



Food and Agriculture
Organization of the
United Nations

Global Forest Resources Assessment 2020

Report

South Africa

Rome, 2020



FAO has been monitoring the world's forests at 5 to 10 year intervals since 1946. The Global Forest Resources Assessments (FRA) are now produced every five years in an attempt to provide a consistent approach to describing the world's forests and how they are changing. The FRA is a country-driven process and the assessments are based on reports prepared by officially nominated National Correspondents. If a report is not available, the FRA Secretariat prepares a desk study using earlier reports, existing information and/or remote sensing based analysis.

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Introduction

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Introductory text

The Republic of South Africa is bordered by the Indian Ocean to the east and south and the Atlantic Ocean to the west. About two-thirds of South Africa is a vast interior plateau bordered in the east by escarpment mountain ranges, with a transition to a broad midland of rugged hills and valleys leading to a narrow coastal plain. The Great Escarpment, a semicircular series of mountains, has a maximum elevation of 3 375 m in the Drakensberg Mountain Range. In the far north-west, South Africa borders onto the Namib and Kalahari deserts.

South Africa has a warm temperate climate. The average temperature range in January is 14–27 °C in and 4–22 °C in July. Much of the country has an average annual rainfall of less than 600 mm, and some areas receive as little as 200 mm. In the FAO global map of ecological zones South Africa belongs to: tropical and subtropical dry forest; tropical shrubland; tropical desert; tropical and subtropical mountain; subtropical humid forest and tropical moist forest zones.

Forests cover 7.6% of the country. However, in terms of national classification of forests, natural forests cover less than 0,5% of the country, subtropical thicket about 3% and the various dry to sub-humid woodland types collectively cover about 39% of the country's land surface area, with planted commercial forests covering about 1,1%. The main planted tree species are *Eucalyptus Grandis*, *Pinus patula* and other *eucalyptus* and *pinus* species. Most of the forest occurs in the humid areas of the country, but in arid regions some are found along rivers or within protected ravines. There are four broad forest categories in South Africa, namely, primary and naturally regenerated forests, some subtropical thicket, savannah woodlands and the industrial (commercial) plantations. From a biodiversity perspective, natural forests have also been further classified into 26 natural forest types, 13 subtropical thicket types and 87 woodland types. South Africa ranks among the top ten of developing countries in terms of commercial plantation development.^[1]

The South African government has prioritized the expansion of plantations in areas where it is economically, environmentally and socially appropriate to do so. Government aims to have a net increase in afforested land of about 10 000 ha per year for the next 10 years but afforestation and reforestation occurs in Plantations mainly.^[2] The NDCs mention just a need for adaptation and mitigation in the forestry sector, among others.^[3]

^[1] Country Profiles – Department of Forest <http://www.fao.org/forestry/country/en/> . FAO. Retrieved May 04, 2017.

^[2] South Africa - Global Forest Resources Assessment 2015 – Country Report, FAO, 2015. Retrieved May 04, 2017.

^[3] UNFCCC Nationally Determined Contribution (NDC) South Africa. November 01, 2016. Retrieved May 04, 2017

1 Forest extent, characteristics and changes

1a Extent of forest and other wooded land

National data

Data sources

2014	References	Department of Environmental Affairs + National land Cover Data 2013-2014
	Methods used	Full-cover forest/vegetation maps
	Additional comments	

