



SEOSAW Newsletter - April 2024

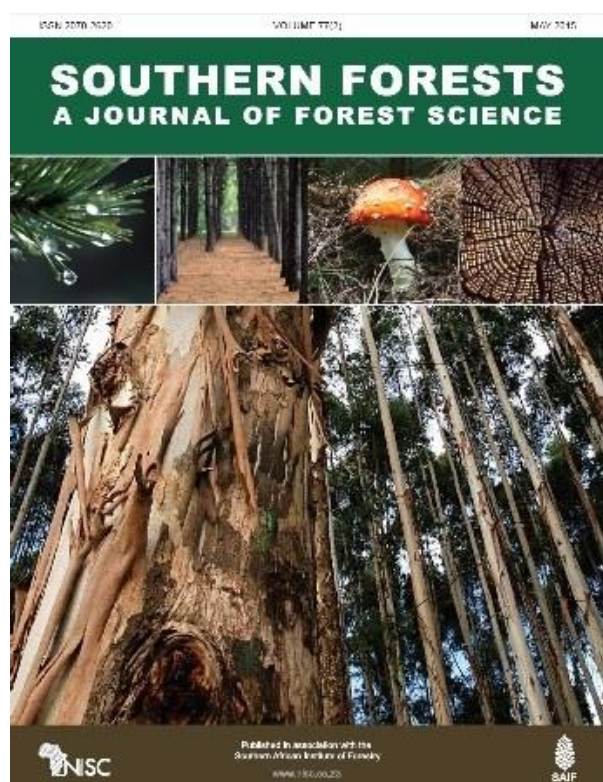
In this issue:

1. New publication
2. New Scientific Steering Committee members
3. New protocol: Small stems and shrubs
4. Workshop Report: Integrating arid savannas and woodlands into the SEOSAW network
5. Updates from the field
6. SEOSAW was at the 20th Savanna Science Network Meeting
7. Featured research - Lucy Wells, Phd candidate: Using remote sensing to map the dry tropical regions of the world, based on vegetation structure
8. Join the SEOSAW Early Career Researcher network

For new members of our network: Introductory information is contained at the end of the newsletter:

9. What is SEOSAW?
10. Who owns the data?
11. Request the SEOSAW data

1. New publication



Tatenda Gotore and other SEOSAW partners have published a paper describing woody biomass across a land use gradient in Zimbabwe.

Read all about it:

[Gotore T., Bowers S., Ndagurwa HGT, Kativu S, Muchawona A, Mutete P, Tembani M, Murepa R, Mureva A, Ryan C, Gautier D & Gazull L. 2023. Woody biomass increases across three contrasting land uses in Hurungwe, mid-Zambezi valley, Zimbabwe. Southern Forests. doi: 10.2989/20702620.2023.2267043](https://doi.org/10.2989/20702620.2023.2267043)

2. New Scientific Steering Committee members

We have 4 new members to our Scientific Steering Committee (SSC) who are providing their time, expertise and experience to the network. We look forward to their contributions to SEOSAW.



1 - Daud Kachamba

Daud Jones Kachamba is a Program Officer at the African Forest Forum in Nairobi Kenya. He is an experienced forestry researcher in forest carbon assessment and remote sensing as well as climate change. He sees the SEOSAW network as an opportunity to contribute to the networks mission.



2 - Rhett Harrison

Rhett Harrison is a landscape ecologist at CIFOR-ICRAF based in Lusaka, Zambia. With 30 years research experience, his work has encompassed a wide diversity of themes on the management, restoration and conservation of biodiversity in tropical landscapes. His research is multidisciplinary, development focused and has involved collaborations with a

wide variety of stakeholders. He is interested in the potential of SEOSAW's network to connect his work in Zambia to the wider region. He would also like to influence the development of standardised methods and research proposals to fill critical knowledge gaps on both the ecology and management of forests in the region.



