# Chapter 6
# Impact of Climate Change on Student's Health in the DIT University, Dehradun, Uttarakhand State of India

**Ajay Kumar Singh**
https://orcid.org/0000-0003-0429-0925
*Department of Humanities and Social Sciences, Graphic Era University, Dehradun, India*

**Bhim Jyoti Singh**
*V.C.S.G., UUHF, College of Forestry, Ranichauri, India*

**S. Srinivasan**
https://orcid.org/0009-0002-0179-9849
*Department of Humanities and Social Sciences, Graphic Era University, Dehradun, India*

## ABSTRACT

*This chapter examines the health issues of the students due to changing climatic factors in different weather seasons in the DIT University Dehradun during 2021 – 2022. The descriptive analysis is applied to identify the health risks among the students in the presence of changing climatic factors. Linear regression model is also applied to observe the impact of different climatic factors on the prevalence of health issues of the students. The students are facing various health risks like fever, abdomen, diarrhoea, headache, cough, tonsillitis, dehydration, dysentery and asthmatic due to changeability in climatic factors during different weather seasons. The student's health is under risk due to increase in maximum temperature and precipitation during summer season. The student's health improves as maximum temperature increases in the winter season. The students are facing various health issues due to high variability in rainfall patterns during the rainy season.*

DOI: 10.4018/979-8-3693-8532-6.ch006

Copyright ©2025, IGI Global Scientific Publishing. Copying or distributing in print or electronic forms without written permission of IGI Global Scientific Publishing is prohibited.

## 1. INTRODUCTION

Most climatic factors have significantly changed due to natural and human activities since ancient times. While climate change is increasing due to accumulation of GHGs and CO2 emissions in the atmosphere (Haines et al., 2006; Franchini & Mannucci, 2015; Rajput et al., 2023). Therefore, climate change is defined in terms of change in temperature, precipitation and rainfall pattern and solar radiation in the atmosphere (Kaur & Pandey, 2021). Increasing energy consumption and food production and industrial development are also contributing to GHGs emission (McMichael et al., 1996). Change in food habits of the people are also creating enormous challenges for the environment. While, the demand for energy and food are also increasing due to high population growth globally. Consumption of electricity and over utilization of resources are also caused to increase global temperature from $1^0$C to $9^0$C (Rajput et al., 2023). Overpressure of high population growth on ecosystem services is also increasing GHGs emissions. The GHGs emission is causing global temperature to increase at an unprecedented rate. The quantity of GHGs continues to be increased due to over industrialization, urbanization and infrastructural development worldwide. These activities contribute to increased air pollution in the atmosphere (Kaur & Pandey, 2021). However, urbanization may produce positive and negative impacts on human health (Perchinunno et al., 2020). Thereupon, the frequency of rainfall pattern, precipitation, relative humidity, sun intensity and solar radiation are increasing due to the above-mentioned reasons (Rajput et al., 2023). Hence, it is necessary to abate GHGs emissions to improve human health (Etzel & Bhave, 2023).

The ecosystem and environmental resources are unable to maintain the balance of population growth and unequal distribution of population on the planet. Deforestation is also increasing due to increasing population growth, urbanization, industrialization and displacement of population from one place to another. The above-mentioned activities are leading to increasing global temperature, sea level, and variability in rainfall and precipitation. IPCC and UNFCCC are also predicted that at present global temperature would increase more as compared to pre-industrialized period. Human health is in a critical stage due to climate change, environmental degradation and land degradation (Perchinunno et al., 2020). Human health is also negatively impacted due to consumption of poor quality of food, pest and insect germination in food, and food habit changes. Despite that, climate change creates multiple challenges to reduce human health as an increasing frequency of natural disasters, drought, heatwave, and evolving new diseases (Braithwaite et al., 2024; Negi et al., 2025). Previous literature already explains the negative impact of climate change and environmental degradation on human health (Gomez et al., 2021). Changing environmental patterns are also causing an increase in the transmutation of multiple diseases among the people (Rakholia et al., 2021). Past studies provided scientific evidence about the passage of climate change. Therefore, climate change is not a new discussion in the academic and research literature.

Climatic factors have a crucial impact on all sectors related to human development. Human health is highly dependent on climatic conditions. Human body requires different climatic conditions to maintain an active and healthy life. Climatic conditions also play a significant role to increase sustainability of human health in several ways (Epstein, 2001). Human health is supportive to increase the well-being of the society (Roy et al., 2017). For instance, climatic factors work as crucial inputs for the agricultural sector that meet the food requirement of people (Kumar et al., 2016; Jatav & Kalu, 2023). The agricultural sector also meets the fodder requirement of livestock that provide the milk and meat to the people. Thus, milk and meat are the crucial sources to meet the nutritional requirements of the human body and sustain human health. Moreover, rainfall is an important natural resource that increases water availability in the ground and it meets the water requirement for human livelihoods.

26 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:
www.igi-global.com/chapter/impact-of-climate-change-on-students-health-in-the-dit-university-dehradun-uttarakhand-state-of-india/376402

## Related Content

Integrating Artificial Intelligence With Sustainable Practices for Effective Climate Change Mitigation and Environmental Protection
Saurabh Chandra (2025). *Environmental Monitoring Technologies for Improving Global Human Health (pp. 151-170).*
www.irma-international.org/chapter/integrating-artificial-intelligence-with-sustainable-practices-for-effective-climate-change-mitigation-and-environmental-protection/376403

Network and Epidemic Model
(2023). *Controlling Epidemics With Mathematical and Machine Learning Models (pp. 145-192).*
www.irma-international.org/chapter/network-and-epidemic-model/314291

Mental Health Access Background and Framework for Improvement in the Digital Era
LaMeeya Bumphus, Sweta Sneha, Dominic Thomas, Will Ardand Monica Nandan (2022). *International Journal of Applied Research on Public Health Management (pp. 1-14).*
www.irma-international.org/article/mental-health-access-background-framework/290374

Sustainability Practices: Local and Global
Jeffrey S. Seppi (2021). *Stakeholder Strategies for Reducing the Impact of Global Health Crises (pp. 132-149).*
www.irma-international.org/chapter/sustainability-practices/282865

A Methodological Consideration and Methodological Design Suitable to Examine Teenage Pregnancy
Melissa Jordan (2019). *Socio-Cultural Influences on Teenage Pregnancy and Contemporary Prevention Measures (pp. 33-42).*
www.irma-international.org/chapter/a-methodological-consideration-and-methodological-design-suitable-to-examine-teenage-pregnancy/211432