#GLFBiodiversity

Photo by Nahang Sujana/CIFOR

GLF Biodiversity Digital Conference

Peatlands as a super nature-based solution to climate change, and a refuge for unique and threatened biodiversity

One World One Health

28.29 OCTOBER 2020

White paper

This White Paper is supported by

UN environment programme

Global Peatlands Initiative

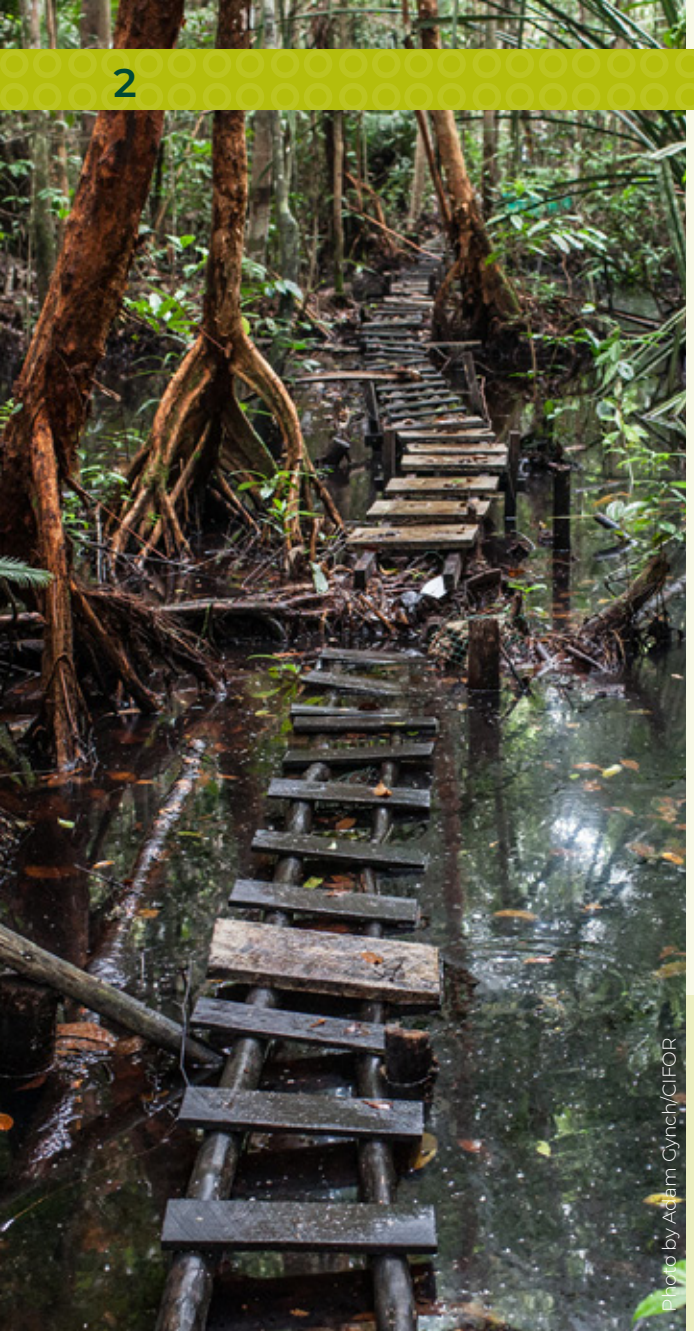


Photo by Adam Gynch/CIFOR

Introduction to Peatlands

The humble peatland – it's one of the most overlooked, undervalued, and yet important landscape types on our planet. Dominated by the presence of peat soils, peatlands occur across the globe and are known by a myriad names, such as bog, fen, swamps, mbuga, tourbiere, marshes, muskeg, marais and mires.

By definition, peatlands contain peaty soil, which is essentially organic carbon that is trapped due to anaerobic conditions for long periods of time, allowing for compression into an organic soil with very limited decomposition. Peatlands can be found throughout the world, but the most significant peatlands, by area, occur in the northern latitudes of Canada and Russia. Other significant areas of peatlands exist in the tropics, particularly in the Peruvian Amazon, the Cuvette Centrale in the Congo Basin, and in Indonesia.

Authors:

Dianna Kopansky
UNEP, Global Peatlands Initiative

Julie Van Offelen
UNEP, Global Peatlands Initiative

Bryan Adkins
UNEP, Global Peatlands Initiative

Why are they important?

Peatlands are vital, super-powered ecosystems, providing essential ecosystem goods and services such as storing and capturing carbon, protecting and housing rare biodiversity, controlling water supply and quality, cooling our atmosphere, preventing floods and droughts and producing biomass and food for people.

It's estimated that peatlands cover only three percent of global land area. However, their role in global climate stability is immense, as they store nearly 30 percent of the world's soil carbon, and twice as much carbon as the entirety of the world's forest[1] Much of this carbon has been deemed irrecoverable, meaning that if the peatlands are converted, the carbon stocks that would be released to the atmosphere could not be restored.

