UNFCCC Workshop on technical and scientific aspects of ecosystems with high carbon reservoirs not covered by other agenda items, Bonn, 24-25 October 2013

Carbon rich ecosystems: restoration in the context of mitigation

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Wetlands International

Presentation outline

- Why peatlands first of all among all?
  - Positive development in policy
  - Peatlands regionality, and climate change implications, restoration
  - When restoration is mitigation?
- Peatlands use under UNFCCC activites
  - Peatlands change beyond UNFCCC activity
  - What are other regulations?
  - Politique réel
- Still the space for the action

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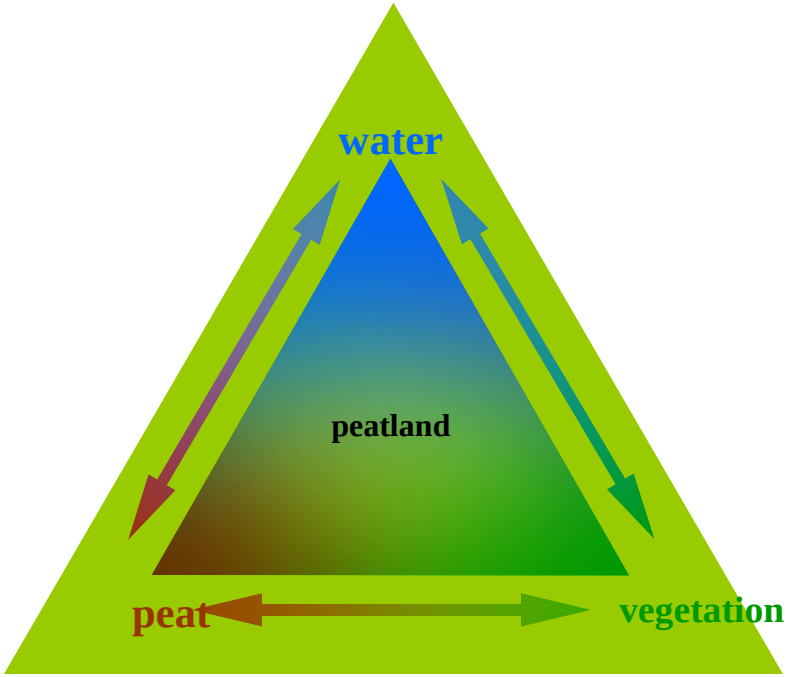
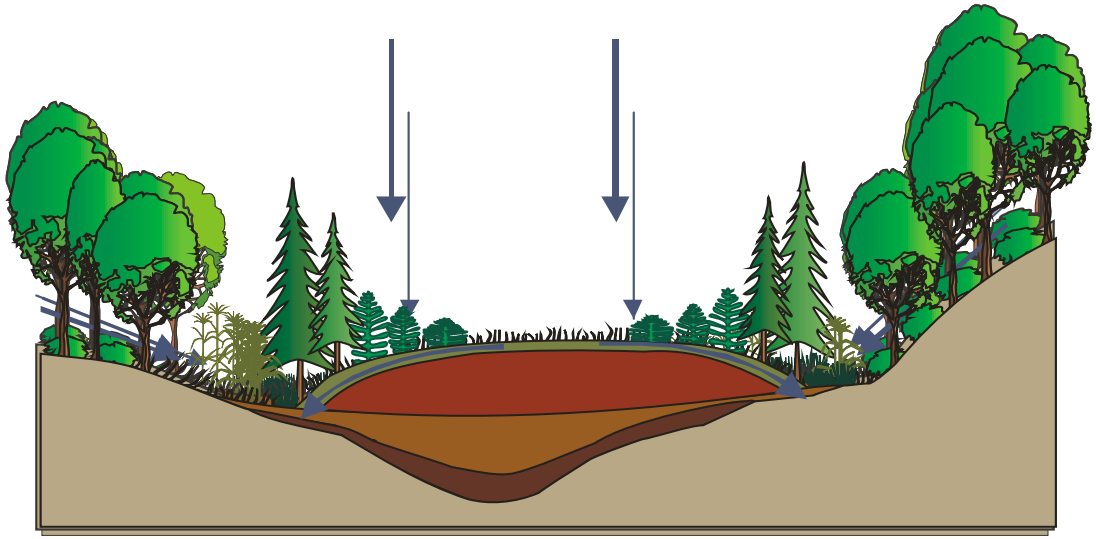
Why peatlands?





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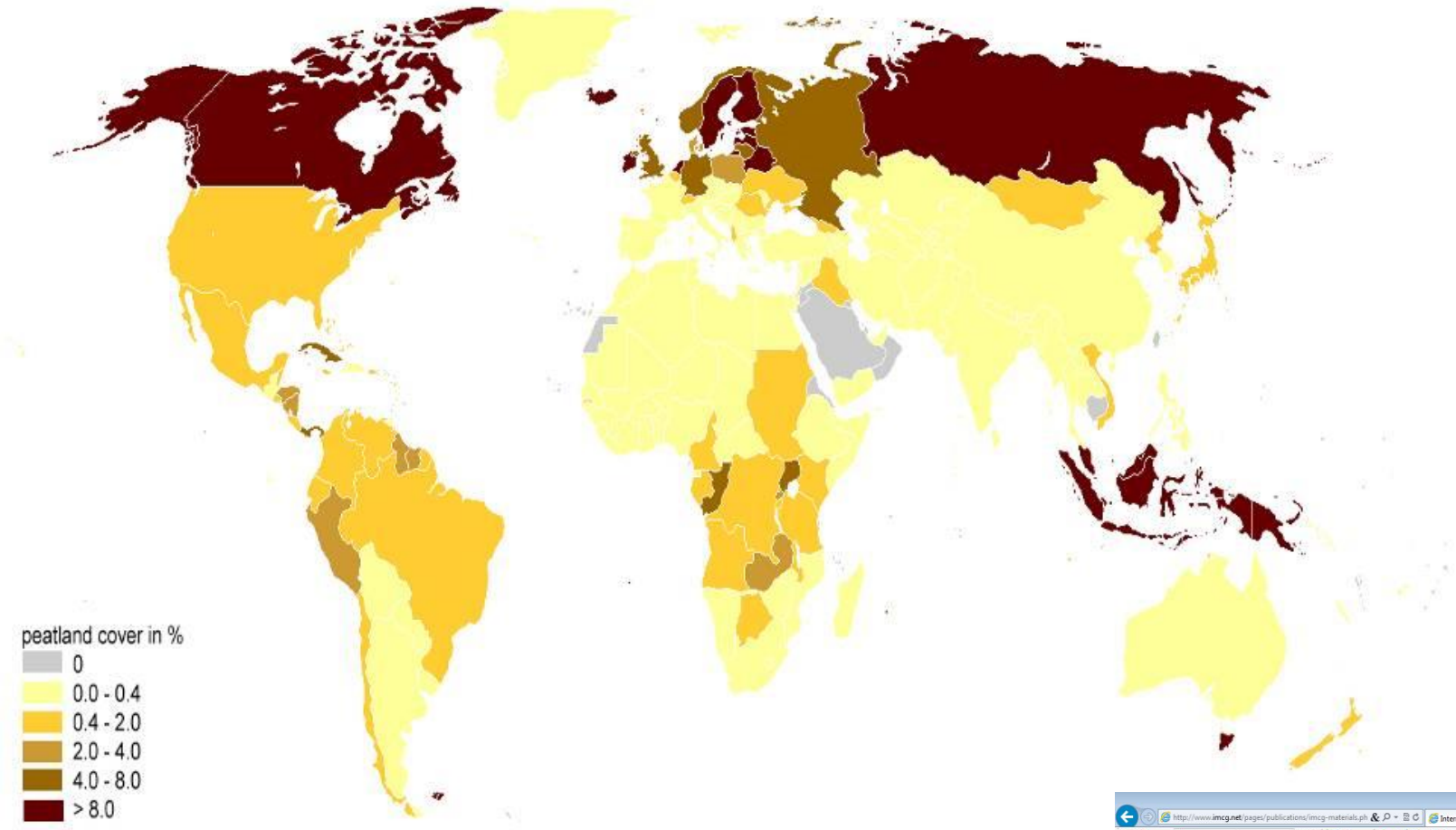
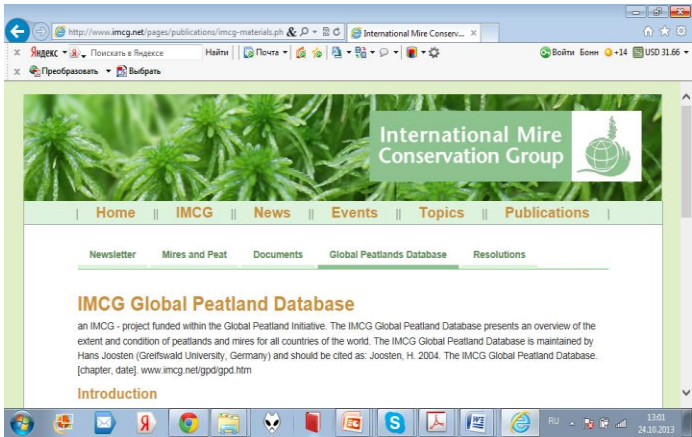
climate

