For as long as I can remember I have had a strong connection to nature. As I've grown up, so has my understanding of how humans and their activities are negatively impacting our precious planet. The more I learn about the devastations climate change is creating on our environment, the more fiery passion I have to help save it. My passion is fueled by my empathy and appreciation for all living things, sharing our planet. I am dedicating my life to help study and find ways to sustainably mitigate climate change. What I want most out of life is to know I helped save our planet while inspiring others to do so with me, and to give our next generations a future.

Climate change is a serious threat to the health of our planet as well as all people. The CO2 we are releasing into the atmosphere is putting distress on the interconnected systems in our environment. This distress is shown in the increasing overall temperature of our atmosphere which causes changes in the wind, moisture, and heat circulation patterns. These changes in our environment are increasing the intensity and frequency of extreme weather events, including extreme heat events. With the impacts of climate change already being felt in the United States, it is becoming more evident that climate change is real and has devastating impacts that come along with it. Now medical professionals like doctors and nurses are showing how climate change has started to have a negative impact, even lethal, to our health due to the increasing temperatures. Unless individuals and communities find a way to mitigate these new exposures and adapt, we will see a substantial rise in heat-related deaths.

Exposure to extreme heat is responsible for the most deaths from severe weather conditions in the United States ("List of Severe Weather Fatalities", 2013). Heat exposure has been associated with harmful health outcomes, even fatal, such as heat stroke, heat exhaustion,

and can worsen preexisting cardiovascular and respiratory issues (U.S. Department of Health and Human Services). The Natural Resources Defense Council (NRDC) estimates the temperature in the United States could rise as much as 11 degrees Fahrenheit by the year 2100 ("Heat-Related U.S. Deaths", 2012) . The NRDC also estimates that up to one hundred and fifty thousand Americans will die from climate change by the end of the century ("Heat-Related U.S. Deaths," 2012).

There are quite a few cities throughout the United States, like Chicago, Cincinnati, Philadelphia, and St. Louis, that have already had increased death rates during heat waves (U.S. Department of Health and Human Service). The Midwest, especially Chicago, Illinois, is quite vulnerable to a dangerous combination of heat and humidity by the end of the century. Each year the summer days in Chicago are getting hotter, and that poses a reminder to Chicagoans of the deadly 1995 heat wave. The 1995 heat wave lasted about four days and took the lives of 739 people in Chicago ("Rising Temps Bring Back Haunting Memories", 2018). Their vulnerable populations were hit hardest: the elderly, young children, and those who couldn't afford air conditioning.

Some may dismiss the dangers of extreme heat that kills approximately 1,300 Americans a year because state morality numbers are low. These numbers are low because hospitals and health care providers don't have to report heat-related illnesses. The problem is heat-related deaths are often "misclassified or unrecognized", according to the Centers for Disease Control and Prevention ("Picture of America Report: Heat-Related Illness", 2017). CDC uses deaths certificates to make their estimates of heat-related deaths. They make the estimate by counting deaths that account exposure to excessive heat as a possible underlying cause ("Picture of

America Report: Heat-Related Illness", 2017). For example, someone who dies from having a heart attack during a heat wave might not be counted as a heat-related death, even though it is very likely the exposure to the extreme heat triggered the person to have a heart attack. Due to the variety of symptoms that come along with heat-related illnesses and the possibility of already existing medical conditions worsening from it, the cause of death is often misdiagnosed.

Mitigation and adaptation are required in order for Chicago to lessen the impacts of global warming on their citizen's health. Mitigation is necessary because it will reduce the carbon emissions and the likelihood of extreme conditions. Adaptation is also necessary because it will lessen the impact of the changes from global warming that we can no longer reverse. My actions I would take to help do this would be sustainable and easily attainable.

The first action I'd take would be planting foliage and trees that are capable of thriving in warmer conditions. The plants will help cool the atmosphere by consuming carbon dioxide through photosynthesis. Trees will also help expand the city's urban forest canopy which will provide cool shade. In a report from the Urban Forestry Climate Change Response Framework Chicago Wilderness Pilot Project, they suggest that, "habitat suitability may remain particularly favorable for pecan, American smoketree, 'Autumn Gold' ginkgo, 'Village Green' Japanese zelkova, sweetgum, yellow-poplar (tulip tree), American sycamore, sweetbay magnolia, and bald cypress" ("Chicago Wilderness Region", 2017). Although it is believed that these species will be able to survive through climate change, there is no certainty. Due to this, I would not only plant the previously listed species, but a variety of other species to create the best odds to keep healthy trees for future generations.

The second thing I would do is install reflective and green roofs to cool homes and the city in general. Light-reflective roofs will reflect the sunlight that strikes the roof back into the sky, therefore not absorbing the heat from the sunlight resulting in cooler temperatures overall. Green roofs are a layer of plants on the roof which reduces the temperature of the roof by creating shade and negates heat from the air through "evapotranspiration" ("Heat Island Cooling Strategies").

The third thing I would do is put in cool pavements that are lighter in color which reflects solar energy and enhances water evaporation ("Heat Island Cooling Strategies"). This will reduce the temperature of the pavement and air surrounding it. Urban heat islands are metropolitan areas that have a higher temperature from all the activity going on. These areas are most vulnerable to the extreme heat conditions and will need these heat-reducing strategies done most.

Last but not least, I would provide resources for citizens to be able to adapt to heat waves and know the correct way to respond to them. I'd raise awareness about the risks of extreme heat events triggering heat-related illnesses on multiple platforms like the local news channel, newspaper, social media, posters, and billboards. Along with speaking of the risks of extreme heat events, I'd explain when and how to seek treatment for heat related illnesses. I'd give citizens who may not have air conditioning a cool place to go, like public buildings such as libraries, human services centers, park buildings, and public schools.

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