



Report

Marshall Islands

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

Report preparation and contact persons

The present report was prepared by the following person(s)

Name	Role	Email	Tables
Henry Capelle	Collaborator	kikurto@yahoo.com	All
Rufus Lajikit	National correspondent	lrufus@hawaii.edu	All

Introductory text

The Republic of the Marshall Islands is a collection of 29 atolls with over 1000 individual islands spread out over a vast distance in the north-central Pacific Ocean. Climatic data for Majuro indicates little month-to-month fluctuation in temperature and a mean monthly maximum of 30 C and minimum of 25 C. Normal annual precipitation is about 3300 mm. January, February, and March are the driest months of the year.

Much of the native vegetation on the atolls has been replaced with crops of coconut for copra production. While coconut palms provide some cover and erosion protection, they differ markedly from native vegetation.

1 Forest extent, characteristics and changes

1a Extent of forest and other wooded land

National Data

Data sources + type of data source eg NFI, etc

Liu, Z., Fischer, L. In press.

The Republic of the Marshall

Islands Vegetation Mapping Using Very High Resolution Imagery: Methodology. U.S.

Department of Agriculture,

Forest Service, Pacific Southwest Region, Forest Health Protection. URL:

<http://www.fs.fed.us/r5/spf/>

Donnegan, J. A., K. Waddell, O. Kuegler, and B. A. Hiserote. 2008. Forest Inventory and

Analysis: Republic of Marshall Islands forest resources 2008.

National classification and definitions

National class	Definition
Barren	Nonforest land that has little or no vegetation cover.
Forest	Tropical forest, agroforest, or secondary vegetation with at least 10 percent canopy cover of tree species.
Grassland	Nonforest land with less than 10 percent tree cover that supports grass, shrub, fern, or other vegetation.
Urban	Nonforest land that is urban land use.
Water	Streams, lakes, or other water bodies.

Original data

2008 landcover (preliminary) for 10 largest atoll groups in the Marshall Islands (Liu and Fischer, in press).						
Atoll Group	Forest	Grassland	Barren	Urban	Water	Grand Total
			<i>hectres</i>			
Ailinglaplap	1241	13	155	63	0	1472
Arno	1311	22	187	39	0	1558
Jaluit	1092	19	176	57	0	1344
Kwajalein	1023	107	258	599	0	1987
Likiep	866	54	168	41	0	1129
Majuro	481	22	138	640	0	1282
Maloelap	734	103	174	34	0	1045
Mili	1171	33	302	50	0	1557

Rongelap	634	53	208	40	0	935
Wotje	848	31	156	47	0	1082
Total	9401	459	1921	1611	0	13391

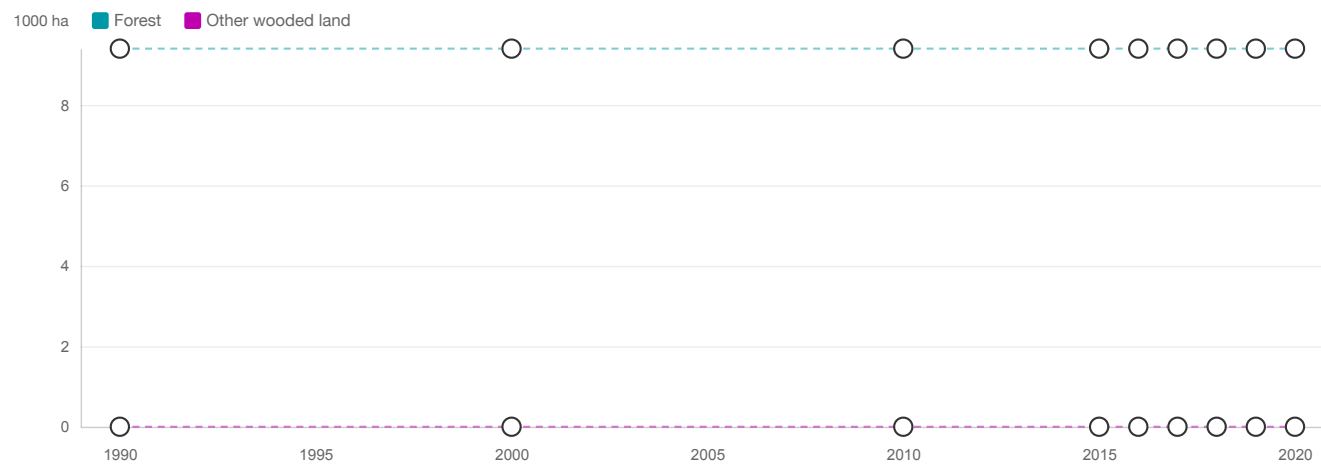
Analysis and processing of national data

