
CARBON SINKS ATLAS FOR SOUTH AFRICA

Above Ground Herbaceous Biomass (gC/m²)

Metadata Date Stamp:

25 October 2015

DATASET DESCRIPTION

File Names:

Data:

AboveGroundBiomassHerbaceous_gC_sq.m_DEA_CSIR_1.1.9-2015-10-06

Metadata:

AGBHerb_gC_per_sq.m_OR_2015_Q4_METADATA

Dataset Reference Date:

2015/09/23

Data quality:

Good – data modelled in Carbon Stocks Model and accuracies of this layer is dependent on the accuracies of various base layers used in modelling

Dataset Responsible Party:

Department of Environmental Affairs / Director Enterprise Geospatial Information Management

Geographic Location of the Dataset: RSA

West 15.637661

East 33.655553

North -21.918463

South -35.027407

Keywords:

Above ground herbaceous biomass, herbaceous cover

Dataset Language:

English (SOUTH AFRICA)

Dataset Character Set:

utf8 - 8 bit UCS Transfer Format

Dataset Topic Category:

007 = Environment (ISO 19115 Topic category)

Dimensions:

X: 1406 Y:1207 Bands: 1

Spatial Resolution of the Dataset:

1189.318433 Meter

No Data Value:

-1

Data Type:

Float32 – Thirty two bit floating point

Raster Format:
GeoTiff

Data Release classification:

Release classification	Description	Time frame	Example
OR	Official release	Quarter 4 30 November 2015	AGBHerb_gC_per_sq.m_OR_2015_Q4

Citation:

Citation Information:

Originator: *Department of Environmental Affairs*

Publication Date: *May 2015*

Title: *South African National Terrestrial Carbon Sink Assessment*

Location: *Pretoria, South Africa*

Geospatial Data Presentation Form: *Raster digital data*

Other Citation Details: *Data of the South African National Terrestrial Carbon Sink Assessment is published on the SAEON shared platform. Link to detailed report: https://www.environment.gov.za/sites/default/files/docs/nationalterrestrial_carbon_sinksassessment_sect1.pdf.*

Abstract:

Above Ground Herbaceous Biomass (AGBherb) is predominantly grasses, but also forbs, restios, sedges. It is based on published relationships between rainfall and yearly grass production, reduced proportionately to take into account competition by trees (TCF). AGBherb varies greatly through the year – reaching a peak near the end of the growing and declining to near zero by the beginning of spring, especially in the presence of fire and/or herbivory. Units: average gC/m² within 1km x 1km pixel.

Purpose:

This data set is part of a series of output data layers generated by CSIR for DEA as part of the South African National Terrestrial Carbon Sink Assessment. Link to detailed report: https://www.environment.gov.za/sites/default/files/docs/nationalterrestrial_carbonsinksassessment_sect1.pdf.

Link to synopsis report:

https://www.environment.gov.za/sites/default/files/reports/nationalterrestrial_carbonsinks_synopsisreport.pdf

Supplemental Information:

An 'annual average' is about half of the peak biomass value. It also varies greatly from year to year, which we ignore by using the MAP as the driver.

*$AGBherb = 0.5 * 0.42 * a * (MAP - c) * (1 - TCF / 0.65)$ for $TCF < 0.65$; $AGBherb = 0$ if $TCF > 0.65$*

Constant a is often referred to as the 'Rain Use Efficiency', and c is the amount of rain needed to have production. Constants a and c are both related to the topsoil sand content.

*$a = -0.0376 * sand\% + 3.442$; $a = 0.1$ if $Sand\% > 92$; $a = 1.1$ if $Sand\% < 64$
 $c = 328 - 142/a$*

In the absence of topsoil texture data, we assume a sandy loam (75% sand), with $a = 0.622$ and $b = 99.7$.

Lineage Statement:

*The first version of the data was generated in 2013, but not released.
The data were released on-line for the first time in Nov 2015.*

ATTRIBUTE INFORMATION**Attribute Description:**

Field name	Alias Name	Data Type	Description	Example
Cell value	Cell value	32-bit Floating point	This field contains Above Ground Herbaceous Biomass as measured in gC/m ²	880

SUPPLEMENTARY INFORMATION

None

DATA MAINTENANCE**Dataset last updated:**

2015/10/06

Time Period of Content:

Carbon stocks were calculated to represent the long-term mean conditions 2000-2010.

