



RESILIENT WETLANDS

EXPLORING THE ROLE OF
INLAND WETLANDS & PEATLANDS
IN MITIGATING CLIMATE CHANGE

Europe's peatlands going global: wide-ranging possibilities that arise from the novel Peatland Atlas. An overview.

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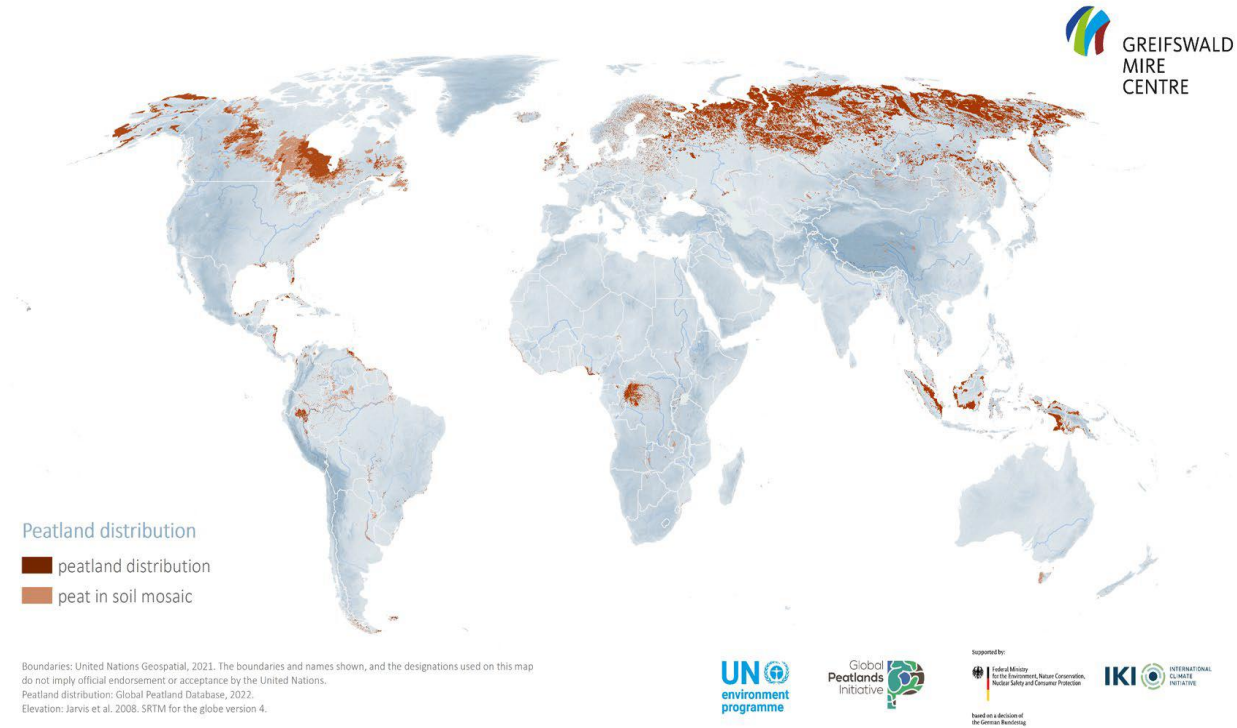
22 November 2023



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THE GLOBAL PEATLANDS ASSESSMENT CONTEXT



THE GLOBAL PEATLANDS ASSESSMENT CONTEXT

- The Cinderella Syndrome
- Rarity and diversity
- Only recently has the real importance of peatlands to Humankind been recognized
 - 2005 Kyoto Protocol
 - 2015 The Paris Agreement
 - 2018 IPCC Report - UNFCCC objectives and targets towards Net-Zero Carbon Neutrality (and beyond!) – climate protection
 - 2022 CBD Kunming-Montreal Global Biodiversity Framework objectives and targets for ecosystem services and restoration
- State of the World's peatlands
- Non-unified criteria for mapping and assessing
- There are good things happening though (South-South Cooperation, Amazonia, etc.)
- **Now & near Future of Priority Action and Awareness:** new binding restoration targets in order to meet international commitments, e.g.:
 - To restore more habitats degraded/drained peatlands (no more budget to leave them drained)
 - To revert drainage trends and attain Land degradation Neutrality targets, etc...



Some
incipient
reflections...

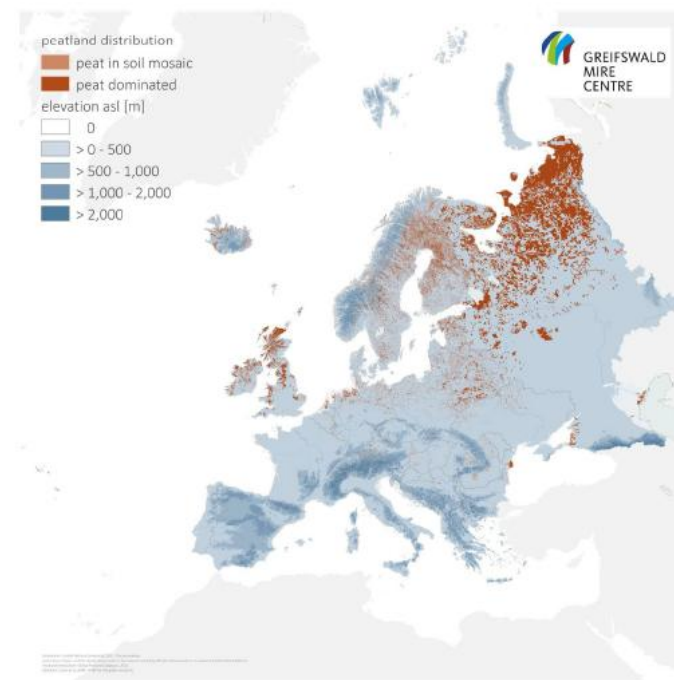
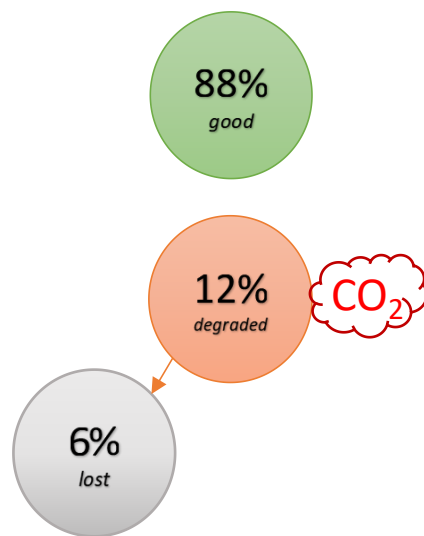
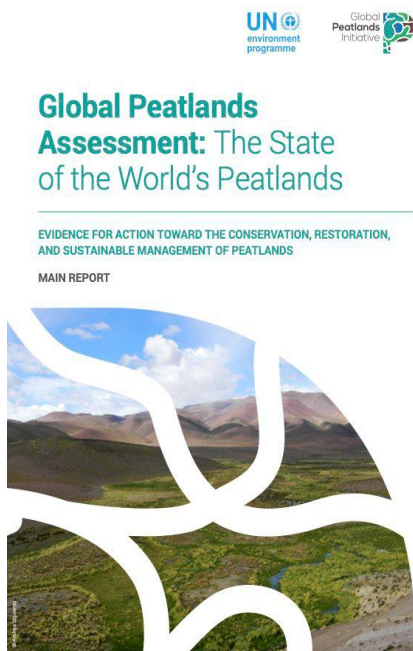


