



# *To what extent is the global north responsible for the state of the environment and social sustainability in the global south today?*

*Nyrah Kapoor*

*Student*

*Step by Step School, Noida*

## **Abstract**

Climate change is a global emergency that is damaging countries on different levels and in different ways. The beginning of the industrial revolution in Europe in 1750, which later spread to the imperial powers and their colonies, can be identified as the event which kickstarted the emission of fossil fuels. While the increased emissions of fossil fuels and the occurrence of natural disasters have become a part of our daily lives, the ability to deal with these disasters is not the same for every country, some being more economically strained than others. To give the situation more context, this study provides an overview of what the global north and global south are, based on their socioeconomic status. Furthermore, an analysis of how climate change has impacted countries belonging to both, the global north and south, has been given. Along with highlighting the major role the global north has played in facilitating climate change and being responsible for the damage caused by it to the countries in the global south, the study also mentions how the world is taking a united stance to recover from the climate crisis.

## **Introduction**

Is climate change really a myth?

In 2019, cyclones across southern Africa killed 1000 people. The Australian wildfires in 2020 destroyed 10 million hectares of forest and affected the lives of millions. Central America's dry corridor has been

taken into its 6<sup>th</sup> year of drought due to the unexpectedly charged El Nino period. Between 2006 and 2016, the rate of global sea level rise was 2.5 times faster than it was for almost all of the 20<sup>th</sup> century (Oxfam International, 2019).

It's safe to say that these tragic natural disasters, which have stripped so many globally of their lives and livelihoods, have not tripled in the last 30 years due to sheer coincidence. Since the 1800s, humans have increased their consumption and burning of coal, oil and gas in the name of industrialization. Even today, in the 21st century, every nation is racing to 'develop' into mechanized industrial lands supported by booming industries. These industries include those offering world-class transport, agriculture, and energy. However, what we may not realize or oftentimes ignore is that these industries emit immense greenhouse gas emissions - hazardous gasses produced, including carbon dioxide and methane, that form a layer around the earth's atmosphere and trap large amounts of heat. The aforementioned trigger climate change - long-term shifts in temperatures and weather patterns evidenced by a 2-degree increase in the earth's temperature in the last 10 years itself (NOAA, 2021).

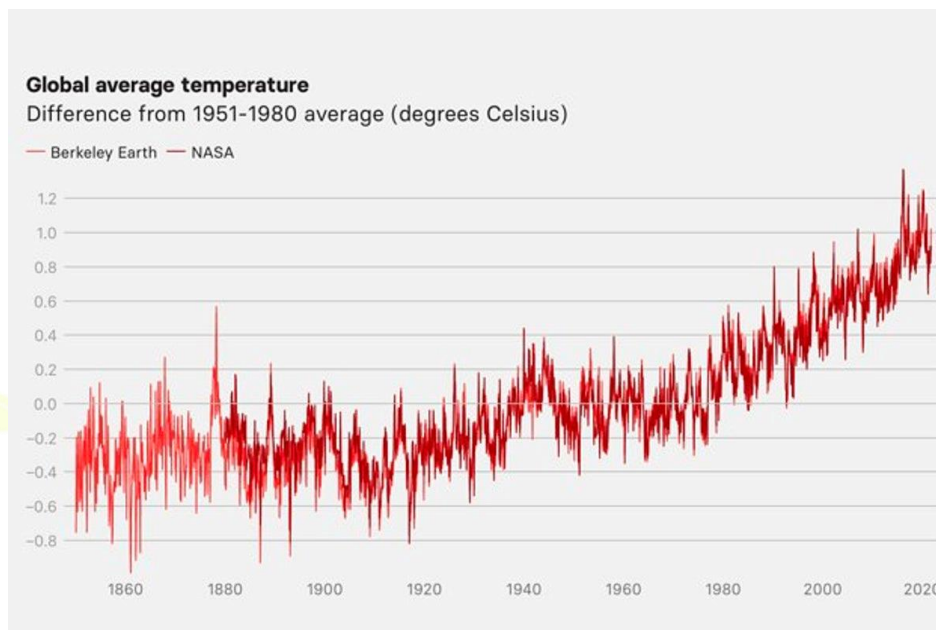
If one is to agree that industrialization is the primary cause of the state of our planet today, it is essential to take a look into history to understand the 'culprits'. It is evident that industrialization wasn't kickstarted globally and didn't progress at the same rate worldwide. 1750 was the year when the industrial revolution began in England but it wasn't until a century later that it started spreading to Western Europe (Zeidan, 2021). England held immense economic power in their hands and could extend that power to the rest of the world until the Americans started working on their industries around 1860. These imperialist countries simply used the people in their colonies in Africa and India as a factor of production and labour. This practice carried on for thousands of years the global south even got its freedom from the colonialist powers, let alone thinking about building industries of their own which only began in the late 19th century.