Estimation and forecasting

2008 data still preliminary data. No updated data available. 2008 data will be used for all FRA reporting years.

Reclassification into FRA 2020 categories

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FRA categories	Area (1000 ha)								
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Forest (a)	9.40	9.40	9.40	9.40	9.40	9.40	9.40	9.40	9.40
Other wooded land (a)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other land (c-a-b)	8.60	8.60	8.60	8.60	8.60	8.60	8.60	8.60	8.60
Total land area (c)	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00

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	0.00	
Tropical	100.00	

Comments

The reported data are different from what was reported in previous FRAs because of the following reason: Data reported previously to FRA was calibrated to match the FAOSTAT total country area and total land area. Calibration was not needed for FRA 2020 reporting as the adjustment was made on the Other land area.

The forest area reported contain some area of Agroforest which could not be quantified. Currently there are no updated data available but there is a study being conducted by tge USDA Forest Service.

No data are available on the occurrence of Other wooded land. If areas of Other wooded land exist, they are included within the figure for Other land.

1b Forest characteristics

National Data

Data sources + type of data source eg NFI, etc

Donnegan, Joseph A.; Trimble, Steven T.; Kusto, Karness; Kuegler, Olaf; Hiserote, Bruce A. 2011. Republic of the Marshall Islands' forest resources, 2008. Resour. Bull. PNW-RB-263. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 29 p.

National classification and definitions

National class	Definition
Agroforest	Land where trees, shrubs, and herbs are cultivated for food or medecines among a cover of other forest trees.
Lowland tropical rainforest	Lowland forest of tropical, primarily native and naturalized, tree species.
Mangrove forest	Lowland, tidally inundated forest composed of mangrove tree species.
Strand	Coastal forest vegetation occuring in narrow strips on sandy, rocky coasts. May include interior forest species as this vegetation grades into interior forest.

Original data

Forest type	
Agroforest	3128
Lowland tropical rainforest	3453
Mangrove	115
Strand	2188

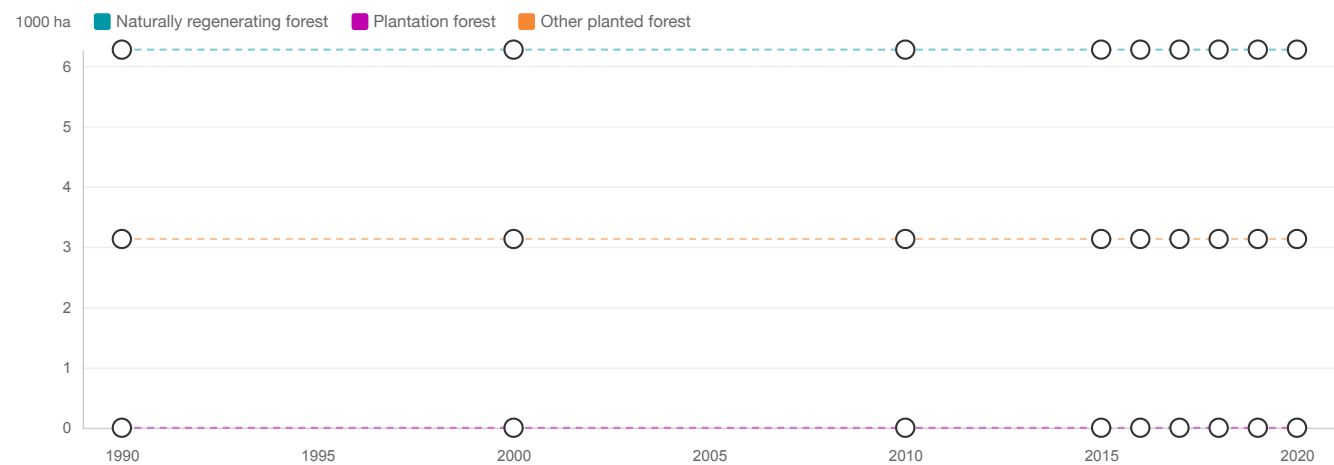
Analysis and processing of national data