GLOBAL PEATLANDS ASSESSMENT

The state of the world's peatlands European chapter insights



- Degrading consumes 12% of the emissions budget (+2 °C) and consumes 41% of the emissions budget (below +1.5 °C)
- Restoring would contribute 10% of the total emission reductions and removals



SOUTH-SOUTH COOPERATION: NEW POSSIBILITIES



WCS HIGH-INTEGRITY PEATLANDS CROSS-REGIONAL INITIATIVE





Regional Assessment for Europe

CHAPTER 5

Regional Assessment for Europe

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Dianna Kopansky, *Global Peatlands Assessment –The State of the World’s Peatlands European Chapter Insights* (2023). Power to the Peatlands Conference, Antwerp

KEY REGIONAL DATA PRODUCED FOR THE GLOBAL PEATLANDS ASSESSMENT 2022¹

Total peatland area (hectares)	58,755,644 ha
Peatland cover over total region surface area (%)	6.0%
Degraded peatlands (%)	46.4%
Annual GHG emissions from peatlands (Megatons of carbon dioxide equivalent emissions per year)	582.0 Mt CO ₂ e / yr
Undegraded peatlands (%)	53.6%
Peatlands within protected areas (%)	19.7%
Top 5 Countries with largest peatland area (hectares)	1. European Russia (20,800,000 ha) 2. Finland (8,313,381 ha) 3. Sweden (6,797,032 ha) 4. Norway (4,865,000 ha) 5. Belarus (3,014,298 ha)

ADDITIONAL DATA

Total peatland carbon stock ² (Megatons of carbon)	43,620 Mt C
Threatened peatland species ³ (VU = vulnerable; EN = endangered; CR = critically endangered)	Flora: 6 VU, 10 EN, 5 CR Fauna: 32 VU, 12 EN, 8 CR
Ramsar Wetlands of International Importance with peat ⁴	456 sites (40.5% of total Ramsar sites in Europe)

