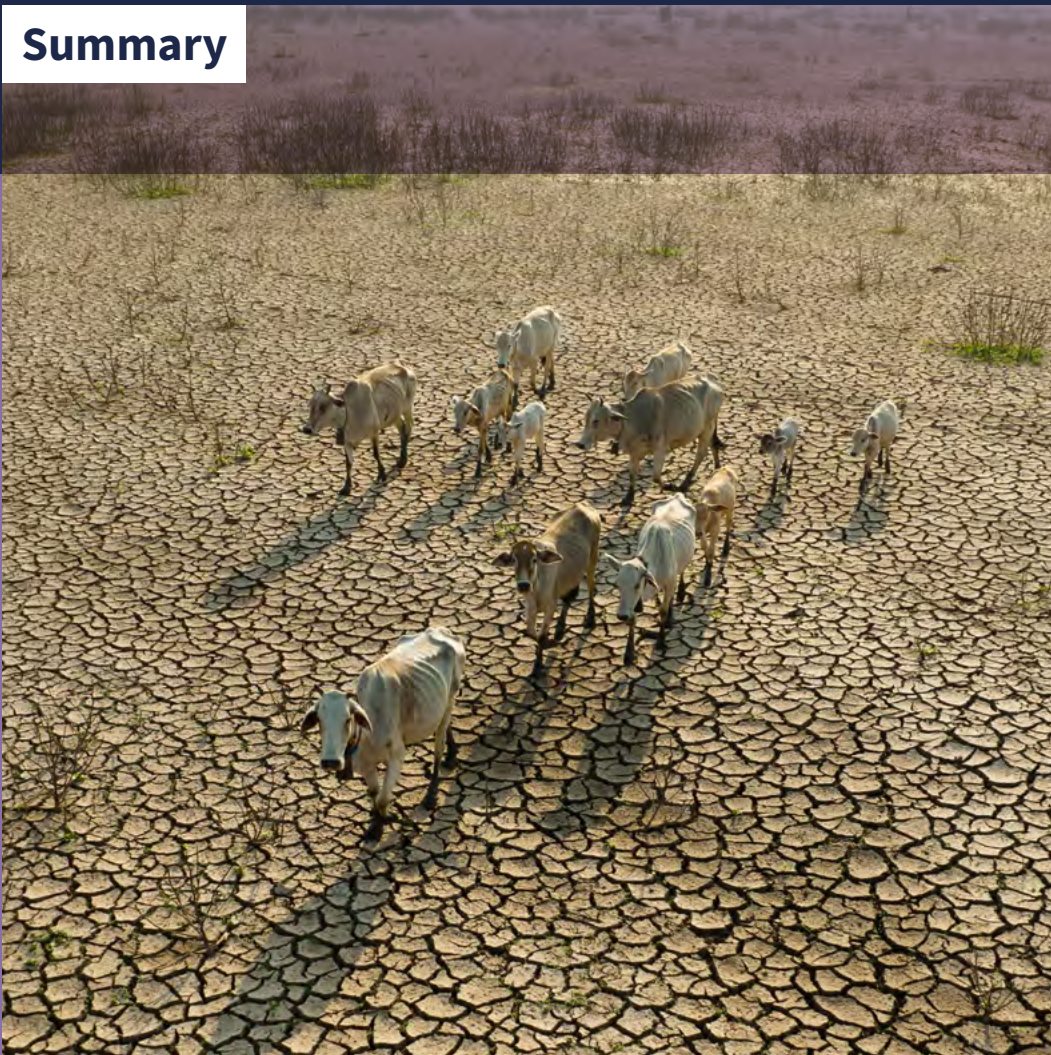


Climate  
Risk Index

# Climate Risk Index 2025

Who suffers most from extreme weather events?

## Summary



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The Climate Risk Index (CRI)<sup>1</sup> analyses how climate-related extreme weather events affect countries and, in doing so, measures realised risks' consequences for countries. The backward-looking index ranks countries according to economic and human effects on them (fatalities and affected, injured, and homeless people), with the most affected country ranked first.