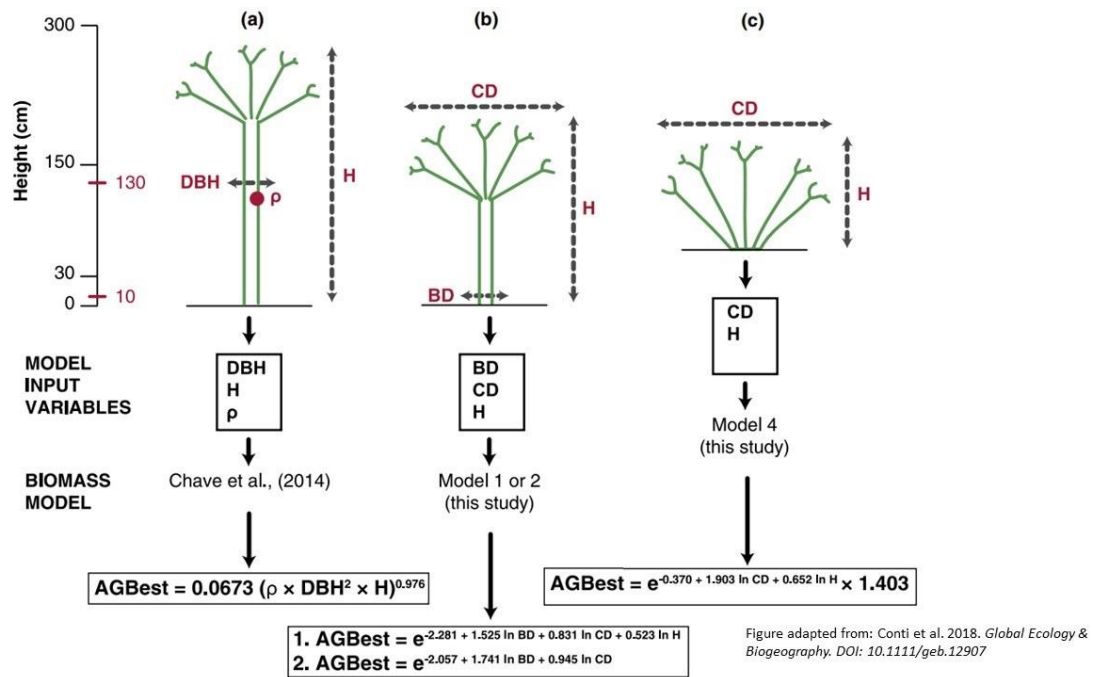
3 - Pheshaya Dlamini

Pheshaya Dlamini is a soil scientist by training, and currently Associate Professor at the University of Limpopo, South Africa. He has experience in studying a wide range of interactions between soils, plants and water in cropland, grassland and forest ecosystems. His research interests at SEOSAW will focus on developing a mechanistic understanding of the landscape consequences of land use change, land cover transformation and soil disturbances on soil biogeochemistry, carbon stocks and cycling of nutrients.

Itambo Malombe, born in August 1971, is trained in natural sciences currently working at the National Museums of Kenya. Dr Malombe is highly experienced in plant taxonomy, field botanical expeditions and coordination of multidisciplinary ecological surveys and biodiversity conservation assessments. His research has been disseminated in conferences, workshops and over 50 peer reviewed papers and books. His experience in plant taxonomy and ecology will be useful in the establishment of sampling plots and identification of species using the SEOSAW protocols.

Download the protocols and field sheets from the [website](#).

Please do let us know if you use them. We appreciate any feedback on our protocols.



5 - The [Conti et al. 2018](#) shrub allometry framework is central to SEOSAW's new small stems and shrubs protocol.

4. Workshop Report: Integrating arid savannas and woodlands into the SEOSAW network 1-3 March 2024, Kruger National Park, South Africa



Susi Vetter and Tiffany Pillay (Rhodes University, South Africa) hosted a workshop with SEOSAW, bringing together 24 ecologists interested in long term monitoring of arid sites in Africa.

It provided an opportunity for people to meet colleagues and students (many for the first time) and to exchange experiences and ideas around long-term research based on plots, the rationale for the different SEOSAW protocols and how they integrate with other protocols, and particular regional and disciplinary approaches.

