# Final Research Report

The Negative Effects of Climate Change

English Composition EN202-ON01

Dr. Kimberly Bunts-Anderson

Dexter Welley

21726

2019/November

Table of Contents

[Cover Page 1](#_Toc24653681)

[Abstract 3](#_Toc24653682)

[Title 4](#_Toc24653683)

[References 12](#_Toc24653684)

[Appendices 13](#_Toc24653685)

### Abstract

Dexter Welley, a Northern Marianas College student from Saipan describes his research process of the negative effects of climate change in the world. Welley wanted to inform the readers of the importance of the environment, and the causes of increase in climate change. Welley researched the changes in the ocean and the temperature, while getting feedback from other NMC students. Welley observed the change in the climate by comparing the weather patterns and temperature scale from years before and present day. Evidence was found that the temperature and sea level has increased due to climate change. These evidences will indicate that climate change is a growing issue not only in the community, but all over the world. The climate change study is important because it informs and illustrates to the readers the importance of climate change, and the negative impacts that it has on the world, and the people all over the world.

### The Negative Effects of Climate Change

 When you hear the words climate change, what comes to your mind? Is climate change something that eases your mind, or does it make you feel worried? If the words climate change does not make you feel a bit worried, then that means you have not noticed the changes that are occurring in the world’s weather patterns. If the word climate change does make you feel worried, then you probably noticed changes in the weather. For example, if you live near the ocean, you will notice that the sea levels are rising. Or if you enjoy taking walks outside, or also just going outside of your house, you will notice that the temperatures have changed. All of these changes that you have seen or heard from peers or seen on the news is known around the world as global warming. But to dive deeper into understanding global warming, one of the biggest issues all over the world would be climate change. Climate change is the change in the weather patterns over time. It is important to learn about this topic because if you are well informed about the dangers of climate change, there can be a chance that we can find a way to slow down the pace of climate change. Being well educated about climate change can help the world find better ways to support their needs, and also in the same time, save the environment that is being affected by climate change. Climate change is a growing issue, and it needs to become a priority for everyone. It is important to try and find alternatives to help not only the people, but also the animals that live in this world, and also to help heal the earth that has been suffering from In this research report, the researcher will provide literature sources, research questions, research process, and analysis of climate change. All of this information is necessary, because it helps support the topic, and shows evidence that climate change has a negative impact not only on the environment, but also the lives of humanity all over the world. Towards the end of this research report, there will be a discussion explaining the findings, and also the how the literature sources helped answered the research questions that the researcher had for climate change. What are the negative effects of climate change? What are ways to help slow the pace of climate change that is affecting the world?

 The most important part of collecting information for this final research report was collecting data from literature sources. These sources include both academic and non-academic sources, but both sources are important for the research report. A total of eight literature sources were found and used to collect information for the research report. The first literature source was written and posted on the Global Climate Change page on the NASA website. According to NASA (2019), the effects of climate change can increase in the future, such as increase in heat waves, a change in rainfall, and an increase in sea levels. The main idea of this literature source was the negative impacts climate change will do in the future. The second literature source that was used in the research report is an article from National Geographic written by Christina Nunez. According to Nunez (2019), rising sea level have continued to rise in the past years. The main cause for the increase in sea levels is the increase in greenhouse gases being released into the ozone layer. Loss of ice sheets, the melting of glaciers, and the expansion of heat temperatures are factors to the change in sea levels. The third literature source is from the National Oceanic and Atmospheric Administration. According to NOAA (2019), the sea level in increasing faster than recent years. Heat temperatures expanding and loss of ice sheets are major factors in rising sea level. Because of this increase, the probability of flooding around the world have increased. Tropical storms will also have a higher probability because it is also affected by the thermal expansion that is warming the ocean. The fourth literature source is from the US National Library of Medicine. The article was written by Nobuo Mimura in the year of 2013. The main purpose of this article was to inform the reader about rising sea levels. According to Mimura (2013), one of the negative effects of climate change is rising sea levels. He also added that the factors of rising sea levels are from loss of ice caps, the sudden change in atmospheric pressure from the change in weather patterns, and last but not least, the movement of tectonic plates. These are all factors that are causing the change in sea levels. Sea levels are continuing to increase over the years, and it could mean trouble for people living on islands. The reason why is because when the sea level rises, then natural disasters such as tsunamis will be much bigger than before. The fifth literature source is from the National Center for Biotechnology Information (NCBI) website. This article has four authors, from Susanta Padhy, Sidharth Sarkar, Mahima Panigrahi, and Surender Paul. The main purpose of this article was to inform readers about the effect’s climate change has on mental health. Due to the increase in temperature, the mental health of people in areas where there is an increase in temperature experience mental health issues such as posttraumatic stress disorder and depression. These health issues are connected to climate change, because when a natural event such as typhoon, tsunami, or drought occurs, the people who have to live through it experience stress from the thought about how should they survive these disasters. The sixth literature source that was used is from the National Center for Biotechnology website, which was written by Julia Hathaway and Edward Maibach. According to Hathaway and Maibach (2018), most of the professional health personnel’s that they interviewed had basic knowledge about climate change. They believed that knowing about climate change can help health professionals find ways to help mediate the stress of people who have mental issues due to climate change. This could help boost the awareness of the people around the world. The seventh literature source that was used is from the NCBI website that was written by George Luber and Natasha Prudent. The main purpose of this article was to inform readers why it is necessary to take on the issue of climate change by using human health as a strategy. According to Luber and Prudent (2009), the probability of tropical cyclones, rising sea levels, and heat waves are higher than 50 percent. With the probability to be higher than 50 percent, that means there will also be diseases going around when these natural events occur. That is why it is important to include health as a issue with the rising issue of climate change, so that there can be a lot of focus on how will the leaders plan to keep moving forward. Last but not least, the eight-literature source that was used is from a website called solar impulse. The main purpose of this site is to show website visitors ways to stop or slow down the pace of climate change. There are many ways that the people can do to slow down the pace of climate change. One of the many ways is to decrease the use of automobiles. Automobiles help release carbon into the atmosphere. Another way could be saving water and energy. This is an effective way because it helps save money, and also reduces the use of energy from electronic devices. These are all the literature sources that was used for the final research report. All of these sources each are unique, and provide information that is used to answer the research questions, and also provide support to information found within the research progress.