Estimation and forecasting

Agforest as been reclassified as planted forest and while remaining forest area is onsider the naturally regenerating.

Reclassification into FRA 2020 categories

National class	FAO FRA 2010 Category
Agroforest	Planted forest
Lowland tropical rainforest	Primary forest
Mangrove forest	Primary forest
Strand	Primary forest



FRA categories	Forest area (1000 ha)								
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Naturally regenerating forest (a)	6.27	6.27	6.27	6.27	6.27	6.27	6.27	6.27	6.27
Planted forest (b)	3.13	3.13	3.13	3.13	3.13	3.13	3.13	3.13	3.13
Plantation forest	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
...of which introduced species	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other planted forest	3.13	3.13	3.13	3.13	3.13	3.13	3.13	3.13	3.13
Total (a+b)	9.40	9.40	9.40	9.40	9.40	9.40	9.40	9.40	9.40
Total forest area	9.40	9.40	9.40	9.40	9.40	9.40	9.40	9.40	9.40

Comments

1c Primary forest and special forest categories

National Data

Data sources + type of data source eg NFI, etc

Donnegan, J. A., K. Waddell, O.

Kuegler, and B. A. Hiserote. 2008. Forest Inventory and Analysis:

The Pacific Islands Database for American Samoa, Guam, Palau, the Northern Mariana's,

Micronesia, and the Marshall Islands. Database version 2008-1. U.S. Department of Agriculture,

Forest Service, Pacific Northwest Research Station, Portland, OR

National classification and definitions

Mangrove forest	Lowland, tidally inundated forest composed of mangrove tree species.
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Original data

Forest type	
Agroforest	3128
Lowland tropical rainforest	3453
Mangrove	115
Strand	2188

Analysis and processing of national data

Estimation and forecasting

In some areas mangorves have been de

Reclassification into FRA 2020 categories

National class	FAO FRA Category
Agroforest	Planted forest
Lowland tropical rainforest	Primary forest
Mangrove forest	Primary forest
Strand	Primary forest

FRA categories	Area (1000 ha)				
	1990	2000	2010	2015	2020
Primary forest	5.76	5.76	5.76	5.76	5.76
Temporarily unstocked and/or recently regenerated	0.00	0.00	0.00	0.00	0.00
Bamboos	0.00	0.00	0.00	0.00	0.00
Mangroves	0.12	0.12	0.12	0.12	0.12
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

-

National classification and definitions

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Original data

-

Analysis and processing of national data

Estimation and forecasting

-

Reclassification into FRA 2020 categories

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FRA categories	Area (1000 ha/year)			
	1990-2000	2000-2010	2010-2015	2015-2020
Forest expansion (a)				
...of which afforestation				
...of which natural expansion				
Deforestation (b)				
Forest area net change (a-b)	0.00	0.00	0.00	0.00

Comments

no data available

1e Annual reforestation

National Data

Data sources + type of data source eg NFI, etc

-

National classification and definitions

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Original data

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Analysis and processing of national data

Estimation and forecasting

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Reclassification into FRA 2020 categories

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

Comments

no data available

1f Other land with tree cover

National Data

Data sources + type of data source eg NFI, etc

-

National classification and definitions

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Original data

-

Analysis and processing of national data

Estimation and forecasting

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Reclassification into FRA 2020 categories

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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	8.60	8.60	8.60	8.60	8.60

Comments

no data available

2 Forest growing stock, biomass and carbon

2a Growing stock

National Data

Data sources + type of data source eg NFI, etc

Donnegan, J. A., K. Waddell, O. Kuegler, and B. A. Hiserote. 2008. Forest Inventory and

Analysis: The Pacific Islands

Database for American Samoa,

Guam, Palau, the Northern

Mariana's, Micronesia, and the Marshall Islands. Database version 2008-1. U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station, Portland, OR.