Maintenance and update frequency:

No updates

DISTRIBUTION AND CONSTRAINTS**On/line Resource:**

The Environment GIS (EGIS) Website

<http://egis.environment.gov.za/>

The Department of Environmental Affairs (DEA) must be acknowledged in the use of the data as per citation information.

The South African Environmental Observation Network (SAEON)

<http://www.saeon.ac.za/>

Distribution Format:

GeoTIFF

Copyright:

© DfID – Crown Copyright (2013)

You may re-use this information (excluding logos) free of charge in any format or medium under the terms of the Open Government License (OGL). To view this license, visit

<http://www.nationalarchives.gov.uk/doc/open-government-licence/version/3/> or email psi@nationalarchives.gsi.gov.uk

Where any third-party copyright information is identified, you will need to obtain permission from the copyright holders concerned.

Terms of use:

The data can be used and copied for non-commercial purposes. The user shall not sell or license the spatial data or digital maps. The Department of Environmental Affairs cannot give any warranty on the accuracy of the map. The Department of Environmental Affairs shall in no way be liable for results related to the use of these maps. Users of these digital maps must acknowledge the copyright for the digital map. Source: Department of Environmental Affairs.

Acknowledgments:

The development of the online Carbon Sinks Atlas and website was funded by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ). Visit <https://www.giz.de> for more information on GIZ.

The models for the National Terrestrial Carbon Sinks Assessment for South Africa and the online Carbon Sinks Atlas were developed by CSIR for the South African Department of Environmental Affairs (DEA).

The National Terrestrial Carbon Sink Assessment (2015) was conducted for and published by Department of Environmental Affairs, Pretoria, South Africa. Link to report: https://www.environment.gov.za/sites/default/files/docs/nationalterrestrial_carbonsinksassessment_sect1.pdf.

The National Terrestrial Carbon Sink Assessment for South Africa was funded by UK Department for International Development (DfID). Visit <https://www.gov.uk/government/organisations/departement-for-international-development> for more information on DfID

METADATA INFORMATION

Metadata Contacts:

Barney Kgope
Department of Environmental Affairs
Bkgope@environment.gov.za
+27123999165

Itchell Guiney
Department of Environmental Affairs
iguiney@environment.gov.za
+27123999166

Director: Enterprise Geospatial Information Management
DEADATA@environment.gov.za
+27 12 399 8916

Postal Address:

Department of Environmental Affairs
Directorate: Enterprise Geospatial Information
Management Private Bag X447
Pretoria
Gauteng
South Africa
0001

Physical Address:

*Environmental House
473 Steve Biko, Arcadia
Pretoria
0083*

Producers of Data:

Point of Contact:

*Dr Graham Von Maltitz
CSIR Natural Resources and Environment
gvmalt@csir.co.za*

*Dr. Konrad Wessels
CSIR Meraka Institute
kwessels@csir.co.za*

Additional Extent information for the Dataset (Vertical & Temporal):

N/A

Spatial Representation Type:

Raster – Area

Spatial Reference:

*Coordinate Reference: GCS_WGS_1984
Projection - Albers_Conic_Equal_Area*

Projection:

*PROJCS["Albers_Equal_Area_Conic_South_Africa",
GEOGCS["GCS_WGS_1984",
DATUM["D_WGS_1984",
SPHEROID["WGS_1984",6378137,298.257223563]],
PRIMEM["Greenwich",0],
UNIT["Degree",0.0174532925199433]],
PROJECTION["Albers"],
PARAMETER["False_Easting",0],
PARAMETER["False_Northing",0],
PARAMETER["central_meridian",25],
PARAMETER["Standard_Parallel_1",-12],
PARAMETER["Standard_Parallel_2",-31],
PARAMETER["latitude_of_origin",0],*

Metadata File Identifier:

AGBHerb_gC_per_sq.m_OR_2015_Q4_METADATA

Metadata Standard Name:

SANS 1878

Metadata Standard Version:

SANS 1878/1:2005

Metadata Language:

English

Metadata Character Set:

US/Ascii