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Future Urban Landscapes

**Climate Migration
Projections in Cities**

Acknowledgements

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This summary report captures for external audiences the research and full study results conducted for C40 Cities by Bryan Jones, Assistant Professor at the Marxe School of Public and International Affairs at Baruch College. Bryan Jones is a geographer specialising in human-environment interactions, urban environments, and spatial modelling including the relationship between human population dynamics and climate change in driving human vulnerability. He has worked extensively on future climate migration projects with the World Bank Groundswell reports.

The summary report is authored by C40 cities. C40 is a global network of nearly 100 mayors of the world's leading cities that are united in action to confront the climate crisis. Mayors of C40 cities are committed to using an inclusive, science-based and collaborative approach to cut their fair share of emissions in half by 2030, help the world limit global heating to 1.5°C, and build healthy, equitable and resilient communities.

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1. Mayoral perspectives

While climate change is a crisis, the way people move and adapt their lives, including through migration, does not necessarily need to be. Across C40 cities, mayors are addressing climate migration comprehensively, aiming to prevent displacement, protect those

on the move and plan for the future movement of people into urban centres.

Here are their perspectives on this critical piece of research and how to address this policy challenge:



“Accra, and cities across all of the Global South, are confronting the effects of the climate crisis whilst also welcoming displaced populations from across their countries, many without access to formal employment or status. Locally-led climate action, driven by local-level data and backed by sufficient climate finance, presents a key opportunity for cities to facilitate the inclusion of migrants while protecting all residents from climate impacts.”

Elizabeth Sackey

Mayor of Accra, Ghana. Member of the C40-MMC Task Force



“We have witnessed firsthand how the climate crisis and migratory pressures intersect in Amman. Without city-led climate policies rooted in local data and designed to address the needs of both new and existing residents, we cannot safeguard our cities or livelihoods. Cities have proven that transformative climate action is possible, but to succeed, we require localised data and sustained investment.”

Dr Yousef Shawarbeh

Mayor of Amman, Jordan. Member of the C40-MMC Task Force



“In Bogotá, home to internal migrants from across Colombia for decades, we have a long-term commitment to ensuring that our city policies are rooted in equity and inclusion. With the climate crisis accelerating, we need local-level data like that found in this report to guide our policy development and we call on partners from around the world to join us in supporting city-led climate action that supports mayors to build thriving, healthy cities with green jobs available for all.”

Carlos Fernando Galán Pachón

Mayor of Bogotá, Colombia



“This research should be a stark reminder that without strong, concerted action to reduce emissions by all levels of government around the world, projected levels of climate migration may very well increase beyond our already high expectations. People continue to leave areas across all our countries, due to climate impacts from deforestation to drought. We need all parts of society to join together and ensure that we keep to a future where 1.5°C is the highest our global temperatures rise.”

Rafael Greca

Mayor of Curitiba, Brazil



“Between 2016 and 2021, 43 million children were internally displaced due to extreme weather events worldwide. Yet even as cities confront climate migration and other loss and damage resulting from the climate crisis, cities have historically received less than 5% of global adaptation finance to invest in critically needed, equitable solutions. Diplomatic efforts led by Global South cities on the frontlines of the climate crisis are leading the way to push global actors to address urban climate migration and the climate crisis and successfully protect our cities.”

Yvonne Aki-Sawyerr

Mayor of Freetown, Sierra Leone. Co-Chair, C40 Cities. Co-Chair, C40-MMC Task Force Co-Lead



“When floods submerged large portions of Pakistan in 2022 and displaced over 1 million people in a matter of months, Karachi saw firsthand what future climatic migration might represent for cities unless bold climate action is taken at a local level and between cities and rural and national counterparts. While working to reduce our emissions – and keep the global temperature rise within 1.5°C – is essential, the innovative, local-level data this report highlights can help local leaders across the Global South to best plan and prepare for climate-driven migration towards their own cities.”

Murtaza Wahab

Mayor of Karachi, Pakistan



“With the landmark COP30 taking place next year here in Brazil, we as mayors call on international stakeholders, from national governments to multilateral development banks and philanthropic institutions, to deliver on their decades of statements and work with mayors to deliver locally-led climate action that can protect all urban residents worldwide. This innovative research, backed by the advocacy efforts of leading mayors, will help us make the case and secure the critically needed climate finance for the Global South.”

Eduardo Paes

Mayor of Rio de Janeiro, Brazil. C40 Vice Chair

“Climate change and its associated risks and disasters affect people all over the world. However, it cannot be ignored that they disproportionately affect the most vulnerable, whether they are native residents or migrants. Cities have the power to lead inclusive urban transition efforts that benefit all urban residents, and Salvador has been actively positioning itself on this path.”

Ivan Euler Paiva

Municipal Secretary for Sustainability, Resilience, Animal Welfare and Protection, Salvador, Brazil

“We have long possessed the data and scientific evidence to demonstrate the immediate and predictable impacts of climate change – yet, there were still those who doubted. Today, the evidence is undeniable, breaking down walls, entering through windows, flooding and drying up watercourses, and affecting entire populations. Local governments across the globe are feeling the effects and are being called to take decisive action. São Paulo is no exception; as a city, we embrace, support, and invest in a wide range of socio-environmental initiatives. However, to truly protect our populations and ensure that countries and continents can effectively respond to the climate emergency, a unified effort from all levels of government is essential to halt the course of Earth’s temperature changes.”

Mrs. Soninha Francine

Municipal Secretary for Human Rights and Citizenship, São Paulo, Brazil



2. Executive summary

As climate impacts accelerate worldwide and force many to leave their homes, this research confirms that a large share will move towards urban areas and contribute to accelerating urbanisation.

Our global cities have always been a refuge and destination for newcomers, who are an essential, and must valued part of the fabric of our cities. In our future urban landscape, cities and mayors will continue to be key – both to welcome newcomers and protect all residents from climate impacts, as climate impacts will also increasingly affect our urban centres. This new study provides first-of-

its-kind city-level climate migration projections and impacts across multiple regions.

The data is clear: by 2050, cities can expect to be home to a significant number of internal migrants as a result of the climate crisis – unless rapid action is taken to halt emissions and reduce associated climate impacts. In all scenarios there is a critical need for locally led inclusive climate action that can support the development of healthy, sustainable cities for all. Climate change is the crisis of our lifetime, but if we deliver on sustainable solutions for frontline communities, it does not need to be.



Key highlights from this report include:



Climate as a driver of migration

- Climate change is projected to become a major driver of migration towards cities: By 2050, 8 million people are expected to move to the *ten cities*¹ studied in this report as a result of climate change.** Although all cities in the research are projected to receive climate migrants, the intensity varies in line with projected increases in global heating. In modelled scenarios, surpassing the Paris Agreement leads to a rapid acceleration in projected levels of climate migration by 2050, with estimates ranging from 200,000 in Curitiba to 3 million in Dhaka.
- Migrants risk trading one set of risks for another when moving to cities:** Our research consistently showed that those moving to cities were likely to have been exposed to several overlapping climate stressors and hazards on an annual basis in their region of origin – from flooding to drought to reduced crop yields. **Yet when migrants move to cities, the climate impacts they face are not eliminated; they simply become urban in nature, including a wide range of challenges from heat to landslides, often particularly affecting underserved areas of cities.**
- Without locally-led anticipatory action, climate migration will likely accelerate existing trends and challenges in cities:** In every city in this research, the climate crisis is expected to drive a **significant increase in the city's population** – with many migrants likely to move into existing informal settlements and/or areas with high levels of climate risk. Concerted, locally led interventions can avoid an increase in rapid urbanisation, increased urban sprawl, and pressure on local services.
- The need for locally led climate action is critical:** Across every city in the research, a modelled increase in global heating drove a notable increase in projected levels of urban climate migration, **underlining the need for urgent mitigation efforts.** Yet some urban climate migration is projected in every city in every scenario of our analysis, even limiting global temperatures to Paris Agreement limits. This emphasises the essential need for anticipatory action in cities – in cities – from climate adaptation to urban planning to social inclusion policies.



The role of cities in climate migration

- **Cities are already leading the way** in responding to urban climate migration, including by integrating migration and expected trends in actions to enhance urban resilience, strengthen urban inclusion, and leverage the urban climate transition to build inclusive and thriving cities.
- Our research finds that **cities will continue to play a key role** in climate migration: a significant share of each country's total climate migrants will seek opportunities, livelihoods and homes in these vibrant and growing cities.
- **City-led action will be essential** to prevent unplanned or unmanaged urban sprawl that is also not climate resilient and increased pressure on existing services and resources.
- **Cities themselves need support** to adapt to changing climate impacts locally, to ensure that new arrivals and existing residents have access to climate resilient housing and services.



Credit: Preston Keres/USDA/FPAC



Needed policy responses recommendations

Cities can prepare for and respond to expected climate migration with inclusive policy development and planning. They can also leverage the opportunities provided by the green and just transition to build inclusive, thriving cities for both newcomers and existing residents alike. Yet as cities have made clear in this research and in their wider advocacy efforts, they will need international stakeholders to work together to:

- **Rapidly reduce emissions** to mitigate the acceleration of the climate crisis to prevent worst case scenarios involuntary displacement as well as other climate impacts.
- **Direct climate finance** to locally led actions that build inclusive urban resilience, ensuring that city residents, whether new or existing, are better protected from climate impacts.
- **Ensure that city policies**, whether social, migration or climate-related, are inclusive and responsive to the needs of migrant populations, enhancing all urban residents' wellbeing.
- **Build the role of cities as green jobs and skills hubs for all**, to forge more socially, economically, and environmentally just cities.
- **Support the development of local-level data on climate migration**, as well as the necessary technical capacity. This should include strengthening multilevel partnerships with local governments – both urban and – both urban and rural – at all levels. – at all levels.

Climate breakdown is a crisis, including for those directly impacted, including for climate migrants.

We need collaborative and locally-led climate action to avert the worst impacts on communities.



3. Introduction

The evidence is clear: the growing intensity of the climate crisis is driving **displacement and migration** worldwide. Over the past decade, nearly half of all internal displacements around the world were driven by climate-related disasters.¹

3. Introduction

The urgent need to recognise and address climate migration has never been higher.

This need is particularly acute in cities as centres for economic, social and cultural activity where more than half of the global population already reside. Global South countries and cities in particular are currently home to the vast majority of displaced populations, with Africa alone hosting almost half of all internally displaced people (IDP) worldwide.

They are also the most impacted by the climate crisis. By 2050, urban areas are projected to be home to nearly 70% of the world's population, while Africa and Asia, already vulnerable to climate impacts, are expected to host 90% of global urban expansion over the next 30 years. As climate impacts increase in both frequency and severity, especially in the Global South, climate migration is increasingly an adaptation measure that communities are forced to consider.

Despite this, almost all climate migration predictions thus far have either focused exclusively on the national level, or paid only limited attention to urban areas. This is a significant gap. Without local-level data and research on urban climate migration, and urban loss and damage more broadly, cities' ability to respond effectively to the urban climate crisis is limited.

Local-level data is essential for the development and implementation of policy responses. Policy informed by climate migration-related data ranges from how cities plan adaptation measures that reduce climate risks to strategically developing

needed infrastructure and social services – that can protect all residents. With a more complete and urban-focused picture of anticipated levels of climate migration, local leaders can more accurately plan and develop much needed policies and interventions – actions that will create thriving societies; provide good green jobs and opportunities for those previously left behind; achieve economic social, and environmental justice; and increase the quality of life for all.

The new data featured in this report will support the ability of cities and national policy makers to better:

- develop better develop anticipatory climate policies,ⁱⁱ which will benefit both existing residents and newcomers in cities;
- scale-up and replicate best practice solutions established in cities at the national level;
- plan together with affected communities adaptation and other actions to reduce the need for migration in response to climate impacts and plan appropriately for increased climate migration; and.
- advocate for policies and investment to address the urban dimension of climate migration in relevant diplomatic forums.

4. The modelling approach

As efforts to model the impact of climate change on migration remain relatively new, most research to date has focused on either international mobility, or the national-level assessment of internal migration.

There have only been two studies analysing internal climate migration at the local, urban level. These were led, respectively, by the Mayors Migration Council in Central America² and by the Africa Climate Mobility Initiative in Africa³. Both have served as inspiration and guidance in developing this study and summary report. In this study C40 aimed to support a global picture, complementing and expanding the small but exemplary body of existing studies to encompass additional regions and features in the analysis.ⁱⁱⁱ

The study and summary report leverage the INCLUDE model, developed by Bryan Jones, Assistant Professor at the Marxe School of Public and International Affairs at the City University of New York. Derived from prior models leveraged for the Groundswell Report,⁴ the landmark climate migration report by the World Bank, INCLUDE model is a gravity-based, spatial-allocation-type approach to modelling spatial population dynamics which can produce scenario-based estimates of internal migration. It estimates climate-impacted internal migration and the likely future location of migrants, by modelling scenario-based, spatially explicit population outcomes that incorporate socio-economic

development, demographic change, and climate impacts, and comparing the outcome with a counterfactual scenario that includes the same development and demographic trajectories but assumes that present day climate conditions remain constant. Additionally, the model disaggregates climate and all-other migrants for purposes of further investigation into the impacts of climate on spatial patterns of population change.

