International Journal of Pure and Applied Zoology
Volume 11, Issue 4, pp: 181, 2023
http://www.alliedacademies.org/international-journal-of-pure-and-applied-zoology/

ISSN (Print) : 2320-9577
ISSN (Online): 2320-9585

Short Communication

THE THREAT OF CLIMATE CHANGE ON SEA TURTLES

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INTRODUCTION

Sea turtles have been around for over 100 million years, surviving through many environmental changes. However, the threat of climate change is proving to be one of the most significant challenges to their survival. As global temperatures rise and oceans become more acidic, sea turtles face a range of impacts that are already affecting their populations worldwide. The impacts of climate change on sea turtles can be grouped into two broad categories: direct and indirect. Direct impacts include the effects of increased temperatures and rising sea levels on the turtles themselves, while indirect impacts relate to the availability of food and changes in their habitat. One of the most obvious direct impacts of climate change on sea turtles is the rise in sea levels. As sea levels continue to rise, it's becoming increasingly difficult for turtles to find suitable nesting grounds. Many beaches that were once ideal nesting sites are now flooded, and the turtles are forced to lay their eggs in suboptimal locations. The increased water levels also mean that hatchlings have a greater distance to travel to reach the sea, and many are lost to predators or exhaustion along the way [1].

Rising temperatures are also affecting the sex ratio of sea turtle hatchlings. The gender of a sea turtle is determined by the temperature of the sand surrounding the eggs during incubation. If the sand is too hot, more females will be produced, while cooler temperatures will result in a higher proportion of males. With the increasing temperatures caused by climate change, many nesting areas are now producing more females than males. This imbalance can have significant consequences for the long-term survival of the species. In addition to the direct impacts of climate change, sea turtles are also facing a range of indirect effects. One of the most significant of these is the impact of changing ocean currents on the availability of food. As the oceans warm, many species of fish and jellyfish are moving to cooler waters, leaving the turtles with fewer food options. This, in turn, can lead to malnutrition and weakened immune systems, making the turtles more vulnerable to disease and other threats [2].

Another indirect impact of climate change on sea turtles is the changing nature of their habitat. Coral reefs, seagrass beds, and mangrove forests are all essential components of the sea turtle's ecosystem, providing shelter, food, and breeding grounds. However, these habitats are under threat from a range of climate-related impacts, including ocean acidification, sea level rise, and ocean warming [3]. If these habitats disappear or become degraded, the turtles will be left with fewer places to go and may struggle to find adequate food and shelter. While the threat of climate change to sea turtles is significant, there is some hope. Researchers and conservationists are working to find ways to mitigate the impacts of climate change on these iconic creatures. One approach is to identify and protect the nesting sites that are most likely to remain suitable for sea turtles in the future. By doing so, we can help ensure that the turtles have a fighting chance of surviving in a changing world. Another approach is to reduce our carbon footprint and slow down the pace of climate change [4]. This means reducing our reliance on fossil fuels and investing in renewable energy sources such as wind and solar power. By taking action to reduce our impact on the planet, we can help ensure that future generations of sea turtles have a chance to thrive.

Migration and foraging patterns: Climate change is also affecting the migration and foraging patterns of sea turtles. In some cases, turtles are traveling farther or to different areas to find food, as the distribution of their prey shifts due to warming waters or changing ocean currents. This can be especially challenging for young turtles, which may not have developed the ability to navigate or find food as effectively as older individuals. Disease susceptibility: Sea turtles are already prone to a range of diseases and health issues, and climate change can make them even more susceptible. For example, warmer waters can create a breeding ground for harmful algal blooms that produce toxins that can sicken or kill turtles [5]. In addition, warmer temperatures can weaken turtles' immune systems, making them more vulnerable to infections and other health problems.

In conclusion, sea turtles are facing a range of impacts as a result of climate change. Rising temperatures, changing ocean currents, and the loss of vital habitats are just some of the challenges these creatures are up against. However, with the right conservation measures and a concerted effort to address climate change, there is still hope for the future of these iconic animals. As we continue to learn more about the threats facing sea turtles, it's up to all of us to take action and work towards a more sustainable future.

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Received: 21-June-2023, Manuscript No. IJPAZ-23-102283; **Editor assigned:** 23-June-2023, PreQC No. IJPAZ-23-102283 (PQ); **Reviewed:** 30-June-2023, QC No. IJPAZ-23-102283; **Revised:** 11-July-2023, Manuscript No. IJPAZ-23-102283 (R); **Published:** 15-July-2023, DOI: 10.35841/2320-9585-11.4.181

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