

Book review

Sustainability of Southern African Ecosystems under Global Change

Review by Jenifer Veitch, Guy Midgley, Gregor Feig and Graham Von Maltitz

<https://doi.org/10.17159/caj/2024/34/1.18950>

In this book review, we provide a summary of some key and relevant findings of the recently published, open access, book entitled: 'Sustainability of Southern African Ecosystems under Global Change: Science for Management and Policy Interventions' (von Maltitz et al (2023)).

The book is a compilation of chapters that are the outcome of German – African collaborations under the auspices of the German Federal Ministry of Education and Research (BMBF)-funded SPACES II project (2018-2022). Reference: von Maltitz, G., G.F. Midgley, J. Veitch, C. Brümmer, R.P. Rötter, F.A. Viehberg and M.Veste (eds) (2024) *Sustainability of Southern African Ecosystems under Global Change: Science for Management and Policy Interventions*, Ecological Studies, Volume 248, Switzerland, Springer. Link: <https://link.springer.com/book/10.1007/978-3-031-10948-5>

The book highlights the profound impact of climate change on Southern African ecosystems by examining regional climate trends and extreme weather events and their consequences for biodiversity, agriculture, and water resources. All of which have an impact on air pollution and atmospheric composition. The scientific insights provided support the adaptation and mitigation strategies that are required to address these challenges. The book highlights the urgency of adopting sustainable practices and policies, along with integrated approaches, to mitigate the adverse effects of climate change on the southern African region.

Key drivers of terrestrial ecosystems are examined, such as land-use changes, biodiversity loss, and climate variability impacting these ecosystems. The contributors discuss current research findings that shed light on the intricate relationships between vegetation, soil, and climate. Marine ecosystem issues addressed include overfishing, habitual degradation, and the impacts of climate change on ocean processes, as well as how they contribute to atmospheric variability. This body of work underscores the fact that the sustainability of both marine and terrestrial ecosystems in the Southern African Region depends strongly on science-based strategies for their management and conservation.

Providing tools for the development of effective policies for the sustainable management of Southern African ecosystems, as well as to support societal resilience, are overarching objectives of the collection of chapters in this book. To this end, existing policies and gaps are analysed and science-based interventions to support more sustainable approaches are proposed. Additionally, it examines how Southern African communities adapt to shifting ecological conditions and emphasizes the



need for inclusive and participatory approaches. The role of education, community empowerment, and sustainable development are highlighted as integral in enhancing societal resilience. The book emphasizes the importance of interdisciplinary collaboration, community engagement, and adaptive management approaches in crafting new policies that balance ecological conservation with human needs.

While the focus of this book is not the atmospheric community there are valuable lessons to be learned. This book highlights the complexity of environmental research on the African continent in its surrounding oceans and illustrates the importance of an integrated approach when designing and implementing policy.