The varying emissions projections or, more specifically, projections of the concentration of greenhouse gases, drive changes in environmental conditions. This, in turn, can alter socioeconomic conditions including e.g. through impacts livelihoods. Future changes in the spatial distribution of the population, driven primarily by migration, occur in the model as a function of the relative attractiveness of different subnational locations. The relative attractiveness of a given location is influenced by the socioeconomic and demographic characteristics of the population, economic conditions and livelihoods, history and existing connections, political systems and stability, geographic characteristics, and importantly, the effect of climate impacts on all of these systems.

The climate scenarios utilised in this model are aligned with those referenced in assessment reports by the Inter-governmental Panel on Climate Change (IPCC), known as Representative Concentration Pathways (RCPs) and Shared Socioeconomic Pathways (SSPs). These are summarised in the table opposite.

Climate scenarios

Optimistic scenario

SSP1 and RCP2.6

In line with a future consistent with the Paris Agreement; combines a lower-emissions scenario that leads to less extreme climate impacts with a development scenario that is more socio-economically optimistic and includes aggressive environmental policy.

Moderate scenario

SSP3 and RCP4.5

GHG concentrations, and thus climate change impacts, are in the midrange, leading to a future in which assumes that the Paris Agreement 1.5°C limit is surpassed but the worst-case outcome is avoided. The corresponding socio-economic scenario assumes a more fractured world, in which development occurs unevenly.

Pessimistic scenario

SSP5 and RCP8.5

Assumes a pessimistic climate future, in which climate impacts exceed the mid-range. This occurs nevertheless within a relatively optimistic global development pathway in which regional economic growth occurs quickly but this development pathway is driven by an increasing exploitation of fossil fuels.

Further background information about these climate change projection scenarios and how they are utilised in both IPCC reporting and this analysis are available in the full study report including detailed methodology and results.

While reading, it is important to keep in mind the following. This study:

- Employs data-informed forecasts of local in-/out-migration that could occur under different socioeconomic and climate assumptions. Importantly, no one set of projections is considered the “most likely” outcome.

- Uses the spatial information derived from the output (hotspots, areas of projected in-/out-migration) to highlight geographic areas that might merit additional investigation or research to determine how migration may impact quality of life (for both migrants and current residents).

- Allows the user to assess the potential future impact of migration on vulnerability associated with different socioeconomic and climate futures, and whether climate or societal factors are having a larger impact on migration propensity, thereby supporting efforts to determine whether mitigation (better climate outcomes) or

adaptation (better societal outcomes) efforts might have a larger impact on migration propensity.

- Does not account for adaptation measures that may be successfully taken to prevent involuntary displacement/migration as a function of climate impacts, or for other potential drivers of displacement (such as conflict or economic changes). Adaptation measures tailored to communities at risk of movement remain critical to avert involuntary displacement and migration and are key recommendations of this report.

This summary report and the underlying study make reference to several key terms, notably **climate migration / climate migrant**.

There is no universal definition of climate migration, but it can be understood as “the movement of a person or groups of persons who, predominantly for reasons of sudden or progressive change in the environment due to climate change, are obliged to leave their habitual place of residence, or choose to do so, either temporarily or permanently, within a State or across an international border.”⁵

For the purpose of this research, we look at situations where a person moves across an administrative boundary in response to climate stimuli, which may be described in the report as impacts or hazards. We define administrative units according to the legal or regulated administrative boundaries of the cities of interest in the study (not including surrounding municipal areas). To determine if a migrant has moved in response to climate stimuli, we run a counterfactual model in

which no climate change occurs but socio-economic conditions evolve according to the SSP scenario. In this case, a climate migrant is a person that moves in a scenario that includes climate change, but not the counterfactual. Taken together, for each of the cities in the study, a climate migrant is an individual that arrives in the city of interest from any other part of the country that has moved in response to climate impacts. We recognise, however, that many climate migrants moving to major cities may look for housing in the metropolitan area surrounding the city and this is not an exhaustive study of the drivers of migration.

Other common concepts that feature in this summary report include:

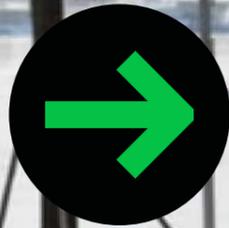
Economic sectors and labour profiles, notably:

- **Primary:** The primary-sector includes occupations that involve the extraction and harvesting of natural resources from the Earth. Farming, forestry, fishing, and mining are primary-sector activities.
- **Manufacturing/secondary:** The secondary-sector involves the transformation of raw and intermediate materials into goods. Manufacturing, construction, and textile production are secondary sector activities.
- **Services/tertiary:** Tertiary-sector comprises organisations and individuals that provide services to consumers and businesses, such as retailers, entertainment firms, and financial organisations, as well as the knowledge economy.

Climate impacts, as defined in this research, include:

- **Reduced crop yields:** the local deviation in average annual crop production in tons per hectare relative to the observed 40-year average over the period 1970-2010.
- **Saltwater intrusion:** the movement of saline water into freshwater aquifers and habitats caused by an increase in sea levels and/or storm surge.
- **Sea-level rise:** an increase in the level of the world’s oceans due to the effects of global warming.
- **Extreme flooding:** refers to flood events that lead to inundation depth of 1-metre or greater.
- **Water stress:** when the demand for water exceeds the available amount during a certain period or when poor quality restricts its use. In the model water stress is measured as the local deviation in average annual water availability in cubic metres relative to the observed 40-year average over the period 1970-2010.
- **Drought:** the mean drought index is expressed as the 12-month deviation from the normal local value of the Standardised Precipitation Evapotranspiration Index (SPEI). The SPEI incorporates both precipitation input variations as well as changes in the loss of water through evapotranspiration.
- **Landslides:** defined here as all types of gravitational mass wasting processes, such as slides, flows, and falls.





5. City findings



The data is clear: by 2050, cities are projected to be home to a significant number of **internal migrants** as a result of the climate crisis – unless rapid action is taken to halt emissions and reduce associated climate impacts.

5. City findings

City climate migration projections



This C40 research provides first-of-its-kind city-level climate migration projections and impacts for ten cities around the world, underscoring the key role cities will continue to play on the frontlines of the climate crisis as climate change becomes a major driver of migration towards cities.

Accra , Ghana	20
Amman , Jordan	22
Bogotá , Colombia	24
Curitiba , Brazil	26
Dhaka , Bangladesh	28
Freetown , Sierra Leone	30
Karachi , Pakistan	32
Rio de Janeiro , Brazil	34
Salvador , Brazil	36
São Paulo , Brazil	38



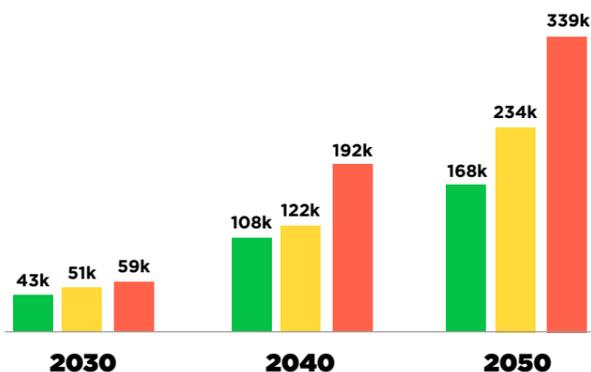
Accra, Ghana

With a population of around 2 million people, Accra is growing rapidly, partly due to internal migration,⁶ and faces diverse climatic challenges including high temperatures and rising sea levels.⁷ Recognising the need for inclusive climate policies, Accra has worked with C40 and partners to develop innovative city-led programs which provide welfare and healthcare services, green job training, and basic services to both internal and external climate migrants in the city.⁸ Accra is a member of the C40-MMC Global Mayors Task Force on Climate and Migration.

Projected climate migrants in Accra

Climate is projected to drive a significant number of domestic migrants to Accra by 2050, with projections accelerating rapidly between 2030 and 2050. The pessimistic scenario projects five times more climate migrants entering Accra in that time period compared to the optimistic scenario.

Accra is currently home to 10% of Ghana's total population (30 million) but the city is likely to receive one fifth of the country's climate migrants; emphasising both how climate migration compounds existing urbanisation trends and Accra's central role in adaptation strategies.

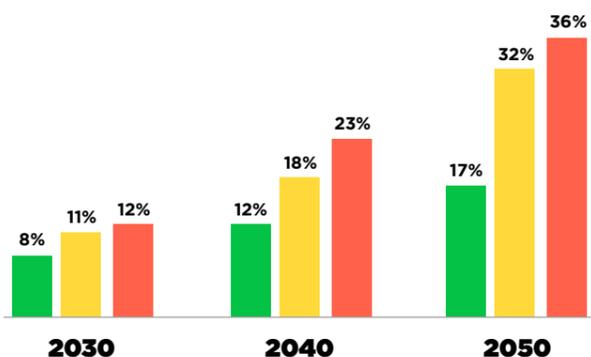


Climate migrants in Accra
Number of migrants projected to migrate to Accra due to climate change.

Share of migrants driven by climate change to Accra

By 2050, unless global emissions are abated, the number of people moving to Accra due to climate stressors is expected to rapidly accelerate.

Nearly 4 in 10 internal migrants to Accra may be driven by climate change, representing a four-fold increase compared to 2030.

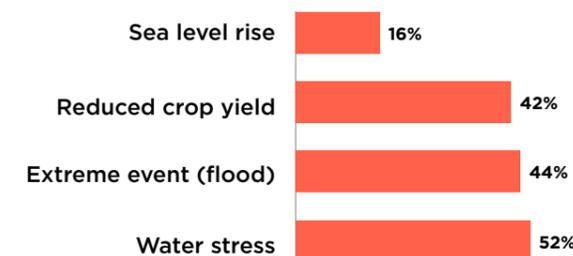


Climate migrants as % of total migrants
Share of migrants projected to migrate to Accra due to climate change, as a percentage of total migrants in the city.

Key Optimistic scenario Moderate scenario Pessimistic scenario

Climate impact exposure

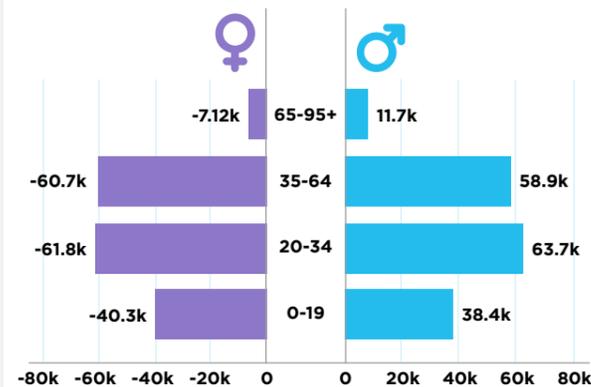
Multiple overlapping climate stressors will drive migration and displacement with over half of all predicted climate migrants to the city expected to have confronted challenges related to water, whether a scarcity of water or flooding (or both), as well as sea-level rise. These factors include complex consequences that may also drive migration, including reduced crop yields.



Percentage of migrants exposed.

Climate migrant demographics

A significant share, nearly 40%, of all migrants likely to move to Accra by 2050 as a result of climate change are projected to be of young adult age (20-34 years old), with slightly more than half of working age migrants expected to be women.

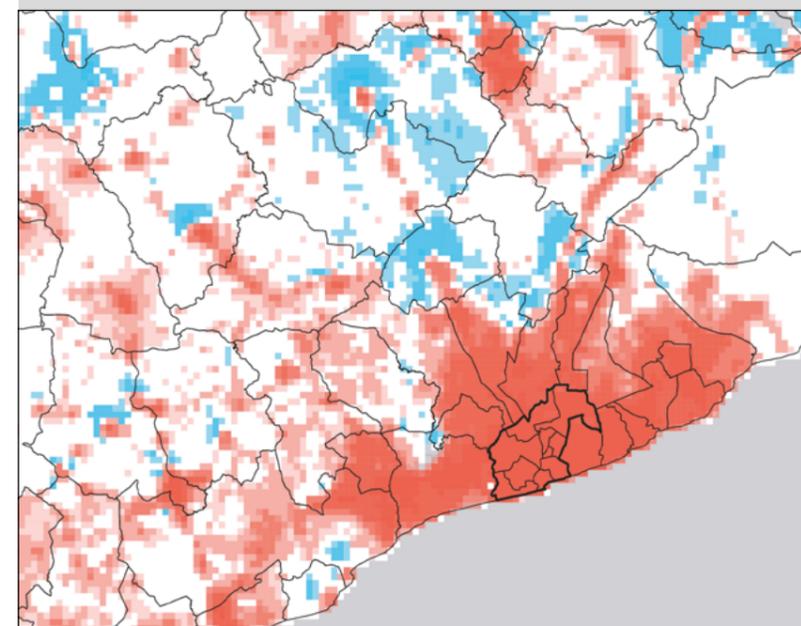


Age and gender of climate migrants in Accra.

