CARBON SINKS ATLAS FOR SOUTH AFRICA
Total Biomass Organic Carbon of Natural areas (gC/m^2)

Metadata Date Stamp:

25 October 2015

DATASET DESCRIPTION

File Names:

Data:

TotalBiomassOrganicCarbon_Natural_Areas_gC_sq.m_DEA_CSIR_1.1.9-2015-11-11

Metadata:

TBOC_Natural_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:

TBOC, Total Biomass Organic Carbon, Organic carbon,

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	*TBOC_Natural_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*:*
> *Total Biomass Organic Carbon (TBOC) of natural land cover is the total sum of Above Ground Woody Biomass (AGB_{woody}), Below Ground Woody Biomass (BGB_{woody}), Above Ground Herbaceous Biomass (AGB_{herb}), Below Ground Herbaceous Biomass (BGB_{herb}), and Aboveground litter (AGL). In other words it is TEOC minus Soil Organic Carbon (SOC).*
>
> *Units: average gC/m^2 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_carbonsinksass essment_sect1.pdf.*
> *Link to synopsis report:*
> *https://www.environment.gov.za/sites/default/files/reports/nationalterrestrial_carbonsinks_ synopsisreport.pdf*

Supplemental Information:
> *Below Ground Woody Biomass (BGB_{woody}) is calculated as a ratio of Above Ground Woody Biomass (AGB_{woody}) , which varies with mean annual precipitation (MAP).*
> *Units: average gC/m^2 within 1km x 1km pixel*
>
> *$BGB_{woody} = root:shoot_{woody} * AGB_{woody}$*
>
> *$Root:shoot_{woody}$ is a function of mean annual rainfall (MAP).*
> *For MAP>800 $root:shoot_{woody}=0.25$*

$300 < MAP < 800 \quad root:shoot = -0.0035MAP + 3.05$

$MAP < 300 \quad root:shoot = 2.0$

Below Ground Herbaceous biomass (BGB_{herb}) was calculated as $BGB_{herb} = AGB_{herb}$ in all biomes, ie a root:shoot for herbaceous plants of 1.
Units: average gC/m^2 within 1km x 1km pixel

Above Ground Litter (AGL) consists of downed wood, leaves and dung on the soil surface. It is generally a relatively small number. AGL is calculated per biome (or sub-biome, where the biome covers a wide climate range) based on a simple model including litterfall and decay rates as a function of rainfall, and validated against published fuel load datasets.
Units: average gC/m^2 within 1km x 1km pixel

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 Total Biomass Organic Carbon of Natural areas as measured in gC/m^2*	*1612.22*

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

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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/department-for-international-development for more information on DfID

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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:

TBOC_Natural_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