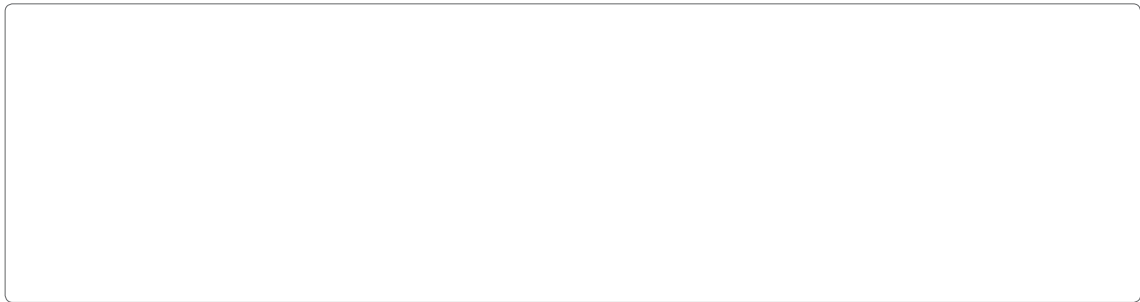


Environmental Mon

The study demonstrates the potential of remote sensing as an essential tool and decision-making.



Keywords: Environmental monitoring; Remote sensing; Ecosystem health; Satellite imagery; Vegetation cover; Biodiversity assessment; Land use change

Introduction

Environmental monitoring plays a pivotal role in understanding the health of ecosystems, particularly in today's rapidly changing environment. Traditional ground-based monitoring methods often fail to provide the necessary spatial and temporal coverage required to track the complex dynamics of ecosystems. However, remote sensing technologies offer a compelling solution by enabling the observation of large and often inaccessible areas with minimal disturbance. The ability to acquire data on vegetation, land cover, water resources, and other critical components of ecosystems makes remote sensing an invaluable tool for assessing ecosystem health over time.

This paper focuses on using remote sensing for monitoring ecosystem health, with particular emphasis on its application to

to combine it with ground-based monitoring for greater accuracy and reliability. Additionally, the findings of this study emphasize the importance of incorporating remote sensing data into environmental management frameworks to assess the impacts of human activity and to guide conservation strategies. The ability to monitor ecosystems in real-time and across vast areas offers an unprecedented opportunity for proactive environmental management, allowing for more effective responses to environmental challenges.

As environmental pressures continue to rise, the role of remote sensing in ecosystem health monitoring will only become more critical. It provides the means to observe, analyze, and act on changes at scales that would otherwise be impossible with traditional methods. Future research should focus on improving the resolution and accuracy of remote sensing data and integrating it into broader environmental monitoring systems to enhance decision-making processes in ecosystem conservation and management.

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