Soil moisture in Pfynwald

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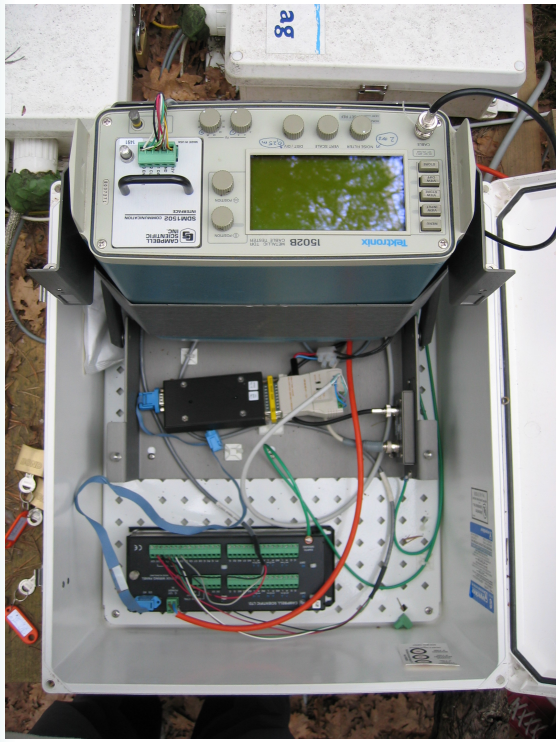
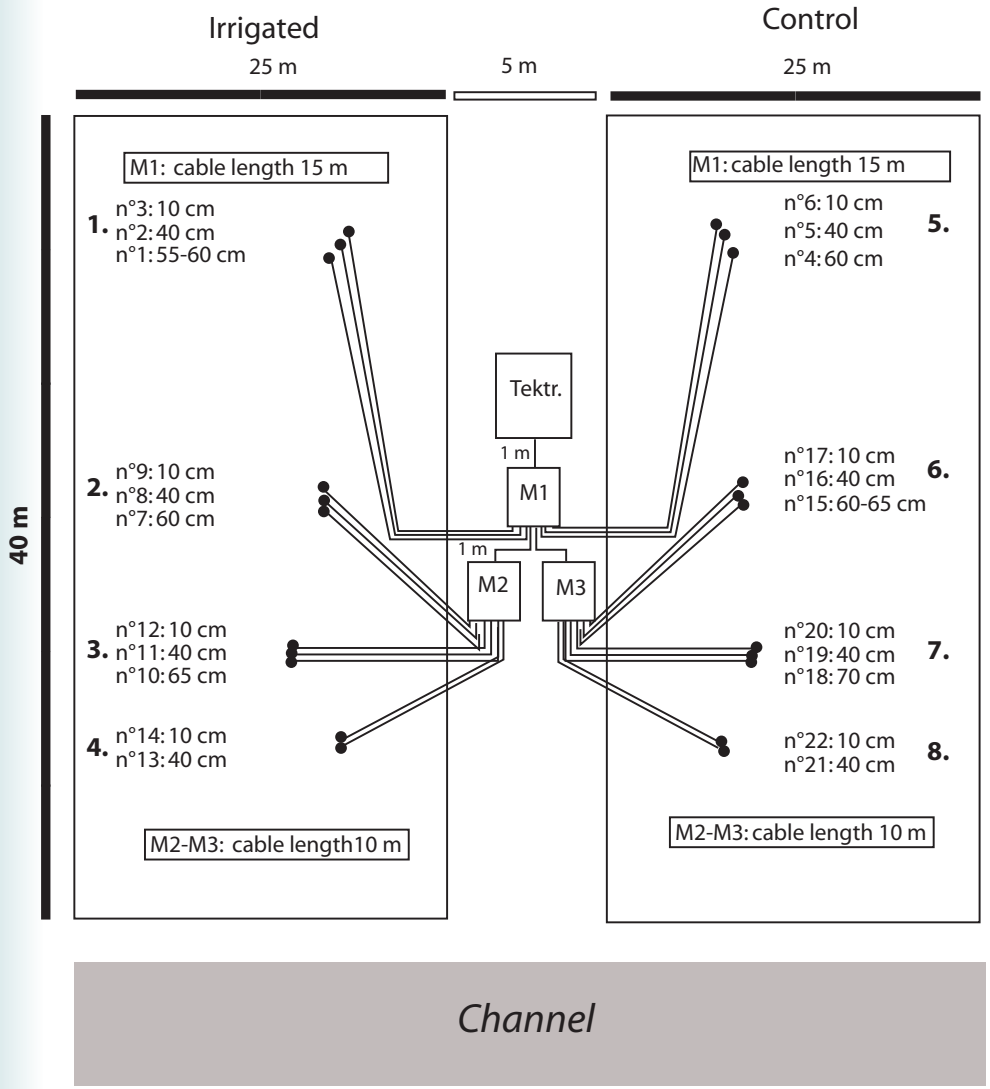
Objective: check the effect of irrigation on the soil moisture



