

United Nations Framework Convention on Climate Change

Climate Change

Introduction

Climate change is a real and growing threat that has and will threaten the global community by rising sea levels, deadlier storms that threaten coastal communities, increasing temperatures that risk wildfires and threaten to destroy ecosystems. The United Nations Sustainable Development Goals for 2030 highlights climate change as a threat "...expected to impact the availability of basic necessities like freshwater, food security, and energy."¹ Climate change is defined as a long-term change in normal weather patterns and temperatures, which is caused by global warming.² Rising temperatures will not only affect coastal communities or those with large forests, this will affect all member states, whether large or small. Roughly half of the world's population resides near a coastal community, coming to around 3 billion people that would be affected by catastrophic storms and flooding.³ The Milan Declaration stresses the importance of promoting sustainable approaches to agriculture and fisheries and building resilience to climate change and disasters.⁴ Climate change would eliminate food security on smaller islands, which rely on consistent migration patterns.

Climate change is caused by humans releasing greenhouse gases, such as carbon dioxide and methane, into the earth's atmosphere. These gases absorb infrared radiation from the sun and emit part of the heat back to earth through a process called the greenhouse effect. This process heats the earth, meaning that the earth will get hotter with more greenhouse gases in the atmosphere. The burning of fossil fuels emits greenhouse gases that cause global warming, which changes the earth's climate. At the beginning of the Industrial Revolution, there were 280 parts per million (ppm) of carbon in the atmosphere. Today, those levels have increased to around 410 ppm⁵, the highest ever recorded in earth's history. The release of greenhouse gases is causing changes to earth, including a higher global temperatures, higher sea levels, more extreme weather events, lower crop yield, unhealthy air quality, etc. In a special report, the UN predicted that impacts of climate change can be limited by keeping the earth's warming under 1.5 degrees Celsius, and highlighted the negative effects of a 1.5 or 2 degree temperature rise. If action is not taken immediately to stop the effects of climate change, the goals in the Paris Climate Accord, which involve keeping the temperature rise below 1.5 degrees, may not be attainable.⁶ If the goal of limiting global warming to 1.5 or 2 degrees is not met, both humans and animals will experience endangerment to their health and to the planet.⁷

Sea level rise is a major concern for many coastal communities, because of the risk of flooding, erosion, and larger storms that come from warmer waters. According to the International Panel on Climate Change (IPCC) sea level rise is caused by the increased mass of the water or ocean, or change in water volume caused by changes in density.⁸ The United Nations splits the action against climate change into mitigation, the ability to alleviate climate change for a time; and adaptation, the ability to change the environment or the community to alleviate climate change for a

¹ <https://sustainabledevelopment.un.org/topics/climatechange>

² <https://www.nationalgeographic.org/encyclopedia/climate-change/>

³ Liz Creel, *Ripple Effects: Population and Coastal Regions*

⁴ <https://sustainabledevelopment.un.org/content/documents/8537MilanDeclaration.pdf>

⁵ Paul Carr, *What is Climate Change Doing To Us and For Us?*, (Zygon, June 2018).

⁶ *Special Climate Report: 1.5°C Is Possible But Requires Unprecedented and Urgent Action*, (October 2018)

⁷ Carr, *What is Climate Change Doing To Us and For Us?*, 443.

⁸ <https://www.ipcc.ch/sr15/chapter/glossary/>

longer period of time. Coastal communities have mitigated sea level rise by building concrete structures, like seawalls or levies to alleviate damage.⁹ This solution is a temporary fix to a long term problem and usually cause more damage than if the issue was properly dealt with. Less developed nations are more at risk because of their reliance on larger more developed or resource producing countries. Some nations like the Maldives and Tuvalu are more at risk because they are threatened by erosion or lacking infrastructure to protect their citizens.¹⁰ Smaller island nations are already guaranteed by member states from climate change and rising sea levels from a resolution by the General Assembly in 1993, however it does not cover climate change.¹¹

Current Events

The UN discusses the consequences of climate change that will take place in the future, however the earth is already experiencing climate related issues. A notable issue regarding climate change is the frequency and intensity of extreme weather events. Warmer temperatures make heat waves and droughts more intense.¹² Hotter weather increases the risk of heat exhaustion and heat stroke for humans, potentially causing death. Humans with preexisting cardiovascular or respiratory issues are at risk of having their conditions worsen during weather extremes.¹³ Currently, almost 54 million Americans are experiencing drought, and drought covers over 16% of the U.S.¹⁴ Drought and water scarcity is happening in other countries as well. Middle Eastern and African countries are currently experiencing the worst water shortages in the world. Some of these countries include Yemen, Libya, and Jordan.¹⁵

