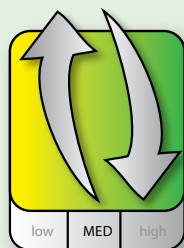


INDICATOR **Native forest cover****Status**

Fair to good

Trend

Mixed

Data confidence

Medium



Guadalcanal interior forest, Solomon Islands © Stuart Chape

WHAT KIND OF FOREST COVER?

- **Total:** all trees, any species or age.
- **Primary:** intact mature forest, dominated by native species. Original forest.
- **Native-dominated:** native Pacific species, typically under protection from invasive species, including invasive predators that affect the dispersal of native plant seeds.

Only 16% of forests in Oceania
are in protected areas.

FAO 2020

PRESENT STATUS

The status of the region's forests was deemed Fair to Good, with the majority of Pacific islands still having relatively high forest cover, higher than the global average. The area of unlogged primary forest varies across the region, with large areas in Papua New Guinea (PNG) and countries like Cook Islands and Kiribati having no primary forest left (see Table 4.2).

With the increase in deforestation in many countries, especially in the larger islands of Melanesia, particularly PNG and Solomon Islands, the overall extent of forest coverage and quality is deteriorating. Melanesia accounts for the majority of the land area within the Pacific islands region. However, in the smaller countries and territories, there has generally been either no significant change or in some cases a small increase in forested area: such increases in forest area have most often been due to increases in commercial forest plantations or increased coverage of secondary re-growth forest, both of which have lower biodiversity value than native forests. The overall trend when looking at pressures on forests is therefore mixed.

Papua New Guinea ranked third in the list of countries with the fastest-growing rates of tropical primary rainforest loss in 2018 according to Global Forest Watch.¹ The Solomon Islands government is also concerned about the growing rate of tree cover loss, especially from 2014 to 2017.

¹ Of countries with over 100,000 hectares of primary forest. See: <https://blog.globalforestwatch.org/data-and-research/world-lost-belgium-sized-area-of-primary-rainforests-last-year>

CRITICAL CONNECTIONS

Pacific forests provide essential ecosystem services. Freshwater supply and quality, lagoon water quality, and national carbon accounting rely on well-managed, monitored native forests.

Our forests provide food and raw materials for subsistence and cultural traditions, help maintain clean water and the local climate, maintain soil fertility and productivity, and regulate erosion and the amount of sediment reaching coastal waters and affecting coral reef habitats. Changes in forest type have been associated with changes in coastal water quality and ocean species abundance.

Losses of native forests are tied to losses of biodiversity values and the ecological services provided by forests and watersheds, including food security and climate resilience, most notably through the sediment trapping, wave/flood protection, and coastline stabilization of mangrove forests but also the stability of native forest species.

Encroachment into island forests, including mangroves, for development undermines progress towards SDG 11.3.1: Ratio of land consumption rate to population growth rate.

Pacific forests are vulnerable to the impacts of climate change. Changes in rainfall patterns may result in more severe and longer droughts, increasing or creating susceptibility of forests to wildfires and long-term ecosystem change. Increasing global and regional temperatures will decrease the range of high-altitude cooler climate forests, especially cloud forests. Higher-intensity cyclones will have greater impact on forest integrity.