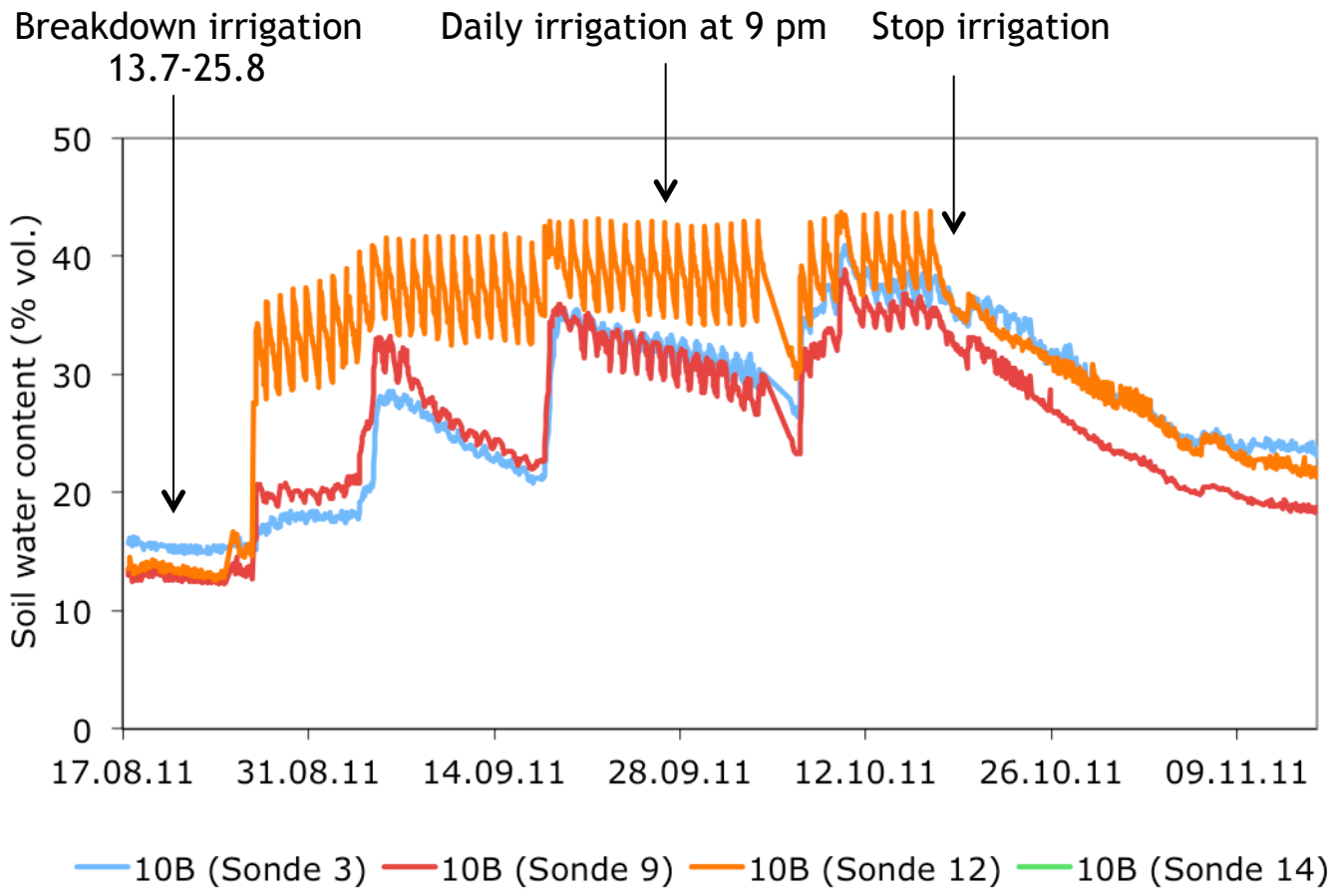
- Time Domain Reflectometry
- Sensors installed in rebuilt soil profiles in winter 2002
- Hourly measurement of volumetric soil water content