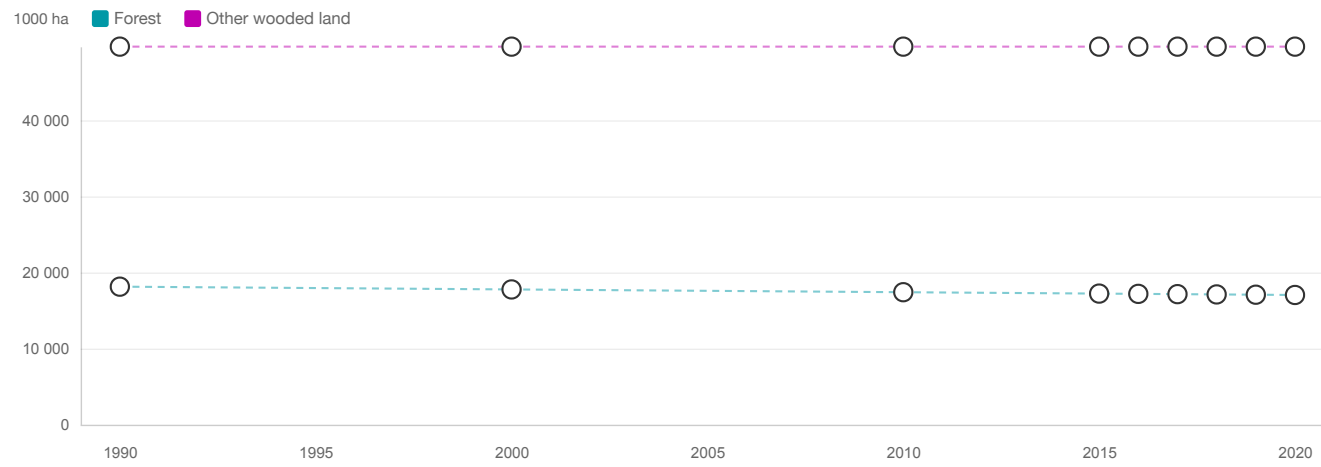
Classifications and definitions

2014	National class	Definition
	Indigenous Forest	<p>The term used in the National Forests Act is not indigenous forest, but Natural Forest, and this is also reflected in the national classification of biomes and vegetation types. Natural forest is legally defined as a group of indigenous trees whose crowns are largely contiguous. This definition is augmented by the scientific definition of the national forest type report*: A natural forest is a generally multilayered vegetation unit dominated by trees (largely evergreen or semi-deciduous), whose combined strata have overlapping crowns (i.e. the crown cover is 75% or more), and where graminoids in the herbaceous stratum (if present) are generally rare. Fire does not normally play a major role in forest function or dynamics except at the fringes. *</p> <p>Twenty six natural forest types have been identified within the natural forest biome. The South African natural forest is regarded as subtropical forest, with some flora and fauna species considered to be indicative of tropical forest, which helps to distinguish it from savanna woodland and thicket which may also attain closed canopy conditions.</p>
	Thicket Dense bush	The term used for this biome is Subtropical Thicket (alternatively Albany Thicket). Scientifically the Thicket Biome is described as a sparse to dense spiny evergreen shrub vegetation, with a tree component of varying proportions, and also characterised by the significant presence of succulent species. There are 13 subtropical vegetation types.
	Woodlan Open bush	The term used is savannah (locally also known as Bushveld), and refers to a biome with grassland and scattered indigenous trees (of varying density), in which fire-adapted woody, grassy and herbaceous species co-exist and experience markedly seasonal growth patterns. Generally the herbaceous stratum is dominated by C4 grasses and sedges, but this, and the overall cover of the woody and herbaceous strata, may be temporarily altered by a range of disturbance phenomena
	Grassland	Grasslands are dominated by a single layer of grasses, with an abundance of herbs and geophytes, and sparse tree cover. It is a fire adapted biome with marked seasonal growth patterns.
	Shrubland fynbos	The fynbos biome is synonymous with the Cape Floral Kingdom consisting of short heather (macchia) and shrub vegetation endemic to the Fynbos region dominated by the restioid, ericoid and proteoid plant components. It is a dense, fire-adapted and species rich vegetation.
	Low shrubland	In South Africa low shrubland is mostly associated with the semi-desert land-locked Karoo vegetation in the central plateau of the western half of the country, which is divided into the expansive Nama-Karoo, and the smaller species rich Succulent Karoo in the northwest of the country. It is a semi-desert vegetation of low shrubs intermixed with grasses, succulents, geophytes and forbs.
	Plantations Woodlots mature	

	Plantation Woodlots mature are planted or cultivated or regenerated exotic trees (tree stands), primarily of eucalyptus or acacia species, which have reached a mature age of a minimum of eight years harvested for their uses (fuelwood, construction timber etc.). They are predominantly found in communal land and their main purpose is for energy and timber construction
Plantation Woodlots young	Plantation woodlots young are planted/ cultivated/ regenerated exotic trees which have not reached harvesting (maturity) age
Plantation Woodlots clearfelled	Plantation Woodlots clearfelled are tree stands which have been felled for their final products and they are waiting to either be restocked manually or to regenerate naturally
Production plantations	Production plantation means a group of trees cultivated for exploitation of wood, bark, leaves or essential oils in the trees (as defined in the National Forests Act, 1998), Act No. 84 of 1998

Original data and reclassification

	Classifications and definitions		FRA classes		
	Class	Area (1000 ha)	Forest	Other wooded land	Other land
2014	Indigenous Forest	428.29	100.00 %	0.00 %	0.00 %
	Thicket Dense bush	8 290.50	60.00 %	40.00 %	0.00 %
	Woodlan Open bush	12 460.40	70.00 %	30.00 %	0.00 %
	Grassland	25 872.30	0.00 %	0.00 %	100.00 %
	Shrubland fynbos	5 327.41	0.00 %	100.00 %	0.00 %
	Low shrubland	37 300.70	0.00 %	100.00 %	0.00 %
	Plantations Woodlots mature	1 577.71	100.00 %	0.00 %	0.00 %
	Plantation Woodlots young	130.78	100.00 %	0.00 %	0.00 %
	Plantation Woodlots clearfelled	165.13	100.00 %	0.00 %	0.00 %
	Production plantations	1 270.00	100.00 %	0.00 %	0.00 %
	Total	92 823.22	17 268.49	49 682.43	25 872.30



FRA categories	Area (1000 ha)								
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Forest (a)	18 142.09	17 778.09	17 414.09	17 232.09	17 195.69	17 159.29	17 122.89	17 086.49	17 050.09
Other wooded land (a)	49 682.43	49 682.43	49 682.43	49 682.43	49 682.43	49 682.43	49 682.43	49 682.43	49 682.43
Other land (c-a-b)	53 484.48	53 848.48	54 212.48	54 394.48	54 430.88	54 467.28	54 503.68	54 540.08	54 576.48
Total land area (c)	121 309.00	121 309.00	121 309.00	121 309.00	121 309.00	121 309.00	121 309.00	121 309.00	121 309.00

The FAOSTAT land area figure for the year 2015 is used for all reference years

Climatic domain	% of forest area 2015	Override value
Boreal	0.00	
Temperate	0.00	
Sub-tropical	70.00	
Tropical	30.00	

Comments

The global land cover (ESA) 2000-2005 annual forest loss rates were used to estimate the change in forest area. Other wooded land was assumed to remain constant.