This 'revolution' fundamentally transformed mankind's relationship with nature. The huge amounts of cheap energy and mass-produced commodities that were suddenly so easily available led to immense social and political changes which spread globally and led us to where we are today. So the question arises **'To what extent is the global north responsible for the state of the climate and social sustainability in the global south today?'**

### **An Introduction to climate change**

According to the United Nations (2022), climate change refers to a long-term change in weather patterns and temperatures that could be a result of *natural phenomena* like large volcano eruptions or *human activities* such as the burning of fossil fuels including coal, oil and gas. Over the years, there

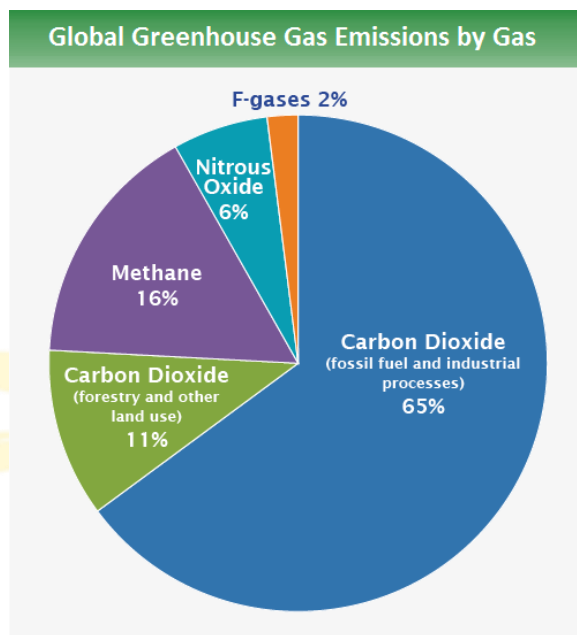
has been a great deal of debate with regard to how much anthropogenic activities have contributed to climate change. However, when the data published by the United Nations (2022) is analysed closely, it is evident that since the 1800s, more specifically the beginning of the industrial revolution, the temperature of the earth has grown 1.1 degrees warmer. Moreover, the last decade, from 2011-2020, has been the warmest on record with most signs, once again, pointing towards human activity worsening the situation (as can be seen in the graph below). Ultimately, the numbers can not be argued and the responsibility for these concerning changes in temperature rests largely on our shoulders, as human beings.



## International Research Journal

In 2020, the 7 biggest emitters that accounted for half of the global greenhouse gas emissions included the United States, China, India, The European Union, Russia, Indonesia, Brazil and India (UNEP, 2022). The activities in these countries have led to a sharp increase in greenhouse gas emissions. While global emissions growth plateaued between 2014 and 2016, it was short-lived: emissions from fossil fuels grew 1.5% in 2017, 2.1% in 2018 and are projected to grow another 0.6% in the coming few years (Levin, 2019). Not too long ago, the idea of surpassing 400 parts per million (ppm) of carbon dioxide, a symbolic threshold which Earth has not experienced for millions of years, felt quite far off. In 2010, carbon dioxide concentrations at the Mauna Loa Observatory in Hawaii were 390 ppm on average. By 2018, they were well beyond the 400 ppm threshold, with measurements reaching 408 ppm (Jones, 2017). The annual growth rate for 2020 was the highest scientists had recorded since systematic annual methane measurements began in 1983 — an increase of 15 parts per billion, which was exceeded again in 2021. Climate scientists consider methane to be the second Nitrous oxide molecule that stays in the atmosphere for an average of 121 years before being removed by a sink or

destroyed through chemical reactions. The impact of 1 pound of  $N_2O$  on warming the atmosphere is 265 times that of 1 pound of carbon dioxide. Globally, 40% of total  $N_2O$  emissions come from human activities like agriculture and industrial processes (US EPA, 2015). The percentage of each of these greenhouse gases in the environment has been shown in the graph below.