Net climate migration in Accra

In line with existing trends in Accra, climate migration is expected to contribute to the city's rapid urbanisation and urban density with almost all of its surface area (areas in red within the bold border) experiencing net in-migration. The city's low-lying coastal geography exacerbates the challenges of growing density and climate risks. The city's Climate Action Plan (CAP)^{viii} outlines its approach to tackling these challenges by strengthening climate, migration, and social policies that will help protect residents from climate impacts while ensuring access to essential services, housing, and employment, enabling the city to better manage migration flows.

Map of where climate migrants are projected to move to within Accra.



Out-migration In-migration



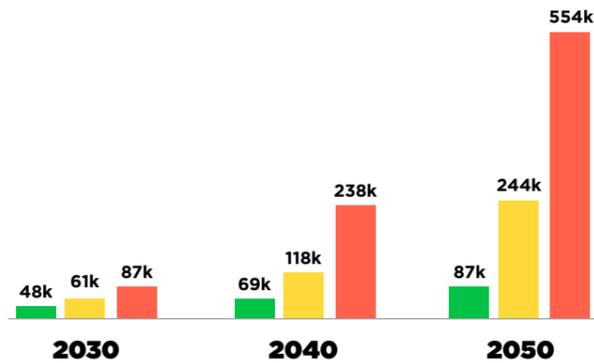
Amman, Jordan

Jordan's capital city, with a population of nearly 3.5 million including a large community of Syrian and Palestinian refugees, has grown rapidly while facing a diverse range of climatic challenges – from drought and high temperatures to flash flooding – frequently impacting residents' health and livelihoods.⁹ Amman has pioneered climate adaptation strategies focused on both environmental challenges and the expansion of green livelihood opportunities for displaced persons and refugees,¹⁰ and is a founding member of the C40-MMC Global Mayors Task Force on Climate and Migration.

Projected climate migrants in Amman

Amman is projected to experience a significant influx of climate migrants by 2050 with a rapid acceleration from 2030. In the pessimistic scenario, migrant numbers are projected to surge to approximately 554,000 by 2050 – almost seven times the optimistic projection for the same year.

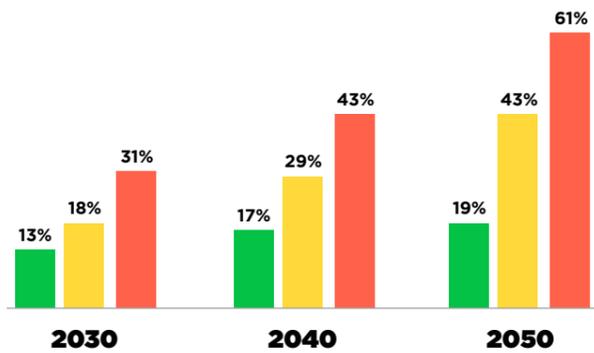
In contrast, the optimistic scenario forecasts fewer than 100,000 climate migrants throughout the period, highlighting the stark differences in outcomes based on global emissions trajectories.



Climate migrants in Amman
Number of migrants projected to migrate to Amman due to climate change.

Share of migrants driven by climate change to Amman

In addition to the increasing number of climate migrants, climate migration is expected to become a larger share of overall migration into the city (6 in every 10 migrants). Yet when global heating stays within the limits of the Paris Agreement in the optimistic scenario, less than one-fifth of total migration towards Amman is expected to be climate-driven.



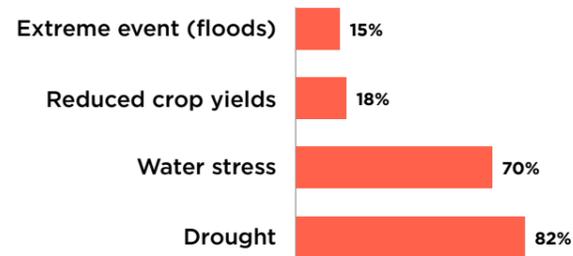
Climate migrants as % of total migrants
Share of migrants projected to migrate to Amman due to climate change, as a percentage of total migrants in the city.

This highlights the urgency of keeping emissions within levels agreed upon in the Paris Agreement as well as the need for rapidly scaling up climate-focused urban planning and adaptation efforts.

Key Optimistic scenario Moderate scenario Pessimistic scenario

Climate impact exposure

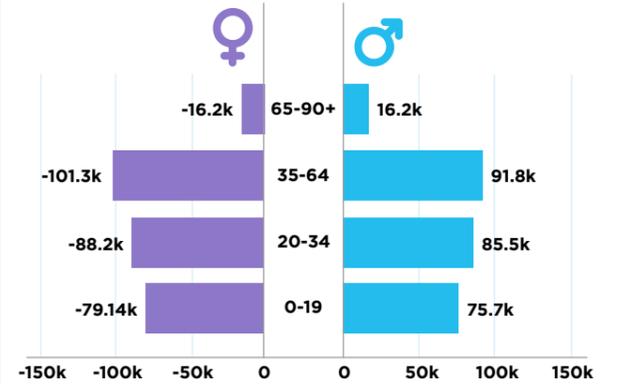
Those moving to Amman are expected to have faced various, interconnected climate stressors on an annual basis in their regions of origin. Challenges with water play a critical role; namely, severe drought, affecting over 80% of expected climate migrants, and water stress, impacting more than 70% of all climate migrants through either potable water scarcity or reduced crop yields.



Percentage of migrants exposed.

Climate migrant demographics

Of the projected climate migrants arriving in Amman by 2050, the majority are expected to be male (52%), and one-fifth to be children under the age of 15.



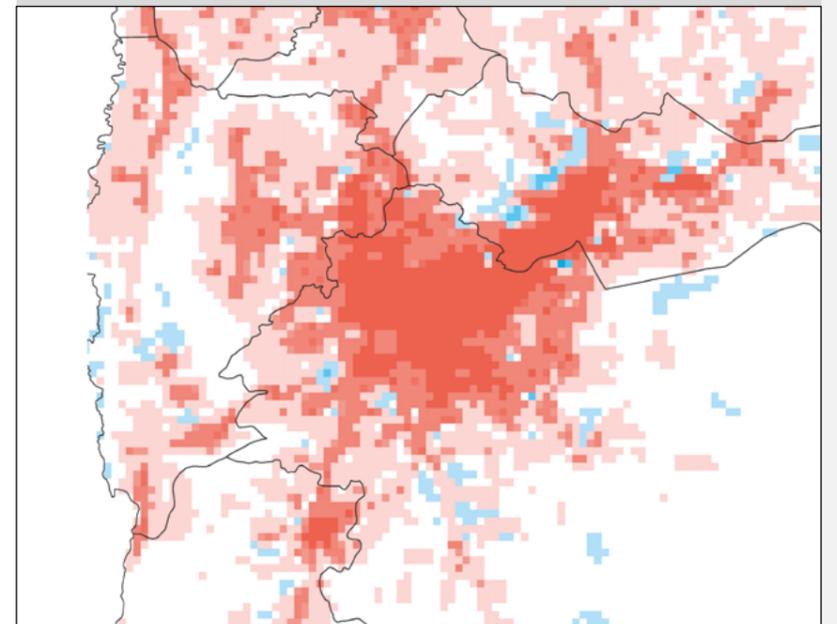
Age and gender of climate migrants in Amman.

Net climate migration in Amman

Without adequate planning and policies, climate migration is expected to intensify current trends in Amman, including rapid urbanisation and increased urban density. The majority of this growth is projected to occur in the drier, desert regions to the east of Amman.

With more development in that area, Amman's CAP¹¹ details how the city intends to address these challenges, including strategic climate interventions that will protect all residents from climate impacts.

Map of where climate migrants are projected to move to within Amman.



Out-migration In-migration



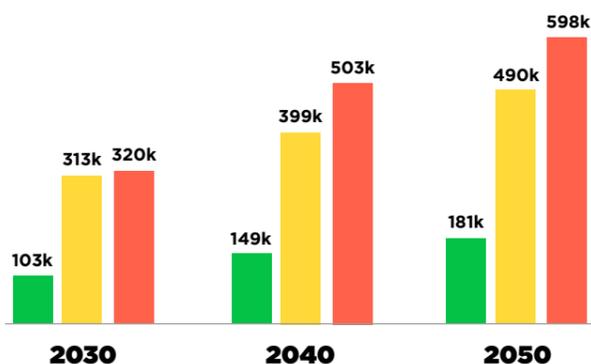
Bogotá, Colombia

Bogotá, the capital of Colombia, is home to 8 million residents and has a long history of welcoming people, already hosting over 270,000 internal migrants.¹² Bogotá's rapid population growth – together with the worsening climate crisis – exacerbates the city's climatic challenges, including water shortages, increasing air pollution, and landslides in existing informal settlements.¹³ In 2023, the country proposed a bill to recognise those displaced by climate-fuelled disasters.¹⁴

Projected climate migrants in Bogotá

Bogotá is projected to host between 103,000 and nearly 600,000 internal climate migrants by 2050, the numbers tripling in the pessimistic scenario compared to the optimistic scenario.

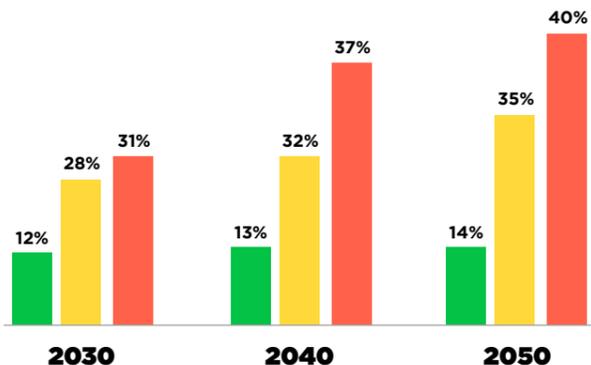
Across all scenarios, Bogotá is consistently projected to host one-fifth of the entire country's climate migrants, reflecting the city's importance as an economic hub and emphasising the city's key role in adaptation and livelihood solutions.



Climate migrants in Bogotá
Number of migrants projected to migrate to Bogotá due to climate change.

Share of migrants driven by climate change to Bogotá

As in many other cities studied, if global heating stays within the limits of the Paris Agreement, climate will only account for less than one-fifth of all migration to the city.

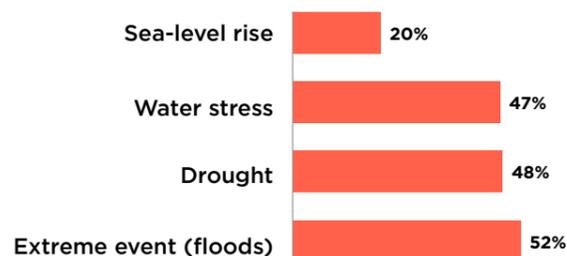


Climate migrants as % of total migrants
Share of migrants projected to migrate to Bogotá due to climate change, as a percentage of total migrants in the city.

Key Optimistic scenario Moderate scenario Pessimistic scenario

Climate impact exposure

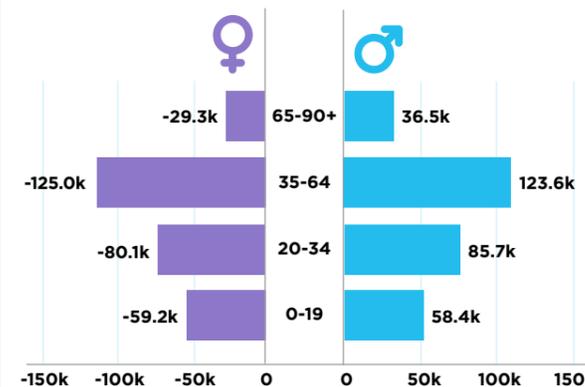
Many climate migrants heading to Bogotá will likely have been exposed to various climate stressors on an annual basis in their regions of origin. Around half of all climate migrants expected to move to the city will have faced either extreme flooding or water shortages – whether in the form of widespread drought or stress on potable water supplies – and one-fifth will have been affected by sea-level rise in their region of origin.



Percentage of migrants exposed.

Climate migrant demographics

The majority (70%) of climate migrants projected to move to Bogotá by 2050 are expected to be of working age, with women making up slightly more than half of the population expected to migrate due to climate impacts.



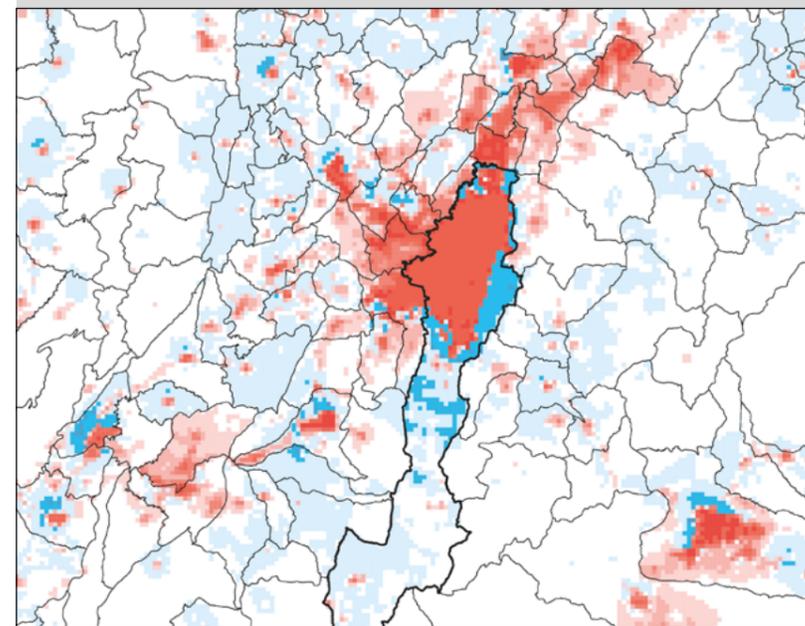
Age and gender of climate migrants in Bogotá.