Measurement design

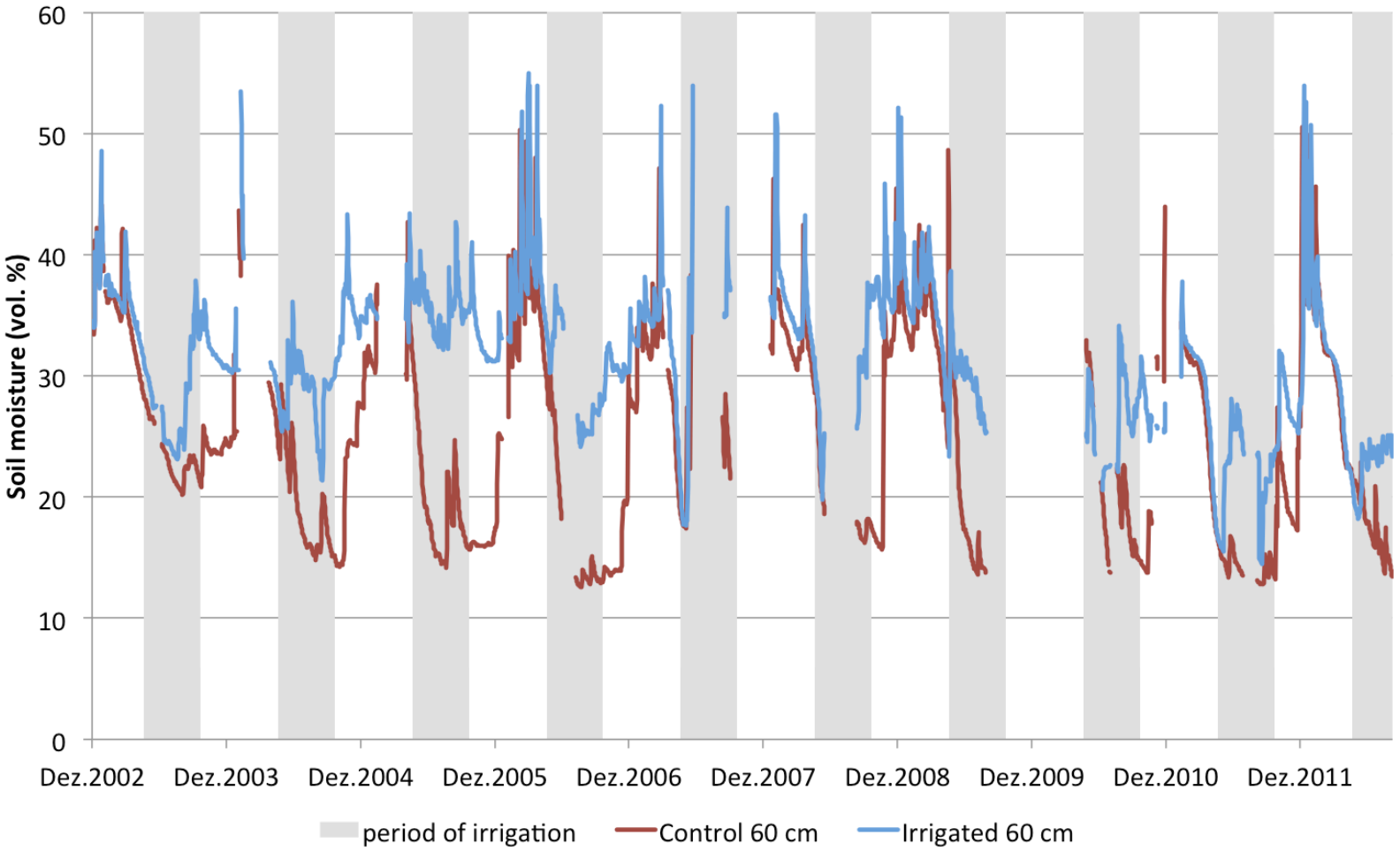


- 1 irrigated plot, 1 control plot
- 3 depths: 10, 40, 60 cm
- 4 replicates per depth (except 60 cm, n=3)

