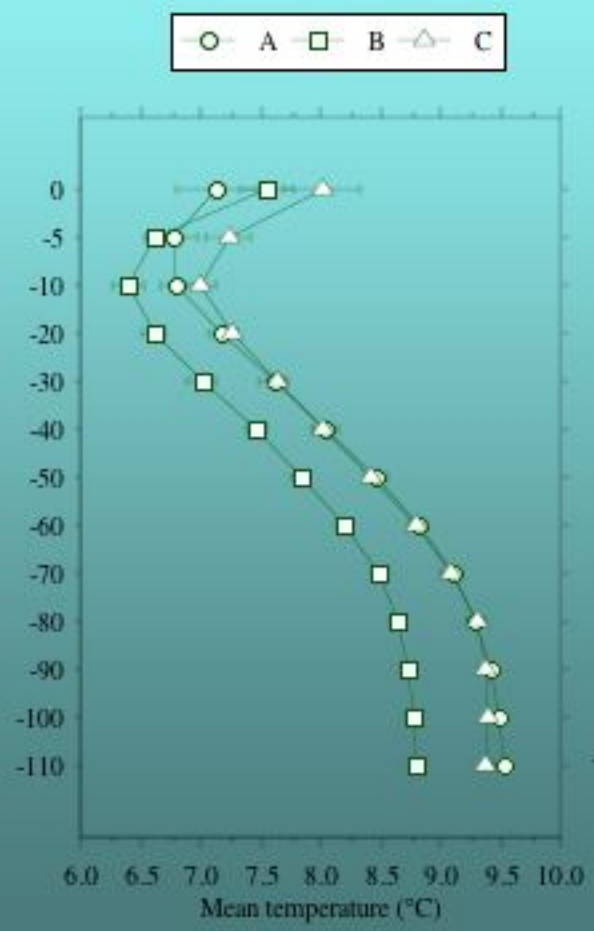
Preliminary results

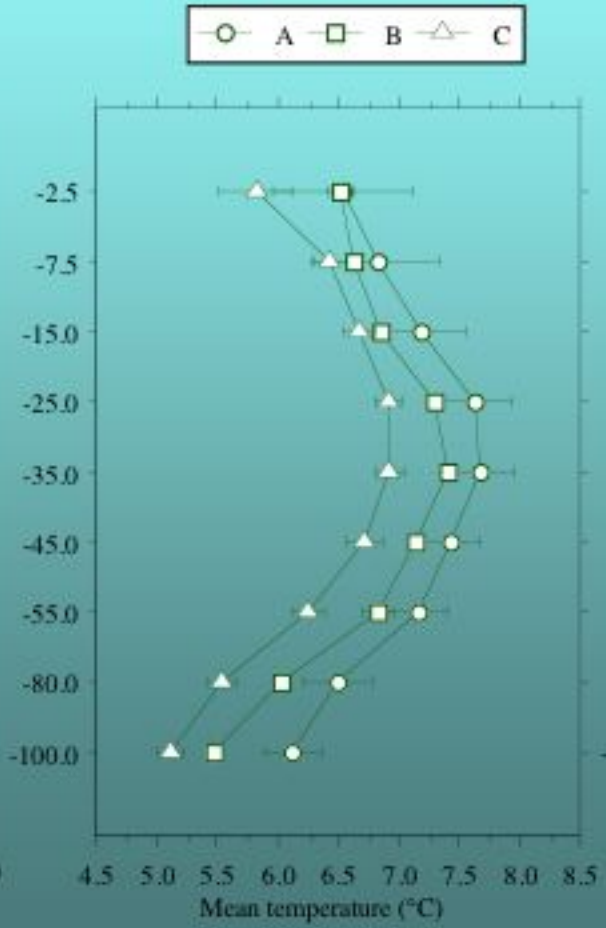
WSL/EPFL/UFC

RECIPE meeting in Baupte 2004

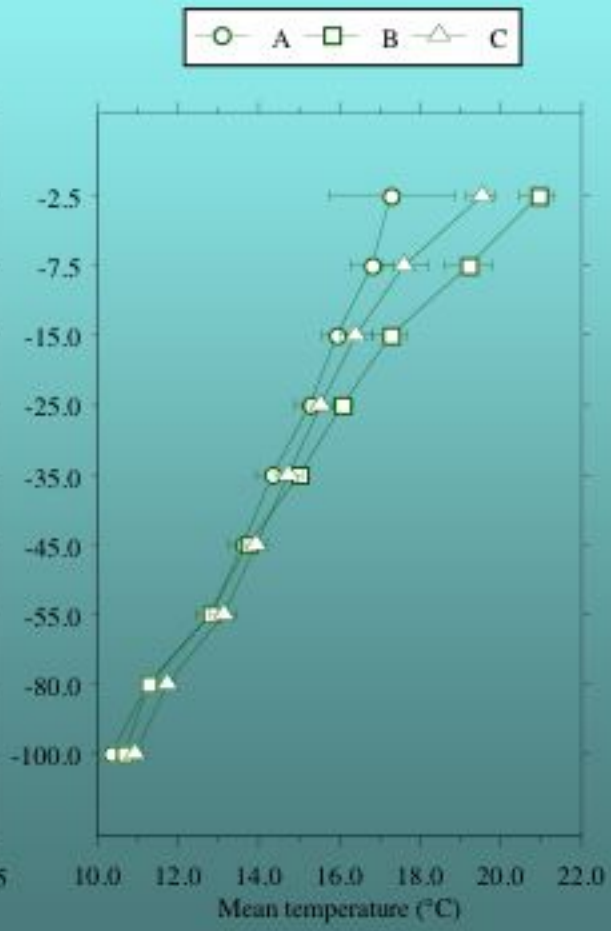
Temperature profiles (CH)