Net climate migration in Bogotá

Climate impacts are projected to increase urbanisation and urban density with climate migrants expected to move to locations within and beyond the city's boundaries, while still depending on the city's systems and resources.

In addition, climate impacts are expected to contribute to outmigration along the eastern and southern mountain range, changing the urban landscape. The city's CAP¹⁵ outlines how Bogotá intends to tackle these challenges, including cohesive climate and social policies designed to protect both new and existing residents.

Map of where climate migrants are projected to move to within Bogotá.



Out-migration In-migration

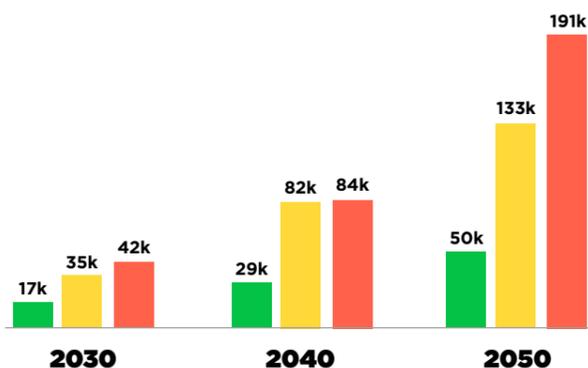


Curitiba, Brazil

Curitiba, with a population of nearly 2 million, is recognized for its innovative urban planning that has not only enhanced its infrastructure but also attracted domestic migrants seeking opportunities.¹⁶ To address this rapid growth and climate impacts affecting the city, including flooding and extreme heat, Curitiba is working to create sustainable and resilient urban environments, integrating migration considerations into its urban development strategies to better manage climate-induced migration.

Projected climate migrants in Curitiba

Curitiba is projected to experience an increase in climate migration, receiving nearly 200,000 climate migrants by 2050, in the pessimistic scenario - four times more than in the optimistic one. In all scenarios where emissions surpass the limits of the Paris Agreement (the moderate and pessimistic) the volume of migration is significantly higher than in the optimistic scenario across all time periods.



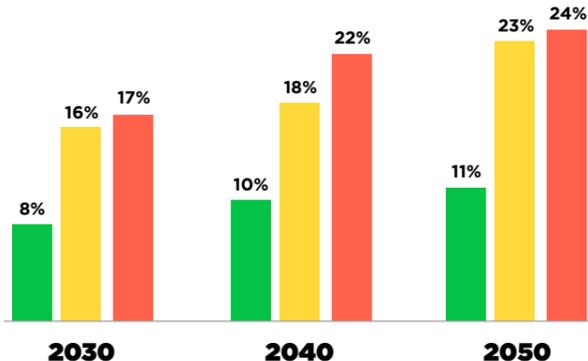
Climate migrants in Curitiba
Number of migrants projected to migrate to Curitiba due to climate change.

The need for rapid anticipatory action is clear, with the city likely receiving between 30,000 (optimistic scenario) to 150,000 (pessimistic scenario) additional climate migrants, between 2030 and 2050.

Share of migrants driven by climate change to Curitiba

While migrants are likely to head to Curitiba for a variety of reasons, climate change is expected to play an increasing role in driving migration to the city over time.

In the moderate and pessimistic scenarios where the Paris Agreement is surpassed, climate is anticipated to drive between one-fifth and one-fourth of all climate migration to the city across every time period analysed.



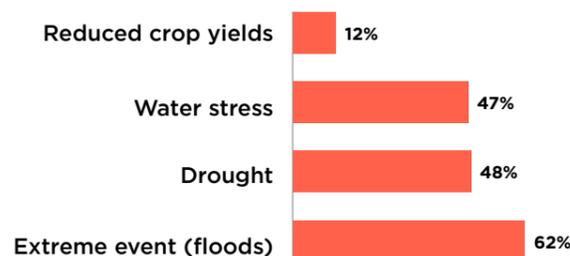
Climate migrants as % of total migrants
Share of migrants projected to migrate to Curitiba due to climate change, as a percentage of total migrants in the city.

Key Optimistic scenario Moderate scenario Pessimistic scenario

Climate impact exposure

Multiple, overlapping climate stressors on an annual basis are likely to impact migrants in their regions of origin, with water-related impacts of all kinds playing a key role.

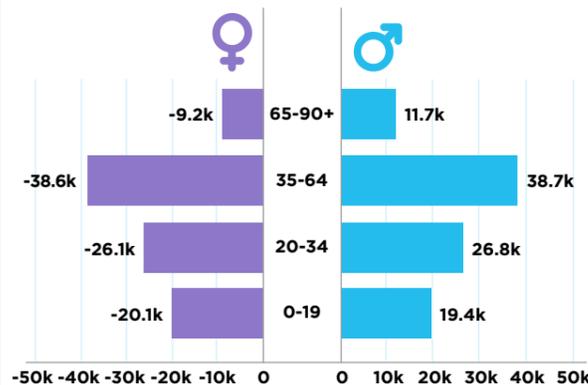
Flooding is expected to impact the largest share of predicted climate migrants to the city, with nearly half of all climate migrants suffering from a lack of water, whether in the form of drought or water stress via a lack of potable water.



Percentage of migrants exposed.

Climate migrant demographics

A significant share of climate migrants projected to head to Curitiba by 2050 will be of working age (20-64 years old), with slightly more than half of expected migrants projected to be women.



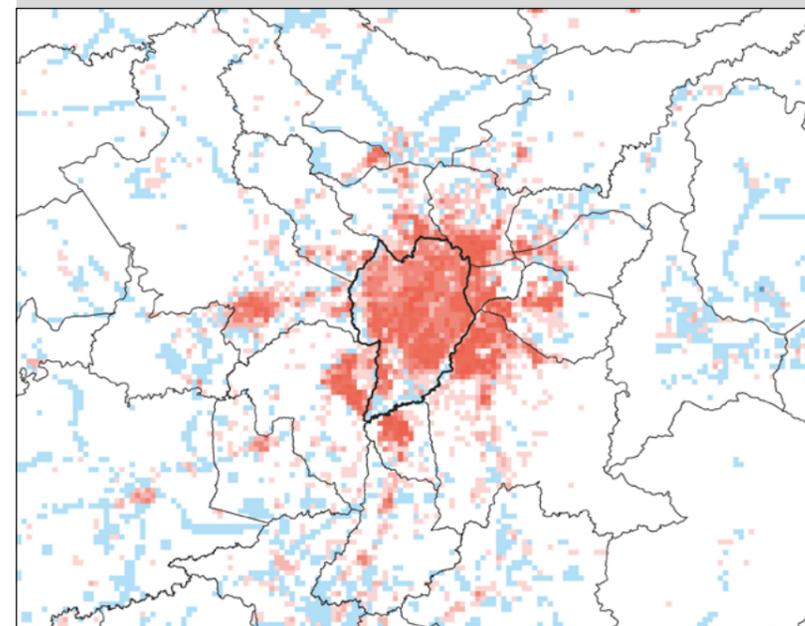
Age and gender of climate migrants in Curitiba.

Net climate migration in Curitiba

Curitiba is projected to experience an intensification of existing urban challenges if anticipatory action is not taken. While a majority of new arrivals will settle within the city's own boundaries (areas in red within the bold border), a significant number are also expected to settle outside of the city's border, often in existing areas of informal settlement.

Curitiba's CAP¹⁷ details its approach to addressing these and other challenges, including strategies to manage the expected rise in demand for services and resources.

Map of where climate migrants are projected to move to within Curitiba.



Out-migration In-migration

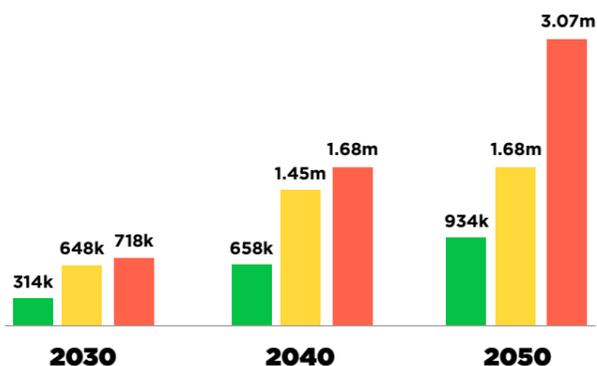


Dhaka, Bangladesh

Dhaka, Bangladesh's densely populated capital, is currently home to over 12 million people. The city's rapid population growth and urbanisation, driven in part by rural-urban migration caused by climate change,¹⁸ has intensified the need to protect residents against climate challenges. These challenges include extreme heat and flooding, which are exacerbated by excessive groundwater extraction and sea-level rise.¹⁹

Projected climate migrants in Dhaka

Across all climate scenarios, Dhaka is projected to receive a significant number of climate migrants (between 933,000 and 3 million) by 2050. Climate impacts already play a major role in driving migration towards Dhaka and will continue to do so if emissions are not abated, with projections in the pessimistic climate scenario nearly doubling in just a decade between 2040 (1.7 million migrants) and 2050 (3.1 million migrants).

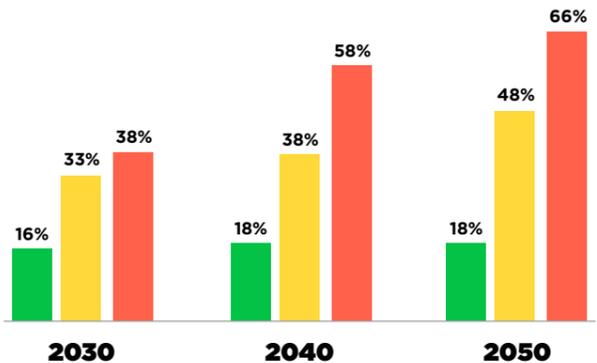


Climate migrants in Dhaka
Number of migrants projected to migrate to Dhaka due to climate change.

Across all of these scenarios, Dhaka is projected to host a significant share (between one-fifth and one-third) of Bangladesh's climate migrants

Share of migrants driven by climate change to Dhaka

Climate change may become the single biggest driver of migration towards Dhaka by 2050, with projections across all scenarios highlighting the strong relationship between increased climate impacts and greater migratory flows towards Dhaka, increasing dramatically if global heating is not contained to Paris Agreement limits.

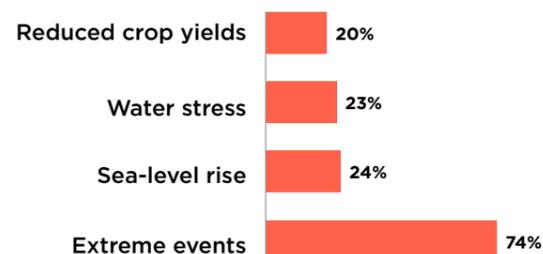


Climate migrants as % of total migrants
Share of migrants projected to migrate to Dhaka due to climate change, as a percentage of total migrants in the city.

Key Optimistic scenario Moderate scenario Pessimistic scenario

Climate impact exposure

Over 70% of migrants heading to Dhaka are expected to have faced extreme flooding and over one-fifth will likely experience water stress and sea-level rise. These impacts have wide-ranging consequences, with one-fifth of potential climate migrants expected to have experienced significantly reduced crop yields as a result of saltwater intrusion.

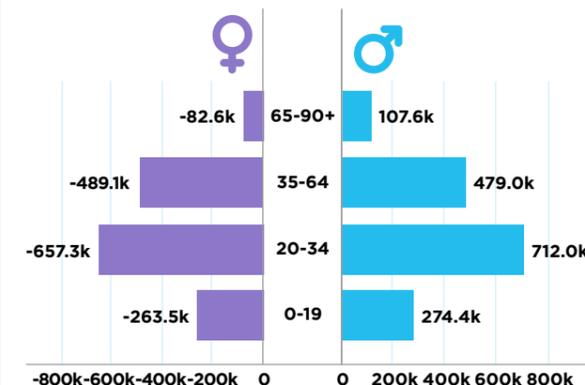


Percentage of migrants exposed.

Climate migrant demographics

The majority (75%) of climate migrants projected to head to Dhaka by 2050 will be of working age, with nearly half of those in the early years of their working life (20-34 years old).

Slightly more than half of those migrants are predicted to be women, underlining the need for inclusive policies.