Position in the landscape

bedrock

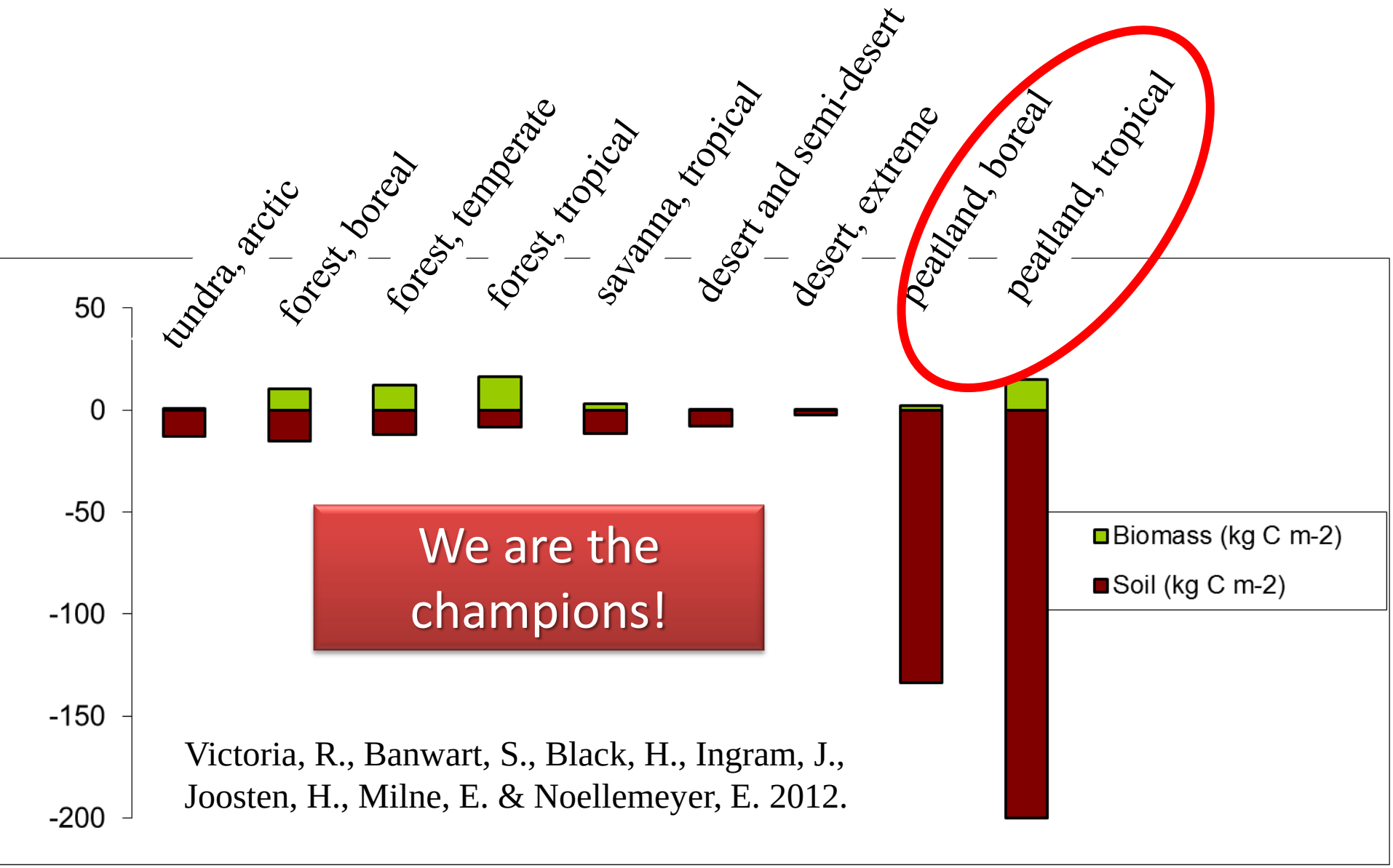
Carbon rich ecosystems – why peatlands?





Peatland are in almost all countries… (IMCG global data base)

Carbon rich ecosystems – why peatlands?



Peatlands contain much more carbon (largely in their soil)

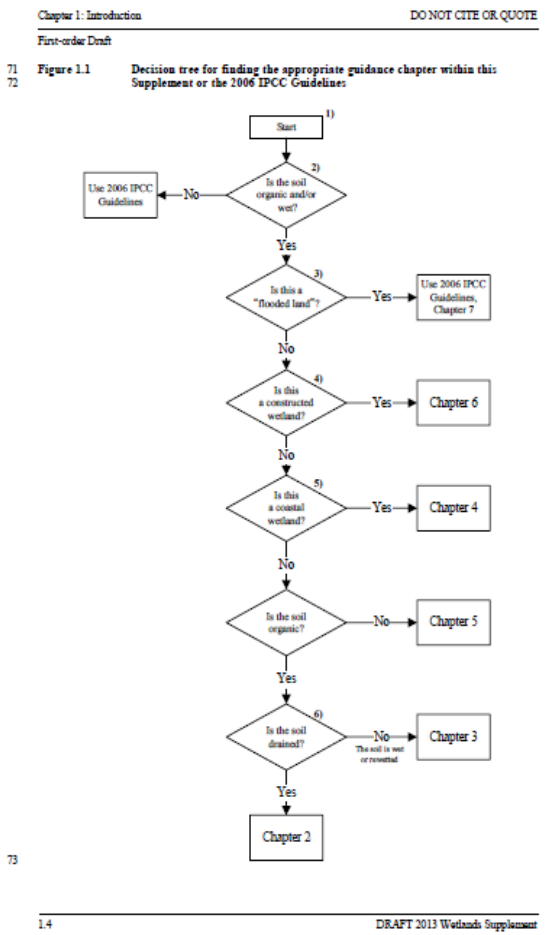
the Cinderella Syndrom: very important but not appreciated…

Payment for mismanagement

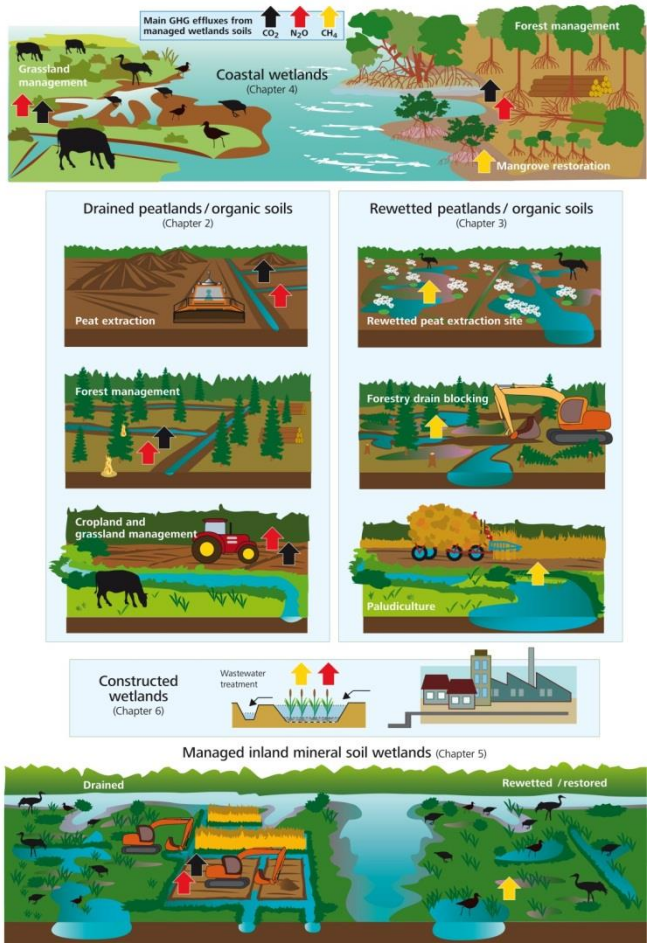
Recent climate policy developments

”Wetland drainage and rewetting”” is a system of practices for draining and rewetting on land with organic soil that covers a minimum area of 1 hectare. The activity applies to all lands that have been drained since 1990 and to all lands that have been rewetted since 1990 and that are not accounted for under any other activity as defined in this annex, where drainage is the direct human-induced lowering of the soil water table and rewetting is the direct human-induced partial or total reversal of drainage.