Control of daily irrigation (e.g. 10 cm)

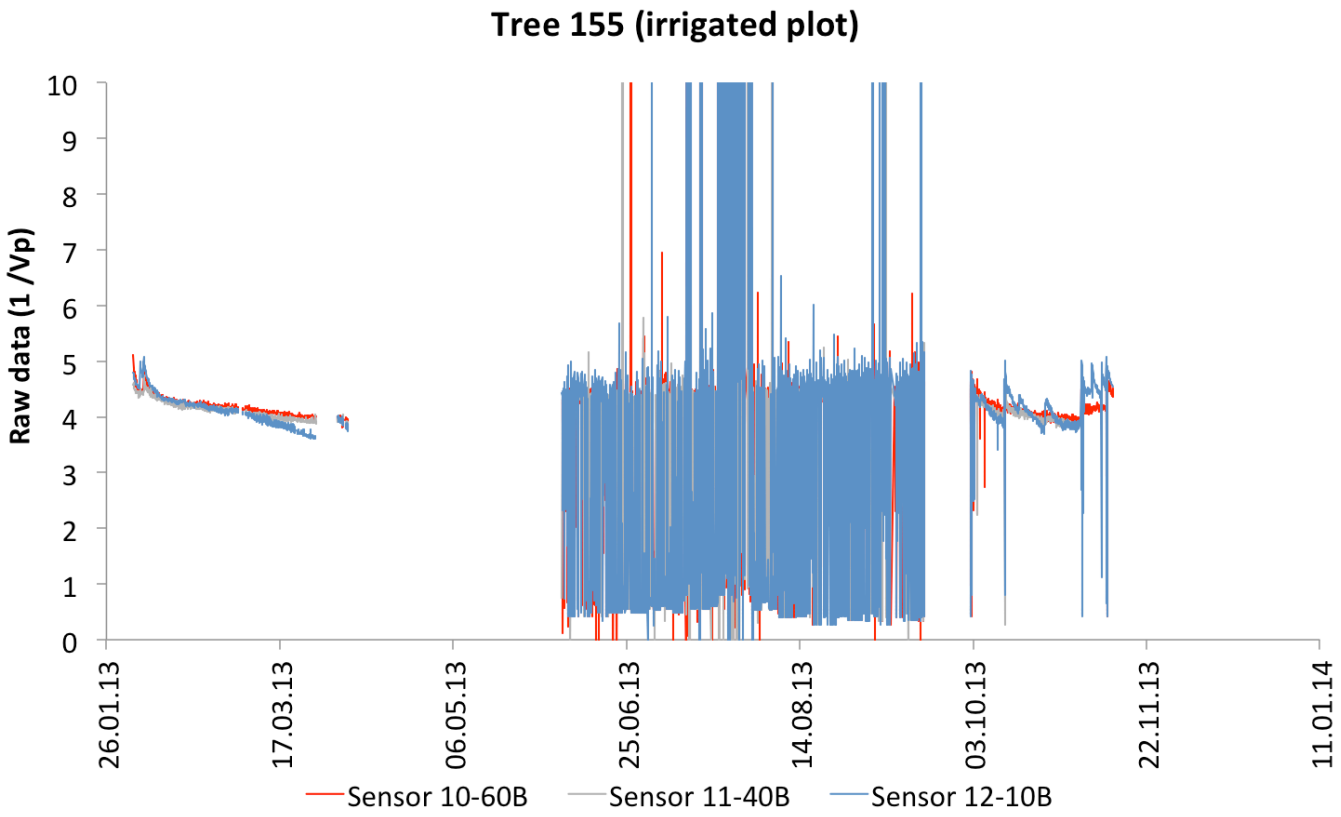


Soil water content at 60 cm (2002-2012)



- Difference in SWC between irrigated and control plots during irrigation periods
- Similar SWC in irrigated and control plots in winter and spring
- Soil compaction, especially at 10 cm depth
- Many breakdowns (frequent defective RAM and interface RS232)

Since June 2013: erroneous measurements



- Data 2013 are not usable (data 2002-2012 available in FileMaker DB)
- Measurement system must be replaced in spring 2014:
  use small and cheap sensors, use more replicates, measure water content and matrix potential, wireless system?
- Elisabeth is looking for someone who takes over

Soil water content at 10 cm (2002-2012)