Water and Peatland Forests

Ramsar Convention on Wetlands

Tobias Salathé (incl. information by Hans Joosten, Greifswald Mire Centre)





= water-related ecosystems

peatlands = wetlands with peat
 peat forms where waterlogged conditions prevent
 the complete decomposition of dead plant material



peatlands

- areas with a naturally accumulated layer of dead organic material
- are often forested (paludified and cloud forests, elfin woodlands, paramos, mangroves)
- many forests grow or: are grown on peatlands

peatlands cover 3% of the world's land area and store >550 Gt carbon = 2 x more than stored in forests



peatlands

are the largest long-term terrestrial carbon store:
3.5 x more than other ecosystems in the Arctic zone
7 x more in the Boreal zone
10 x more in the humid Tropics

peatlands store more carbon, largely in their soil:



forest plantations on *drained peatlands* change the situation:



peat soil drainage results in GHG emissions ($CO_2 N_2O$) - plus CH_4 from ditches degraded peatlands create peat oxidation with CO_2 emissions including peat fires, this represents 5% of anthropogenic CO_2 emissions (forest degradation and destruction represents 10%)

drained peatlands ...



... store no longer water:

 > no downstream flood mitigation
 > no continuous supply of clean water throughout the year (including during drought periods)

dried peat soil erodes (wind) and shrinks (subsidence, lowering further the water table)

plantations (and farming) on *dried peatlands* are not sustainable



but keeping peatland forests wet, will ...



reduce greenhouse gas emissions keep carbon stored in the soil where it is maintain water storage and purifying functions support and conserve biodiversity in the area



however deforestation, drainage and degradation of forests and peatlands - at large scale - go often hand in hand ...



an opportunity to cooperate for Water, Wetlands and Forests



limit drainage, degradation and deforestation of peatland forests (LULUCF) *re-wet* drained peatland forests (REDD+) *support* habitat and biodiversity restoration (CBD) *use* Ramsar's "wise use concept" as a bridge

