



Forestry Department

Food and Agriculture Organization of the United Nations

**GLOBAL FOREST RESOURCES
ASSESSMENT 2010**

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The Forest Resources Assessment Programme

Sustainably managed forests have multiple environmental and socio-economic functions important at the global, national and local scales, and play a vital part in sustainable development. Reliable and up-to-date information on the state of forest resources - not only on area and area change, but also on such variables as growing stock, wood and non-wood products, carbon, protected areas, use of forests for recreation and other services, biological diversity and forests' contribution to national economies - is crucial to support decision-making for policies and programmes in forestry and sustainable development at all levels.

FAO, at the request of its member countries, regularly monitors the world's forests and their management and uses through the Forest Resources Assessment Programme. This country report forms part of the Global Forest Resources Assessment 2010 (FRA 2010).

The reporting framework for FRA 2010 is based on the thematic elements of sustainable forest management acknowledged in intergovernmental forest-related fora and includes variables related to the extent, condition, uses and values of forest resources, as well as the policy, legal and institutional framework related to forests. More information on the FRA 2010 process and the results - including all the country reports - is available on the FRA Web site (www.fao.org/forestry/fra).

The Global Forest Resources Assessment process is coordinated by the Forestry Department at FAO headquarters in Rome. The contact person for matters related to FRA 2010 is:

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The Global Forest Resources Assessment Country Report Series is designed to document and make available the information forming the basis for the FRA reports. The Country Reports have been compiled by officially nominated country correspondents in collaboration with FAO staff. Prior to finalisation, these reports were subject to validation by forestry authorities in the respective countries.

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1 Table T1 – Extent of Forest and Other wooded land

1.1 FRA 2010 Categories and definitions

Category	Definition
Forest	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 <i>in situ</i> . It does not include land that is predominantly under agricultural or urban land use.
Other wooded land	Land not classified as “Forest”, spanning more than 0.5 hectares; with trees higher than 5 meters and a canopy cover of 5-10 percent, or trees able to reach these thresholds <i>in situ</i> ; or with a combined cover of shrubs, bushes and trees above 10 percent. It does not include land that is predominantly under agricultural or urban land use.
Other land	All land that is not classified as “Forest” or “Other wooded land”.
Other land with tree cover (Subordinated to “Other land”)	Land classified as “Other land”, spanning more than 0.5 hectares with a canopy cover of more than 10 percent of trees able to reach a height of 5 meters at maturity.
Inland water bodies	Inland water bodies generally include major rivers, lakes and water reservoirs.

1.2 National data

1.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Flemming Rune and Kenneth Høegh (pers. comm.)	L	Forest, Other wooded area	2010 2005	As no formal inventory exists for Greenland, the knowledge of local experts is the basis of the information.
FAOSTAT	M	Land Area, Inland water	2010, 2005, 2000	

1.2.2 Classification and definitions

National class	Definition
Forest	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 <i>in situ</i> . The definition includes temporarily unstocked areas and smaller, permanently unstocked areas necessary for forest management. It does not include land that is predominantly under agricultural or urban land use.
Other wooded land	Land not classified as “Forest”, spanning more than 0.5 hectares; with trees higher than 5 meters and a canopy cover of 5-10 percent, or trees able to reach these thresholds <i>in situ</i> ; or with a combined cover of shrubs, bushes and trees above 10 percent. It does not include land that is predominantly under agricultural or urban land use.
Other land	All land not classified as “Forest” or “Other wooded land”.
Other land with tree cover	Land with tree cover not defined as forest or other wooded land according to the above definitions. Includes only fruit orchards as information on tree covered park landscapes is not available.
Inland water bodies	Inland water bodies generally include major rivers, lakes and water reservoirs.

1.2.3 Original data

In the interior Greenland between 60°10'N and 61°20'N minor areas in the bottom of climatically protected valleys are covered by a natural forest of *Betula pubescens* with a low copse-like underforest of *Salix glauca*. Occasional it is mixed with *Sorbus groenlandica*. The tallest birch trees reach just above 10 metres in the interior behind Nanortalik (60°17'N). Further north they do not exceed 7 metres. The total forest area reaching above 5 metres is below 200 ha.

Furthermore, a few small plantations with conifers have been established at the fiords Tasermiut and Tunulliarfik in South Greenland. The most successful species are *Larix siberica*, *Pinus contorta*, *P. silvestris*, and *Picea* sp. The tallest trees reach about 7 metres, and seem to be resistant to the harsh winter climate. The total area is less than 20 ha.

