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***Training in Wetland
Management and Restoration
30 years of experience***

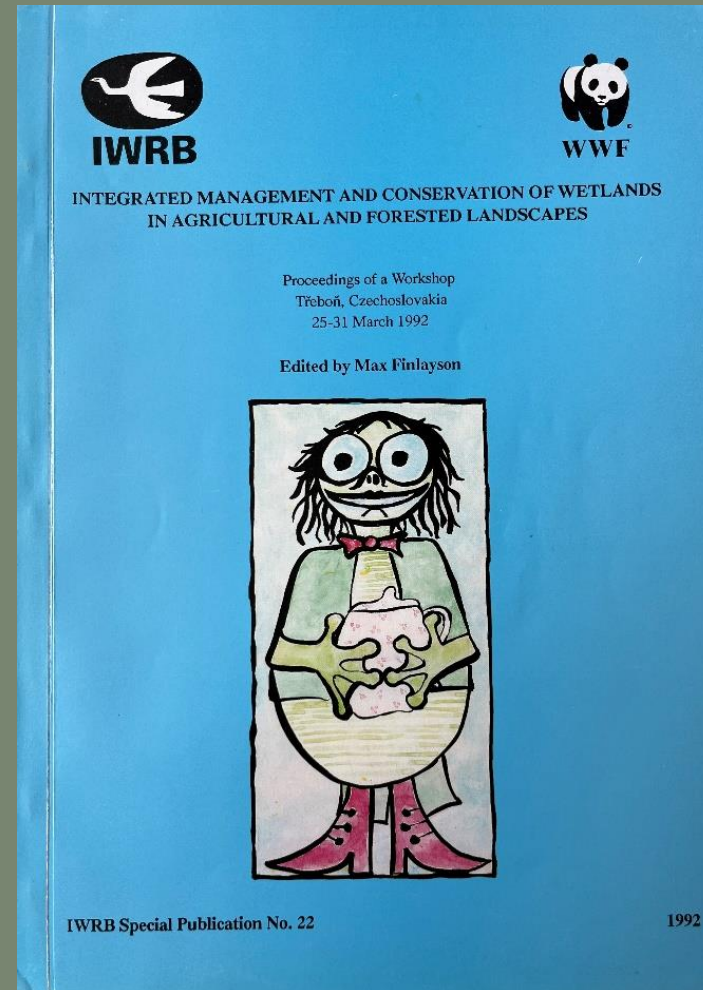
Martina Eiseltoová

Center for Theoretical Study,
Charles University and the Czech Academy of Sciences



Wetland Management Training Programme

International Waterfowl and Wetlands Research
Bureau/Wetlands International, 1991-1996



➤ Short-term training courses

- ❖ - Interdisciplinary and holistic in nature
- ❖ - Mixed audience of professionals
- ❖ - Presentation of scientific concepts at a pragmatic level

➤ Study tours

➤ Publications

Czech Republic 1992

Restoration of shallow eutrophic lakes and fishponds



Estonia 1993

Restoration of eutrophic lakes



Czech Republic 1993

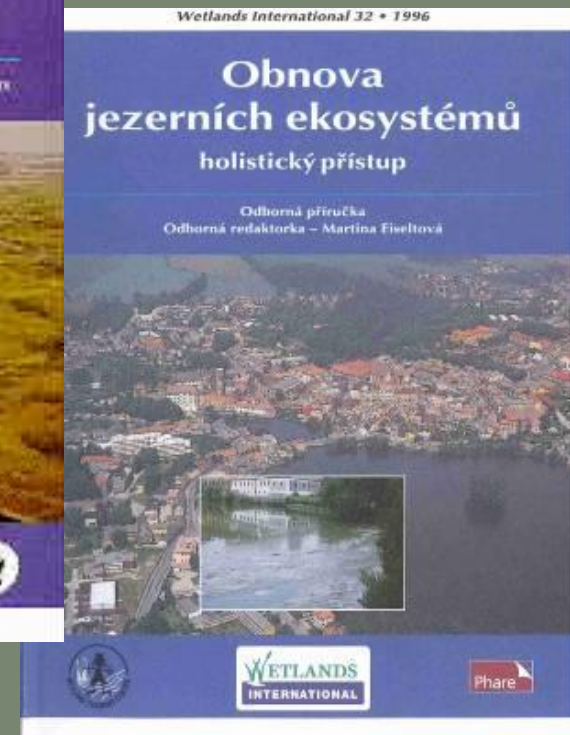
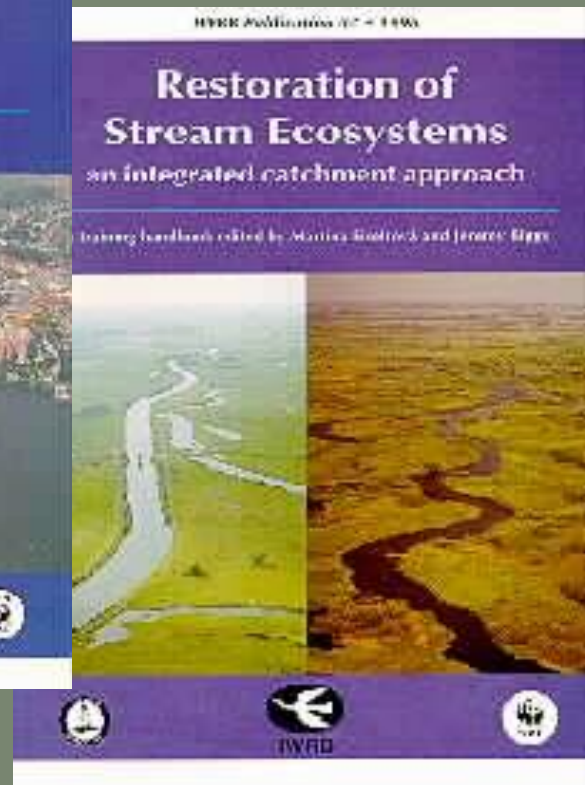
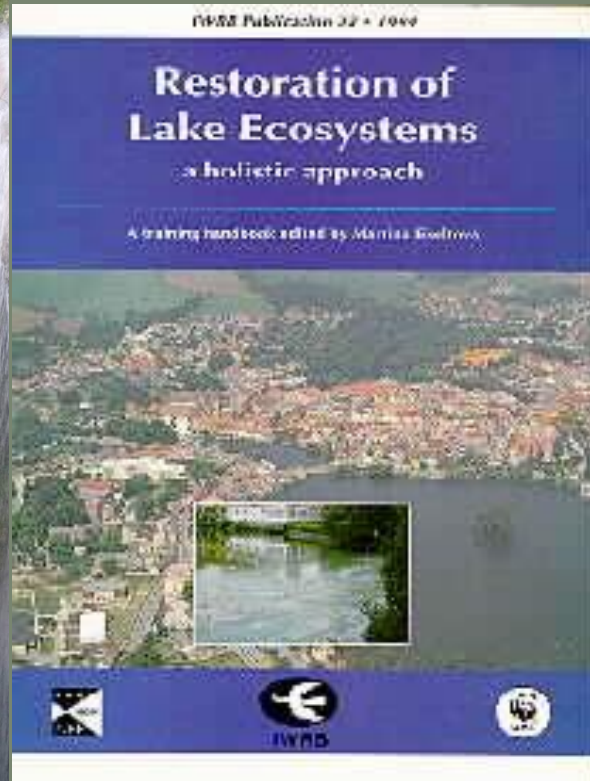
Restoration of streams and their riparian zones