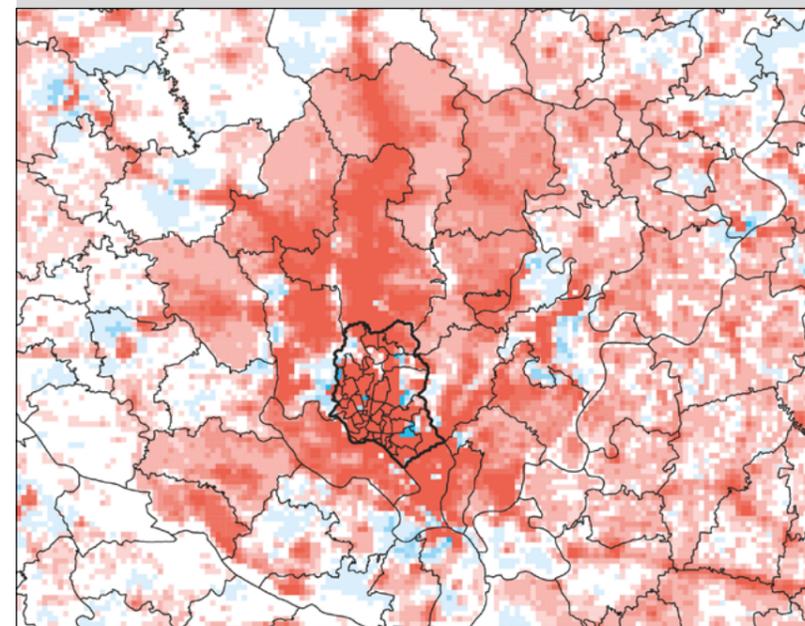
Age and gender of climate migrants in Dhaka.

Net climate migration in Dhaka

Climate migration to Dhaka is projected to accelerate existing trends in the city: rapid urbanisation, urban sprawl, and increased urban density. By 2020, between 933,000 and 3 million migrants are expected to arrive in the city due to climate change. Dhaka is projected to experience rapid population growth across almost all of its surface area (shown in red within the bold border).

As density levels reach their limits within the city's boundaries, Dhaka will likely face an increase in urban sprawl, with migrants and existing residents alike moving beyond the city borders, while still leveraging the city's systems and resources on a daily basis.

Map of where climate migrants are projected to move to within Dhaka.



Out-migration In-migration

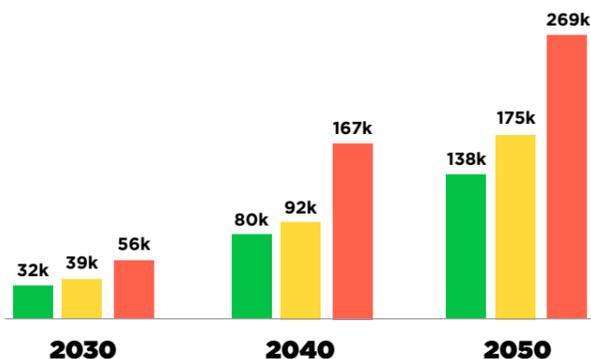


Freetown, Sierra Leone

As a low-lying coastal 1.3 million people city, Freetown has grown rapidly over the past 40 years - due in part to internal migration - ²⁰ and confronting heat waves, floods, landslides, and coastal erosion.²¹ As co-chair of C40 Cities and the C40-MMC Global Mayors Task Force on Climate and Migration, Freetown actively collaborates with global networks to promote inclusive climate action and sustainable urban development, pioneering efforts to support young people, informal migrant workers and IDPs.²²

Projected climate migrants in Freetown

Freetown is projected to receive a significant number of climate migrants across all climate scenarios, totalling between 138,000 and 269,000 by 2050. If global emissions stay within the limits of the Paris Agreement, as in the optimistic scenario, the total number of projected climate migrants by 2050 reduces by nearly half that of the pessimistic scenario, emphasising the need for urgent national and urban-level mitigation action.

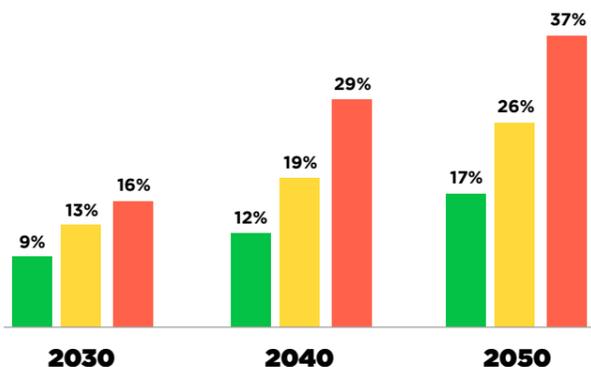


Climate migrants in Freetown
Number of migrants projected to migrate to Freetown due to climate change.

Across all of the modelled scenarios, Freetown is projected to host about half of the nation's entire number of climate migrants.

Share of migrants driven by climate change to Freetown

As climate change intensifies, the share of migrants driven to Freetown by climate factors also increases. Under an optimistic scenario, climate is an expected driver for one fifth of all migrants, but this increases to one third of migrants under the pessimistic scenario.



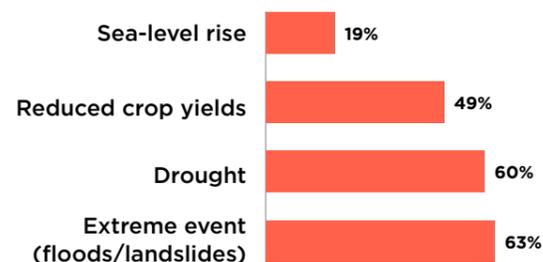
Climate migrants as % of total migrants
Share of migrants projected to migrate to Freetown due to climate change, as a percentage of total migrants in the city.

Mitigation measures are essential to prevent a significant increase in displacement of people from their homes and livelihoods and to support cities to accommodate new arrivals.

Key Optimistic scenario Moderate scenario Pessimistic scenario

Climate impact exposure

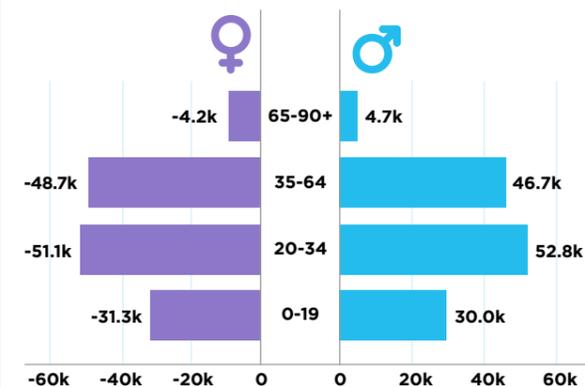
Although climate migrants to Freetown are expected to have faced various overlapping climate stressors, nearly all of them will experience extreme heat on an annual basis in their region of origin. More than half will experience extreme events, floods and landslides, as well as drought. The interaction of these impacts, including reduced crop yields, will contribute to the need for people to move and seek alternative homes and livelihoods.



Percentage of migrants exposed.

Climate migrant demographics

A significant share of climate migrants projected to move to Freetown by 2050 will be of working age, with an even split between men and women.



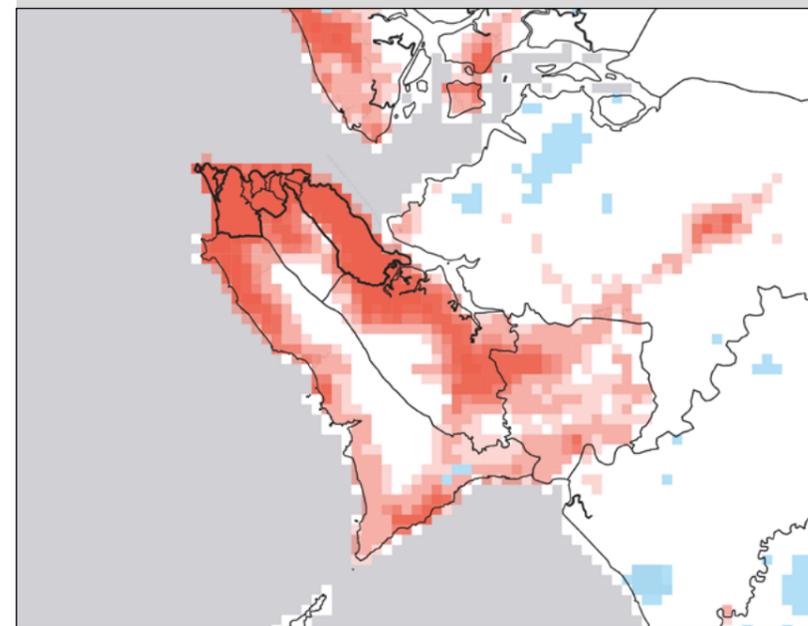
Age and gender of climate migrants in Freetown.

Net climate migration in Freetown

Unless anticipatory action is taken, climate migration can drive existing challenges such as informal urbanisation, urban sprawl, and increased urban density.

With almost all of its surface area (shown in red within the bold border) expected to receive inward migration the city's CAP²³ outlines key actions to tackle related challenges, including investments in comprehensive climate and social policies. Drawing on initiatives such as "Freetown the Treetown",²⁴ Freetown is working to safeguard existing residents and newcomers alike while ensuring adequate services, housing, and job opportunities for all.

Map of where climate migrants are projected to move to within Freetown.



Out-migration In-migration

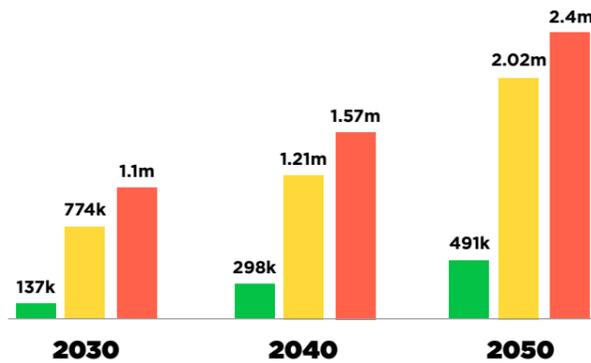


Karachi, Pakistan

Karachi, Pakistan's most populous city, has seen its population rise from 450,000 in 1947 to an estimated 15.5 million residents today. This rapid urban growth has been driven by significant internal migration, much of it from flood-affected regions in the country.²⁵ Yet Karachi's coastal location, a boon for its economy, presents varied climatic challenges, including urban flooding, sea-level rise, and coastal erosion. To address these challenges, the city is investing in improving the public transport systems and leveraging nature-based solutions to enhance resilience.²⁶

Projected climate migrants in Karachi

Karachi is projected to receive a significant number of climate migrants - up to 2.3 million by 2050 in the pessimistic scenario, nearly five times as high as in the optimistic scenario (491,000). This variance highlights the profound impact of climate conditions on urban migration and the need for strong mitigation policies. Both scenarios with emissions above the Paris Agreement (moderate and pessimistic) project a comparative increase of climate migrants in the millions by 2050. Karachi is anticipated to accommodate a significant proportion (20-25%) of Pakistan's total climate migrants, emphasising the need for accelerated urban adaptation policies and investment, as well as urgent local and national mitigation strategies.

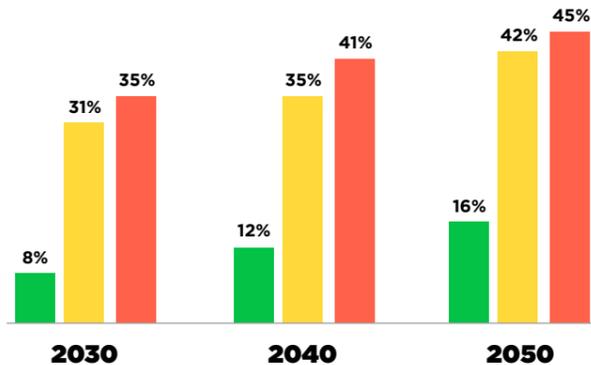


Climate migrants in Karachi
Number of migrants projected to migrate to Karachi due to climate change.

Share of migrants driven by climate change to Karachi

Climate is projected to be one of the primary drivers of migration to Karachi by 2050. The need for urgent climate action is clear: climate remains a main, rapidly growing driver of migration towards Karachi from 2030 onwards in both the moderate and pessimistic scenarios, where emissions have surpassed the Paris Agreement.

This underscores the importance of adhering to the Paris Agreement emissions levels and swiftly enhancing urban planning and adaptation strategies focused on climate.



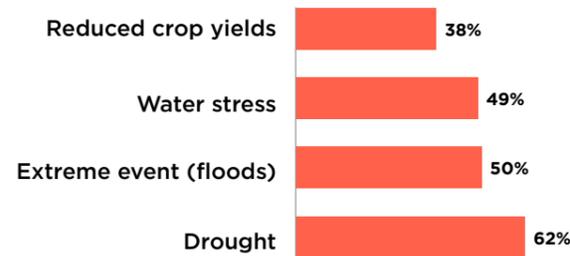
Climate migrants as % of total migrants
Share of migrants projected to migrate to Karachi due to climate change, as a percentage of total migrants in the city.

Key Optimistic scenario Moderate scenario Pessimistic scenario

Climate impact exposure

Climate migrants moving to Karachi are expected to have faced various, interconnected climate stressors, on an annual basis, in their regions of origin.

A majority (over 60%) will likely be exposed to severe drought and water shortages, impacting more than half of all expected climate migrants either through potable water scarcity or reduced crop yields.

