Annotated Bibliography

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Chen, Y., Zhang, Z., & Tao, F. (2018). Impacts of climate change and climate extremes on major crops productivity in China at a global warming of 1.5 and 2.0° C. Earth System Dynamics, 9(*2*), 543-562. Retrieved from https://www.earth-syst-dynam.net/9/543/2018/esd-9-543-2018.pdf

The article attempts to demystify how global warming affects the growth and productivity of rice, wheat, and maize. The agricultural production of crops is one of the contributing factors to global warming. As agriculture is practiced in almost all nations globally, the levels of global warming are set to keep increasing. Increasing temperatures can potentially shorten the duration that certain crops take to grow, but it also reduces crop yield across a wide area. The frequency and severity of extreme weather-related events, such as typhoons, hurricanes, and heat stress, substantially impact crop growth, and in effect, food security. The authors use a well-validated model of ensemble simulation to capture the relationship between weather and the crops. In their research, they noticed spatial patterns of alterations of the duration the plants took to grow, total yield and yield variability, the probability of crop yield reduction, and the impacts of heat on the crops. From the observations, they point out that global warming could potentially have adverse effects on the production of the three plants. The adverse effects are attributed to a reduction in crop growth duration and an increase in extreme weather-related events. The authors note that global warming is mostly associated with changes in spatial-temporal patterns of rainfall and temperature.

The article is key to my argument of how global warming impacts food security differently in different parts of the world. The duration that plants take to grow affects crop yields. Global warming leads to short plant growth durations, and thereby reduced crop yields. Variations in temperature and precipitation that are characteristic of global warming also affect crop growth duration. The impacts of global warming on crop yield are not all negative since a small raise in mean temperature in some areas can enhance crop canopy photosynthesis, which in turn impacts biomass accumulation and, eventually, crop yield. It shows that the effects of global warming on crop growth duration are not uniform globally. The researchers conduct tests in controlled environments in China, and their findings have low generalizability. They write an immaculate research paper with factual data, which speaks to the reality of the global warming phenomenon. However, the language in the second and third sections of the article is complex and filled with technical jargon, making it hard for a non-specialist to grasp the researchers' arguments. However, the abstract, introduction, discussion, and conclusion sections are enough for me to build a framework for my case on how global warming affects crop yield and, thereby, food security.

Henderson, R. M., Reinert, S. A., Dekhtyar, P., &Migdal, A. (2015). Climate Change in 2018: Implications for Business. *Harvard Business Review.* Retrieved from https://www.hbs.edu/environment/Documents/climate-change-2018.pdf

The article attempts to summarize the known causes, impacts, and ramifications of global warming. It begins by acknowledging global warming as one of the central issues facing the modern world. Emissions of greenhouse gases cause global warming through human activities, and their impacts are severe. Among the effects discussed in the article include rising sea levels, extreme weather and unpredictable weather patterns, pressure on the water and food available for human consumption, and social health risks. Global warming leads to increased temperatures, which melt ice fields and cause oceans to expand. Rising temperatures also imply that the atmosphere has an increased capacity to hold water vapor, thereby leading to higher rainfall in saturated conditions and reduced rainfall in under-saturated states. It results in typhoons and hurricanes in some areas and drought and famine in others. Global warming also puts pressure on food and water availability. The production of food is mainly contingent on the availability of water. Water shortage threatens the viability of agriculture. There are also various human health risks associated with global warming. For instance, Rising temperatures increase the chances of heat injuries and mortality, especially during heatwaves. Insects and other disease carriers also tend to move to higher latitudes, thereby increasing the risks of water and vector-borne diseases.

The article is divided into several sections, and the third section (the impacts of climate change) is the most relevant to my paper. It explores the full range of effects that rising concentrations of greenhouse gases in the atmosphere are expected to have. With over 60 percent of the world's major cities located in coastal regions, increasing seas levels could submerge vast expanses of land and displace nations. Islands are also at an increased risk of being flooded. The authors present a long, yet articulate discussion into global warming, its impacts, and how to respond to rising greenhouse gas emissions in a bid to save the planet. I intend to use the authors' arguments on extreme weather-related events, changing temperature and precipitation patterns, pressure on water and food availability, and human health risks as frameworks for my paper. I will use them to show how global warming is constraining the planet and call for action to advocate for a paradigm shift in how we use natural resources to leave enough to sustain future generations. Doing so will reduce the level of greenhouse gases emitted globally and reduce global warming levels.

Howard, C., & Huston, P. (2019). The Health Effects of Climate Change. Canada Communicable Disease Report, 45(*5*): 114-118. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6587682/pdf/CCDR-45-114.pdf

The report highlights some initiatives designed to reduce greenhouse gas emissions and address the health impacts of global warming. The authors focus on the human health impacts of global warming and note that it is a serious global issue. Considering that Canada is warming at approximately twice the global rate, the report predicts a further increase in health risks. Most of the initiatives to reduce emissions revolve around the Paris Agreement. However, the authors cite growing evidence of health threats related to global warming. For instance, food security is threatened, and ice travel security is reduced. Rising temperatures are also associated with increased strain on mental health. Other human health effects of global warming cited in the report include heat strokes and deaths related to an increasing number of heatwaves, which last longer than before and extreme wildfires associated with scorching temperatures. The latter leads to prolonged episodes of severe air pollution respiratory problems in humans. Global warming is also associated with floods, which lead to societal disruption and personal loss. The authors cite evidence of a spike in cases of anxiety and post-traumatic stress disorder (PTSD) among individuals who have been affected by fires, floods, and other extreme weather-related events. Ostensibly, global warming increases stress on human health, health care facilities, and health care providers.

The article is central to my argument that global warming indeed affects human health negatively. It reviews the significant social health complications that are associated with this global phenomenon. Developing a deeper understanding of the human health effects of global warming is one of the most effective ways to motivate action. Moreover, healthcare professionals are among the most trusted messengers in communities all over the world. As such, highlighting the effects of global warming from a human health perspective could spur policymakers into action in a bid to protect the planet. The authors provide an accurate report that is well-researched and written in a language that every reader can grasp. They also employ a persuasive tone to encourage communities to increase their awareness of the health risks posed by global warming so that everyone can be part of the solution. They present their findings and recommendations from both a local (Canadian) and global perspective. The article appears in a peer-reviewed journal on infectious diseases, which makes it a reputable academic source. I intend to use it in my paper as a framework for my argument about how global warming impacts the planet from a human health perspective.

References

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