



Hotspot Shallow Waters and Peat Meadow Areas



Ondiepe wateren en
veenweidegebieden

Mid-term Report – August 2012

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- Peat meadows and shallow waters: major challenges for the future
- Land use history and regional distribution
- Ambition and approach of KfC Hotspot:
 - Stakeholder involvement: question-oriented research
 - Research projects
 - Development of Options for Regional Adaptation Strategies
 - Aspects of governance and implementation



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Challenges for the future

- Rapid soil subsidence in peat meadow polders because of deep drainage (rates 2-3 cm per year)
- Exposure of (wooden) house foundations to air
- High costs for adaptation of structures related to water management (weirs, dikes, pumping stations)
- Deterioration of water quality (cyanobacterial blooms and toxins)
- Climate change will aggravate the problems



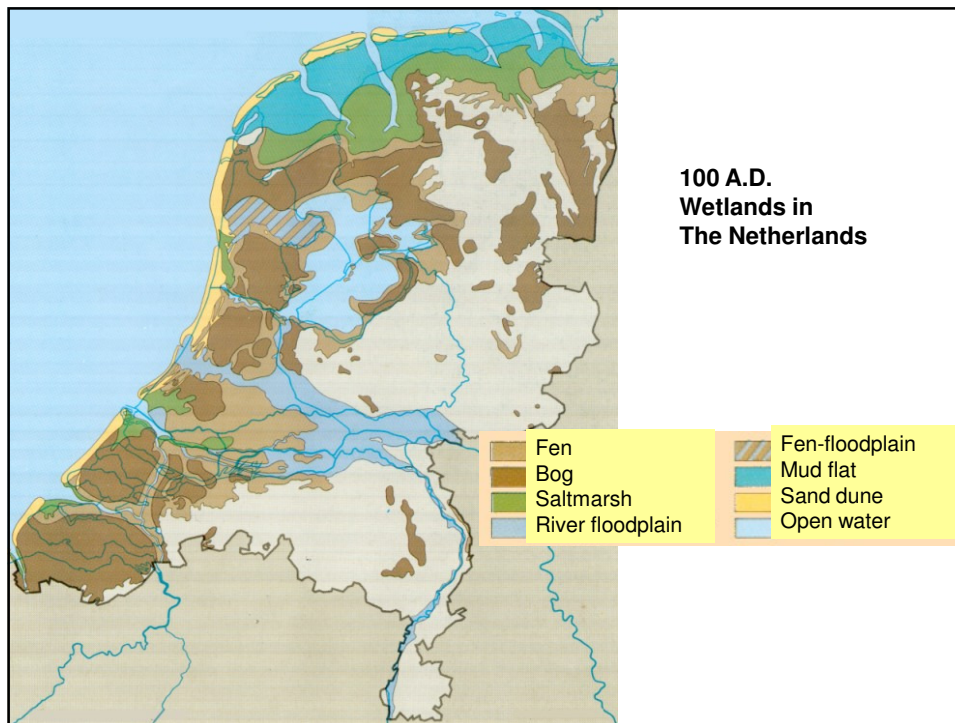
Importance of peat-meadow regions

- Intensive agriculture, mainly for dairy production (cheese, milk, butter)