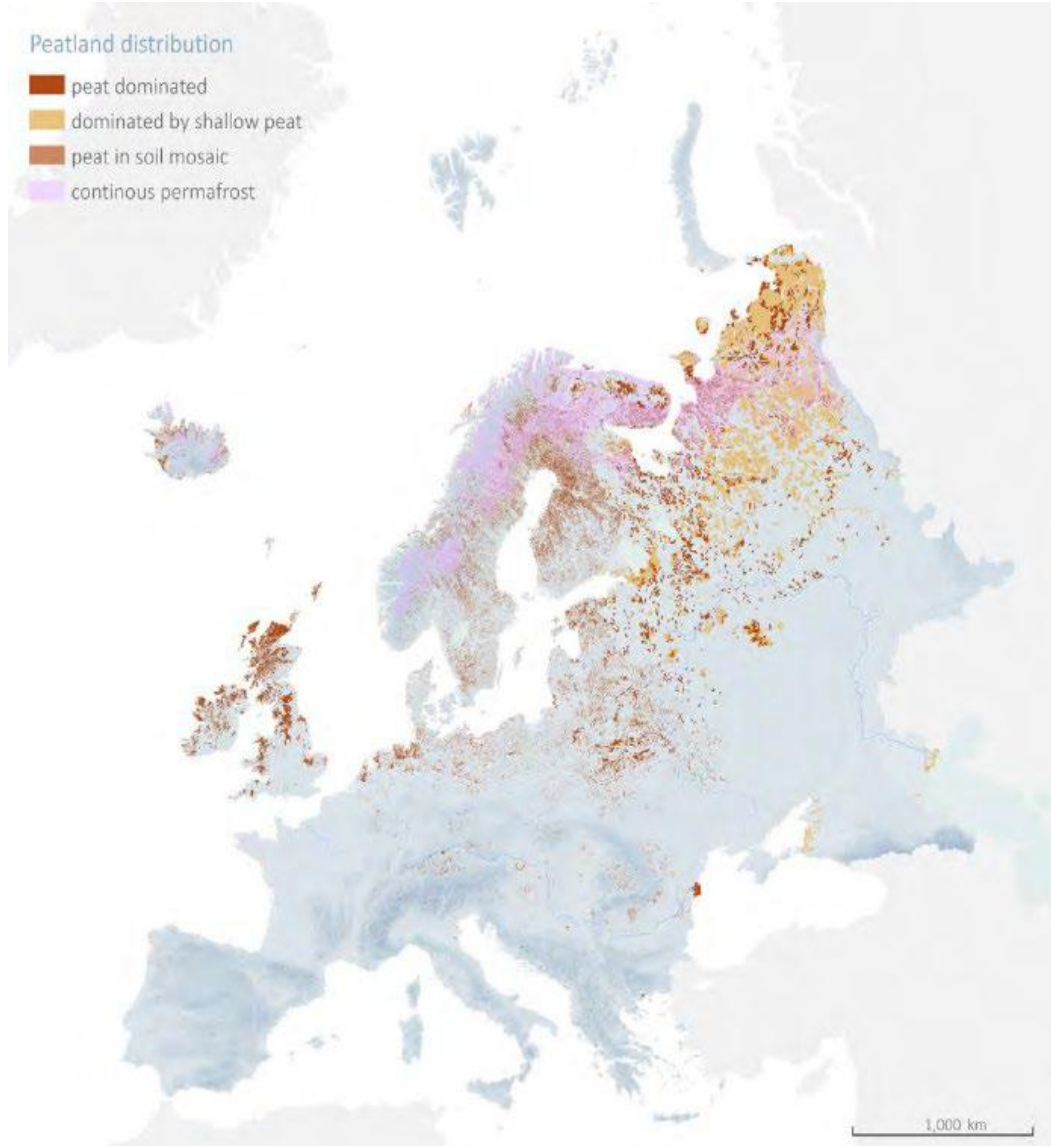


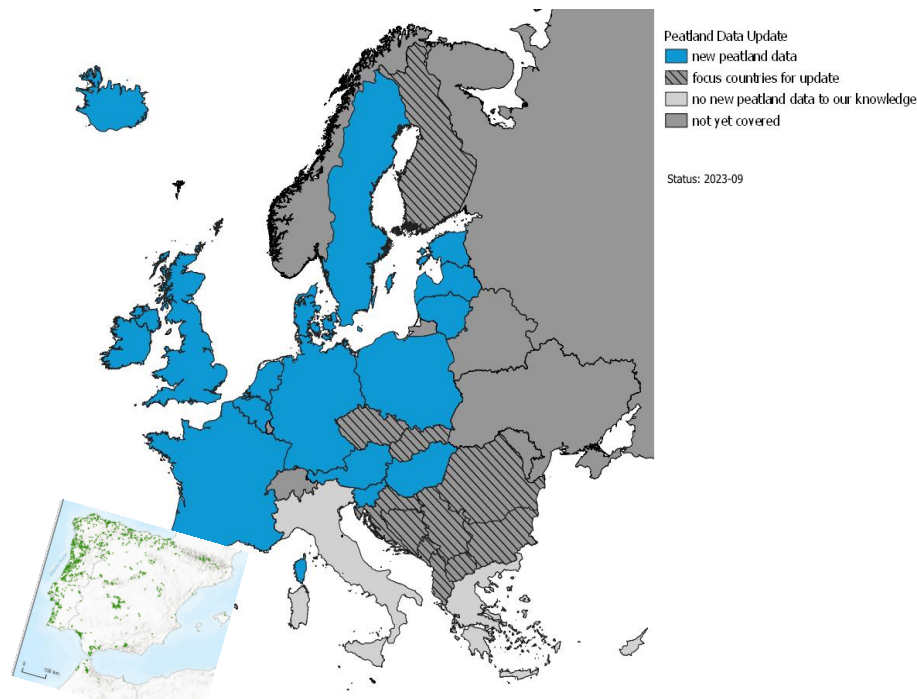
Figure 5.4. Peatland distribution in Europe (partly incl. organic soils).

Dianna Kopansky, *Global Peatlands Assessment – The State of the World’s Peatlands European Chapter Insights* (2023). Power to the Peatlands Conference, Antwerp



GUIDELINE 1 – INVENTORY AND PRIORITISATION

- Several peatland/wetland projects on EU scale...
- ... producing geo-data on wetland/peatlands, e.g.
 - extent and distribution
 - land use and land cover
 - drainage and water level
 - restoration projects
 - collated data differs among countries /regions
 - data quality also differs
 - underlying definitions differ from country to country... „mire“ ecological vs. „peatland“ pedological
 - harmonization/correction of geometries difficult
 - costs of (ground-truthed) data



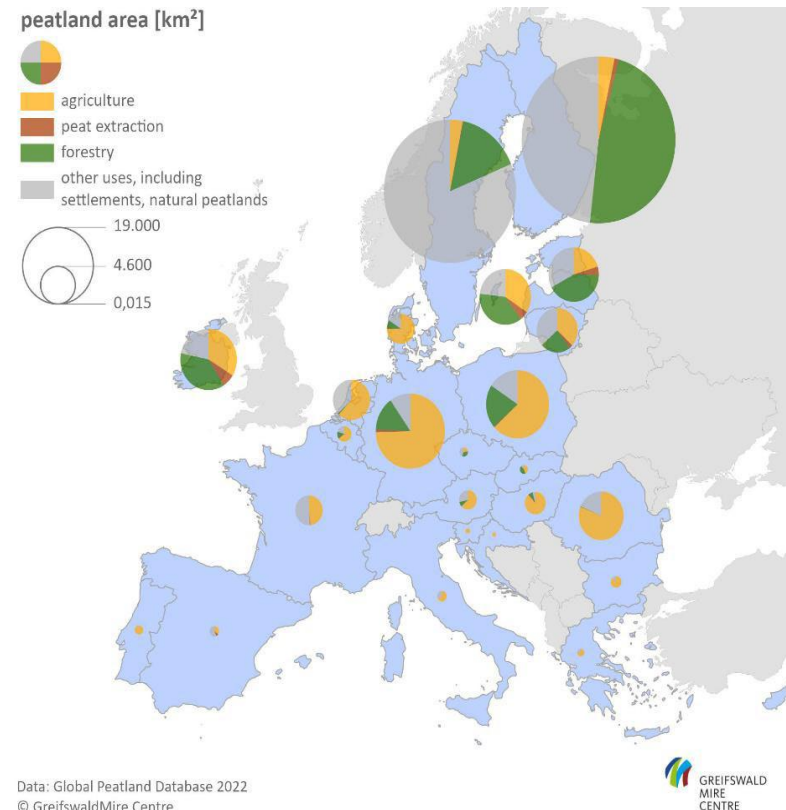
Miguel Geraldès et al., *Bioindicator-based peatland and swab mapping in the West Med. Realm* (2023).
Power to the Peatlands Conference, Antwerp



GUIDELINE 2 - RESTORATION

Nature Restoration Law-proposal (NRL) by EUR. COM. (June 2022) focusing on Article 9.4 “Peatlands under agricultural use”

- peatland targets of the Nature Restoration Law-proposal (NRL)
- Key component of **European Green Deal** & instrument for **EU2030 Biodiversity Strategy**
- First European nature conservation law in more than 20 years (since Habitats and Bird Directive)
- Recognition of importance of ecosystem restoration for biodiversity & climate protection
- New binding restoration targets in order to meet international commitments (CBD, UNFCCC, Ramsar...)
- Requires Member States to develop **National Restoration Plans**



