

Climate refugees

Source - adapted from *The National Geographic*:

<https://education.nationalgeographic.org/resource/environmental-refugee/>

Climate refugees are people who must leave their homes and communities because of the effects of climate change and global warming.

Climate change is caused by natural events, such as volcanic eruptions, as well as human activities. Climate change has happened many times since Earth was formed billions of years ago.

Global warming is the most recent period of climate change. Human activities like burning fossil fuels and cutting down forests contribute to global warming because they release greenhouse gases. Greenhouse gases trap heat in the atmosphere.

Rising temperatures associated with global warming cause glaciers and ice caps to melt. This can cause flooding and make sea levels rise. Rising temperatures also lead to droughts and desertification—the transformation of arable land to desert. Some of these effects, such as sea level rise, can put land completely underwater, making it uninhabitable. Others effects, such as drought, make it impossible for people in the region to support themselves.

Climate refugees belong to a larger group of immigrants known as environmental refugees. Environmental refugees include immigrants forced to flee because of natural disasters, such as volcanoes and tsunamis.

The International Red Cross estimates that there are more environmental refugees than political refugees fleeing from wars and other conflicts. The United Nations High Commissioner for Refugees (UNHCR) says 36 million people were displaced by natural disasters in 2009, the last year such a report was taken. A 2021 World Bank report estimated that the climate crisis could drive more than 200 million people to move within their countries by 2050. In 2020 the Institute for Economics and Peace put the number of people at risk of displacement by 2050 at over 1 billion.

Sea-Level Rise

The Intergovernmental Panel on Climate Change (IPCC) predicts that sea levels will rise a total of 0.18 to 0.6 meters (seven inches to two feet) between 1990 and 2100. Rising sea levels already cause problems in low-lying coastal areas of the world.

For instance, about half the population of Bangladesh lives less than five meters (16.5 feet) above sea level. In 1995, Bangladesh's Bhola Island was half-submerged by rising sea levels, leaving 500,000 people homeless. Scientists predict Bangladesh will lose 17 percent of its land by 2050 due to flooding caused by climate change. The loss of land could lead to as many as 20 million climate refugees from Bangladesh.

The U.S. state of Louisiana loses about 65 square kilometres (25 square miles) to the sea every year. Most land is eroding near the Mississippi delta. Sea-level rise puts the productive fisheries around the delta at risk as wetlands are submerged. The wetland ecosystem will be lost to more saltwater habitat, and fishermen will have to go further from shore to pursue fish. The loss of wetlands also makes damage from storms like Hurricane Katrina more likely.

Maldives

Maldives, an island nation in the Indian Ocean, is perhaps the country most threatened by sea level rise. Maldives rises only 2.4 meters (eight feet) above sea level at its highest point. Sea-level rise will likely create climate refugees because of changes in both economy and habitat.

Tourism supports more than 25 percent of the Maldivian economy. As the islands slowly sink underwater, they can support fewer tourists and tourist facilities, such as hotels. Fishing is the nation's second-largest industry.

The environment and economy of Maldives are threatened as sea levels rise and become less salty. The melting of polar ice caps increases the amount of freshwater in the ocean, as well as causing sea levels to rise. The increased amount of freshwater in the marine environment threatens the delicate ecosystem of coral reefs that surround the islands. The habitat may not be able to support as many fish, threatening the fisheries around Maldives. Other fish may not be able to adapt to the less-salty water. Without income generated from tourism or fishing, many Maldivians may be forced to migrate to seek new jobs.

Finally, sea level rise may sink all 1,200 islands of Maldives. This would force all Maldivians to find new places to live. Maldives leaders have worked with leaders in Australia, India, and Sri Lanka to plan an evacuation program should Maldives become uninhabitable.