 The researcher created research questions that was needed for the final research report. These research questions were used to find information that was related to the topic. All the research questions involve climate change. The eight literature sources that was used to collect information was used to find possible answers that could help solve the researcher’s questions for the topic. The researcher came up with one primary question, and three secondary questions. The primary question is what are the negative effects of climate change? The three secondary questions were how will rising sea levels affect the people living on islands? does climate change have an effect on human health? and will hurricanes or typhoons become stronger in the future? These research questions were used as a guide to find information that was needed for the final research report.

 The researcher gathered information using three different methods. These methods will help the student gather important data for the research report. The methods that was used to collect data was surveys, expert e-mails, and research. The first method of gathering information was through surveys. The student created a survey on a site called surveymonkey.com. The survey had a total of 10 questions. The survey asked questions such as gender and age at the beginning of the survey. The third question was “Do you know what climate change is?” The researcher wanted to use this question to evaluate how many of his peers know what climate change is. The fourth question was “What do you know about climate change?” This question is a follow up of the third question. The fifth question starts to get into more detail about climate change by asking the participants if they believe that climate change is caused by growing human activities. The researcher created question six to get more information about climate change based on the participants opinions. The sixth question was “Name different environmental issues that are caused by human activities.” The seventh question is also opinion based, and the question was “Do you think our government is looking for solutions to help the environment?” The eight question was based on participants knowledge and experience, and the question was “Do you think rising sea levels pose a problem to our islands?” The ninth question that was on the survey was used to ask participants about ways to fight climate change. The question was “Name different ways we could help the environment.” The last question on the survey was asking the participants “How important is the environment to you?” This question is based on the participants opinion, and it is answered by choosing one of the five choice that range from not at all important to extremely important. All these questions were made by the researcher, and it was sent to the google docs site for an evaluation by other students. Right after the evaluation, the student will then distribute the final survey amongst the English Composition students. These students will answer the survey, and the researcher will use the ending results for data that can be used in the findings section of the final research report.

 The second method of gathering information is through expert e-mails. The main purpose of this method is to collect strong information from professionals that are experts with the topic climate change. From experts who had an expertise in oceans and climate change, to experts who are experts in Biology. A total of 10 emails were sent out by the researcher. The names of the experts that the student researcher sent e-mails to was Dr. Tim Barnett, Dr. Virginia Burkett, Dr. Terry Prowse, Dr. Aiguo Dai, Dr. Caspar Ammann, Zena Grecni, David L. Benavente, Dr. Martin Beniston, Jihan Younis, and last but not least, Dr. Terje Bernsten. The researcher sent out an email that requested an email interview with each of them. The email contained a questionnaire for the experts to answer. The questionnaire had a total of three questions. The three questions in the questionnaire asked the experts what does the word climate change mean to you? The second question was what impacts will climate change have in the future? The last question asked is there a way to fight climate change? The answers for the questionnaire from the experts will be strong information that can be used.

 The third method of gathering information is the most common. The third method of gathering information is through research. The researcher plans to collect information by doing research on literature sources about climate change. A total of 8 literature sources were used for gathering data for the research report. The sources came from articles from websites that release news about climate change. NCBI, NOAA, and NASA were few of the sources that was used to collect information.