In the Czech Republic, streams were shortened by 1/3 of their length, deepened and disconnected from their floodplains

Wetland Management Training Programme

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Restoration of hydrology (NP Šumava)

Restoration of mires, springs and streams



Sven Björk (1927)



Wilhelm Rippl (1937 – 2022)



“Wetlands play an essential role in water and matter cycling and energy dissipation through evapotranspiration”.

Jan Pokorný (1949)

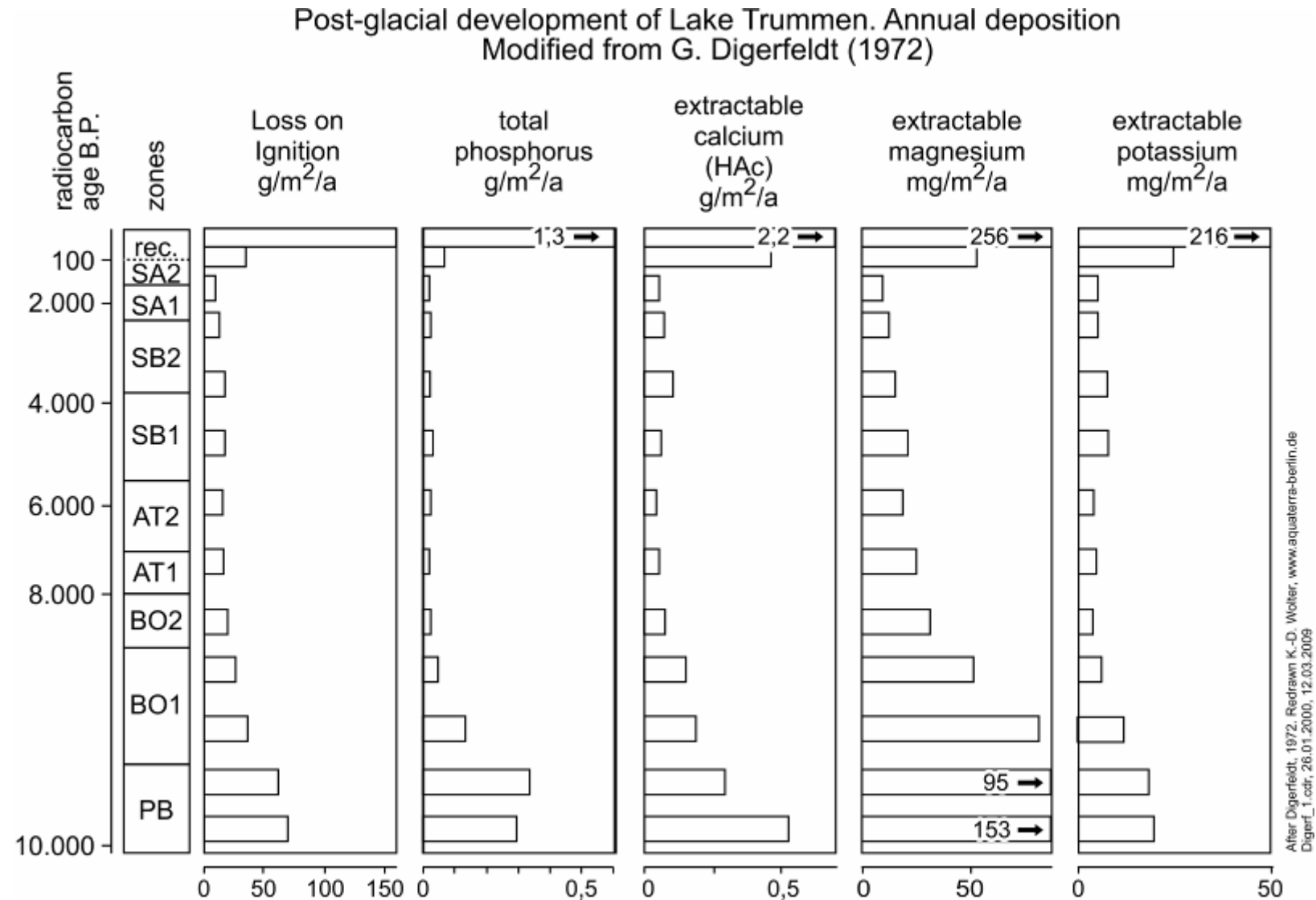


Jan Květ (1933)