1b Forest characteristics

National data

Data sources

2014	References	Department of Environmental Affairs + National land Cover Data 2013-2014
	Methods used	Full-cover forest/vegetation maps
	Additional comments	

Classifications and definitions

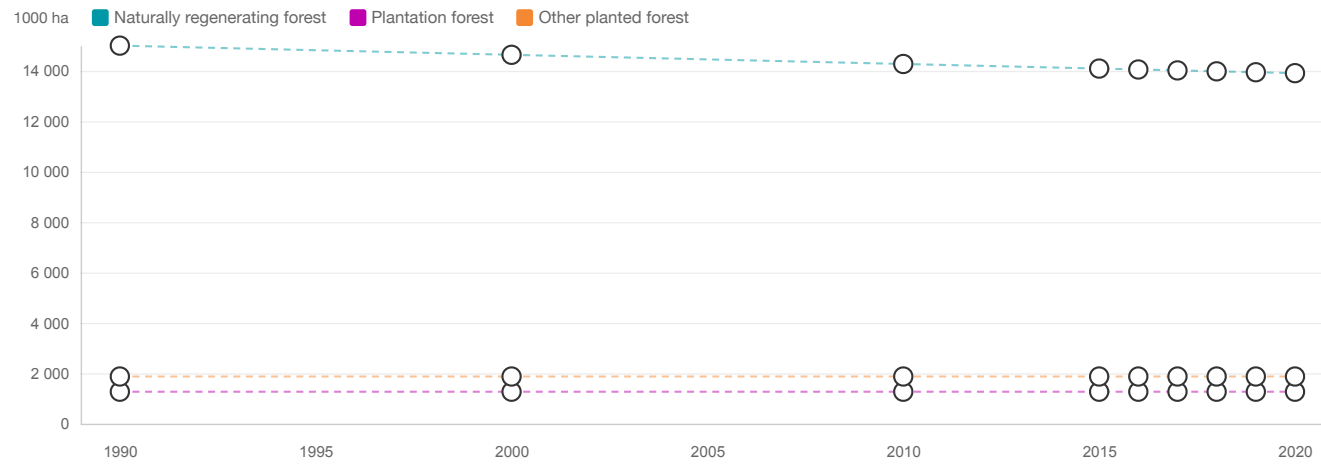
2014	National class	Definition
	Indigenous Forest	<p>The term used in the National Forests Act is not indigenous forest, but Natural Forest, and this is also reflected in the national classification of biomes and vegetation types. Natural forest is legally defined as a group of indigenous trees whose crowns are largely contiguous. This definition is augmented by the scientific definition of the national forest type report*: A natural forest is a generally multilayered vegetation unit dominated by trees (largely evergreen or semi-deciduous), whose combined strata have overlapping crowns (i.e. the crown cover is 75% or more), and where graminoids in the herbaceous stratum (if present) are generally rare. Fire does not normally play a major role in forest function or dynamics except at the fringes. *</p> <p>Twenty six natural forest types have been identified within the natural forest biome. The South African natural forest is regarded as subtropical forest, with some flora and fauna species considered to be indicative of tropical forest, which helps to distinguish it from savanna woodland and thicket which may also attain closed canopy conditions.</p>
	Thicket Dense bush	The term used for this biome is Subtropical Thicket (alternatively Albany Thicket). Scientifically the Thicket Biome is described as a sparse to dense spiny evergreen shrub vegetation, with a tree component of varying proportions, and also characterised by the significant presence of succulent species. There are 13 subtropical vegetation types.
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	Grassland	Grasslands are dominated by a single layer of grasses, with an abundance of herbs and geophytes, and sparse tree cover. It is a fire adapted biome with marked seasonal growth patterns.
	Shrubland fynbos	The fynbos biome is synonymous with the Cape Floral Kingdom consisting of short heather (macchia) and shrub vegetation endemic to the Fynbos region dominated by the restioid, ericoid and proteoid plant components. It is a dense, fire-adapted and species rich vegetation.
	Low shrubland	In South Africa low shrubland is mostly associated with the semi-desert land-locked Karoo vegetation in the central plateau of the western half of the country, which is divided into the expansive Nama-Karoo, and the smaller species rich Succulent Karoo in the northwest of the country. It is a semi-desert vegetation of low shrubs intermixed with grasses, succulents, geophytes and forbs.
	Plantations Woodlots mature	Plantation Woodlots mature are planted or cultivated or regenerated exotic trees (tree stands), primarily of eucalyptus or acacia species, which have reached a mature age of a minimum of eight years harvested for their uses (fuelwood, construction timber etc.). They are predominantly found in communal land and their main purpose is for energy and timber construction
	Plantation Woodlots young	

		Plantation woodlots young are planted/ cultivated/ regenerated exotic trees which have not reached harvesting (maturity) age
	Plantation Woodlots clearfelled	Plantation Woodlots clearfelled are tree stands which have been felled for their final products and they are waiting to either be restocked manually or to regenerate naturally
	Production plantations	Production plantation means a group of trees cultivated for exploitation of wood, bark, leaves or essential oils in the trees (as defined in the National Forests Act, 1998), Act No. 84 of 1998

Original data and reclassification

	Classifications and definitions		FRA classes		
	Class	Area (1000 ha)	Naturally regenerating forest	Plantation forest	Other planted forest
2014	Indigenous Forest	428.29	100.00 %	0.00 %	0.00 %
	Thicket Dense bush	4 974.30	100.00 %	0.00 %	0.00 %
	Woodlan Open bush	8 722.28	100.00 %	0.00 %	0.00 %
	Plantations Woodlots mature	1 577.71	0.00 %	0.00 %	100.00 %
	Plantation Woodlots young	130.78	0.00 %	0.00 %	100.00 %
	Plantation Woodlots clearfelled	165.13	0.00 %	0.00 %	100.00 %
	Production plantations	1 270.00	0.00 %	100.00 %	0.00 %
	Total	17 268.49	14 124.87	1 270.00	1 873.62