The CRI aims to visualise how extreme weather events affected countries, from two years preceding publication<sup>2</sup> and over the previous 30 years. The CRI is based on data from the EM-DAT international disaster database, World Bank, and International Monetary Fund. It examines both absolute and relative impacts to create a ranking of countries based on six indicators (economic losses, fatalities, affected people: absolute and relative for each) (see chapter 6 for details on the methodology).

Over the three decades (1993–2022), the frequency and intensity of storms, floods, heatwaves, and droughts intensified, with devastating consequences on human

lives and economies. There were 765,000+ fatalities and economic losses exceeding USD 4.2 trillion worldwide directly resulting from these events.

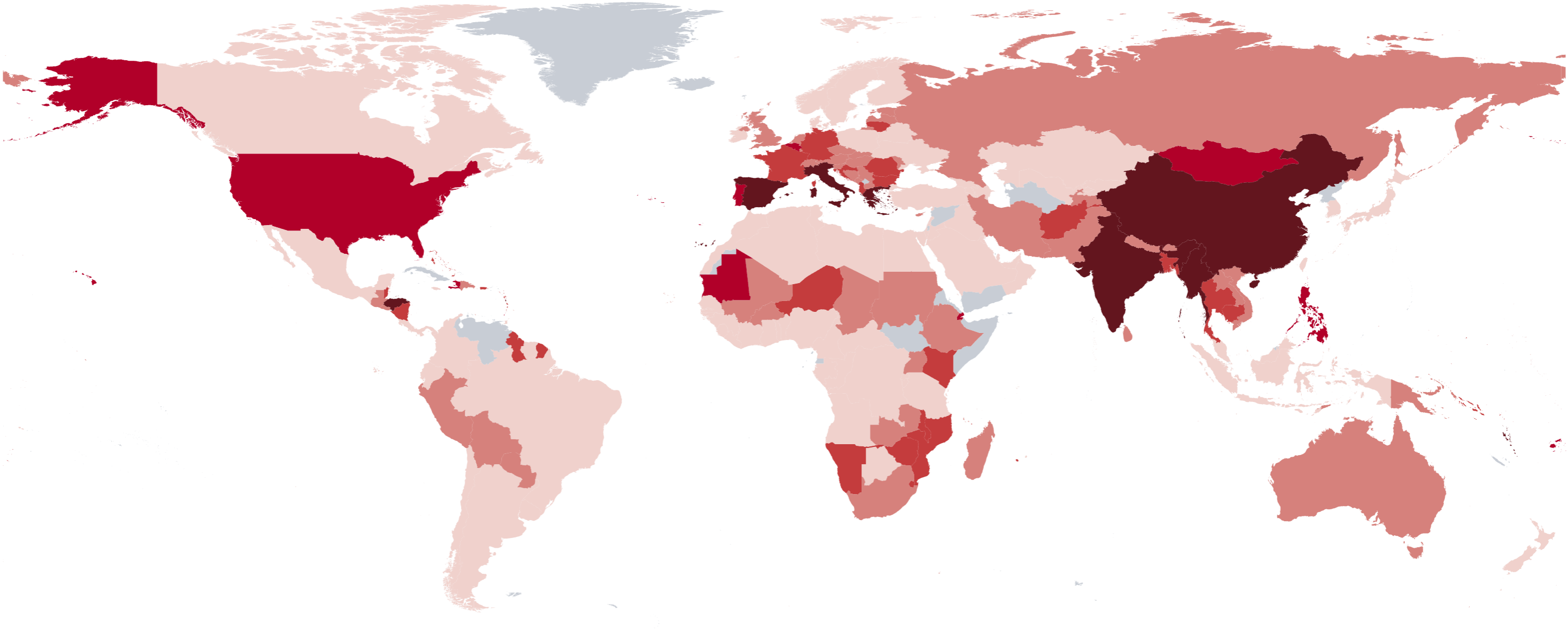
The CRI findings, in a broad context, are both a call for mitigation, adaptation, and loss and damage action, and a reminder of the heavy toll climate change is inflicting globally on communities and nations. The CRI aims to contextualise international climate policy debates and processes and see the climate risks countries are facing. It simplifies the aggregation and understanding of climate-related extreme weather events' impacts across different regions and periods. The most impacted countries rank highest.