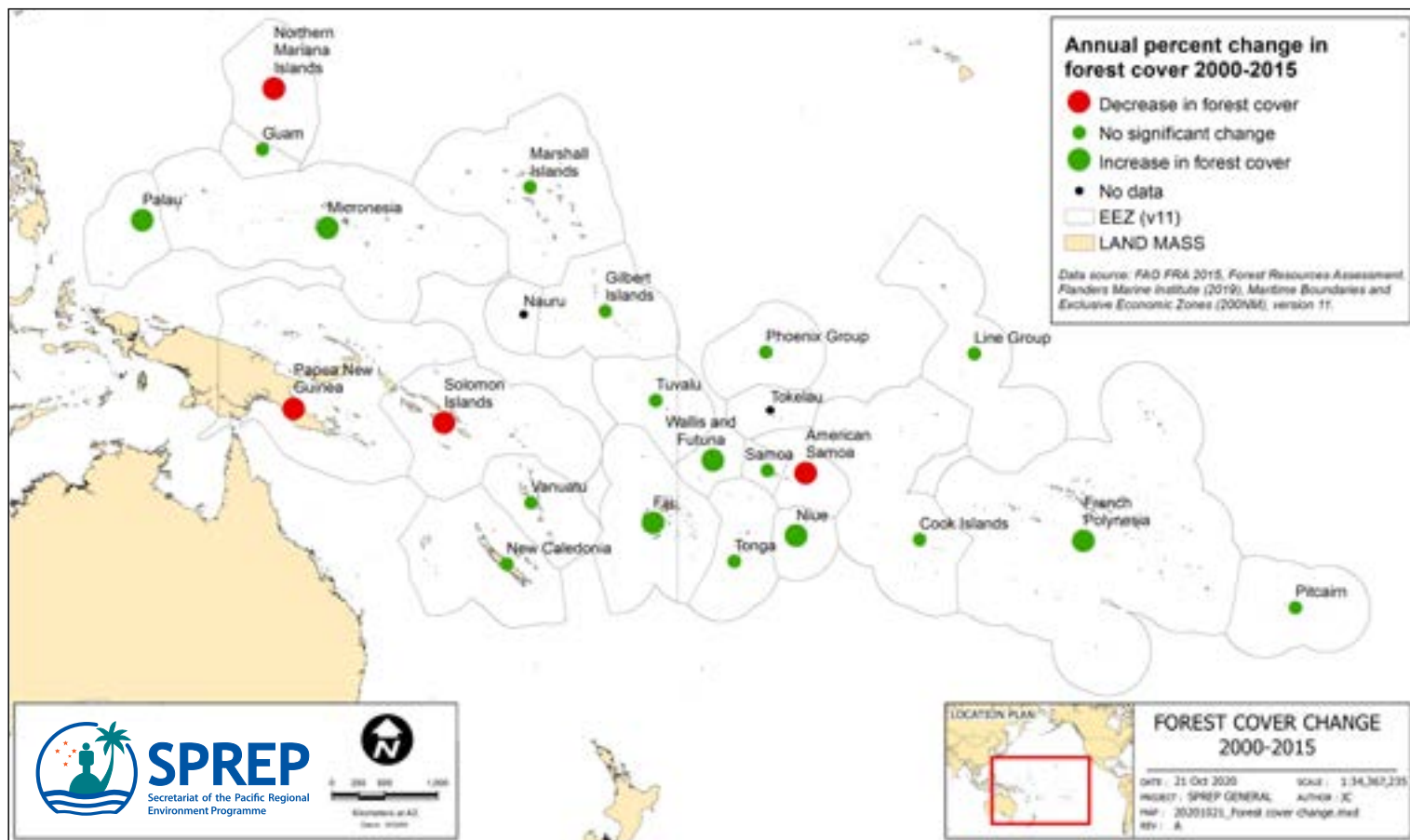


FIGURE 4.1 Total forest cover change in Pacific island countries and territories.

AVAILABLE DATA INDICATE LOSSES IN PRIMARY FOREST

The FAO Global Forest Resource Assessments 2015 dataset reports primary forest cover for 16 of 22 countries and territories in 2010, but data for the rate of change in primary forest cover are only available for 9 of the 22 over 2000 to 2015 (Table 4.1). Only the Federated States of Micronesia reported an increase in primary forest cover (of 0.64% for FSM, all data points predating 2010). Data for this rate of change are available for 11 countries and territories over 2010 to 2015, with Fiji, Commonwealth of the Northern Mariana Islands, and PNG still showing losses in primary forest cover.

Global Forest Watch provides a data alternative for some countries (Table 4.1). The GFW satellite-based method is more accurate for larger areas.

Our knowledge of invasive species impacts on native Pacific biodiversity also underlines the concern for Pacific primary forests (see *Regional Environment Indicator: Invasive Species*).

TABLE 4.1 Tree cover loss based on >75% canopy density

COUNTRY/TERRITORY	LOSS SINCE 2000 (%)	GLOBAL FOREST WATCH SUMMARY
Vanuatu	0.95	From 2001 to 2018, Vanuatu lost 10.5 thousand hectares of tree cover, equivalent to a 0.95% decrease in tree cover since 2000, and 3.97 Mt of CO ₂ emissions.
New Caledonia	1.1	From 2001 to 2018, New Caledonia lost 7.63 thousand hectares of tree cover, equivalent to a 1.1% decrease in tree cover since 2000, and 2.68 Mt of CO ₂ emissions.
Federated States of Micronesia	1.3	From 2001 to 2010, Micronesia lost 72 hectares of tree cover, equivalent to a 1.3% decrease in tree cover since 2000.
Palau	1.6	From 2001 to 2018, Palau lost 602 hectares of tree cover, equivalent to a 1.6% decrease in tree cover since 2000 and 346 kt of CO ₂ emissions
Fiji	2.8	From 2001 to 2018, Fiji lost 33.5 thousand hectares of tree cover, equivalent to a 2.8% decrease in tree cover since 2000 and 14.3 Mt of CO ₂ emissions.
Papua New Guinea	3.3	From 2001 to 2018, Papua New Guinea lost 1.32 million hectares of tree cover, equivalent to a 3.3% decrease in tree cover since 2000 and 715 Mt of CO ₂ emissions.
Solomon Islands	5.9	From 2001 to 2018, Solomon Islands lost 159 thousand hectares of tree cover, equivalent to a 5.9% decrease in tree cover since 2000 and 83.2 Mt of CO ₂ emissions.