Plantation forest	Area (1000 ha)	...of which introduced
Production plantations	1 270.00	100.00 %
Total	1 270.00	1 270.00



FRA categories	Forest area (1000 ha)								
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Naturally regenerating forest (a)	14 998.47	14 634.47	14 270.47	14 088.47	14 052.07	14 015.67	13 979.27	13 942.87	13 906.47
Planted forest (b)	3 143.62	3 143.62	3 143.62	3 143.62	3 143.62	3 143.62	3 143.62	3 143.62	3 143.62
Plantation forest	1 270.00	1 270.00	1 270.00	1 270.00	1 270.00	1 270.00	1 270.00	1 270.00	1 270.00
...of which introduced species	1 270.00	1 270.00	1 270.00	1 270.00	1 270.00	1 270.00	1 270.00	1 270.00	1 270.00
Other planted forest	1 873.62	1 873.62	1 873.62	1 873.62	1 873.62	1 873.62	1 873.62	1 873.62	1 873.62
Total (a+b)	18 142.09	17 778.09	17 414.09	17 232.09	17 195.69	17 159.29	17 122.89	17 086.49	17 050.09
Total forest area	18 142.09	17 778.09	17 414.09	17 232.09	17 195.69	17 159.29	17 122.89	17 086.49	17 050.09

Comments

The planted forest is assumed to be stable over the reporting period. Naturally regenerating forest was calculated as total forest area less planted forest area.

1c Primary forest and special forest categories

National Data

Data sources + type of data source eg NFI, etc

Department of Agriculture, Forestry and Fisheries + Commercial Timber Resources and Primary Roundwood Processing 2010, 2015 and 2017

South African Journal of Botany, 107 (2016),pp101-113

The vegetation of South Africa, Lesotho and Swaziland (2006)

National classification and definitions

For Temporarily unstocked and/or recently regenerated section, we have only used the temporary unplanted data.

Original data

-

Analysis and processing of national data

Estimation and forecasting

-

Reclassification into FRA 2020 categories

-

FRA categories	Area (1000 ha)				
	1990	2000	2010	2015	2020
Primary forest	500.00	497.00	497.00	428.00	428.00
Temporarily unstocked and/or recently regenerated					
Bamboos					
Mangroves	2.00	2.00	2.00	2.00	2.00
Rubber wood	0.00	0.00	0.00	0.00	0.00

Comments

There is a forest type referred to as a thicket covering an extent of 3 245'000' but this category is not included in the FAO T1e. The vegetation of the Albany Thicket Biome is described as a dense, woody, semisucculent and thorny vegetation type of an average height of 2-3m, relatively impenetrable in an unaltered condition.

1d Annual forest expansion, deforestation and net change

National Data

Data sources + type of data source eg NFI, etc

Department of Agriculture, Forestry and Fisheries: Extract from "Report on Commercial Timber Resources and Primary Roundwood Processing in South Africa", (1990-2017)

National Forests Act, No 84 of 1998

National classification and definitions

"Plantation forest" means a group of trees cultivated for exploitation of the wood, bark, leaves or essential oils in the trees

"Natural forest" mean a group of indigenous trees (a) whose crowns arte largely contiguous or (b) which have been declared by the Minister to be a natural forest under the National Forests Act

"Savannah Woodland" means a group of indigenous trees which are not a natural forest, but wihose crowns cover more than 5% of the area bounded by the trees forming the perimeter of the group

Original data

-

Analysis and processing of national data

Estimation and forecasting

-

Reclassification into FRA 2020 categories

-

FRA categories	Area (1000 ha/year)			
	1990-2000	2000-2010	2010-2015	2015-2020
Forest expansion (a)	362.60	362.60	162.60	162.60
...of which afforestation	218.00	37.00	6.00	3.00
...of which natural expansion	0.00	0.00	0.00	0.00
Deforestation (b)	399.00	399.00	199.00	199.00
Forest area net change (a-b)	-36.40	-36.40	-36.40	-36.40

Comments

There are no comprehensive studies done to determine deforestation rate, thus the data was derived from an expert estimate from the South African National Biodiversity Institute (SANBI), where they were using GIS data to calculate habitat loss per biome

1e Annual reforestation

National Data

Data sources + type of data source eg NFI, etc

Department of Agriculture, Forestry and Fisheries + Commercial Timber Resources and Primary Roundwood Processing reports 2010 - 2015 and 2015-2017

National classification and definitions

-

Original data

To generate the reforestation data, it is assumed that 2.5 percent of the planted forest area is reforested every year

Plantations pine and other softwood spp	50 711ha
Eucalyptus and othr broadleaved spp	46 434ha
Total	97 145ha

Analysis and processing of national data

Estimation and forecasting

it is assumed that the reforestation area is more or less the same for all years (expert estimate)

Reclassification into FRA 2020 categories

-

FRA categories	Area (1000 ha/year)			
	1990-2000	2000-2010	2010-2015	2015-2020
Reforestation	100.00	100.00	100.00	100.00

Comments

The 100 ('000) ha is a roundup figure since the reforestation area is determined by the areas clearfelled annually.