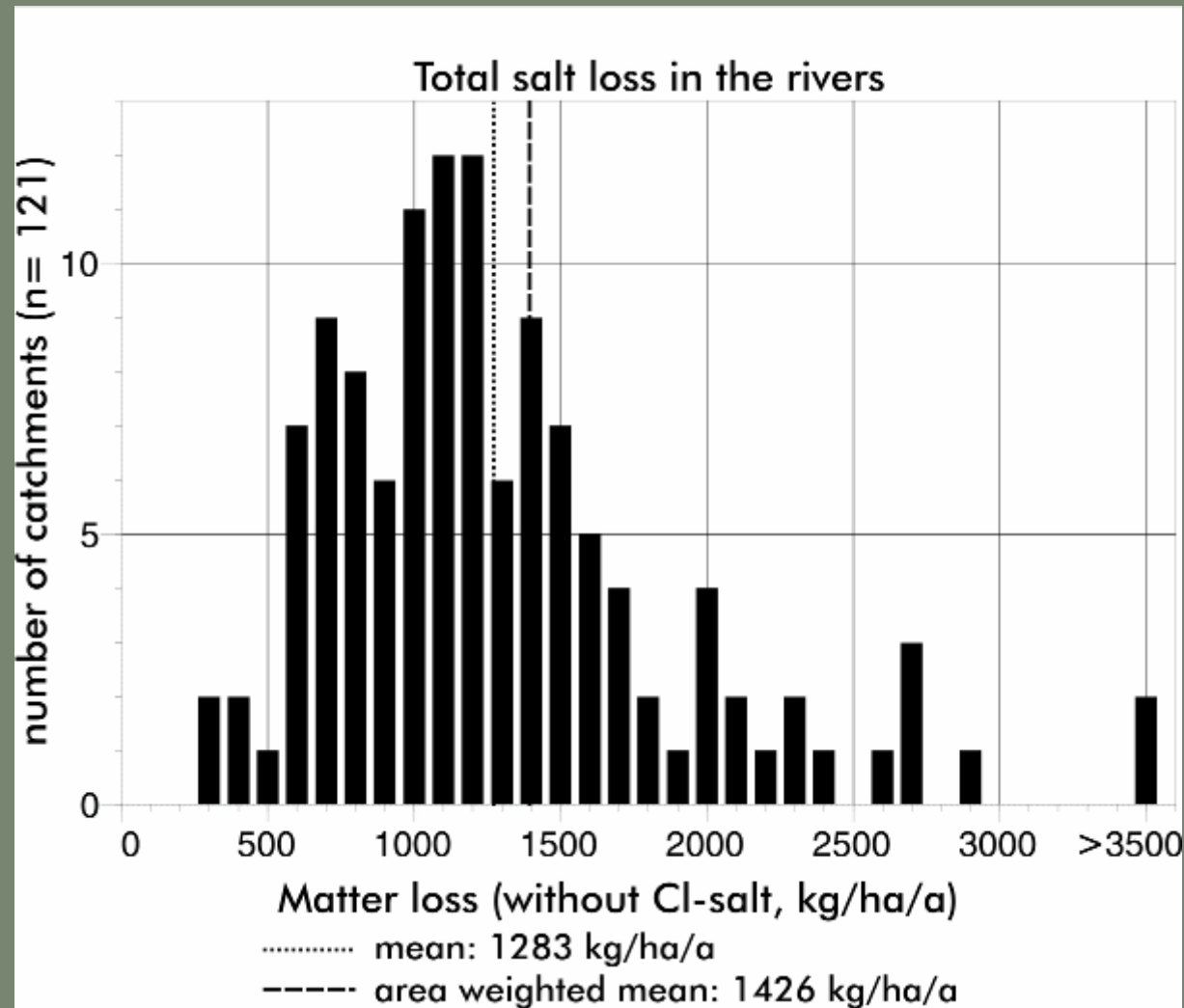


“Evapotranspiration from wetland vegetation cools the air and provides water vapour for short water cycles. This advantage is often overlooked or ignored “.

Vegetation cover and matter losses

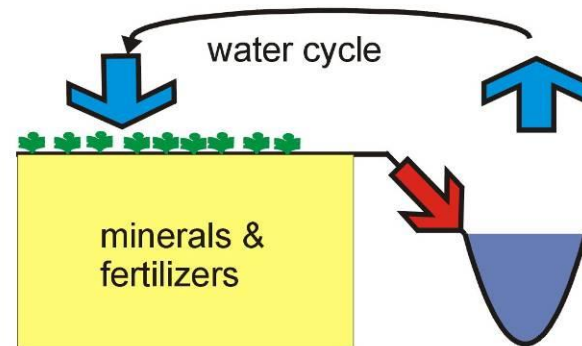


Matter losses in Germany



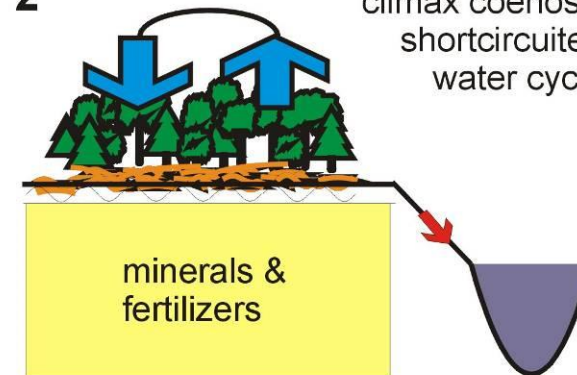
Water and matter cycling four phases in landscape development

