

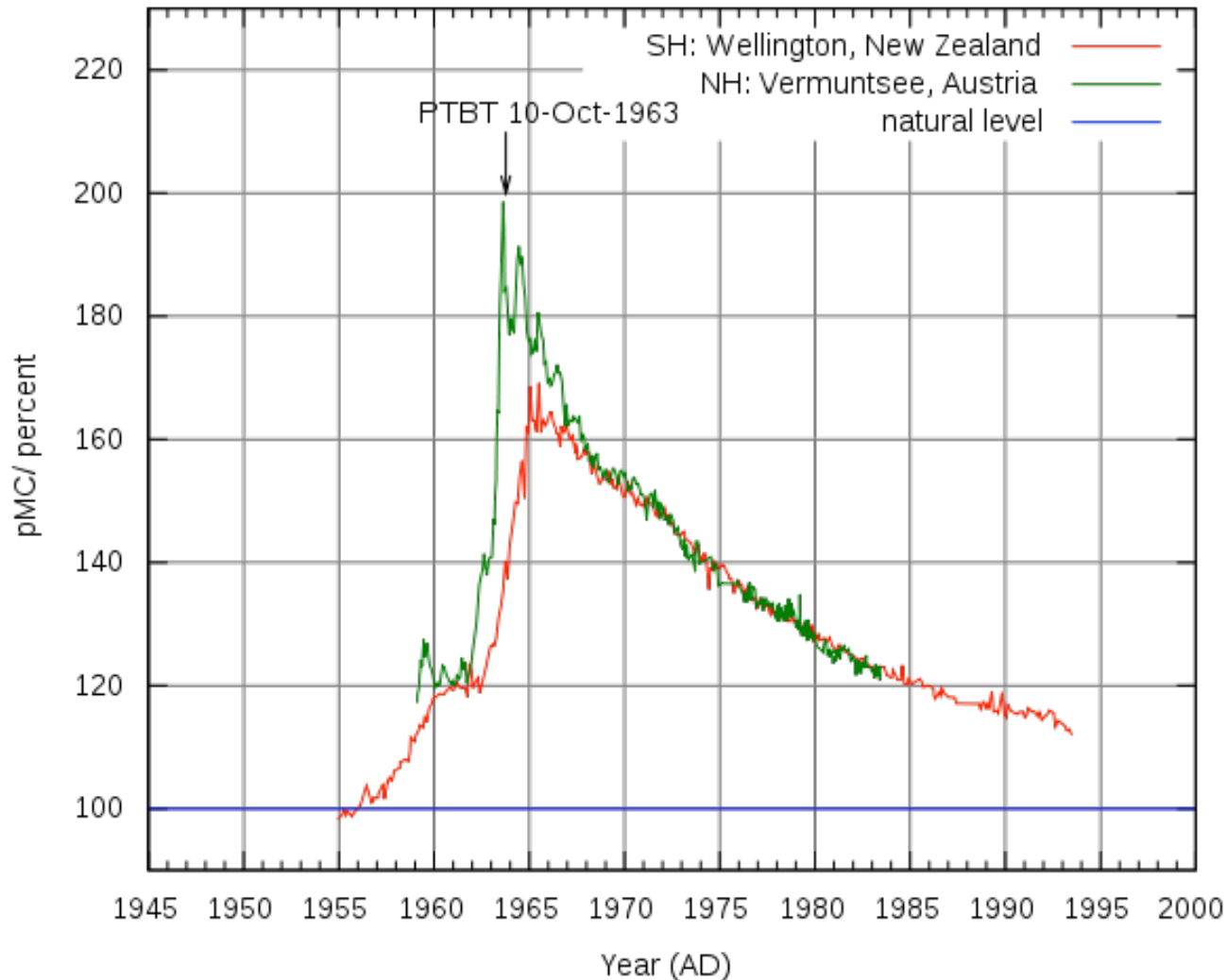
# The dynamics of carbon storage and remobilization in trees as affected by drought – a $^{14}\text{C}$ approach

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# The $^{14}\text{C}$ 'bomb spike' approach



# Questions



Do trees mobilize old C storage when they get into water stress conditions?



