

Climate on our planet. when climate change occurs;

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Climate Change can be caused by various happenings on our planet. When climate change occurs; temperatures rise at a drastic rate, and when they do many different changes to our planet can occur. It can result in more floods, droughts, intense storms, and even harsh wildfires. Oceans and glaciers have also fallen victim to climate change, with the oceans becoming warmer and the glaciers melting faster.

As these changes happen, they will most likely present challenges for our society and environment in the future. These effects bring out the questions about whether or not such changes are man made, or if they are just natural causes. Therefore, this essay will be based on the argument that climate change is manmade and it is a real occurrence that cannot be ignored any longer. The first question many people ask when on the subject of climate change is, " what is it?" Climate change is defined as; a change in global or regional climate patterns, in particular a change apparent from the mid to late 20th century onwards and attributed largely to the increased levels of atmospheric carbon dioxide produced by the use of fossil fuels. The next question that is always asked is, " How do we know?" Well, for example, the global temperatures have risen by at least 2.

0 degrees fahrenheit since the late 19th century. This change was driven mainly by increased carbon dioxide emissions into the atmosphere. In the past 35 years, warming has begun to occur more often, and 16 of the 17 warmest years have occurred since 2001, 2016 being the warmest year on record. ** Another example of how we know that this is happening is the warming of the oceans, and the melting of Arctic ice. The warming of these waters is causing ice shelves to melt from the undersides, which means they

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are shrinking rapidly. A study was conducted and it found that basal melt accounted for 55 percent of all Antarctic ice shelf mass loss from 2003 to 2008, an amount much higher than previously thought.

** Global sea levels have risen about 8 inches in the last century and this could potentially pose danger upon the Arctic, it's wildlife, and coastal cities like California. Other effects of the oceans warming is that it's killing the coral reefs, which are home to hundreds upon thousands of living creatures and is considered one of the biggest ecosystems on Earth. What is happening is that the waters are becoming too acidic for the coral reefs to thrive, coral reefs are unable to fight against the acidity and are unable to absorb the calcium carbonate they need to survive.

Thus, the coral reefs are becoming bleached and dying, which then affects the animals who relied on those coral reefs to survive, which in turn puts them in danger and, in the long run, affects us in the end. Many scientists agree that the main cause of climate change is the human expansion of the "greenhouse effect" while many others claim it is just a "natural change" or just a "change in the sun" that is making everything warmer. The "greenhouse effect" is warming that results when the atmosphere traps heat radiating from Earth toward space. ** There are five main gases that are contributing to this effect, they are; water vapor, carbon dioxide (the biggest one), methane, nitrous oxide, and chlorofluorocarbons. On Earth, human activities are changing the common greenhouse. In the course of the most recent century the consuming of non-renewable energy sources like coal and oil has expanded the convergence of atmospheric carbon dioxide (CO₂).

This happens on the grounds that the coal or oil burning procedure joins carbon with oxygen in the air to make CO₂. To a lesser degree, the clearing of land for agriculture, industry, and other human activities has expanded groupings of greenhouse gases. These changes are difficult to predict, but many effects seem likely to happen. For example, like stated before, the Earth will become much warmer, and while some regions will be okay with this change in temperature, other regions like the Arctic will not. Meanwhile, plants and other crops will most likely respond well to the increased CO₂ and they will grow more efficiently. But, at the same time, these temperature changes will likely change the areas where these plants and crops grow best, which will affect the makeup of natural plant communities as a whole. Since 1978, many different satellites have measured the sun's energy output. This data shows that there has been a very slight drop in solar irradiance in recent years, so the sun doesn't really appear to be responsible for any of the warming trends we are seeing.

If the warmings were caused by the sun itself, that would mean that scientists would have seen much warmer temperatures in all parts of the atmosphere instead of just one layer. They have observed cooling in the upper layer and more of the warming in the lower layer which is closer to earth. This is because of all of the carbon dioxide emissions and because greenhouse gasses are trapping the heat in the lower atmosphere. As we rolled into 2016, we had no idea that it would become the hottest year on record. January through September had become the hottest months, with October through December becoming the second hottest months. Now, something about January through March and October through December

being warm really can make a person a bit uneasy because those months are supposed to be the coldest, not the warmest on record. The Arctic also experienced its first ever warmest year, as well as finding record low sea ice and it is still decreasing today. According to the International Panel on Climate Change (IPCC), which includes 1,300 scientists from the US and other countries, the global temperature is said to rise 2.

