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Report

Turkey

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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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TABLE OF CONTENTS

Introduction

1. Forest extent, characteristics and changes
2. Forest growing stock, biomass and carbon
3. Forest designation and management
4. Forest ownership and management rights
5. Forest disturbances
6. Forest policy and legislation
7. Employment, education and NWFP
8. Sustainable Development Goal 15

Introduction

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Introductory text

Forests are a natural resource that has provided humanity with many economic, ecological and socio-cultural benefits such as food, fuel, shelter, fresh air, water, recreation activities for thousands of years. In addition, forests are one of the places where living communities interact with each other as a wide ecosystem structure. Protection, sustainability, and the evaluation of this resource are some of the basic duties of humanity in the content of this report.

Almost all forests in Turkey is managed by the General Directorate of Forestry in the framework of a sustainable management approach. Article 26 of the Forest Law No. 6831 states "... Production in the state forests is done based on principles determined by the Ministry of Agriculture and Forestry and forest management plans." According to this law, the forests in Turkey are operated by forest management plans. The forest management plans for each forestry sub-district directorates are made or supervised by the Department of Forest Management and Planning.

General Directorate of Forestry was established in 1839 and has adopted a mission which is "To protect forest and forest resources, to develop with a close understanding of nature, to manage in ecosystem integrity and to provide multifaceted benefits to society." General Directorate of Forestry has 2140 forestry sub-district directorate, 246 forestry district directorate, 28 regional directorates of forestry, 12 forestry research institutes and 21 departments.

The first forest management plan was made in 1917 and the forests in Turkey started to be managed with a forest management plan. Overall of all, forest management plans are renewed every 10 years in Turkey. The forest area has increased from 20.2 million hectares in 1972 to 22.3 million hectares in 2015 and 22.6 million hectares in 2018 because of the efforts of General Directorate of Forestry employees and sustainable and ecosystem-based forest management plans. Consequently, the growing stock increased from 0.9 billion m³ in 1972 to 1.6 billion m³ in 2015 and 1.7 billion m³ in 2018.

In our country, forest inventory data are provided by remote sensing and ground data which are called as combined inventory method. Ecosystem-based forest management plans are produced with the forest inventory provided. These plans are stored in our national database ENVANIS (inventory-statistics) and ORBIS (Forest Information System) databases and shared with the public for every 5 years.

1 Forest extent, characteristics and changes

1a Extent of forest and other wooded land

National data

Data sources

2002	References	DEMIRCI, M., KARAGOZ, G., 2012. Forest Inventory Results – 2018. General Directorate of Forestry, Ankara.
	Methods used	Other (specify in comments)
	Additional comments	Inventory data derived from the renewed Forest Management Plans since 2010.
2005	References	General Directorate of Forestry in 2018.
	Methods used	Other (specify in comments)
	Additional comments	Inventory data derived from the renewed Forest Management Plans
2010	References	General Directorate of Forestry in 2018.
	Methods used	Other (specify in comments)
	Additional comments	ENVANIS data base collects and process data from the forest management plans as the plans are renewed.
2015	References	State of Turkey' s Forests 2015, GDF data in 2018.
	Methods used	Other (specify in comments)
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2016	References	GDF, 1980. Turkish Forestry Inventory: Publications, Series No: 630. Forest, Other Wooded Land 1972, GDF in 2018.
	Methods used	Other (specify in comments)
	Additional comments	Inventory data derived from the Forest Management Plans.
2018	References	General Directorate of Forestry, State of Turkey's Forests, 2018.
	Methods used	Other (specify in comments)

Additional comments

ENVANIS data base collects and process data from the forest management plans as the plans are renewed.

Classifications and definitions

2002	National class	Definition
	Closed high forest	The forest land where tree canopy cover is between 11-100%, mainly established by seed naturally or by human interference (Usually species which are expected to have a long maturity age and relatively high are chosen).
	Closed coppice forest	The forest land where tree canopy cover is between 11-100%, originating mainly from sprouts or root suckers rather than seed and managed for short rotation period
	Open high forest	The forest land where current tree canopy cover is less than 10%, mainly established by seed naturally or by human interference (Usually species which are expected to have a long maturity age and relatively high are chosen).
	Open coppice forest	The forest land where current tree canopy cover is less than 10%, originating mainly from sprouts or root suckers rather than seed and managed for short rotation period.
	Other wooded land	The forest land where current tree canopy cover is less than 10% and trees height at maturity are less than 5 m.

2005	National class	Definition
	Closed high forest	The forest land where tree canopy cover is between 11-100%, mainly established by seed naturally or by human interference (Usually species which are expected to have a long maturity age and relatively high are chosen).
	Closed coppice forest	The forest land where tree canopy cover is between 11-100%, originating mainly from sprouts or root suckers rather than seed and managed for short rotation period
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2010	National class	Definition
	Closed high forest	The forest land where tree canopy cover is between 11-100%, mainly established by seed naturally or by human interference (Usually species which are expected to have a long maturity age and relatively high are chosen).
	Closed coppice forest	The forest land where tree canopy cover is between 11-100%, originating mainly from sprouts or root suckers rather than seed and managed for short rotation period
Open high forest		

		The forest land where current tree canopy cover is less than 10%, mainly established by seed naturally or by human interference (Usually species which are expected to have a long maturity age and relatively high are chosen).
	Open coppice forest	The forest land where current tree canopy cover is less than 10%, originating mainly from sprouts or root suckers rather than seed and managed for short rotation period.
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	National class	Definition
2015	Closed high forest	The forest land where tree canopy cover is between 11-100%, mainly established by seed naturally or by human interference (Usually species which are expected to have a long maturity age and relatively high are chosen).
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	National class	Definition
2016	Closed high forest	The forest land where tree canopy cover is between 11-100%, mainly established by seed naturally or by human interference (Usually species which are expected to have a long maturity age and relatively high are chosen).
	Closed coppice forest	The forest land where tree canopy cover is between 11-100%, originating mainly from sprouts or root suckers rather than seed and managed for short rotation period
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	National class	Definition
2018	Closed high forest	The forest land where tree canopy cover is between 11-100%, mainly established by seed naturally or by human interference (Usually species which are expected to have a long maturity age and relatively high are chosen).

Closed coppice forest	The forest land where tree canopy cover is between 11-100%, originating mainly from sprouts or root suckers rather than seed and managed for short rotation period
Open high forest	The forest land where current tree canopy cover is less than 10%, mainly established by seed naturally or by human interference (Usually species which are expected to have a long maturity age and relatively high are chosen).
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Other wooded land	The forest land where current tree canopy cover is less than 10%, and trees height at maturity is less than 5 m.