2012 Durban UNFCCC - KP

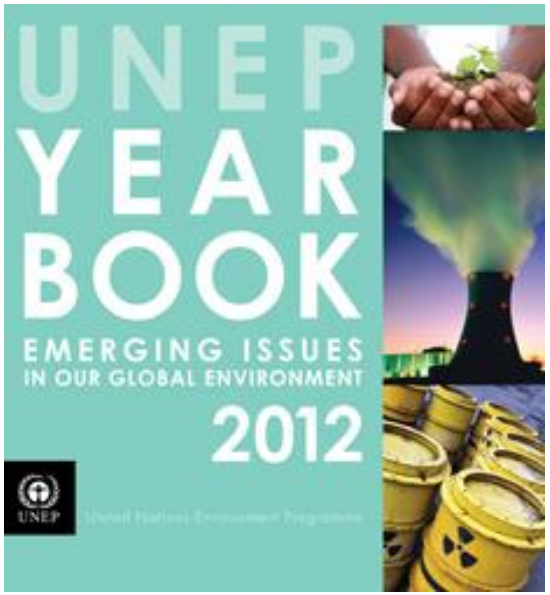


IPCC 2013- Supplement

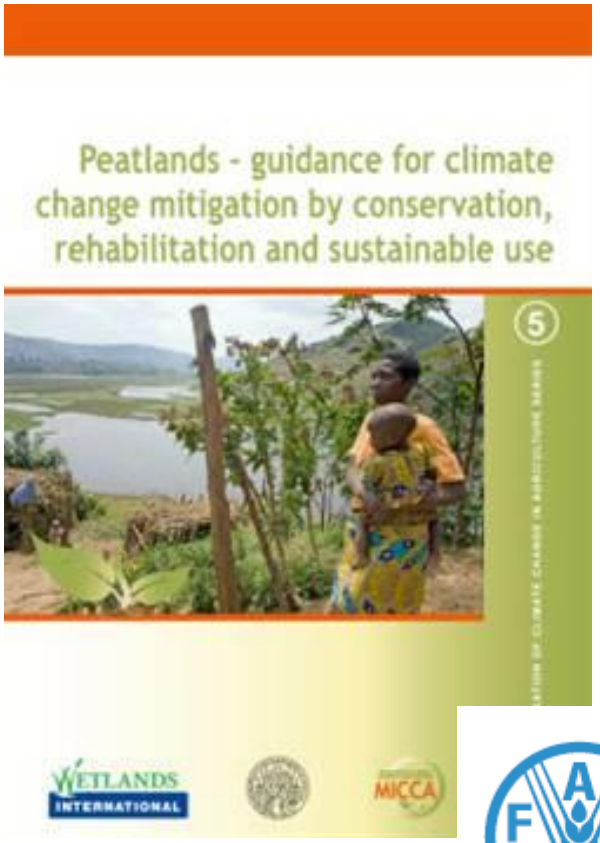


IPCC 2013 GPG LULUCF

Recent new policy attention



UNEP



UN-FAO

UNESCO

SCOPE

UNESCO-SCOPE

Peatlands of temperate zone - status

- The most widely distributed
- Mostly direct but also indirect use
- Still significant part of untouched peatlands in some areas
- Well known functional characteristics and management practices
- The best conditions for restoration
- Legislation mostly in place
- Thousands of restoration projects
- Voluntary market expertise and methodology in place

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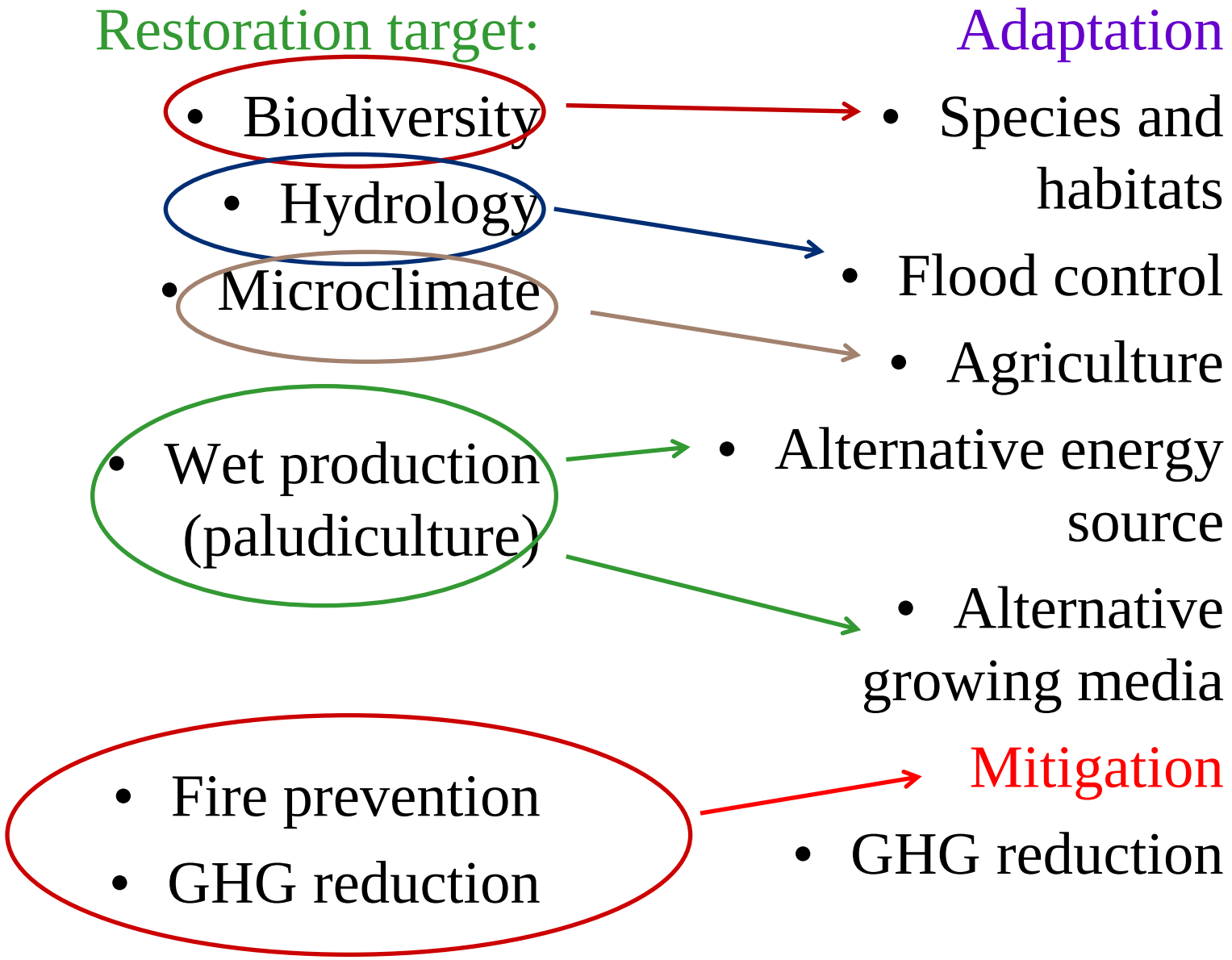
Peatlands of temperate zone – restoration incentives



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Peatlands of temperate zone - UNFCCC

Activities in Kyoto Protocol	Parties elected in CP1
Afforestation, Reforestation, Deforestation	38
Forest Management	24
Cropland Management	5
Grazing Land Management	3
Revegetation	3
Wetland Drainage and Rewetting	0 (new)