As per a UNEP (2022) report, human beings are going to be responsible for a 2.8 degree Celsius rise in global temperature by the end of this century. This number reflects devastating implications for the climate, posing a threat to lives and biodiversity throughout the world as these drastic changes in weather conditions will make several places on earth uninhabitable - whether it's the sea levels rising by 3.6 inches in the last 20 years or the glaciers in the Arctic melting, leading to 95% of the oldest and thickest ice having already been destroyed (Hancock, 2019). For instance, these changes have led to the populations of animals such as polar bears and blue whales already being declared endangered.

Throughout history, people and societies have adjusted to and coped with changes in climate and extremes with varying degrees of success. Climate change has been at least partly responsible for the rise and fall of civilizations. There are several strategies that have been put into action by organizations as a response to curb the ecological damage that human activities have caused over the years which contribute to global warming. The 2 most prominent ones appear to be 'adaptation' and 'mitigation.' In essence, adaptation can be understood as the process of adjusting to the current and future effects of climate change (European Environment Agency, 2020). On the other hand, mitigation means making the impacts of climate change less severe by preventing or reducing the emission of greenhouse gasses into the atmosphere.



As per the US EPA (2020), climate change *adaptation* refers to actions that reduce the negative impact of climate change while taking advantage of potential new opportunities. It involves adjusting policies and actions because of observed or expected changes in climate. Adaptation can be reactive, occurring in response to climate impacts, or anticipatory, occurring before impacts of climate change are observed. In most circumstances, anticipatory adaptations will result in lower long-term costs and be more effective than reactive adaptations. For example, as the climate changes, a projected higher frequency and intensity of rain storms may increase the runoff of the water which could lead to localized flooding in urban areas. Planting street trees is a solution that people can implement to both reduce stormwater runoff (adaptation) and increase carbon storage (mitigation).

*Mitigation* can also be viewed as a way of reducing climate change. It involves reducing the flow of heat-trapping greenhouse gasses in the atmosphere, either by reducing sources of these gasses (for example, the burning of fossil fuels for electricity, heat, or transport) or enhancing the “sinks” that accumulate and store these gasses (such as the oceans, forests, and soil). The goal of mitigation is to avoid significant human interference with Earth's climate, or “stabilize greenhouse gas levels in a timeframe sufficient to allow ecosystems to adapt naturally to climate change, ensure that food production is not threatened, and to enable economic development to proceed in a sustainable manner” as stated in the 2014 report on Mitigation of Climate Change from the United Nations Intergovernmental Panel on Climate Change.

Whether or not adaptiveness has been an effective strategy for dealing with climate change is a complex issue. While governments and organizations have been implementing measures like building resilient infrastructure and sustainable agricultural practices, they have helped communities deal with impacts like natural disasters more systematically but haven't reached the root of the problem. Mitigation is essential to prevent the long-term impacts of climate change as it deals with solving the issue of greenhouse gas emissions which is crucial to battle global warming. It is important to find a balance between adaption and mitigation so that even the most vulnerable communities who may not be able to access some of these measures are protected from the climate crisis.