Original data and reclassification

2002	Classifications and definitions		FRA classes		
	Class	Area (1000 ha)	Forest	Other wooded land	Other land
	Closed high forest	8 732.76	100.00 %	0.00 %	0.00 %
	Closed coppice forest	1 759.79	100.00 %	0.00 %	0.00 %
	Open high forest	5 736.07	100.00 %	0.00 %	0.00 %
	Open coppice forest	4 115.19	100.00 %	0.00 %	0.00 %
	Other wooded land	712.64	0.00 %	100.00 %	0.00 %
	Total	21 056.45	20 343.81	712.64	0.00

2005	Classifications and definitions		FRA classes		
	Class	Area (1000 ha)	Forest	Other wooded land	Other land
	Closed high forest	8 979.34	100.00 %	0.00 %	0.00 %
	Closed coppice forest	1 682.66	100.00 %	0.00 %	0.00 %
	Open high forest	5 862.56	100.00 %	0.00 %	0.00 %
	Open coppice forest	4 011.30	100.00 %	0.00 %	0.00 %
	Other wooded land	712.64	0.00 %	100.00 %	0.00 %
	Total	21 248.50	20 535.86	712.64	0.00

2010	Classifications and definitions		FRA classes		
	Class	Area (1000 ha)	Forest	Other wooded land	Other land

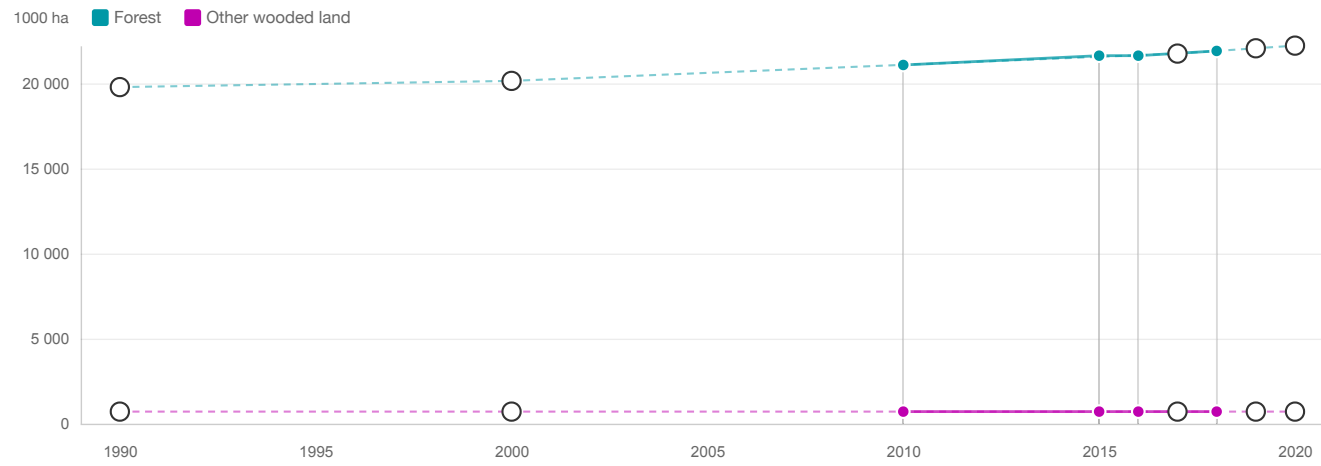
	Class	Area (1000 ha)	Forest	Other wooded land	Other land
	Closed high forest	10 449.20	100.00 %	0.00 %	0.00 %
	Closed coppice forest	1 233.88	100.00 %	0.00 %	0.00 %
	Open high forest	6 428.33	100.00 %	0.00 %	0.00 %
	Open coppice forest	2 971.67	100.00 %	0.00 %	0.00 %
	Other wooded land	712.64	0.00 %	100.00 %	0.00 %
	Total	21 795.72	21 083.08	712.64	0.00

2015	Classifications and definitions		FRA classes		
	Class	Area (1000 ha)	Forest	Other wooded land	Other land
	Closed high forest	11 919.06	100.00 %	0.00 %	0.00 %
	Closed coppice forest	785.09	100.00 %	0.00 %	0.00 %
	Open high forest	6 994.10	100.00 %	0.00 %	0.00 %
	Open coppice forest	1 932.05	100.00 %	0.00 %	0.00 %
	Other wooded land	712.64	0.00 %	100.00 %	0.00 %
	Total	22 342.94	21 630.30	712.64	0.00

2016	Classifications and definitions		FRA classes		
	Class	Area (1000 ha)	Forest	Other wooded land	Other land
	Closed high forest	12 327.85	100.00 %	0.00 %	0.00 %
	Closed coppice forest	626.74	100.00 %	0.00 %	0.00 %
	Open high forest	7 111.14	100.00 %	0.00 %	0.00 %
	Open coppice forest	1 564.57	100.00 %	0.00 %	0.00 %
	Other wooded land	712.64	0.00 %	100.00 %	0.00 %
	Total	22 342.94	21 630.30	712.64	0.00

2018	Classifications and definitions		FRA classes		
	Class	Area (1000 ha)	Forest	Other wooded land	Other land

Class	Area (1000 ha)	Forest	Other wooded land	Other land
Closed high forest	12 754.56	100.00 %	0.00 %	0.00 %
Closed coppice forest	342.93	100.00 %	0.00 %	0.00 %
Open high forest	7 934.03	100.00 %	0.00 %	0.00 %
Open coppice forest	876.84	100.00 %	0.00 %	0.00 %
Other wooded land	712.64	0.00 %	100.00 %	0.00 %
Total	22 621.00	21 908.36	712.64	0.00



FRA categories	Area (1000 ha)								
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Forest (a)	19 783.48	20 148.35	21 083.08	21 630.30	21 630.30	21 752.46	21 908.36	22 064.36	22 220.36
Other wooded land (a)	712.64	712.64	712.64	712.64	712.64	712.64	712.64	712.64	712.64
Other land (c-a-b)	56 466.88	56 102.01	55 167.28	54 620.06	54 620.06	54 497.90	54 342.00	54 186.00	54 030.00
Total land area (c)	76 963.00	76 963.00	76 963.00	76 963.00	76 963.00	76 963.00	76 963.00	76 963.00	76 963.00

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		12.00
Sub-tropical		88.00
Tropical		0.00

Comments

The change of total forest area resulted from the application of different classification of national forest classes. Forests reported as other wooded lands in 2015 reporting are reported as forest in 2020.

The inputs of 2018, 2019 and 2020 were forecasted according to the planned afforestation in our realistic National Forest Program.

The area of wooded land is the same in all years. Other woodland areas were selected below list. These areas are suffered from erosion and stony.

- Alpine zone,
- Nature protection areas,
- Nature conservation area,
- Very bad growing site areas,
- High mountain ecosystems,

Wood productions cannot be done in these areas where never land spanning more than 0.5 hectares with trees higher than 5 meters and a canopy cover of more than 10 percent, or trees not able to reach these thresholds in situ. So, these areas are defined as "other wooded land". There are larch, red pine, scotch pine, juniper species in the other wooded land.

In FRA 2020 terms and definitions, the forest was described as "*Land spanning more than 0.5 hectares with trees higher than 5 meters and a canopy cover of more than 10 percent, or trees able to reach these thresholds in situ. It does not include land that is predominantly under agricultural or urban land use.*" Although the open forests have less than 10 percent, these areas have the potential to exceed 10 percent of canopy cover in the future. So, the open forest areas are accepted as forest areas. In addition, it was decided that open forest areas would be included in the forest definition in both the Geneva and Mexico meetings.