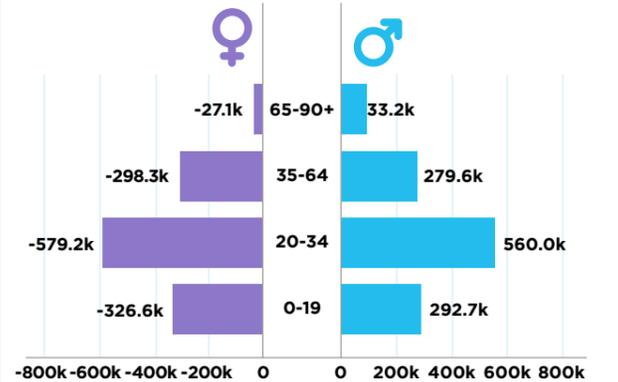


Percentage of migrants exposed.

Climate migrant demographics

The majority (two-thirds) of climate migrants projected to move to Karachi by 2050 will be of young, working age (20-24 years old).

In Karachi, male migrants are likely to outnumber female migrants by a wider margin than in any other city included in the study (52%-48%).

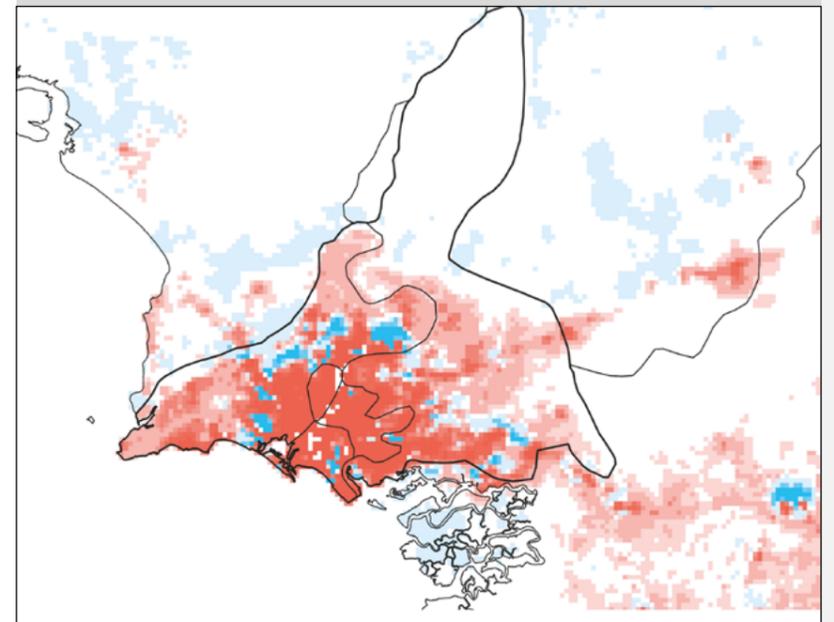


Age and gender of climate migrants in Karachi.

Net climate migration in Karachi

With anticipatory policies in place, Karachi can ensure that climate migration does not exacerbate the city's current trends, including rapid urbanisation and increased urban density. Geographically, the bulk of this growth is projected in the city centre (areas shown in red), but areas across the city will also see out-migration due to climate impacts. Urban planning efforts are essential to accommodate both inward and outward migration flows in the city. Urban leaders will play a critical role in ensuring that climate policies are inclusive, robust, and count on sufficient funding to ensure that all of the city's residents - whether existing or new - can contribute to the city's sustainable, vibrant development.

Map of where climate migrants are projected to move to within Karachi.



Out-migration In-migration

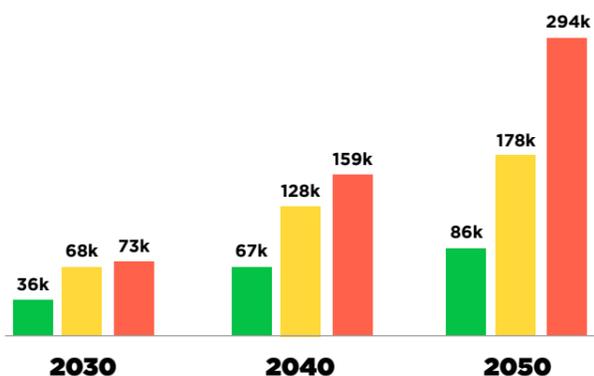


Rio de Janeiro, Brazil

Rio de Janeiro is home to 6.6 million people. The city confronts several climatic challenges, from extreme heat, to drought, coastal flooding, and landslides. These are most intense in the city's favelas,^{iv} which constitute 24% of the city's landscape and are home to many internal migrants.²⁷ The city is working to address these challenges, with comprehensive strategies including urban climate vulnerability mapping, and has established a Committee of Public Policies for Refugees.²⁸

Projected climate migrants in Rio

By 2050, the city is projected to host between 86,000 and 294,000 migrants as a result of climate change. The role of climate as a driver of migration to Rio is notable in the projections. In 2050, in the pessimistic scenario, 294,000 migrants are projected to arrive in the city; this is more than three times higher than the equivalent projection in the optimistic scenario (86,000 migrants in 2050). If global emissions are kept within the limits of the Paris Agreement, as in the optimistic scenario, migration to Rio between 2030 and 2050 is expected to increase at only half the rate observed in the pessimistic scenario.

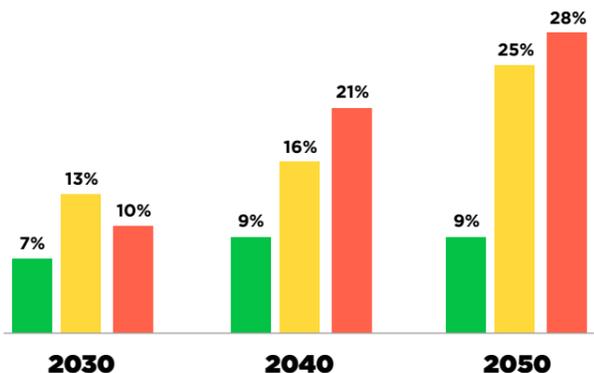


Climate migrants in Rio
Number of migrants projected to migrate to Rio due to climate change.

Share of migrants driven by climate change to Rio

Climate-related stressors could become the main driver of migration for nearly 1 in 3 migrants arriving in Rio by 2050, according to projections in the pessimistic scenario.

This is in stark contrast to the optimistic scenario, where climate plays a limited role in driving migration towards the city, holding steady at under 10% for all migration between 2030 and 2050. This underlines the critical need for strong mitigation action.



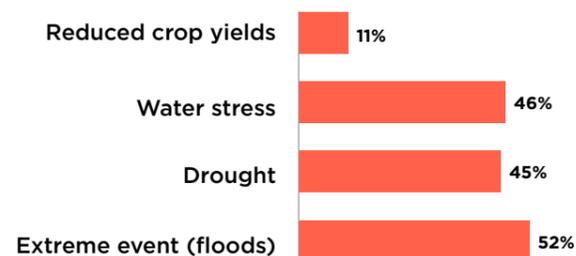
Climate migrants as % of total migrants
Share of migrants projected to migrate to Rio due to climate change, as a percentage of total migrants in the city.

Key Optimistic scenario Moderate scenario Pessimistic scenario

Climate impact exposure

Climate migrants arriving in Rio are expected to have been exposed to multiple, overlapping climate stressors on an annual basis in their regions of origin.

More than half of all expected climate migrants to Rio will be affected by annual flooding, with nearly half also experiencing water shortages - either in the form of widespread drought or stress of potable water supplies.

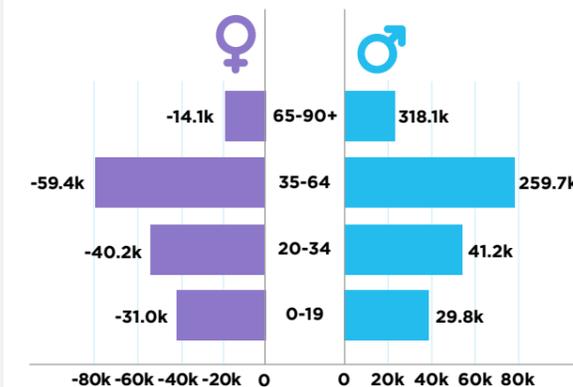


Percentage of migrants exposed.

Climate migrant demographics

The majority (two-thirds) of climate migrants projected to head to Rio by 2050 will be of working age.

Slightly more than half of those migrants will be women, highlighting the need for inclusive policies.

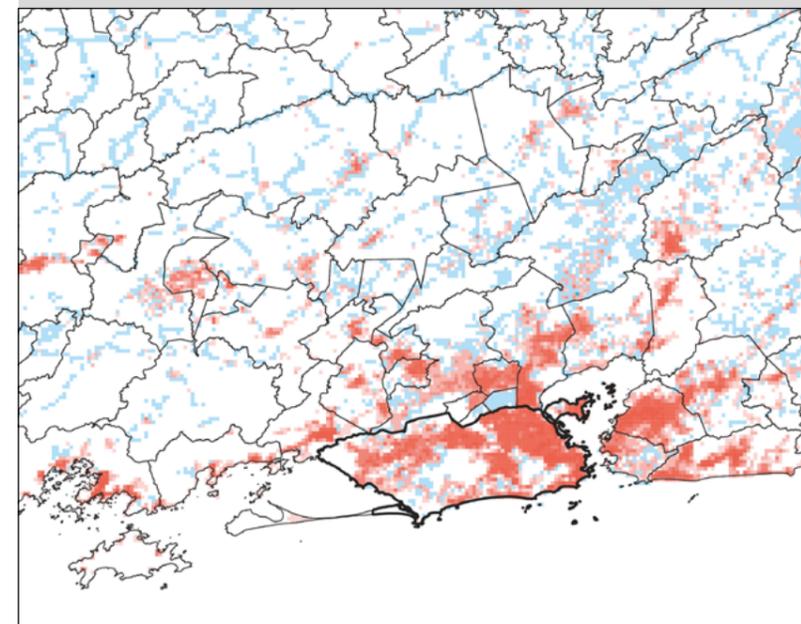


Age and gender of climate migrants in Rio.

Net climate migration in Rio

Projected levels of climate migration into Rio will likely accelerate existing trends in the city, including urban sprawl. Notably, climate migrants are expected to settle along the city's coastline, consistent with existing population patterns due to economic opportunities and established communities in the areas. This trend highlights the need for locally-led climate adaptation interventions to ensure viable and sustainable options for new arrivals, given the climatic vulnerability of coastal regions. The city's CAP²⁹ outlines how it plans to approach these challenges, including investments in comprehensive climate and social policies and insights from C40's green jobs research.

Map of where climate migrants are projected to move to within Rio.



Out-migration In-migration



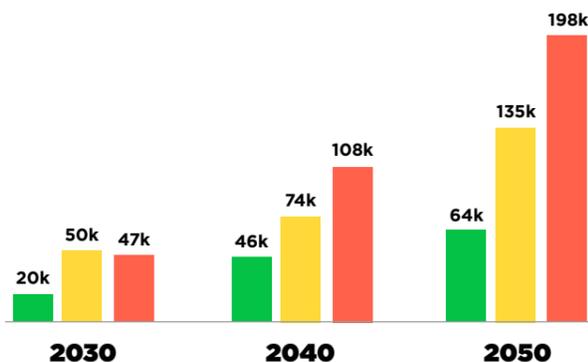
Salvador, Brazil

Salvador, with a population of nearly 2.4 million, has grown by 20% over the past two decades – driven largely by internal migration given the city’s rapid industrial growth.³⁰ This growing population faces multiple climate risks, including landslides, coastal erosion, flooding, and extreme heat. Despite these challenges, Salvador has been proactive in enhancing both climate preparedness and social resilience and inclusion. A notable example is the city’s Municipal Organic Law, which includes provisions for the unemployed and unsheltered migrants.³¹

Projected climate migrants in Salvador

The level of climate-driven migration to Salvador is expected to be significant across all potential scenarios.

In the moderate and pessimistic scenarios, climate migration is anticipated to significantly accelerate with projections nearly three times as high (from 50,000 to 135,000) in the moderate scenario and more than four times as high in the pessimistic scenario (from 47,000 to 198,000), compared to an optimistic scenario.

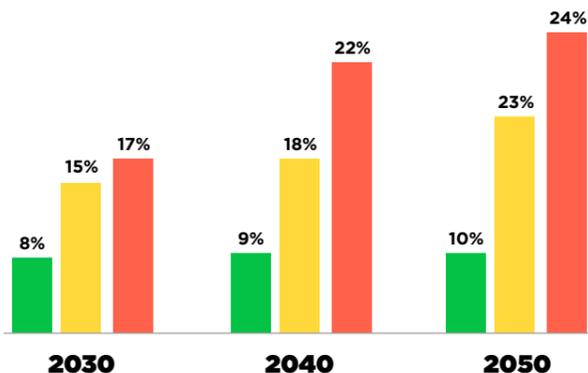


Climate migrants in Salvador
Number of migrants projected to migrate to Salvador due to climate change.