1 postglacial pioneer coenosis



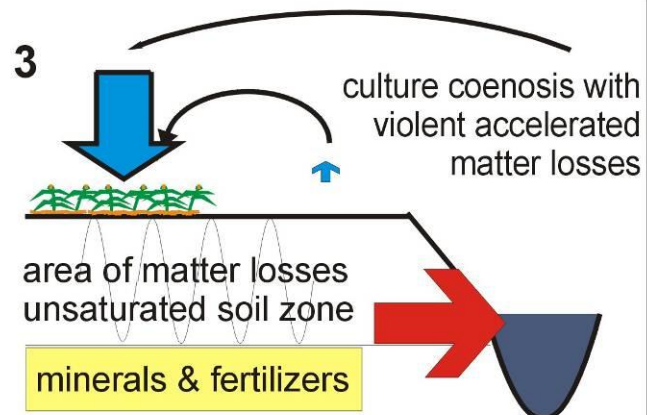
2

climax coenosis
shortcircuited
water cycle

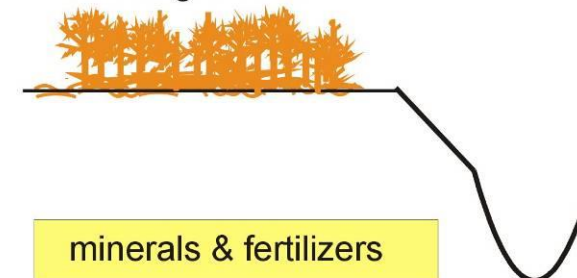


3

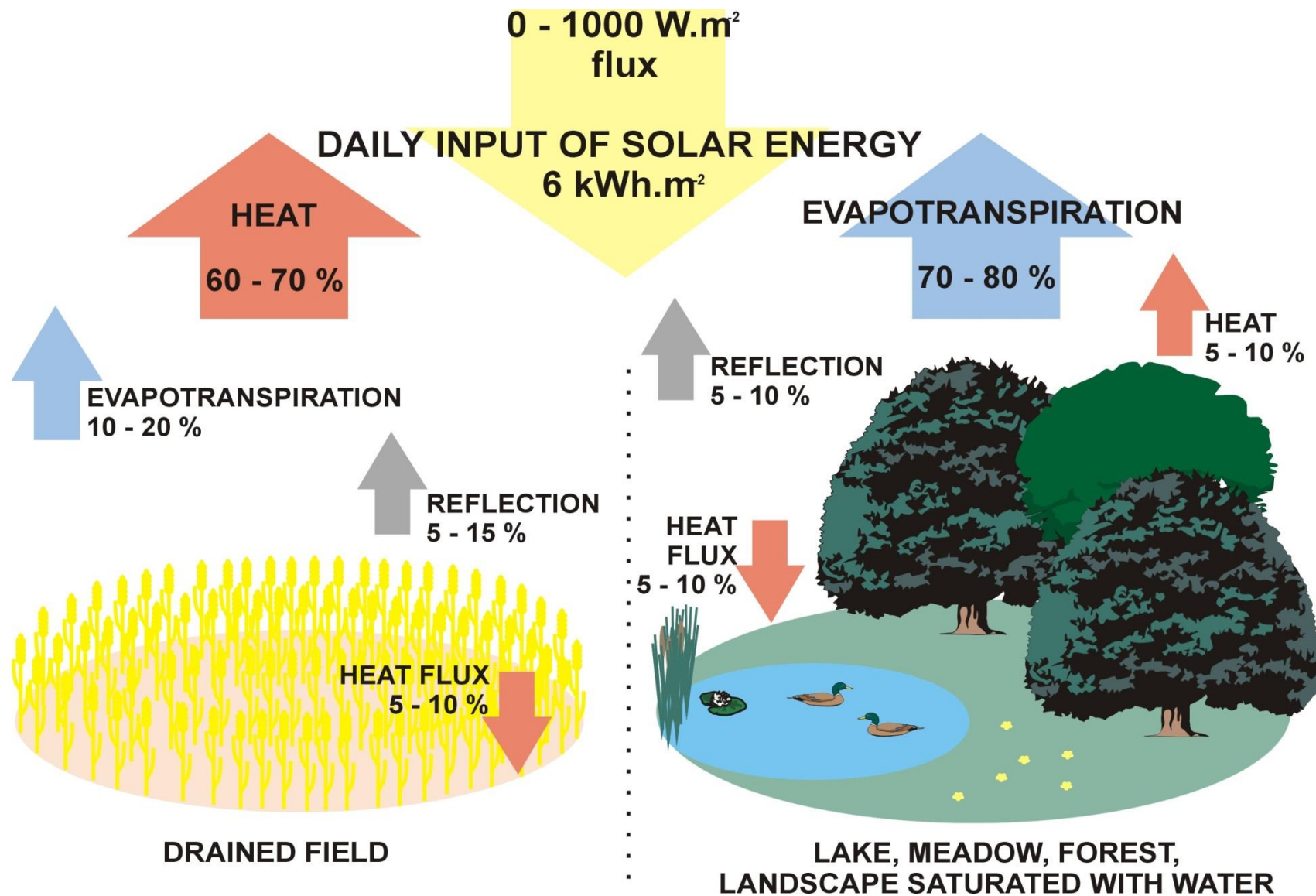
culture coenosis with
violent accelerated
matter losses



4 partial breakdown of water cycle,
areal loss of vegetation, transition
to next glaciation