Source: Global Forest Watch, accessed May 2020.

DATA GAPS PERSIST

The best existing regional data for this indicator are the metrics 'forest cover' and 'primary forest cover' from the FAO Forest Resource Assessment 2015. 'Forest cover' includes all tree species, whether native, agricultural plantation, or invasive, despite the very different ecosystem services provided by these different forest types.

In many Pacific countries, there has been a change in forest quality even if only a small change in forest area. Here, we focus on primary forest, which can be thought of as original forest. Only 1.6% of the forests in Oceania (including Australia and New Zealand) are primary forest (FAO 2020).

For some countries, the most recent real measurements were collected in the 1990s. Given the population growth and potential land-use change in the last 20 to 30 years, updated accurate assessments of forest extent, health, and presence of native species are essential for informed planning.

Across most of the Pacific Islands, there has been minimal change reported by the FAO in primary forest cover in the past 10 years (Table 4.2). A few countries drive the loss of over 40% of the region's primary forest since 1990, at a rate of -2.11% per year, compared with 2.6% of the world's primary forest lost at a rate of -0.10% (FAO 2015). Fiji, PNG, Solomon Islands, and Vanuatu have net log/timber exports and the forestry sector is a significant contributor to the national economy.

Only French Polynesia shows a substantive increase of total forest cover (2.63%) from 1990 to 2015.

The rate of deforestation in the region as a whole presents an unsustainable trend. However, the Pacific loss is less than the global average since 1990, with 1.9% of the region's forest area lost between 1990 and 2015, at a rate of -0.08% loss, compared with 3.1% of the world's forest lost at a rate of -0.13% .

TABLE 4.2 Total and primary forest cover and rate of change, 1990–2015 (most recent year). ha = hectares – indicates no data available

Country/region	TOTAL FOREST					PRIMARY FOREST			
	AREA (1,000 ha)			CHANGE (%)		AREA (1,000 ha)			CHANGE (%)
	1990	2010	2015	2000–2015	2010–2015	1990	2010	2015	2000–2015
American Samoa	18.4	17.7	17.5	-0.19%	-0.19%	–	–	–	
Cook Islands	14.4	15.1	15.1	0.00%	0.00%	0.0	0.0	0.0	
Fiji	952.9	992.9	1017.2	0.25%	0.48%	489.5	420.2	411.4	-0.53%
French Polynesia	55.0	155.0	155.0	2.63%	0.00%		40.0	40.0	
Guam	25.0	25.0	25.0	0.00%	0.00%	–	–	–	
Kiribati	12.2	12.2	12.2	0.00%	0.00%	0.0	0.0	0.0	
Marshall Islands	12.6	12.6	12.6	0.00%	0.00%	8.2	8.2	8.2	0.00%
Micronesia, Federated States	63.6	64.1	64.3	0.04%	0.04%	39.6	48.4	48.4	0.64%
Nauru	0.0	0.0	0.0			0.0	0.0	0.0	
New Caledonia	839.0	839.0	839.0	0.00%	0.00%	431.0	431.0	431.0	0.00%
Niue	20.6	18.6	18.1	-0.53%	-0.54%	–	5.6	5.6	
Northern Mariana Islands	33.6	30.3	29.5	-0.53%	-0.55%	10.1	8.2	7.7	-1.10%
Palau	38.2	40.3	40.3	0.12%	0.00%	–	–	–	
Papua New Guinea	33627.0	33573.0	33559.0	-0.01%	-0.01%	31329.0	20345.0	17599.0	-2.53%
Pitcairn	3.5	3.5	3.5	0.00%	0.00%	–	–	–	
Samoa	130.0	171.0	171.0	0.00%	0.00%	–	0.0	0.0	0.00%
Solomon Islands	2324.0	2213.0	2185.0	-0.25%	-0.25%	1105.4	1105.4	1105.4	0.00%
Tokelau	0.0	0.0	0.0			0.0	0.0	0.0	
Tonga	9.0	9.0	9.0	0.00%	0.00%	4.0	4.0	4.0	0.00%
Tuvalu	1.0	1.0	1.0	0.00%	0.00%	–	–	–	
Vanuatu	440.0	440.0	440.0	0.00%	0.00%	–	–	–	
Wallis and Futuna Islands	5.8	5.8	5.8	0.02%	0.03%	0.0	0.0	0.0	
Oceania	38625.7	38639.2	38620.1	-0.16%	0.18%				