Venice

The urban area of Venice, Italy, is also threatened by sea level rise. Venice is an ancient city built on a series of islands in a lagoon on the coast of the Adriatic Sea. The city has always been threatened by storms and storm surges. Venice's main "streets" are actually canals and smaller waterways. As the tide comes in, entire piazzas, or town squares, are put under

several centimetres of water. In the past century, flooding has become more frequent. In 1900, the city's main piazza was underwater seven times. In 1996, it flooded 99 times.

Like Maldives, Venice depends on tourism to support its economy. As the city floods more often, fewer tourists will visit and tourism facilities will be harder to maintain. Flooding and mould will threaten popular tourist sites, such as St. Mark's Basilica and the Doge's Palace. Venetians may be forced to migrate as their city and their economy sink.

Many other coastal cities throughout the world are located in low-lying areas vulnerable to sea level rise: Manhattan, New York, United States; London, England; Shanghai, China; Hamburg, Germany; Bangkok, Thailand; Jakarta, Indonesia; Mumbai, India; Manila, Philippines; and Buenos Aires, Argentina.

Drought

While rising seas threaten coastal regions, drought can create climate refugees inland. When people cannot grow crops on the land where they live, they have to move somewhere else in order to survive. For example, the Gobi Desert in China expands more than 3,600 square kilometres (1,390 square miles) every year. Farmers and merchants in the area surrounding the Gobi migrate to China's crowded urban areas as grasslands are overtaken by desert.

Morocco, Tunisia, and Libya each lose more than 1,000 square kilometres (386 square miles) of productive land every year to desertification. These residents on the edge of the Sahara Desert may move to cities in the Maghreb, a region of northwest Africa. They may also choose to move to the more developed countries of Europe.

Residents near the Horn of Africa are especially vulnerable to drought and desertification. Most rural residents in Somalia, Ethiopia, and Eritrea engage in subsistence agriculture. Subsistence agriculture means the farmers produce enough crops for themselves, their families, and communities. They do not sell their produce on the national or international market. Many subsistence farmers depend on their crops to feed their livestock. Years of severe drought prevent crops from growing, which also prevents livestock from being raised.

Thousands of Somalis and Ethiopians, threatened by starvation and poverty, have already fled to refugee camps in Kenya. Camps that were designed to provide temporary shelter for 90,000 people are now home to twice that number.

Refugee Status

Environmental refugees are not protected by international laws. They face greater political risks than refugees who flee their homes due to conflict or political oppression. Unlike traditional refugees, climate refugees may be sent back to their devastated homeland or forced into a refugee camp.

Most climate refugees are internal migrants. Internal migration is the process of people moving elsewhere in their own country. Often, climate refugees are rural and coastal residents who are forced to migrate to urban areas. These climate refugees face numerous problems. Skills such as herding and farming are not relevant in urban areas. Rural farmers are often more self-sufficient than many urban dwellers; they may not be familiar with depending on a corporation or other people for employment.

Climate refugees who migrate outside their home countries face other difficulties. They must adjust to different laws, languages, and cultures.

Climate refugees may encounter conflict with indigenous residents. Educational and health care systems must adjust to a sudden, new population. This population may speak a different language or have different customs than the native population.

Climate change may also increase the number of traditional refugees. Antonio Guterres, the former U.N. High Commissioner for Refugees noted, "Climate change can enhance the competition for resources—water, food, grazing lands—and that competition can trigger conflict."

School Boats

In Bangladesh, climate-induced flooding is swallowing up much of the country's land. The non-profit organization *Shidhulai Swanirvar Sangstha*, which means self-reliance, is building schools on boats. The group has built more than 40 school-boats, complete with computers and libraries. Solar lamps allow students to study at night after working all day.

Sinking State

The island nation of Tuvalu has struck an agreement with New Zealand to accept its 11,600 citizens in the event that rising sea levels overtake the country. Tuvalu is made up of eight tiny coral atolls, with a total land area of just 26 square kilometres (10 square miles). The highest point in Tuvalu is only 4.5 meters (14.7 feet) above sea level.