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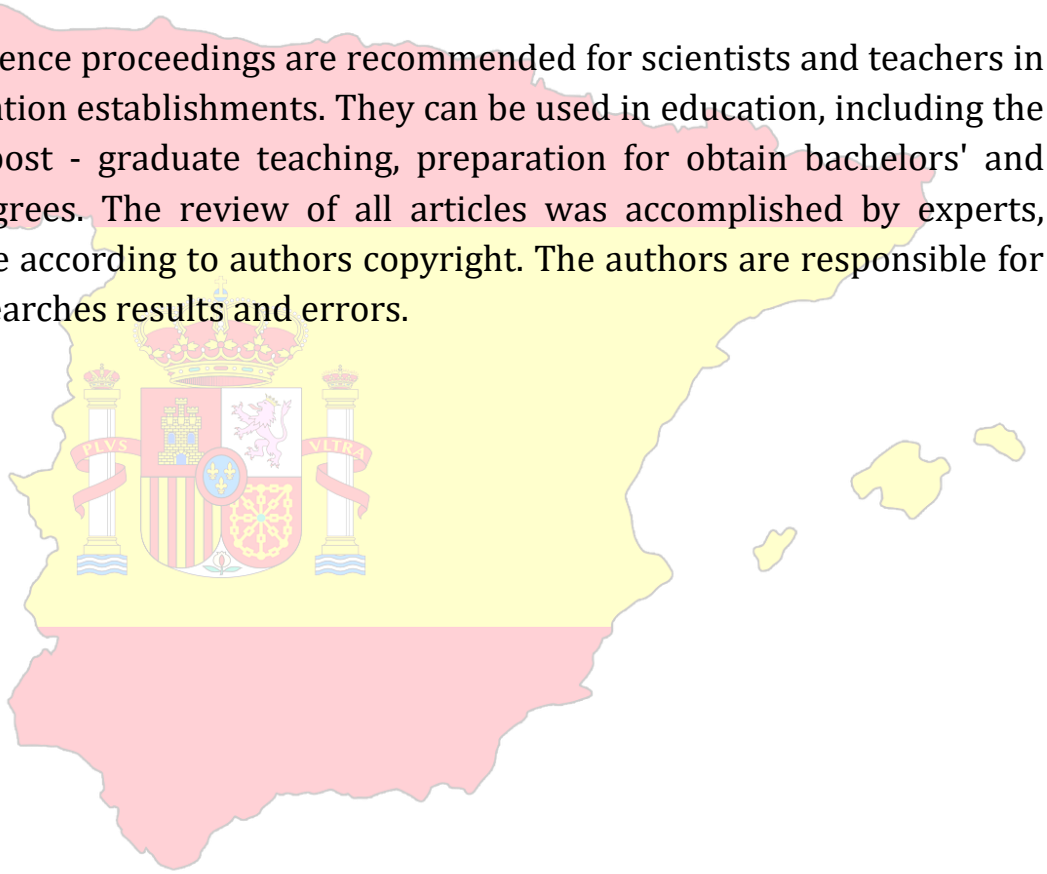

The Impact of Climate Change on Biodiversity

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Abstract. This article discusses the impact of climate change on biodiversity. Biodiversity plays an important role in maintaining ecological balance and supporting life on Earth. However, climate change has become one of the major threats to plants, animals, microorganisms, and ecosystems. Rising temperatures, changes in rainfall patterns, droughts, floods, and extreme weather events negatively affect the habitats and survival of many species. The study shows that climate change may cause habitat loss, species migration, population decline, and extinction risks. Human activities such as deforestation, pollution, and the overuse of natural resources also increase the negative effects of climate change on biodiversity. Therefore, protecting natural habitats, reducing greenhouse gas emissions, creating protected areas, and raising environmental awareness are necessary for biodiversity conservation and sustainable development.

Keywords: biodiversity, climate change, ecosystem, habitat loss, species migration, extinction, environmental protection, sustainable development.