Marie Lorenz, *Higher ambition for Peatlands in the EU Nature Restoration Law Proposal* (2023).
Power to the Peatlands Conference, Antwerp



GUIDELINE 3 - MONITORING



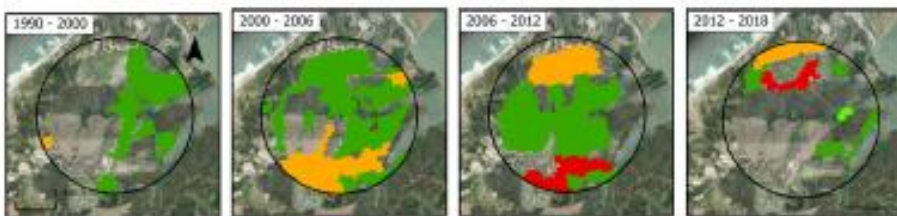
LAND USE AND LAND COVER PRESSURES ON IBERIAN PEATLANDS

RAQUEL FERNANDES*

Miguel Geraldes; Elizabete Marchante; Jorge Durán Humia; César Capinha



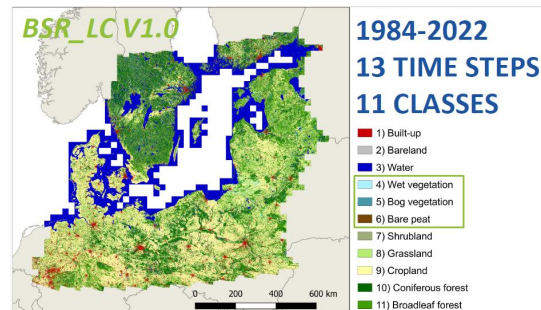
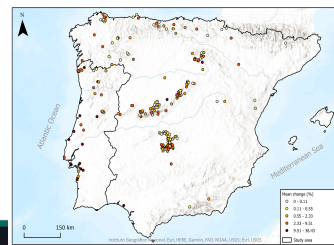
Fig. 1: Fen, Mata Nacional da Foja, Central Portugal
Palhaes J., 2023 (INVADER LC/IPC)



268: Óbidos Lagoon

LULC transitions

- Artificial areas -> Artificial areas
- Forest and seminatural areas -> Artificial areas
- Forest and seminatural areas -> Forest and seminatural areas
- Agricultural areas -> Forest and seminatural areas



Earth Observation and Geoinformation Science Lab
Institute of Geography and Geology

UNIVERSITÄT GREIFSWALD
Wissen lockt. Seit 1456

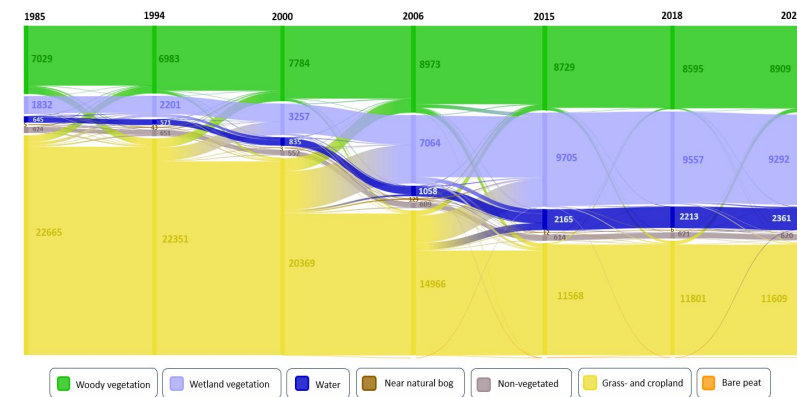


Four decades of peatland monitoring (1985 -2021) in the Baltic Sea region using dense time-series Landsat data and deep learning

S van der Linden, Arasumani M, VD Pham, F de Waard, F Thiel



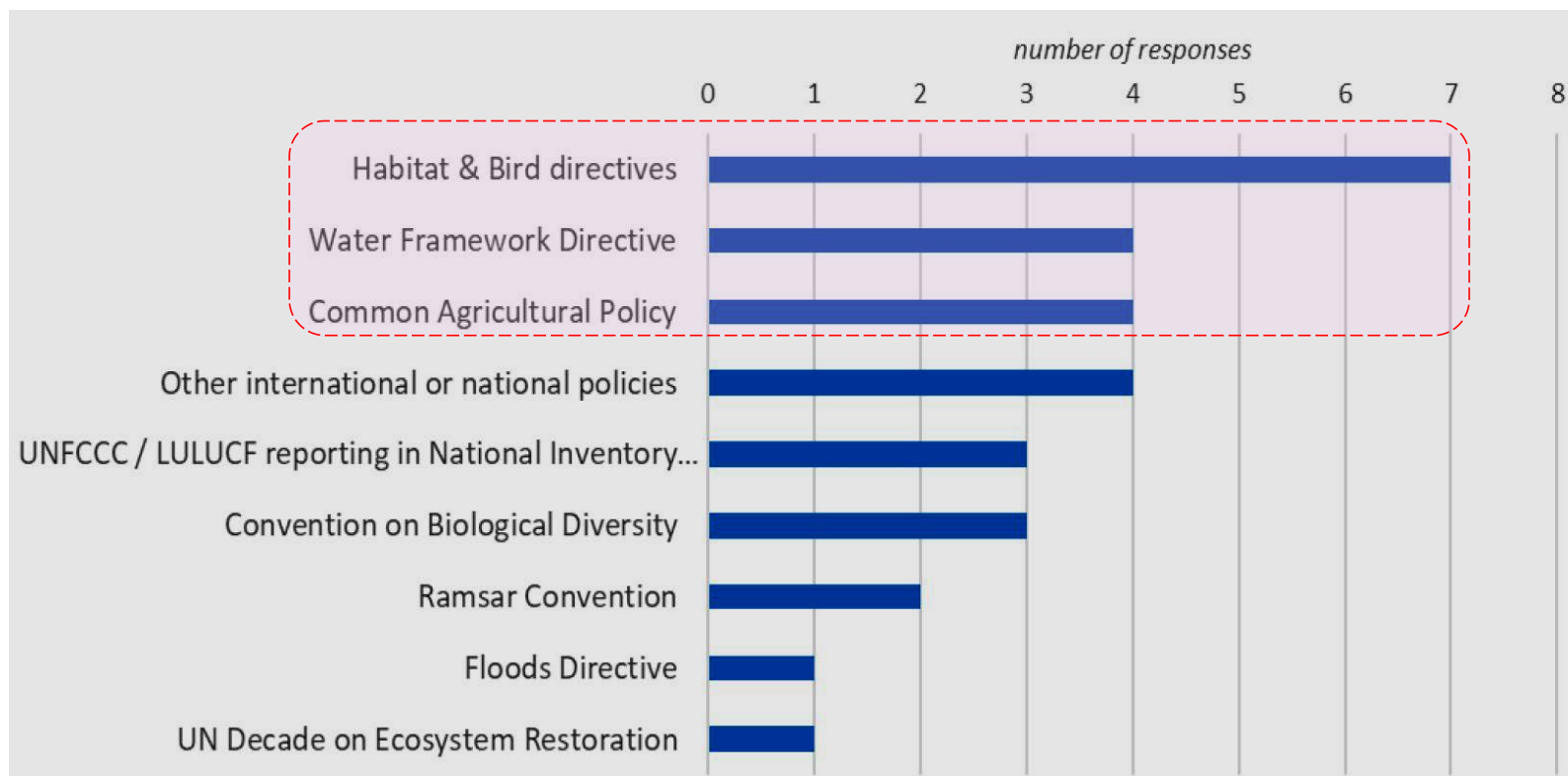
Bundesministerium für Bildung und Forschung



