



**University of Natural Resources
and Life Sciences, Vienna**
Department of Water, Atmosphere
and Environment

Department of Water, Atmosphere and Environment

Institute of Hydraulics and Rural Water Management

Loiskandl Willibald





BOKU main building:
A-1180 Vienna,
Gregor Mendel-Strasse 33

Introduction BOKU

Facts and Figures

Students: ~ 10.500

Scientific staff: ~ 960

Other staff: ~ 650

Teaching, research and administrative facilities are located throughout Vienna at 20 different sites. Most of them are in the green districts (18th and 19th district) and are easily accessible by public transportation.

Introduction BOKU



Department für Materialwissenschaften und Prozesstechnik
Department of Material Sciences and Process Engineering



Department für Biotechnologie
Department of Biotechnology



Department für Wasser - Atmosphäre - Umwelt
Department of Water, Atmosphere and Environment



Department für Chemie
Department of Chemistry



Department für Integrative Biologie
Integrative Biology



Department für Lebensmittelwissenschaften und Lebensmitteltechnologie
Department of Food Science and Technology



Department für Raum, Landschaft und Infrastruktur
Department of Spatial-, Landscape- and Infrastructure-Sciences



Department für Wirtschafts- und Sozialwissenschaften
Department of Economic and Social Sciences



Department für Nachhaltige Agrarsysteme
Department of Sustainable Agricultural Systems



Department für Bautechnik und Naturgefahren
Department of Structural Engineering and Natural Hazards



Department für Wald- und Bodenwissenschaften
Department of Forest- and Soil Sciences



Department für Angewandte Pflanzenwissenschaften und Pflanzenbiotechnologie
Department of Applied Plant Sciences and Plant Biotechnology



Department Interuniversitäres Forschungsinstitut für Agrarbiotechnologie Tulln
Institute for Agrobiotechnology



Center for NanoBiotechnology (CNB)



Department of Water – Atmosphere - Environment

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Universitaet fuer Bodenkultur Wien