Autumn '03

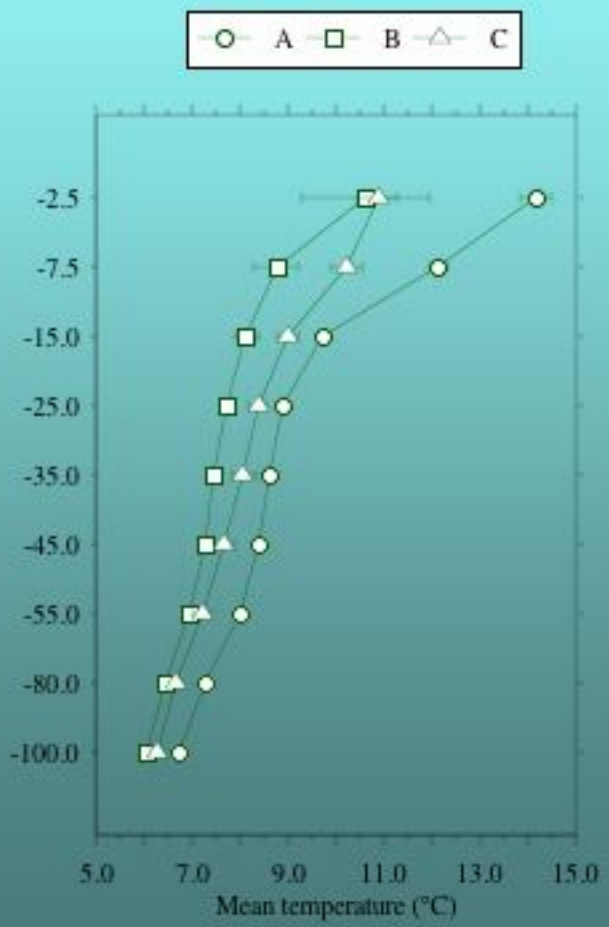


Spring '04

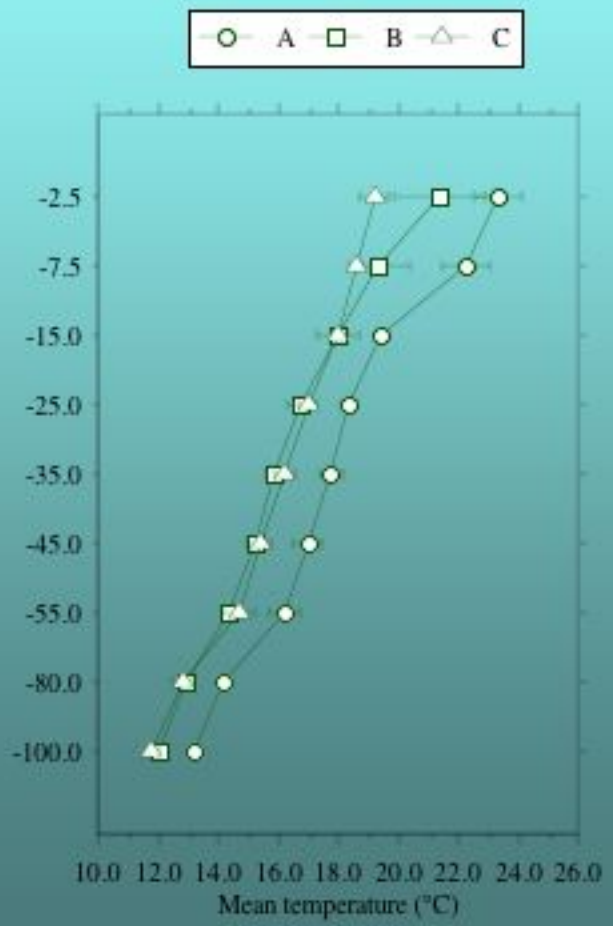


Summer '04

Temperature profiles (FR)



Spring '04

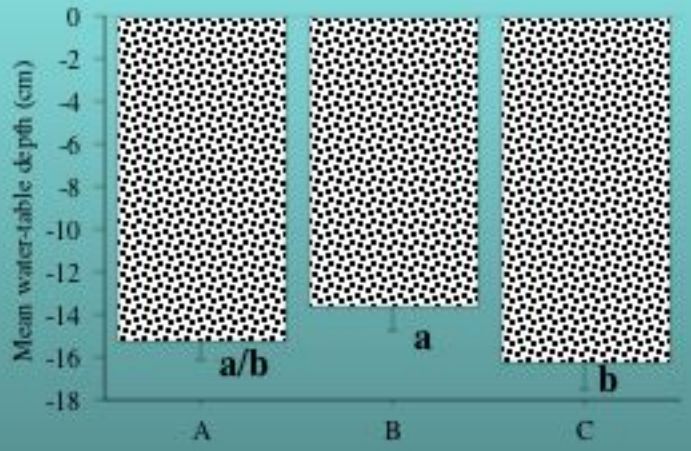


Summer '04

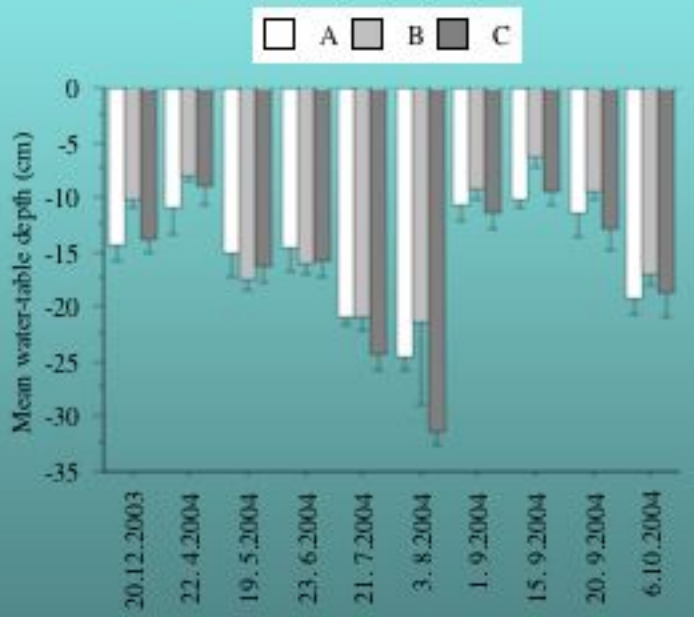
Water-table in WPI (CH)

Differences among sites:

A = "early stage"
B = "intermediate stage"
C = "Advanced stage"