1b Forest characteristics

National data

Data sources

2002	References	DEMIRCI, M., KARAGOZ, G., 2012. Forest Inventory Results – 2018. General Directorate of Forestry, Ankara.
	Methods used	Other (specify in comments)
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	Methods used	Other (specify in comments)
	Additional comments	ENVANIS data base collects and process data from the forest management plans as the plans are renewed.

Classifications and definitions

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	Open high forest	The forest land where current tree canopy cover is less than 10%, mainly established by seed naturally or by human interference (Usually species which are expected to have a long maturity age and relatively high are chosen).
Open coppice forest		

		The forest land where current tree canopy cover is less than 10%, originating mainly from sprouts or root suckers rather than seed and managed for short rotation period.
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	Other wooded land	The forest land where current tree canopy cover is less than 10%, and trees height at maturity is less than 5 m.

Original data and reclassification

	Classifications and definitions		FRA classes		
	Class	Area (1000 ha)	Naturally regenerating forest	Plantation forest	Other planted forest
2002	Closed high forest	8 732.76	95.75 %	4.25 %	0.00 %
	Closed coppice forest	1 759.79	96.00 %	4.00 %	0.00 %
	Open high forest	5 736.07	98.00 %	2.00 %	0.00 %
	Open coppice forest	4 115.19	100.00 %	0.00 %	0.00 %
	Total	20 343.81	19 787.55	556.26	0.00

Plantation forest	Area (1000 ha)	...of which introduced
Closed high forest	371.14	8.50 %
Closed coppice forest	70.39	0.38 %
Open high forest	114.72	0.38 %
Total	556.26	32.25

	Classifications and definitions		FRA classes		
	Class	Area (1000 ha)	Naturally regenerating forest	Plantation forest	Other planted forest
2005	Closed high forest	8 979.34	95.50 %	4.50 %	0.00 %
	Closed coppice forest	1 682.66	95.75 %	4.25 %	0.00 %
	Open high forest	5 862.56	97.75 %	2.25 %	0.00 %
	Open coppice forest	4 011.30	100.00 %	0.00 %	0.00 %
	Total	20 535.86	19 928.37	607.49	0.00

Plantation forest	Area (1000 ha)	...of which introduced
Closed high forest	404.07	8.50 %
Closed coppice forest	71.51	0.45 %
Open high forest	131.91	0.45 %
Total	607.49	35.26

	Classifications and definitions		FRA classes		
	Class	Area (1000 ha)	Naturally regenerating forest	Plantation forest	Other planted forest
2010	Closed high forest	10 449.20	95.75 %	4.25 %	0.00 %
	Closed coppice forest	1 233.88	96.00 %	4.00 %	0.00 %
	Open high forest	6 428.33	98.00 %	2.00 %	0.00 %
	Open coppice forest	2 971.67	100.00 %	0.00 %	0.00 %
	Total	21 083.08	20 461.07	622.01	0.00

Plantation forest	Area (1000 ha)	...of which introduced
Closed high forest	444.09	8.60 %
Closed coppice forest	49.36	0.33 %
Open high forest	128.57	0.33 %
Total	622.01	38.78

	Classifications and definitions		FRA classes		
	Class	Area (1000 ha)	Naturally regenerating forest	Plantation forest	Other planted forest
2015	Closed high forest	11 919.06	95.58 %	4.42 %	0.00 %
	Closed coppice forest	785.09	96.00 %	4.00 %	0.00 %
	Open high forest	6 994.10	98.00 %	2.00 %	0.00 %
	Open coppice forest	1 932.05	100.00 %	0.00 %	0.00 %
	Total	21 630.30	20 932.19	698.11	0.00

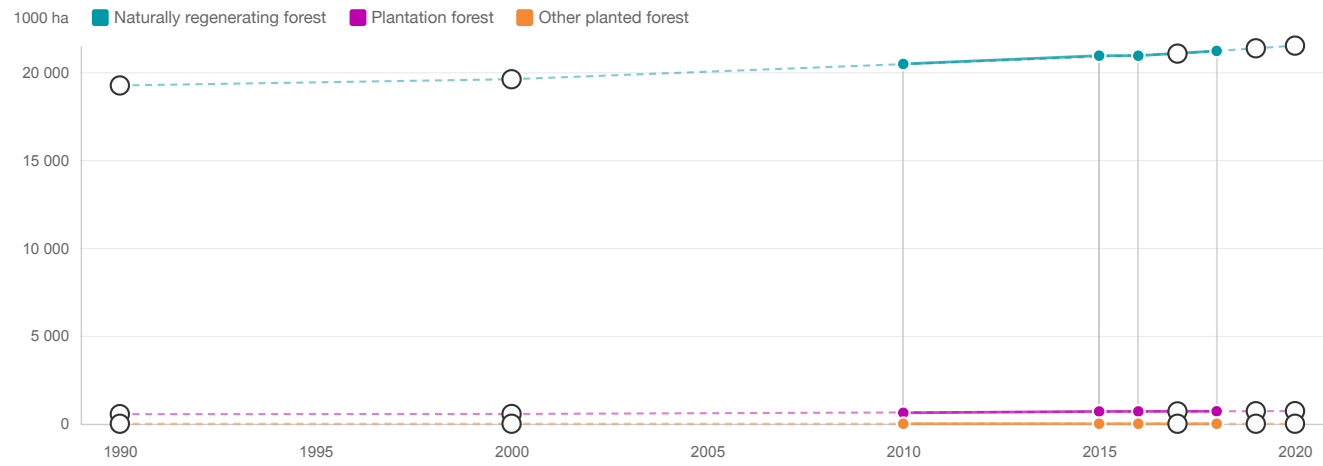
Plantation forest	Area (1000 ha)	...of which introduced
Closed high forest	526.82	9.90 %
Closed coppice forest	31.40	0.29 %
Open high forest	139.88	0.29 %
Total	698.11	52.65

	Classifications and definitions		FRA classes		
	Class	Area (1000 ha)	Naturally regenerating forest	Plantation forest	Other planted forest
2016	Closed high forest	12 327.85	95.67 %	4.33 %	0.00 %
	Closed coppice forest	626.74	96.00 %	4.00 %	0.00 %
	Open high forest	7 111.14	98.00 %	2.00 %	0.00 %
	Open coppice forest	1 564.57	100.00 %	0.00 %	0.00 %
	Total	21 630.30	20 929.21	701.09	0.00

Plantation forest	Area (1000 ha)	...of which introduced
Closed high forest	533.80	12.50 %
Closed coppice forest	25.07	0.29 %
Open high forest	142.22	2.00 %
Total	701.09	69.64

	Classifications and definitions		FRA classes		
	Class	Area (1000 ha)	Naturally regenerating forest	Plantation forest	Other planted forest
2018	Closed high forest	12 754.56	95.79 %	4.21 %	0.00 %
	Closed coppice forest	342.93	96.50 %	3.50 %	0.00 %
	Open high forest	7 934.03	98.00 %	2.00 %	0.00 %
	Open coppice forest	876.84	100.00 %	0.00 %	0.00 %
	Total	21 908.36	21 200.71	707.65	0.00

Plantation forest	Area (1000 ha)	...of which introduced
Closed high forest	536.97	8.50 %
Closed coppice forest	12.00	0.00 %
Open high forest	158.68	0.00 %
Total	707.65	45.64