Peatlands are critical for biodiversity. Not only are peatlands often the last refuge of many vulnerable and endangered species – ranging from the tiny aquatic warbler to the orangutan and African forest elephant – they also occur in incredibly diverse biomes across the globe, offering safe havens to a wide range of species.

The role of peatlands in global health – and particularly in human health – is important. Intact peatlands serve as critical green infrastructure, often mitigating flooding, droughts and erosion by storing and releasing water in times of need. They cycle, clean and recycle water, trap

Source: FAO, 2019.

1 Crump, J. (Ed.) 2017. Smoke on Water – Countering Global Threats From Peatland Loss and Degradation. A UNEP Rapid Response Assessment. *United Nations Environment Programme and GRID-Arendal*, Nairobi and Arendal, www.grida.no


Photo by Rupesh Bhomia/CIFOR

toxins, and heavy metals, and lock these away from human interaction. By nature of their very inaccessibility and undesirability, many peatlands – especially in the tropics – also serve as a critical barrier against dangerous zoonotic diseases.

The range of values and inherent diversity of the world's peatlands lends itself to being included in many of the Global Landscape Forum's Biodiversity Conference topics, including:

- Peatlands represent a priority area for the *Post-2020 agenda for biodiversity and ecosystem restoration.*
- Highlighting the interconnectedness illustrated in peatlands, through the topic of *One Health: Bridging the gap between ecosystem, animal, and human health.*
- Emphasizing the key opportunity to view peatlands as a priority area for investment in *Nature-based solutions for a circular economy.*

Peatlands under Threat

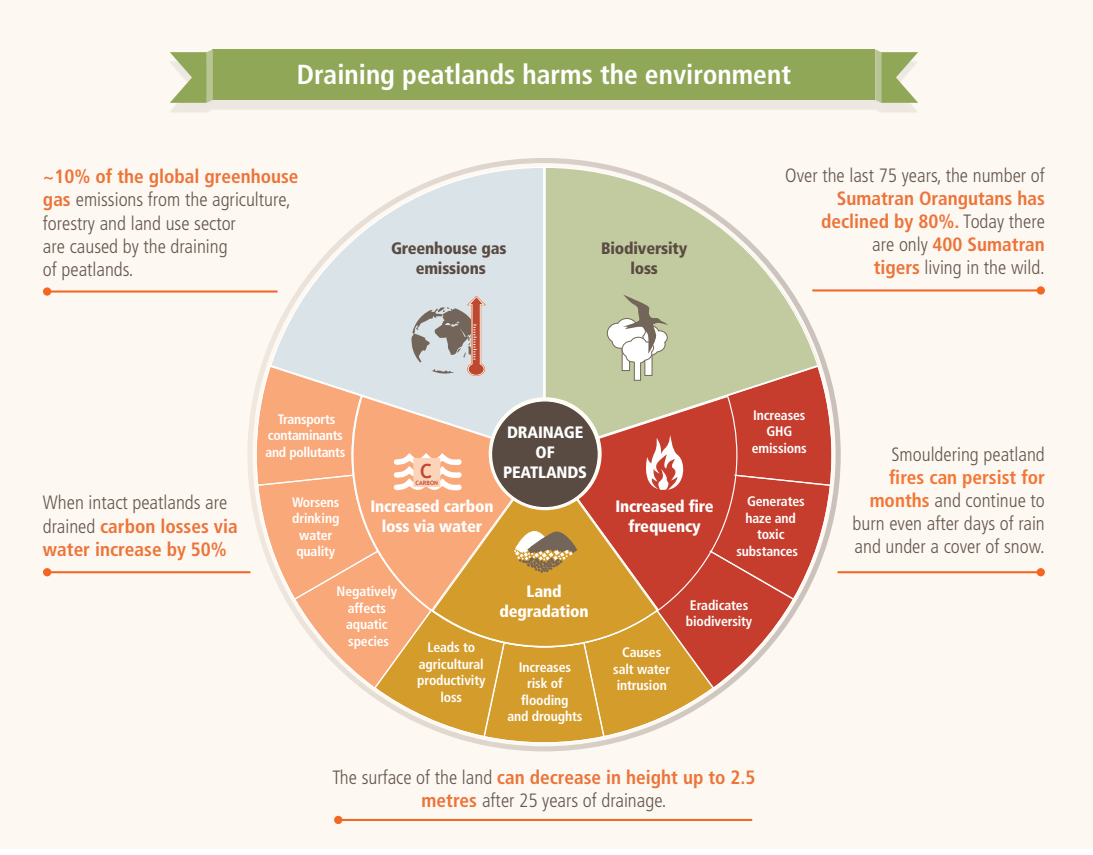
Although our understanding of the importance and outsized role that peatlands play in our global systems is increasing, some peatlands are already degraded and/or converted due to pressure from human activities such as agriculture and forestry. It is estimated that 15% of the world's peatlands have been drained, and that these drained peatlands, although amounting to only 0.4% of the total global land area, are responsible for roughly 5% of global anthropogenic CO_2 emissions[2].