### **Industrialisation and Imperialism**

One of the earliest events in history that has been held responsible for climate change is the industrial revolution - the process of change from an agrarian and handicraft economy to one dominated by industry manufacturing, which began during the 18th century. These technological changes introduced novel ways of working and living and fundamentally transformed society. It is known to have first occurred in Great Britain, as the product of rapidly increasing populations and more efficient agriculture

to feed those populations (Brooks, 2020) . As farming grew commercial, so did Britain's coal deposits and textile industry which became the fuel for establishing the base of the revolution. Furthermore, important technological breakthroughs such as the steam engine invented by the Scottish scientist James Watt in 1763, complemented the industrial process. While the Industrial Revolution began in England in about 1750, it took almost a century to spread to other parts of Western Europe (a process that began in earnest around 1830) and reached maturity by the 1850s and 1860s. In turn, European industrial power was overwhelming in comparison to the rest of the world, except the United States starting in the last decades of the nineteenth century, from about 1860 – 1914. By the beginning of the 19th century, several countries including Belgium, Germany, France and Japan had begun to industrialize as well.

However, the concept of 'Social Darwinism 'and the belief in the concept of the superiority of the Western civilizations played a major role in involving their colonies (lesser developed nations ruled by these countries) in the revolution as well. Countries like England and France sought new markets, raw materials and investment opportunities to fuel their growing economies. The imperial expansion provided access to resources such as rubber, oil, minerals, and agricultural products that were vital for industrial production. Colonies and smaller countries were seen as sources of cheap labour and as markets for manufactured goods (Amadeo, 2022) . The Industrial Revolution also brought about significant advancements in transportation, communication, and weaponry. Western powers had steamships, railways, telegraphs, and advanced firearms, which enabled them to project their power over long distances and subjugate less developed regions. The major Western nations, including Britain, France, Germany, and later the United States, were engaged in intense rivalries and competition for global influence. Colonies and territories, such as Sierra Leone belonging to Britain, were viewed as symbols of national prestige and power. The drive for imperial dominance was fueled by a desire to outperform and outdo rival nations (Singh, 2023).

The process of industrialization impacted the socio-political and technological state of the lesser-developed countries as well. In order for this revolution to take place, the local political structures of these colonies were often dismantled and colonial administrations were established (Wilson-Becerril, 2020). Furthermore, indigenous cultures and traditions faced significant disruption and, in many cases, suppression. Western values, language, and institutions were imposed, leading to the erosion of indigenous identities and practices. The Imperial powers also exploited existing divisions within societies, reinforcing or creating social hierarchies based on race, ethnicity, or social class. Indigenous populations were often relegated to lower-status positions, while settlers or colonizers enjoyed privileged positions. Additionally, the colonies 'economies had been damaged as well. Due to the extraction of resources and labour by the imperial powers to benefit their own economies, local

economies were restructured to serve their interests and often lacked essential factors of production. Imperial powers invested in the construction of infrastructure such as railways, ports, roads, and telegraph lines. These developments were primarily aimed at facilitating the extraction of resources and improving trade routes between the colonies and the imperial powers. The spread of Western technologies, such as telegraphy and railways, had significant implications for communication and trade within the colonies. However, the transfer of technology was often selective, with the colonies being limited to using technologies that served the interests of the colonizers.

### **The Global North vs. The Global South**

While the industrial revolution itself can not be held accountable for the climate crisis we are experiencing today, it can be said that the events that took place after it, which include the development of certain countries, have played a part in increasing greenhouse gas emissions. These countries can be categorized on the basis of their socio-economic and political characteristics as the global north and the global south. The global north is said to comprise countries like The United States, the United Kingdom, Canada, Europe, Russia, Turkey, Israel, Hong Kong, Macau, Japan, South Korea, Singapore, Taiwan, Australia, New Zealand and a few others depending on context. This western part of the world is associated with development, more income inequality and less population density, primary sector exports and political freedom. On the other hand, the global south includes countries like Latin America, Africa, Asia and Oceania. While most of the population of the world resides in the global south, the countries here are characterized as less developed, have denser populations, marginalization and poor infrastructure (Royal Geographical Society, 2020). These 'third world' countries have been the victims of colonialism, the colonizers being the countries in the global north.

