



## Climate Migration Topic Overview

As the planet undergoes rapid changes due to climate change, one of the significant consequences is climate migration. Climate migration refers to people, animals, and plants moving from one place to another in response to changing environmental conditions. This migration is driven by various factors related to global warming, including natural disasters, altered ecosystems, sea-level rise, extreme weather events, and changing patterns of disease spread. The effects of climate migration are far-reaching, impacting not only human communities but also wildlife and entire ecosystems.

For humans, climate migration presents complex challenges, as vulnerable communities face displacement and the need to seek new homes and livelihoods. With [140 million people predicted to move within their countries by 2050](#), issues related to urbanization can be expected to continue.

Meanwhile, natural disasters like hurricanes, floods, and wildfires increasingly force people to flee their homes entirely. As sea levels rise and coastal communities risk flooding, the need to relocate becomes more urgent. Additionally, changing weather patterns and the spread of diseases alter the dynamics of public health and population movement.

Animals and plants, too, experience the consequences of climate change and are compelled to migrate in search of suitable habitats. For some species, this means shifting their ranges to cooler or more favorable environments. For others, it may lead to loss of habitat and the risk of extinction. The interconnectedness of ecosystems means that the movement of one species can have cascading effects on others and on the overall balance of nature.

## Possible Climate Migration Subtopics

Climate migration is a broad topic. Rather than taking on the entire topic, consider focusing on just one part of it (a subtopic). We've put together a list of subtopic angles you could take, and linked to a variety of credible sources, below. But remember, there are many other climate migration subtopics, and tons of other sources, so no need to limit yourself to what's included here!

**Click on the colored tiles below to navigate to resources about each subtopic or a planning document to help generate your own ideas!**



### Displaced People

People have to migrate for many different reasons, one of which is climate change. Climate change alters environments, often negatively, so more and more people have to move in order to survive. Climate change impacts various aspects of life, including food production, water availability, and the occurrence of dangerous

weather events, which frequently result in people leaving their homes in search of safety and better living conditions in other places.

- In 2018, the World Bank projected that by 2050, an additional 143 million climate migrants would emerge from three regions: Latin America, sub-Saharan Africa, and Southeast Asia. (Source: [The World Bank](#))
- Environmental migration is typically caused by several environmental factors happening at the same time. Land degradation is present in approximately 71% of these migration cases, droughts in 50%, and deforestation in 45%. All of these factors are expected to worsen with climate change. (Source: [Political Geography](#))
- At least 89.3 million people around the world have been forced to flee their homes. While most of these displacements were due to other crises, it's becoming clear that climate change is also causing slow changes over time. Things like desertification, rising sea levels, pollution, shifts in rainfall patterns, and loss of biodiversity are forcing more people to leave their homes too. (Source: [UNHCR](#))
- Areas where people rely heavily on the environment for survival tend to experience more instances of climate migration. (Source: [Political Geography](#))
- Climate migration sometimes involves people moving across international borders, and this can contribute to conflicts, even leading to wars between different countries or within a single country. (Source: [Political Geography](#))

## Coastal Communities

Melting icebergs and changing marine ecosystems have and will continue to alter coasts across the world. Rising sea levels will increase flooding - this impacts infrastructure, but also, changes in water sources/flow alters ecosystem behavior. Coastal communities are an important source of economic prosperity, culture, and biodiversity.

- Climate change is causing coastal areas, particularly the Gulf Coast of the U.S., to lose land. The rise in sea levels can transform previously dry land into wetlands or open water. (Source: [U.S. Environmental Protection Agency](#))
- The disappearance of coastal wetlands is a significant loss, because they help lessen the impact of coastal storms, act as carbon sinks, and form protective natural barriers. (Source: [U.S. Environmental Protection Agency](#))
- Rising sea levels can lead to saltwater getting into underground water sources known as aquifers. This saltwater intrusion can make treating drinking water more expensive or make groundwater wells unsuitable for use. (Source: [US Environmental Protection Agency](#))

- Each year, coastal counties in the U.S. generate over \$9.5 trillion worth of goods and services and provide employment to 58.3 million people. (Source: [National Oceanic and Atmospheric Administration](#))
- By examining the Mediterranean region, researchers have projected that without adaptation policies, there could be up to 20 million internal migrants by 2100 due to sea-level rise. (Source: [Nature](#))
- It is estimated that coastal migration during the 21st century could affect 17 to 72 million people. (Source: [American Geophysical Union](#))

## Natural Disasters

Climate change will impact the rate, intensity, and location of different weather events, including natural disasters. Events like floods, storms, wildfires, droughts, extreme temperatures and others often damage housing, infrastructure, and agriculture, and force people to move or rebuild. Similarly, animals and plants may die or be forced to move during or following natural disasters.