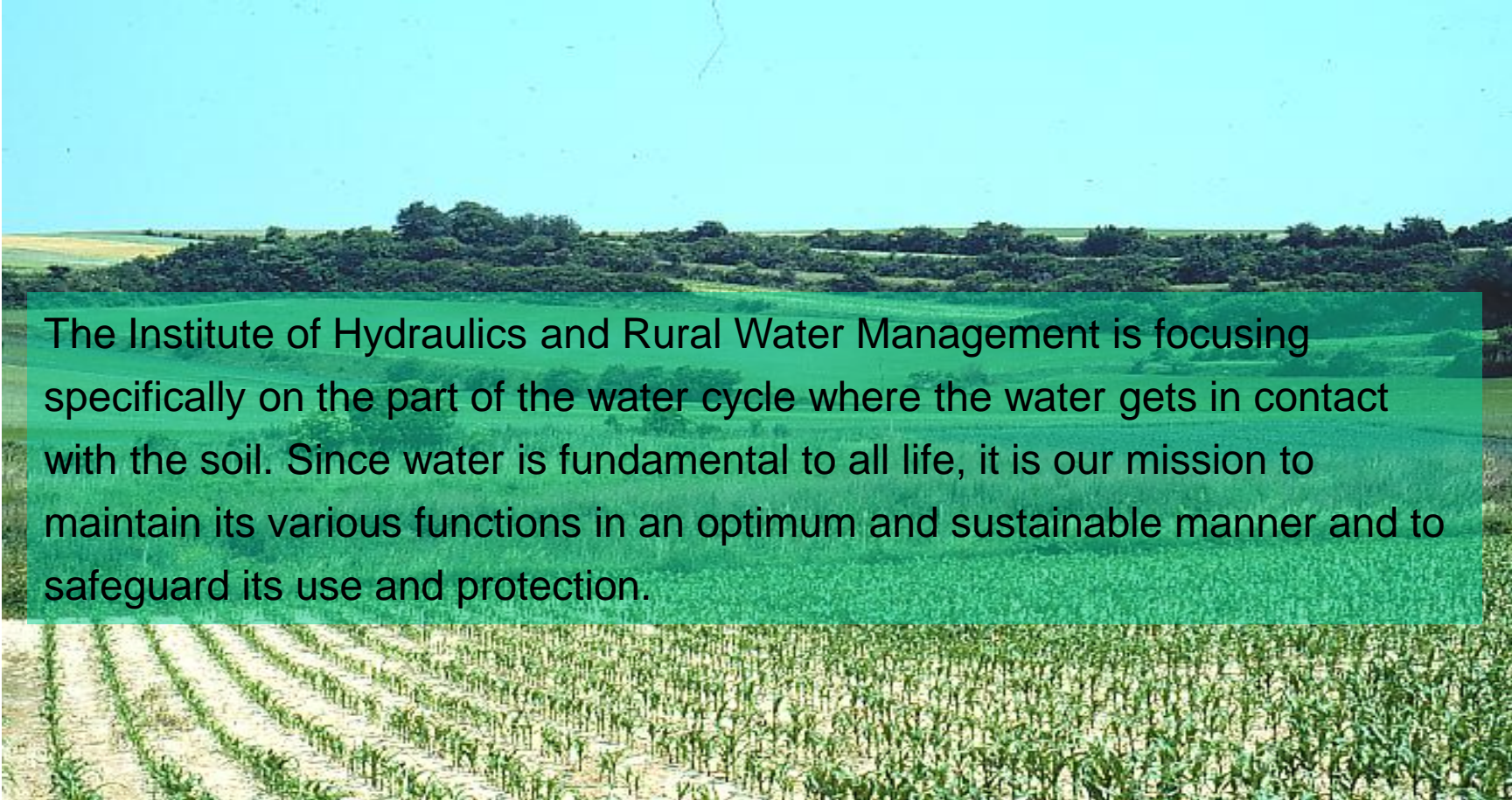
BOKU

(Emil Perels-Haus)



Muthgasse 18, 1190 Wien

- Institute of Sanitary Engineering and Water Pollution Control
- Institute of Hydrobiology and Aquatic Ecosystem Management
- Institute of Waste Management
- Institute of Meteorology
- Institute of Hydraulics and Rural Water Management
- Institute of Water Management, Hydrology and Hydraulic Engineering
- Workshops of the Hydraulic Engineering Institutes

The background image of the slide is a rural landscape. The top half shows a clear blue sky above a line of green trees. Below the trees is a large, vibrant green field. The bottom half of