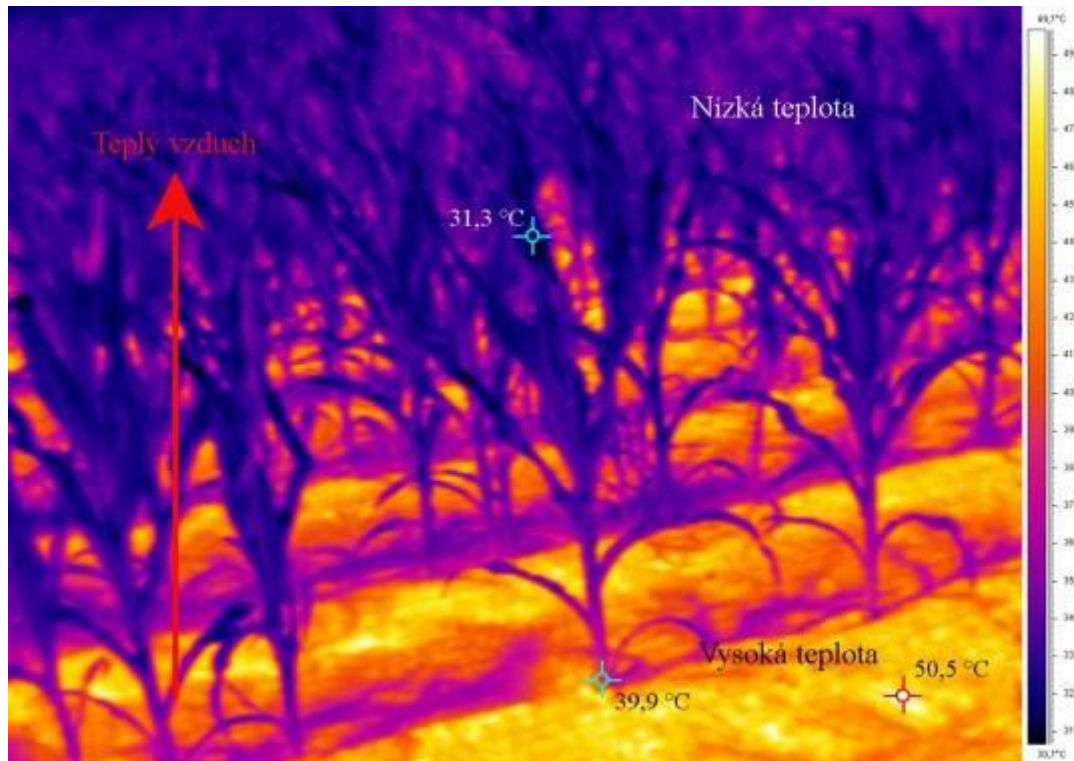
Dissipation of solar energy



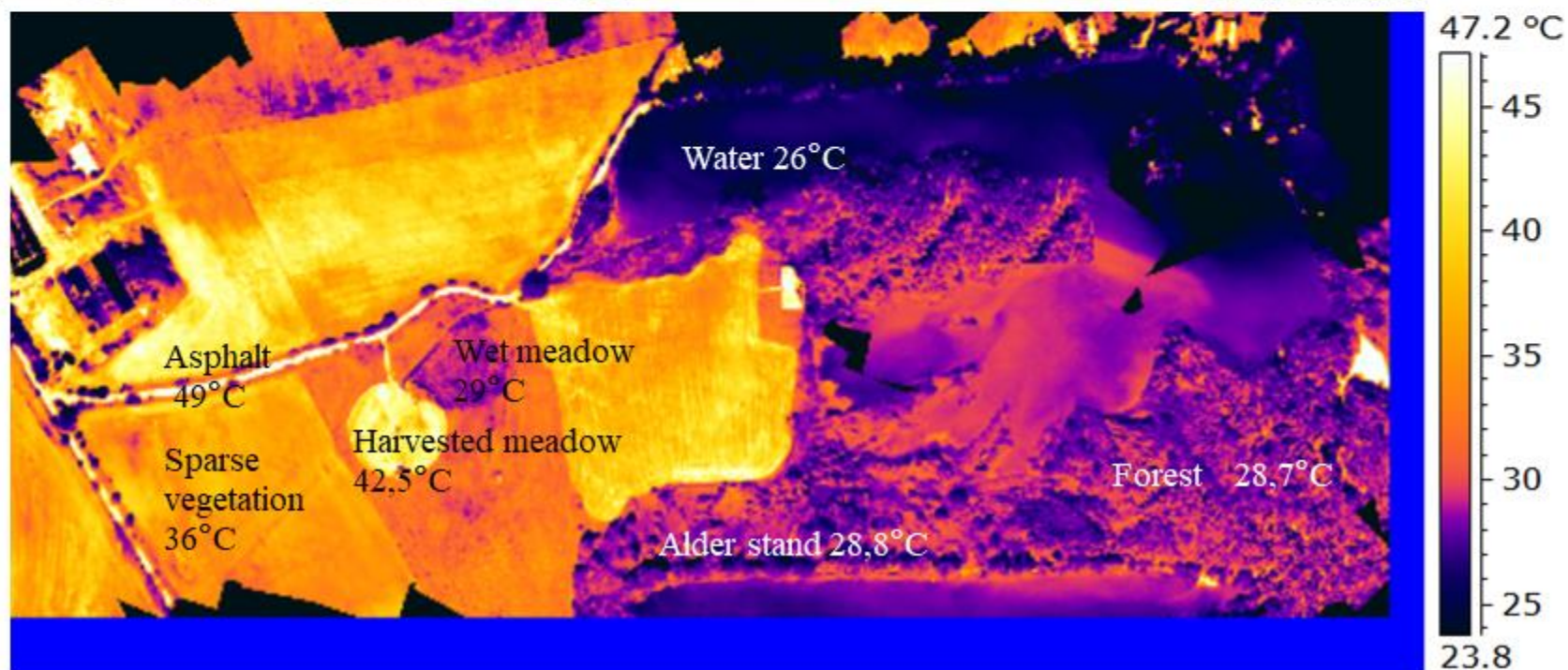
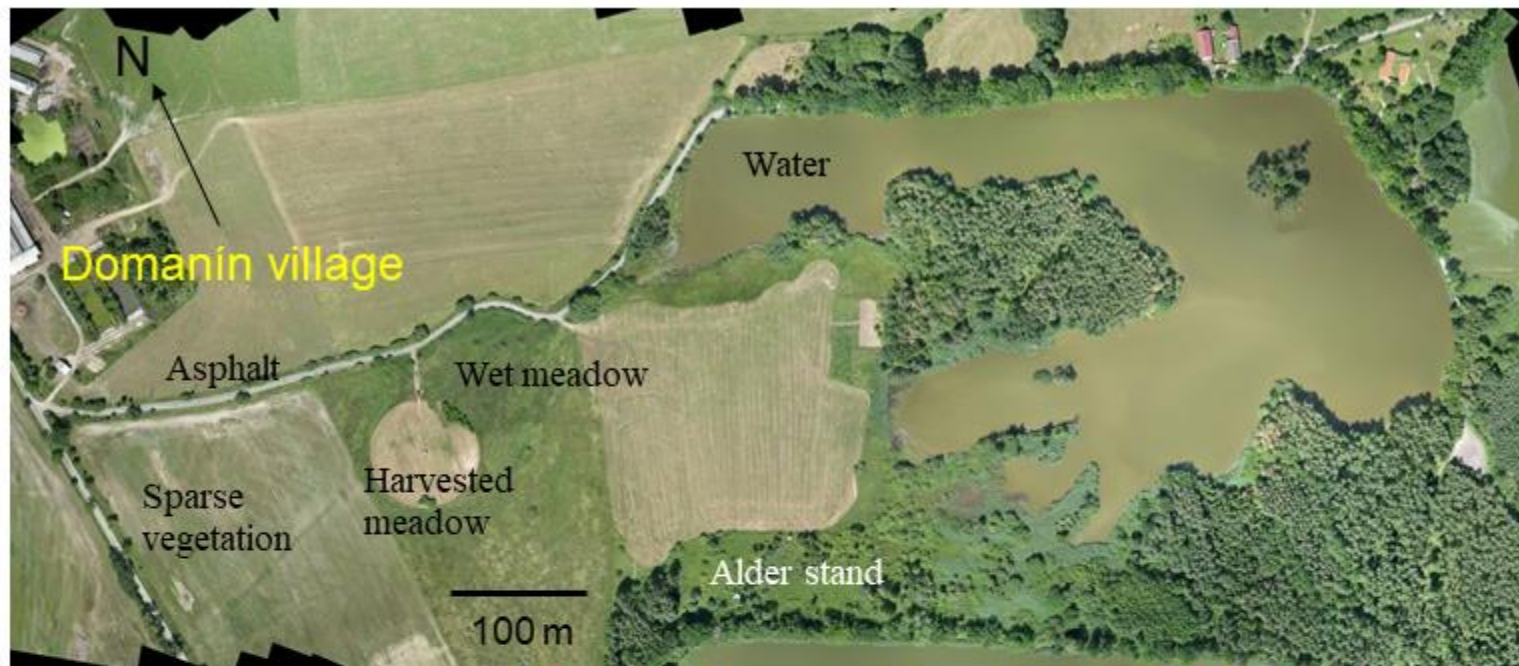
Maize field