Source: FAOSTAT <http://www.fao.org/faostat/en/#data/RL>



Log loading dump, Choiseul, Solomon Islands © Stuart Chape

PRESSURES AND OPPORTUNITIES

The unique biodiversity in the islands and our strong dependence on forests for stable, resilient island ecosystems increase the concern about forest changes. Tropical forests still dominate the world's forest loss (FAO 2020).

Logging and forestry pressure vary substantially among the countries, but all suffer increasing pressure from invasive species, which directly harm forest plant species as well as native birds that distribute seeds.

Forest quality may be significantly reduced due to large increases in 'open forests' and forests dominated by introduced invasive species (FAO 2020). Areas of primary forest (higher quality) may decrease, while areas of planted forest increase: in some cases, this may cause an overall net increase in forest area that masks the biodiversity and ecosystem losses.

Papua New Guinea and the Solomon Islands are the two largest sources of tropical lumber imported by China, accounting for half of China's imported tropical logs (Global Witness, 2018). In 2017, Solomon Islands exported over 3 million cubic metres of logs, over 19 times a conservative estimate of the annual sustainable harvest (Global Witness, 2018). Natural forests will be exhausted by 2036 under the current rate of logging, according to a report commissioned by the Solomon Islands' Ministry of Finance.

Native forest cover and vegetation are more resilient to extreme weather and can buffer the impacts of extreme events.

REGIONAL RESPONSE RECOMMENDATIONS

Many data gaps remain that undermine accurate regional assessments and sustainable forest management. To address these challenges and seize the opportunities that healthy forests present for our region, Pacific countries can:

- **Measure** forest area and native forest species over repeated time increments. Quantifying the change in forest quality is also important to monitor changes in forest ecosystem services because these services differ substantially between native forests and secondary forests, monoculture plantations, and other forest types.
- **Plan** to protect native forests for social and cultural functions, carbon capture, as well as soil and water conservation. Active management plans, harmonised across sectoral goals, can increase the sustainability of national forest management.
- **Enforce** protection from illegal or unsustainable forest practices, clearly distinguished from defined permitted use and access to forest resources. Given the pressures from invasive birds and rats on native plant seeds, necessary protections extend beyond simple declaration of boundaries.
- **Partner** for restoration of native forests, ensuring development partners understand and share the prioritization of native species and primary forest.

INDICATOR IN ACTION

SDGs 6.6, 15.1, 15.2 • UNFCCC • CBD • Ramsar • SAMOA Pathway 94 • Regional Environment Objectives 1.2, 2.2 • Pacific Islands Framework for Nature Conservation Objectives 3, 4, 5

FOR MORE INFORMATION

Fa et al. (2020) Importance of Indigenous Peoples' lands for the conservation of Intact Forest Landscapes. *Front Ecol Environ* 18:135–140; doi:10.1002/fee.2148

FAO (2020) Global Forest Resources Assessment 2020. www.fao.org/forest-resources-assessment/en/ Rome: United Nations Food and Agricultural Organization.

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FAO and JRC (2012) Global forest land-use change 1990–2005. Lindquist EJ et al. (eds) FAO Forestry Paper No. 169. Food and Agriculture Organization of the United Nations and European Commission Joint Research Centre. Rome: FAO.

Global Witness (2018) Paradise lost: How China can help the Solomon Islands protect its forests.

Pacific Environment Portal; see <https://pacific-data.sprep.org/>

Indicator 4 of 31 in *State of Environment and Conservation in the Pacific Islands: 2020 Regional Report*



The Secretariat of the Pacific Regional Environment Programme (SPREP) supports 14 countries and 7 territories in the Pacific to better manage the environment. SPREP member countries and members of the Pacific Roundtable on Nature Conservation (PIRT) have contributed valuable input to the production of this indicator. www.sprep.org

National and regional environment datasets supporting the analysis above can be accessed through the Pacific Environment Portal. pacific-data.sprep.org

For protected areas information, please see the Pacific Islands Protected Area Portal. pipap.sprep.org