The programme consisted of presentations from all participants, as well as several discussion sessions, including an interactive session in the field to discuss the different SEOSAW protocols in smaller groups. The cross-cutting themes were the fundamental issues of defining arid savannas, woodlands and related vegetation types; methods and protocols and their intercompatibility; and the big questions SEOSAW has helped and can help to answer.

Access the full report [here](#).

5. Updates from the field



Bicuar National Park, Angola remeasurement

In February, researchers from ISCED Huíla, Instituto Superior Politécnico da Tundavala (ISPT), University of Edinburgh, University of the Witwatersrand, University College London (UCL)

and the Namibia University of Science and Technology (NUST) converged on Bicular National Park, in southwest Angola, to continue the long-term vegetation monitoring programme that has been running there since 2018.

John Godlee led a team from ISCED Huíla and Edinburgh to measure tree growth and mortality in all 18 existing one hectare permanent plots, bringing the total number of censuses to three. They also established four new plots to increase coverage of the diverse vegetation types within the Park. Two of these new plots were established in geoxyle-dominated grasslands, and two were established in thicket vegetation. This was also the first test of the new SEOSAW small stems and shrubs (SSS) protocol, led by Justice Muvengwi and John, which aims to quantify the biomass, abundance and composition of woody stems which are too small for the SEOSAW large trees protocol, but which are too big for the SEOSAW ground layer protocol.

The group from UCL, led by Mat Disney and funded by the Smithsonian GEO-Trees project, collected terrestrial LiDAR data in four plots, which will help to better understand the structure of these woodlands. The group from Wits and ISPT, led by Anya Courtenay, collected data on the floristic composition of the herbaceous ground layer vegetation in the permanent plots, using the Global Grassy Group (GGG) protocol. Tanaya Nair from Wits set up a study to investigate the role of water-logging and frost on tree and geoxyle growth across topographic gradients. Matt Rees and Alice Jones from Edinburgh continued to collect leaf and wood trait data for the tree species present in the Park, and Leena Naftal collected data from soil pits close to the permanent plots to understand better the vertical distribution of soil carbon.

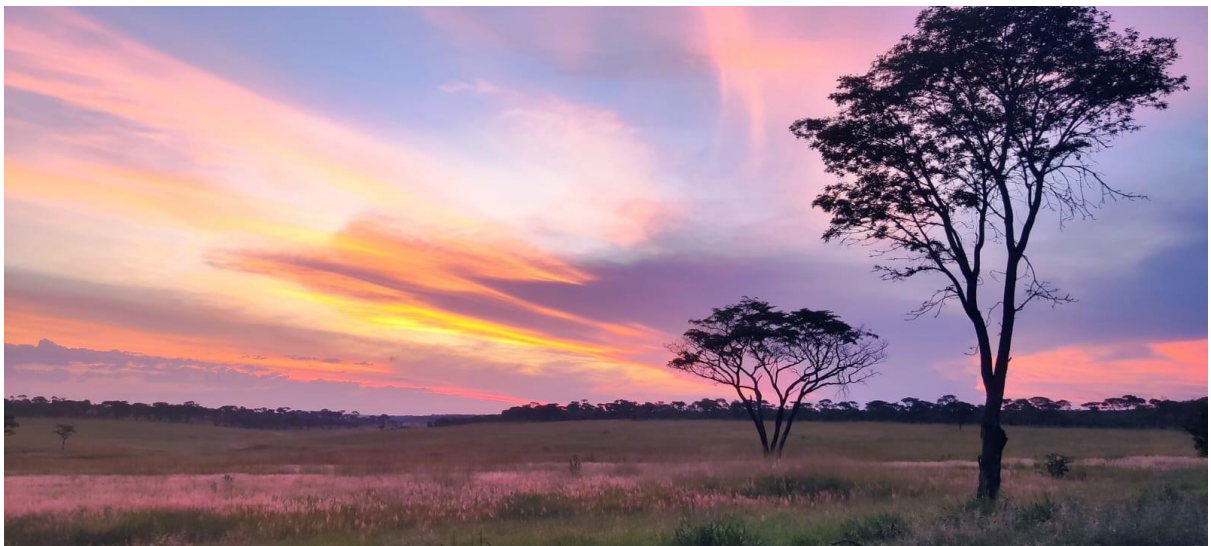
The next major field campaign in Bicular National Park will probably be in early 2026.

