Donnegan, J. A., K. Waddell, O. Kuegler, and B. A. Hiserote. 2008. Forest Inventory and

Analysis: Republic of Marshall Islands forest resources 2008.

National classification and definitions

National class	Definition
Net growing stock volume	Volume over bark of all living trees more than 12.5 cm in diameter at breast height (or above buttress and stilted roots if these are higher) minus rotten cull. Includes the stem from ground level to a top diameter of 1 cm. Does not include branches off of the main stem.
Timberland volume	Volume of wood on land that is capable of producing at least 1.4 cubic meters per hectare per year of industrial wood.

Original data

	Cubic feet	m3	Million m3
Cocos nucifera	36735968	1039628	1.04
Pandanus tectorius	3355805	94969	0.09
Guettarda speciosa	3080481	87178	0.09
Pisonia grandis	2812103	79583	0.08
Bruguiera gymnorhiza	2513566	71134	0.07
Tournefortia argentea	1398956	39590	0.04
Neisosperma oppositifolia	1318141	37303	0.04
Cordia subcordata	1062305	30063	0.03
Artocarpus altilis	727825	20597	0.02
Artocarpus mariannensis	671271	18997	0.02
Pemphis acidula	536011	15169	0.02
Intsia bijuga	131331	3717	0.00
Terminalia samoensis	128244	3629	0.00
Premna serratifolia	88243	2497	0.00

Allophylus timorensis	63860	1807	0.00
Scaevola taccada	35598	1007	0.00
Morinda citrifolia	30417	861	0.00
TOTAL	54690125	1547731	1.55
Conversion factor	0.0283		

Analysis and processing of national data

Estimation and forecasting

Due to lack of data 2008 figure on volumn has been used for all reporting years. 70% naturally regenerated and 30% planted.

Reclassification into FRA 2020 categories

-

FRA categories	Growing stock m³/ha (over bark)								
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Naturally regenerating forest	172.25	172.25	172.25	172.25	172.25	172.25	172.25	172.25	172.25
Planted forest	146.96	146.96	146.96	146.96	146.96	146.96	146.96	146.96	146.96
...of which plantation forest	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
...of which other planted forest	146.96	146.96	146.96	146.96	146.96	146.96	146.96	146.96	146.96
Forest	162.77	162.77	162.77	162.77	162.77	162.77	162.77	162.77	162.77
Other wooded land	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

FRA categories	Total growing stock (million m³ over bark)								
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Naturally regenerating forest	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08
Planted forest	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
...of which plantation forest	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
...of which other planted forest	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
Forest	1.53	1.53	1.53	1.53	1.53	1.53	1.53	1.53	1.53
Other wooded land	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Comments

2b Growing stock composition

National Data

Data sources + type of data source eg NFI, etc

Donnegan, J. A., K. Waddell, O. Kuegler, and B. A. Hiserote. 2008. Forest Inventory and

Analysis: The Pacific Islands

Database for American Samoa,

Guam, Palau, the Northern

Mariana's, Micronesia, and the Marshall Islands. Database version 2008-1. U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station, Portland, OR.

National classification and definitions

National class	Definition
Net growing stock volume	Volume over bark of all living trees more than 12.5 cm in diameter at breast height (or above buttress and stilted roots if these are higher) minus rotten cull. Includes the stem from ground level to a top diameter of 1 cm. Does not include branches off of the main stem.
Timberland volume	Volume of wood on land that is capable of producing at least 1.4 cubic meters per hectare per year of industrial wood.