MV02: Demmin / values correspond to pixels (30x30 m) / Source: BSR-LC (modified) / visualisation with Flourish Studio / C. Profer, 2023

GUIDELINE 4 – KNOWLEDGE & CAPACITY

Policy frameworks or Directives for which users need data on peatlands (queries from WET HORIZONS)



Alexandra Barthelmes, *Adjusting geo-data for wetlands and peatlands to end-user needs* (2023). Power to the Peatlands Conference, Antwerp

GUIDELINE 5 – POLICY & OUTREACH

- Rewetting Peatlands can save up to 5% of Global GHG emissions
- By combining *art + culture + science*, policy engagement and vision can push one a long way towards solving any problem



Regional/national level

→ *Act local, map and assess every peatland*

European level

→ *Cooperation, advocacy, involvement*

World-wide level

→ *Knowledge transfer, assistance, networks*



GUIDELINE 6 - ECONOMY



PEATLAND CODE



INTRODUCTION TO THE PEATLAND CODE



iucn-uk-peatlandprogramme.org



- Continue the effort to collect and aggregate inventories
- Produce a recent estimation of total peatland, peaty soils, and swob surface and carbon stocks



- Produce a degradation classification for peatlands based on the analysis of abiotic (soil and hydrological) parameters and floristic traits
- Estimate GHG emissions according to the degradation state



- Determine which factors influence the price of peatlands
- Credits 3.0
- Paludiculture



Lise Pinault et al., *The 1949 Atlas of French peatlands, a starting point for a national inventory of peatlands and their carbon stocks* (2023). Power to the Peatlands Conference, Antwerp

PEATLAND ATLAS

Facts and figures about wet climate guardians

2023



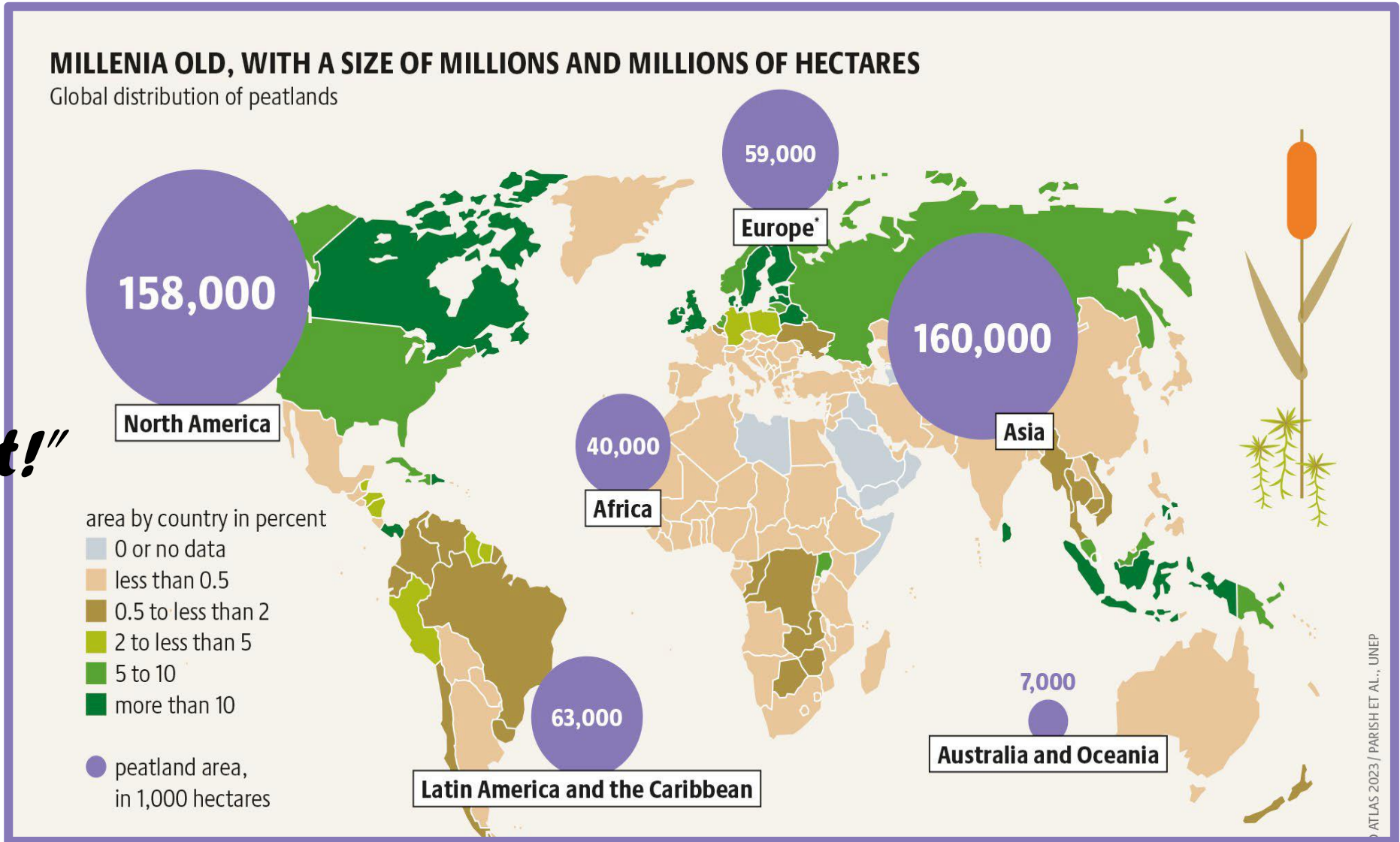
HEINRICH BÖLL STIFTUNG
BUND FRIENDS OF THE EARTH GERMANY
Global Peatlands Initiative
Succow Stiftung
Partner in the GREIFSWALD MIRE CENTRE