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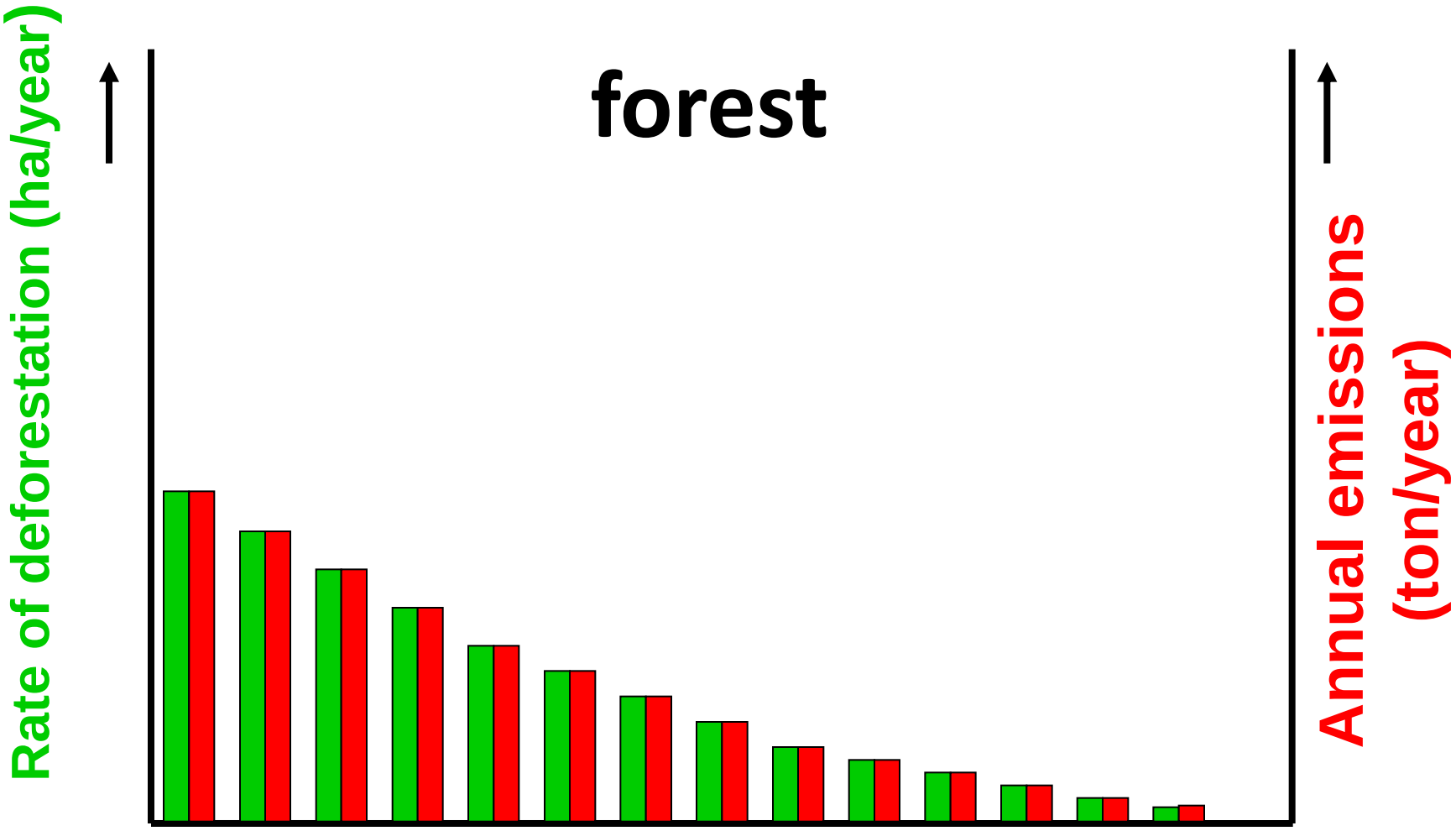
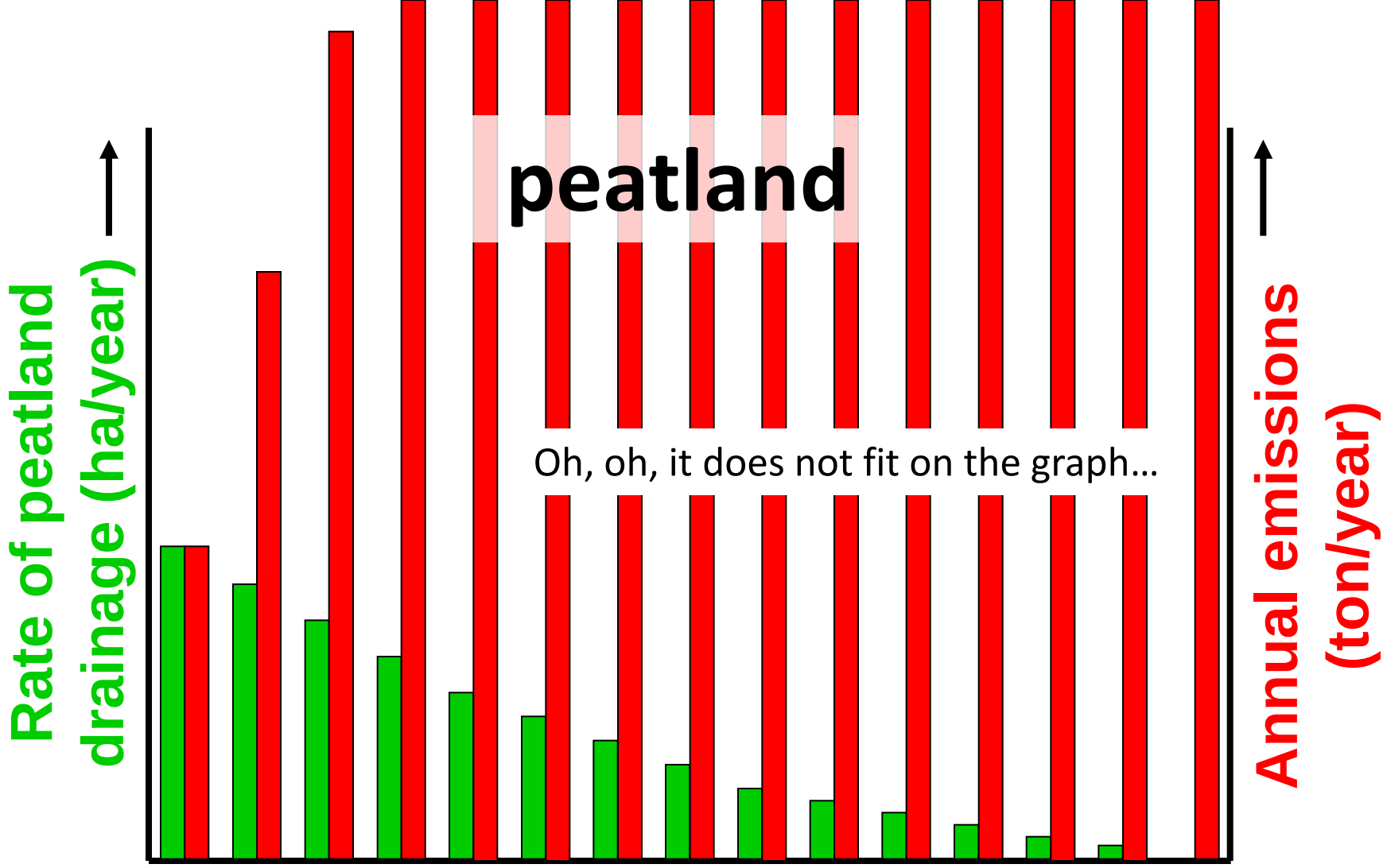


Decreasing the rate of deforestation decreases annual GHG emissions.

Wibisono, I., Silber, T., Lubis, I. R., Rais, D. S., Suryadiputra, N., Silvius, M., Tol, S. & Joosten, H. 2011



Decreasing the rate of peatland drainage ***increases*** annual GHG emissions because the emissions from newly drained peatland ***add*** to those of already drained peatland.

Court. Prof.Hans Joosten

Peatlands of temperate zone – not covered indirect use

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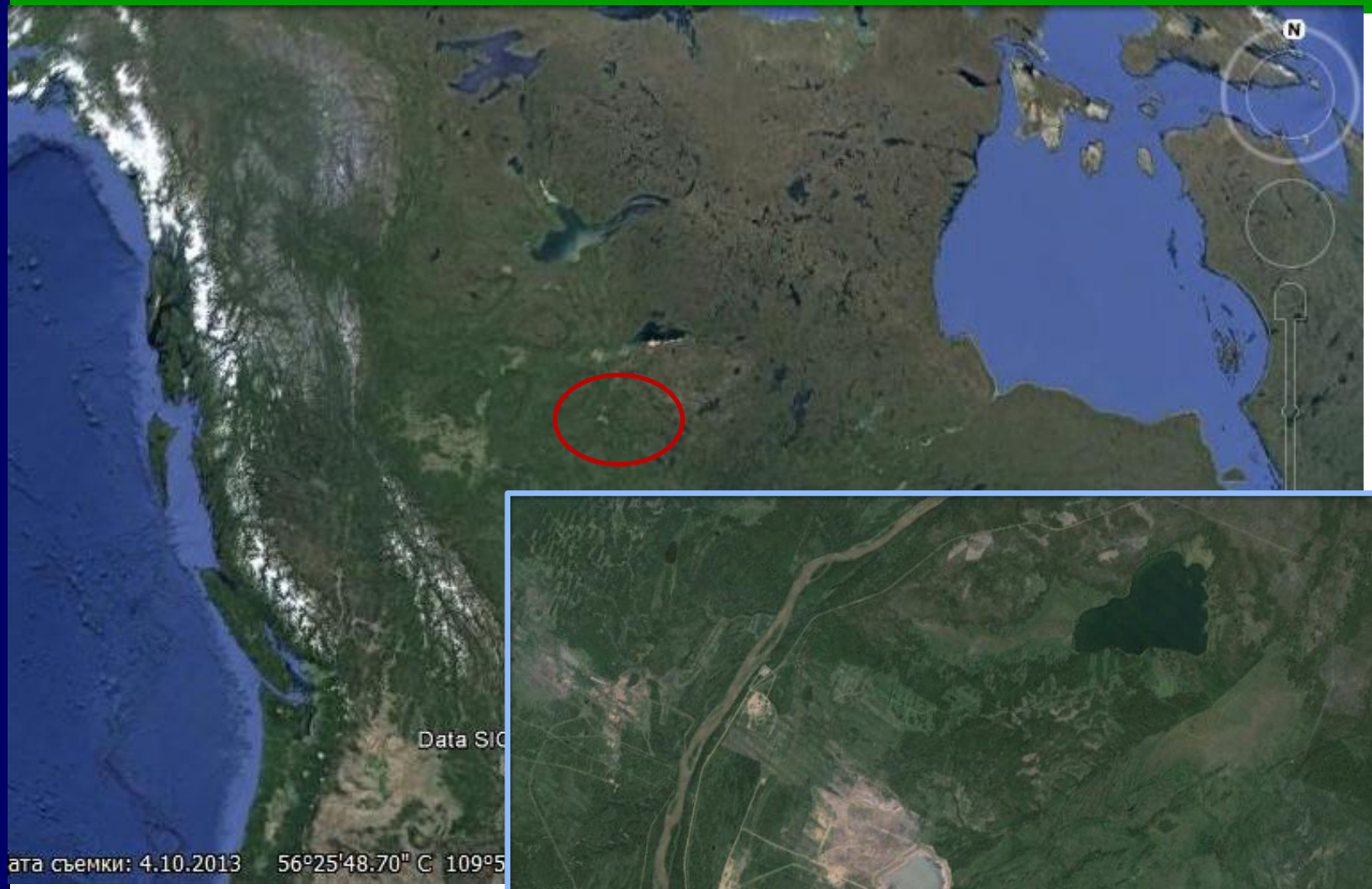
Peatlands of temperate zone – not covered indirect use