FRA categories	Forest area (1000 ha)								
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Naturally regenerating forest (a)	19 237.50	19 592.65	20 461.07	20 932.19	20 929.21	21 049.76	21 200.71	21 351.90	21 503.02
Planted forest (b)	545.98	555.70	622.01	698.11	701.09	702.70	707.65	712.46	717.34
Plantation forest	545.98	555.70	622.01	698.11	701.09	702.70	707.65	712.46	717.34
...of which introduced species	18.05	19.90	38.78	52.65	69.64	64.07	45.64	64.96	65.41
Other planted forest	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total (a+b)	19 783.48	20 148.35	21 083.08	21 630.30	21 630.30	21 752.46	21 908.36	22 064.36	22 220.36
Total forest area	19 783.48	20 148.35	21 083.08	21 630.30	21 630.30	21 752.46	21 908.36	22 064.36	22 220.36

Comments

1c Primary forest and special forest categories

National Data

Data sources + type of data source eg NFI, etc

An official report from Department of Silviculture

National classification and definitions

Temporarily unstocked and/or recently regenerated	Failed plantations.
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There are no Bamboos, mangroves, and Rubber woods in Turkey. All forests in Turkey are managed under the a forest management plan.

Original data

-

Analysis and processing of national data

Estimation and forecasting

Failed plantations are calculated for Temporarily unstocked and/or recently regenerated

Reclassification into FRA 2020 categories

-

FRA categories	Area (1000 ha)				
	1990	2000	2010	2015	2020
Primary forest	0.00	0.00	0.00	0.00	0.00
Temporarily unstocked and/or recently regenerated	42.08	30.61	27.98	27.36	39.14
Bamboos	0.00	0.00	0.00	0.00	0.00
Mangroves	0.00	0.00	0.00	0.00	0.00
Rubber wood	0.00	0.00	0.00	0.00	0.00

Comments

1d Annual forest expansion, deforestation and net change

National Data

Data sources + type of data source eg NFI, etc

- Official reports about the afforestation from Department of Afforestation at General Directorate of Forestry
- Official reports about the natural expansion from Department of Silviculture at General Directorate of Forestry
- Official reports about the deforestation from Department of Forest Cadastre and Ownership, Permission and Easement, and Forest Management and Planning at General Directorate of Forestry
- Forestry Statistics 2017 published by General Directorate of Forestry

National classification and definitions

Afforestation	All the activities realized in line with local conditions with the purposes of production (economic), protection, hydrology and rehabilitation of locality (ecologic), aestheticism, recreation and protection of the environment (social).
Natural expansion	The transformation of non-forest areas into forest areas uses.
Deforestation	The transformation of forest areas into other land uses.

Original data

The original data are available in Forestry Statistics 2017 published by GDF.

Analysis and processing of national data

Estimation and forecasting

The estimation process is from 1990 to 2017. Forest expansion and deforestation for 2018, 2019, and 2020 was forecasted based on net forest change of national forest program.

Reclassification into FRA 2020 categories

-

FRA categories	Area (1000 ha/year)			
	1990-2000	2000-2010	2010-2015	2015-2020
Forest expansion (a)	38.71	94.85	110.47	119.18
...of which afforestation	22.65	62.91	75.36	80.20
...of which natural expansion	16.06	31.94	35.11	38.98
Deforestation (b)	2.22	1.38	1.03	1.17
Forest area net change (a-b)	36.49	93.47	109.44	118.01

Comments

There is an ambitious afforestation programme in Turkey within a framework of the National Forest Program. Turkey is one of the countries increase the forest areas although the forest areas of the world has been decreasing.

1e Annual reforestation

National Data

Data sources + type of data source eg NFI, etc

- Official reports from Department of Afforestation at General Directorate of Forestry
- Official reports from Department of Silviculture at General Directorate of Forestry
- Official reports from Department of Forest Cadastre and Ownership, Permission and Easement, and Forest Management and Planning at General Directorate of Forestry
- Forestry Statistics 2017 published by General Directorate of Forestry

National classification and definitions

Reforestation	Re-establishment of forest through planting or seeding on forest uses areas.
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Original data

The original data are available in Forestry Statistics 2017 published by General Directorate of Forestry.

Analysis and processing of national data

Estimation and forecasting

For reforestation, forest plantations, erosion control, pasture breeding, special forestation and energy forest plant data were used.

Reclassification into FRA 2020 categories

-

FRA categories	Area (1000 ha/year)			
	1990-2000	2000-2010	2010-2015	2015-2020
Reforestation	60.08	76.71	104.76	118.82

Comments

1f Other land with tree cover

National Data

Data sources + type of data source eg NFI, etc

- Official reports about the afforestation from Department of Afforestation at General Directorate of Forestry
- ENVANIS
- Forestry Statistics 2017 published by General Directorate of Forestry

National classification and definitions

For tree orchards, pistachios, wild pear, hawthorn, almond, walnut, bay, mulberry, pistachio pine, pregnant, carob, jujube, chestnut, rosehip, mahaleb cherry, turpentine tree, and olives trees data were used.

Trees in urban settings data were provided from ENVANIS.

Original data

-

Analysis and processing of national data

Estimation and forecasting

The estimation process is from 1990 to 2020. Tree orchards and trees in urban settings for 2018, 2019, and 2020 was forecasted based on net forest change of national forest program.

Reclassification into FRA 2020 categories

-

FRA categories	Area (1000 ha)				
	1990	2000	2010	2015	2020
Palms (a)	0.00	0.00	0.00	0.00	0.00
Tree orchards (b)	8.12	8.26	8.39	8.85	9.01
Agroforestry (c)	0.00	0.00	0.00	0.00	0.00
Trees in urban settings (d)	4.93	5.02	5.10	5.38	5.52
Other (specify in comments) (e)	0.00	0.00	0.00	0.00	0.00
Total (a+b+c+d+e)	13.05	13.28	13.49	14.23	14.53
Other land area	56 466.88	56 102.01	55 167.28	54 620.06	54 030.00

Comments

2 Forest growing stock, biomass and carbon

2a Growing stock

National Data

Data sources + type of data source eg NFI, etc

- ENVANIS
- Official reports from Department of Management and Planning
- Forestry Statistics 2017 published by General Directorate of Forestry

National classification and definitions

Naturally regenerating forest	Forest predominantly composed of trees established through natural regeneration
Planted forest	Forest predominantly composed of trees established through planting and/or deliberate seeding.
Forest	The ecosystem with the forest trees which are able to reach a minimum height of 5 m at maturity in suitable sites.
Other wooded land	The forest land where current tree canopy cover is less than 10%, and trees height at maturity is less than 5 m.
Growing stock	The cylindrical volume of living trees with bark at the forest land by m ³ and ster.

Original data

-

Analysis and processing of national data

Estimation and forecasting

The data of requested variables were provided from ENVANIS, forest management plans, and Forestry Statistics 2017 from 1990 to 2017. For 2018, 2019 and 2020, we used realistic strategic plans.