PEATLAND ATLAS 2023

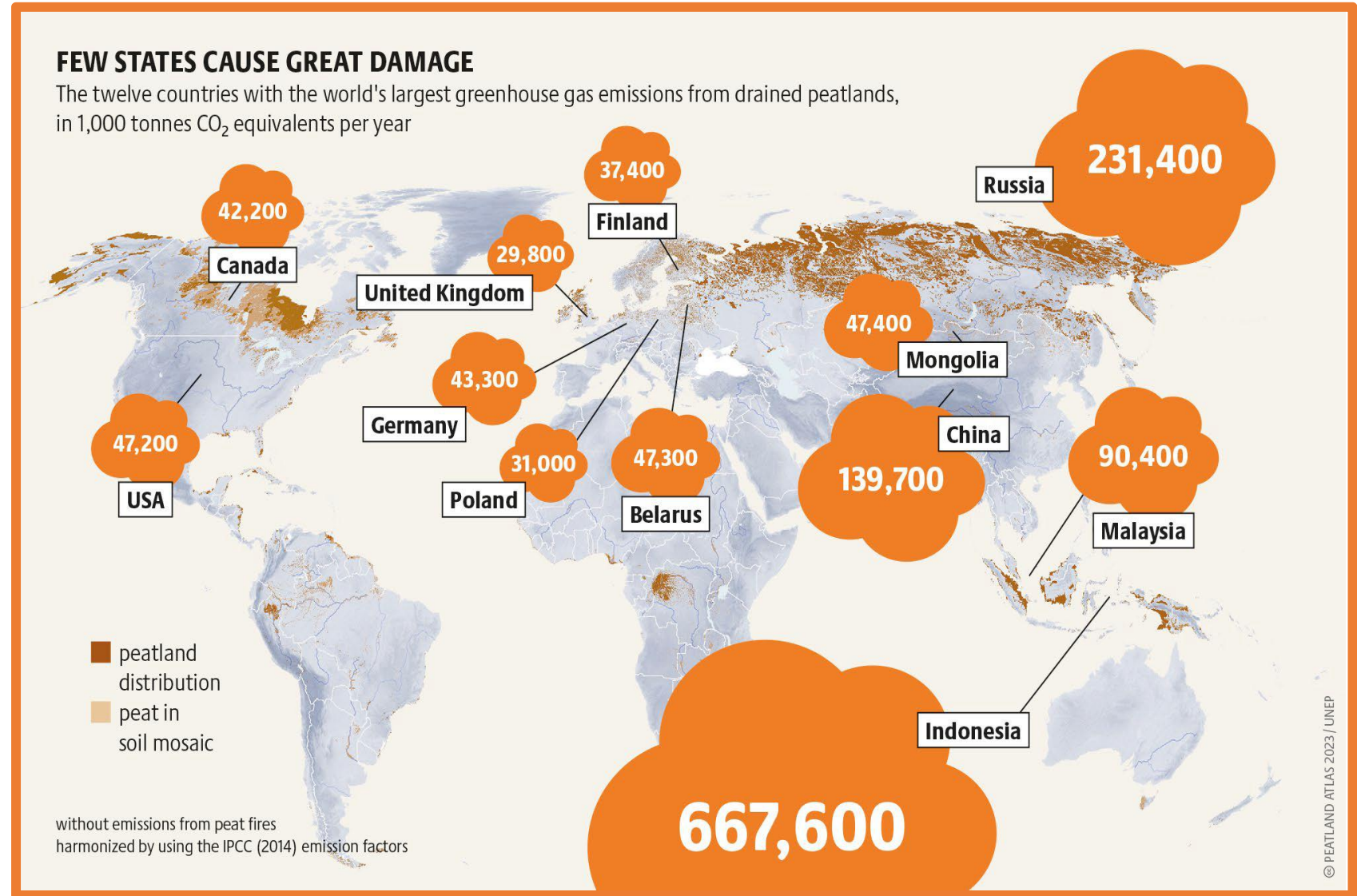


Sabrina Hüperlink, *Peatland Atlas 2023 at Power to the Peatlands Conference (2023)*. Power to the Peatlands Conference, Antwerp

*“Conserve wet
Peatlands wet!”*



“Rewet drained peatlands!”



***“Rewet drained
peatlands!”***

***“If you have to use
them, use the wet!”***

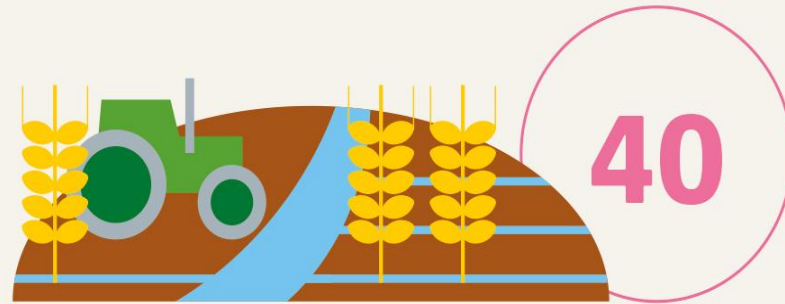
WRONG INCENTIVES

EU subsidies for cropping on drained peatlands compared to its climate costs, in euros