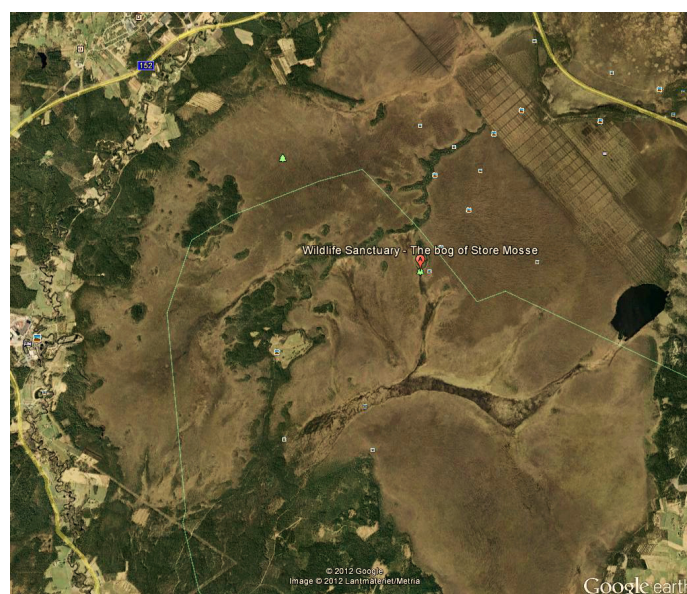


- Recreation for large urban populations (biking, swimming, fishing, sailing)





Raised bog: Store Mosse (Sweden)



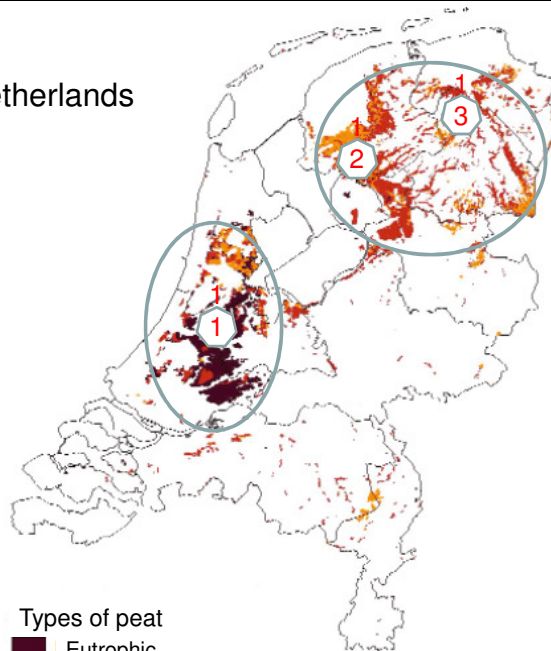
Peat Meadows: Overijssel (Netherlands)



Peat soils in The Netherlands

Rienks & Gerritsen 2005

- 1: Zegveld
- 2: Tjeukemeer
- 3: Bovensmilde



Types of peat

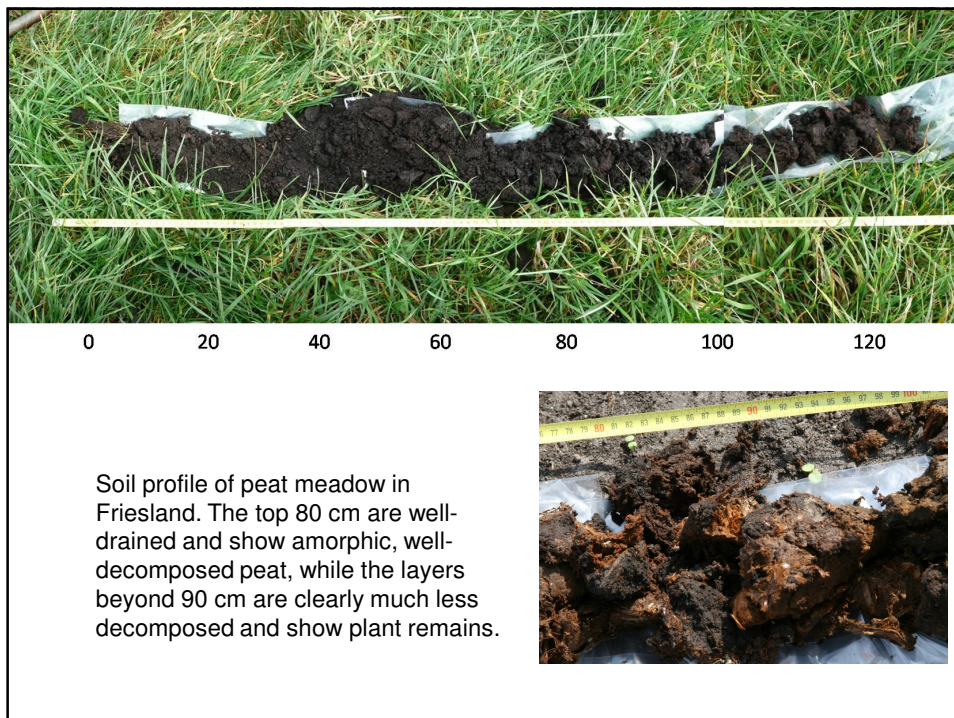
- Eutrophic
- Mesotrophic
- Oligotrophic