Differences among sites and through time



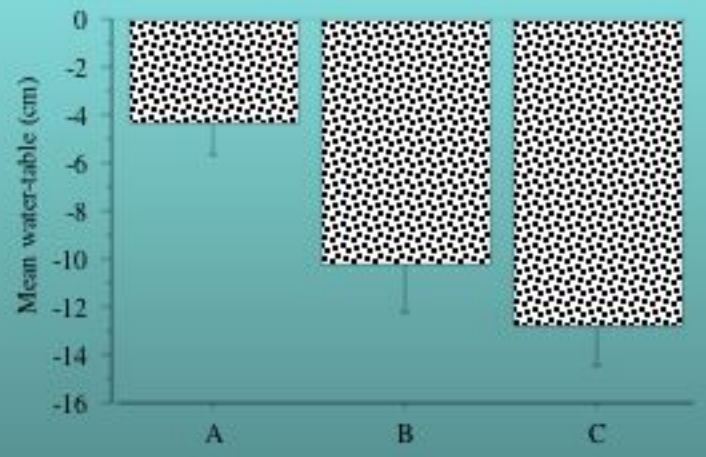
Chaux d'Abel

	Median (cm)	Mean (cm)	Std error	IQR
Early	-15.0	-15.2	0.9	8.5
Inetermed.	-11.5	-13.6	1.1	9.0
Advanced	-14.5	-16.3	1.1	8.5
Overall	-14.5	-15.0	0.6	9.0

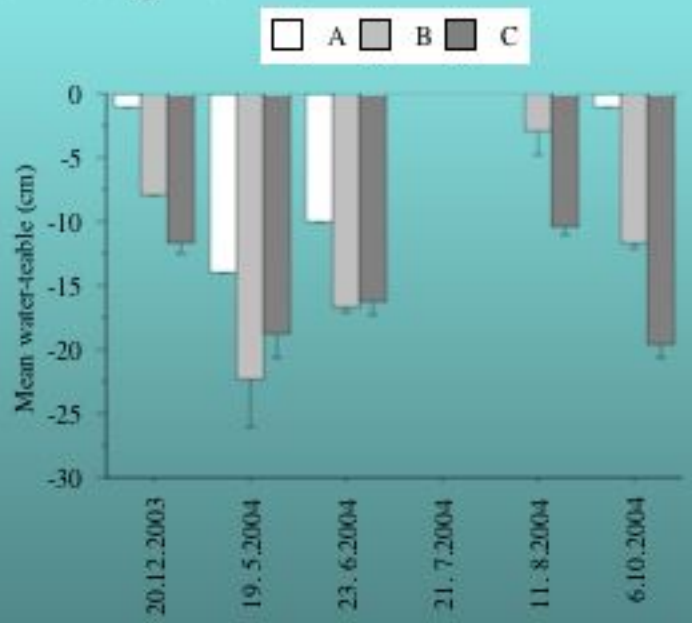
Water-table in WPI (FR)

Differences among sites:

A = "early stage"
B = "intermediate"
C = "advanced stage"



Differences among sites and through time



Le Russey

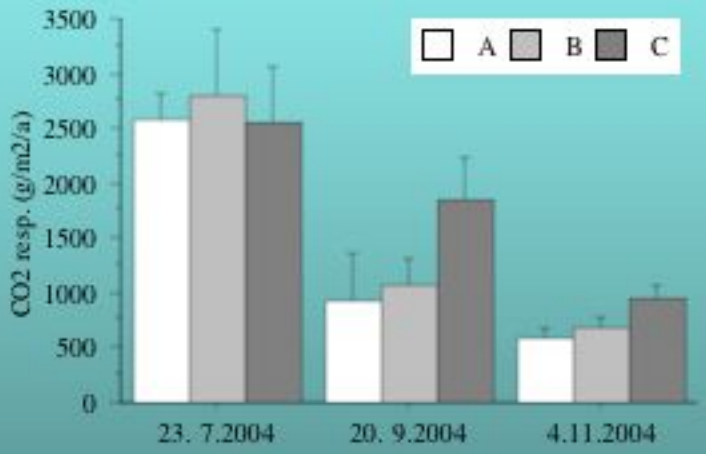
	Median (cm)	Mean (cm)	Std error	IQR
Early	-1.0	-4.3	1.3	10.0
Inetermed.	-9.5	-10.3	2.0	14.0
Advanced	-14.0	-12.8	1.7	8.0
Overall	-10.0	-9.1	1.1	14.0

Vegetation - Point-quadrats

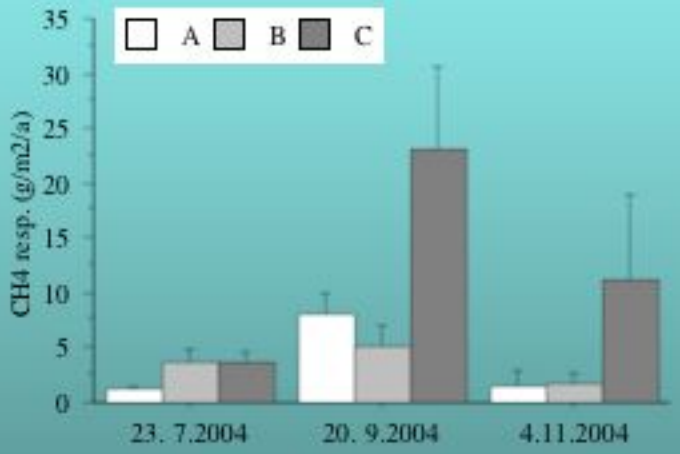
Chaux d'Abel - RECIPE points quadrats							
1	=	A	Aulacomnium palustre	21	=	Lvo	Litter of Vac. oxycocco
2	=	Ps	Pleurozium shreberi	22	=	Pe	Potentilla erecta
3	=	Pc	Polytrichum commune	23	=	Lpe	Litter of Pot. erecta
4	=	P	Polytrichum strictum	24	=	Cp	Comarum (Pot.) palustr
5	=	S	Sphagnum fallax	25	=	Lcp	Litter C. palustris
6	=	Sm	Sphagnum magellanicum	26	=	Vp	Viola palustris
7	=	Sc	Sphagnum c.f. capillifolium	27	=	Lvp	Litter V. palustris
8	=	Cn	Carex nigra	28	=	Ca	Calluna vulgaris
9	=	Lcn	Litter of Cx nigra	29	=	Lca	Litter of Calluna vulgar
10	=	Ev	Eriophorum vaginatum	30	=	Ep	Equisetum palustre
11	=	Lev	Litter of Er. vaginatum	31	=	Lep	Litter Equisetum palust
12	=	M	Molinia coerulea	32	=	Pb	Polygonum bistorta
13	=	Lm	Litter M. corerulea	33	=	Lpb	Litter P.bistorta
14	=	An	Anthoxantum odoratum	34	=	Tc	Trichophorum caespito
15	=	Lan	Litter A. odoratum	35	=	Ltc	Litter T.caespitosum
16	=	Dc	Deschampsia caespitosa	36	=	0	
17	=	Ldc	Litter deschampsia caespitosa	37	=	0	
18	=	B	Betula nana	38	=	0	
19	=	Lb	Litter B. nana	39	=	0	
20	=	Vo	Vaccinium oxycoccos	40	=	Lsp	Unidentified litter
				41	=	ø	No contact