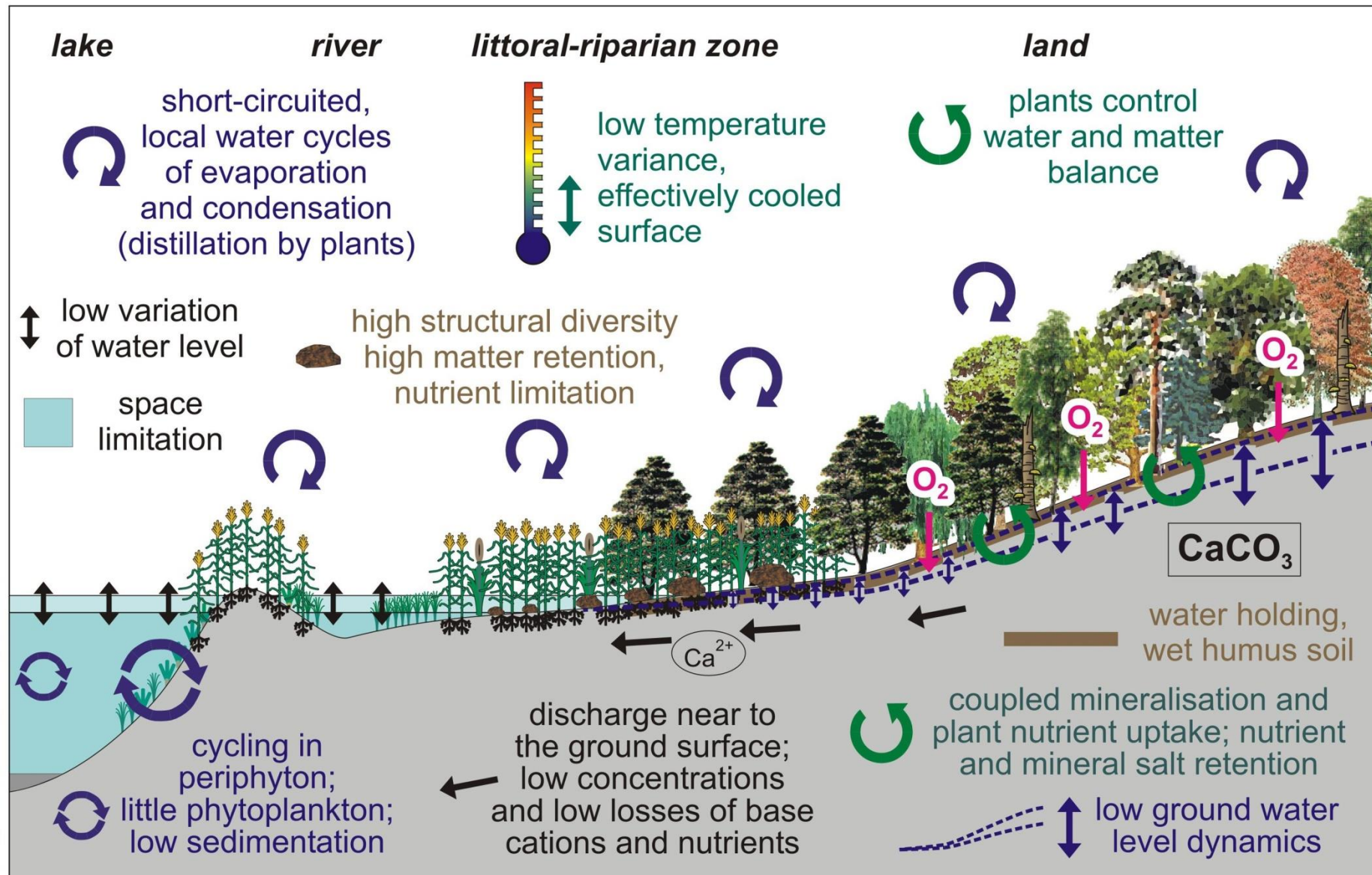
Bare land overheats; the hot air rises

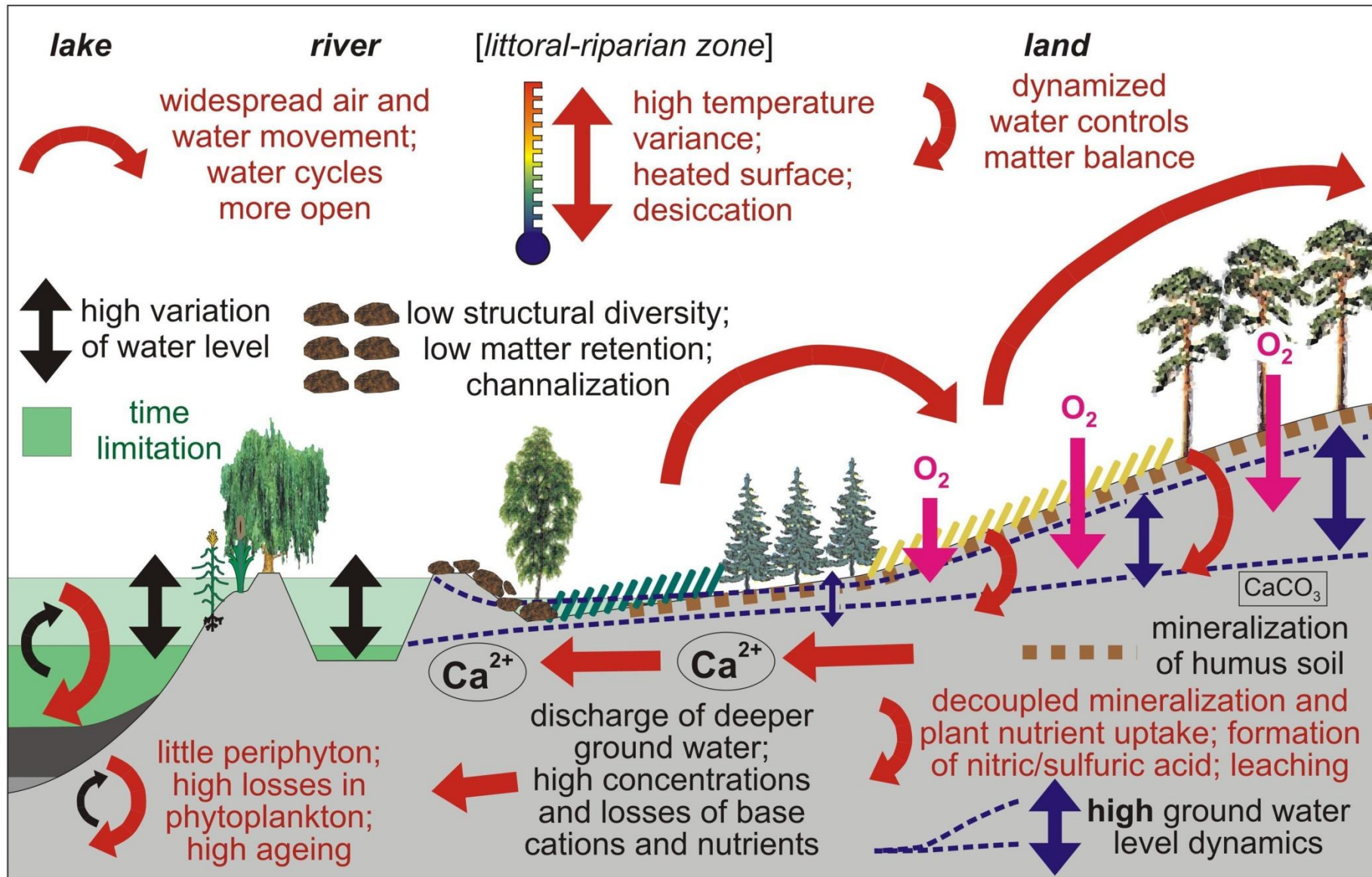
➡ **loss of water**



Thermovision camera







Loss of wetlands in the Czech Republic



**Springs – 90 % (1, 1 mil. ha)
drained**



Fens

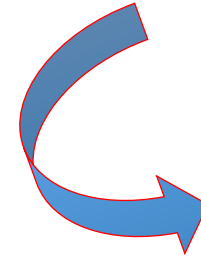


Streams and floodplains



Bogs

Waterlogged forests



**About 36 000 km of
streams (40 %) have been
regulated, the length of
streams decreased by 1/3;
groundwater level
decreased by 1 – 1.5 m**