Share of migrants driven by climate change to Salvador

Climate is projected to play a key role in driving migration towards Salvador. If the limits of the Paris Agreement are surpassed, as in the moderate and pessimistic scenarios, climate is anticipated to not only drive between one-fifth and one-fourth of all migration to the city, but also to grow in importance compared to other driving factors.

In the optimistic scenario, the role of climate as a driver of migration is notably reduced, peaking at 10% over time.

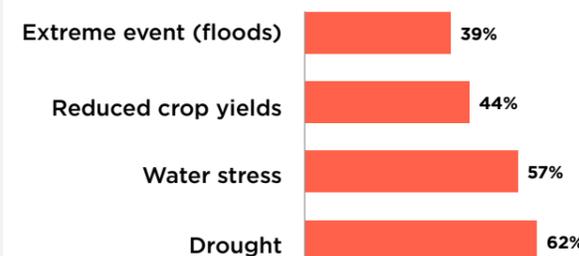


Climate migrants as % of total migrants
Share of migrants projected to migrate to Salvador due to climate change, as a percentage of total migrants in the city.

Key Optimistic scenario Moderate scenario Pessimistic scenario

Climate impact exposure

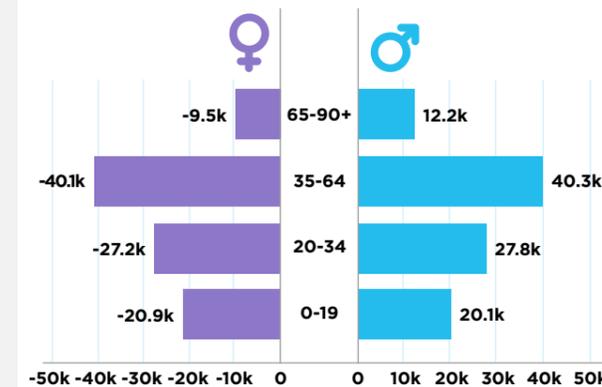
Climate migrants arriving in Salvador are likely to have been exposed to overlapping climate stressors in their regions of origin. Notably, more than half of climate migrants to Salvador will have experienced both drought and a lack of potable water, and more than one in three will have experienced both flooding and reduced crop yields.



Percentage of migrants exposed.

Climate migrant demographics

A significant share of climate migrants projected to head to Salvador by 2050 will be of working age, with slightly more than half expected to be women.

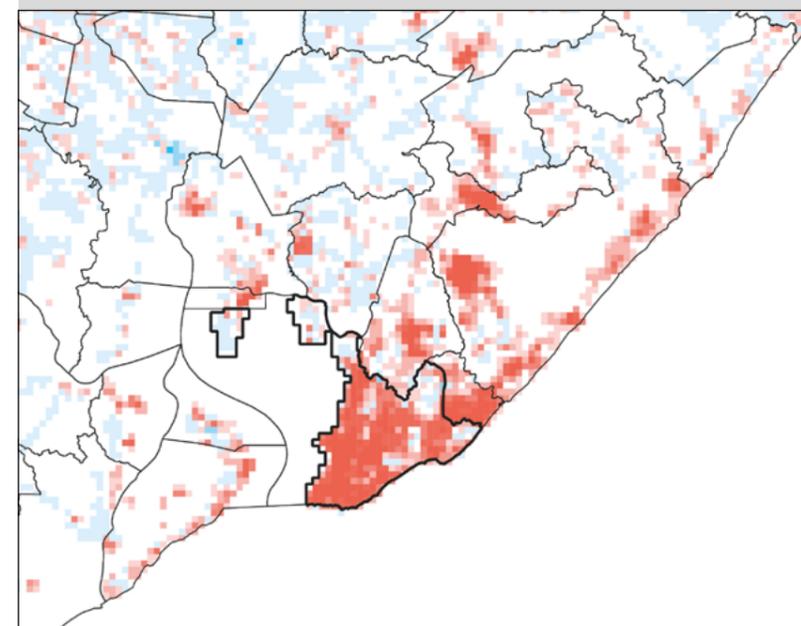


Age and gender of climate migrants in Salvador.

Net climate migration in Salvador

Between 64,000 and 198,000 migrants are expected to arrive in Salvador by 2050 due to climate change. A majority of new arrivals will stay within the city’s boundaries (areas in red within the bold border), yet a significant amount will also settle outside of its borders, in existing informal settlements. In both cases, climate migrants are anticipated to settle along the coastline, presenting concerns for the city’s urban planners given the potential climatic vulnerability in coastal regions. The city’s CAP³² outlines how it plans to tackle these challenges, while ensuring that climate policies are inclusive, well-funded, and supportive of sustainable development to benefit all residents, both existing and new.

Map of where climate migrants are projected to move to within Salvador.



Out-migration In-migration



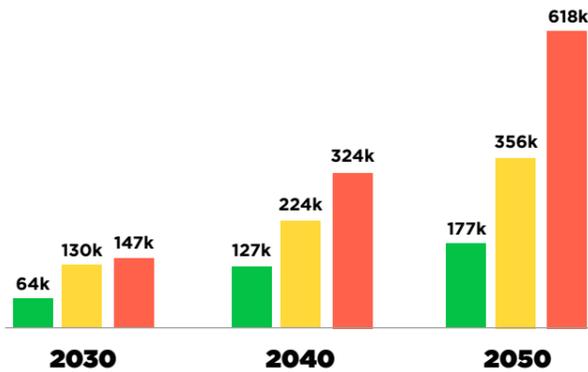
São Paulo, Brazil

São Paulo, has a population of nearly 11.82 million and has long been home to internal migrants attracted to the city's rapid economic development.³³ Yet São Paulo contends with significant climate challenges, like flooding, drought, extreme rainfall and drought. To address these challenges, the city has established the Coordination of Policies for Immigrants and Promotion of Decent Work,³⁴ and is enhancing cohesion between social and migratory policies. São Paulo is also a member of the C40-MMC Global Mayors Task Force on Climate and Migration.

Projected climate migrants in São Paulo

Across all scenarios, climate change is projected to drive a significant number of climate migrants to São Paulo (between 177,000 and 618,000 by 2050).

The role of climate as a driver of migration is clear: climate impacts are expected to drive more than three times more people towards São Paulo by 2050 in the pessimistic scenario compared to the optimistic scenario. With projected urban climate migration in the pessimistic scenario more than quadrupling between 2030 and 2050 (from 147,000 to 2050), there is a critical need for rapid, concerted mitigation action to reduce these volumes).

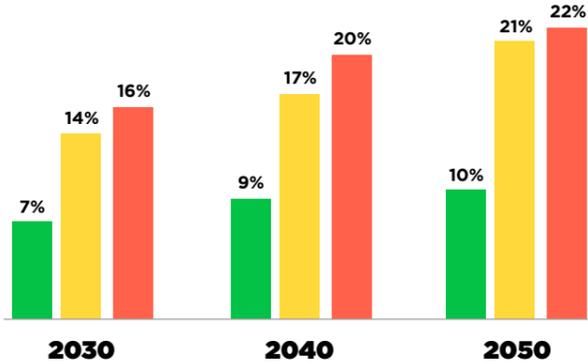


Climate migrants in São Paulo
Number of migrants projected to migrate to São Paulo due to climate change.

Share of migrants driven by climate change to São Paulo

The share of migrants to São Paulo who are driven by climate change will vary significantly depending on whether emissions stay within or exceed the Paris Agreement.

Any scenario in which the Paris Agreement emissions limit is surpassed will see a significant jump in the share of migrants driven by climate change. Only limited differences were noted between the moderate and pessimistic scenarios.

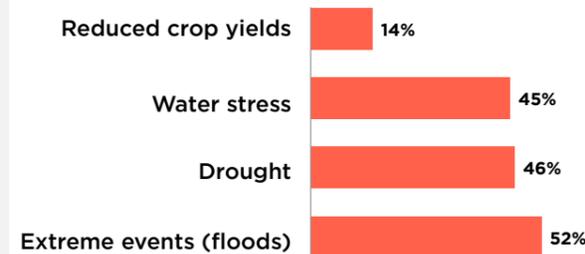


Climate migrants as % of total migrants
Share of migrants projected to migrate to São Paulo due to climate change, as a percentage of total migrants in the city.

Key Optimistic scenario Moderate scenario Pessimistic scenario

Climate impact exposure

Various, overlapping climate stressors, experienced on an annual basis in their regions of origin, are projected to drive people to São Paulo. Over half of all expected climate migrants will likely have been exposed to extreme flooding, while nearly half will have faced water shortages – either in the form of widespread drought or lack of potable water.

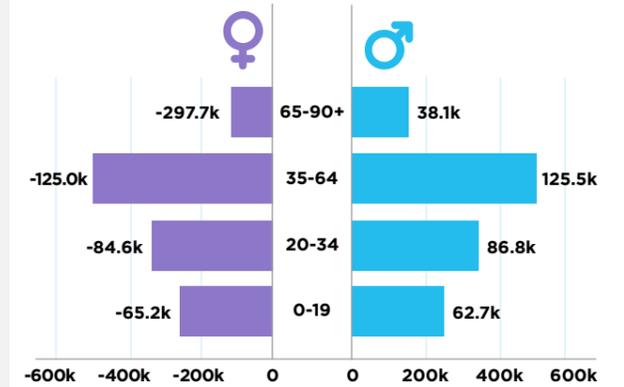


Percentage of migrants exposed.

Climate migrant demographics

The majority (65%) of climate migrants projected to head to São Paulo by 2050 will be of working age.

Slightly more than half of those migrants will be women, highlighting the need for inclusive policies.



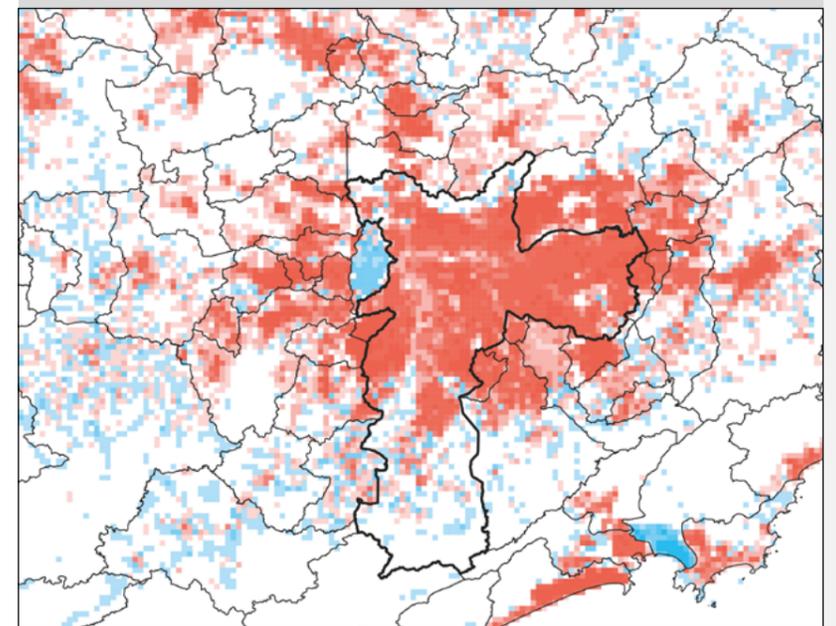
Age and gender of climate migrants in São Paulo.

Net climate migration in São Paulo

Climate migration is anticipated to drive significant population growth both within much of São Paulo itself and outside of its borders. Climate migrants are expected to settle across much of São Paulo's centre and north (areas in red within the bold border), following existing population patterns.

With population growth also expected just outside of the city's borders, São Paulo's urban planners and service providers will play an essential role in developing policies – the city's CAP³⁵ details its approach to this and the other challenges of the climate crisis.

Map of where climate migrants are projected to move to within São Paulo.



Out-migration In-migration



6. City-led action



Credit: Raunag Singh Chopra / Climate Visuals

Mayors around the world are leading the way to develop and implement **inclusive climate action** that centres people, especially the most vulnerable, and builds more inclusive, green, and just communities for the future.

6. City-led action

This section draws from the vision put forward by the C40-MMC Global Mayors Task Force on Climate Migration in its Action Agenda, identifying three key areas where local governments have taken exemplary action to

address urban climate migration. Highlighting the range of city leadership on climate migration in action worldwide, the actions presented below are drawn from the cities included in this research, as well as beyond.

Across all cities, three key areas for action emerge as clear priorities:



Urban resilience

City-led actions to increase the resilience of urban residents in the face of climate hazards and displacement – whether by building resilience and adapting in place or facilitating dignified movement.



Urban inclusion

City-led actions to ensure the protection and inclusion of people who move into cities, including those in the context of natural disasters and climate displacement.



Urban transition

City-led actions to lead a green and just transition for and in partnership with migrants and affected communities, providing accessible, decent, and green jobs for all.

The following sections present leading examples of city-led actions from within each of the above three areas, with a particular focus on Global South cities. This section seeks to provide urban leaders worldwide with examples of anticipatory action, inclusive planning and solutions cities drive. These actions, many of them supported by C40 and/or the Mayors Migration Council, provide

proof of concept for locally led solutions that can be both replicated by other local actors and brought to scale by leading national governments and international donors. They provide urban leaders worldwide with examples of existing solutions, and showcase success stories to donors and funders seeking to support local leaders with the challenges and opportunities of urban climate migration.