CO_2/CH_4 respiration WP I

Surface respiration WPI (CH)



CO2 respiration

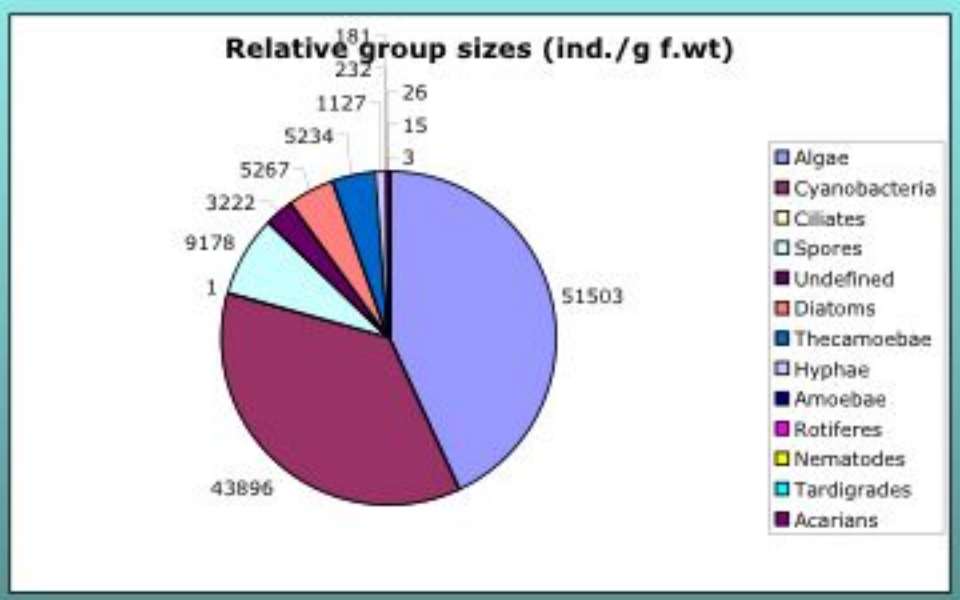


CH4 respiration

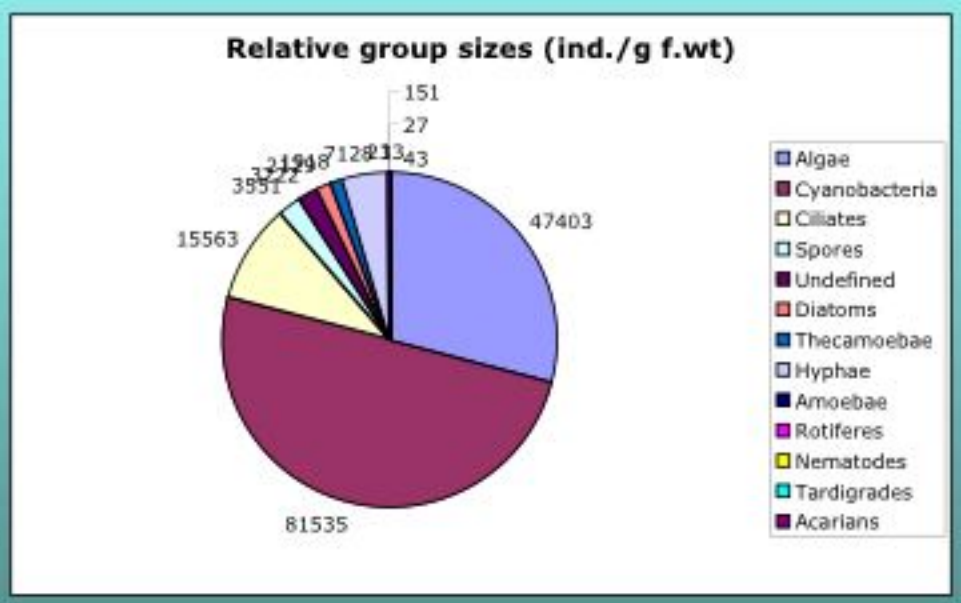
Field abiotic measurements

Variable	Method	Time period
1. Continuous water table depths (cm)	metric between the free water level and the top of the moss carpet	every 2 weeks
2. Integreated water table depths (cm)	White tape discoloring at the median	every season
3. Temperature at -5 and -30 cm (°C)	Dataloggers and local probes	every hour
4. Temperature profile to -50 cm (°C)	Digable temp.probe	every 2 weeks
5. Dissolved gases (dialysis chambers) (ppm)	GC-MS for CO2 and methane	every season
6. Acetate, cations, anions, pH, DIC, DOC and maybe HS- or Stot	Ionic-chromatography and GC-ECD	every season
7. Humic and fulvic acids	UV-spectrometer	to be decided
8. Delta 13-CH4 and 13-CO2 in the pore water DOC	GC-MS for CO2 and methane	Mai 04, Aug. 04, Nov. 04
8. Rainfall (mm)	Event detector	every day
9. Air temperature and rH (°C & %)	NTC detectors	every hour
10. Relative solar irradiance (Lux)	Broad spectrum	every hour

Microbial communities (FR)

