

CLIMATE SOLUTION:

Protecting Primary Forests is Essential for a Safe Climate

FORESTS STORE MORE CARBON THAN IS CURRENTLY IN the atmosphere (and more than known oil and coal reserves combined). Forests are therefore a critical component of climate solutions because there is enough carbon in forests that if burned or otherwise released into the atmosphere, it would trigger dangerous warming, even if we eliminate fossil fuel emissions.

However, less well known is that primary forests store far more carbon than production forests or plantations (30-70% more than production forests). In addition, as a result of their 'ecosystem integrity' (i.e. the fact that they retain all of their biodiversity, their natural vegetation structure, soil conditions and species composition), primary forest carbon stocks are also the most stable and most resilient forest carbon stocks on the planet, and can keep carbon safely stored for centuries or millennia. Production forests, which by definition have been degraded by timber extraction and fragmented by logging roads, are far more vulnerable to fire, extreme weather, edge effects, conversion to agriculture use etc. which also means their carbon stocks are at far greater risk of loss. The combination of larger carbon stocks and greater stability makes primary forests by far the safest, lowest risk forest carbon investment. It is therefore essential to ensure that climate finance is directed to maintaining primary forests free of disturbance.

It is also essential to allow as much degraded natural to recover to a primary forest condition as possible through ecological restoration. Logged natural forests contain much less carbon (on average 35% less carbon in the tropics)—and often much less if the forest has been logged multiple times or has experienced understory fires. Allowing a degraded forest to regain its carbon carrying capacity can yield substantial mitigation benefits. While estimates vary, hundreds of millions of hectares have already been degraded by logging. Restoration of production forests to a primary forest condition can therefore yield enormous benefits.

While larger areas of primary forest contain larger carbon stocks and are more stable and more resilient than smaller areas, even small fragments of primary forest are vitally important. They are essential because they provide the ingredients for natural regeneration of forests where they have been cleared:

Type of action

Climate Resilience, Restoration of Forests

Groups and organizations involved

Wild Heritage, Government of Costa Rica, Australian Rainforest Conservation Society

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Location

Global

natural regeneration occurs most readily near primary forest fragments, where the seed bank and the seed dispersers (monkeys, birds, tortoises etc.) are still present. In fact, most natural regeneration of tropical forests occurs within a few hundred meters of primary forest, and often on land that previously had primary forest cover. Like ecological restoration of degraded forests, natural regeneration of forests can provide enormous mitigation benefits if the forest is allowed to continue recovering over the long-term.

Although industrial activity is incompatible with the maintenance of primary forest values, we do know the range of activities that are compatible with primary forest protection—from protected areas to indigenous and community conservation to payments for ecosystem service schemes. It is vital that climate funding shift to primary forest protection, ecological restoration and natural regeneration. Improved logging practices or plantations will not generate the mitigation necessary to avoid 1.5°C of warming and is only helpful if it linked to improved primary forest protection and restoration and does not have adverse impacts on indigenous or local communities.

Impacts of this action on...

Primary forest protection

Primary forests have a much higher adaptive capacity than degraded forests due to their higher biodiversity and higher ecosystem integrity.

Carbon emissions (mitigation)

Primary forest protection by definition eliminates significant emissions from the forest. While local uses may generate some emissions, these are very minor compared to the very high emissions from commercial logging.

Carbon capture (mitigation)

Using primary forest fragments as the basis for restoration efforts is crucial to generate natural forest regeneration, which maximizes carbon capture relative to agroforestry or plantations.

Social and economic factors

Primary forest protection protects local livelihoods, protects the homelands of Indigenous Peoples, including the last uncontacted tribes on the planet, provides opportunities for eco-tourism and ensures a vast store of carbon stocks that should be compensated via international climate finance.

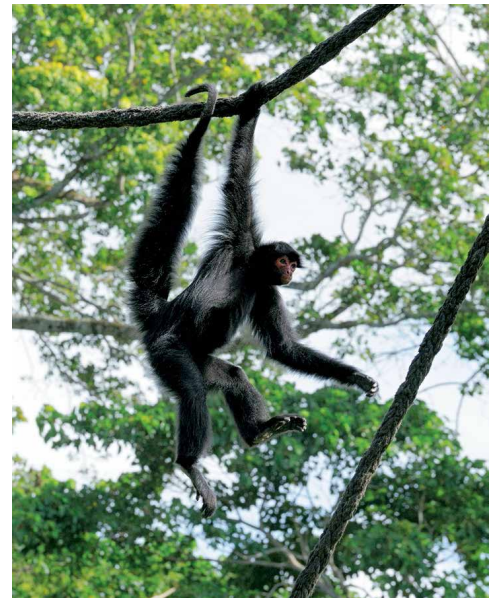
Biodiversity and ecosystem resilience

Primary tropical forests store by far the highest levels of biodiversity on the planet. At least two thirds of all terrestrial plant and animal species are found in primary tropical forests. Moreover, primary tropical forests are irreplaceable for biodiversity: while degraded forests can also have high species counts, especially if they have only been logged once and are adjacent to primary forests, the scientific literature indicates that many of the species in degraded forests are in fact secondary forest species: many primary forest species do not persist in degraded forests and ecosystem integrity (and stability) greatly reduced.



MONGABAY

▲ Logging in Sabah, Malaysia. Degradation from selective logging greatly reduces carbon stocks.



RUSSELL MITTMEIER

▲ Primary forests store by far the most biodiversity...and biodiversity is critical to the forests carbon stocks.



◀ Indigenous Peoples have been stewards of primary forests for centuries or millennia. Kayapo Territory, Brazil.

CRISTINA MITTERMEIER

This action is transformational because...

It provides the most robust climate mitigation and adaptation outcomes and provides a cost effective and efficient pathway to deal with the two great crises facing life on Earth – the Climate Crisis and Biodiversity Crisis. It is no longer possible to ignore the linkages between these crises or that the biodiversity crisis is as ‘serious for life on Earth as the climate crisis’ (Achim Steiner 2018). The relationship is circular...with biodiversity decline (and resultant decline in ecosystem integrity) comes increased loss of ecosystem carbon stocks to the atmosphere and increased risk of further loss. Conversely improved protection and restoration of primary forests (and other carbon rich primary ecosystems) improves the sequestration and long-term storage of ecosystem carbon stocks, Failure to develop integrated solutions to these two crises will exacerbate the risk of ecosystem carbon stocks loss from drought, fire, pest, and disease—threats that are exacerbated by climate change. Sustainable development is intimately linked to success or failure on preventing ecosystem collapse and ongoing degradation and limiting warming to 1.5 degrees. Sustainable development goals are only achievable if biodiversity and climate action are integrated.

This action could be scaled up through...

Climate finance for nature-based solutions that focus on primary forest protection and ecological restoration/natural regeneration i.e. through support for rights and livelihoods for communities and Indigenous Peoples directed to non-industrial development pathways, support for protected areas of all governance types, payments for ecosystem services etc. Incentives can be shifted away from activities that degrade/fragment/clear primary forests to add to climate finance for activities in support of primary forest protection and ecological restoration.

The CLARA network includes climate justice advocates, faith groups, conservation groups, land-rights campaigners, agroecologists, and representative of peoples movements around the globe. Our commitment to social justice brought us into the climate debate and informs our approaches to climate solutions. For more information about CLARA, visit climatelandambitionrightsalliance.org.

CLARA
Climate Land Ambition and Rights Alliance

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