Hotter weather also makes water evaporate faster, which has already begun to lower crop yield. Higher average temperatures can also cause other extreme weather events to become more intense, such as hurricanes or blizzards. Warmer global temperatures can make tropical storm or hurricane wind speeds increase, making hurricanes more dangerous for humans. Hurricanes can also deliver more rain due to increased evaporation.¹⁶ Hurricanes with higher intensity can be lethal towards humans. Hurricane Dorian, a category 5 that made landfall in the Bahamas in September of 2019 has killed 56 people and counting. There are also over 600 people still missing due to the hurricane.¹⁷ Increased evaporation is also present in the winter. The combination of increased evaporation and increased moisture being held in the atmosphere can deliver major snowstorms.¹⁸

Extreme weather events can harm humans, but even when these events are not happening, human health is still at risk. Excessive greenhouse gas emissions have lowered air quality, especially in cities. There are more air pollutants, and carbon dioxide can cause plants to release allergens. This is harmful to the cardiovascular and respiratory systems, and is especially dangerous for people living with asthma.¹⁹ The Multi-Ethnic Study of Atherosclerosis (MESA) claimed that

⁹Fu et al, *Adaptation Planning for Sea Level Rise: Study of US Coastal Cities*

¹⁰<https://www.climatealityproject.org/blog/trouble-paradise-how-does-climate-change-affect-pacific-island-nations>

¹¹ A_RES_47_186-AR

¹² *Extreme Weather Gets a Boost From Climate Change*. <https://www.edf.org/climate/climate-change-and-extreme-weather>

¹³ *Climate and Health Assessment*. <https://health2016.globalchange.gov/>.

¹⁴ U.S. Drought Portal. <https://www.drought.gov/drought/>.

¹⁵ *Five Countries with the Greatest Water Scarcity Issues*. <https://mphdegree.arizona.edu/blog/five-countries-with-the-greatest-water-scarcity-issues/>.

¹⁶ *Hurricanes and Climate Change*. <https://www.c2es.org/content/hurricanes-and-climate-change/>.

¹⁷ Chavez, Nicole and Chandler Thorton. *600 People are Still Missing in the Bahamas Weeks After Hurricane Dorian*. <https://www.cnn.com/2019/09/27/americas/bahamas-hurricane-dorian-missing/index.html>. (September 2019)

¹⁸ *Extreme Weather Gets a Boost From Climate Change*.

¹⁹ *Climate and Health Assessment*.

being exposed to air with lots of pollutants for an extended period of time can be as harmful as smoking a pack of cigarettes. The World Health Organization claims that around 4.2 million people die every year due to air pollution by causing heart disease, lung cancer, stroke, and respiratory infections. Around one in four deaths caused by lung disease can be attributed to air pollution.²⁰ Air pollution is most dangerous in China, India, and Middle Eastern countries.²¹ Water contamination can also cause issues to human health. Chemical runoff and pathogens that are able to grow in warmer conditions contaminate water that humans drink or swim in. It can also contaminate fish that humans will eat. This is especially dangerous for countries that rely heavily on fish, such as China, Vietnam, and Japan.²² Dumping chemicals into the ground can also contaminate water inside of an unconfined aquifer that humans use for drinking.²³

All of these climate issues related to human health may have a negative impact on the economy as well. Crops that have been killed by drought or other extreme weather events end up hurting the economy because of the money that was invested into watering and fertilizing them. Reparations from natural disasters have been costly, such as repairing roads and buildings. The U.S. spent 350 billion dollars in reparations from extreme weather events over a 9 year span, going from 2004-2015. In contrast, 130 billion dollars was allocated for reparations in 2018.²⁴ The U.S. government predicts that the economic costs of climate change have the potential to lower gross domestic product (GDP) if the effects of climate change are not halted.²⁵ The U.S. Government Accountability Office (GAO) has also recommended that the best way to avoid further economic issues due to climate change is by halting the effects of it.²⁶

History of the Climate Change Crisis

The Montreal Protocol of 1987 marked the first time in history that the UN achieved full ratification of a treaty designed to address the effect of human activity on the climate. The UN goal in Montreal was to provide protection for the natural ozone layer in the stratosphere. Since the implementation of the protocol we have seen a 98 percent elimination of ODS [ozone depleting substances] and an unplanned reduction of 135 billion tons of CO2 emissions²⁷, along with a shrinkage in the size of the hole in the ozone layer. This protocol emphasized the importance of getting developed and developing countries on the same page and set a precedent for future climate action.

