

Metadata Information on the provided plotwise data set of the Soutpansberg region in Limpopo (South Africa)

Variable Name	Description	Unit
forest_type	names for specific forest and woodland types given in this paper, following mostly the vegetation field atlas of South Africa	text
community	name of community owning the land of the specific plot	text
plot	internal plot number after selecting plots with best scores	ordinal number
latitude	plot's Y-coordinate	degree, decimal format (DD) from reference system WGS84 (EPSG:4326)
longitude	plot's X-coordinate	degree, decimal format (DD) from reference system WGS84 (EPSG:4326)
multi_stem_tree_ratio	ratio of multi-stem trees and total tree number (the higher the more multi-stem trees)	%
mean_height	arithmetic mean of all single tree heights in a plot	m
height_sd	standard deviation of mean_height	m
height_95	value of the 3rd quantile of all single tree height values in a plot	m
mean_DBH	mean diameter at breast height (DBH = 1.30 m height)	cm
DBH_sd	standard deviation of mean_DBH	cm
tree_density	tree number (tree = stem with DBH > 5 cm) per hectare (ha)	n ha ⁻¹
n_multi_stem_trees	number of multi-stem trees	n ha ⁻¹
BA	basal area per ha	m ² ha ⁻¹
Dq	square mean diameter of the plot	cm
Hq	height of the square root mean diameter tree	m
AGB	above ground biomass, calculated based on single tree biomass (derived from equations considering: height, DBH, wood density)	t ha ⁻¹
volume	calculated based on single tree volume, by vol. = tree biomass/ tree wood density	m ³ ha ⁻¹

CV_DBH	variation coefficient of DBH = DBH_sd/ mean_DBH	%
CV_height	variation coefficient of mean_height = height_sd/ mean_height	%
regeneration	seedlings + saplings	n ha ⁻¹
poles	number (density) of poles (>1cm <5 cm DBH)	n ha ⁻¹
saplings	number of saplings (≥0.5m height <1cm DBH)	n ha ⁻¹
seedlings	number of seedlings (≥5cm <0.5 m height)	n ha ⁻¹
deadwood_vol_total	deadwood_vol_standing + deadwood_vol_lying	m ³ ha ⁻¹
deadwood_vol_standing	volume of standing deadwood >10cm diameter	m ³ ha ⁻¹
deadwood_vol_lying	volume of lying deadwood >10cm diameter	m ³ ha ⁻¹
canopy_cover	share of plot area covered (without overlaps), calculated based on single tree crown projection areas and tree positions (coordinates) in the plot	%
shannon_index	measure for biodiversity	index (metric number)
TWI	topographical wetness index, calculated in Q-GIS with "basic terrain analysis" from SAGA package and a digital elevation model from COPERNICUS (resolution 30x30m)	index (metric number)
soil_depth	depth down to parent material, or in case of deep soils until 1.5 m (max. depth value)	m
AWC	available water capacity, calculated for each horizon by pedo-transfer functions for South Africa based on texture, bulk density and stone fraction (Schulze, 1995), sum of all horizon values for the whole soil profile = AWC	mm
rainfall	mean annual rainfall from (Schulze & Lynch, 2007)	mm
temperature	mean annual temperature from (Schulze & Maharaj, 2007a)	°C
evaporation	potential evaporation from (Schulze & Maharaj, 2007b)	mm year ⁻¹
dMI	de Martonne Index = rainfall/ (temperature+10)	index (metric number)
AI	Aridity Index = rainfall/ evaporation	index (metric number)