

Investigation of carbon dioxide sequestration in Georgian oak of Akhaltsikhe *Nodari, Khujadze*

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Annotation

This research delves into the pressing global issue of climate change and its profound impacts on ecology, economy, and society due to escalating global warming. Focusing on the urgent need to CO₂ emissions, the study underscores anthropogenic contributions, including industrialization, firewood consumption, and deforestation, as major drivers of greenhouse gas escalation, specifically carbon dioxide [1]. Examining the context of Georgia, a region experiencing a surge in extreme climate events, the research zooms in on the vital role of forests, particularly the prevalent *Quercus Iberica*, in sequestering carbon. With a specific focus on the Akhaltsikhe municipality in Samtske-Javakheti, Georgia, the study employs meticulous field measurements and sample analyses to unravel the ecological dynamics of *Quercus Iberica*. The detailed methodology encompasses tree species, diameter, height, and distance measurements, leading to a nuanced understanding of how these oak trees respond to environmental shifts. Results showcase carbon sequestration within oak forests, emphasizing the significance of living biomass. The study contributes valuable statistical insights, enhancing the reliability of findings. The conclusion stresses the research's significance for informed forest management and climate change mitigation, advocating for future studies to expand on these findings and explore additional factors influencing carbon dynamics in oak forests, fostering a more comprehensive understanding.

References

[1] FAO (2010): Global Forest Resources Assessment. In: Committee on Forestry and World Forest Week. Rome, October 4, 2010. FAO, Rome.