In the year following the Intergovernmental Panel on Climate Change (IPCC), which provides crucial scientific information for international negotiations on climate adaptation and damage mitigation, was formed. Two years later in 1990 the IPCC released the first assessment stating that human emissions are substantially increasing the amount of greenhouse gases in the atmosphere. This led to the IPCC and Second World Climate Conference call for a global treaty in November of 1990. Eleven years after the First World Climate Conference, which “urged states to

²⁰ *Health Impacts*. <https://www.who.int/airpollution/ambient/health-impacts/en/>.

²¹ *The Most Polluted Cities in the World, Ranked*. <https://www.cbsnews.com/pictures/the-most-polluted-cities-in-the-world-ranked/51/>.

²² *Countries That Eat the Most Fish*. <https://www.worldatlas.com/articles/countries-that-eat-the-most-fish.html>.

²³ *Climate and Health Assessment*.

²⁴ *The Budgetary Impact of Climate Change*. <https://budget.house.gov/publications/report/budgetary-impact-climate-change>.

²⁵ Irwin, Neil. *Climate Change's Giant Impact on the Economy: 4 Key Issues*. (January, 2019).

²⁶ *The Budgetary Impact of Climate Change*.

²⁷ <https://www.undp.org/content/undp/en/home/2030-agenda-for-sustainable-development/planet/environment-and-natural-capital/montreal-protocol.html>

foresee and prevent changes to the climate that might have adverse effects,”²⁸ at the Second World Climate Conference scientists and technology experts released a powerful statement about the risks associated with a changing climate. This led to the beginning of negotiations on a framework convention in December a month later. A text was agreed upon in May of 1992 officially forming the United Nations Framework Convention on Climate Change (UNFCCC). The UNFCCC was formed with the aim of preventing dangerous human interference with the climate system.

The Copenhagen Climate Change Conference of 2009 was an important step in the acceleration of the climate problem into the highest political spheres. The Copenhagen Conference advanced negotiations on green infrastructure, narrowed down the options and choices that needed to be made, and most importantly produced the Copenhagen Accord. The Copenhagen Accord came with a promise of developed countries to fund efforts to reduce greenhouse gas emissions and adapt to the effects of climate change in developing countries, an agreement on the measurement of the effects of actions taken by developing countries, and the formation of four new bodies designed to fight climate change and its effects.²⁹ Most notably, there was an agreement to keep the average global temperature from rising to 2 degrees Celsius above pre industrial levels, however, the accord had no real agreement on how to achieve this. There was also a notable absence of commitment on the part of developed countries, including the world’s largest polluters, to decrease greenhouse gasses domestically.

The Paris Agreement builds on the goals of the United Nations Framework Convention on Climate Change (UNFCCC). The UNFCCC was founded in 1992 with the purpose of reducing greenhouse gases to "a level that would prevent dangerous anthropogenic (human induced) interference with the climate system."³⁰ The 2015 Paris Climate Agreement gave a plan of action to reach that goal with specific goals that include keeping a global temperature rise this century below at least 2 degrees Celsius above pre-industrial levels and going beyond that and to reach only 1.5 degrees Celsius above pre industrial levels. In order to achieve these goals the agreement requires all countries to do the most they can through nationally determined contributions (NDCs). NDCs are the amount that each country needs to reduce their effects on the changing climate in order to reach the goals laid out by the agreement. In order to attain NDCs countries must pursue domestic mitigation measures. Going into effect on November 4th 2016 the Paris agreement would also focus on strengthening the ability of countries to deal with the effects of the changing climate. The agreement also holds participating countries accountable by enhancing the transparency of action and support by creating a tougher transparency structure. This transparency structure requires all participating nations to regularly provide “A national inventory report of anthropogenic emissions by sources and removals by sinks of greenhouse gases, prepared using good practice methodologies accepted by the IPCC and agreed upon by the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement”³¹ and all of the information necessary to track NDCs. These Accords were a giant step in international cooperation between nations as 185 of 197 countries have ratified the treaty to this date.