Original data

	Cubic feet	m3	Million m3
Cocos nucifera	36735968	1039628	1.04
Pandanus tectorius	3355805	94969	0.09
Guettarda speciosa	3080481	87178	0.09
Pisonia grandis	2812103	79583	0.08
Bruguiera gymnorhiza	2513566	71134	0.07
Tournefortia argentea	1398956	39590	0.04
Neisosperma oppositifolia	1318141	37303	0.04
Cordia subcordata	1062305	30063	0.03
Artocarpus altilis	727825	20597	0.02
Artocarpus mariannensis	671271	18997	0.02
Pemphis acidula	536011	15169	0.02
Intsia bijuga	131331	3717	0.00
Terminalia samoensis	128244	3629	0.00
Premna serratifolia	88243	2497	0.00
Allophylus timorensis	63860	1807	0.00
Scaevola taccada	35598	1007	0.00
Morinda citrifolia	30417	861	0.00

TOTAL	54690125	1547731	1.55
Conversion factor	0.0283		

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 m³ over bark)				
			1990	2000	2010	2015	2020
Native tree species							
#1 Ranked in terms of volume	Cocos nucifera		1.04	1.04	1.04	1.04	1.04
#2 Ranked in terms of volume	Pandanus tectorius		0.09	0.09	0.09	0.09	0.09
#3 Ranked in terms of volume	Guettarda speciosa		0.09	0.09	0.09	0.09	0.09
#4 Ranked in terms of volume	Pisonia grandis		0.08	0.08	0.08	0.08	0.08
#5 Ranked in terms of volume	Bruguiera gymnorrhiza		0.07	0.07	0.07	0.07	0.07
#6 Ranked in terms of volume	Neisosperma oppositifolia		0.04	0.04	0.04	0.04	0.04
#7 Ranked in terms of volume	Cordia subcordata		0.04	0.04	0.04	0.04	0.04
#8 Ranked in terms of volume	Artocarpus altilis		0.03	0.03	0.03	0.03	0.03
#9 Ranked in terms of volume	Artocarpus mariannensis		0.02	0.02	0.02	0.02	0.02
#10 Ranked in terms of volume	Pemphis acidula		0.02	0.02	0.02	0.02	0.02
Remaining native tree species							
Total volume of native tree species			1.52	1.52	1.52	1.52	1.52
Introduced tree species							
#1 Ranked in terms of volume							
#2 Ranked in terms of volume							
#3 Ranked in terms of volume							

FRA categories	Scientific name	Common name	Growing stock in forest (million m³ over bark)				
			1990	2000	2010	2015	2020
Native tree species							
#4 Ranked in terms of volume							
#5 Ranked in terms of volume							
Remaining introduced tree species							
Total volume of introduced tree species			–	–	–	–	–
Total growing stock			1.52	1.52	1.52	1.52	1.52

Comments

2c Biomass stock

National Data

Data sources + type of data source eg NFI, etc

no national data available

National classification and definitions

-

Original data

Biomass calculator was used.

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%						
Broadleaved dry	25%		25%						
Coniferous	25%		25%						
	100%	0%	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	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30
Broadleaved dry	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30
Coniferous	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70

Plantation forest									
Broadleaved humid									
Broadleaved dry									
Coniferous									
Other planted forest									
Broadleaved humid									
Broadleaved dry									
Coniferous									
Weighted BCEF									
Naturally regenerating forest	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15
Plantation forest									
Other planted forest									
Root-shoot ratios									
Naturally regenerating forest	1990	2000	2010	2015	2016	2017	2018	2019	2020
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
Plantation forest									
Broadleaved humid									
Broadleaved dry									
Coniferous									
Other planted forest									
Broadleaved humid									
Broadleaved dry									
Coniferous									
Weighted RS ratio									
Naturally regenerating forest	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24
Plantation forest									
Other planted forest									

Above-ground biomass (t/ha)									
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Naturally regenerating forest	198.09	198.09	198.09	198.09	198.09	198.09	198.09	198.09	198.09
Plantation forest									
Other planted forest									
Total	132.13	132.13	132.13	132.13	132.13	132.13	132.13	132.13	132.13
Below-ground biomass (t/ha)									
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Naturally regenerating forest	47.54	47.54	47.54	47.54	47.54	47.54	47.54	47.54	47.54
Plantation forest									
Other planted forest									
Total	31.71	31.71	31.71	31.71	31.71	31.71	31.71	31.71	31.71