Intensification of agriculture (Czech Republic)

Soil survey (1960-1972) revealed

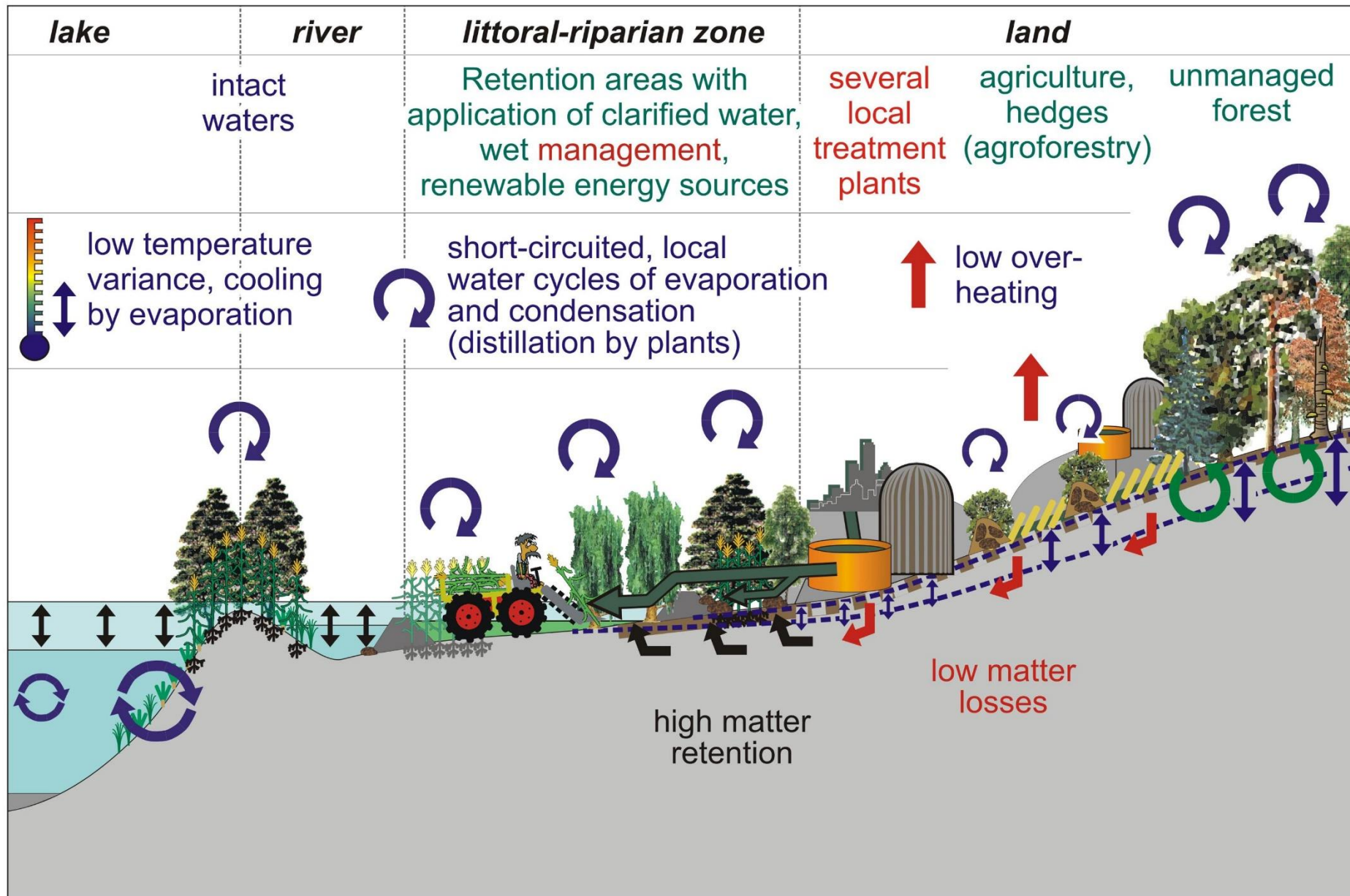
- **waterlogged: 843 781 ha**
(19 % of agricultural land)
- **drained: 1 084 000 ha**
(25,3 % of agricultural land), i.e. 14 %
of the country land area

Problems we are facing

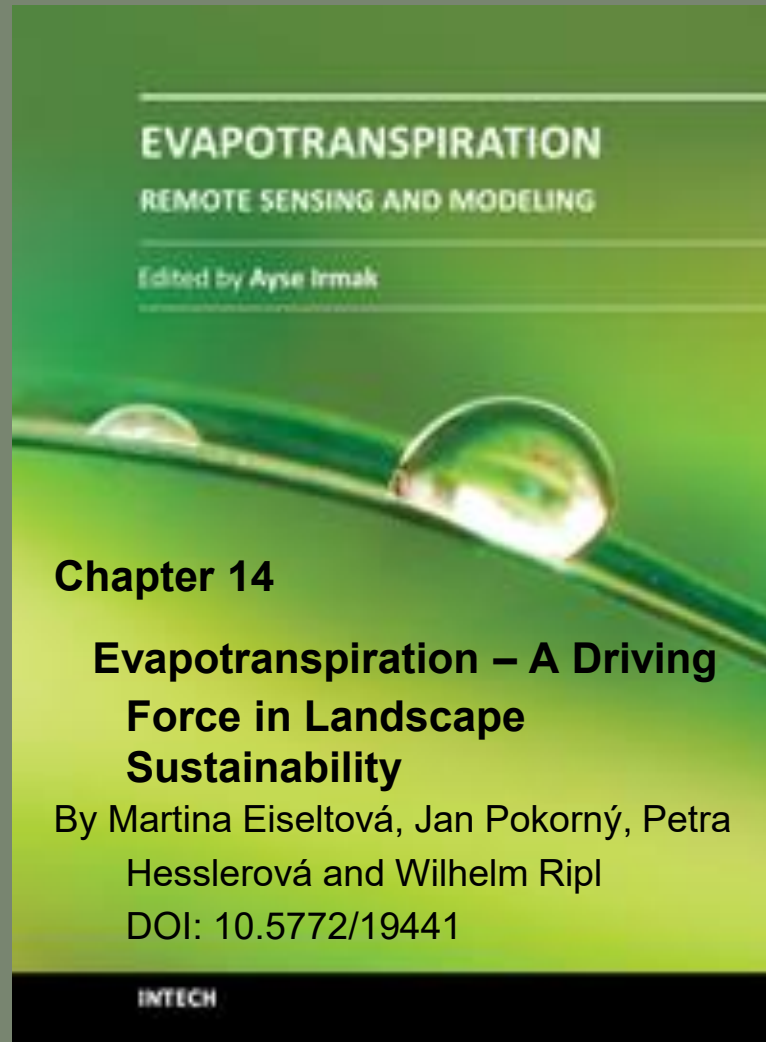
- **Water erosion**
- **Wind erosion**
- **Soil organic matter degradation**
- **Degradation of soil structure**
 - **soil compaction**
- **Reduced water retention capacity**
- **Transport of nutrients and pollutants to waters**