1f Other land with tree cover

National Data

Data sources + type of data source eg NFI, etc

-

National classification and definitions

-

Original data

-

Analysis and processing of national data

Estimation and forecasting

-

Reclassification into FRA 2020 categories

-

FRA categories	Area (1000 ha)				
	1990	2000	2010	2015	2020
Palms (a)					
Tree orchards (b)					
Agroforestry (c)					
Trees in urban settings (d)					
Other (specify in comments) (e)					
Total (a+b+c+d+e)	–	–	–	–	–
Other land area	53 484.48	53 848.48	54 212.48	54 394.48	54 576.48

Comments

Data on classes not available

2 Forest growing stock, biomass and carbon

2a Growing stock

National Data

Data sources + type of data source eg NFI, etc

Forestry Department, FAO: Mean Annual Volume Increment of Selected Industrial Forest Plantation Species, 2001

National classification and definitions

-

Original data

-

Analysis and processing of national data

Estimation and forecasting

Based on expert estimate it is assumed that the naturally regenerating forest of South Africa maintains a similar Growing stock per hectare as Zimbabwe at 38 m³/ha.

Based on information available it has been estimated that the volume per hectare for plantations is 235 m³/ha.

About the other planted forests, due to a lack of data, it is assumed that they have same volume per hectare as naturally regenerated forests.

Reclassification into FRA 2020 categories

-

FRA categories	Growing stock m ³ /ha (over bark)								
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Naturally regenerating forest	38.00	38.00	38.00	38.00	38.00	38.00	38.00	38.00	38.00
Planted forest	117.59	117.59	117.59	117.59	117.59	117.59	117.59	117.59	117.59
...of which plantation forest	235.00	235.00	235.00	235.00	235.00	235.00	235.00	235.00	235.00
...of which other planted forest	38.00	38.00	38.00	38.00	38.00	38.00	38.00	38.00	38.00
Forest	51.79	52.07	52.37	52.52	52.55	52.58	52.61	52.64	52.67
Other wooded land									

FRA categories	Total growing stock (million m ³ over bark)								
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Naturally regenerating forest	569.94	556.11	542.28	535.36	533.98	532.60	531.21	529.83	528.45
Planted forest	369.65	369.65	369.65	369.65	369.65	369.65	369.65	369.65	369.65
...of which plantation forest	298.45	298.45	298.45	298.45	298.45	298.45	298.45	298.45	298.45
...of which other planted forest	71.20	71.20	71.20	71.20	71.20	71.20	71.20	71.20	71.20
Forest	939.59	925.76	911.93	905.01	903.63	902.25	900.86	899.48	898.10
Other wooded land									

Comments

There is no growing stock data in South Africa both at national and local level, we used the MAI from the FAO Forestry Department Paper on Mean Annual Volume Increment of Selected Industrial Forest Plantation species dated April 2001. The MAI for *Eucalyptus grandis* (which is the predominant spp) in South Africa is about 35 and that of *Pinus patula* (about 95%) varies from 8 to 40 cubic meters per hectare per year, therefore we used an average of 24. For plantation forest (pine), the rotation is between 25 and 30 years, thus we took the conservative figure of 25 year rotation and multiplied it by the average MAI of 24.

2b Growing stock composition

National Data

Data sources + type of data source eg NFI, etc

Forestry Department, FAO: Mean Annual Volume Increment of Selected Industrial Forest Plantation Species, 2001

National classification and definitions

-

Original data

-

Analysis and processing of national data

Estimation and forecasting

-

Reclassification into FRA 2020 categories

-

FRA categories	Scientific name	Common name	Growing stock in forest (million m ³ over bark)				
			1990	2000	2010	2015	2020
Native tree species							
#1 Ranked in terms of volume	Pinus patula	Patula pine	24.00	24.00	24.00	24.00	24.00
#2 Ranked in terms of volume	Eucalyptus grandis	Rose gum	35.00	35.00	35.00	35.00	35.00
#3 Ranked in terms of volume	Pinus elliottii	Slash pine	24.00	24.00	24.00	24.00	24.00
#4 Ranked in terms of volume	Acacia mearsii	Black wattle	24.00	24.00	24.00	24.00	24.00
#5 Ranked in terms of volume	Eucalyptus saligna	Saligna pine	35.00	35.00	35.00	35.00	35.00
#6 Ranked in terms of volume	Pinus pinaster	Cluster pine	24.00	24.00	24.00	24.00	24.00
#7 Ranked in terms of volume	Pinus radiata	Monterey pine	24.00	24.00	24.00	24.00	24.00
#8 Ranked in terms of volume	Eucalyptus robusta		21.00	21.00	21.00	21.00	21.00
#9 Ranked in terms of volume	Pinus taeda	Loblolly pine	24.00	24.00	24.00	24.00	24.00
#10 Ranked in terms of volume	Populus x canescens	matchwood poplar	0.00	0.00	0.00	0.00	0.00
Remaining native tree species			704.59	690.76	676.93	670.01	663.10
Total volume of native tree species			939.59	925.76	911.93	905.01	898.10
Introduced tree species							
#1 Ranked in terms of volume							
#2 Ranked in terms of volume							
#3 Ranked in terms of volume							
#4 Ranked in terms of volume							
#5 Ranked in terms of volume							
Remaining introduced tree species							

FRA categories	Scientific name	Common name	Growing stock in forest (million m ³ over bark)				
			1990	2000	2010	2015	2020
Native tree species							
Total volume of introduced tree species			–	–	–	–	–
Total growing stock			939.59	925.76	911.93	905.01	898.10

Comments

For the spp where data on MAI is not available, we used the MAI (average for the common softwood (P patula) and gardwood (E grandis))

2c Biomass stock

National Data

Data sources + type of data source eg NFI, etc

Department of Agriculture, Forestry and Fisheries: Report on Commercial Timber Resources and Primary Roundwood Processing in South Africa, 2016/17

