

The Role of Wetlands in Climate Change Mitigation

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Abstract. Wetlands are among the most productive ecosystems, playing a vital role in climate change mitigation. This paper discusses how wetlands sequester carbon, regulate water cycles, and support biodiversity. It examines the threats posed by human activities and climate change to these ecosystems and highlights the need for conservation efforts. By analyzing current policies and conservation strategies, the paper provides insights into how wetlands can be preserved and restored to enhance their ecological functions.

Keywords: wetlands, climate change, carbon sequestration, biodiversity, conservation

Introduction

Wetlands, often referred to as the kidneys of the landscape, are essential for maintaining ecological balance. They support a wide range of plant and animal species, regulate water cycles, and act as significant carbon sinks. However, these critical ecosystems are under threat from various human activities, including agriculture, urbanization, and industrialization, as well as the impacts of climate change. This paper explores the multifaceted role of wetlands in mitigating climate change effects by sequestering carbon and supporting biodiversity. The study reviews current conservation strategies and policies aimed at preserving wetlands, emphasizing the need for comprehensive approaches that integrate scientific research, policy-making, and community involvement. By highlighting successful case studies and identifying areas for improvement, the paper aims to contribute to global efforts in wetland conservation and management.

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