

New Guinea's forests: a global test of climate and biodiversity resolve

by Peter Raynes

26 November 2025



UN Secretary-General António Guterres and Brazilian President Luiz Inácio Lula da Silva attend Tropical Forests Forever Facility launch in Belem, Brazil, 6 November 2025

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New Guinea is staggeringly rich in life. Occupying just 0.5% of Earth's land surface, it hosts an estimated **5-8% of all species**. This abundance is reflected in more than **2,800 orchid species**, over **1,000 butterflies** and **around 800 birds**. Over half of its known species are found nowhere else on Earth.

Its extraordinary biodiversity stems from a complex geological history and from being the world's largest and highest tropical island. The collision of the Australian and Pacific plates created a rugged landscape of island arcs and mountain ranges. Abundant sunlight and rainfall, combined with its size and elevation — rising to almost 5,000 metres — have produced stacked habitats from coral reefs and mangroves to cloud forests and alpine grasslands. Isolation east of Wallace's Line, intermittent land bridges with Australia during glacial cycles, and a light human footprint over 50,000 years have made New Guinea an evolutionary laboratory.

The birds-of-paradise are the jewel in this biological crown. Thirty-nine species from fifteen genera occur here alone. Isolated for millions of years, they underwent spectacular evolutionary radiation, diversifying across regions and altitudes. Intense sexual selection produced **their exquisite colours, elaborate plumage and extraordinary courtship displays**.

All birds-of-paradise depend on native forests, which still cover about 70% of New Guinea's landmass — the world's third-largest tract of primary rainforest after the Amazon and Congo. Around 60 million hectares of primary rainforest — **34 million hectares in Indonesian Papua** and **26 million hectares in Papua New Guinea** — form an immense carbon sink. These forests are essential for biodiversity and for mitigating climate change, widely seen as the **Pacific's greatest development threat**.

At the 2021 UN Climate Change Conference (COP26) in Glasgow, 145 countries representing about 90% of the world's forests signed the **Glasgow Leaders' Declaration on Forests and Land Use**, pledging to halt and reverse forest loss by

2030. Many nations emphasised that safeguarding Indigenous peoples' rights is inseparable from effective forest conservation. Progress against the declaration was reviewed this month at COP30 in Belem, Brazil.

New Guinea, divided by the 141st meridian east, sits across two jurisdictions. To the west lies Indonesian Papua — now six provinces — and to the east, PNG. Both are signatories to the Glasgow Declaration, yet their approaches to forest governance differ sharply.

In Indonesia, all land is legally vested in the state unless privately titled, meaning the forests of Papua are state-owned, though local communities may claim customary use rights. This framework has enabled large reserves such as the 25,000-square-kilometre [Lorentz National Park](#) to be gazetted with limited consultation. The same laws also permit logging and oil palm concessions with minimal community input.

In PNG, about 97% of land remains under customary ownership and cannot be alienated except by voluntary agreement. This prevents government from unilaterally issuing concessions but makes establishing reserves more complex, as all affected communities must consent. Even so, significant conservation areas have been created with NGO support, including the [YUS Conservation Area on the Huon Peninsula](#) — a 1,500-square-kilometre ridge-to-reef landscape protecting the Matschie's tree-kangaroo and the Huon astrapia.

Despite the ambition of the Glasgow Declaration, follow-through has been weak. A [2024 UN-REDD/UNEP assessment](#) found that only eight of the 20 countries with the highest tropical deforestation rates had set quantified forest targets in their climate pledges.

In Indonesia, deforestation fell earlier in the decade but is again rising in the Papuan provinces, where primary forest loss reached roughly [25,000 hectares in 2024](#) — a 10% increase on the previous year. Large-scale “food estate” and plantation schemes — [accelerated by new road corridors including the Trans-Papua Highway](#) — are significant drivers. A proposed sugar and bio-ethanol project in Merauke alone could clear two million hectares, threatening savanna forest ecosystems and at least two dozen Indigenous communities. A [report by the think tank CELIOS](#) warns such developments could release hundreds of millions of tonnes of CO₂ and set back Indonesia's net-zero goal by a decade. Many local communities report clearing without free, prior and informed consent, echoing long-standing concerns over rights and governance in the region.

PNG has pledged to reduce annual deforestation and forest degradation by 25%

from 2015 levels by 2030 and to transform its land-use and forestry sector — currently a net source of emissions — into a carbon sink. The country retains **around 58% primary rainforest cover**, but logging, agricultural expansion and weak enforcement continue to erode it. Policies and partnerships have been launched to **protect 30% of land and sea areas**, yet progress remains uncertain due to limited monitoring capacity, governance challenges, and commercial pressures.

The mixed results in New Guinea reflect the fragility of global forest protection efforts. The challenge for the COP process now is to convert pledges into measurable outcomes before 2030. Key priorities include embedding forest goals in national climate plans (Nationally Determined Contributions or NDCs), linking them to the Paris Agreement's Global Stocktake, and improving coordination across climate, biodiversity and land-use frameworks. Implementation must also address the drivers of forest loss — agricultural expansion, logging, mining and infrastructure — while strengthening accountability and securing Indigenous and community land rights.

The **Tropical Forests Forever Facility** (TFFF), launched by Brazil at COP30, represents a promising new financial model. Designed as an endowment-style mechanism, it rewards countries for keeping forests intact rather than only for reducing deforestation, with 20% of payments directed to Indigenous communities. **Early political backing and initial funding** commitments have generated momentum, though its success will depend on robust safeguards, transparent monitoring and fair benefit-sharing. For New Guinea, TFFF could offer predictable, long-term finance to protect its vast rainforests at a time of rising threats.

Australia — as a major development partner to both PNG and Indonesia — is well positioned to consider joining the facility as an early donor and to help strengthen the technical capacity and governance safeguards needed to ensure genuine benefits for forests and communities. While Australia did not make a commitment towards the facility's US\$125 billion funding target at COP30, the Minderoo Foundation headed by Australian billionaire miner Andrew Forrest did **pledge US\$10 million** during the event.

Ultimately, success will be measured not in policies adopted or funds pledged but in what is preserved. Few symbols capture the value of New Guinea's forests better than the birds-of-paradise — living expressions of nature's creative power and a reminder of what is at stake. Their survival depends on the same forests that sustain people, regulate climate, and shelter much of Earth's remaining biodiversity. Protecting them is not sentiment but responsibility: the health of New Guinea's ecosystems and the stability of the planet are inseparable.

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