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	44.13	57.46	65.05	74.48	74.49	75.34	75.75	76.17	76.45
Planted forest	44.71	74.43	79.05	75.58	75.25	71.08	72.62	73.28	74.00
...of which plantation forest	44.71	74.43	79.05	75.58	75.25	71.08	72.62	73.28	74.00
...of which other planted forest	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Forest	44.15	57.93	65.46	74.51	74.51	75.20	75.65	76.08	76.37
Other wooded land	31.05	52.35	70.44	72.15	72.15	72.90	73.29	73.68	74.06

FRA categories	Total growing stock (million m ³ over bark)								
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Naturally regenerating forest	848.96	1 125.86	1 330.97	1 559.01	1 559.01	1 585.79	1 605.89	1 626.47	1 643.98
Planted forest	24.41	41.36	49.17	52.76	52.76	49.95	51.39	52.21	53.08
...of which plantation forest	24.41	41.36	49.17	52.76	52.76	49.95	51.39	52.21	53.08
...of which other planted forest	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Forest	873.37	1 167.22	1 380.14	1 611.77	1 611.77	1 635.74	1 657.28	1 678.68	1 697.06
Other wooded land	22.13	37.31	50.20	51.42	51.42	51.95	52.23	52.51	52.78

Comments

2b Growing stock composition

National Data

Data sources + type of data source eg NFI, etc

- ENVANIS
- Official reports from Department of Management and Planning
- Forestry Statistics 2017 published by General Directorate of Forestry

National classification and definitions

Native Tree Species	A species, subspecies or lower taxon occurring inside of the country. The species can live without any human cares.
Introduced Tree Species	A species, subspecies or lower taxon occurring outside its natural range (past or present) and dispersal potential (i.e. outside the range it occupies naturally or could occupy without direct or indirect introduction or care by humans).

Original data

-

Analysis and processing of national data

Estimation and forecasting

The data of requested variables were provided from ENVANIS, forest management plans, and Forestry Statistics 2017 from 1990 to 2017. For 2018, 2019 and 2020, we used realistic strategic plans.

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 nigra	Black Pine	200.70	268.23	317.16	370.70	387.25
#2 Ranked in terms of volume	Fagus orientalis	Beech	187.60	250.72	296.46	346.51	371.60
#3 Ranked in terms of volume	Pinus brutia	Turkish Red Pine	173.03	231.25	273.43	318.24	326.83
#4 Ranked in terms of volume	Quercus spp.	Oak	82.59	110.38	130.52	152.55	160.56
#5 Ranked in terms of volume	Pinus sylvestres	Scot Pine	79.66	106.47	125.89	147.14	155.44
#6 Ranked in terms of volume	Abies spp.	Fir	63.48	84.84	100.31	117.24	125.90
#7 Ranked in terms of volume	Picea spp.	Spruce	34.99	46.77	55.30	64.63	68.10
#8 Ranked in terms of volume	Cedrus libani	Lebanon Cedar	14.26	19.06	22.54	26.34	28.25
#9 Ranked in terms of volume	Juniperus spp.	Juniper	10.76	14.38	17.00	19.87	20.32
#10 Ranked in terms of volume	Alnus spp.	Alnus	6.92	9.24	10.93	12.78	13.20
Remaining native tree species			16.39	21.91	25.91	30.28	33.64
Total volume of native tree species			870.38	1 163.25	1 375.45	1 606.28	1 691.09
Introduced tree species							
#1 Ranked in terms of volume	Pinus pinaster	Maritime pine	2.83	3.78	4.47	5.23	5.64
#2 Ranked in terms of volume	Eucalyptus camaldulensis	Gum trees	0.11	0.14	0.17	0.20	0.23
#3 Ranked in terms of volume	Pinus elderica	Elderica pine	0.02	0.02	0.02	0.03	0.04
#4 Ranked in terms of volume	Pseudotsuga menziesii	Douglas fir	0.01	0.01	0.01	0.01	0.02

FRA categories	Scientific name	Common name	Growing stock in forest (million m ³ over bark)				
			1990	2000	2010	2015	2020
Native tree species							
#5 Ranked in terms of volume	Robinia pseudoacacia	Locusts	0.01	0.01	0.01	0.01	0.02
Remaining introduced tree species			0.01	0.01	0.01	0.01	0.02
Total volume of introduced tree species			2.99	3.97	4.69	5.49	5.97
Total growing stock			873.37	1 167.22	1 380.14	1 611.77	1 697.06

Comments

2c Biomass stock

National Data

Data sources + type of data source eg NFI, etc

- Official reports from Department of Forest Management and Planning
- Official reports from Department of Foreign Relations, Training and Research
- Forestry Statistics 2017 published by General Directorate of Forestry
- IPCC Guidelines 2006

National classification and definitions

Above-ground biomass	All living biomass above the soil including stem stump branches bark seeds and foliage.
Below-ground biomass	All biomass of live roots. Fine roots of less than 2 mm diameter are excluded because these often cannot be distinguished empirically from soil organic matter or litter.
Dead wood	All non-living woody biomass not contained in the litter either standing lying on the ground or in the soil. Dead wood includes wood lying on the surface dead roots and stumps larger than or equal to 10 cm in diameter or any other diameter used by the country.

Original data

-

Analysis and processing of national data

Estimation and forecasting

All the required categories were calculated from 1990 to 2016. For 2017, 2018, 2019, and 2020, the 2016 data were used.

AGB= Above-ground biomass

BGB = Below-ground biomass

GS= Growing stock (volume, m³ over bark)

BCEF= Biomass conversion and expansion factor (Please see IPCC Guideline 2006)

R= R = Root-shoot ratio (Please see IPCC Guideline 2006)

$AGB = GS \times BCEF$

$BGB = AGB \times R$

Deadwood biomass amounts were estimated as 1% of the aboveground biomass.

Reclassification into FRA 2020 categories

-

FRA categories	Forest biomass (tonnes/ha)								
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Above-ground biomass	33.63	36.58	41.57	45.70	48.11	48.11	48.11	48.11	48.11
Below-ground biomass	9.94	10.81	11.95	12.80	13.06	13.06	13.06	13.06	13.06
Dead wood	0.34	0.37	0.42	0.46	0.48	0.48	0.48	0.48	0.48

Comments

2d Carbon stock

National Data

Data sources + type of data source eg NFI, etc

- Official reports from Department of Forest Management and Planning
- Official reports from Department of Foreign Relations, Training and Research
- Forestry Statistics 2017 published by General Directorate of Forestry
- IPCC Guidelines 2006

National classification and definitions

Carbon in above-ground biomass	Carbon in all living biomass above the soil including stem stump branches bark seeds and foliage.
Carbon in below-ground biomass	Carbon in all biomass of live roots. Fine roots of less than 2 mm diameter are excluded because these often cannot be distinguished empirically from soil organic matter or litter.
Carbon in dead wood	Carbon in all non-living woody biomass not contained in the litter, either standing, lying on the ground, or in the soil. Deadwood includes wood lying on the surface, dead roots and stumps larger than or equal to 10 cm in diameter or any other diameter used by the country.
Carbon in litter	Carbon in all non-living biomass with a diameter less than the minimum diameter for dead wood (e.g. 10 cm) lying dead in various states of decomposition above the mineral or organic soil.
Soil carbon	Organic carbon in mineral and organic soils (including peat) to a soil depth of 30 cm.