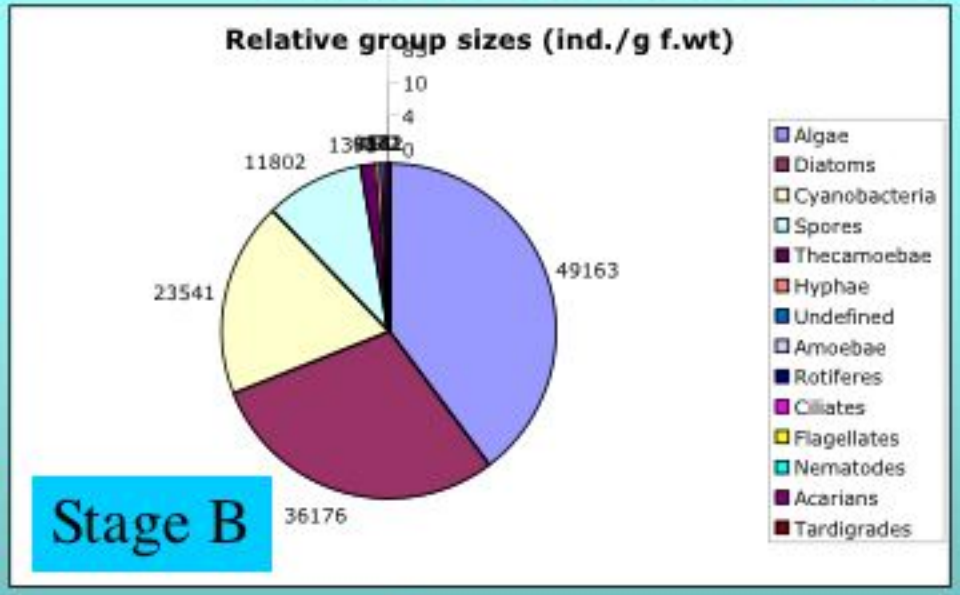


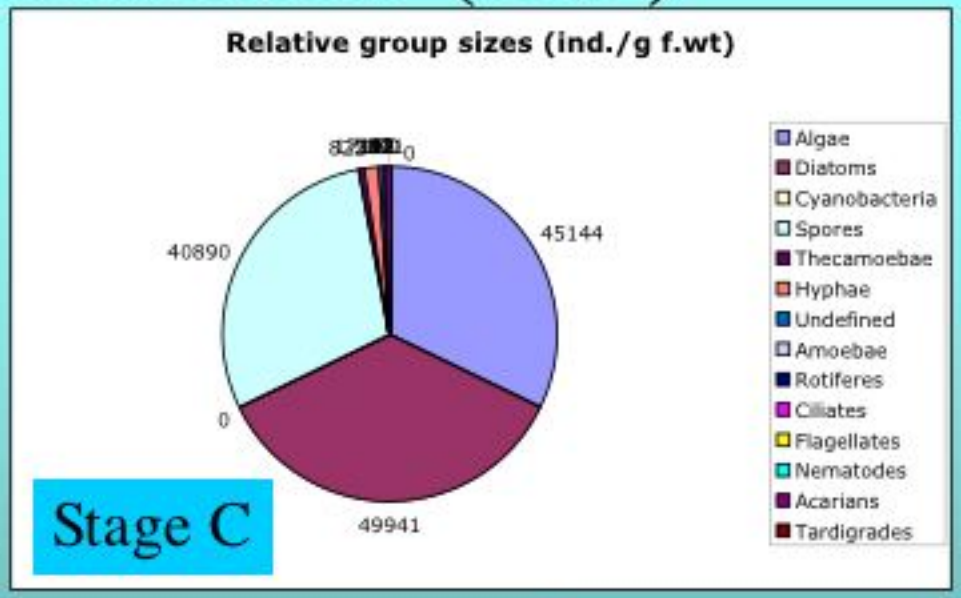
Stage B

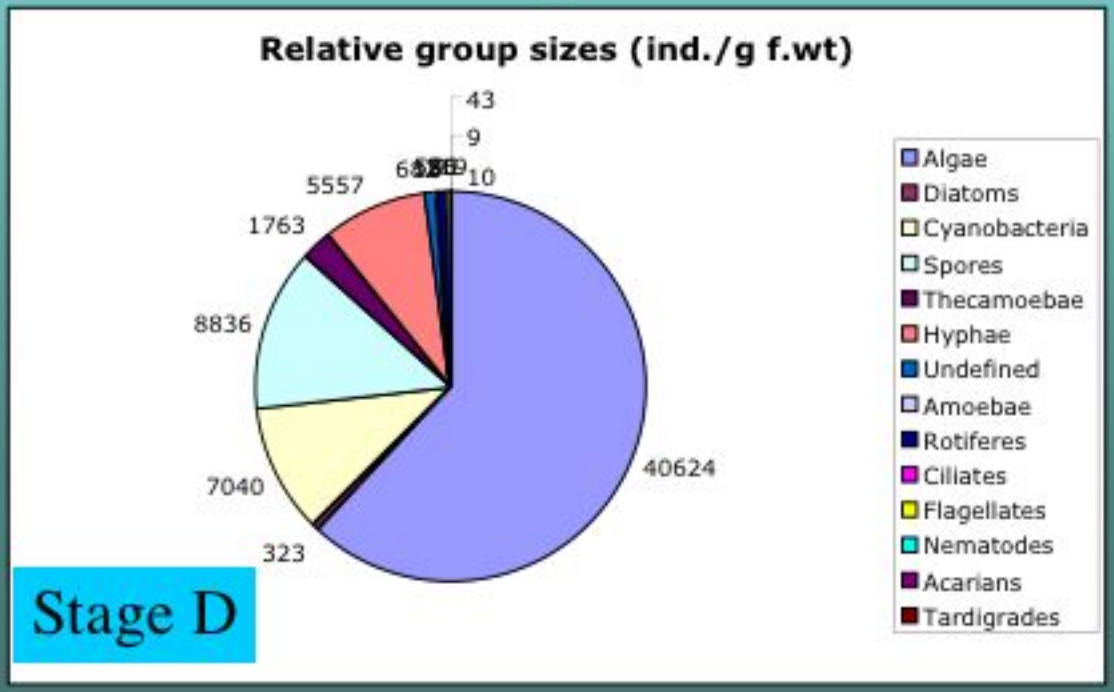


Stage C

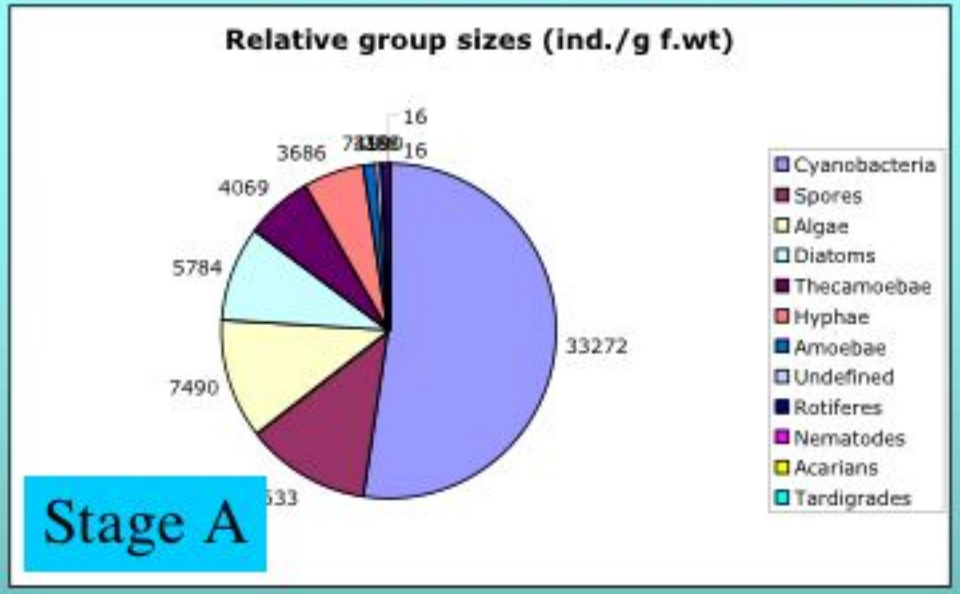
Microbial communities (UK)