There are larger areas which fulfill the criteria for being Other wooded land. It is areas with dense copse vegetation of 0.5-4 metres height. By far the most common species in the copse is *Salix glauca*, in the southernmost part of the country often accompanied by *Betula pubescens* and single specimens of *Sorbus groenlandica*. In West Greenland between 61°N and 66°N *Alnus crispa* is the only accompanying species. It may have 7-8 metres long, down-bended trunks which, however, hardly raise more than 2-3 metres above ground. North of the polar circle only *Salix glauca* may reach above 0.5 metre. The willow copses are best developed on south facing slopes and on moist ground in the bottom of low-land valleys, but there is much variation in these areas. An estimate of their total area is subject to a large uncertainty and needs more definite surveys. Assuming that not more than 0.1 % of the ice-free land between 60°N and 68°N along the west coast of Greenland is covered with these vegetation types, their area is less than 7500 ha, but this figure may prove to be erroneous.

1.3 Analysis and processing of national data

1.3.1 Calibration

No calibration performed.

1.3.2 Estimation and forecasting

The area of forest and other wooded land is assumed to be unchanged.

1.3.3 Reclassification into FRA 2010 categories

No reclassification has been carried out.

1.4 Data for Table T1

FRA 2010 categories	Area (1000 hectares)			
	1990	2000	2005	2010
Forest	0.22	0.22	0.22	0.22
Other wooded land	7.50	7.50	7.50	7.50
Other land	41037.28	41037.28	41037.28	41037.28
...of which with tree cover	0	0	0	0
Inland water bodies	0	0	0	0
TOTAL¹	41045	41045	41045	41045

1) The country area listed in Table T1 exclude areas with permanent ice cover.

1.5 Comments to Table T1

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Forest		
Other wooded land		
Other land	Calculated as total land area less area of forest and area of other wooded land.	
Other land with tree cover		
Inland water bodies		

Other general comments to the table

The total area listed in T1 includes only the area without permanent ice. The total area of Greenland is 2,175,600 km².

Expected year for completion of ongoing/planned national forest inventory and/or RS survey / mapping

Field inventory	
Remote sensing survey / mapping	

2 Table T2 – Forest ownership and management rights

2.1 FRA 2010 Categories and definitions

Category	Definition
Public ownership	Forest owned by the State; or administrative units of the public administration; or by institutions or corporations owned by the public administration.
Private ownership	Forest owned by individuals, families, communities, private co-operatives, corporations and other business entities, private religious and educational institutions, pension or investment funds, NGOs, nature conservation associations and other private institutions.
Individuals (<i>sub-category of Private ownership</i>)	Forest owned by individuals and families.
Private business entities and institutions (<i>sub-category of Private ownership</i>)	Forest owned by private corporations, co-operatives, companies and other business entities, as well as private non-profit organizations such as NGOs, nature conservation associations, and private religious and educational institutions, etc.
Local communities (<i>sub-category of Private ownership</i>)	Forest owned by a group of individuals belonging to the same community residing within or in the vicinity of a forest area. The community members are co-owners that share exclusive rights and duties, and benefits contribute to the community development.
Indigenous / tribal communities (<i>sub-category of Private ownership</i>)	Forest owned by communities of indigenous or tribal people.
Other types of ownership	Other kind of ownership arrangements not covered by the categories above. Also includes areas where ownership is unclear or disputed.
Categories related to the holder of management rights of public forest resources	
Public Administration	The Public Administration (or institutions or corporations owned by the Public Administration) retains management rights and responsibilities within the limits specified by the legislation.
Individuals/households	Forest management rights and responsibilities are transferred from the Public Administration to individuals or households through long-term leases or management agreements.
Private institutions	Forest management rights and responsibilities are transferred from the Public Administration to corporations, other business entities, private co-operatives, private non-profit institutions and associations, etc., through long-term leases or management agreements.
Communities	Forest management rights and responsibilities are transferred from the Public Administration to local communities (including indigenous and tribal communities) through long-term leases or management agreements.
Other form of management rights	Forests for which the transfer of management rights does not belong to any of the categories mentioned above.

2.2 National data

2.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
http://www.sl.life.ku.dk/Faciliteter/GroenlandsArboretet/Skovplantninger.aspx	L	Forest ownership, Forest management rights	2010, 2005, 2000, 1990	

2.3 Analysis and processing of national data

No estimation or forecasting has been made.

2.4 Data for Table T2

Table 2a - Forest ownership

FRA 2010 Categories	Forest area (1000 hectares)			
	1990	2000	2005	2010
Public ownership	0.22	0.22	0.22	0.22
Private ownership	0	0	0	0
...of which owned by individuals	0	0	0	0
...of which owned by private business entities and institutions	0	0	0	0
...of which owned by local communities	0	0	0	0
...of which owned by indigenous / tribal communities	0	0	0	0
Other types of ownership	0	0	0	0
TOTAL	0.22	0.22	0.22	0.22

Note: If other types of ownership is reported, please specify details in comment to the table.