While the world average of CO<sub>2</sub> per person in 2017 was 5 t, the emissions in the Global South averaged 3.4 t per person. Those in the Global North were three times higher, at 10.6 t per person, and these figures are accurate today in 2023 as well (Fuhr, 2021). However, the debate on which sphere of the earth should be held responsible is still ongoing. Weizman and Sheikh (2015) once wrote: "The current acceleration of climate change is not only an unintentional consequence of industrialization. The climate has always been a project for colonial powers, which have continually acted to engineer it." While the global south is responsible for a significant amount of emissions today, from a historical lens, colonialism can be viewed as a gradual process under which companies began seeking territories from which they could extract natural resources, raw materials and labour, all out of a desire for wealth. Wealth meant power, and everything hence started to be looked at in terms of profits. This led to large-scale exploitation by the Western countries, which in turn led to cash crops replacing food crops, monoculture replacing multi-culture and slaves replacing free labour in their respective colonies

(Voskoboynik, 2018). Colonisers sought to make their economy grow and strengthen their political power through industrialisation, and they asked their colonies to provide energy supplies, food, raw materials and labour and even to contribute to increasing the consumer demand for Western products. Gold and silver, for instance, became the most sought-after commodities for the colonisers (Brown, 2012). Around 100 million kilogrammes of silver were mined in the world between the sixteenth and nineteenth centuries. Furthermore, low-scale food crop systems were replaced by organised cash crops, such as tea and cotton. To support these advanced systems, water started being managed by the state, which used advanced engineering techniques, and communal management of water was stalled (Voskoboynik, 2018). Traditional practices that communities had learnt over the years were now considered ineffective, outdated and even damaging. Extensive farming of cash crops, coupled with deforestation, exhausted the soil and made most of the land infertile. Barren patches of land also became breeding grounds for mosquitoes carrying yellow fever and malaria. Consequently, in the Caribbean and Brazil, epidemics killed vast sections of the population as well.

Accelerating waves of mass extinctions, soil erosion, droughts, famines, wildfires and infectious diseases adding to already-strained infrastructure, and mounting social instability overall will or rather, is already and will growingly make life very volatile for both the global north and global south. However, since the global south has poorer infrastructure, its ability to cope with the climate crises may not be like that of the economically stronger north. One could hold imperialism, fuelled by the industrial revolution, as the factor responsible for this economic and political divide that has changed the way the world deals with the climate crisis forever.

### **The way forward**

The disastrous impacts of the regions that now classify as the global north on the regions of the global south are what have caused the global south to not be able to innovate sustainable solutions, reduce their carbon emissions or be able to implement mitigation and/or adaption either. However, since climate change is a global crisis, a global effort has to be made where countries collectively work towards creating a more sustainable future. Large organizations such as the WWF, G20 group, and the UN are working to combat this issue on a large scale.

Of all the organizations, the United Nations Environment Programme (UNEP) is one of the most effective and well-known. It is also the leading environmental authority in the United Nations system (Sundholm, 2013). The UN is an international organization founded in 1945 and made up of 193 member states. Its goal is to serve as the “one place on earth where all the world's nations can gather together, discuss common problems, and find shared solutions that can benefit all of humanity”. The



aim of the UNEP specifically is to concentrate on six areas, including acknowledging climate change, pre and post-conflict disaster management, ecosystem management, environmental governance, reducing the impact of harmful substances and hazardous waste as well as spreading awareness on the efficient use of resources. Aside from the aforementioned, the UNEP encourages climate research and the assessment of climate change working closely with the Intergovernmental Panel on Climate Change (IPCC). The IPCC's reports provide policymakers with essential information on the causes, impacts, and mitigation options of climate change. It helps countries develop and implement climate change action plans, including strategies for reducing greenhouse gas emissions, promoting renewable energy, and adapting to climate impacts. Furthermore, The United Nations Framework Convention on Climate Change (UNFCCC), which UNEP supports, brings countries together to negotiate and implement global climate agreements such as the Paris Agreement. The UNFCCC has 198 member countries including the United Kingdom, India, Bangladesh, Canada and Australia. Both less economically developed countries and more economically developed countries are a part of the organization, hence it is a collective effort.