5 to 10 degrees Fahrenheit in the next century. There are many consequences to climate change, and it has already had its effects on the environment. From glaciers shrinking and ice on rivers and lakes melting, to unpredictable weather patterns, wildlife not thriving as great as it used to, and plants blooming earlier than they should. In recent news, National Geographic photographer Paul Nicklen stumbled upon one of the most heart-wrenching sights, a starving and dying polar bear. In the video you can see that the polar bear is walking around on green land which once had ice and snow covering it. This bear is seen rummaging in a trash can for food, but when it doesn't have any luck, it collapses to the ground and doesn't move.

This is the harsh reality of what climate change is doing to the wildlife, not only in warmer areas, but in the arctic areas as well. Nicklen said that he posted the footage to really raise awareness to the threat that climate change is posing on these animals. Polar bears have always been the staple animal of climate change, mainly because it's their environment that gets hit the hardest. In 2002, the World Wildlife Fund (WWF) predicted that if climate change becomes worse, that could lead to polar bear endangerment and even extinction.

Polar bears are not the only ones feeling the effects of climate change. Animals from far and wide are being affected, even in the ocean. Another big living thing that is being affected is the coral reefs. Coral reefs only make up about one percent of the oceans, being called the “rainforests of the sea”, they are home and also a source of food for many living things. The biggest coral reef system in the world is The Great Barrier Reef in Australia.

This reef is home to thousands and thousands of living things and is also a major food source for other sea creatures. It also acts as a barrier which protects inshore habitats and human communities from large waves and severe storms. Coral reefs are extremely important, but due to oceans warming, ocean acidity has risen which is causing the reefs to die.

Coral reefs are also highly vulnerable to ocean acidification. Hard corals and numerous different life forms that add to reef building make their skeletons from calcium carbonate (limestone). The rate of skeleton development, known as calcification, will slow if waters turn out to be more acidic thus the skeletons of these creatures and plants will become weaker over time. Reefs are constantly exhausted by tropical storms as well as animals that eat or tunnel their way through the limestone. For a reef to be kept up, the development of corals and algae needs keep pace with the dying coral. Proceeding with ocean acidification will eventually add to coral loss, weakening, and collapse. Not only are animals and plants being affected, the weather patterns are changing too.

Heat waves and droughts are going to become more prominent, hurricanes are becoming stronger, large forest fires are happening, floods, huge downpours, and many other natural disasters all across the world. In 2017 we have seen four major hurricanes, all being a category 5 or higher and two occurring at the same time. These four hurricanes devastated Puerto Rico, Texas, and Florida.

Hurricanes are not the only crazy natural disasters we have seen in 2017. Wildfires tore through Northern California in October, devastating the land and doing more than 60 billion dollars in damage. And as of December 11, 2017 Southern California is having a wildfire that is bigger than New York City and Boston combined,. So far this fire has burned a total of 230, 000 acres of land in California, becoming the fifth largest wildfire in California. ** While wildfires are common in California in the summer months, it's very unlikely to hear of a fire in California in December. As always in subjects like these, you are likely to find politics. There has always been a sort of competition between scientists, industry, and the people of the government over whether climate change is real and worth "wasting time on".

As of recent, we are officially the ONLY country left that has not signed over to the Paris Agreement. The Paris Agreement (Paris Climate Accord) is an agreement within the United Nations Framework Convention on Climate Change dealing with greenhouse gas emissions mitigation, adaptation and finance starting in the year 2020. To some, signing the agreement might not be a big deal, but this means that this withdrawal from the agreement can hurt the cooperation of other countries in the future.

If the US continues to not give money to the climate mitigation for other countries, then the more industrialized countries will not keep their promise to give 100 BILLION dollars to the climate finance every year until 2020.

That money will cover a huge portion of things we would need to help stop climate change like renewable energy, energy efficiency, forest conservation, and other big projects that reduce greenhouse gases. This money could also help aid in helping poorer countries adapt to the fast-changing climate (i. e.

help protecting cities from flooding). Trump's dislike of the climate policy has really caused a big problem for the future and the progression of the policy because it basically threatens to break a promise that the industrialized countries made together back in 2015 during the Paris talks.. (UN Climate Change, The Paris Agreement)