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Peatlands of temperate zone – restoration projects for mitigation

Large scale peatland restoration projects funded by International Climate Change Initiative and GEF:

Supported by:

Federal Ministry for the Environment, Nature Conservation and Nuclear Safety

based on a decision of the Parliament of the Federal Republic of Germany

- Byelorussia (2003-2015)
- Ukraine (2009-2014)
- Russia (2011-2015)

Activities – peatlands rewetting

Indicators – GHG reduction (tones) connected to rewetted areas (ha)

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Restoring peatlands of Russia for fire prevention and GHG reduction

200,000 t of CO_2eq emission reductions per year/ 40 000 ha rewetted

Inventory
Rewetting
Monitoring
Capacity building
Advocacy
Economic incentives

Reduction:
Restoration
Monitoring
Account

Supported by:

Federal Ministry for the Environment, Nature Conservation and Nuclear Safety

based on a decision of the Parliament of the Federal Republic of Germany

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KFW

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Russian Academy of Sciences
Institute of Forest Science

Michael Succow Foundation
for the Protection of Nature

ERNST MORITZ ARNDT
UNIVERSITÄT GREIFSWALD

Peatlands of semi-arid zone and arctic

- Not recognized
- LIMITED DIRECT USE
- Semi-arid zone – almost all destroyed
- Vulnerable to climate change
- Anthropogenic impact is enhancing climate change impact
- Positive impact to climate change
- Crucial ecosystem services
- Extremely difficult to restore

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The Arctic – is not a white unsettled ice field

The Arctic – is different types of landscapes

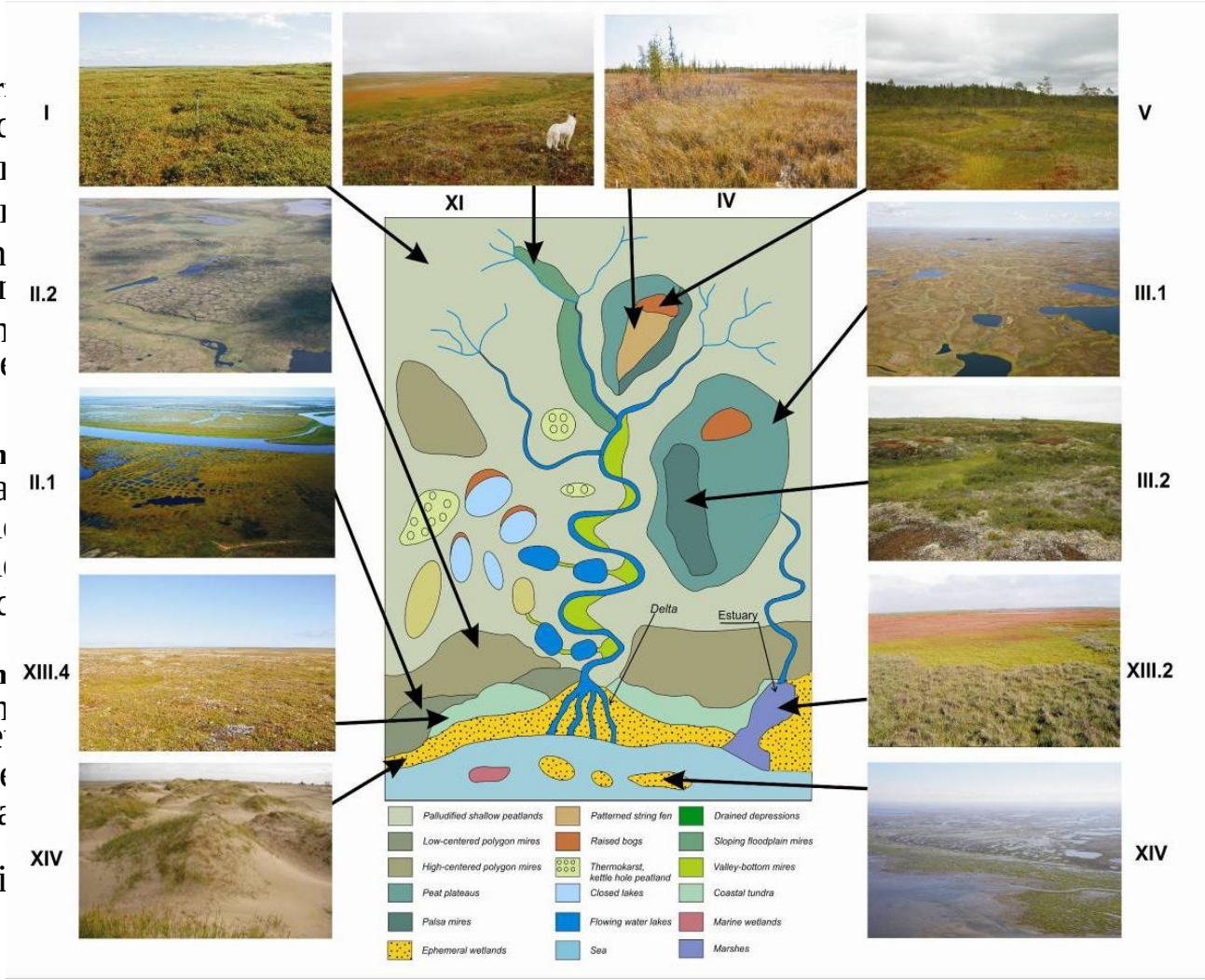
The Arctic – is different types of land use

The Arctic landscapes are mostly wetlands. The Arctic wetlands are mainly peatlands

Terrestr
- •Shallow peat tunc
- •Polygonal mi
- •Palsa mi
- •Riparian wetlands (in fe
- •Lacustrian wetlan (lakes, hasyri, allas

Coastal wetlan
- •intertidal fla
- •saline marsh
- •freshwater marsh
- •and coastal tunc

Marine wetlan
- •ephemeral wetlan (dunes, sandy spits e
- •coral re
- •sea gra
- •shallow marine waters to 6 m at ti



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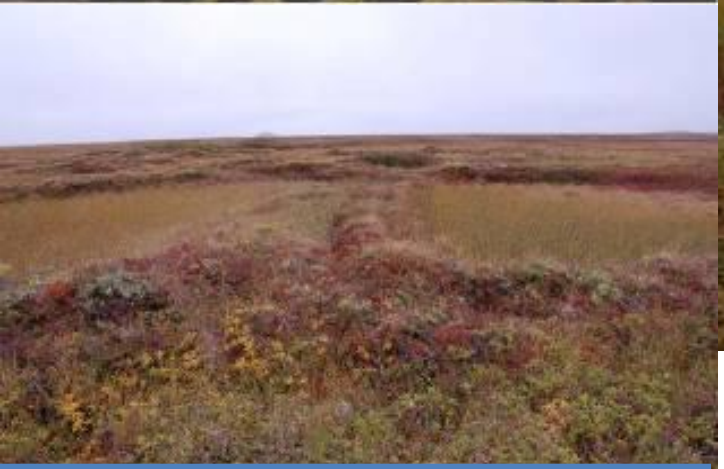
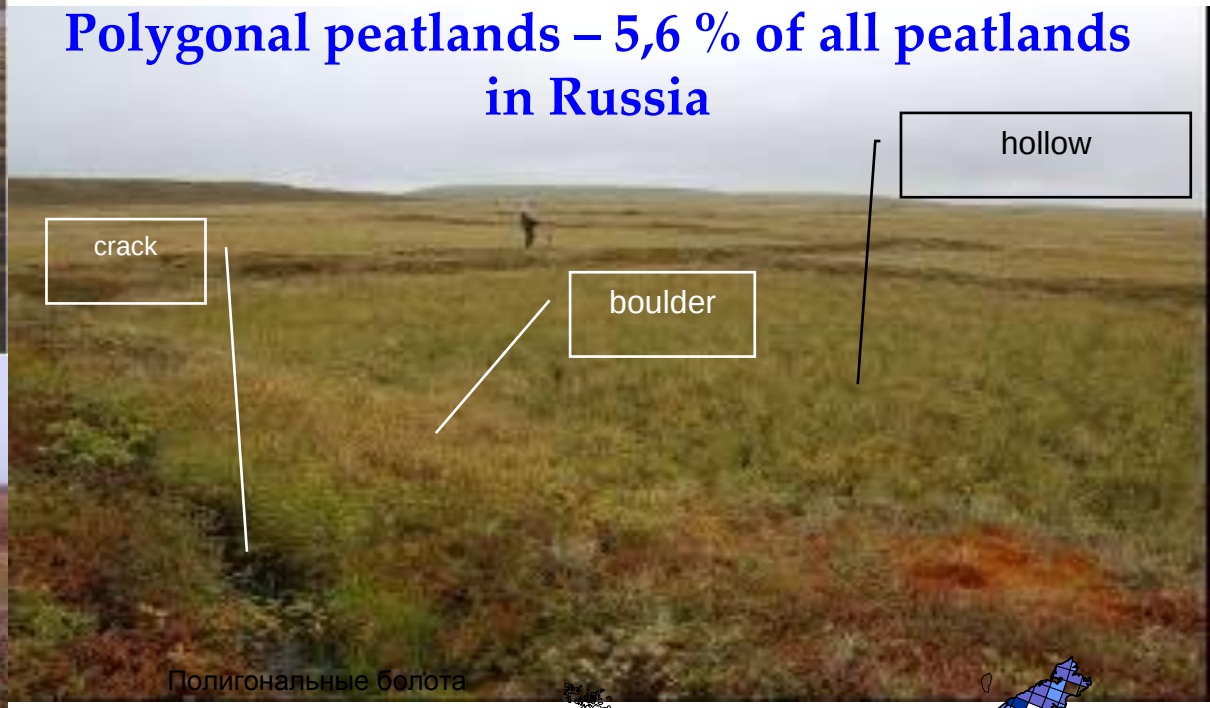
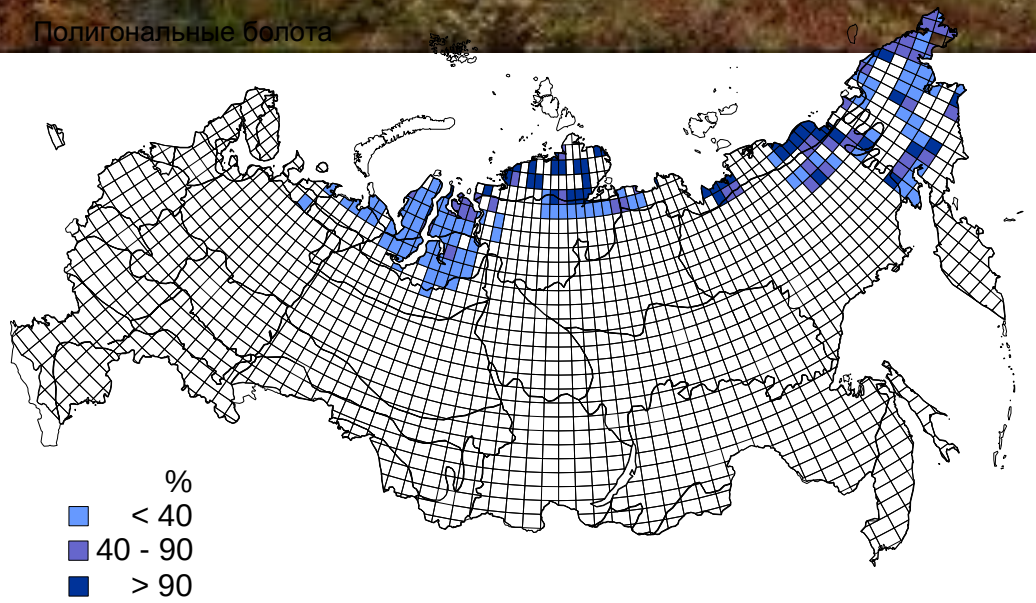
Understanding Artic wetlands diversity:

Polygonal peatlands – 5,6 % of all peatlands in Russia



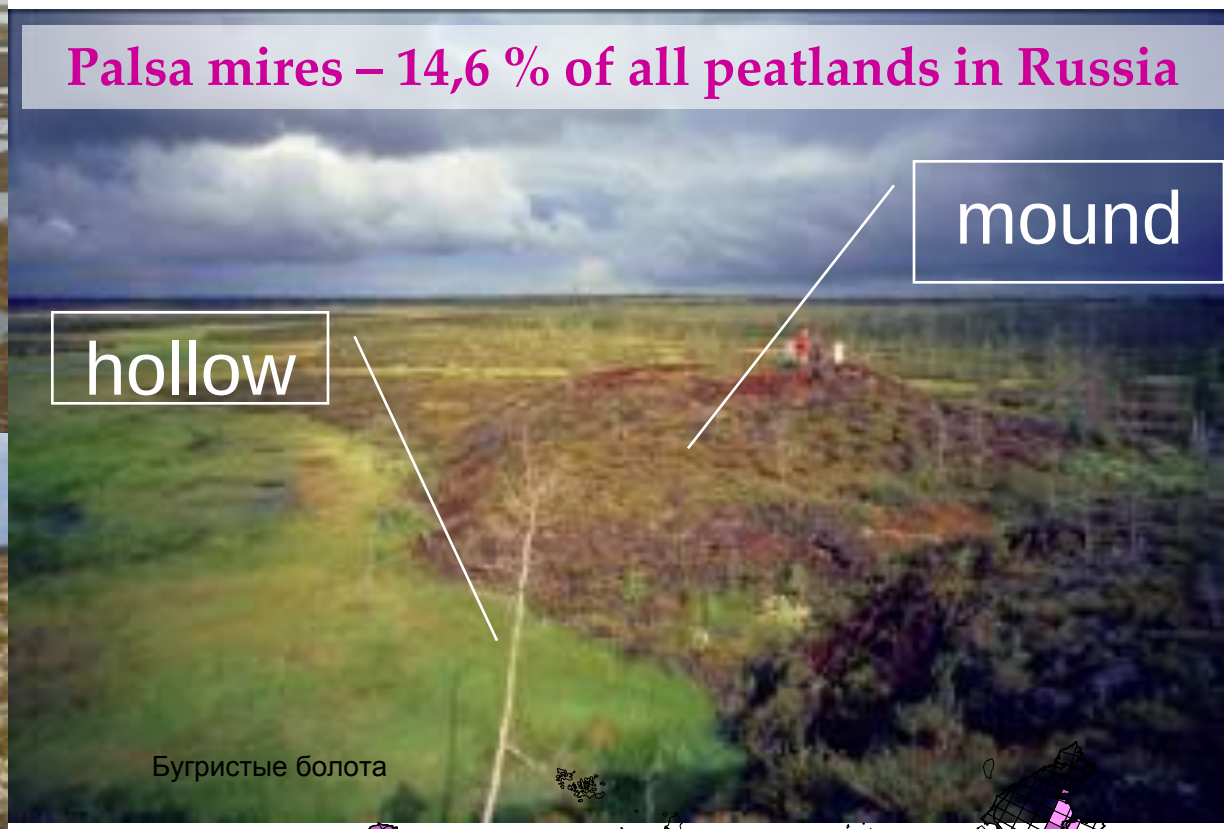


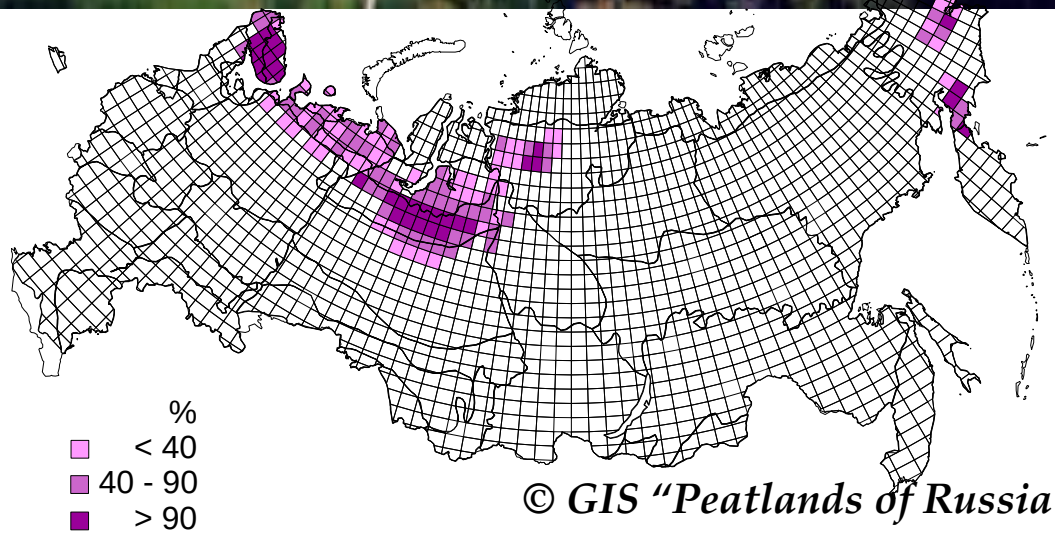
Полигональные болота



Understanding Artic wetlands diversity:

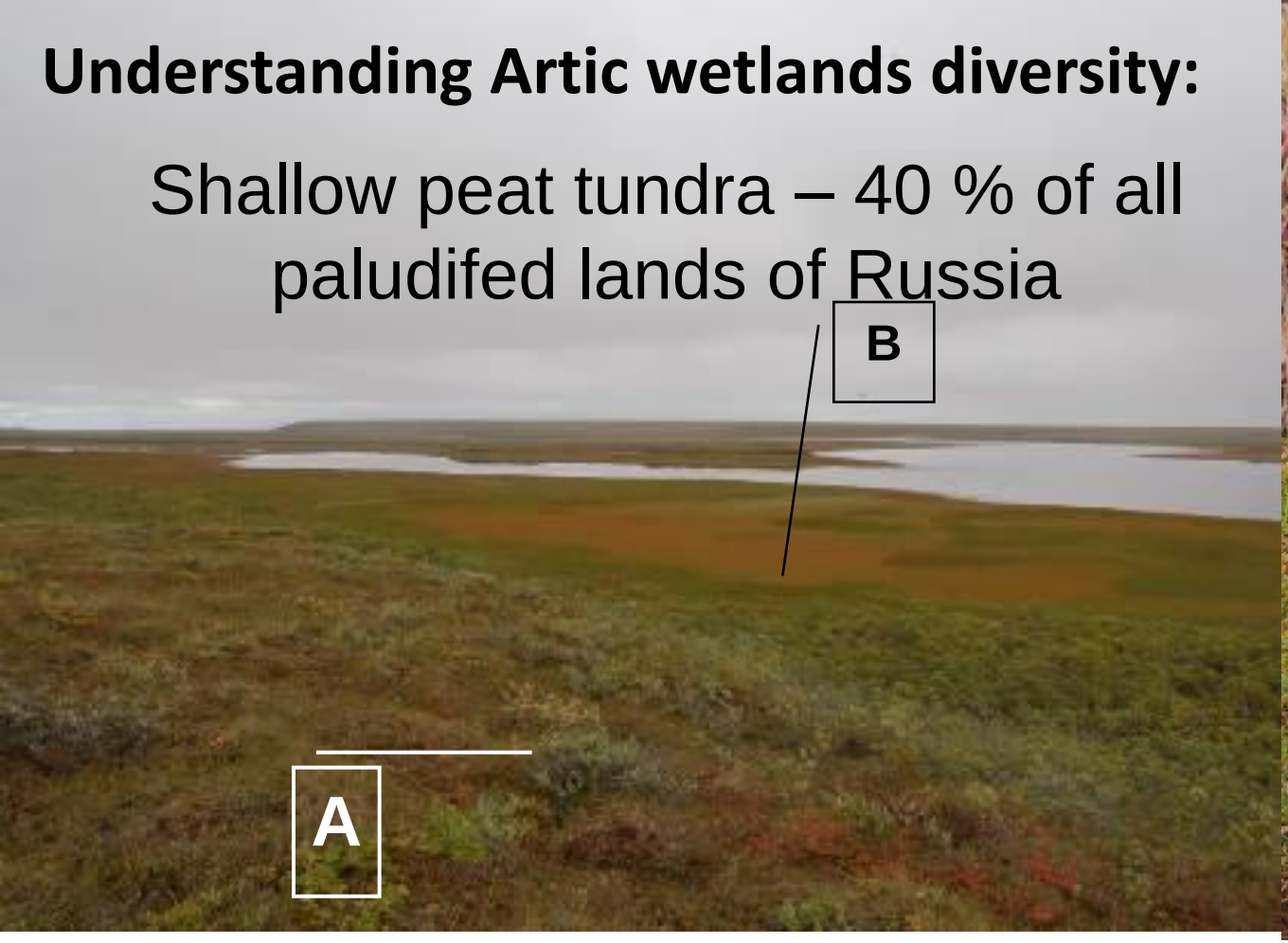
Palsa mires – 14,6 % of all peatlands in Russia

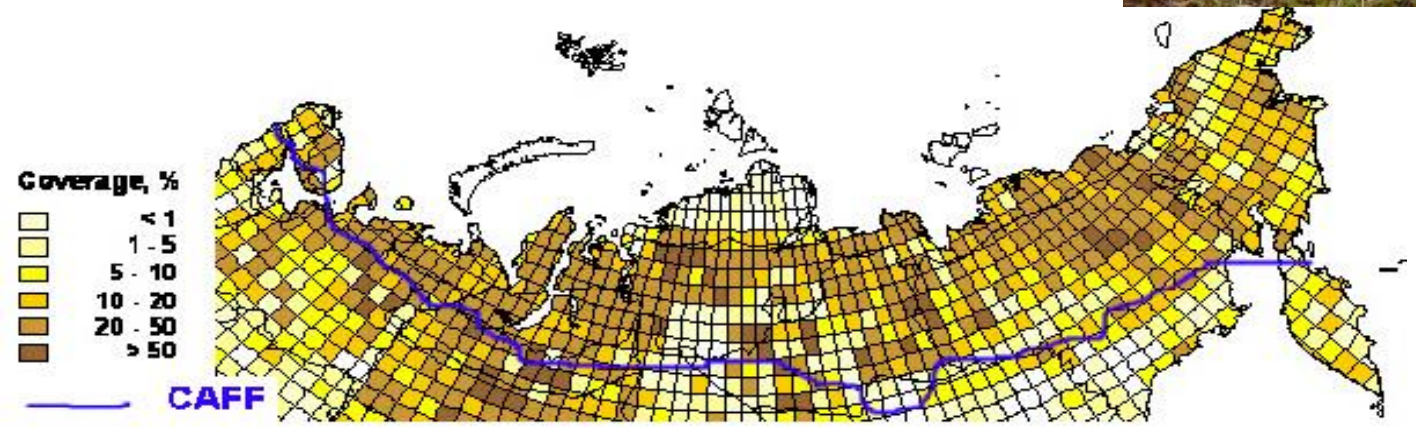




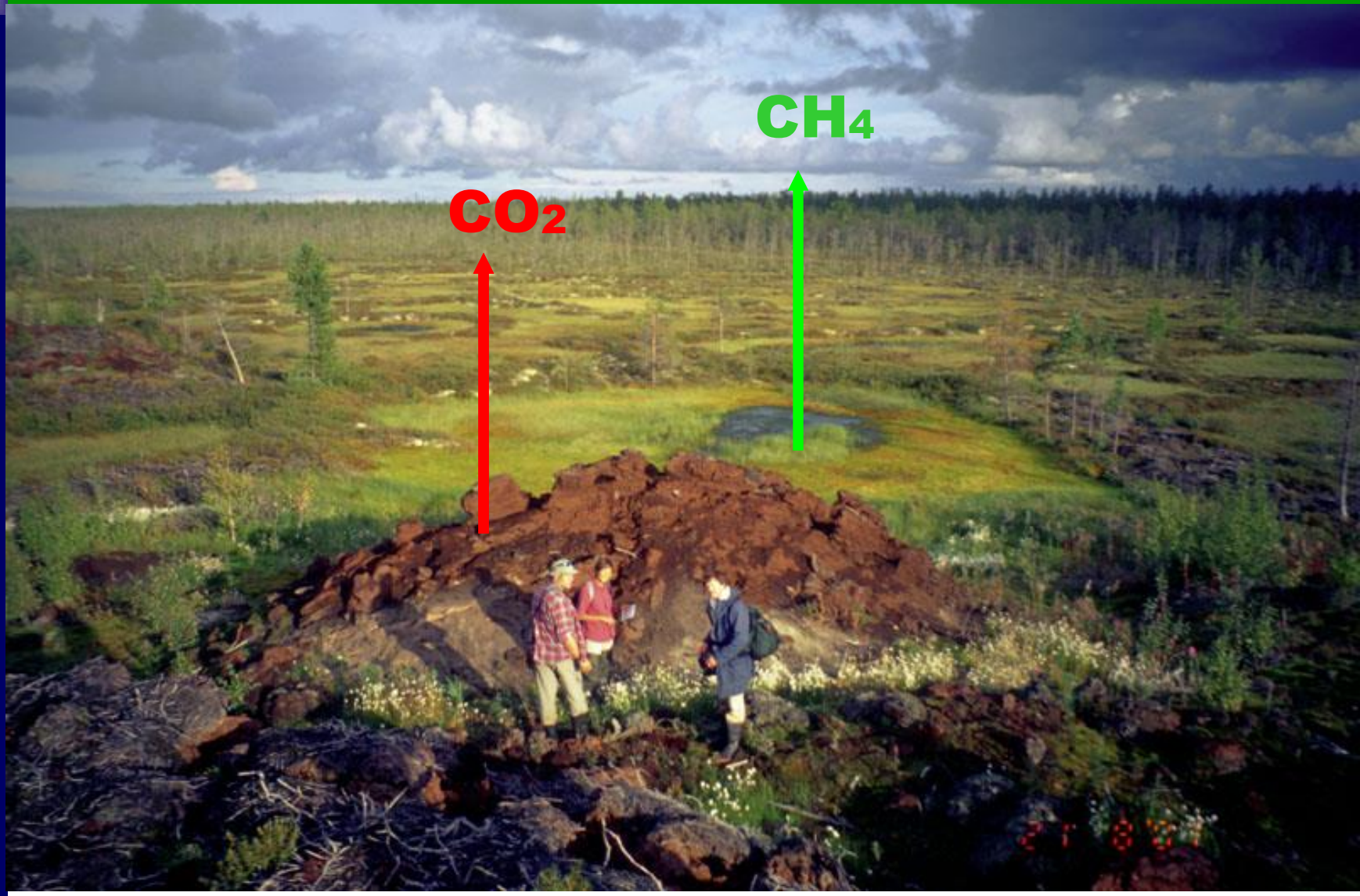
Understanding Artic wetlands diversity:

Shallow peat tundra – 40 % of all paludifed lands of Russia





Arctic peatlands feedback to climate change



Warming will increase both CO_2 emission from dry peatland locations as palsa and CH_4 from wet especially fen sites