the image shows a close-up of a cornfield with rows of young green corn plants in a sandy soil.

The Institute of Hydraulics and Rural Water Management is focusing specifically on the part of the water cycle where the water gets in contact with the soil. Since water is fundamental to all life, it is our mission to maintain its various functions in an optimum and sustainable manner and to safeguard its use and protection.

Rural Water Management

Land management

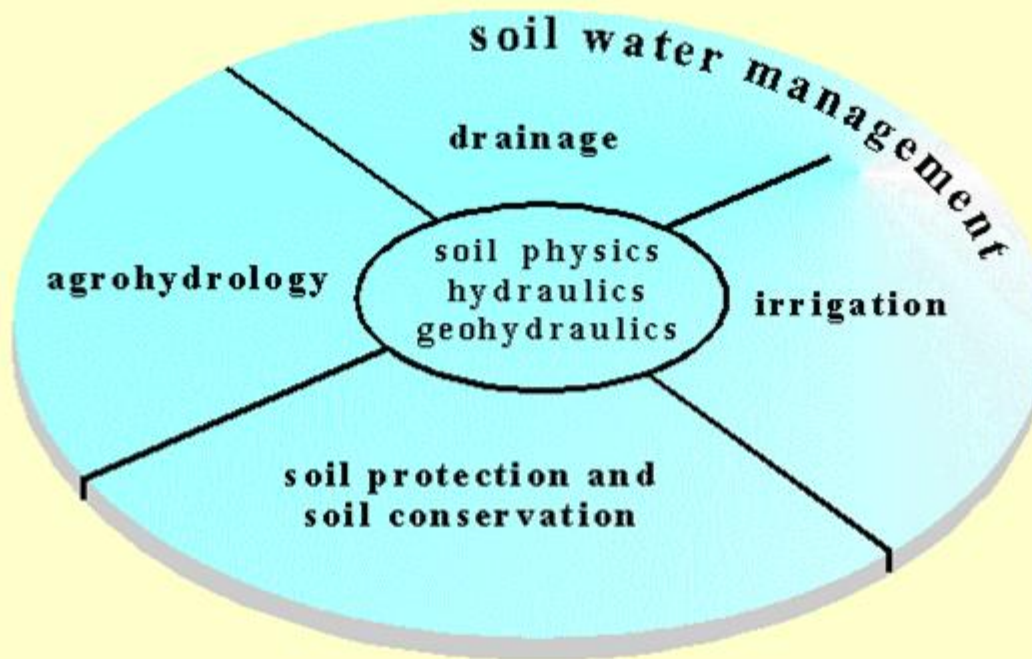
Every planning and activity to design and use given natural potential efficiently and to maintain vital life conditions sustainably.