INTENSIVE USE HARMS THE CLIMATE MORE

Annual emissions of greenhouse gases, in tonnes of CO₂ equivalents per hectare



cropland on drained peatland



pasture on drained peatland



paludiculture



near-natural peatland

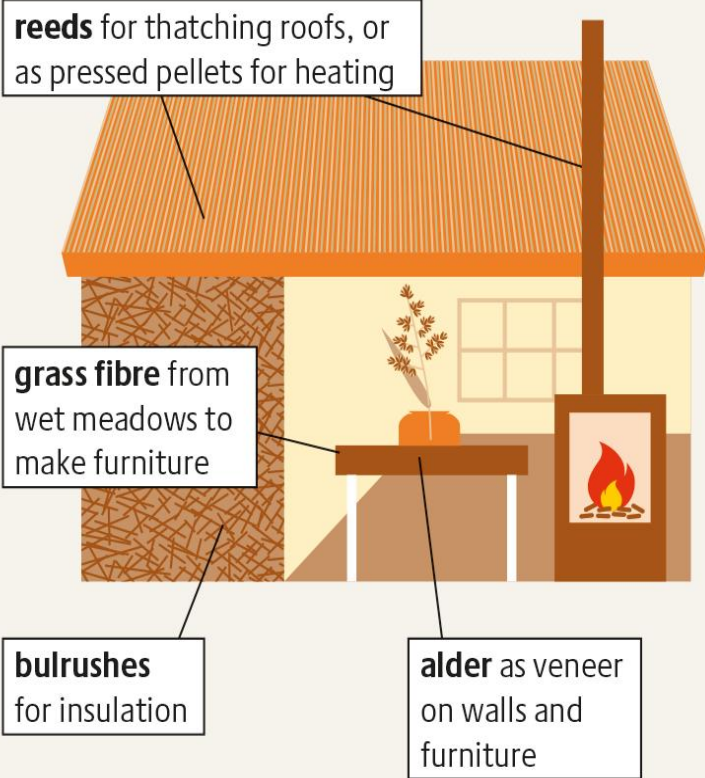
"Rewet drained peatlands!"

"Conserve wet Peatlands wet!"

"If you have to use them, use the wet!"

HOME REMEDIES

Use of paludiculture products in house construction



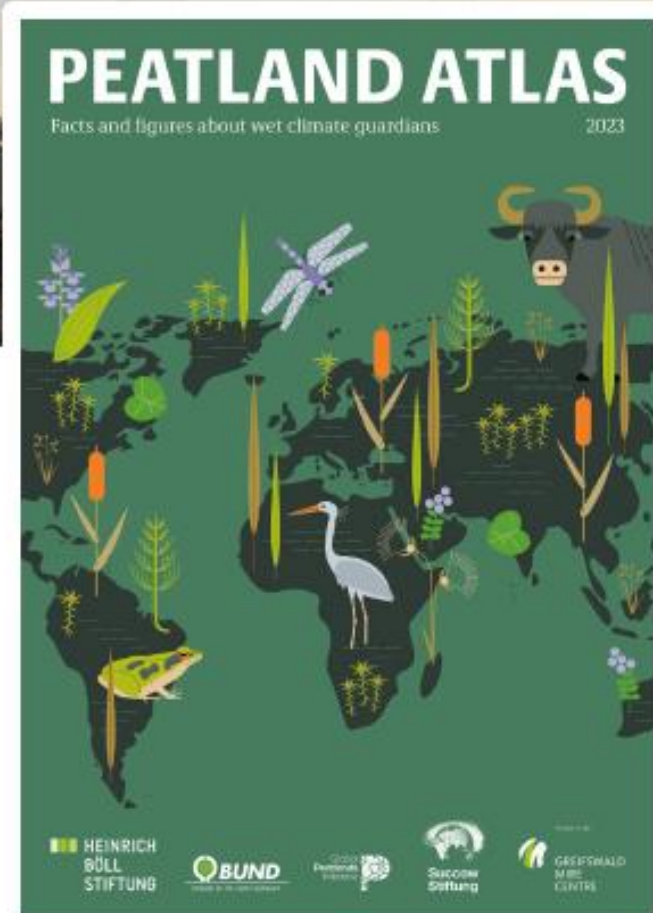
reeds for thatching roofs, or as pressed pellets for heating