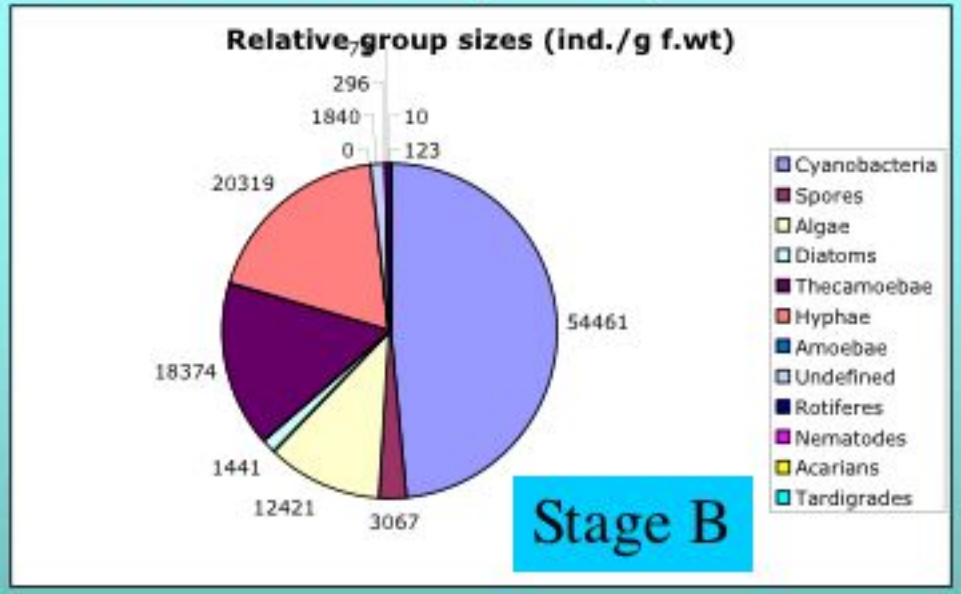


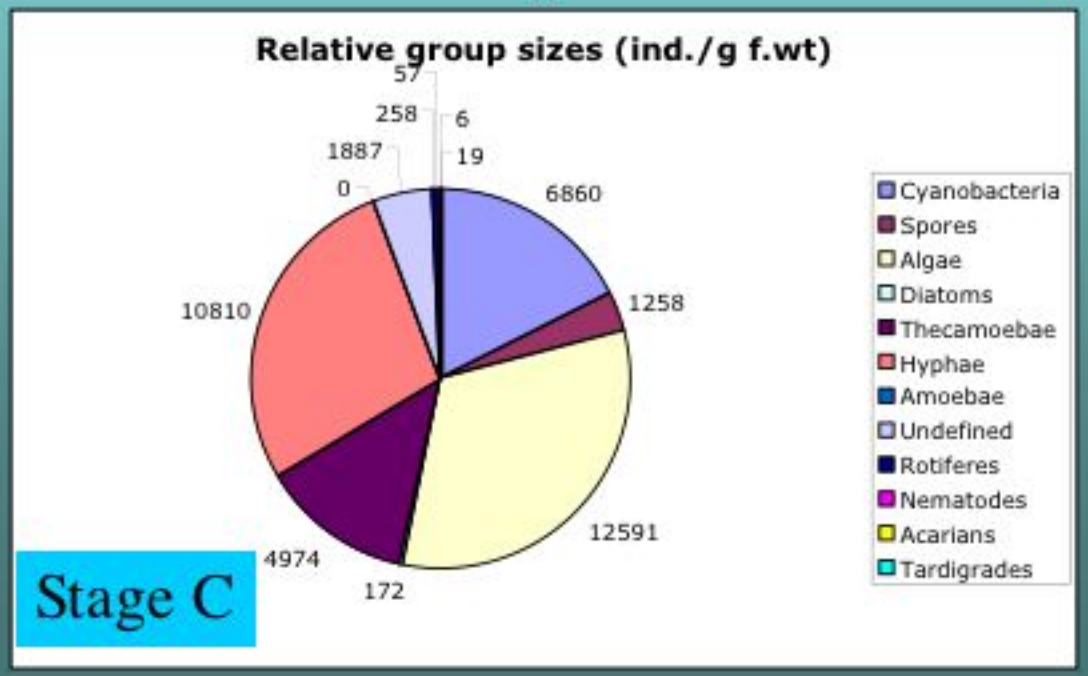




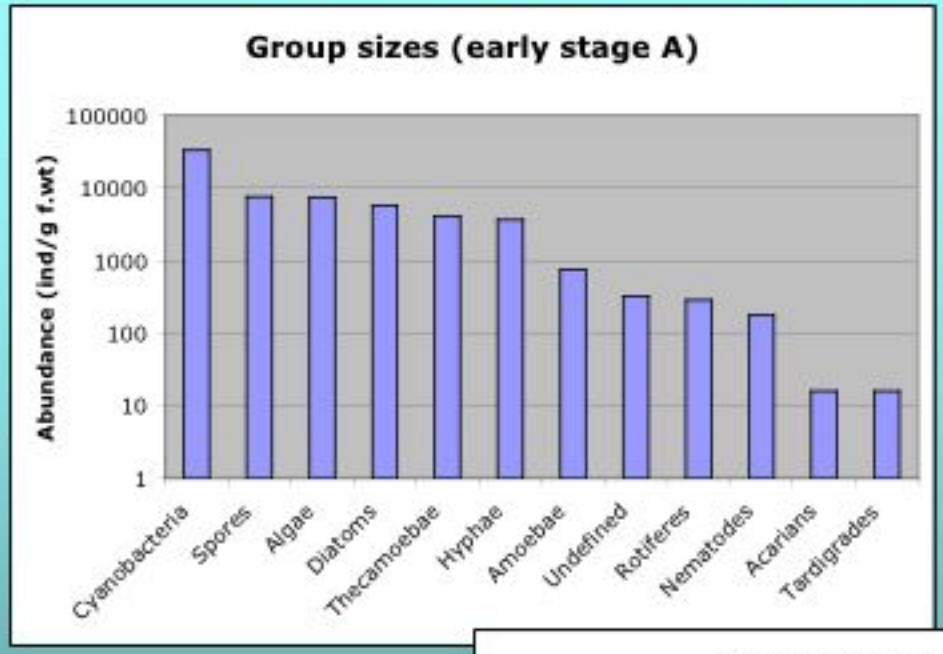
