

## **Working Topic**

The topic of the research paper is climate change. According to the National Geographic Society (2019), climate change is defined as the long-term alteration of temperature and weather conditions in certain regions. The main cause for the alternation of the current climate is human activities such as burning fossil fuels, oils and coal. Such activities release greenhouse gasses which trap heat from escaping the Earth's surface. Consequently, this results in increasing temperatures, melting of ice in arctic regions and a significant rise in sea level. The abovementioned consequences of climate change result in the population decline of many species of animals including Sea Lions.

This paper will argue that climate change is indeed responsible for the endangerment of Sea Lions. And I will not be focusing on one region only as populations of Sea Lions exist in many regions. This is significant to my research as climate change impacts each population of Sea Lions differently depending on the region.

## **Brief Introduction**

My interest in the topic of climate change began in high school when my teacher showed the class a video of an iceberg that has broken off Greenland. The Iceberg that was broken off was twice the size of Manhattan and is now melting at a concerning rate. This led to the habitat destruction of many arctic species and resulted in a significant increase in sea levels. A combination of this video and many more that I have seen in high school is honestly what inspired me to study Environmental science. I personally believe that writing papers about environmental issues is crucial as we all live in one world and the acts of one person can either harm or benefit the environment around us. Therefore, by speaking about the negative impacts of climate change on Sea Lions, I hope that I have raised awareness on the issue.

What I know so far about my topic is that most of the time climate change does not directly harm Sea Lions, However, it facilitates other processes which do. For example, the increase in temperatures as a result of climate change has provided harmful algae with optimal conditions for growth. This results in the formation of harmful algal blooms or HABs which produce toxins that are harmful to Sea lions. According to Sha et al. (2021), More than 400 Sea Lions have died consuming fish containing toxins produced by HABs.

### **Research Questions and Methods**

My research question is: “Is climate change responsible for the endangerment of Sea Lions. To explore this question further I came up with 3 secondary research questions.

- 1) What are the negative environmental impacts of climate change on the populations of sea lions?
- 2) Is climate change the only reason for the decline of the population of sea lions? If not, what are the other causes of their decline?
- 3) To what extent does climate change amplify processes that lead to the endangerment of sea lions?

By addressing these secondary research questions, I hope to convince my audience of my stance on the issue.

I will address and refute some of the counterarguments related to my thesis to clear any doubts that the audience may have. Throughout my research, I will be relying on secondary sources to support my arguments. To provide more focused research I will be utilizing a variety of scientific and trustworthy databases such as Science Direct, Jstor, ProQuest and PubMed.

## References

Dueñas, A., Jiménez-Uzcátegui, G., & Bosker, T. (2021). The Effects of Climate change on Wildlife Biodiversity. *Climate Change Ecology*.

National Geographic Society. (2019). *Climate Change*. Retrieved from

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

Sha, J., Xiong, H., Li, C., Lu, Z., Zhang, J., Zhong, H., . . . Yan, B. (2021). Harmful algal blooms and their eco-environmental indication. *Chemosphere*.

The first source in the references list talks about plant productivity which is the amount of energy that plants add to their bodies in the form of biomass. In simple terms having a high plant productivity means that there is a higher abundance of food that can sustain many species. However, climate change reduced the overall productivity which meant that sea lions had limited feeding opportunities resulting in the decline of their populations. I plan to use this source to support my argument that climate change is responsible for the endangerment of Sea Lions.

I would like to note that the second source in the references list is not an example of a high-quality source. I used that source in the working topic section.

The third source in the references list talks about Harmful Algal Blooms or HABs. Harmful algae have optimal temperature conditions for growth. This journal article discusses how climate change has helped harmful algae achieve these optimal conditions which allowed them to grow at a rapid rate causing HABs. These harmful algae produce toxins that bioaccumulate in fish, and when the Sea Lion feeds on those fish it could lead to death. I also

plan to use this source to support my argument that climate change is responsible for the decline of Sea Lion populations.

### **Planning**

Week 4	I barely have any assignments this week, so I will use this to conduct more research and get start working on the proposal if I can
Week 5	I have an environmental chemistry midterm this week so I will have minimal time to work on the paper
Week 6	I must keep in mind that the proposal Is due this week. So, I must make sure it is done as early as possible so I can take it to the writing center.
Week 7	This is my best opportunity to get a head start on my working draft. I have almost no assignments so far on this week
Week 8	I have two midterms this week, one for Arabic Heritage and one for Introduction to environmental and water engineering so I will not be working on my paper
Week 9	Working draft is due this week, I will make sure to finish it as early as possible so I can have time to take it to the writing center and fix all the mistakes.
Week 10	This week is a bit tough I have a quantitative analysis midterm on top of the progress report. Therefore, I need to be wary of this week.
Week 11	I have few quizzes this week, one for Arabic heritage and one for introduction to environmental to water engineering. This week I need to fix my professors comments for my final paper.
Week 12	I have 2 midterms this week therefore, I have no time to work on the paper

Week 13	Finalize the paper and take it to the writing center for the last time
Week 14	Final paper submission due this week, hopefully it was and should have been finished last week