Water resources management

Management of surface and groundwater resources

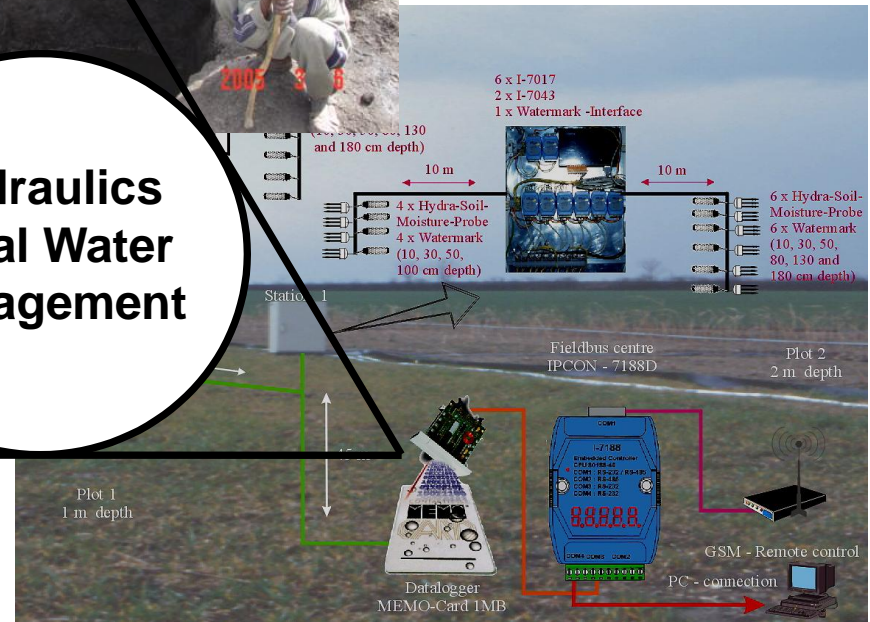


Tasks of the Institute of Hydraulics and Rural Water Management