Within this organization, the “Conference of the Parties” (COP), is the global decision-making body of the UNFCCC. The 198 countries meet here every year to review progress and decide on the path forward. In November 2022, Egypt hosted the 27th session of the COP (UNEP, 2022) - it focused on 3 areas; climate adaptation, climate finance and a just transition that takes into account the development needs of countries, communities and groups most affected by the climate crisis. It also introduced the loss and damage fund, which aims to provide financial assistance to nations most vulnerable and impacted by the effects of climate change. Loss and damage refer to the negative consequences that arise from the unavoidable risks of climate change, like rising sea levels, prolonged heatwaves, desertification, the acidification of the sea and extreme events, such as bushfires, species extinction and crop failures. As time goes on, these effects are predicted to become even more severe. It is centred around the idea that developed countries contribute more to global emissions but aren't as vulnerable to their effects as developing countries. The African continent, for example, contributes the least to climate change yet is the most vulnerable to its impacts, having to spend up to five times more on adapting to the climate crisis than on healthcare (Okonjo-Iweala, 2020). Pakistan also has seen US\$30 billion in damages from severe flooding but emits less than 1 per cent of global emissions (Liu and Mangi, 2023). G20 countries, meanwhile, represent around 75 per cent of global greenhouse emissions.

The UNEP research also shows that there is a shortage of finance for countries attempting to adapt, almost 5 times less than the estimated needs. Social protection, contingency finance, catastrophe risk insurance and catastrophe bonds can provide a certain buffer and rapid pay-outs after disasters.

However, a broadened donor base and innovative finance tools would be needed to respond to the magnitude of loss and damage. The UNEP has therefore come up with innovative ways to combat this issue. The UN Secretary-General António Guterres, for example, has called for the use of windfall taxes on fossil fuel companies and diverted the money to people struggling with rising food and energy prices and to countries suffering loss and damage caused by the climate crisis. Others have called for debt for loss and damage swaps, international taxes and a dedicated finance facility for loss and damage under the UN Framework Convention on Climate Change. At COP 26 and 27 philanthropies and country governments pledged funds for loss and damage. These efforts could be scaled up considering the mounting challenges of the most vulnerable communities. Even though the fund pledges up to \$100 billion to developing countries to help them tackle climate change, finding and dealing with the root cause of this issue is crucial to ensure a long-term impact.

This long-term solution does not simply comprise raising funds for developing countries to deal with the climate crisis but aims to rule out the crisis itself. According to the Paris Peace Agreement signed by 195 states in 2015, countries like New Zealand and France have committed to reaching net 0 carbon emissions by 2050. Policies and legal measures have also been put into place to ensure that the global temperature stays well below 2 degrees Celsius - the safe mark (Greenpeace, 2021). Some steps that can be taken by countries to do this include reducing the extraction of fossil fuels to stay within the carbon budget and shifting to renewable energy, such as solar and hydro energy, instead on a large scale. Transportation accounts for 28% of the world's carbon emissions, and passenger cars account for a significant chunk of this total. If countries invested heavily in public transportation — in the form of electric buses, high-speed trains and subways, and electric ferries — then the environmental impact of the transportation sector could be significantly minimized. In densely packed cities, burning fossil fuels to heat and electrify buildings is the biggest source of greenhouse gas emissions. By retrofitting old buildings to conserve and minimize energy use, cities can significantly reduce their carbon footprint.

Developed countries are also largely responsible for increasing the scale of commercial farming and construction, destroying natural habitats like the Amazon rainforest in the process. These lands have to be protected and restored so that the trees can absorb more carbon from the atmosphere. Similarly, oceans are overfished, used for oil and gas drilling and are also threatened by deep-sea mining. They have to be protected as well. Reducing the use of plastic, a non-biodegradable material made of oil, that will account for 17% of the global carbon budget by 2050, is essential as well. By implementing these strategies themselves and funding the developing countries to encourage them to do the same, developed countries can make a difference.

## Conclusion

Climate change refers to the long-term shifts in temperatures and weather patterns. The first identifiable major factor in history that kickstarted the emission of several greenhouse gasses was industrialization. Beginning in Great Britain in 1750, marked by a rapid increase in manufacturing and technological advancements, it spread to America and gradually the vulnerable colonies of these imperial powers. These colonies were seen as resource pools, exhausted of cheap labour, and damaged technologically as well as socio-politically by the Western powers. While the 'global north' comprises countries that have less population density, more income equality and are associated with development as opposed to the 'global south', one can say that this development has been at the expense of the climate of the 'global south'.