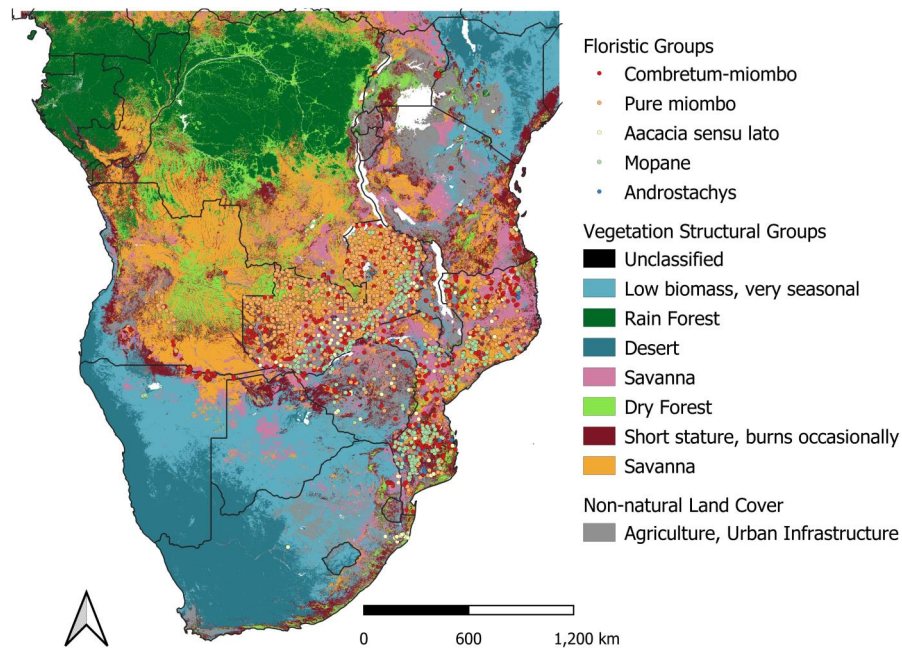
6. SEOSAW was at **20th Savanna Science Network Meeting: 3-7 March 2024, Kruger National Park, South Africa**



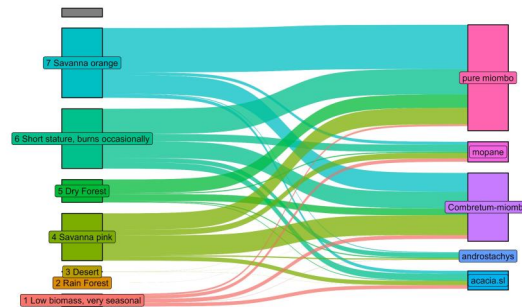
SEOSAW was well represented at the annual Savanna Science Network Meeting held in Kruger National Park. Here are the [programme](#) and [recordings](#).

7. Featured research - **Lucy Wells, Phd candidate:** Using remote sensing to map the dry tropical regions of the world, based on vegetation structure

My PhD uses satellite data to map dry tropical biomes based on vegetation structural parameters; biomass, seasonality (calculated using NDVI), minimum and maximum EVI, fire frequency and canopy height. This aims to move away from traditional biome mapping based on climatic data and expert opinion, to a more objective, bottom-up approach, with the longer-term goal of allowing cross-continental comparisons. Chapter 2 of my PhD focuses on Southern Africa, clustering the SEOSAW plot data to assign each plot a floristic group. These floristic definitions are then compared to the structural groups in order to explore the relationship between vegetation structure and floristic composition. Previous work has focused on mapping African vegetation using either plot data or remote sensing, so here we attempt to combine the two in order to better improve definitions of Southern African vegetation. So far, I have almost completed the structural and floristic clustering, and am working on interpreting my structural groups and comparing them with the floristic groups. Initially, we have found little correspondence between vegetation structure and composition, suggesting the need to carefully name vegetation types with both structural and floristic information.