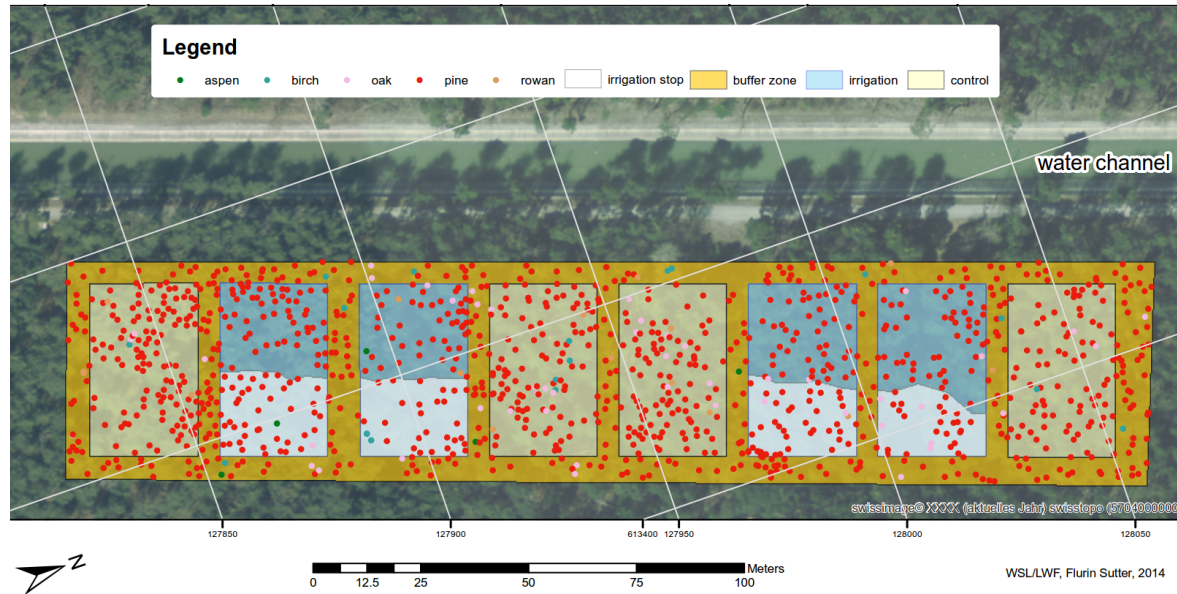
Are C pools younger in stressed trees due to higher use and turnover?



Is the age of the cellulose much higher than counts in tree rings of stressed trees?

# Pfynwald irrigation experiment

## Tree selection for sampling



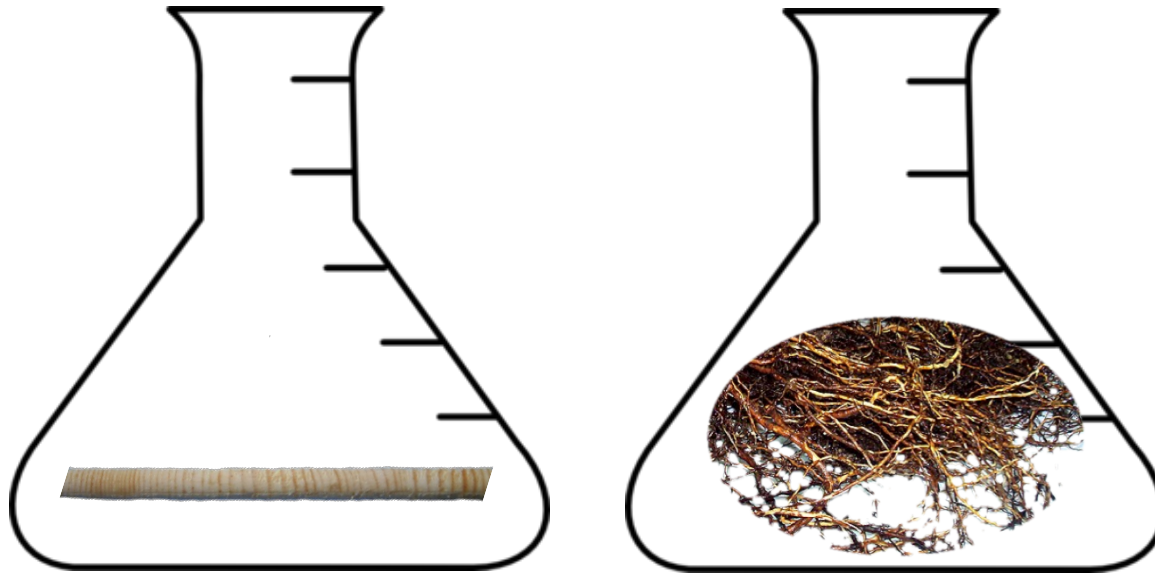
6 trees per treatment with average % crown transparency in 2003

CONTROL		IRRIGATION		STOP IRRIGATION	
2003	2013	2003	2013	2003	2013
28.33±5.16	34.1±7.36	30.00±7.07	20.00±4.47	28.33±7.52	20.83±4.91

# Planned measurements and timing

CO<sub>2</sub> release (incubation) in stems and roots

End July 2014



# Planned measurements and timing

CO<sub>2</sub> release (incubation) in stems and roots  
End July 2014



C pools (NSC & lipids) in stem cores  
Before bud break 2015

Cellulose in tree rings  
Before bud break 2015



Major sinks

Trunk  
respiration  
??

Cellulose in  
seeds  
End 2015

Cellulose in fine  
roots  
End 2015



# Planned measurements and timing

Cellulose in fine roots – Ingrowth cores inserted in June 2014  
End 2015







**Merci vielmal !!!**