Even though statistically the global north has a larger carbon footprint, the impacts of climate change have majorly impacted the global south as they do not have the resources to adapt or mitigate to climatic changes such as droughts and famines. This is due to the exploitation of their lands, coupled with weak systems set up by the 'global north' to substitute the lack of resources caused by their increased exploitation over hundreds of years. Therefore, it can be said that even though not entirely, the actions of the global north have largely contributed to the state of the environment and social sustainability in the global south today.

That being said, in recent times, a global effort has been made to reduce the harmful impacts of climate change. Organizations such as the UN, which comprise both countries belonging to the global north and the global south, have come up with programmes such as the UNFCCC. In 2022, realizing the role and responsibility of the global north in contributing to the climate crises, they decided to raise \$100 billion as funds for the developing countries to adapt and mitigate. However, this isn't a long-term solution. Collaborative measures have to be put into place to ensure that the global temperature stays below 2 degrees Celsius which may only be facilitated by countries shifting to renewable sources of energy, increasing public transport to conserve electricity and conserving natural habitats to ensure the safety of the planet.

**Bibliography**

Amadeo, Kimberly. "Imperialism." *The Balance*, 29 June 2022, [www.thebalancemoney.com/imperialism-definition-and-impacts-on-us-history-4773797](http://www.thebalancemoney.com/imperialism-definition-and-impacts-on-us-history-4773797).

Brooks, Christopher. "Chapter 2: The Industrial Revolution." *Pressbooks.nsc.ca*, vol. 3, 6 Jan. 2020, [pressbooks.nsc.ca/worldhistory/chapter/chapter-2-the-industrial-revolution-new/](http://pressbooks.nsc.ca/worldhistory/chapter/chapter-2-the-industrial-revolution-new/).

Brown, Kendall . "A History of Mining in Latin America from the Colonial Era to the Present." *The Latin Americanist*, vol. 56, no. 3, Sept. 2012, pp. 104–107, [https://doi.org/10.1111/j.1557-203x.2012.01162\\_3.x](https://doi.org/10.1111/j.1557-203x.2012.01162_3.x). Accessed 15 May 2021.

European Environment Agency. "What Is the Difference between Adaptation and Mitigation? ." *Www.eea.europa.eu*, 2020, [www.eea.europa.eu/help/faq/what-is-the-difference-between#:~:text=In%20essence%2C%20adaptation%20can%20be](http://www.eea.europa.eu/help/faq/what-is-the-difference-between#:~:text=In%20essence%2C%20adaptation%20can%20be).

Fuhr, Harald. "The Rise of the Global South and the Rise in Carbon Emissions." *Third World Quarterly*, vol. 42, no. 11, 16 Sept. 2021, pp. 1–23, <https://doi.org/10.1080/01436597.2021.1954901>.

Greenpeace. "What Are the Solutions to Climate Change? ." *Greenpeace UK*, 12 Apr. 2021, [www.greenpeace.org.uk/challenges/climate-change/solutions-climate-change/](http://www.greenpeace.org.uk/challenges/climate-change/solutions-climate-change/).

Hancock, Lorin. "Why Are Glaciers and Sea Ice Melting?" *World Wildlife Fund*, 2019, [www.worldwildlife.org/pages/why-are-glaciers-and-sea-ice-melting#:~:text=Even%20if%20we%20significantly%20curb](http://www.worldwildlife.org/pages/why-are-glaciers-and-sea-ice-melting#:~:text=Even%20if%20we%20significantly%20curb).

Levin, Kelly. "6 Ways the Climate Changed over the Past Decade." *Www.wri.org*, 20 Dec. 2019, [www.wri.org/insights/6-ways-climate-changed-over-past-decade](http://www.wri.org/insights/6-ways-climate-changed-over-past-decade).