Arctic peatlands feedback to climate change

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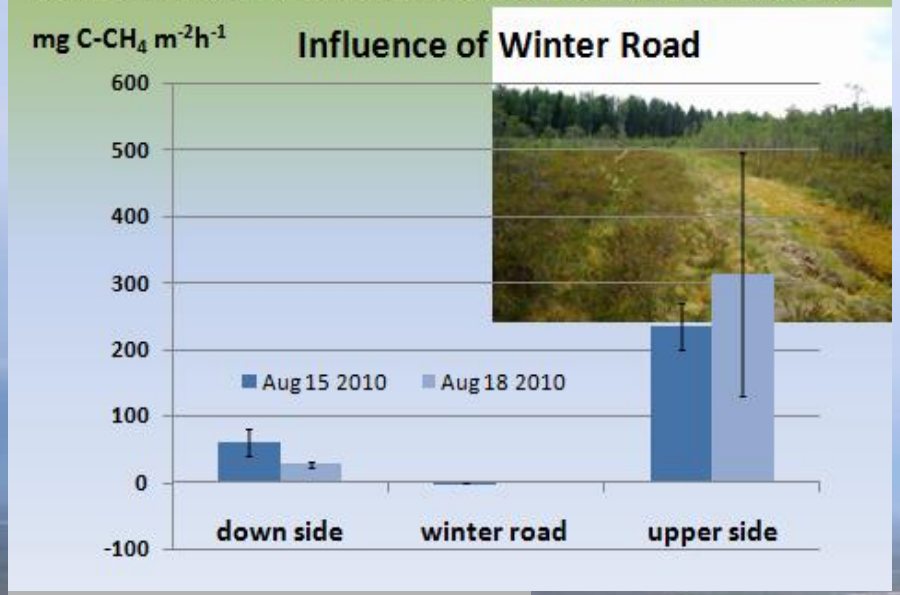
Arctic peatlands feedback to anthropogenic impact

Some Results

Khanty-Mansiysk Autonomous Okrug (central West Siberia)



after: Sirin et al, 2012

Peatlands of Arctic - restoration connected to indirect use

Restoration target:

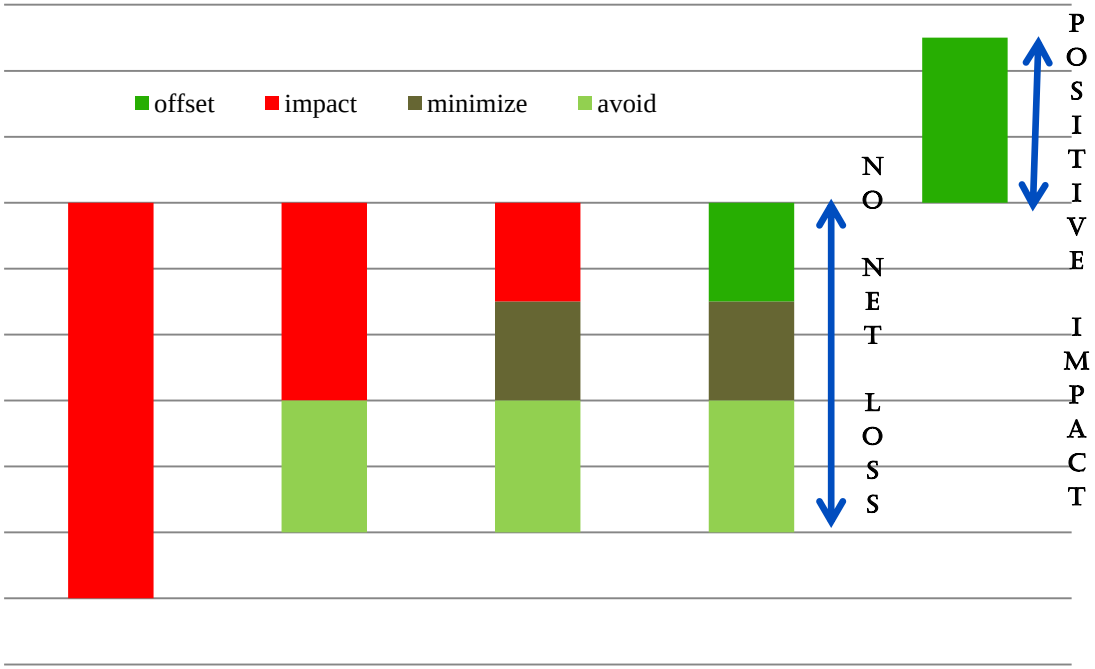
- Mitigation and compensation by industry

Adaptation

- No net loss

Mitigation

- GHG emissions reduction



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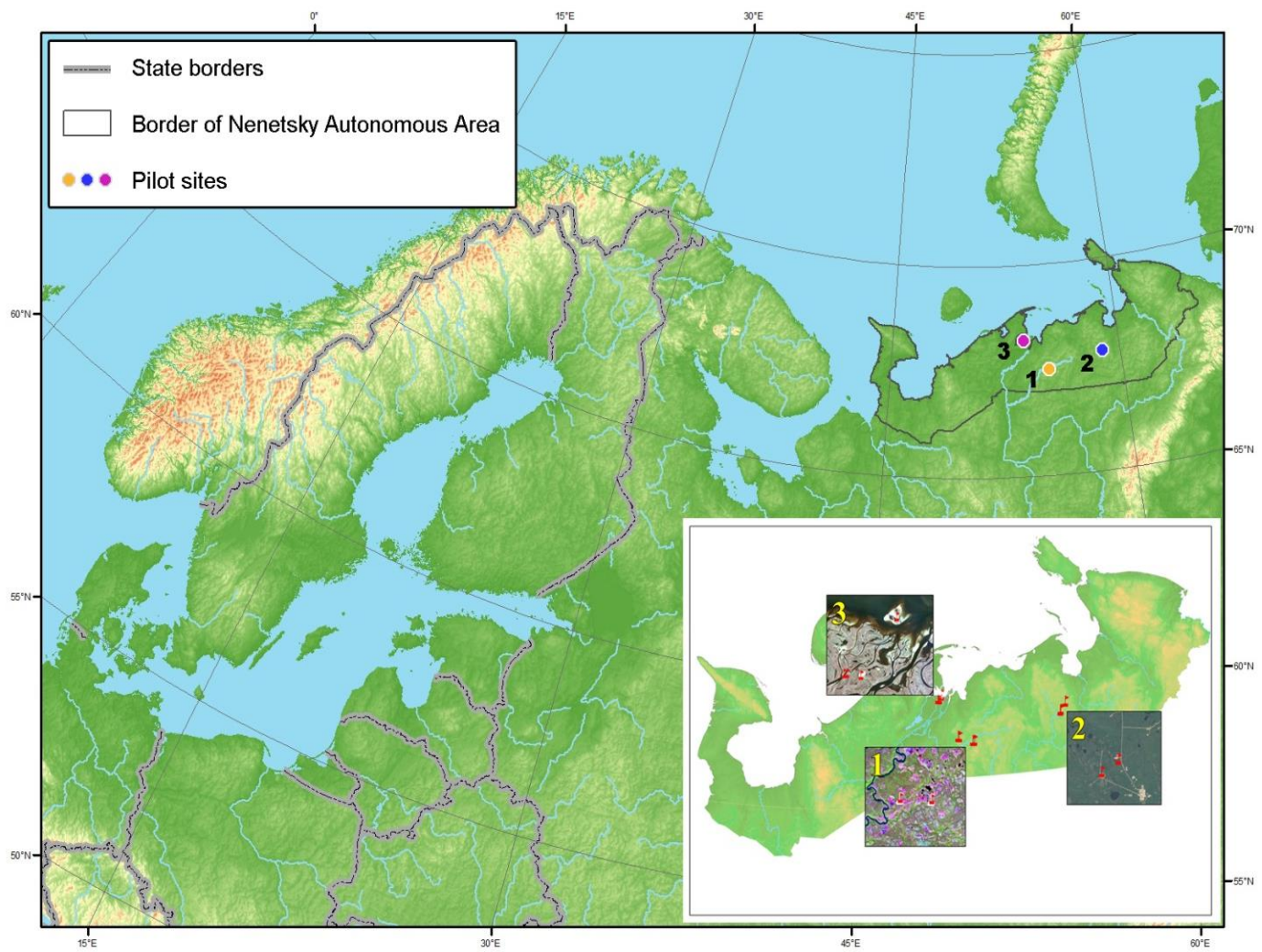
Peatlands of Arctic - restoration connected to indirect use



UNDP Russia

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ClimaEast

Peatlands of Arctic – only indirect use

To be restored for carbon sequestration

Mitiga tion?

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ClimaEast

Ways forward

Human society

Ecosystem services

- Peat exploitation
- Water purification
- Climate change mitigation
- Non-destructive use

Ecosystem function

- Carbon storage
- Carbon sequestration
- GHG balance maintenance
- Specific habitat

Natural process

- Primary production
- Peat accumulation

Ecosystem feature/character

sedge sphagnum oligotrophic bog

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A bit about policy

UNFCCC: Wetlands Supplement

Table 2.1, chapter 2 (Drained organic soils)

EF for oil palm 10 t C ha-1 yr-1 (ca. 40 t CO2).

EF for Acacia 20 t C ha-1 yr-1 (ca. 70 t CO2)

established **after** the submission of expert comments

EU policy - EPAGMA lobbying:

Peat as renewable energy resource

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Thank you for your attention

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