These countries should take the CRI results as a warning of their risk of frequent events or rare but extraordinary extreme events. Climate impacts' human losses and economic costs will continue to rise unless there is a substantial shift in mitigation ambition and financial support.

<sup>1</sup> The full Climate Risk Index is available at: <https://www.germanwatch.org/en/93013>

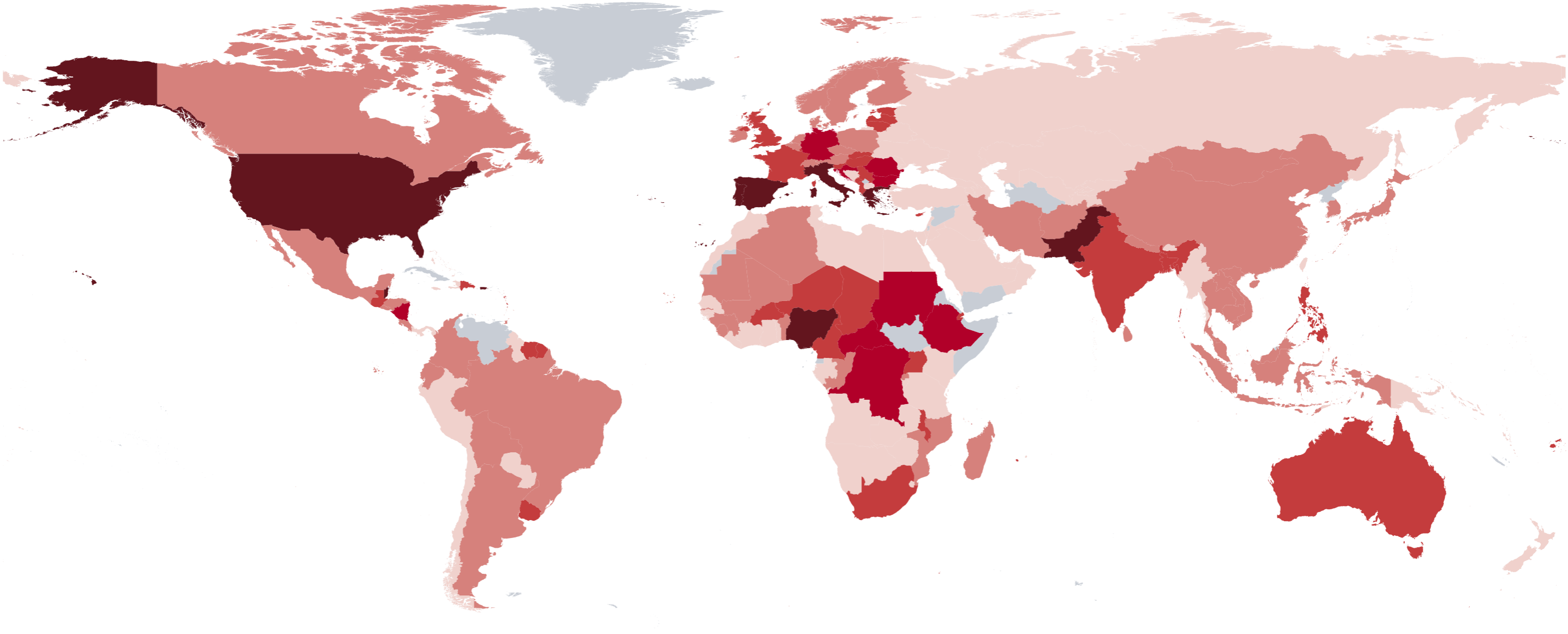
<sup>2</sup> Due to the methodological revision, this edition of the CRI is published in February 2025.