Original data

-

Analysis and processing of national data

Estimation and forecasting

All the required categories were calculated from 1990 to 2016. For 2017, 2018, 2019, and 2020, the 2016 data were used.

CAGB= Carbon in above-ground biomass

CBGB =Carbon in below-ground biomass

CDW= Carbon in dead wood

GS= Growing stock (volume, m³ over bark)

BCEF= Biomass conversion and expansion factor (Please see IPCC Guideline 2006)

R= Root-shoot ratio (Please see IPCC Guideline 2006)

CF= Carbon Function (0.51 for coniferous species and 0.48 for deciduous species)

$CAGB = GS \times BCEF \times CF$

$CBGB = AGB \times R \times CF$

$CDW = AGB \times 0.01 \times 0.47$ (Please see IPCC Guideline 2006)

Deadwood biomass amounts were estimated as 1% of the aboveground biomass.

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	16.77	18.24	22.17	24.79	25.65	25.65	25.65	25.65	25.65	25.65
Carbon in below-ground biomass	4.96	5.39	5.97	6.40	6.47	6.47	6.47	6.47	6.47	6.47
Carbon in dead wood	0.16	0.17	0.20	0.22	0.23	0.23	0.23	0.23	0.23	0.23
Carbon in litter	5.87	6.00	5.91	5.98	5.25	5.25	5.25	5.25	5.25	5.25
Soil carbon	43.53	46.15	46.46	48.91	50.38	50.38	50.38	50.38	50.38	50.38

Soil depth (cm) used for soil carbon estimates	30.00
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Comments

3 Forest designation and management

3a Designated management objective

National Data

Data sources + type of data source eg NFI, etc

- ENVANIS
- Official reports from Department of Management and Planning
- Forestry Statistics 2017 published by General Directorate of Forestry
- Eraslan, İ., (1982). Orman Amenajmanı, İÜ Orman Fakültesi Yayınları No.:3010/318, İstanbul, s. 582. (In Turkish)

National classification and definitions

In line with international processes, the main forest functions are divided into three as **economic**, **ecological** and **sociocultural**. According to Eraslan (1982) under these main functions, ten general forest functions which are shown below are determined. These functions are;

- **Forest products production function,**
- **Nature protection function,**
- **Erosion prevention function,**
- **Climate protection function,**
- **Hydrological function,**
- **Community health function,**
- **Aesthetic function,**
- **Ecotourism and recreation function,**
- **National defense function,**
- **Scientific function**

1 year before the implementation of the land survey program, where the functional planning work will be carried out, information is given about the activities to be carried out by the forest regional directorate to the relevant institutions and organizations, local authority, non-governmental organizations and all interest groups in the field.

Offerings are collected on the areas where various functions are to be performed, and functional areas are marked on the stand map based on the stand type basis. Then, draft function maps are created.

Original data

-

Analysis and processing of national data

Estimation and forecasting

The data of requested variables were provided from ENVANIS, forest management plans, and Forestry Statistics 2017 from 1990 to 2015. For 2020, we used realistic strategic plans.

Reclassification into FRA 2020 categories

-

Primary designated management objective

FRA 2020 categories	Forest area (1000 ha)				
	1990	2000	2010	2015	2020
Production (a)	7 578.64	7 713.56	8 008.73	8 261.52	8 479.68
Protection of soil and water (b)	7 794.17	7 945.60	8 441.59	8 560.68	8 805.60
Conservation of biodiversity (c)	17.58	17.90	18.60	19.17	19.67
Social Services (d)	1 339.20	1 363.04	1 398.46	1 459.87	1 498.43
Multiple use (e)	3 053.89	3 108.25	3 215.70	3 329.06	3 416.98
Other (specify in comments) (f)	0.00	0.00	0.00	0.00	0.00
None/unknown (g)	0.00	0.00	0.00	0.00	0.00
Total forest area	19 783.48	20 148.35	21 083.08	21 630.30	22 220.36

Total area with designated management objective

FRA 2020 categories	Forest area (1000 ha)				
	1990	2000	2010	2015	2020
Production	8 591.30	8 744.23	8 861.60	9 365.42	9 612.76
Protection of soil and water	10 046.61	10 225.45	10 386.10	10 951.86	11 241.10
Conservation of biodiversity	17.58	17.90	18.60	19.17	19.67
Social Services	1 858.22	1 891.29	1 921.01	2 025.65	2 079.15
Other (specify in comments)	0.00	0.00	0.00	0.00	0.00

Comments

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

- ENVANIS
- Official reports from Department of Management and Planning
- Forestry Statistics 2017 published by General Directorate of Forestry

National classification and definitions

The allocation of these areas made by the United Nations, international conventions, law, the Council of Ministers' decision, the Minister, the High Council for the Protection of Cultural and Natural Heritage etc. Definitions related to these areas are made in laws and regulations.

These are among the protected areas due to their rare and scientific purpose; National Parks, Nature Park, Natural Monument, Nature Reserve, wildlife conservation areas, wildlife development sites, hunting production station, conservation forests, gene conservation forests, seed gardens, seed stands, environmental protection areas, special purpose protection areas, special environmental protection zones, protected areas (archaeological, urban archaeological, natural , historical areas, biodiversity conservation and development areas, biosphere reserve areas, important plant areas, important bird areas, hot spots, world heritage site, RAMSAR areas, lagoon, peat, GEKYA and so on.

Areas Protected According to the International Union of Conservation of the Nature (IUCN) Criteria:

Category I- Natural Reserve/Wildlife area under absolute protection: It is the protected area which is managed mainly for investigation and protection of wildlife.

Category Ia- Absolute Protected Natural Reserve: Mainly protection areas managed for research.

Category Ib-Wildlife Area: Areas managed for mainly protecting the wildlife.

Category II-National Park: Protection areas managed for mainly ecosystem protection and recreational purposes.

Category III-Nature Monument: Protection areas managed in order to protect mainly a special nature formation.

Category IV- Managed biotope / Species Conservation Area: Protection areas intervened in order to provide for the continuance of habitat and species.

Category V- Protected Landscape/ Nautical Area: Areas which are formed in order to protect a landscape or a nautical are and where recreation for resting can be done.

Category VI- Managed Natural Resources Conservation Area: Protected areas serving for sustainable use of natural ecosystems.

In Turkey, **four statuses** have been put forward together with the 2873 National Parks Act and their legal definitions are as follows:

National parks; Natural and cultural sources value which are found rare national and international in terms of scientific and aesthetic and natural areas having protection resting and tourism places.

Natural Park; Natural areas having a plant cover and wildlife features, appropriate for resting and entertainment of people within the scene integrity.

Nature monuments; The natural areas which are protected under the national park principles and having characteristic and scientific values that occur as a result of nature and natural events.

Nature conservation area; which involves specific instances created by rare ecosystems which are important in terms of science and Education and are exposed to threat and die out, species and natural events and should be under absolute protection refers to nature parts separated to use it only for science and education purposes.

