
CARBON SINKS ATLAS FOR SOUTH AFRICA

Woody Fractional Cover (Percentage)

Metadata Date Stamp:

17 November 2015

DATASET DESCRIPTION

Dataset Title:

Data:

SAR_1km_WoodyFractionalCover_percent_DEA_CSIR_1.1-2015-10-15

Metadata

SAR_1km_WoodyFractionalCover_percent_OR_2015_Q4_METADATA

Dataset Reference Date:

2015/10/15

Data quality:

Good – The product was developed through the integration of 2010 ALOS PALSAR-1 Synthetic Aperture Radar (SAR) images, LiDAR tracks, and field data of woody biomass. Accuracies of this layer are dependent on the accuracies of various base layers used in the different modelling stages.

Dataset Responsible Party:

Department of Environmental Affairs / Director Enterprise Geospatial Information Management

Geographic Location of the Dataset: *Eastern Mpumalanga and Limpopo ('Lowveld'), South Africa*

West 29.826685

East 32.225185

North -22.250243

South -26.076675

Keywords:

Woody fraction cover, LiDAR, ALOS PALSAR, SAR

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: 189 Y: 354 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	SAR_1km_WoodyFractionalCover_percent_OR_2015_Q4

Citation:**Citation Information:****Originator:** *CSIR Natural Resources and Environment (unpublished)***Abstract:**

Woody Fractional Cover is the fraction of area (0 to 1) projected on a horizontal plane occupied by woody plants. The product was developed through the integration of 2010 ALOS PALSAR-1 Synthetic Aperture Radar (SAR) images and LiDAR tracks. The LiDAR tracks were processed to derive a canopy height model for woody vegetation above 1 m at 1m pixel size, and to generate a detailed LiDAR woody cover product at 25m pixel size. The dual-polarized (HV, HH) SAR bands were modelled using the LiDAR woody cover as reference data for calibration and validation of the final SAR woody fraction cover map.

The maps were produced and can be viewed in the on-line atlas at 75m resolution, but are downloadable at 1km resolution.

Units: Percent Woody Fractional Cover at a 1km x 1km resolution

Purpose:

This data set is part of a series of output data layers generated by CSIR for the Department of Environmental Affairs (DEA) as part of the South African Carbon Sinks Atlas. The data demonstrate a potential for improving existing estimations of Woody Fractional Cover using SAR and LIDAR remote sensing data

Supplemental Information:*None***Lineage Statement:**

The data was produced in October 2015, and is being 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 the percentage of woody fractional cover within a pixel	25

SUPPLEMENTARY INFORMATION

None

DATA MAINTENANCE

Dataset last updated:

2015/11/16

Time Period of Content:

Calculated to represent Woody Fractional Cover for the year 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 estimation Woody Fractional Cover was done by CSIR as a demonstration of using Synthetic Aperture Radar (SAR) and LiDAR to improve accuracy

METADATA INFORMATION

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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:

SAR_1km_WoodyFractionalCover_percent_OR_2015_Q4_METADATA

Metadata Standard Name:

SANS 1878

Metadata Standard Version:

SANS 1878/1:2005

Metadata Language:

English

Metadata Character Set:

US/Ascii