FRA 2020 Biomass calculator

National classification and definitions

-

Original data

-

Analysis and processing of national data

Estimation and forecasting

Insert the percentages of Growing stock by IPCC forest type for each of the FRA forest categories									
IPCC forest types	FRA forest categories								
	Naturally regenerating forest	Plantation forest	Other planted forest						
	% of Growing stock								
Broadleaved humid	50%	50%	50%						
Broadleaved dry									
Coniferous	50%	50%	50%						
	100%	100%	100%	Must add up to 100%					
Insert Carbon fraction used by country (IPCC default = 0.47)									
Carbon Fraction	47%								
Biomass conversion and expansion factors (BCEF)									
Naturally regenerating forest	1990	2000	2010	2015	2016	2017	2018	2019	2020
Broadleaved humid	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
Broadleaved dry	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80

Coniferous	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
Plantation forest									
Broadleaved humid	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Broadleaved dry	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Coniferous	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Other planted forest									
Broadleaved humid	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
Broadleaved dry	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
Coniferous	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
Weighted BCEF									
Naturally regenerating forest	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.03
Plantation forest	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Other planted forest	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.03
Root-shoot ratios									
Naturally regenerating forest	1990	2000	2010	2015	2016	2017	2018	2019	2020
Broadleaved humid	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Broadleaved dry	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28
Coniferous	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29
Plantation forest									
Broadleaved humid	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24
Broadleaved dry	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28
Coniferous	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Other planted forest									
Broadleaved humid	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Broadleaved dry	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28
Coniferous	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29
Weighted RS ratio									
Naturally regenerating forest	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Plantation forest	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22

Other planted forest	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Above-ground biomass (t/ha)									
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Naturally regenerating forest	76.95	76.95	76.95	76.95	76.95	76.95	76.95	76.95	76.95
Plantation forest	193.88	193.88	193.88	193.88	193.88	193.88	193.88	193.88	193.88
Other planted forest	76.95	76.95	76.95	76.95	76.95	76.95	76.95	76.95	76.95
Total	85.14	85.30	85.48	85.57	85.59	85.60	85.62	85.64	85.66
Below-ground biomass (t/ha)									
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Naturally regenerating forest	18.85	18.85	18.85	18.85	18.85	18.85	18.85	18.85	18.85
Plantation forest	42.65	42.65	42.65	42.65	42.65	42.65	42.65	42.65	42.65
Other planted forest	18.85	18.85	18.85	18.85	18.85	18.85	18.85	18.85	18.85
Total	20.52	20.55	20.59	20.61	20.61	20.61	20.62	20.62	20.63

Reclassification into FRA 2020 categories

-

FRA categories	Forest biomass (tonnes/ha)								
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Above-ground biomass	85.14	85.30	85.48	85.57	85.59	85.60	85.62	85.64	85.66
Below-ground biomass	20.52	20.55	20.59	20.61	20.61	20.61	20.62	20.62	20.63
Dead wood									

Comments

2d Carbon stock

National Data

Data sources + type of data source eg NFI, etc

FRA 2020 Biomass calculator

National classification and definitions

-

Original data

-

Analysis and processing of national data

Estimation and forecasting

-

Reclassification into FRA 2020 categories

-

FRA categories	Forest carbon (tonnes/ha)								
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Carbon in above-ground biomass	40.01	40.09	40.17	40.22	40.23	40.23	40.24	40.25	40.26
Carbon in below-ground biomass	9.64	9.66	9.68	9.69	9.69	9.69	9.69	9.69	9.69
Carbon in dead wood									
Carbon in litter									
Soil carbon									

Soil depth (cm) used for soil carbon estimates	
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Comments

No national data on carbon stock

3 Forest designation and management

3a Designated management objective

National Data

Data sources + type of data source eg NFI, etc

Department of Agriculture, Forestry and Fisheries + Commercial Timber Resources and Primary Roundwood Processing 2009, 2012, 2015

Department of Environmental Affairs + National land Cover Data 2013-2014

National classification and definitions

-

Original data

-

Analysis and processing of national data

Estimation and forecasting

-

Reclassification into FRA 2020 categories

-

Primary designated management objective

FRA 2020 categories	Forest area (1000 ha)				
	1990	2000	2010	2015	2020
Production (a)	1 270.00	1 270.00	1 270.00	1 270.00	1 270.00
Protection of soil and water (b)					
Conservation of biodiversity (c)	500.00	497.00	493.00	428.00	428.00
Social Services (d)	11.00	11.00	11.00	11.00	11.00
Multiple use (e)					
Other (specify in comments) (f)					
None/unknown (g)	16 361.09	16 000.09	15 640.09	15 523.09	15 341.09
Total forest area	18 142.09	17 778.09	17 414.09	17 232.09	17 050.09

Total area with designated management objective

FRA 2020 categories	Forest area (1000 ha)				
	1990	2000	2010	2015	2020
Production					
Protection of soil and water					
Conservation of biodiversity					
Social Services					
Other (specify in comments)					

Comments

The bulk of the forests (savannah woodlands) are in communal land and are used for multi purposes. There is no data on areas for specific uses as multiple benefits may be derived from the same forest patch. For conservation of biodiversity, 37% of South Africa's natural forests are formally protected although all natural forests are protected in terms of the forestry legislation. There are also land patches within plantation forests (grasslands and riverine areas) that are reserved for protection of biodiversity but data is not available on the extent thereof. No data on forests designated for protection of soil and water and social services.