There are areas which are protected with different protection statuses in the forestlands under the responsibility of General Directorate of Forestry and Seed Improvement Research Directorate together with these 4 status stated in the National Parks Act. These are;

- Wildlife Conservation Areas
- Wildlife Conservation Station
- Protection Forests
- Gene Protection Forests, GEKYAs
- Seed Stands, Seed Orchards
- Special Environment Protection Areas
- Protected Areas

Original data

-

Analysis and processing of national data

Estimation and forecasting

The data of requested variables were provided from ENVANIS, forest management plans, and Forestry Statistics 2017 from 1990 to 2017. For 2018, 2019 and 2020, we used realistic strategic plans.

Reclassification into FRA 2020 categories

-

FRA categories	Area (1000 ha)								
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Forest area within protected areas	6 636.05	6 754.18	6 860.29	7 234.00	7 233.99	7 273.55	7 324.03	7 374.54	7 425.04
Forest area with long-term forest management plan	19 783.48	20 148.35	21 083.08	21 630.30	21 630.27	21 752.46	21 908.36	22 064.36	22 220.36
...of which in protected areas	6 636.05	6 754.18	6 860.29	7 234.00	7 233.99	7 273.55	7 324.03	7 374.54	7 425.04

Comments

4 Forest ownership and management rights

4a Forest ownership

National Data

Data sources + type of data source eg NFI, etc

- ENVANIS
- Official reports from Department of Management and Planning
- Official reports from Department of Permission and Easement.
- Forestry Statistics 2017 published by General Directorate of Forestry

National classification and definitions

Private afforestation can be done in the forest, public land, and owned lands. Private afforestation that are realized by people and legal entities in degraded forestlands and those without trees, treasury lands and owned lands. Private afforestation implementations are carried out in line with approved projects; any type of utilisation and protection is set by Forest Law no 6831. Most Turkish forest (roughly %97) belong to the government.

Original data

-

Analysis and processing of national data

Estimation and forecasting

The data of requested variables were provided from ENVANIS, forest management plans, official reports from Department of Permission and Easement and Forestry Statistics 2017.

Reclassification into FRA 2020 categories

-

FRA categories	Forest area (1000 ha)			
	1990	2000	2010	2015
Private ownership (a)	1.38	14.18	10.72	35.72
...of which owned by individuals	1.37	14.14	10.53	34.87
...of which owned by private business entities and institutions	0.01	0.03	0.19	0.85
...of which owned by local, tribal and indigenous communities	0.00	0.00	0.00	0.00
Public ownership (b)	19 782.10	20 134.17	21 072.36	21 594.58
Unknown/other (specify in comments) (c)	0.00	0.00	0.00	0.00
Total forest area	19 783.48	20 148.35	21 083.08	21 630.30

Comments

4b Holder of management rights of public forests

National Data

Data sources + type of data source eg NFI, etc

- ENVANIS
- Official reports from Department of Management and Planning
- Official reports from Department of Permission and Easement.
- Forestry Statistics 2017 published by General Directorate of Forestry

National classification and definitions

Every holder must manage their own forests. Each forest must have their own forest management plans.

Original data

-

Analysis and processing of national data

Estimation and forecasting

The data of requested variables were provided from ENVANIS, forest management plans, official reports from Department of Permission and Easement and Forestry Statistics 2017.

Reclassification into FRA 2020 categories

-

FRA categories	Forest area (1000 ha)			
	1990	2000	2010	2015
Public Administration (a)	19 780.72	20 119.99	20 803.02	21 558.86
Individuals (b)	1.37	14.14	10.53	34.87
Private business entities and institutions (c)	0.01	0.03	0.19	0.85
Local, tribal and indigenous communities (d)	0.00	0.00	0.00	0.00
Unknown/other (specify in comments) (e)	0.00	0.01	258.62	0.00
Total public ownership	19 782.10	20 134.17	21 072.36	21 594.58

Comments

5 Forest disturbances

5a Disturbances

National Data

Data sources + type of data source eg NFI, etc

- Official reports from Department of Combating Forest Pest
- Forestry Statistics 2017 published by General Directorate of Forestry

National classification and definitions

-

Original data

-

Analysis and processing of national data

Estimation and forecasting

Official reports from Department of Combating Forest Pest and Forestry Statistics 2017 were used to calculate disturbances for each year. "Severe weather events" category includes snow, wind, landslide, flood, and drought disturbances. "Other" category has fungal issues.

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)	50.20	55.10	60.56	80.64	43.85	49.25	52.14	62.52	40.56	120.64	160.63	102.01	44.91	76.37	36.47	27.90	33.98	46.62
Diseases (b)	7.64	5.63	4.20	5.65	4.26	5.24	4.52	5.24	6.20	3.24	6.56	6.90	4.92	0.32	0.49	0.61	2.63	1.97
Severe weather events (c)	64.20	130.26	105.24	20.26	75.25	52.36	48.63	50.45	140.20	60.15	126.36	457.44	164.98	138.22	32.47	303.70	77.62	63.96
Other (specify in comments) (d)	0.64	0.56	1.20	0.45	0.69	0.35	0.45	1.14	0.89	0.29	0.22	0.52	0.07	0.53	2.41	3.17	2.25	2.66
Total (a+b+c+d)	122.68	191.55	171.20	107.00	124.05	107.20	105.74	119.35	187.85	184.32	293.77	566.87	214.88	215.44	71.84	335.38	116.48	115.21
Total forest area	20 148.35	–	20 343.81	–	–	20 535.86	–	–	–	–	21 083.08	–	–	–	–	21 630.30	21 630.30	21 752.46

Comments

5b Area affected by fire

National Data

Data sources + type of data source eg NFI, etc

- Official reports from Department of Fire Combating
- Forestry Statistics 2017 published by General Directorate of Forestry

National classification and definitions

-

Original data

-

Analysis and processing of national data

Estimation and forecasting

All data were provided from official reports from Department of Fire Combating and Forestry Statistics 2017

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	26.35	7.39	8.51	6.65	4.88	2.82	7.76	11.67	29.75	4.68	3.32	3.61	10.46	11.46	3.12	3.22	9.16	12.00
...of which on forest	26.35	7.39	8.51	6.56	4.88	2.82	7.76	11.67	29.75	4.68	3.32	3.61	10.46	11.46	3.12	3.22	9.16	12.00

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

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

All data about policies, legislation, and policy are available on the General Directorate of Turkey's website. You can find the all data on <https://www.ogm.gov.tr/ekutuphane/default.aspx> . For example, the criteria and indicators of sustainable forest management are renewed based on Forest Europe criteria and indicators in 2017. The final report was published in 2018. All criteria and indicators were designated for national and sub-national levels need.

National classification and definitions

The study of criteria and indicators of sustainable forest management (SFM C&I) in our country started in the late 90s. The SFM C&I set was first identified in 2003 and put into practice. This application during 2006 and 2008, Turkey SFM C&I national reports have been published, but the process has faltered in 2011, mainly for reasons of organizational changes. In this period, more capacity building activities were included and it was decided to renew the set of SFM criteria and indicators in 2017 for the following reasons:

- The need to remedy the deficiencies in the current set,
- Experience gained and developing information-gathering capacity,
- Revision of SFM C&I set in Forest Europe process.

In Turkey, all policies, legislation, and regulations are prepared based on the SFM criteria & indicators.