Does ownership of trees coincide with ownership of the land on which they are situated?	<input checked="" type="checkbox"/>	Yes
	<input type="checkbox"/>	No
If No above, please describe below how the two differ:		

Table 2b - Holder of management rights of public forests

FRA 2010 Categories	Forest area (1000 hectares)			
	1990	2000	2005	2010
Public Administration	0.22	0.22	0.22	0.22
Individuals	0	0	0	0
Private corporations and institutions	0	0	0	0
Communities	0	0	0	0
Other	0	0	0	0
TOTAL	0.22	0.22	0.22	0.22

2.5 Comments to Table T2

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Public ownership	Head of Arboretum Dr. Søren Ødum (1937-99) was the driving force in the establishment of the trials with planting of introduced species on Greenland during the 1970'es and until the end of 90'es. The arboretum and activities regarding the plantings are administered by the association "Narsarsuaq Orpiuteqarfia".	
Private ownership		
Other types of ownership		
Management rights		

Other general comments to the table

3 Table T3 – Forest designation and management

3.1 FRA 2010 Categories and definitions

Term	Definition
Primary designated function	The primary function or management objective assigned to a management unit either by legal prescription, documented decision of the landowner/manager, or evidence provided by documented studies of forest management practices and customary use.
Protected areas	Areas especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means.
Categories of primary designated functions	
Production	Forest area designated primarily for production of wood, fibre, bio-energy and/or non-wood forest products.
Protection of soil and water	Forest area designated primarily for protection of soil and water.
Conservation of biodiversity	Forest area designated primarily for conservation of biological diversity. Includes but is not limited to areas designated for biodiversity conservation within the protected areas.
Social services	Forest area designated primarily for social services.
Multiple use	Forest area designated primarily for more than one purpose and where none of these alone is considered as the predominant designated function.
Other	Forest areas designated primarily for a function other than production, protection, conservation, social services or multiple use.
No / unknown	No or unknown designation.
Special designation and management categories	
Area of permanent forest estate (PFE)	Forest area that is designated to be retained as forest and may not be converted to other land use.
Forest area within protected areas	Forest area within formally established protected areas independently of the purpose for which the protected areas were established.
Forest area under sustainable forest management	To be defined and documented by the country.
Forest area with management plan	Forest area that has a long-term (ten years or more) documented management plan, aiming at defined management goals, which is periodically revised.

3.2 National data

3.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
http://www.sl.life.ku.dk/Faciliteter/GroenlandsArboretet/Skovplantninger.aspx	L			

3.2.2 Classification and definitions

National class	Definition
Forest reserve	According to the Danish Forest Act it is mandated to manage so-called forest reserve land with sustainable management - with respect to economic, ecological and social values. Approx. 90 % of the forest area is designated forest reserve land.
Strict Nature Protection Areas	Areas closed to the public due to special scientific values or very fragile ecology.
National Trust Areas	Larger areas with special (aesthetic) landscape values or natural values. The protection is maintained by the Danish Forest and Nature Agency (Ministry of Environment) irrespective of ownership.
Non-intervention forest	Smaller areas of semi-natural (deciduous) forest left unmanaged with no removal of wood and no drainage.
Areas managed according to the Strategy for Natural Forests	Smaller areas of forest designated for historic management practices, selective cutting and continuous forest cover.
Natura 2000	Include all NATURA 2000 areas according to the EU Habitat Directive and Bird Protection Directive. Available information on total land area, but not on forested area within this. Specific management restrictions are not yet implemented on the areas.
Protection of soil	Areas where forests have a protective function for the soil.
Protection of ground water	Areas designated for drinking water extraction.

3.3 Analysis and processing of national data

No estimation and forecasting.

3.4 Data for Table T3

Table 3a – Primary designated function

FRA 2010 Categories	Forest area (1000 hectares)			
	1990	2000	2005	2010
Production	0	0	0	0
Protection of soil and water	0	0	0	0
Conservation of biodiversity	0	0	0	0
Social services	0	0	0	0
Multiple use	0	0	0	0
Other (please specify in comments below the table)	0.22	0.22	0.22	0.22
No / unknown	0	0	0	0
TOTAL	0.22	0.22	0.22	0.22

The forest plantations in Greenland have mainly a scientific aim. They are suited as an arboretum for conservation of gene pools and serve as an indicator of climate change through the effect on the northern distribution of the trees.

Table 3b – Special designation and management categories

FRA 2010 Categories	Forest area (1000 hectares)			
	1990	2000	2005	2010
Area of permanent forest estate	0.22	0.22	0.22	0.22
Forest area within protected areas	n.a.	n.a.	n.a.	n.a.
Forest area under sustainable forest management	0.22	0.22	0.22	0.22
Forest area with management plan	n.a.	n.a.	n.a.	n.a.

