

The Legacy of Climate Change Alexandria Short July 2021

What is Climate change? According to National Geographic “Climate change is the long-term alteration of temperature and typical weather patterns in a place. Climate change could refer to a particular location or the planet as a whole.” Climate change is a natural phenomenon, however the issue is with the rate of climate change.

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

Climate change has always been gradual, however the buildup of greenhouse gasses in the atmosphere has caused this rate of warming to increase gradually. This increase in the rate of climate change negatively impacts the planet in several ways, for example, it increases the rate of natural disasters like hurricanes, fires and landslides and flooding. Other effects include sea levels rising, loss of biodiversity, arctic ice melting and species extinction.

The purpose of this essay however is not to discuss climate change to instill fear and diminish hope. It is to discuss the facts of climate change, its effects, and possible solutions to the problems that will come from climate change. In order to effectively meet this purpose I need to acknowledge several factors about climate change.

First, the current climate change crisis is a very complex, complicated issue that will cause many problems long term. The climate crisis will impact everyone and is

inevitable. We are seeing the effects of climate change right now. For example, the 2020 hurricane season, the coronavirus pandemic and the 2021 Pacific Northwest heatwave.

Second, the main cause for climate change is due to the release of greenhouse gasses into the atmosphere, this is caused by burning fossil fuels. It's important to acknowledge that the current climate crisis is also caused by centuries of exploitation.

Exploitation in this case refers to the exploitation of people and resources. One group of people who were exploited were indigenous people. The fact is that indigenous people have owned this land for thousands of years and know how to effectively manage the land so that the resources are not exploited. However indigenous people had their land taken from them and are current victims of long term and systematic exploitation. A modern and local example of this is the Skagit River Dam. The Skagit River Dam negatively impacts native salmon populations. Salmon is an extremely important part of Native culture, and the salmon populations of the Skagit river are a fundamental part of the ecological system of the Skagit Watershed. Another example of modern day exploitation is the Sage Grouse. In the past several years there has been a legal battle over mining resources from areas that are habitats of the Sage Grouse. The Sage Grouse is a species that is a victim of exploitation. It is evidence that exploitation of people, resources, and land is a cause of climate change. Calling out companies, governments, laws, and public policy that exploits others and resources is an effective way to combat the climate crisis.

Source: <https://www.blm.gov/programs/fish-and-wildlife/sage-grouse>

<https://www.king5.com/article/news/investigations/sauk-suiattle-indian-tribe-lawsuit-seattle-city-light-dams-skagit-river/281-9b035f87-46e0-4944-89df-8a9cc6ee7a81>

The third factor about climate change is the fact that we have the resources needed to battle climate change. Fossil fuels are the most common power source in the United States, however there are several alternative forms of power available such as solar power and wind power. The use of these resources is a political and economic issue. Coal companies are aware of the fact that coal is only worth money if it is being used. Coal in the ground is worth nothing. Companies that use fossil fuels cannot make money if renewable energy becomes the most common power source.

Source: <https://www.eia.gov/energyexplained/electricity/electricity-in-the-us.php>

The fourth factor that needs to be acknowledged is politics. Politics are a massive factor in climate change. One example of this is the actions of the Koch brothers. The Koch brothers own multiple companies that are directly involved in the fossil fuel industry. They are partially responsible for the growing group of people who believe that Climate Change is a hoax. The responsibility is not only on them, but it is on the government officials who have the power to produce legislation that protects its people, but choose not to. The decision to act on Climate Change has to be bipartisan. The goal is to choose government officials who are committed to a fast effective

response to Climate Change. Voting for legislation that fights Climate Change and protects our natural resources is an important strategy in tackling the climate crisis. The other is holding groups that exploit the planet's resources accountable.

Source: <https://www.investopedia.com/insights/companies-owned-koch-brothers/>

Now that I have acknowledged these factors, I will discuss the problems associated with climate change and how to combat them. There are multiple complex problems associated with climate change, but there are some strategies that will be effective in combating climate change.