Original data

The all original data are available on General Directorate of Turkey's website. (<https://www.ogm.gov.tr/ekutuphane/default.aspx>)

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

6b Area of permanent forest estate

National Data

Data sources + type of data source eg NFI, etc

- ENVANIS
- Official reports from Department of Management and Planning
- Official reports from Department of Permission and Easement
- Official reports from Department of Forest Cadastre and Ownership
- Forestry Statistics 2017 published by General Directorate of Forestry

National classification and definitions

These areas have been declared as forest areas that their status are not going to be changed.

Original data

-

FRA 2020 categories	Forest area (1000 ha)					
	Applicable?	1990	2000	2010	2015	2020
Area of permanent forest estate	Yes	19 783.48	20 148.35	21 083.08	21 630.26	22 220.36

Comments

7 Employment, education and NWFP

7a Employment in forestry and logging

National Data

Data sources + type of data source eg NFI, etc

- Forestry Statistics 2017 published by General Directorate of Forestry
- Official reports from 28 Regional Directorate of Forestry

National classification and definitions

Forest Village	The villages in or adjacent to the forest.
Village in the forest	Subject to the condition that within its borders lies a state forest, the villages where the settlement area is surrounded by a forest on all of the four sides without any interruptions.
Village adjacent to the forest:	The village where there is a state forest within its borders however it is not deemed as a village in the forest.
Forest villager	The population that lives in the forest villages on a permanent basis and registered as a resident member of the village.

According to Forestry Statistics 2017, there are 22,712 forest villages and 7,013,592 forest villagers in Turkey. The government provides support to forest villagers. The forest villagers have the first right to work in forest works.

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	281.77	121.14	160.62	536.52	293.88	242.66	396.49	184.88	211.61	286.46	136.03	150.43
...of which silviculture and other forestry activities	168.47	101.03	67.44	411.37	271.43	139.95	308.90	168.26	140.64	207.25	120.89	86.37
...of which logging	61.08	4.63	56.45	69.62	6.76	62.86	42.89	3.52	39.37	37.15	3.30	33.85
...of which gathering of non wood forest products	34.82	13.40	21.42	38.50	13.16	25.34	30.92	11.08	19.84	28.75	9.78	18.97
...of which support services to forestry	17.41	2.09	15.32	17.03	2.53	14.51	13.77	2.01	11.76	13.30	2.06	11.24

Comments

7b Graduation of students in forest-related education

National Data

Data sources + type of data source eg NFI, etc

References to sources of information	Year(s)	Additional comments
The Statistics of Council of Higher Education	2018	The data were provided by Council of Higher Education which supervises the higher education system in Turkey.

National classification and definitions

Higher Education System in Turkey	Definition
Associate's degree programs	Associate's degree programs take 2 years. Vocational high school graduates can qualify for associate's degree programs without taking any centralized exams.
Bachelor's degree programs	Bachelor's degree programs generally take 4 years. Specialized bachelor's degree programs, such as medicine (6 years), may be longer.
Graduate programs	Universities in Turkey offer a wide range of graduate programs. While master's programs take about 2 years (non-thesis master's programs generally take 1½ years), doctoral programs take about 4 years.
Post-graduate programs	Post-graduate opportunities are also available in universities in Turkey. Duration depends on the program and university.

Original data

DEGREE	1988-1989			1989-1990			1990-1991			1998-1999			1999-2000			2000-2001			2008-2009			2009-2010			2010-2011	
	FEMALE	MALE	TOTAL	FEMALE	MALE	TOTAL	FEMALE	MALE	TOTAL	FEMALE	MALE	TOTAL	FEMALE	MALE	TOTAL	FEMALE	MALE	TOTAL	FEMALE	MALE	TOTAL	FEMALE	MALE	TOTAL	FEMALE	MALE
Doctoral Degree	1	4	5	1	3	4	1	8	9	7	12	19	1	10	11	3	18	21	7	16	23	5	13	18	5	17
Master's Degree	3	29	32	2	28	30	3	20	23	11	23	34	10	27	37	14	32	46	22	45	67	29	58	87	22	86
Bachelor's Degree	30	365	395	32	296	328	48	317	365	122	395	517	127	416	543	137	424	561	285	787	1072	221	574	795	406	630
Associate's Degree	1	18	19	2	242	244	6	88	94	1	1	2	1	1	2	1	1	2	28	104	132	60	168	228	130	295

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	6.00	1.00	5.00	17.00	4.00	13.00	21.00	6.00	15.00	28.00	9.00	19.00
Master's degree	29.00	3.00	26.00	39.00	12.00	27.00	87.00	24.00	63.00	154.00	65.00	89.00
Bachelor's degree	363.00	37.00	326.00	541.00	129.00	412.00	968.00	304.00	664.00	1 314.00	436.00	878.00
Technician certificate / diploma	119.00	3.00	116.00	2.00	1.00	1.00	262.00	73.00	189.00	1 281.00	99.00	1 182.00
Total	517.00	44.00	473.00	599.00	146.00	453.00	1 338.00	407.00	931.00	2 777.00	609.00	2 168.00

Comments

7c Non wood forest products removals and value 2015

National Data

Data sources + type of data source eg NFI, etc

- Forestry Statistics 2017 published by General Directorate of Forestry
- Official reports from the Department of Non-Wood Forest Products and Services

National classification and definitions

-

Original data

-

	Name of NWFP product	Key species	Quantity	Unit	Value (1000 local currency)	NWFP category
#1	Bay leaf		23 700 863	KG	18 617	1 Food
#2	Resinous wood		8 241 667	KG	582	8 Other plant products
#3	Nut		6 739 969	KG	1 324	1 Food
#4	Chestnut		2 902 056	KG	2 903	1 Food
#5	Pine cone		2 765 903	KG	1 841	8 Other plant products
#6	Stem wood		2 166 333	KG	25	8 Other plant products
#7	Thyme		1 642 207	KG	125	1 Food
#8	Heather		1 036 000	KG	3	1 Food
#9	Wild apple		1 026 333	KG	66	1 Food
#10	Locust bean		925 287	KG	49	1 Food
All other plant products					10 000	
All other animal products					3 000	
Total					38 535	

Name of currency	TURKISH LIRAS
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Comments

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	26.18	27.39	28.10	28.10	28.26	28.47	28.67	28.87

Name of agency responsible	The Republic of Turkey, Ministry of Agriculture and Forestry, General Directorate of Forestry
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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	0.45	0.51	0.00	0.56	0.71	0.71	0.70

Name of agency responsible	Republic of Turkey, Ministry of Agriculture and Forestry, General Directorate of Forestry
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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	36.58	41.57	45.70	48.11	48.11	48.11	48.11	48.11

Name of agency responsible	Republic of Turkey, Ministry of Agriculture and Forestry, General Directorate of Forestry
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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	31.23	31.72	33.44	33.44	33.63	33.86	34.09	34.33

Name of agency responsible	Republic of Turkey, Ministry of Agriculture and Forestry, General Directorate of Forestry
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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	93.15	97.47	100.00	100.00	100.00	100.00	100.00	100.00

Name of agency responsible	Republic of Turkey, Ministry of Agriculture and Forestry, General Directorate of Forestry
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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	0.00	0.00	2 359.47	2 365.75	2 350.08	2 396.88	–	–