Microbial communities (CH)

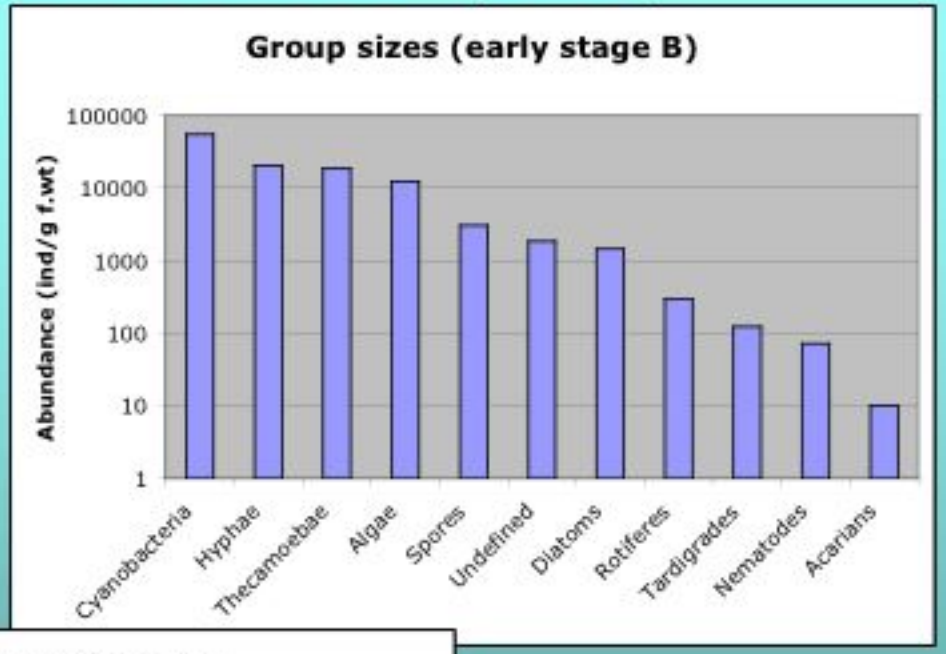


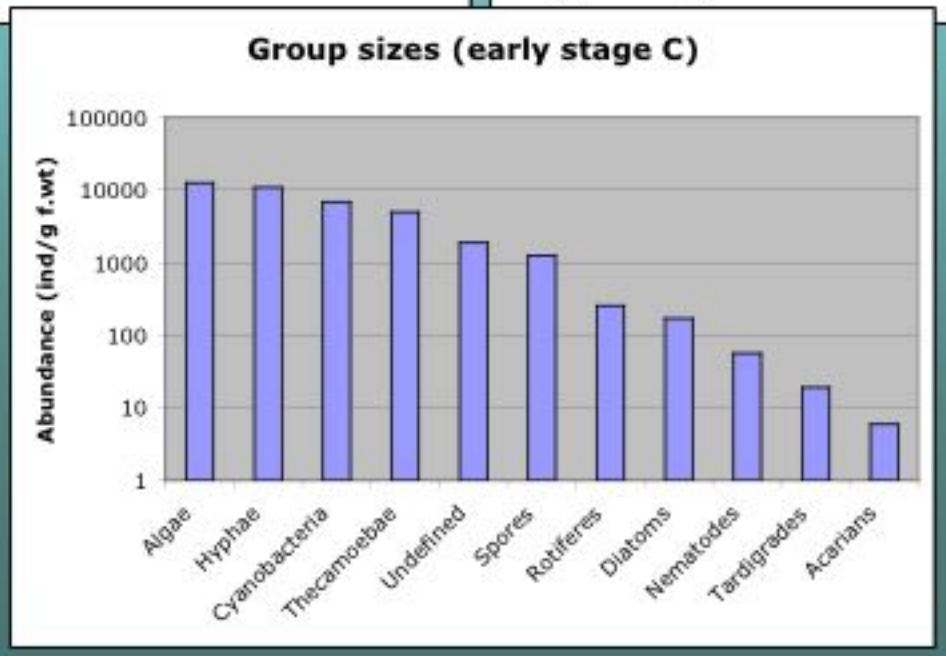




Microbial communities (CH)