**Climate Risk Index:  
Overall Ranking 1993-2022**



- >100
- 51-100
- 21-50
- 11-20
- 1-10
- No Data

**Climate Risk Index:  
Overall Ranking 2022**



- >100
- 51-100
- 21-50
- 11-20
- 1-10
- No Data

# Key Messages

- I. The Climate Risk Index (CRI) ranking indicates that, in 1993–2022, **Dominica, China, and Honduras** were the countries most affected by extreme weather events' impacts.
- II. The ranking shows **Pakistan, Belize, and Italy** as the most affected by extreme weather events' impacts in 2022.
- III. From **1993 to 2022, 765,000+ people died worldwide and direct losses of nearly USD 4.2 trillion (inflation-adjusted)** directly resulted from 9,400+ extreme weather events.
- IV. **Floods, storms, heat waves, and drought** were the most prominent impacts from short- and long-term perspectives. From 1993 to 2022, storms (35%), heat waves (30%), and floods (27%) caused the most fatalities. Floods were responsible for half of the people affected. Storms caused, by far, the most significant economic losses (56% or USD 2.33 trillion inflation-adjusted), followed by floods (32% or USD 1.33 trillion).
- V. The most affected countries in the long-term index for 1993–2022 can be divided into two groups: (1) Countries most affected by highly unusual extreme events (**e.g. Dominica, Honduras, Myanmar, Vanuatu**) and (2) countries affected by recurring extreme events (**e.g. China, India, the Philippines**). Climate science clearly shows that climate change increases the risk for both categories and contributes to transforming uncommonly extreme events into continual threats, creating a 'new normal.'
- VI. **The CRI shows that all countries are affected.** Seven of the 10 most affected countries in 2022 belonged to the high-income country group<sup>3</sup>. This clearly indicates that, while the coping capacities of high-income countries significantly exceed those of lower-income countries, higher-income countries should also increase their climate risk management. Over the long term, the ranking shows that extreme weather events' impacts particularly affect Global South countries. With five countries, the lower middle-income group is the largest country group among the 10 most affected countries, including three Small Island Developing States/Least Developed Countries, where coping capacities are significantly lower.
- VII. The CRI ranking is based on the best publicly available historical data set on the extreme weather events' impacts. **Extreme weather events and their impacts are often underreported in Global South countries** because of data quality and coverage challenges and data gaps. As a result, this ranking may less accurately capture these impacts and, therefore, how Global South countries are affected.
- VIII. **Human-induced climate change affects the frequency and intensity of extreme weather events and leads to widespread adverse climate impacts.** The latest climate science and significantly improved attribution science suggest climate change's influence on extreme weather events is 'on the same level of scientific confidence as the statement that human influence has warmed the climate.'<sup>4</sup>
- IX. **COP29 failed to deliver an ambitious New Collective Quantified Goal (NCQG) on Climate Finance.** Considering the identified needs, and the great urgency of the climate challenges that developing countries face, the USD 300 billion annually by 2035 can only be seen as the bare minimum response to the escalating climate crisis. The NCQG also failed to include measures to address loss and damage. This gap must be filled as soon as possible. This situation is even more worrying given the extensive gaps in adaptation finance compared with the needs and commitments (even if progress was made). Substantially increased support by high-emitting countries and other polluters is needed for the most vulnerable in addressing climate impacts.
- X. The CRI shows that a **lack of ambition and action in mitigation leads to being strongly affected**, even in high-income countries. It is in the interest of high-income and highly emitting countries to ramp up mitigation action, including higher climate targets and such action's implementation, with new nationally determined contributions (NDCs), to stay below (or as close as possible to) 1.5°C warming and keep impacts at a manageable scale.

<sup>3</sup> For a definition of income groups, see World Bank 2024.

<sup>4</sup> Otto, F. 2023: «Attribution of Extreme Events to Climate Change». Annu. Rev. Environ. Resour. 2023. 48:813–28 <https://doi.org/10.1146/annurev-environ-112621-083538>

# Countries Most Affected in 1993–2022

In 1993–2022, **Dominica, China, and Honduras** were the countries most affected by extreme weather events. Myanmar, Italy, and India were among the other highly impacted countries.

