

# Contemporary Health Issues and Environmental Impact

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## **Chapter 5**

### ***Impact of Climate Change on Parasitic Diseases: Do We Need to Bother?***

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## IMPACT OF CLIMATE CHANGE ON PARASITIC DISEASES: DO WE NEED TO BOTHER?

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Anthropogenic activities over the last few decades have seriously aggravated the climatic conditions and have accelerated the climatic change pushing the entire race on the brink of a perilous situation. The direct impact of such changes observed in the form of global warming have attracted human attention but the indirect consequences are far more dangerous because they don't produce direct tangible results. Effect of climatic change on parasitic diseases is one such indirect consequence. Studies show that the increase in temperature and alteration of weather patterns can cause changes in the spatial distribution pattern of various disease vectors. The abundance of vectors, rates of biting, survival rates and the range of reservoir hosts also tend to increase in warm climates. The current work seeks information regarding various effects of climatic changes on parasitic diseases and their outcome.

**Keywords:** Climate change, parasitic diseases, Vectors, Anthropogenic activities, Positive feedback loop

### Introduction

Climate may be defined as the average state of the lower strata of atmosphere that includes land and/or water and their interactions therein. It is usually referred on a regional basis with a time span of several years. Population explosion in the last decade has forced the human civilization to forage into previously undisturbed areas in search for food, water and shelter for the millions. This had resulted in habitat encroachment and destruction of the biotic structure by the aid of technological masterminds. These anthropogenic activities have accelerated the rate of climate change in its wake that would have been otherwise had the nature been left to itself.

The impact of climate change has far-

reaching effects that have become evident only lately after they have silently crept in without any warning. The scientific community has revealed astounding results regarding the effects of climate change that is much beyond the direct environmental impacts of global warming alone. The studies show that the increases in temperature and changes in weather pattern brought about by climate change may change the spatial patterns of several disease vectors as well as human population.<sup>1</sup> Moore et al. stated that increased temperatures favour the development of parasite-carrying arthropod vectors and the parasites as well.<sup>2</sup> Warm climates reportedly serve to increase the range of reservoir hosts, the abundance of vectors and the transmission rates of





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