- When Tropical Cyclone Idai hit the southeastern coast of Mozambique in 2019, 146,000 people were forced to move within the country. (Source: [Brookings](#))
- By the end of December 2020, disasters had led to the internal displacement of over 7 million people in 104 countries and territories. (Source: [Internal Displacement Monitoring Centre](#))
- Research indicates that weather-related disasters are expected to become more frequent by the end of the century, with heat waves, tropical cyclones, and wildfires becoming much more common. (Source: [International Monetary Fund](#))
- Between 2008 and 2020, approximately 11% of displacements were caused by geophysical natural disasters, like earthquakes or volcanoes, while the remaining 89% were due to weather-related events such as floods, storms, wildfires, droughts, extreme temperatures, and landslides. (Source: [Internal Displacement Monitoring Centre](#))
- The number of natural disasters has increased in 2000-2019 when compared to 1980-1999. (Source: [UN Office for Disaster Risk Reduction](#))
- In 2017, a record number of 68.5 million people were forcibly displaced. Roughly one-third of these individuals were compelled to move due to sudden and severe weather events such as flooding, forest fires following droughts, and stronger storms. (Source: [Brookings](#))

## Disease Spread

When people, animals, and plants move in response to climate change, so do germs. Changes in temperatures allow animals that transmit disease to relocate to new areas. Changing temperatures can also create more ideal climates for disease to spread between people and animals. Further, as people move in response to climate, they may bring diseases with them, encounter new diseases, or crowd into urban areas which allows even more germs to spread.

- According to a recent study, if the temperature rises by 1°C, the annual rates of dengue fever in Dhaka (the capital of Bangladesh) would double by 2100. With a 2°C increase, it would rise seven times, and with a 3.3°C increase, it would rise by about 40 times. (Source: [Virulence](#))
- There is a high risk of disease transmission in urban populations because of crowding, increased rates of contact, and mobility. (Source: [The Lancet](#))
- Different types of mosquitoes are adapted to thrive in specific temperature ranges, and they can carry different diseases. This means higher global temperatures can decrease disease spread for currently warm areas and increase it in currently cold areas. (Source: [Stanford](#))
- Forced migration, especially in developing regions, often leads to worse health outcomes, including higher rates of illness and death from infectious diseases. (Source: [Virulence](#))

## Animals and Plants

Plants and animals must move to new places when their home environment changes. So as places become hotter and experience different weather patterns, they are forced to find new homes where they can survive.

- Every 10 years, North American plants have moved as much as 10 miles to higher latitudes over the last several decades. (Source: [Columbia Climate School](#))
- Some animals/plants move more readily in response to warming temperatures and changing habitats. But differing rates of migration can be challenging for species that have evolved to rely upon one another. (Source: [Land Trust Alliance](#))
- Barriers to migration, including urban areas, may limit the ability of some species or populations to shift their distribution. In some instances, isolated populations may decline or go extinct. (Source: [Land Trust Alliance](#))
- Climate-induced thermal stress can harm animal populations and lead towards extinction. (Source: [Nature](#))

- Around 42% of threatened or endangered species are at risk due to invasive species. (Source: [The National Wildlife Federation](#))

## Urbanization

People are often attracted to urban areas because of housing, strong infrastructure, or job opportunities. However, these same areas may be crowded, dirty, and prone to dangerous conditions. [As of 2018, 55% of the world population lived in urban areas, and by 2050, it is projected that 68% of people will.](#) The trend of urbanization continues, in part, due to climate threats to rural locations.

- In rural areas, households often depend greatly on resources that are sensitive to climate conditions, like local water supplies and farmland used for crops and livestock. Thus, changing climate conditions could make rural living less viable. (Source: [South African Journal of Science](#))
- In some impoverished African countries, yields from rain-fed agriculture are predicted to drop by up to 50%. This poses a threat to financial security for rural communities. (Source: [Population Reference Bureau](#))
- Big cities are more threatened by severe weather events like landslides, floods, or extreme temperatures, which can affect power availability, water supply, traffic lights, and more. (Source: [Friedrich-Alexander-Universität](#))
- Cities are responsible for 75% of global carbon dioxide emissions, with transport and buildings being among the largest contributors. (Source: [UN Environment Programme](#))
- "Urban heat islands" happen when cities replace natural landscapes with concrete, buildings, and other materials that soak up and trap heat. This makes cities hotter than the surrounding areas. As a result, people use more energy for things like air conditioning, and there is a higher risk of heat-related illnesses and deaths. (Source: [U.S. Environmental Protection Agency](#))



## Generating Your Own Subtopic

Coming up with your own subtopic can be intimidating if you don't know where to start. To help, we've created the following list of questions and reminders to help you formulate your own subtopic. Ask yourself these questions, and as you answer them, notice what stands out or find repeating trends in your answers. Those are what you should focus on to generate your subtopic!

### Probing questions

1. Have you noticed anything related to this global topic in your community?
  - a. How does what is happening locally connect to challenges globally?
2. Does this topic connect to an area of interest to you?
  - a. How does it connect?
3. What does this topic first bring to mind when you think about it?
  - a. What emotions does this topic make you feel?
4. What do you already know about this topic?
  - a. What do you want to know?
5. Have you read any books or articles, or listened to podcasts about this topic?
  - a. What if anything did you learn from them?

### Keep in mind that the subtopic you choose should be:

- Connected to population growth
- Focused on a single problem or issue
- Researchable using primary and/or secondary sources
- Feasible to answer within the timeframe of 60 seconds
- Specific enough to answer thoroughly