 After all the researching and collection of data, the researcher was able to gather information from the surveys. A total of 35 students participated in completing the climate survey given by the researcher. The findings in the survey found that there were more females than males that took the survey. There was a total of 27 females, and 8 males. More than 80 percent of the survey participants were in the age group of 18 to 24, while the others were over the age of 24. Another survey question showed that more than 90 percent of the students knew what climate change is. There were even able to mention in the survey some of their thoughts about climate change. Some participants stated that climate change is the change in climate patterns, and also stated that climate change is related or part of global warming. It was surprising that many of the participants knew what climate change meant. More than 95 percent of the survey participants believed that climate change is caused by human activities. They stated that pollution, deforestation, human waste, and greenhouse gases are all human activities that contribute to affecting climate change. In another question that asked if they believed the government is finding a solution for climate change, a total of 60 percent chose no, and the other 40 percent chose yes that the government is working on a solution. Because most of the participants knew some basic information about climate change, they believed that the rising sea levels could be a future issue for islands. The participants answered ways to help the environment. They said that recycling, finding alternative sources, and to stop littering are useful ways people around the world should follow to protect the environment against growing issue of climate change. All the participants were interested in the safety of the environment because they believed that they environment is very important to them.

 Climate Change is a rising issue in the world, and it must be a priority for everyone. If the people continue to destroy the parts of the world, then the future generations will have to face the consequences of living in a dying world. The negative effects of climate change that we have to face is now occurring much more often. The probability scale has reached an all-time high, and some people wonder if the pace of climate change can slow down. According to Luber and Prudent (2009), the probability in 2009 of hurricanes was higher than 50 percent. Ten years has gone by, so that means that the chances of it occurring will be higher and also it will be even stronger. Hurricanes or tropical cyclones will now be stronger than the ones that occur before them. Not only will hurricanes be affected, but rising sea levels, and rising temperatures will also be an issue. According to Nunez (2019), the rising sea levels that we are all seeing is being affected by the rise in temperature, the loss of ice sheets, and the melting of glaciers that are also being affected by the rising temperatures. When the temperatures increase, it causes glaciers and ice sheets to melt. When they melt, the water is spread across the oceans, causing the sea levels to rise all over the world.

 In conclusion, climate change is really bad for the world. Climate change can cause major problems such as increase in floods, typhoons, and drought. The increase in disastrous events has caused so much damage, and it will take years to repair. The negative effects of climate change include the rise in sea levels, the increase in temperature, and last but not least the increase in natural events such as hurricanes. Data was gathered using three different methods. The methods are surveys, expert e-mails, and reading literature sources. After all the information was gathered, it was proven that rising sea levels, temperature increase, and increase of natural events are negative effects of climate change. If the world is to recover from these negative effects, then the people need to stop littering, and find alternative ways to get to different locations.

# References

Hathaway, J., & Maibach, E. W. (2018, March). Health Implications of Climate Change: a Review of the Literature About the Perception of the Public and Health Professionals. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5876339/>.

Luber, G., & Prudent, N. (2009). Climate change and human health. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2744549/>.

Mimura, N. (2013, July 25). Sea-level rise caused by climate change and its implications for society. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3758961/>

National Oceanic and Atmospheric Administration. (2008, October 27). Is sea level rising? Retrieved from <https://oceanservice.noaa.gov/facts/sealevel.html>

Nunez, C. (2019, February 27). Sea level rise, explained. Retrieved from <https://www.nationalgeographic.com/environment/global-warming/sea-level-rise/>

Padhy, S. K., Sarkar, S., Panigrahi, M., & Paul, S. (2015). Mental health effects of climate change. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4446935/>.

Solutions to global warming: how to stop climate change? (n.d.). Retrieved from <https://solarimpulse.com/global-warming-solutions>.

The Effects of Climate Change. (2019, September 30). Retrieved from <https://climate.nasa.gov/effects/>.

# Appendices

**Appendix A – Pilot Study**

Number of Researchers: 1

Number of Survey Responses: 35

Type of Survey: Survey of Convenience

Survey Questions:

1. Gender
2. Age
3. Do you know what climate change is?
4. What do you know about Climate Change?
5. Do you think climate change is caused by human activities?
6. Name different environmental issues that are caused by human activities.
7. Do you think our government is looking for solutions to help the environment?
8. Do you think the rising sea levels pose a problem to our islands?
9. Name different ways we could help the environment.
10. How important is the environment to you?

**Appendix B - Results of Pilot Survey**

Chart 1. Gender Demographic

Chart 2. Age

Chart 3. Climate Change Basic Awareness

Chart 4. Climate Change Opinion

Chart 5. Political Awareness Demographic

Chart 6. Environmental Awareness

Chart 7. Environment Scale