- **Dominica:** Prone to frequent hurricanes, including Hurricane Maria in 2017, which caused damages equalling up to 270% of the GDP. The country faces storms an average of every two years.
- **China:** Experiencing floods, typhoons, heatwaves, and drought, China has endured more than 600 extreme events, causing USD 706 billion in losses and 42,000 fatalities. The 1998 and 2016 floods and typhoons, such as Typhoon Fred (1994), were among the major events.
- **Honduras:** Vulnerable to hurricanes, floods, and droughts, Honduras was devastated by Hurricane Mitch (Category 5) in 1998; the storm destroyed 70% of crops and infrastructure, leading to 14,000 deaths and USD 7 billion in damage.
- **Myanmar:** Prone to cyclones, floods, and droughts, Myanmar was struck by Cyclone Nargis in 2008; the storm caused 140,000 deaths and USD 5.7 billion in damages.
- **Italy:** Suffered extreme heatwaves, particularly in 2003 and 2022, along with droughts, wildfires, and flooding. These events led to significant human and economic losses.
- **India:** Affected by floods, heatwaves, and cyclones, India experienced devastating floods in 1993, 1998, and 2013, along with severe heatwaves in 2002, 2003, and 2015. The country faced more than 400 extreme events, causing USD 180 billion in losses.
- **Greece:** Experienced heatwaves, floods, and wildfires, including the European heatwave of 2022. Wildfires in 1998, 2007, and 2022 caused severe agricultural damage.
- **Spain:** Heatwaves in 2003 and 2022 led to high death tolls and extensive damage from droughts and wildfires. The 1999 drought and 2019 floods were also notably damaging.
- **Vanuatu:** Cyclone Pam in 2015 caused USD 580 million in damage, impacting over two-thirds of the population and destroying food crops, at an amount equalling 60% of the country's GDP.
- **Philippines:** Regularly hit by typhoons, the most destructive being Typhoon Haiyan in 2013, which caused USD 13 billion in damage and 7,000 fatalities. The country endured 372 extreme events, resulting in USD 34 billion in losses.

# Countries Most Affected in 2022

In 2022, the most affected countries were Pakistan, Belize, and Italy, followed by the United States, Spain, and Greece.

- **Pakistan:** In June–September 2022, a heavy monsoon season brought devastating floods, landslides, and storms, affecting more than 33 million people, with more than 1,700 fatalities and nearly USD 15 billion in damage. A heatwave earlier in the year claimed more than 90 lives.
- **Belize:** On 2 November 2022, Hurricane Lisa (Category 1) caused extensive flooding across much of Belize, damaging nearly 5,000 homes, affecting more than 172,000 people, and resulting in economic losses estimated at over USD 104 million.
- **Italy:** In 2022, extreme heat led to wildfires and severe drought in the Po Valley, causing more than 18,000 deaths. Temperatures in Rome reached 40.8°C and a state of emergency was declared in five northern regions.
- **Greece:** During the summer of 2022, extreme heat up to 42.1°C caused more than 3,000 fatalities and wildfires, affecting 55,000 people.
- **Spain:** From mid-June to mid-July 2022, extreme heat and wildfires led to temperatures up to 43.2°C, causing more than 11,000 deaths and impacting 3,500 people.
- **Puerto Rico:** In September 2022, Hurricane Fiona (Category 4) caused the worst flooding since Hurricane Maria in 2017, leaving one million people without drinking water and causing 25 fatalities, with damage estimated at USD 2.6 billion.
- **United States:** In September 2022, Hurricane Ian (Category 5) struck Florida and the Carolinas, claiming nearly 150 lives and causing widespread damage. Hurricane Nicole (Category 1) later caused additional damage. A nationwide drought and extreme heat led to 136 fatalities and USD 23 billion in damage. Winter storm Elliot killed nearly 100 people and six tornadoes caused USD 11 billion in damages.
- **Nigeria:** Heavy flooding from July to October 2022 affected more than 3.2 million people, causing more than 600 fatalities and USD 4.2 billion in damage. A severe drought also exacerbated water insecurity, impacting nearly 20 million people.
- **Portugal:** In May–September 2022, extreme heat reached 47°C, resulting in more than 2,000 fatalities. Wildfires in July caused three deaths and 187 injuries, and drought conditions persisted into the following year.
- **Bulgaria:** Extreme heat in 2022, with temperatures reaching 39°C, caused more than 1,200 deaths, with many people suffering heat-related conditions such as heat stroke and dehydration.