Let us start off by discussing the most recent global problem, the emergence of Covid-19. The coronavirus is considered a zoonotic virus. A zoonotic virus is a virus that can be transmitted from animals to people. This problem is caused by overcrowding, habitat loss and habitat encroachment. Species that are victims of habitat loss are most likely to come in contact with human inhabited areas, this increases the chances of the spread of zoonotic viruses. So by actively protecting species habitat, we can reduce the chances of coming in contact with zoonotic viruses. Another factor of new virus transmission is the melting of permafrost. Bacteria and viruses dormant thousands of years are now thawing and have a higher probability of becoming an active virus that could impact the human population. Limiting greenhouse emissions decreases the probability of this happening. The probability of a new virus emerging has increased due to climate change.

Next, is the endangerment and extinction of species. All living things have a role to play in their ecosystems. Every living thing has a purpose and a niche. All living things are part of an interconnected system, including humans. A terrible effect of climate change is the increased rate of extinction of species. When a species disappears from an environment it throws off the entire ecosystem. Species keep each other in check and have a role in protecting the planet. A local example is the Grey Wolf populations in Washington. When wolf populations decrease, prey populations increase, throwing off the balance in a biological community. These prey populations compete for resources, but the resources are spread thin and as a result these prey populations reach carrying capacity and begin to die off. In this scenario the excessive population of deer consumes more vegetation than intended and then the land is more vulnerable to soil erosion because it lacks protection from plant roots. This is a small example of the damage that species extinction and deregulation can do. Therefore, Protecting and preserving habitats is an essential part of combating climate change.

Source:

<https://www.usnews.com/news/best-states/washington/articles/2021-04-23/report-washington-wolf-population-continued-to-grow-in-2020>

Unfortunately, due to climate change there will be more natural disasters, and flooding is expected to be the most common in the upcoming decade. The effects of flooding may be limited by the construction of sea walls, and planting more vegetation

along vulnerable areas to prevent soil erosion. There may not be a way to fully prevent these disasters, but they can be slowed by limiting the production of greenhouse gasses to slow the rate of global warming. In order to limit the amount of casualties due to the climate crisis, the government has a responsibility to provide effective disaster aid, and quick and unhindered release of aid resources.

Figuring out how to slow the rate of climate change is the trillion dollar question of the next century. How do we slow the rate of climate change and how do we repair the damage done to our planet. As mentioned earlier the first step is to completely terminate the use of fossil fuels, while this may take time it is important to begin this process so that we can begin healing the planet. The second, would be repairing the natural structures that protect our planet. The first is protecting forests, a forest produces oxygen and traps carbon dioxide. One way to maintain and protect forests is the promotion of ecotourism, which benefits the economy and the planet. Investing in resources that protect forests is vital to combating climate change.

Source: <https://ecotourism.org/what-is-ecotourism/>

The next component I am going to discuss involves water. The wars of the next century will not be fought over oil, but water. 97 percent of the earth's water is salt water, two percent is frozen or stored as groundwater. The last one percent is the total amount of water that is easily accessible. Unfortunately, over 700 million people do not have access to clean water. Water connects to modern climate policy due to the fact that

many sources of fresh water are contaminated by fracking, which is used in the process of extracting oil or natural gas.

Source: <https://www.worldvision.org/clean-water-news-stories/global-water-crisis-facts>
<https://www.scientificamerican.com/article/fracking-can-contaminate-drinking-water/>

While water plays an important role in our ecosystem, I want to acknowledge the fact that the ocean serves as a carbon sink. A carbon sink stores carbon rather than releasing it into the atmosphere. Because the ocean serves as a carbon sink, the restoration and protection of the ocean is an essential way to combat climate change. The health of our oceans is in jeopardy, the ocean is full of plastic, sea levels are rising and the temperature of the ocean is getting warmer.

A major danger to our ocean is also the fish farming industry. The fish farming industry negatively impacts the ocean because it deregulates the natural biological processes of fish, for example a salmon's spawning process. It also increases the chance of exposing farmed fish to illnesses and disease. Farmed fish are fed with fish meal. In order to produce fish meal, massive amounts of fish are harvested ground up and fed to farmed fish. This process contributes to overfishing and this cycle continues to harm the fish in our oceans. Protecting the health of our oceans is an essential way to combat climate change.

In conclusion, the climate crisis is an evolving, complex and changing problem. But it is important not to lose hope. There are many ways to combat the climate crisis such as: advocating for a healthy environment, working to support pro environmental public policy, produce effective legislation that combats climate change, investing in economic resources that fight climate change, voting for politicians that work to fight climate change, promoting eco-tourism, restoring forests and oceans, protecting habitats and fighting against exploitation of people and resources. Thank you!