Urban resilience

When climate impacts hit cities across the world, the most vulnerable – including migrant populations – are often more highly exposed and most affected. Local leaders are taking action, implementing innovative policies that protect residents and mitigate the loss and damage faced by communities – especially

the most vulnerable. By enhancing this urban resilience, local leaders are able to provide opportunities and protection for both existing populations and migrant communities in their cities, ensuring that these locally led, inclusive climate action initiatives build stronger, fairer communities.



South African cities

In partnership with South African member cities, C40 has supported the development of a methodology to better capture the landscape of climate impacts on vulnerable groups, including those in informal settlements. This aims to ensure that impacts and populations which are often overlooked are captured in the development of policy and in post-disaster impact and needs assessments as well as Loss and Damage assessments. South African cities plan to use this data to ensure effective responses to climate hazards and build resilience among vulnerable populations living in conditions of informality. Learn more [HERE](#).



Monrovia, Liberia

As the world's wettest capital, at increased risk of extreme flooding from rainfall, the city of Monrovia developed the Grow Green project to strengthen its coastal resilience and protect residents. The project employed 150 IDPs and migrants in the city to plant 20,000 mangrove and coconut trees around coastlines and the Mesurado River to protect the soil, provide tree cover, and absorb excess ground water and carbon emissions. This resulted in over five kilometres of coastline being protected and over 100 youth receiving vocational support. Learn more [HERE](#).



Beira, Mozambique

As a low-lying city located on Mozambique's central coast, Beira is piloting the Praia Resilience Project to protect families at risk of climate impacts. The project takes a multi-pronged approach, including the voluntary and dignified relocation of 30 families impacted by storms and rising sea levels, alongside the refurbishment of damaged city assets to operate as both temporary shelters and a hub for disaster risk preparedness, responses, and livelihood support. Learn more [HERE](#).



Urban inclusion

as the primary destination for most migrants, cities play an essential role in addressing the challenges faced by migrants, as well as those of the systems that receive them. Cities are setting an example by providing sanctuary to people who have been displaced, while also filling some of the gaps left by national protection systems through innovative climate and migration

policies and projects. These measures not only address increased pressure on local services and infrastructure as a result of climate-driven displacements, but also ensure pre-existing vulnerabilities are not exacerbated that could expose those displaced to increased climate risk. In this way, cities are ensuring that all residents benefit from inclusive policies.



Amman, Jordan

Responding to the needs of refugees in the city, as well as the climate impacts it experiences, Amman established the Children's Climate Academy and Park. This provides both refugee and Jordanian children with a recreational space to play and interact while teaching environmental stewardship to the city's youngest residents. Learn more [HERE](#).



Accra, Ghana

To better support the needs of migrants in the city's informal sector, Accra registered over 200 informal waste sector workers – including internal migrants – into a social insurance scheme. The objective is to protect its members when they cannot work due to socio-economic shocks or climate impacts such as heat and flooding and demonstrate the value of waste workers for the city's environmental and climate actions. Learn more [HERE](#) and [HERE](#).



eThekweni, South Africa

To ensure that the city's migrants are protected from climate impacts, eThekweni has established the Karibu Community Care Center to connect migrants, refugees, and IDPs to the city's social services. It includes an online self-registration platform that acts as a disaster warning and recovery system – helping the city to alert registrants of imminent climate events and account for their safety in the aftermath. The city is also aiming to connect migrants to skills training opportunities and potential employers through the portal. Learn more [HERE](#).



Urban transition

as cities respond to the climate crisis, they are also leveraging green transition efforts to forge more socially, economically, and environmentally just cities for all. Mayors have proved the benefits of ensuring that urban transition policies are fair and inclusive, with migrants both considered and included in policy development and execution. Green and decent

employment and livelihood opportunities have wide-ranging benefits, from averting displacement and migration in the first place to ensuring cities can accommodate urban growth amid rapid urbanisation. For additional resources on this topic, please consult “Good Green Jobs and Labour Migration: Challenges and Opportunities for urban leaders.”³⁶



Paris, France

To better prepare for future climate migration, Paris, in partnership with the UN Migration Agency and the Hugo Observatory of Liège University, has committed to understand the impacts of climate change on migration to and from urban areas and to consider these when developing urban planning tools and climate and migration policies. Learn more [HERE](#). Peer to peer learning across cities facing common challenges - including across regions - is key to successfully anticipate and respond to increasing climate migration trends.



Freetown, Sierra Leone

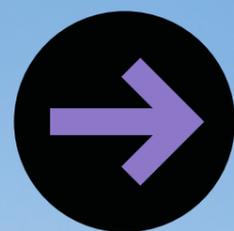
Freetown is addressing the challenges of rapid urbanisation by supporting 40 waste micro-enterprises in informal settlements, made up of 240 waste collectors, many of whom are rural-to-urban migrants, to clean streets and public spaces, and leading to the closure of informal dumpsites. Learn more [HERE](#) and [HERE](#).



Ekurhuleni, South Africa

To best position the city for the future, Ekurhuleni, with the support of C40, has established the first local Just Transition Forum in South Africa. The forum facilitates dialogues to build multi-stakeholder consensus on a just transition and its implications for service delivery, employment, governance, and finances. Learn more [HERE](#).





7. Recommendations



Credit: Graeme Maclean / Climate Visuals

With cities around the world on the frontlines of the climate crisis, concerted action to address **urban climate migration** will be essential to ensure the development of equitable and thriving cities.

7. Recommendations

The research is clear: climate change, at all levels of intensity, is projected to become a major driver of internal migration to cities. Across every city in our research, an increase in climate change correlated with a notable increase in projections of inward, domestic migration to the city. A wide range of climate impacts are likely to drive people to migrate, from flooding to drought to landslides.

This is a stark reminder about the urgency of reducing global emissions, and to support the resilience of communities in their current regions of residence.

It is clear that local data, together with locally-led inclusive climate action that can support the development of healthy, sustainable cities for all, both newcomers and existing residents – is critical. C40 member cities have a long history of welcoming and providing refuge and opportunities to new arrivals, and are leading the way in enhancing urban resilience, strengthening urban inclusion, and leveraging the urban transition to build inclusive and thriving cities.

However, if not planned for or responded to appropriately, climate migration is expected to accelerate some existing negative trends of rapid urbanisation, increased urban sprawl, and intensified levels of urban density, particularly in Global South cities.

This section identifies key recommendations for action to respond to anticipated urban climate migration outlined in this report. These need to be taken by a range

of actors, with whom cities cooperate closely – including national governments, UN-led funds, humanitarian actors and the international donor community. The recommendations, developed in consultation with the C40 cities included in this research, are drawn from a broader set of recommendations on the issue of climate migration, developed by C40 and partners on the issue of climate migration, including the C40-MMC Global Mayors Task Force on Climate Migration in its Action Agenda. It is a non-exhaustive list of actions to lower emissions in line with international commitments, and to build resilient and thriving cities and rural areas, in an inclusive way. It aims to address urban climate migration while creating more equitable, thriving, and sustainable societies.

“ ”

Even as we need to step up action to prevent the climate crisis from becoming worse, we also must step up measures to respond to the extensive loss and damage that it is causing and will cause. We have the ways and means to prevent an apocalyptic future, if we act now and with an utmost sense of urgency.

— Antonio Guterres,
UN Secretary-General

1. Rapidly reduce emissions by significantly reducing the usage of fossil fuels in cities and beyond in a fair and just way, to mitigate the acceleration of the climate crisis and prevent an acceleration in levels of climate migration worldwide.

National governments

Cities

Businesses

- National governments, together with partners and stakeholders worldwide, including businesses, should follow the lead of many cities and meet the call of the International Energy Agency to halve global fossil fuel use by 2035 and stop any further investment in new fossil fuel projects.
- National governments must enhance cooperation with local governments across the planning, financing, implementation, and monitoring of climate strategies and actions, notably through initiatives such as the Coalition for High Ambition Multilevel Partnerships (CHAMP).

2. Accelerate the implementation of climate action that builds urban resilience, through enhanced urban planning and locally led implementation, especially in low-income countries.

National governments

Cities

- Devolve authority and build local capacity for climate-resilient urban and land use planning that accounts via effective adaptation and hazard mitigation efforts, in the design of cities for their future growth.
- Develop national, regional, and local climate-displacement vulnerability assessments, accounting for expected shifts in population due to climate migration. Establish fully funded contingency plans including locally-adapted early warning systems, and reception mechanisms that account for the unique needs of the vulnerable populations most likely to be displaced.

3. Ensure city governments have access to the finance needed to avert, minimise, and address climate-induced impacts in urban areas, with a focus on informal and vulnerable settlements.

National governments

International organisations

Multilateral development banks (MDBs)

- Ensure that climate finance – whether public or private – is accessible to local actors and driven by local needs and demands – including for urban climate migration – through a dedicated local-access funding window in the new Loss and Damage Fund.
- Provide additional funding and/or financing directly to municipalities addressing climate-related human mobility, by establishing new dedicated mechanisms or expanding the thematic focus of existing ones, such as the MMC Global Cities Fund and the C40 ICA Fund.
- Commit 40% of climate financing directly to locally led actions that support the most vulnerable communities and projects for a just and equitable transition, in line with global examples such as the Justice40 Initiative.³⁷

4. Invest in and leverage local-level climate migration data and projections, to inform urban policies and planning, at all levels of governance.

National governments

International organisations

Cities

Multilateral development banks (MDBs)

- Enhance capacity for municipalities (rural, peri-urban and urban) on the need for planned, community-led relocations and establish rights-based approaches, clear institutional competencies, and participation and accountability processes for affected populations, at all levels of governance.
- Invest in deepening local-level data and disaster risk analytics, including projections of climate migration towards cities, to expand understanding of the issue, both in scope, covering more cities, and in scale to further understand the impacts and opportunities of migration. This will help in facilitating planned, resilient and inclusive urban growth.

5. Recognise the protection needs of climate migrants and displaced people within climate and migration policy and planning.

National governments

International organisations

Cities

- Strengthen the integration of climate-related displacement and other losses and damages into national development plans – including nationally determined contributions (NDCs)³⁸ – and allocate support to local governments in line with projected population changes and needs. Currently, less than a third of Parties refer to human mobility in their NDCs despite clear global and locally predicted trends.
- Increase collaboration with local governments at the national level in the design, implementation, and funding of displacement and relocation policy to facilitate the settlement and socioeconomic inclusion of newcomers. While over 400 cases of planned relocations since 1970 on every inhabited being identified,³⁹ only a handful of countries^y have developed comprehensive relocation policies.
- Enhance public awareness and understanding of climate risks and threats in cities, especially among vulnerable populations, to drive more informed decisions and protect residents.



Credit: Anthony Onyango / Climate Visuals

6. Remove existing barriers for migrants to access services, enhancing cities' ability to include migrants and support displaced populations.

National governments

International organisations

Cities

- Adopt and implement national laws and policies on internal displacement, which address climate hazards and disasters as key drivers and are in line with human rights standards and the UN Guiding Principles on Internal Displacement.⁴⁰ Notably, Colombia's landmark T-123 judgement classified environmentally driven movement of people as forced displacement.⁴¹ This triggers legal obligations at all levels of government, including the provision of basic services for those displaced and the requirement for vulnerability assessments before relocating residents.
- Expand funding for social safety nets and guarantee non-discriminatory access to services, including for informal dwellers and workers, by removing legal and administrative barriers that limit access for displaced populations.

7. Create secure and sustainable employment for all, including migrants, as part of green and just transition efforts in cities.

National governments

Cities

Businesses

- Establish social dialogue and inclusive, participatory processes that engage governments, unions, employers, and urban residents – including migrants and displaced people – to co-design and -deliver inclusive climate action and just transition plans.
- Develop in-country partnerships and offer work permits, skills development, and recognition for migrants and displaced people in key green sectors.
- Ensure that national legislation allows the integration of informal workers – including migrants and displaced people – into green economic development plans.

8. References

- i The ten cities included in this study are: Accra, Amman, Bogotá, Curitiba, Dhaka, Freetown, Karachi, Rio de Janeiro, Salvador, and São Paulo.
- ii Anticipatory actions aim to prevent or mitigate potential disaster impacts before a shock, or before acute impacts are felt. For more details, refer to the IFRC's operational framework on anticipatory action (2021–2025).
- iii Cities featured in this study included members of the C40-MMC Global Mayors Taskforce on Climate and Migration, subject to data availability and city capacity for engagement in the project.
- iv Favelas refer to informal settlements in Brazil, often characterised by substandard housing and lack of access to basic public services - typically developed on the periphery of cities and home to many low-income residents. For more details, see the IBGE's discussion on [Subnormal Agglomerates](#), which includes favelas and other types of irregular settlements
- v This includes Fiji, Vanuatu, and the Solomon Islands, which have developed comprehensive relocation policies to address climate-induced displacement. [Fiji's Planned Relocation Guidelines \(2018\)](#) provide a framework for relocating communities at risk due to climate change. [Vanuatu's relocation strategies](#) are highlighted in various adaptation strategies. Similarly, the [Solomon Islands Government](#) has developed guidelines for planned relocation in response to climate change.

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