Furthermore, due to their important role in the hydrological cycle – cleaning, filtering, and slowly releasing clean water – peatland conversion poses a significant threat to global water supplies. Through activities such as clearing and burning peatlands, many toxins, chemicals, and other

2 Joosten, H. (2015). Peatlands, climate change mitigation and biodiversity conservation. An issue brief on the importance of peatlands for carbon and biodiversity conservation and the role of drained peatlands as greenhouse gas emission hotspots. *Nordic Council of Ministers*. Available from www.ramsar.org/sites/default/files/documents/library/ny_2._korrektur_anp_peatland.pdf

heavy metals are released back into our environments.

As human populations grow, and economies look for new areas to expand production, pressures on our natural systems increase. It is likely that further peatlands will be degraded or converted, exacerbating the existing challenges of climate change, biodiversity loss, and global health crises.



Source: FAO, 2019.

So what can we do?

Tacking complex challenges at both local and global levels simultaneously is critical to success, and the importance of this is reflected by SDG-17, Partnerships for the Goals. By thinking globally and acting locally, we can address the challenges presented above in a way that is consistent globally, but contextually relevant. Actions include filling gaps in knowledge, documenting baselines, harmonizing standards for restoration, and communicating lessons learned about successful policies and strategies. To accomplish this, the Global Peatlands Initiative (GPI) is bringing partners together through focused South-South and triangular collaboration.

The GPI is a partnership coordinated by UNEP that is working to save peatlands as the world's largest terrestrial organic carbon stock. Supported by the German International Climate Initiative, the partnership works with our partner countries and experts to advance the conservation, restoration and sustainable management of key tropical peatlands in Indonesia, Peru, the Republic of Congo and the Democratic Republic of the Congo. Simultaneously,


Photo by Rupesh Bhomia/CIFOR

as a co-benefit of highlighting the importance of peatlands for climate, the GPI is drawing attention to the role that peatlands play as crucial habitat for biodiversity, including many critically-endangered species. We do this by supporting countries in their efforts to improve policies for peatland conservation, restoration and sustainable management – delivering benefits for water security, biodiversity, people and the climate.

Pathways of Action and Critical Next Steps

There are three key pathways for action and critical next steps. These include:

- Addressing the knowledge gaps around peatlands. These gaps primarily revolve around assessing the current global conditions of peatlands (as a baseline), including establishing their extent, GHG fluxes and other key metrics, setting standards, and communicating best practices in conservation, restoration, and sustainable management. This is being done, for example, through the Global Peatlands Assessment and other collaborative approaches.
- Communicating the critical importance of peatlands across all fora, including those not typically considered mainstream environmental sectors (e.g. economic, agriculture, and infrastructure). This pathway stresses the importance of peatlands in providing a triple bottom line for the planet, for biodiversity, and for human health and well-being.
- Mobilizing finance. Peatlands represent a critical area for investment, but mobilizing that finance can be difficult. In conjunction with the other pathways listed above, communicating the value of peatlands to development partners, governments, and other vehicles of investment – including mainstream financial markets, and markets for ecosystem goods and services – is critically important. Emphasizing peatlands' value, through the lens of nature-based solutions to climate change and biodiversity loss, and as a foundation for human health, remains an area for continued action.

Conclusion

Peatlands are known by many names, but their value to the planet as a carbon store, as a refuge for biodiversity, and as a critical ecosystem for human health, is universal. Although they cover a tiny percentage of our planet, they represent a fundamentally important area for prioritizing actions in conservation, restoration, and sustainable management. Actions to protect and value peatlands can happen at all levels – from local to international. It takes partnership – for peat's sake.

GLF Biodiversity Digital Conference

Participating organizations

GLF Biodiversity Digital Conference 2020 would not be possible without the support and participation of the following hosts, partners and organizations. For a full list of everyone involved, please visit: **events.globallandscapesforum.org/biodiversity-2020/partners**

Global Landscapes Forum

The **Global Landscapes Forum** (GLF) is the world's largest knowledge-led platform on integrated land use, dedicated to achieving the Sustainable Development Goals and Paris Climate Agreement. The Forum takes a holistic approach to create sustainable landscapes that are productive, prosperous, equitable and resilient and considers five cohesive themes of food and livelihood, landscape restoration, rights, finance and measuring progress. It is led by the Center for International Forestry Research (CIFOR), in collaboration with its co-founders UN Environment Programme and the World Bank and Charter Members.

Charter Members: CIAT, CIFOR, CIRAD, Climate Focus, Conservation International, Crop Trust, EcoAgriculture Partners, EFI, Evergreen Agriculture, FSC, GEF, GIZ, ICIMOD, IFOAM - Organics International, ILRI, INBAR, IPMG, IUFRO, Rainforest Alliance, Rare, RRI, SAN, UN Environment Programme, Wageningen Centre for Development Innovation, part of Wageningen Research, WFO, World Agroforestry, World Bank Group, WRI, WWF International, Youth in Landscapes Initiative.

One World One Health

28.29 OCTOBER 2020