

National Vegetation Database of South Africa

Leslie Ward Powrie, Michael Charles Rutherford, Ladislav Mucina & Kagiso Mangwale

Abstract: Southern Africa has been recognized as one of the most interesting and important areas of the world from an ecological and evolutionary point of view. The establishment and development of the National Vegetation Database (NVD) of South Africa (GIVD ID AF-ZA-001) has contributed to environmental planning and conservation management in this floristically unique region. The NVD was developed using TURBOVEG and has been moved to MS Access. It currently contains 279 datasets, 47,466 vegetation plots (relevés) sharing 11,759 plant taxa and containing 1,064,100 species occurrence records. More than 80% of the studies use the Braun-Blanquet method. The NVD was primarily founded to serve vegetation classification and mapping goals but has also been an important tool in conservation assessment, target setting, production of the National Vegetation Map, National Forest Type Classification, South African National Biodiversity Assessment, Forest Type Conservation Assessment. However, the use of the current NVD in multidisciplinary research has certainly not been fully explored. Well-trained vegetation surveyors are needed so that the NVD will continue to be purpose driven and serve the needs of biological survey in pursuit of sustainable use of the vegetation and flora resources of the southern African subcontinent.

Keywords: climate change; conservation assessment; conservation management; conservation target; cover-abundance gradient; environmental planning; phytosociology; spatial species diversity; species co-occurrence; vegetation classification.

GIVD Database ID: AF-ZA-001		Last update: 2012-07-13
National Vegetation Database of South Africa		
Scope: Phytosociological information mainly from South Africa. There are a few relevés in adjacent countries. Plot based surveys with full species records, relative abundance, georeferencing and plot size are preferred.		
Status: ongoing capture		Period: 1968-2010
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Owner: Hosted at South African National Biodiversity Institute, under the direction of the National Vegetation Map Committee. Contact address: NVMC, Applied Biodiversity Research Division, South African National Biodiversity Institute, Private Bag X7, Claremont, 7735, South Africa.		
Web address: http://www.sanbi.org.za		
Availability: according to a specific agreement	Online upload: no	Online search: no
Database format(s): MS Access		Export format(s): MS Access
Publication: Rutherford MC, Mucina L, Powrie LW. 2012. The South African National Vegetation Database: History, development, applications, problems and future. <i>S Afr J Sci.</i> 2012;108(1/2), Art. #629, 8 pages. http://dx.doi.org/10.4102/sajs.v108i1/2.629		
Plot type(s): normal plots		Plot-size range: 1-400 m ²
Non-overlapping plots: 47,466	Estimate of existing plots: 47,466	Completeness: 100%
Total plot observations: 47,466	Number of sources: 486	Valid taxa: 11,759
Countries: BW: 0.3%; LS: 0.6%; MZ: 1.3%; NA: 0.6%; ZA: 96.8%; ZW: 0.3%		
Forest: 10% — Non-forest: aquatic: 0%; semi-aquatic: 0%; arctic-alpine: 0%; natural: 90%; semi-natural: 0%; anthropogenic: 0%		
Guilds: all vascular plants: 88%; only trees and shrubs: 12%; bryophytes (terricolous or aquatic): 4%; lichens (terricolous or aquatic): 3%; algae (terricolous or aquatic): 0%		
Environmental data: altitude: 17%; slope aspect: 6%; slope inclination: 16%; soil depth: 4%; surface cover other than plants (open soil, litter, bare rock etc.): 45%; soil pH: 1%; other soil attributes: 1%; land use categories: 1%		
Performance measure(s): presence/absence only: 2.4%; cover: 97.6%		
Geographic localisation: GPS coordinates (precision 25 m or less): 20%; point coordinates less precise than GPS, up to 1 km: 10%; small grid (not coarser than 10 km): 17%; political units or only on a coarser scale (>10 km): 53%		
Sampling periods: 1940-1949: 0.0%; 1950-1959: 0.2%; 1960-1969: 0.2%; 1970-1979: 5.5%; 1980-1989: 13.2%; 1990-1999: 16.0%; 2000-2009: 5.3%; unknown 59.5%		
Information as of 2012-07-25; further details and future updates available from http://www.givd.info/ID/AF-ZA-001		

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