

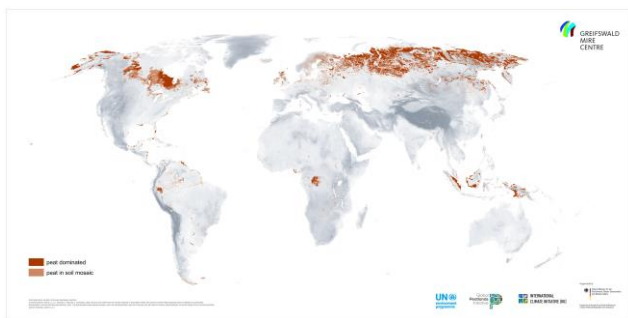
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## PEATLANDS AND CLIMATE CHANGE

- **Peatlands are a type of wetland which are critical** for preventing and mitigating the effects of **climate change**, preserving **biodiversity**, minimising **flood risk**, and ensuring safe **drinking water**.
- **Peatlands are the largest natural terrestrial carbon store**. They store more carbon than all other vegetation types in the world combined.
- **Damaged peatlands are a major source of greenhouse gas emissions**, responsible for almost 5% of global anthropogenic CO<sub>2</sub> emissions. Peatland restoration can reduce emissions significantly.
- **Countries should include peatland conservation and restoration in their commitments to international agreements**, including the Paris Agreement on climate change.

### What is the issue?

Peatlands are a type of wetland which occur in almost every country and are known to cover at least **3% of global land surface**. The term 'peatland' refers to the peat soil and the wetland habitats growing on the surface.



*Global Peatland Map*

*Based on data from the Global Peatland Database / Greifswald Mire Centre (2021)*

In peatlands, year-round water-logged conditions slow plant decomposition to such an extent that dead plants accumulate to form peat. This **stores the carbon the plants absorbed** from the atmosphere within peat soils, providing a **net-cooling effect** and helping to **mitigate the climate crisis**.

Peatland landscapes are varied: from temperate blanket mires with open, treeless vegetation such as the [Flow Country of Scotland](#) to swamp forests in Southeast Asia. New areas are still being discovered. The world's largest tropical peatland was identified beneath the forests of the Congo Basin in 2017.

**Degradation and overexploitation** of peatland landscapes **release huge quantities of greenhouse gasses**.

This results mainly from a lack of awareness of the benefits of peatlands and includes actions such as: **drainage**, conversion for **agriculture**, **burning**, and **mining** for fuel. In some regions, up to 80% of peatlands have been damaged.

### Why is this important?

Peatlands are significant to global efforts to **combat climate change and achieve other Sustainable Development Goals**. Their protection and restoration are vital in the transition to a zero-carbon society.

Emissions from **drained peatlands** are estimated at 1.9 gigatonnes of CO<sub>2e</sub> annually. This is **equivalent to 5% of global anthropogenic greenhouse gas emissions**, a disproportionate amount considering damaged peatlands cover just 0.3% of landmass. Fires in Indonesian peat swamp forests in 2015, for example, emitted nearly 16 million tonnes of CO<sub>2</sub> a day; which is more than the entire economy of the United States.

Worldwide, the remaining area of **near natural peatland** (over 3 million km<sup>2</sup>) **sequesters 0.37 gigatonnes of CO<sub>2</sub> a year**. Peat soils contain more than 600 gigatonnes of carbon which represents up to **44% of all soil carbon**, and exceeds the carbon stored in all other vegetation types including the world's forests.

In their natural, wet state, peatlands provide indispensable **Nature-based Solutions for adapting to and mitigating the effects of climate change**, including regulating water flows, minimising the risk of flooding and drought, and preventing seawater intrusion. Wet peatlands **lower ambient temperatures** in surrounding areas, providing refuge

from extreme heat, and are less likely to burn during wildfires. This helps to **preserve air quality**. Draining peatlands **reduces the quality of drinking water** as water becomes polluted with organic carbon and pollutants historically absorbed within peat.

In many parts of the world, peatlands **supply food, fibre and other local products that sustain economies**. They also preserve important ecological and archaeological information such as pollen records and human artefacts.

#### **Damage to peatlands causes biodiversity loss.**

For example, the decline of the Bornean orang-utan population by 60% within 60 years is largely attributed to the loss of peat swamp habitat. The species is now listed as [Critically Endangered](#) on The IUCN Red List of Threatened Species™.

## What can be done?

**Urgent action worldwide to protect, sustainably manage, and restore peatlands is essential.**

This involves **stopping degrading activities** such as agricultural conversion and drainage, and **restoring the waterlogged conditions** required for peat formation. [Data shows](#) that this is the **only land-based option to indefinitely sequester carbon**, is **cost-effective**, and that any emissions from restoration are more than offset in the long-term.

**Clear and ambitious targets for the rewetting and restoration of peatlands must be set** (such as those in the UK and Association of Southeast Asian Nations country strategies), and peatland protection **included in national adaptation plans to meet commitments under the Paris Agreement**.

The definition of peatlands varies between countries, and often excludes areas of value to industry. Given the urgent need to reduce greenhouse gas emissions and prevent biodiversity loss, **definitions of peatlands should prioritise conservation, restoration and sustainable management**.

**Public and private finance must be mobilised** to secure peatlands and **provide green jobs**. Possible instruments include: emissions trading schemes and carbon markets; investment in restoration through payment for ecosystem services (such as clean water and flood protection); environmental bonds; government-backed carbon price guarantees.

**The international community**, including the UN Environment Programme, Food and Agriculture Organization and Ramsar Convention, have already

**committed to several goals, resolutions and strategic actions.**

These include: **assessing the distribution and state** of peatlands globally; **measuring and reporting emissions** from peatlands; protecting and restoring peatlands with **targeted investments**; stimulating **market-based mechanisms** to support peatlands; engaging and **supporting local communities** to manage peatlands sustainably and overcome associated costs; **sharing expertise** and experience on peatland conservation, restoration and improved management. These efforts must continue.



*Peat bog in the High Fens reserve; Belgium © Marisa04*

IUCN recommends ([WCC 2016 Res 043](#)) that **peatlands be included alongside forests in all relevant intergovernmental agreements** relating to climate change, geodiversity and biodiversity.

IUCN Members also call for a **moratorium on peat exploitation until legislation is strengthened** to ensure peatlands are managed sustainably.

Emissions from damaged peatlands and carbon savings from peatland restoration are **eligible for national accounting** under the UN Framework Convention on Climate Change. **Governments can therefore include peatland restoration and re-wetting in national climate action plans.**

### **Where can I get more information?**

IUCN Commission on Ecosystem Management  
Peatland Specialist Group:  
[www.iucn.org/commissions/commission-ecosystem-management/our-work/cems-specialist-groups/peatland-ecosystems](http://www.iucn.org/commissions/commission-ecosystem-management/our-work/cems-specialist-groups/peatland-ecosystems)

IUCN UK National Committee Peatland Programme:  
[www.iucn-uk-peatlandprogramme.org](http://www.iucn-uk-peatlandprogramme.org)

Global Peatlands Initiative:  
[www.globalpeatlands.org](http://www.globalpeatlands.org)

Global Peatland Restoration: Demonstrating Success (IUCN, 2014): [portals.iucn.org/library/node/47763](http://portals.iucn.org/library/node/47763)