Biodiversity is one of the most important foundations of life on Earth. It includes the variety of plants, animals, microorganisms, and ecosystems that support natural balance and human well-being. Biodiversity provides people with food, clean water, medicine, fresh air, and other essential resources. However, in recent years, climate change has become one of the major threats to biodiversity. Rising temperatures, changes in rainfall, droughts, floods, and extreme weather events negatively affect the habitats of many living organisms. As a result, some species are forced to migrate, while others face the risk of extinction. Therefore, studying the impact of climate change on biodiversity is very important for protecting nature and ensuring a sustainable future.

Biodiversity and climate change have been widely studied by many researchers because both issues are closely connected with the stability of ecosystems. According to biological studies, biodiversity plays an important role in maintaining ecological balance, supporting food chains, and preserving natural resources. Scientists emphasize that ecosystems with high biodiversity are usually more stable and can better adapt to environmental changes.

Previous research shows that climate change has a serious impact on different species and their habitats. Rising global temperatures, changes in precipitation, droughts, floods, and other extreme weather conditions affect the survival and reproduction of plants and animals. Some species are able to adapt or move to new areas, while others cannot survive in rapidly changing environmental

conditions. As a result, climate change may lead to habitat loss, changes in species distribution, and even extinction.

Many studies also highlight that human activities such as deforestation, industrial development, pollution, and excessive use of natural resources increase the negative effects of climate change on biodiversity. Researchers suggest that protecting forests, reducing greenhouse gas emissions, conserving endangered species, and creating protected areas are important measures for biodiversity conservation. Therefore, the existing literature confirms that climate change is one of the main global threats to biodiversity and requires urgent attention from scientists, governments, and society.

This study is based on a qualitative research method. The main purpose of the research is to analyze the impact of climate change on biodiversity by studying scientific articles, books, reports, and other reliable sources related to biology and environmental science. In this study, the literature review method was used to collect and examine information about biodiversity, climate change, habitat loss, species migration, and extinction risks.

The research focuses on secondary data, because the topic requires the analysis of existing scientific knowledge and global environmental trends. Different sources were compared in order to identify the main effects of climate change on plants, animals, microorganisms, and ecosystems. Special attention was paid to the causes of biodiversity loss, such as rising temperatures, droughts, floods, changes in rainfall, deforestation, and pollution.

The collected information was analyzed descriptively. This means that the study explains the problem, describes the main findings from previous research, and shows the relationship between climate change and biodiversity loss. This method helps to understand how environmental changes influence living organisms and why biodiversity conservation is important for the future of the planet.

Results and Discussion

The results of the study show that climate change has a significant negative impact on biodiversity. The analysis of scientific sources indicates that rising temperatures, changes in rainfall patterns, droughts, floods, and extreme weather events affect the natural habitats of many species. As a result, plants, animals, and microorganisms may lose their suitable living conditions, which can reduce their population and threaten their survival.

One of the main findings is that climate change causes changes in species distribution. Some species move to cooler areas or higher altitudes in order to survive. However, not all organisms can adapt quickly to new environmental conditions. Species with limited mobility, small populations, or specific habitat requirements are especially vulnerable. This situation may increase the risk of extinction for many plants and animals.

The study also shows that climate change affects food chains and ecosystem balance. For example, changes in temperature and seasonal patterns can influence flowering periods, migration times, and breeding cycles. If these natural processes

are disturbed, the relationship between species may also change. This can lead to a decline in ecosystem stability and reduce the ability of nature to provide important resources such as clean air, water, food, and medicine.

In addition, human activities such as deforestation, pollution, industrial development, and the overuse of natural resources make the problem more serious. These activities destroy habitats and reduce the ability of ecosystems to adapt to climate change. Therefore, biodiversity loss is not only the result of climate change but also the consequence of human pressure on nature.

Conclusion. In conclusion, biodiversity is essential for maintaining the balance of nature and supporting life on Earth. The study shows that climate change has a serious negative impact on biodiversity by changing habitats, increasing temperatures, disturbing rainfall patterns, and causing more frequent extreme weather events. These changes affect the survival, migration, and reproduction of many plant and animal species. As a result, some species may decrease in number or even face extinction. The research also shows that human activities, such as deforestation, pollution, and the excessive use of natural resources, make the effects of climate change more severe. Therefore, protecting biodiversity requires urgent action at local and global levels. Reducing greenhouse gas emissions, protecting natural habitats, creating protected areas, and raising environmental awareness are important steps toward biodiversity conservation.

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