Reclassification into FRA 2020 categories

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FRA categories	Forest biomass (tonnes/ha)								
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Above-ground biomass	132.13	132.13	132.13	132.13	132.13	132.13	132.13	132.13	132.13
Below-ground biomass	31.71	31.71	31.71	31.71	31.71	31.71	31.71	31.71	31.71
Dead wood									

Comments

2d Carbon stock

National Data

Data sources + type of data source eg NFI, etc

biomass calculator

National classification and definitions

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Original data

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Analysis and processing of national data

Estimation and forecasting

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Reclassification into FRA 2020 categories

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FRA categories	Forest carbon (tonnes/ha)								
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Carbon in above-ground biomass	62.10	62.10	62.10	62.10	62.10	62.10	62.10	62.10	62.10
Carbon in below-ground biomass	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90	14.90
Carbon in dead wood									
Carbon in litter									
Soil carbon									

Soil depth (cm) used for soil carbon estimates	
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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

Expert estimate.

National classification and definitions

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Original data

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Analysis and processing of national data

Estimation and forecasting

Assumes all forest land is multiple use

Reclassification into FRA 2020 categories

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Primary designated management objective

FRA 2020 categories	Forest area (1000 ha)				
	1990	2000	2010	2015	2020
Production (a)	0.00	0.00	0.00	0.00	0.00
Protection of soil and water (b)	0.00	0.00	0.00	0.00	0.00
Conservation of biodiversity (c)	0.00	0.00	0.00	0.00	0.00
Social Services (d)	0.00	0.00	0.00	0.00	0.00
Multiple use (e)	9.40	9.40	9.40	9.40	9.40
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	9.40	9.40	9.40	9.40	9.40

Total area with designated management objective

FRA 2020 categories	Forest area (1000 ha)				
	1990	2000	2010	2015	2020
Production	9.40	9.40	9.40	9.40	9.40
Protection of soil and water	9.40	9.40	9.40	9.40	9.40
Conservation of biodiversity	9.40	9.40	9.40	9.40	9.40
Social Services	9.40	9.40	9.40	9.40	9.40
Other (specify in comments)					

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

-

National classification and definitions

-

Original data

No data available

Analysis and processing of national data

Estimation and forecasting

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Reclassification into FRA 2020 categories

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

Comments

4 Forest ownership and management rights

4a Forest ownership

National Data

Data sources + type of data source eg NFI, etc
expert estimate

National classification and definitions
-

Original data
-

Analysis and processing of national data

Estimation and forecasting
-

Reclassification into FRA 2020 categories
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FRA categories	Forest area (1000 ha)			
	1990	2000	2010	2015
Private ownership (a)	9.40	9.40	9.40	9.40
...of which owned by individuals				
...of which owned by private business entities and institutions				
...of which owned by local, tribal and indigenous communities				
Public ownership (b)	0.00	0.00	0.00	0.00
Unknown/other (specify in comments) (c)	0.00	0.00	0.00	0.00
Total forest area	9.40	9.40	9.40	9.40

Comments

All lands are privately owned.

4b Holder of management rights of public forests

National Data

Data sources + type of data source eg NFI, etc

expert estimate

National classification and definitions

-

Original data

-

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)	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00

Comments

5 Forest disturbances

5a Disturbances

National Data

Data sources + type of data source eg NFI, etc

Donnegan, J. A., K. Waddell, O. Kuegler, and B. A. Hiserote. 2008. Forest Inventory and

Analysis: The Pacific Islands

Database for American Samoa,

Guam, Palau, the Northern

Mariana's, Micronesia, and the

National classification and definitions

National class	Definition
Insect	Disturbance caused by insect pests.
Disease	Disturbance caused by diseases attributable to pathogens, such as bacteria, fungi, phytoplasma or virus.
Fire	Damage to a tree from fire.
Animal	Damage caused by grazing, browsing, rooting, or toppling.
Weather	Damage related to storms, e.g., wind, flood, lightning.
Vegetation (e.g., competition or vines)	Damage caused by other vegetation.
Unknown	Unknown damage agent.
Silvicultural or cutting	Damage caused by humans.
Physical	Damage caused by one tree hitting another or from undermining of roots.