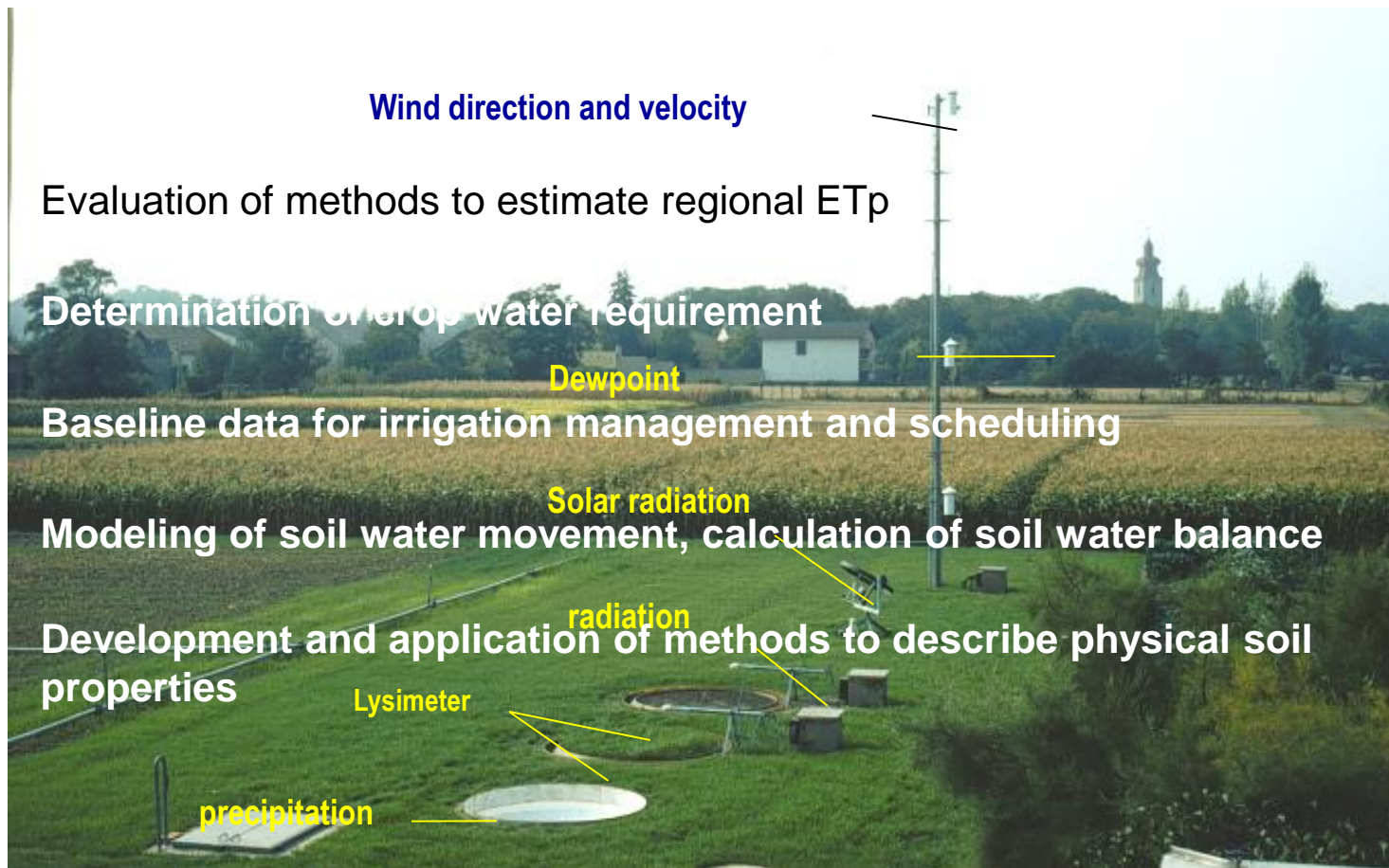




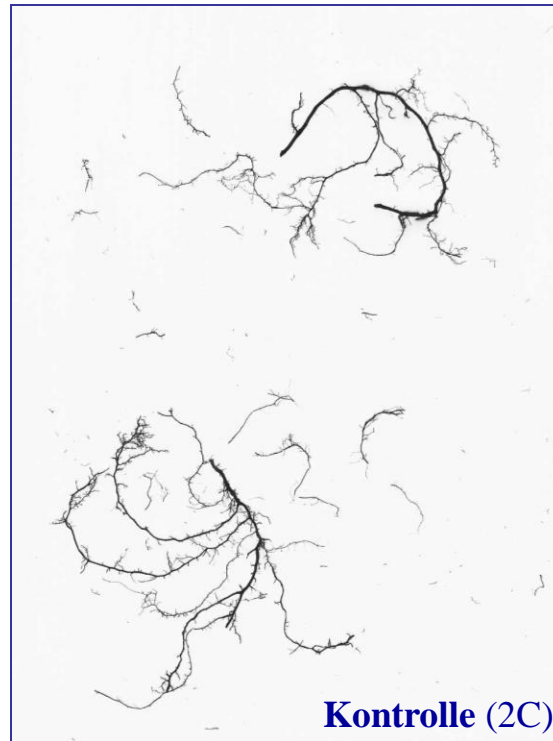
Hydraulics Rural Water Management



Soil-water-plant relationship



Rootmorphology: Imageanalyse WinRHIZO v.5.0 regulär