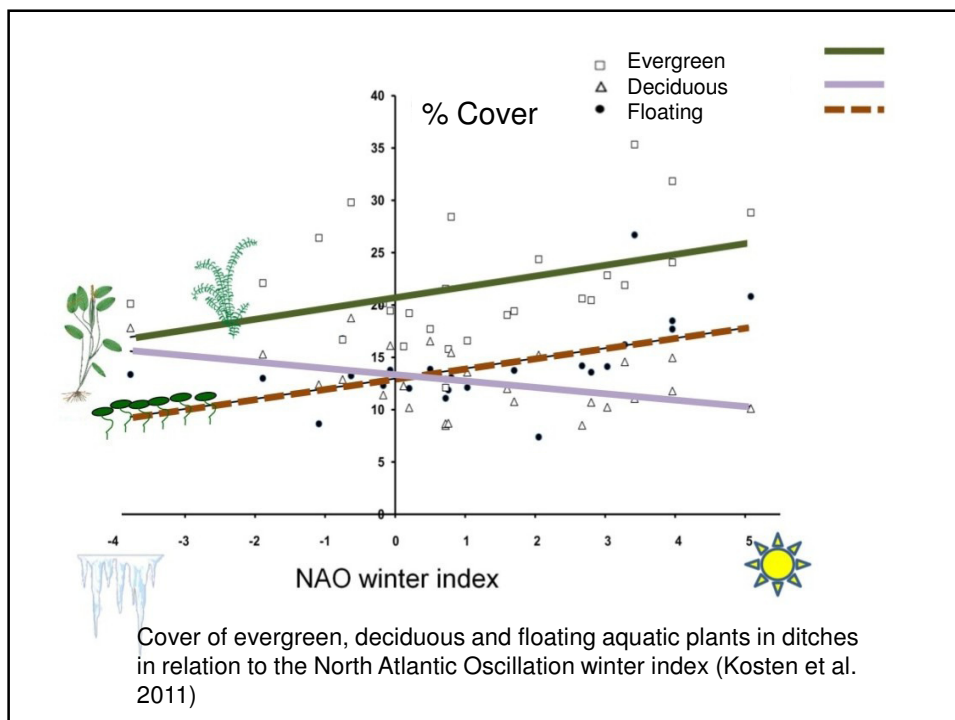
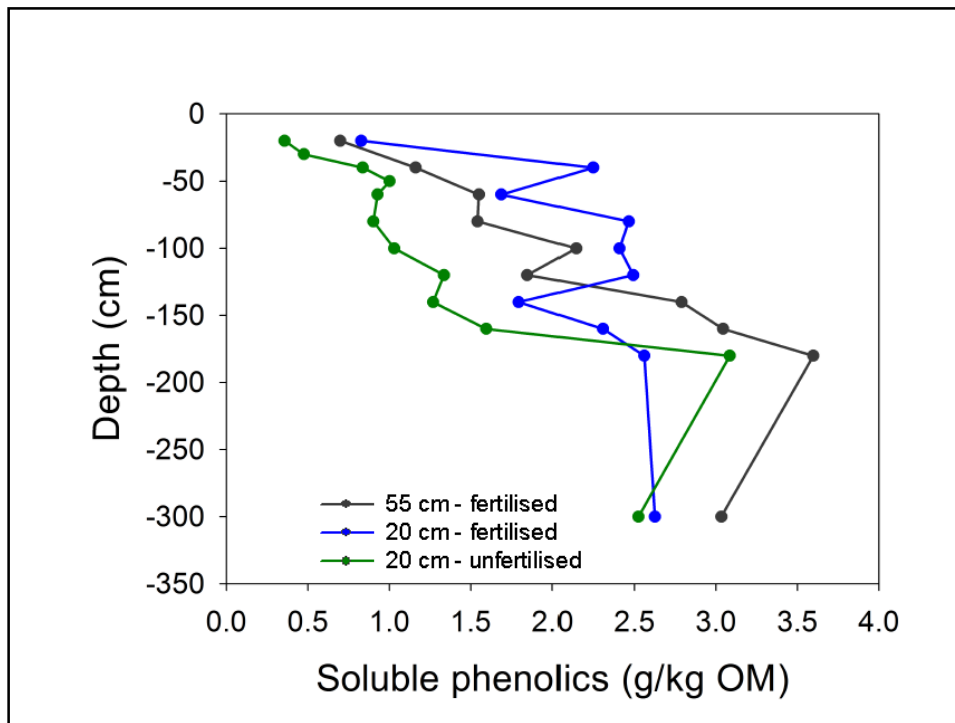
Approach in the Hotspot (1)