6 - Figure 1. Seven vegetation structural groups in the Southern Africa, identified by spatial k-means clustering of vegetation parameters describing structure and phenology: biomass, log burn count, minimum and maximum EVI, seasonality and canopy height. Non-natural land cover was removed from the analysis and is marked in grey. Points identify the location of SEOSAW plots used in the study, coloured by floristic group identity.



7 - Figure 2. Number of SEOSAW plots in each floristic group that are located in each vegetation structural group as identified by remotely sensed parameters, showing that floristic definitions do not align to structural definitions.

8. Are you interested in being part of a SEOSAW Early Career Researcher network?

Please fill out this short survey: <https://forms.office.com/e/q4QVCQ8TD3>

9. What is SEOSAW?



SEOSAW comprises a network of scientists and also a network of vegetation survey plots across southern and eastern Africa. Members of SEOSAW conduct diverse research and come from a variety of institutions (academic, government, private, etc.), but are unified by a shared interest in the changing socio-ecology of woodlands and savannas.

The long-term goal of SEOSAW is to understand the response of African woodlands to global change.

SEOSAW is managed communally, and the scope of SEOSAW's activities is open to change as the network and its members' research interests develop. SEOSAW's main purpose is to connect researchers and their data, and to facilitate collaborative research via standardised methods and a curated, accessible database. Anybody is welcome to become part of SEOSAW, by contributing data or expertise, or by using the SEOSAW dataset for their research.

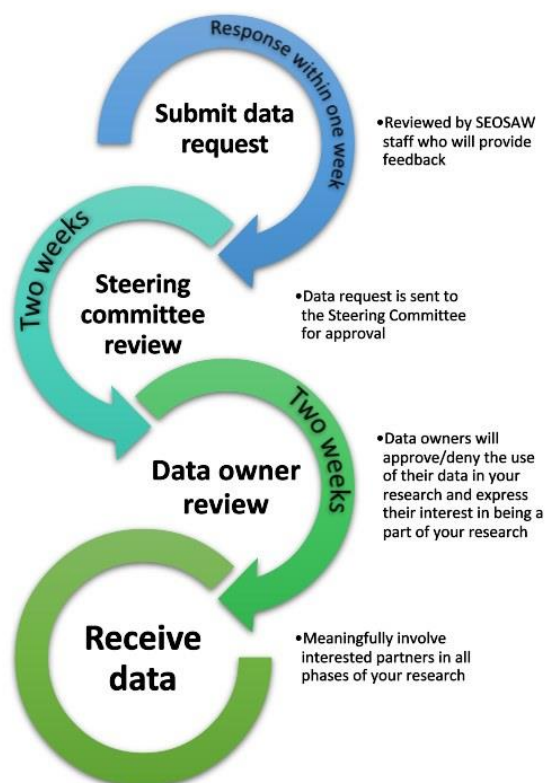
10. Who owns the data?



SEOSAW data belong to the people who collected it. SEOSAW oils the wheels by standardising the data and storing it in a common database, but the intellectual property belongs to whoever puts the data in, and the data can only be used by others with the owner's permission, and for specific purposes.

Anyone can request to use some or all of the SEOSAW data (see [here](#)). However, we put most of our energy into supporting SEOSAW network members and researchers in the region to make full use of the opportunities the SEOSAW offers. Typically this allows us to scale up our research from site-specific analyses to regional analyses that use data from across all of the woodlands. Or it allows us to use multiple data sets that are hard for one person or group to be expert in (e.g. soils, grass and tree data).

11. Request the SEOSAW data



We want the SEOSAW database to be as open and used as possible! If you have science questions, we have data and people willing to help you draft a data request!

To access the SEOSAW data, we require you to draft a data request which is reviewed by the SEOSAW steering committee first and then the data owners. This process takes about a month. The SEOSAW office is here to make this process as easy as possible for you, and will assist you in formulating your data request.

If you are interested, please answer the questions in this [document](#) and get in touch via the [contact form](#) if you would like to use the SEOSAW dataset. A sample of the dataset is freely available [here](#) to help you formulate your data request.