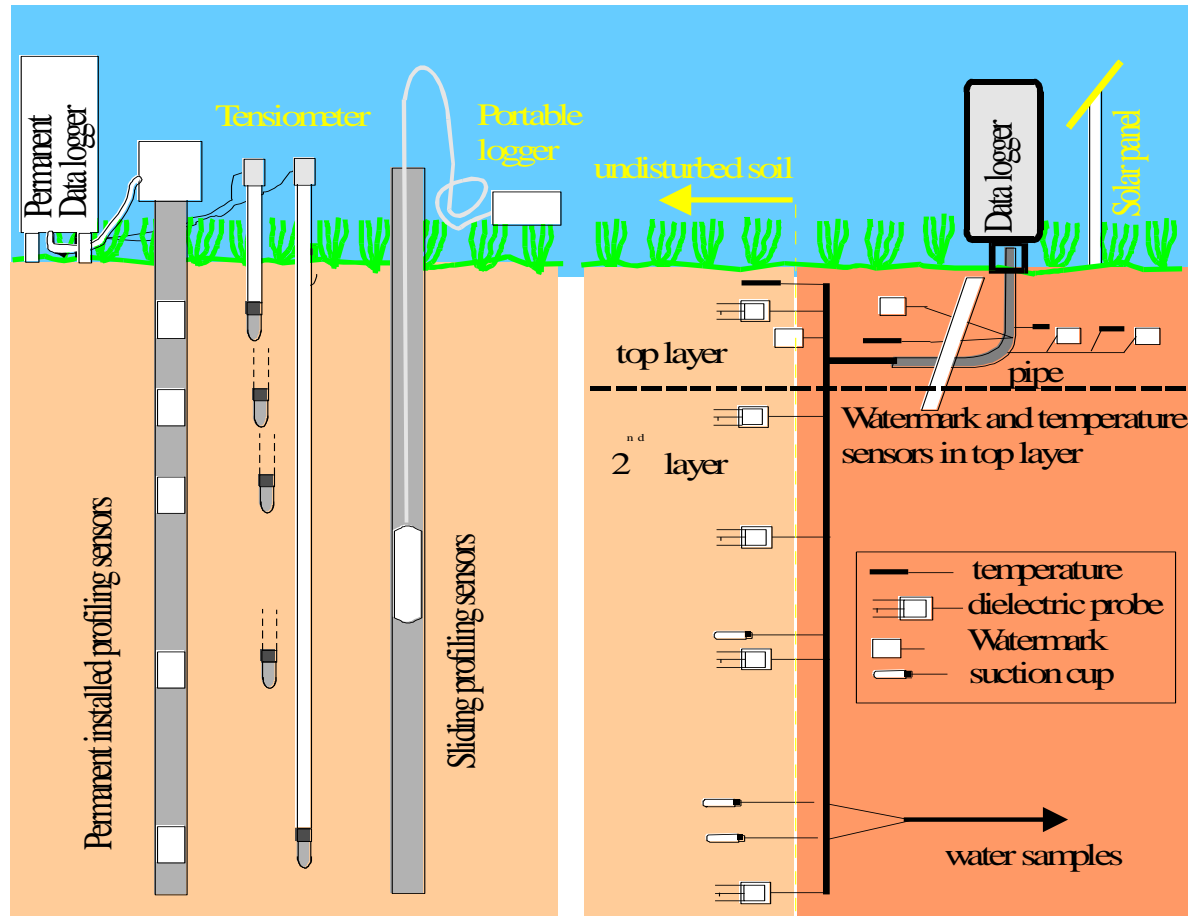
S. caprea, Projektende

Soil water balance

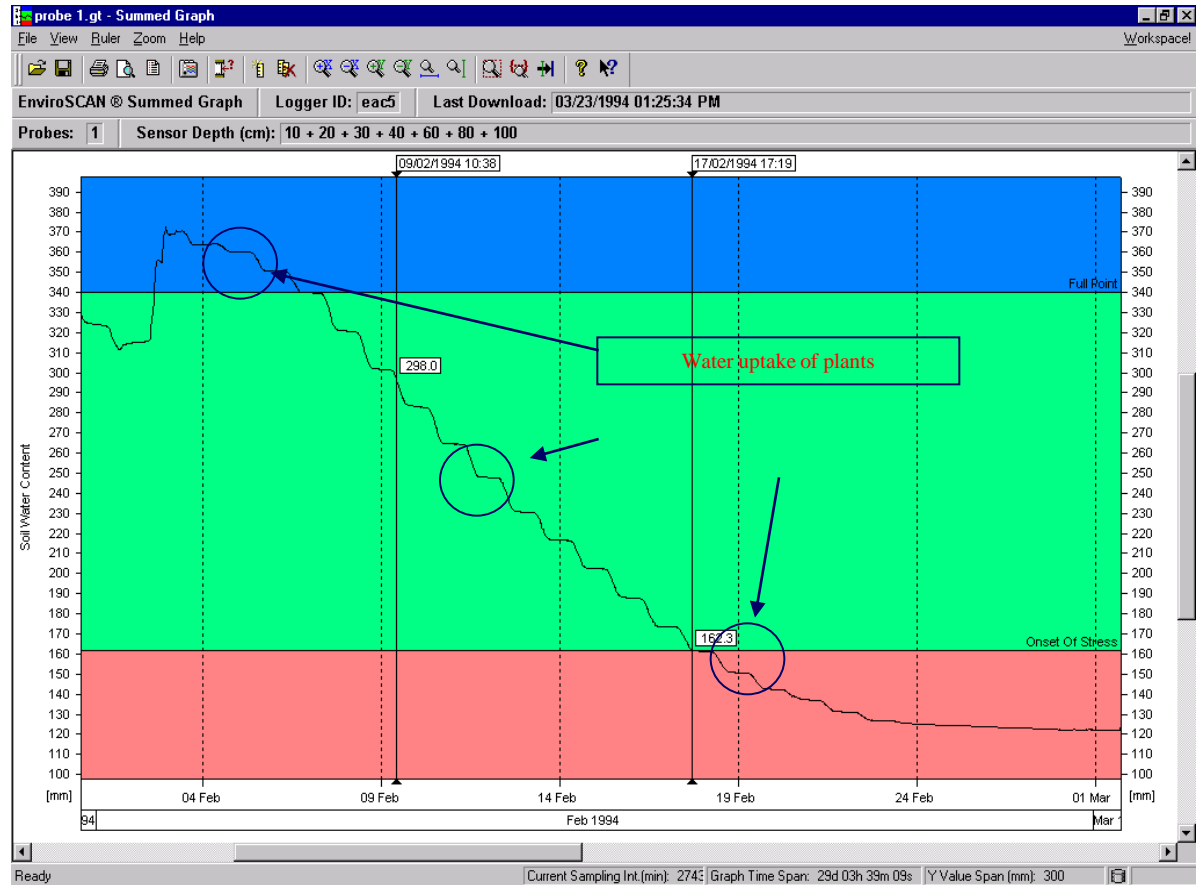


- Agriculture
- Organic Agriculture
- Waste disposal sites
- Flood plains
- land slides
- etc.