Liu, Coco, and Faseeh Mangi. "A \$30 Billion Disaster Is Just the Tip of a Deadly Climate Cycle." *Bloomberg.com*, 2 July 2023, [www.bloomberg.com/news/features/2023-07-02/pakistan-braces-for-heavy-rains-floods-after-30-billion-climate-disaster](http://www.bloomberg.com/news/features/2023-07-02/pakistan-braces-for-heavy-rains-floods-after-30-billion-climate-disaster).

NOAA. "Climate Change Impacts." *National Oceanic and Atmospheric Administration*, 13 Aug. 2021, [www.noaa.gov/education/resource-collections/climate/climate-change-impacts](http://www.noaa.gov/education/resource-collections/climate/climate-change-impacts).

Okonjo-Iweala, Ngozi. "Africa Can Play a Leading Role in the Fight against Climate Change." *Brookings*, 2020, [www.brookings.edu/articles/africa-can-play-a-leading-role-in-the-fight-against-climate-change/](http://www.brookings.edu/articles/africa-can-play-a-leading-role-in-the-fight-against-climate-change/).

Oxfam International. "5 Natural Disasters That Beg for Climate Action." *Oxfam International*, 23 Aug. 2019, [www.oxfam.org/en/5-natural-disasters-beg-climate-action](http://www.oxfam.org/en/5-natural-disasters-beg-climate-action).



Sheikh, Fazal, and Eyal Weizman. *The Conflict Shoreline*. Göttingen, Steidl Verlag, 2015.

Singh, Nishtha. "Climate Justice in the Global South: Understanding the Environmental Legacy of Colonialism." *E-International Relations*, 2 Feb. 2023, [www.e-ir.info/2023/02/02/climate-justice-in-the-global-south-understanding-the-environmental-legacy-of-colonialism/](http://www.e-ir.info/2023/02/02/climate-justice-in-the-global-south-understanding-the-environmental-legacy-of-colonialism/). Accessed 3 Feb. 2023.

Sundholm, Mattias. "UNEP : United Nations Environment Programme." *Office of the Secretary-General's Envoy on Youth*, 16 Aug. 2013, [www.un.org/youthenvoy/2013/08/unep-united-nations-environment-programme/#](http://www.un.org/youthenvoy/2013/08/unep-united-nations-environment-programme/#).

UNEP. "Emissions Gap Report 2022." *UN Environment Programme*, 21 Oct. 2022, [www.unep.org/resources/emissions-gap-report-2022](http://www.unep.org/resources/emissions-gap-report-2022).

UNEP. "UNEP at the Climate COP27." *UNEP - UN Environment Programme*, 11 Oct. 2022, [www.unep.org/explore-topics/climate-action/unep-climate-cop27](http://www.unep.org/explore-topics/climate-action/unep-climate-cop27).

United Nations. "What Is Climate Change?" *United Nations*, 2022, [www.un.org/en/climatechange/what-is-climate-change](http://www.un.org/en/climatechange/what-is-climate-change).

US EPA. *Inventory of U.S. Greenhouse Gas Emissions and Sinks*. The Environmental Protection Agency, 2020.

US EPA, OAR. "Overview of Greenhouse Gases." *US EPA*, 23 Dec. 2015, [www.epa.gov/ghgemissions/overview-greenhouse-gases#:~:text=Human%20activities%20such%20as%20agriculture](http://www.epa.gov/ghgemissions/overview-greenhouse-gases#:~:text=Human%20activities%20such%20as%20agriculture).

Voskoboynik, Daniel Macmillen . *The Memory We Could Be*. New Society Publishers, 25 Sept. 2018.

Wilson-Becerril, Michael. "Why Environmental Justice Is an Anti-Colonial Struggle." *Www.aljazeera.com*, 22 Sept. 2020, [www.aljazeera.com/opinions/2020/9/22/why-environmental-justice-is-an-anti-colonial-struggle](http://www.aljazeera.com/opinions/2020/9/22/why-environmental-justice-is-an-anti-colonial-struggle).

Zeidan, Adam. "Industrial Revolution." *Encyclopedia Britannica*, 21 July 2021, [www.britannica.com/event/Industrial-Revolution](http://www.britannica.com/event/Industrial-Revolution).