Source: VÚMOP; photo Jan Vopravil

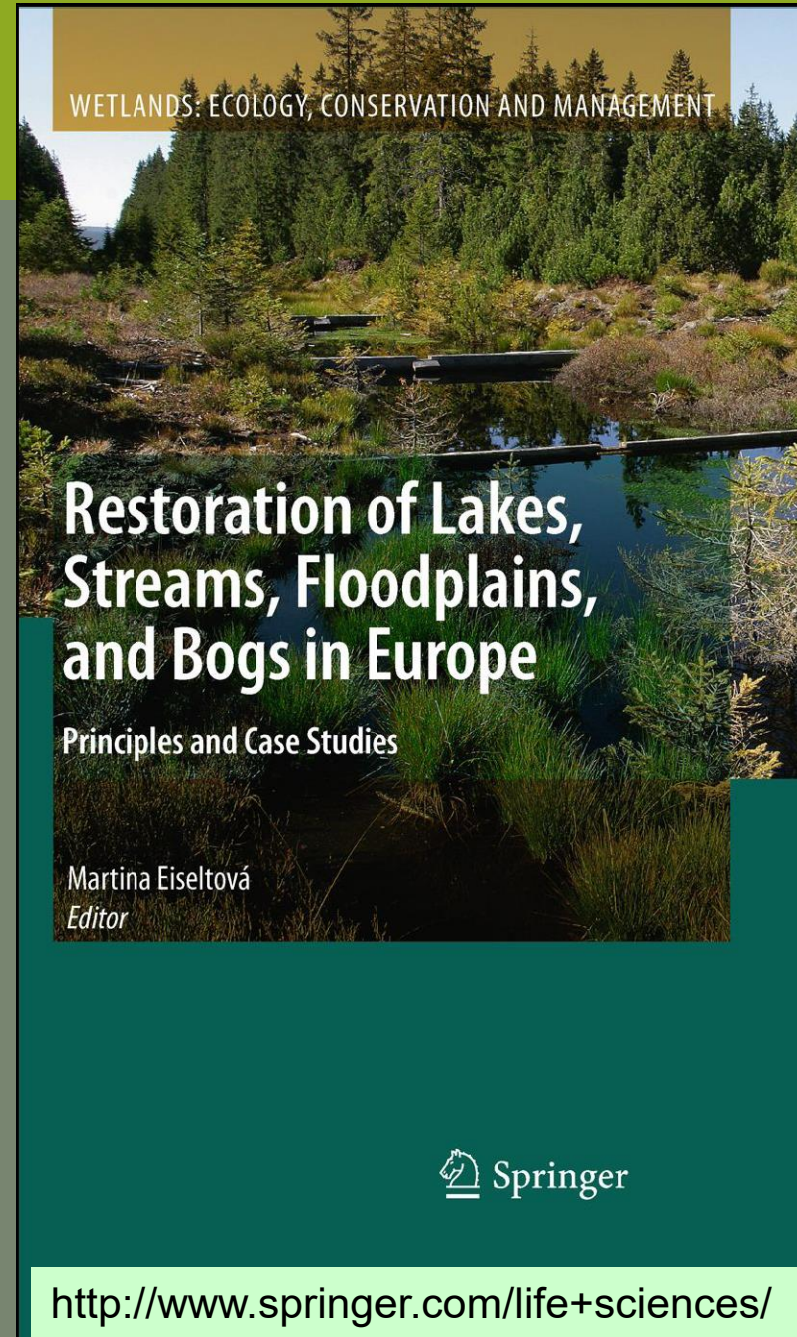




Publications



DOI: 10.5772/725

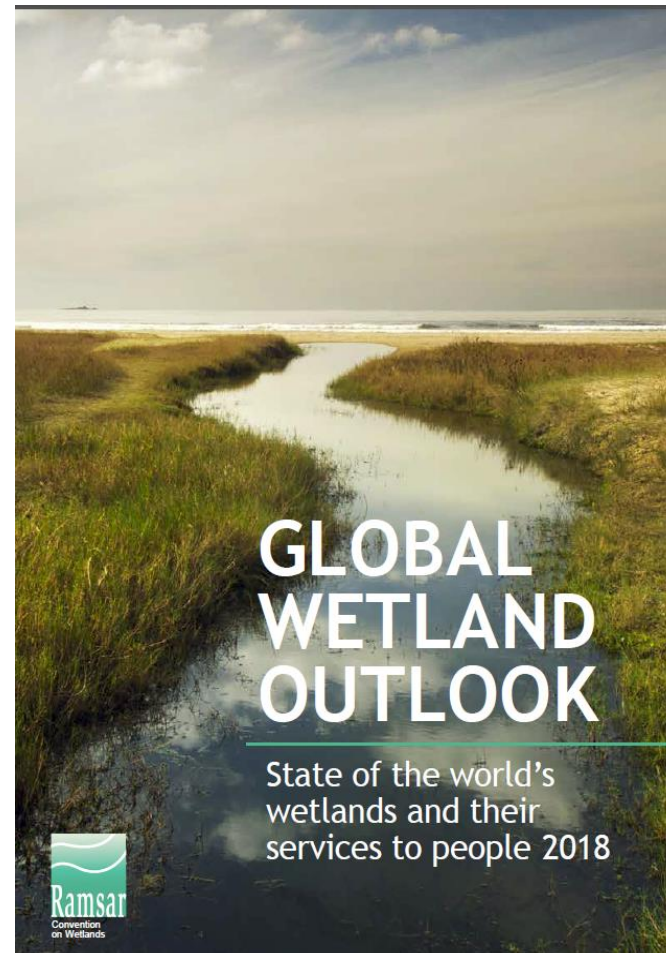




Convention on Wetlands

Worldwide up to 87% of
wetlands have been lost since
the year 1700

35 % wetlands were lost
between 1970 and 2015
(where data is available).





Convention on Wetlands and FAO (2025).
Agriculture and wetlands: maintaining and
restoring wetlands for sustainable food
production and ecosystem health.
Technical Report 13. Gland, Convention on
Wetlands. DOI: [10.69556/strp.tr13.25.eng](https://doi.org/10.69556/strp.tr13.25.eng)



Thank you for your
attention