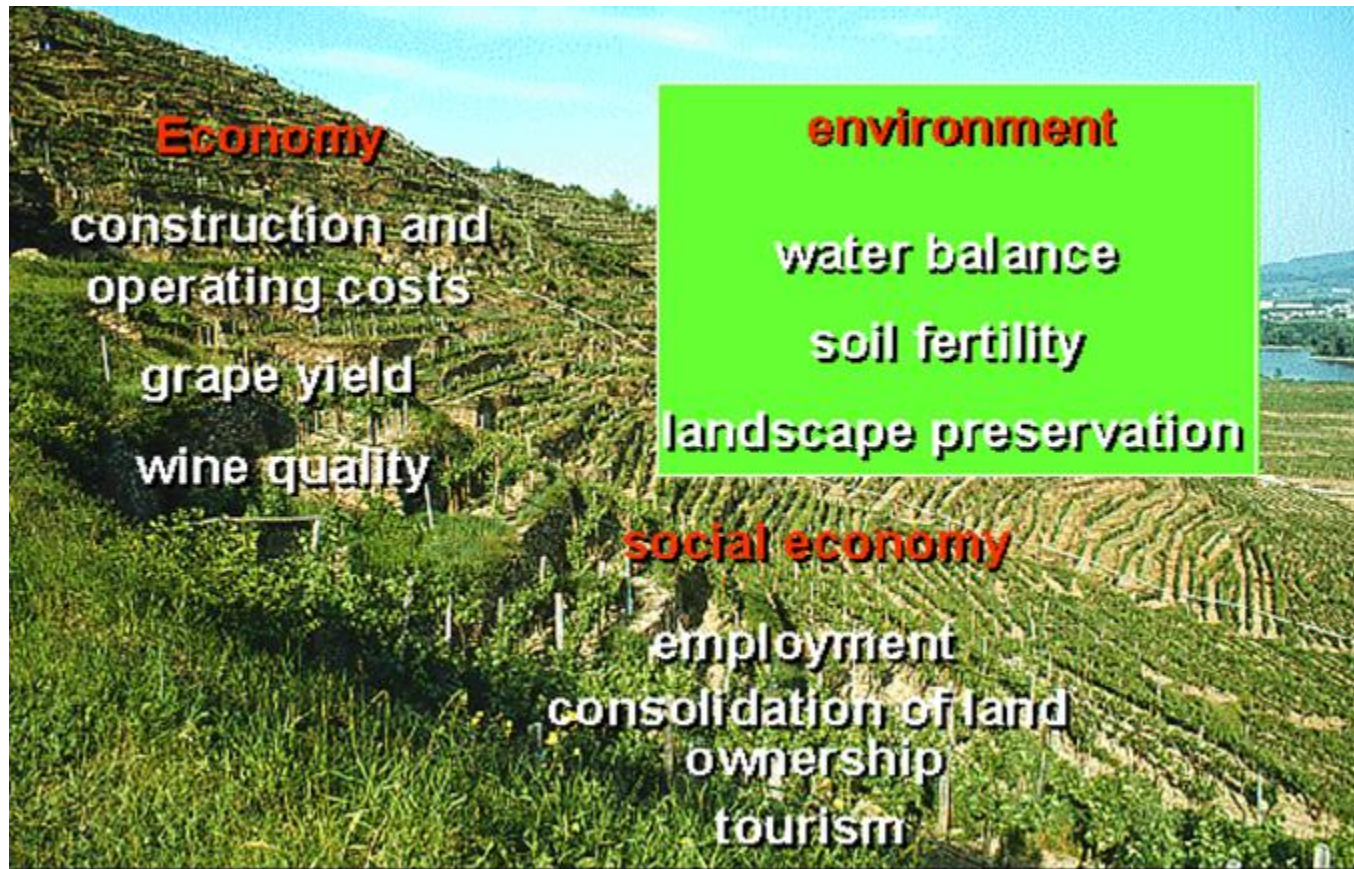




Irrigation management

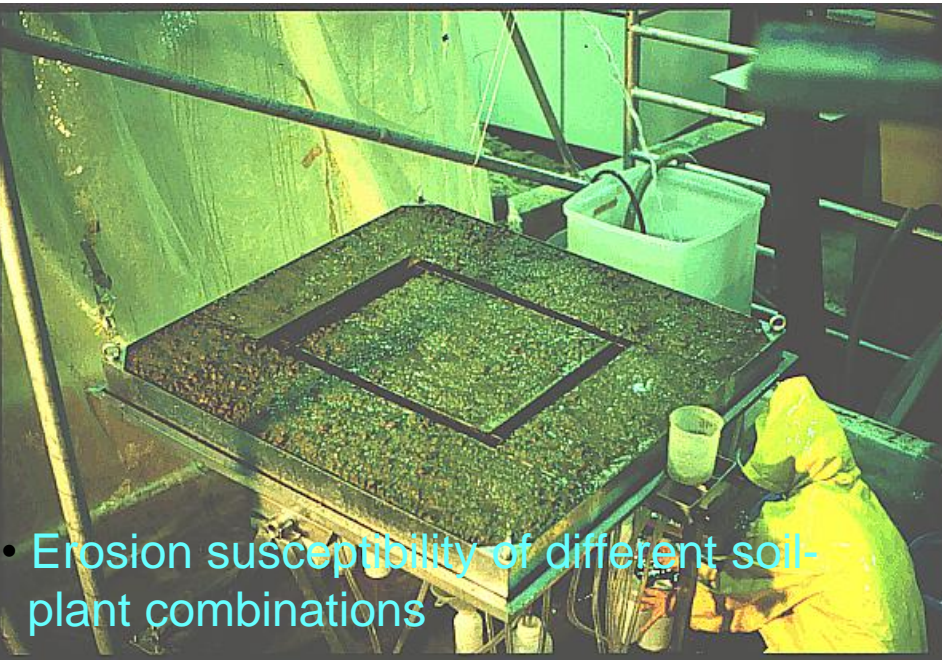


Economic Efficiency of Drip Irrigation in Terraced Vineyards in the Wachau Valley



Soil erosion research

- Investigation of fundamental soil erosion processes (lab and field)
- Determination of soil erodibility
- Transport mechanisms of pesticides