3b Forest area within protected areas and forest area with long-term management plans

National Data

Data sources + type of data source eg NFI, etc

Department of Agriculture, Forestry and Fisheries + State of the Forests 2009, 2012 and 2015

Department of Environmental Affairs + National land Cover Data 2013-2014

National classification and definitions

-

Original data

-

Analysis and processing of national data

Estimation and forecasting

-

Reclassification into FRA 2020 categories

-

FRA categories	Area (1000 ha)								
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Forest area within protected areas	225.00	225.00	225.00	225.00	225.00	225.00	225.00	225.00	225.00
Forest area with long-term forest management plan									
...of which in protected areas	190.00	190.00	190.00	190.00	190.00	190.00	190.00	190.00	190.00

Comments

In South Africa, it is estimated that 37 percent of natural forest falls within the legally established protected areas. As such, we have calculated 37 percent of the total natural forest area in terms of hectares in South Africa to generate forest area within the legally established protected areas.

Natural forests in all State forest land (about 189 696 000ha) and all forestry plantations (public and private) have management plans in South Africa. However, the Department of Agriculture, Forestry and Fisheries does not collect data on whether the plan is short, medium and long-term.

4 Forest ownership and management rights

4a Forest ownership

National Data

Data sources + type of data source eg NFI, etc

Department of Agriculture, Forestry and Fisheries + Commercial Timber Resources and Primary Roundwood Processing 2010, 2015

National classification and definitions

In terms of the South African constitution all land under indigenous and/or tribal leaders is classified as public land. Thus the 423 under private land should not be taken as such. It appears as "Others" in our report .

Original data

Department of Agriculture, Forestry and Fisheries + Commercial Timber Resources and Primary Roundwood Processing 2010, 2015

Analysis and processing of national data

Estimation and forecasting

-

Reclassification into FRA 2020 categories

-

FRA categories	Forest area (1000 ha)			
	1990	2000	2010	2015
Private ownership (a)	1 232.00	1 215.00	1 335.00	1 331.00
...of which owned by individuals	394.00	433.00	443.00	447.00
...of which owned by private business entities and institutions	838.00	782.00	892.00	844.00
...of which owned by local, tribal and indigenous communities	0.00	0.00	0.00	0.00
Public ownership (b)	586.00	638.00	459.00	457.00
Unknown/other (specify in comments) (c)	16 324.09	15 925.09	15 620.09	15 444.09
Total forest area	18 142.09	17 778.09	17 414.09	17 232.09

Comments

The area for private ownership of indigenous forests has been added to the row of which owned by individuals because most of the indigenous forests are on properties owned by individuals (private land).

4b Holder of management rights of public forests

National Data

Data sources + type of data source eg NFI, etc

Department of Agriculture, Forestry and Fisheries + Commercial Timber Resources and Primary Roundwood Processing 2010, 2015

National classification and definitions

-

Original data

Department of Agriculture, Forestry and Fisheries + Commercial Timber Resources and Primary Roundwood Processing 2010, 2015

Analysis and processing of national data

Estimation and forecasting

-

Reclassification into FRA 2020 categories

-

FRA categories	Forest area (1000 ha)			
	1990	2000	2010	2015
Public Administration (a)	586.00	638.00	459.00	457.00
Individuals (b)	0.00	0.00	0.00	0.00
Private business entities and institutions (c)	0.00	0.00	0.00	0.00
Local, tribal and indigenous communities (d)	0.00	0.00	0.00	0.00
Unknown/other (specify in comments) (e)	0.00	0.00	0.00	0.00
Total public ownership	586.00	638.00	459.00	457.00

Comments

5 Forest disturbances

5a Disturbances

National Data

Data sources + type of data source eg NFI, etc

Department of Agriculture, Forestry and Fisheries + Commercial Timber Resources and Primary Roundwood Processing 2010 to 2015

National classification and definitions

(d) "Others" are classified as "Animals and Rodents" in our report.

Original data

Department of Agriculture, Forestry and Fisheries + Commercial Timber Resources and Primary Roundwood Processing 2010 to 2015

Analysis and processing of national data

Estimation and forecasting

-

Reclassification into FRA 2020 categories

-

FRA categories	Area (1000 ha)																	
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Insects (a)	2.30	2.04	0.66	1.90	4.23	17.70	20.81	4.50	2.18	1.21	4.77	2.00	3.32	1.90	1.84	2.90	2.90	7.02
Diseases (b)	0.05	0.20	0.13	0.07	0.07	0.07	0.07	0.16	0.14	0.65	0.51	1.10	0.10	0.77	0.10	0.90	0.89	0.40
Severe weather events (c)	0.61	0.59	1.23	1.81	8.60	1.73	2.92	22.24	4.01	1.14	2.20	21.70	5.10	2.60	1.40	15.40	15.40	2.10
Other (specify in comments) (d)																		
Total (a+b+c+d)	2.96	2.83	2.02	3.78	12.90	19.50	23.80	26.90	6.33	3.00	7.48	24.80	8.52	5.27	3.34	19.20	19.19	9.52
Total forest area	17 778.09	–	–	–	–	–	–	–	–	–	17 414.09	–	–	–	17 268.49	17 232.09	17 195.69	17 159.29

Comments

5b Area affected by fire

National Data

Data sources + type of data source eg NFI, etc

Department of Agriculture, Forestry and Fisheries + Commercial Timber Resources and Primary Roundwood Processing 2010 to 2015

National classification and definitions

-

Original data

Department of Agriculture, Forestry and Fisheries + Commercial Timber Resources and Primary Roundwood Processing 2010 to 2015

Analysis and processing of national data

Estimation and forecasting

-

Reclassification into FRA 2020 categories

-

FRA categories	Area (1000 ha)																	
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Total land area affected by fire																		
...of which on forest	8.00	20.00	16.00	18.00	28.30	21.00	30.00	75.00	70.00	19.80	15.80	15.30	9.56	21.30	16.49	11.96	9.90	16.15