grass fibre from wet meadows to make furniture

bulrushes for insulation

alder as veneer on walls and furniture

© PEATLAND ATLAS 2023 / MOOR AND MORE



FOR NATURE, CLIMATE AND FUTURE

Digital version online:
www.succow-stiftung.de/en/peatland-atlas

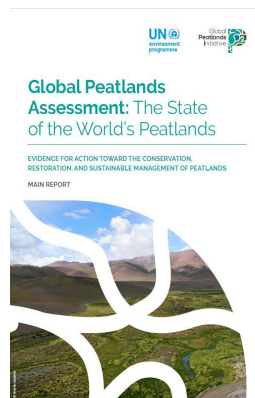


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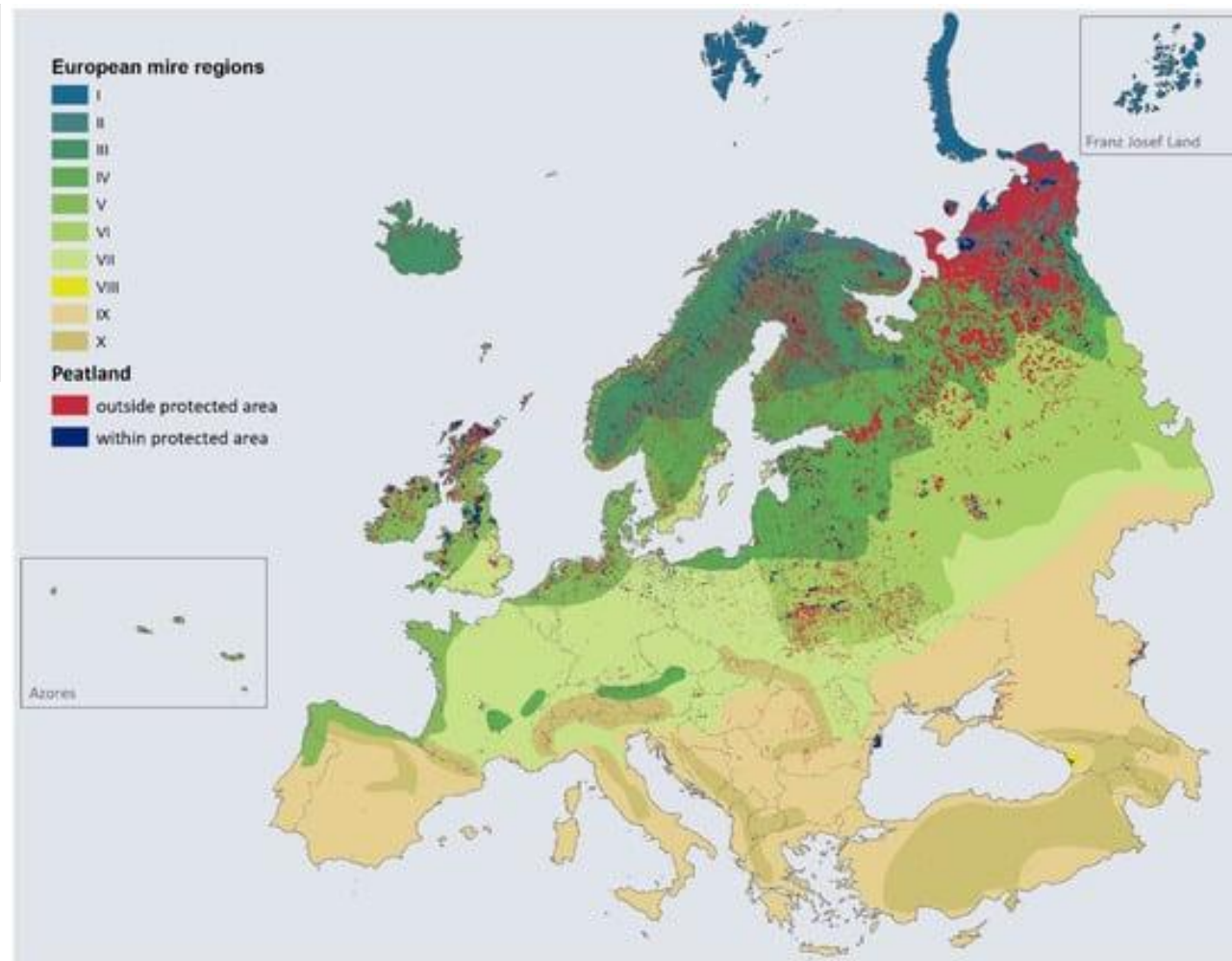


greifswaldmoor.de/home.html

IN A NUTSHELL: RECOMMENDATIONS FOR ASSESSING PEATLANDS EVERYWHERE



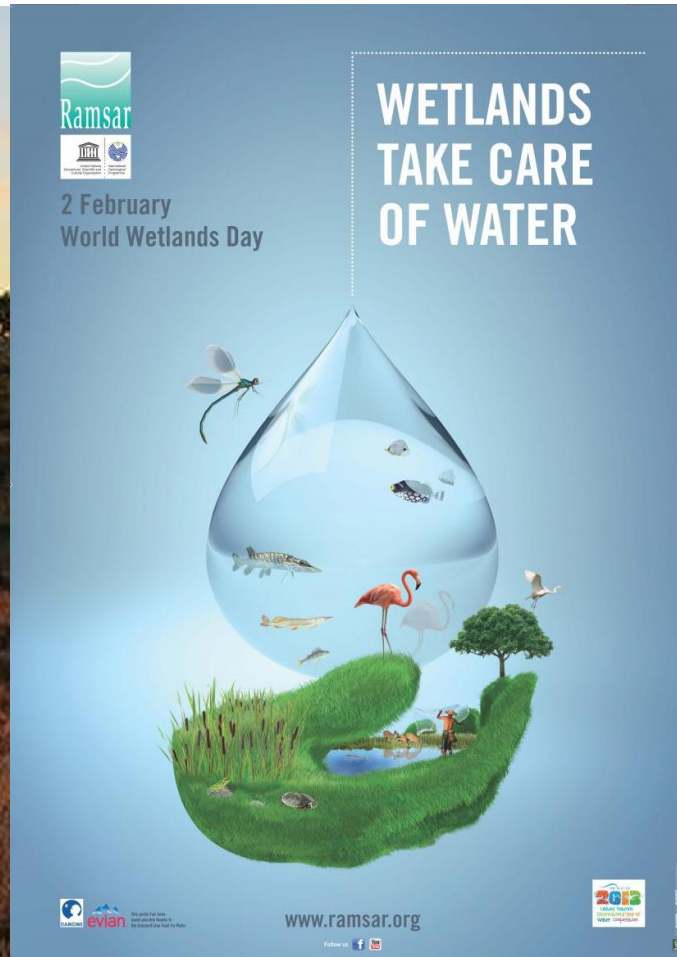
- Expand protected area systems to include peatlands
- Phase out harmful operations on peatlands and rewet them
- Develop and maintain data systems on peatland extent and uses
- Form fair and transparent governance systems that cross sectors and empower stewardship by Indigenous Peoples and Local Communities
- Support collaboration and engage in international networks and initiatives
- Blend public and private funding through financial and market instruments for peatlands

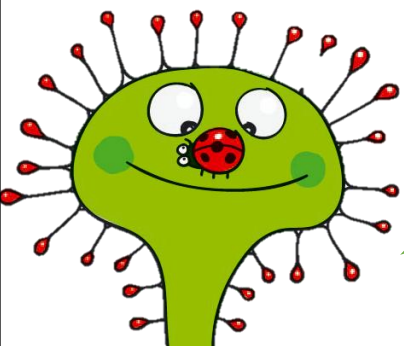


Tanneberger F et al. (2021). Mires in Europe—Regional Diversity, Condition and Protection. *Diversity*. 13(8):381. <https://doi.org/10.3390/d13080381>

TAKE-HOME MESSAGES

- Peatlands must be wet
- Conserve wet peatlands wet
- Rewet drained peatlands
- If you need to use them, use them wet





Thank you!

LIFE+ TREMEDAL
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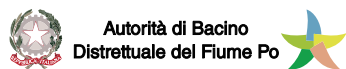
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COORDINATOR



PARTICIPANTS





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