Original data

RMI, number of trees by species by damaging agent, 2008

	Insects		Disease		Fire		Weather		Vegetation	
<u>Species</u>	<u>Total</u>	<u>SE</u>	<u>Total</u>	<u>SE</u>	<u>Total</u>	<u>SE</u>	<u>Total</u>	<u>SE</u>	<u>Total</u>	<u>SE</u>
					<i>thousand trees</i>					
<i>Cocos nucifera</i>	9	7	11	8	20	13	23	17	3	3
<i>Pandanus tectorius</i>	3	3	3	3	7	5	13	6	17	14
<i>Guettarda speciosa</i>	669	436	--	--	--	--	85	85	133	90
<i>Pisonia grandis</i>	--	--	--	--	--	--	381	337	31	27
<i>Bruguiera gymnorrhiza</i>	--	--	24	21	--	--	--	--	--	--
<i>Tournefortia argentea</i>	8	6	3	3	--	--	--	--	5	5
<i>Neisosperma oppositifolia</i>	--	--	--	--	4	4	--	--	--	--

<i>Cordia subcordata</i>	--	--	--	--	--	--	20	20	--	--
<i>Artocarpus mariannensis</i>	--	--	--	--	--	--	--	--	--	--
<i>Pemphis acidula</i>	--	--	--	--	--	--	--	--	--	--
<i>Artocarpus altilis</i>	7	5	3	3	--	--	--	--	--	--
<i>Intsia bijuga</i>	3	3	--	--	--	--	--	--	--	--
<i>Terminalia samoensis</i>	--	--	--	--	--	--	5	5	--	--
<i>Premna serratifolia</i>	181	107	--	--	--	--	--	--	--	--
<i>Allophylus timorensis</i>	--	--	42	42	--	--	--	--	--	--
<i>Scaevola taccada</i>	1462	808	--	--	--	--	--	--	85	59
<i>Morinda citrifolia</i>	--	--	--	--	--	--	4	4	591	456
Total	2343	968	87	52	31	14	532	422	865	484

Continued—RMI, number of trees by species by damaging agent, 2008

	Unknown		Human caused		Physical		All damaged trees		All trees	
Species	Total	SE	Total	SE	Total	SE	Total	SE	Total	SE
<i>Cocos nucifera</i>	39	14	7	5	--	--	105	29	2031	284
<i>Pandanus tectorius</i>	20	12	--	--	--	--	57	19	784	204
<i>Guettarda speciosa</i>	186	55	54	43	--	--	1060	478	1795	551
<i>Pisonia grandis</i>	104	87	--	--	--	--	505	348	574	365
<i>Bruguiera gymnorrhiza</i>	10	10	--	--	--	--	31	27	369	273
<i>Tournefortia argentea</i>	51	26	--	--	--	--	55	26	162	96
<i>Neisosperma oppositifolia</i>	79	63	--	--	--	--	83	64	765	425
<i>Cordia subcordata</i>	66	52	--	--	--	--	83	69	155	129
<i>Artocarpus mariannensis</i>	--	--	--	--	--	--	--	--	20	20
<i>Pemphis acidula</i>	36	36	--	--	--	--	36	36	107	72
<i>Artocarpus altilis</i>	--	--	--	--	--	--	7	5	17	9
<i>Intsia bijuga</i>	7	7	--	--	--	--	10	10	19	15
<i>Terminalia samoensis</i>	21	18	--	--	5	5	30	23	39	23
<i>Premna serratifolia</i>	3	3	--	--	--	--	184	109	402	247
<i>Allophylus timorensis</i>	49	49	--	--	--	--	49	49	184	136

<i>Scaevola taccada</i>	113	113	--	--	--	--	1604	863	4156	1338
<i>Morinda citrifolia</i>	42	42	--	--	--	--	637	457	1415	552
Total	826	188	61	43	5	5	4537	1248	12993	2041

Analysis and processing of national data

Estimation and forecasting

National data is recorded as presence/absence on individual trees. Presence/absence point count cannot be expanded to area estimates.