- Start with stakeholder workshops for articulation of questions
- 3 projects directly addressing these questions (tranche 1):
 - Climate effects on peat decomposition and subsidence
 - Climate effects on water quality
 - Spatial analysis of local effects and management options (touch table)



Proportion of Cofinancing: 60%





Interactive stakeholder workshops

- Workshop Province of Utrecht (2010)
- Bovensmilde in Drenthe (2011)
- Tjeukemeer (Friesland: 2011, 2012)
- Roadmap to ORAS (Amsterdam 2011)



Approach in the Hotspot (2)

- Related projects in Haaglanden and in tranche 2 (Freshwater supply, theme 2)
- Regional study of future challenges in the peat meadow areas of Friesland (tranche 3)
- Linkage to project developing new policies for this area (province, water board)
- End product: Options for Regional Adaptation Strategies (ORAS)
- Consultation of regional authorities



Adaptation measures & policies

- Changes in the water level regime (e.g. higher water tables)
- Under water drainage (reverse drainage)
- Cover of peat meadows with organic matter ('toemaakdek')
- Buffer zones between agricultural areas and nature reserves
- Climate-proof agricultural systems
- Green-blue services delivered by farmers



3rd tranche: continued stakeholder involvement

- Active outreach to regional stakeholder groups:
 - Western peat meadows (Utrecht, Zuid-Holland): timing mismatch; investments in other projects (LIFE)
 - There is already a very large amount of information for this region
 - Friesland: Province and Wetterskip together will develop a new long-term policy for their peat meadows
 - 3rd tranche KvK project in Friesland in close association



Workshop Frisian peat meadows



Peat Meadow Policy Friesland

- Province and water board in Friesland have just started a 2-year project
- Long-term vision on adaptive land use and water management in peat meadows
- KfC project: provide a knowledge base on climate effects and test the efficacy of measures
- Alongside the regional project during the first year
- Kickoff: tomorrow
- **Proportion of Cofinancing: 50%**



ORAS: manual for policy

- Based on 10 years of climate-related research (Leven met Water, Klimaat voor Ruimte, Kennis voor Klimaat)
- Guide for identification of regional bottlenecks
- ORAS with packages of technical measures in land use and water management
- Guidance for implementation on the basis of experiences in various regions in NL



ORAS: contents

1. Introduction

Problem definition and objectives

2. Characterization of the area

Peat meadows, shallow waters: land and water use

3. Challenges related to climate change

Subsidence, water level rise, water quality

4. Climate change as an opportunity

Adaptive management: measures and policies

5. Implementation in regional policies

ORAS as a part of long-term policy development



Workshop with regional authorities