Comments

5c Degraded forest

Does your country monitor area of degraded forest		No
If "yes"	What is the national definition of "Degraded forest"?	
	Describe the monitoring process and results	

Comments

No National data on degraded forest

6 Forest policy and legislation

6a Policies, Legislation and national platform for stakeholder participation in forest policy

National Data

Data sources + type of data source eg NFI, etc

-

National classification and definitions

-

Original data

-

Indicate the existence of	Boolean (Yes/No)	
	National	Sub-national
Policies supporting SFM	Yes	Yes
Legislations and regulations supporting SFM	Yes	Yes
Platform that promotes or allows for stakeholder participation in forest policy development	Yes	Yes
Traceability system(s) for wood products	Yes	Yes

Comments

The Department of Agriculture, Forestry and Fisheries (DAFF) produces the commercial timber resources and primary roundwood report on annual basis as well as the triennial state of the forests report to ensure forest monitoring and reporting. There is a system in place for recording timber that is harvested and sold to primary roundwood processors, particularly in commercial timber plantations. However, there is no reliable system for tracing wood products from natural forests and woodlands except the permits and licences issued for harvesting on pre-determined areas or selected tree/s.

6b Area of permanent forest estate

National Data

Data sources + type of data source eg NFI, etc

-

National classification and definitions

-

Original data

-

FRA 2020 categories	Forest area (1000 ha)					
	Applicable?	1990	2000	2010	2015	2020
Area of permanent forest estate	Yes	1 818.00	1 853.00	1 794.00	1 788.00	

Comments

All areas where there are forests are assigned for permanent forest use. In cases where the owner needs to switch to another land use, such an owner has to go through the authorisation processes which include water use determination and allocations.

7 Employment, education and NWFP

7a Employment in forestry and logging

National Data

Data sources + type of data source eg NFI, etc

Forestry South Africa + Employment Statistics

National classification and definitions

-

Original data

-

FRA 2020 categories	Full-time equivalents (1000 FTE)											
	1990			2000			2010			2015		
	Total	Female	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male
Employment in forestry and logging	200.00			201.00			170.00			158.00		
...of which silviculture and other forestry activities												
...of which logging												
...of which gathering of non wood forest products												
...of which support services to forestry												

Comments

The total employment data is made of both direct and indirect employment, where indirect refers to employment in the value chain (primary processing industries). The data does not distinguish gender but the total number of persons employed. Available data does not differentiate the categories in the table.

7b Graduation of students in forest-related education

National Data

Data sources + type of data source eg NFI, etc

-

National classification and definitions

-

Original data

-

FRA 2020 categories	Number of graduated students											
	1990			2000			2010			2015		
	Total	Female	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male
Doctoral degree												
Master's degree												
Bachelor's degree												
Technician certificate / diploma												
Total										120.00	39.00	81.00

Comments

No comprehensive data on education except for 2015

7c Non wood forest products removals and value 2015

National Data

Data sources + type of data source eg NFI, etc

-

National classification and definitions

-

Original data

-

	Name of NWFP product	Key species	Quantity	Unit	Value (1000 local currency)	NWFP category
#1	Tree Bark					13 Raw material for medicine
#2	Vegetables					1 Food
#3	Bush meat					1 Food
#4	Honey					11 Wild honey and bee wax
#5	Browse					2 Fodder
#6	Mushrooms					1 Food
#7	Edible Insects					1 Food
#8	Eucalyptus Oils					3 Raw material for medicine and aromatic products
#9	Ferns					5 Raw material for utensils handicrafts construction
#10	Wild Fruits					1 Food
All other plant products						
All other animal products						
Total					-	

Name of currency	
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Comments

No comprehensive data on NWFP although there are economic activities on a variety of products such as harvesting and selling of ferns for floristic industry, fuelwood industry, oils, honey etc

8 Sustainable Development Goal 15

8a Sustainable Development Goal 15

SDG Indicator 15.1.1 Forest area as proportion of total land area 2015

Indicator	Percent							
	2000	2010	2015	2016	2017	2018	2019	2020
Forest area as proportion of total land area 2015	14.66	14.36	14.21	14.18	14.15	14.12	14.09	14.06

Name of agency responsible	Department of Agriculture, Forestry and Fisheries
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SDG Indicator 15.2.1 Progress towards sustainable forest management

Sub-Indicator 1	Percent						
	2000-2010	2010-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
Forest area annual net change rate	-0.21	-0.21	-0.21	-0.21	-0.21	-0.21	-0.21

Name of agency responsible	Department of Agriculture, Forestry and Fisheries
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Sub-Indicator 2	Forest biomass (tonnes/ha)							
	2000	2010	2015	2016	2017	2018	2019	2020
Above-ground biomass stock in forest	85.30	85.48	85.57	85.59	85.60	85.62	85.64	85.66

Name of agency responsible	
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Sub-Indicator 3	Percent (2015 forest area baseline)							
	2000	2010	2015	2016	2017	2018	2019	2020
Proportion of forest area located within legally established protected areas	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31

Name of agency responsible	
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Sub-Indicator 4	Percent (2015 forest area baseline)							
	2000	2010	2015	2016	2017	2018	2019	2020
Proportion of forest area under long-term forest management plan	-	-	-	-	-	-	-	-

Name of agency responsible	
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Sub-Indicator 5	Forest area (1000 ha)							
	2000	2010	2015	2016	2017	2018	2019	2020
Forest area under independently verified forest management certification schemes	1 001.51	2 150.65	1 275.32	1 459.44	1 400.58	1 472.63	-	-