On September 23, 2019 at the Roadmap for Climate Action Summit leaders from around the world came together and will have to present their plans to reduce greenhouse gas emissions in their

²⁸ <http://unfccc.int/resource/ccsites/senegal/fact/fs221.htm>

²⁹ <https://unfccc.int/process-and-meetings/conferences/past-conferences/copenhagen-climate-change-conference-december-2009/copenhagen-climate-change-conference-december-2009>

³⁰ <https://unfccc.int/process-and-meetings/the-convention/what-is-the-united-nations-framework-convention-on-climate-change>

³¹ Adoption of the Paris Agreement: Proposal by the President

respective nations by 45 per cent over the next decade, and to achieve net zero emissions by 2050.³² These plans must include an outline for how each country will transform their economy to be in line with the UN sustainable development goals. The Summit will bring together governments, the private sector, civil society, local authorities and other international organizations in order to create a comprehensive plan of action that does not leave anyone behind. This plan of action covers six areas; finance and carbon pricing, energy transition, industry transition, nature based solutions, cities and local action, and resilience and adaptation. In addition to these six areas the UN also focuses on three additional key areas; Mitigation Strategy, Youth Engagement and Public Mobilization, and Social and Political Drivers. With these 9 areas of focus the UN hopes to achieve comprehensive and aggressive goals in global climate policy and international relations.

Key Challenges

Developing countries are affected by climate change considering these member states are reliant on cheaper technologies like coal which allow their country to grow. These states will struggle to adapt to climate change considering they are limited in their ability to produce industrial components to mitigate the effects of climate change. Member states like Canada have already pledged over \$2.65 billion to help developing countries across the globe.³³

Coastal communities across the globe are going to be affected by rising sea levels and their city's geography will be changed by 2030. Local governments should be ready to adapt to this change by updating their future development plans and building inland to prevent loss of life and destruction of infrastructure along affected coastal regions. Cities like Lagos and Copenhagen have already seen changes in sea levels, leading to flooding whenever storms move through their these highly populated regions.³⁴

Economic assistance should be made to countries that have been affected by large scale natural disasters that have become stronger due to climate change. Recent examples can come from The Bahamas that were affected by Hurricane Dorian in 2019 or from Typhoon Mangkhut in the Philippines.³⁵ Each disaster cost thousands of lives and destroyed entire communities. Neither of these countries account for even one percent of carbon dioxide produced overall and need access to assistance to rebuild lost communities and prepare themselves for the next natural disaster.³⁶

Conclusion and Committee Directives

Member states should focus on both adapting and mitigating climate change, by building sustainable infrastructure to protect themselves and ensuring coastal communities have action plans to combat rising sea levels. Member states should also ensure that developing member states are able to cope with climate change by protecting their economies and helping them with economic assistance and aid. Possible solutions for member states include a subsidy on the production of renewable energy sources or a tax on emitted greenhouse gases. A transition from fossil fuels to renewable energy is necessary to mitigate the effects of global warming and climate change. The UN calls for major reforms in "land, energy, industry, buildings, transport, and cities".³⁷ To reach

³² <https://www.un.org/en/climatechange/un-climate-summit-2019.shtml>

³³ https://www.international.gc.ca/world-monde/issues_development-enjeux_developpement/environmental_protection-protection_environnement/climate-climatiques.aspx?lang=eng

³⁴ French et al, *Sea-Level Rise and Nigeria: Potential Impacts and Consequences*

³⁵ <https://www.nbcnews.com/news/weather/video/deadly-typhoon-mangkhut-leaves-wake-of-destruction-in-philippines-1321456707957>

³⁶ <https://www.ucsusa.org/global-warming/science-and-impacts/science/each-countrys-share-of-co2.html>

³⁷ *Climate Change*, (UN).

the global temperature goal, the UN states that carbon dioxide emissions would need to fall by 45 percent from 2010 levels by 2030, and reach a net zero by 2050.³⁸ Countries that currently emit the most greenhouse gases such as the USA and China are encouraged to take action by signing the Paris Climate Accord and donating to funds that would ensure that developing countries will be able to protect themselves from climate change. Transforming coastal communities into effective barriers against rising sea levels will ensure local animal habitats and human cities would be protected. Creating sustainable farming techniques and clean energy initiatives would allow all member states to prosper. Ensuring that a fund is made for member states affected by natural disasters and is distributed to those states that may need it.

³⁸ *Climate Change*, (UN).