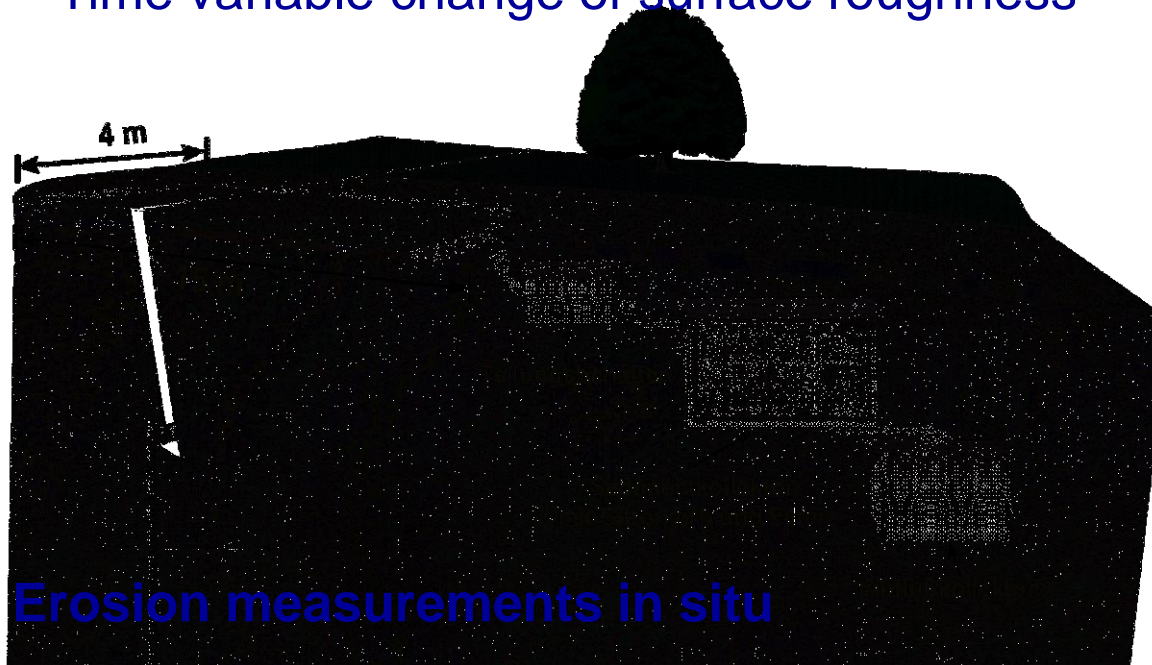


- Erosion susceptibility of different soil-plant combinations
- Efficiency of various soil protection measures
- Application and verification of numerical models



Soil erosion research

- Effect of tillage practises (run off, soil loss, fertilizer and pesticide transport)
- Crusting of soil surface
- Time variable change of surface roughness



Land use



Region
Neusiedlersee
Vineyard
Soil types
Tillage practises



Development Cooperation



Impact of Irrigation Development on Poverty and Environment

Contact

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Department für Wasser – Atmosphäre – Umwelt
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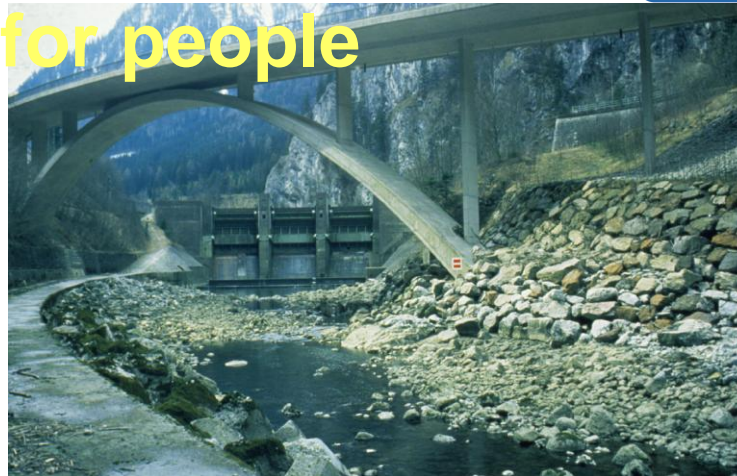
Thank you for your attention



Importance of water bodies



Danger for people



Endangered by people





Competence areas

- **Water in soil**
 - Soil-Water-Plant Relationship
 - Soil conservation, soil and groundwater protection
 - Rural water management in semiarid and arid areas
 - Field stations for monitoring soil physical data including development of sensors
 - Application of hydraulic and hydromechanical methods
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