3.5 Comments to Table T3

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Production		
Protection of soil and water		
Conservation of biodiversity		
Social services		
Multiple use		
Other	The forest plantations in Greenland have mainly a scientific aim. They are suited as an arboretum for conservation of gene pools and serve as an indicator of climate change through the effect on the northern distribution of the trees.	
No / unknown designation		
Area of permanent forest estate		
Forest area within protected areas		
Forest area under sustainable forest management		
Forest area with management plan		

Other general comments to the table

4 Table T4 – Forest characteristics

4.1 FRA 2010 Categories and definitions

Term / category	Definition
Naturally regenerated forest	Forest predominantly composed of trees established through natural regeneration.
Introduced species	A species, subspecies or lower taxon, occurring <u>outside</u> 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).
Characteristics categories	
Primary forest	Naturally regenerated forest of native species, where there are no clearly visible indications of human activities and the ecological processes are not significantly disturbed.
Other naturally regenerated forest	Naturally regenerated forest where there are clearly visible indications of human activities.
Other naturally regenerated forest of introduced species (sub-category)	Other naturally regenerated forest where the trees are predominantly of introduced species.
Planted forest	Forest predominantly composed of trees established through planting and/or deliberate seeding.
Planted forest of introduced species (sub-category)	Planted forest, where the planted/seeded trees are predominantly of introduced species.
Special categories	
Rubber plantations	Forest area with rubber tree plantations.
Mangroves	Area of forest and other wooded land with mangrove vegetation.
Bamboo	Area of forest and other wooded land with predominant bamboo vegetation.

4.2 National data

4.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
http://www.sl.life.ku.dk/Faciliteter/GroenlandsArboretet/Skovplantninger.aspx	L			

4.3 Analysis and processing of national data

No calibration has been carried out. No estimation has been carried out.

4.4 Data for Table T4

Table 4a

FRA 2010 Categories	Forest area (1000 hectares)			
	1990	2000	2005	2010
Primary forest	0	0	0	0
Other naturally regenerated forest	0	0	0	0
...of which of introduced species	0	0	0	0
Planted forest	0.22	0.22	0.22	0.22
...of which of introduced species	0.22	0.22	0.22	0.22
TOTAL	0.22	0.22	0.22	0.22

Table 4b

FRA 2010 Categories	Area (1000 hectares)			
	1990	2000	2005	2010
Rubber plantations (Forest)	0	0	0	0
Mangroves (Forest and OWL)	0	0	0	0
Bamboo (Forest and OWL)	0	0	0	0

4.5 Comments to Table T4

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Primary forest	Forest trees are not native to Greenland	
Other naturally regenerating forest		
Planted forest	Forest trees were planted on Greenland in a number of arboretums.	
Rubber plantations		
Mangroves		
Bamboo		

Other general comments to the table

5 Table T9 – Forest fires

5.1 FRA 2010 Categories and definitions

Category	Definition
Number of fires	Average number of vegetation fires per year in the country.
Area affected by fire	Average area affected by vegetation fires per year in the country.
Vegetation fire (supplementary term)	Any vegetation fire regardless of ignition source, damage or benefit.
Wildfire	Any unplanned and/or uncontrolled vegetation fire.
Planned fire	A vegetation fire regardless of ignition source that burns according to management objectives and requires limited or no suppression action.

5.2 National data

5.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments

5.2.2 Classification and definitions

National class	Definition
Number of fires	Average number of vegetation fires per year in the country.
Area affected by fire	Average area affected by vegetation fires per year in the country.
Vegetation fire (supplementary term)	Any vegetation fire regardless of ignition source, damage or benefit.
Wildfire	Any unplanned and/or uncontrolled vegetation fire.
Planned fire	A vegetation fire regardless of ignition source that burns according to management objectives and requires limited or no suppression action.

5.3 Data for Table T9

Table 9a

FRA 2010 category	Annual average for 5-year period					
	1990		2000		2005	
	1000 hectares	number of fires	1000 hectares	number of fires	1000 hectares	number of fires
Total land area affected by fire	0	0	0	0	0	0
... of which on forest	0	0	0	0	0	0
... of which on other wooded land	0	0	0	0	0	0
... of which on other land	0	0	0	0	0	0

Table 9b

FRA 2010 category	Proportion of forest area affected by fire (%)		
	1990	2000	2005
Wildfire			
Planned fire			

5.4 Comments to Table T9

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Area affected by fire	Fires do not occur	
Number of fires		
Wildfire / planned fire		

Other general comments to the table