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)																		
Diseases (b)																		
Severe weather events (c)																		
Other (specify in comments) (d)																		
Total (a+b+c+d)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total forest area	9.40	-	-	-	-	-	-	-	-	-	9.40	-	-	-	-	9.40	9.40	9.40

Comments

5b Area affected by fire

National Data

Data sources + type of data source eg NFI, etc

Donnegan, J. A., K. Waddell, O. Kuegler, and B. A. Hiserote. 2008. Forest Inventory and

Analysis: Republic of Marshall Islands forest resources 2008.

National classification and definitions

National class	Definition
Fire	Damage to a tree from fire.

Original data

	Insects		Disease		Fire		Weather		Vegetation	
<u>Species</u>	<u>Total</u>	<u>SE</u>	<u>Total</u>	<u>SE</u>	<u>Total</u>	<u>SE</u>	<u>Total</u>	<u>SE</u>	<u>Total</u>	<u>SE</u>
					<i>thousand trees</i>					
<i>Cocos nucifera</i>	9	7	11	8	20	13	23	17	3	3
<i>Pandanus tectorius</i>	3	3	3	3	7	5	13	6	17	14
<i>Guettarda speciosa</i>	669	436	--	--	--	--	85	85	133	90
<i>Pisonia grandis</i>	--	--	--	--	--	--	381	337	31	27
<i>Bruguiera gymnorhiza</i>	--	--	24	21	--	--	--	--	--	--
<i>Tournefortia argentea</i>	8	6	3	3	--	--	--	--	5	5
<i>Neisosperma oppositifolia</i>	--	--	--	--	4	4	--	--	--	--
<i>Cordia subcordata</i>	--	--	--	--	--	--	20	20	--	--
<i>Artocarpus mariannensis</i>	--	--	--	--	--	--	--	--	--	--
<i>Pemphis acidula</i>	--	--	--	--	--	--	--	--	--	--
<i>Artocarpus altilis</i>	7	5	3	3	--	--	--	--	--	--
<i>Intsia bijuga</i>	3	3	--	--	--	--	--	--	--	--
<i>Terminalia samoensis</i>	--	--	--	--	--	--	5	5	--	--
<i>Premna serratifolia</i>	181	107	--	--	--	--	--	--	--	--
<i>Allophylus timorensis</i>	--	--	42	42	--	--	--	--	--	--
<i>Scaevola taccada</i>	1462	808	--	--	--	--	--	--	85	59
<i>Morinda citrifolia</i>	--	--	--	--	--	--	4	4	591	456
Total	2343	968	87	52	31	14	532	422	865	484

Analysis and processing of national data

Estimation and forecasting

National data is recorded as presence/absence on individual trees. Presence/absence point count cannot be expanded to area estimates.

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																		

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

-

National classification and definitions

-

Original data

-

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

Comments

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	No					

Comments

7 Employment, education and NWFP

7a Employment in forestry and logging

National Data

Data sources + type of data source eg NFI, etc

-

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												
...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

no data available

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												

Comments

No University that covers Forestry

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	Coconut oil	Cocos nucifera		Tons		1 Food
#2						
#3						
#4						
#5						
#6						
#7						
#8						
#9						
#10						
All other plant products						
All other animal products						
Total					—	

Name of currency	
------------------	--

Comments

no data available

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	52.22	52.22	52.22	52.22	52.22	52.22	52.22	52.22

Name of agency responsible	Office of the Chief Secretary.
----------------------------	--------------------------------

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Name of agency responsible	Office of the Chief Secretary.
----------------------------	--------------------------------

Sub-Indicator 2	Forest biomass (tonnes/ha)							
	2000	2010	2015	2016	2017	2018	2019	2020
Above-ground biomass stock in forest	132.13	132.13	132.13	132.13	132.13	132.13	132.13	132.13

Name of agency responsible	Office of the Chief Secretary.
----------------------------	--------------------------------

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	–	–	–	–	–	–	–	–

Name of agency responsible	Office of the Chief Secretary.
----------------------------	--------------------------------

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	Office of the Chief Secretary.
----------------------------	--------------------------------

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	0.00	0.00	0.00	0.00	–	–