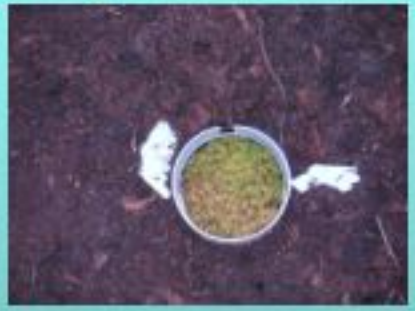






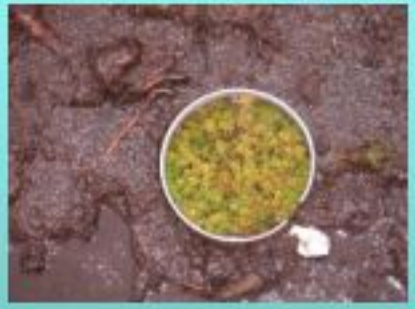
Keystone plants WPII

LWT

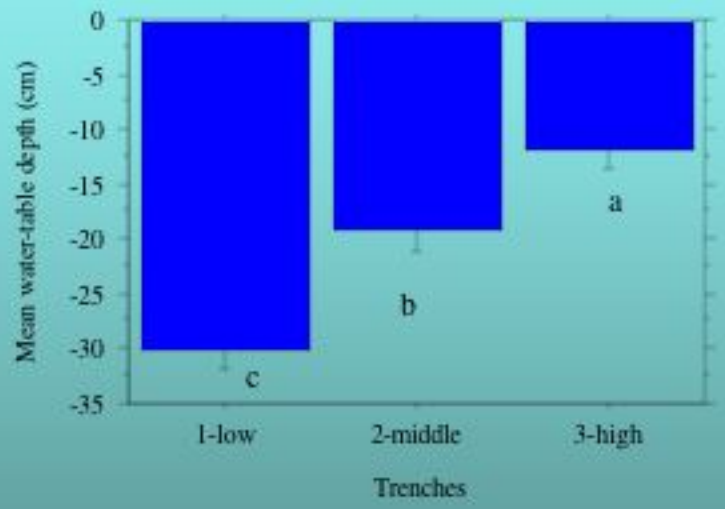


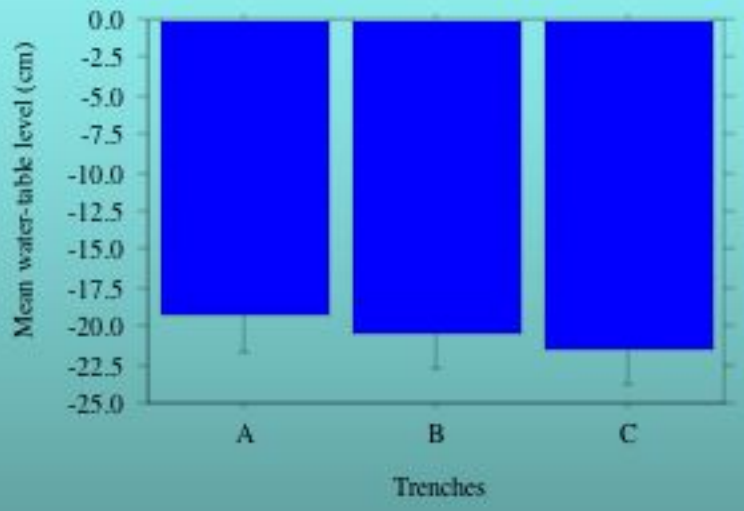
IWT

HWT



Water levels in WPII



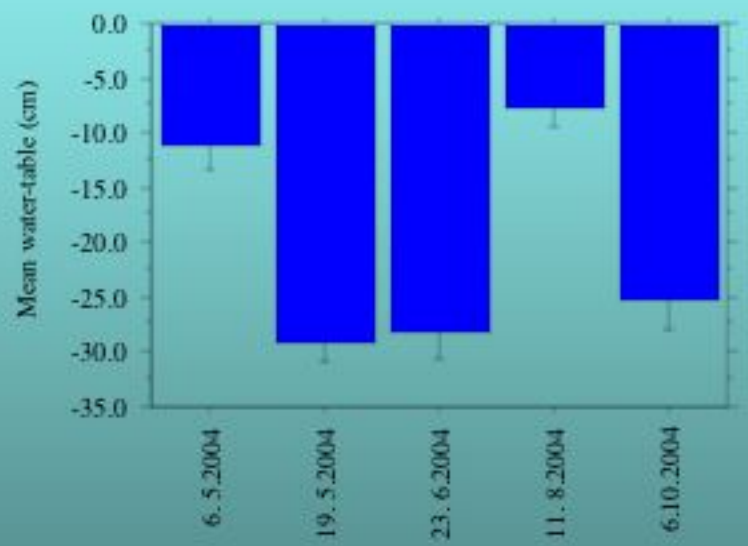


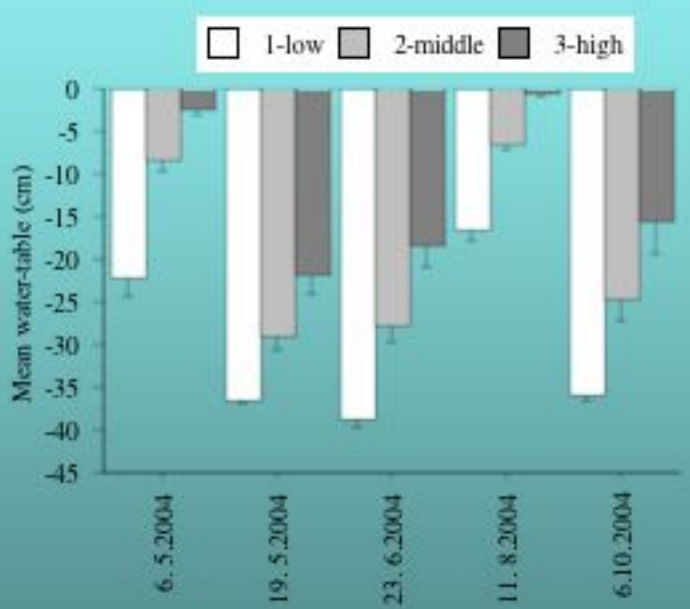
	Median (cm)	Std error	Target (cm)
Low WT	-35.0	1.7	-36.3
Middle WT	-21.5	2.0	-27.5
High WT	-12.5	1.9	-7.5
Overall	-23.0	1.3	-27.5

Fisher's PLSD for WTD (cm)
Effect: Water level
Significance Level: 5 %

	Mean Diff.	Crit. Diff	P-Value	
1-low, 2-middle	-10.767	2.231	<.0001	S
1-low, 3-high	-18.217	2.231	<.0001	S
2-middle, 3-high	-7.450	2.231	<.0001	S

Fluctuations of the WT

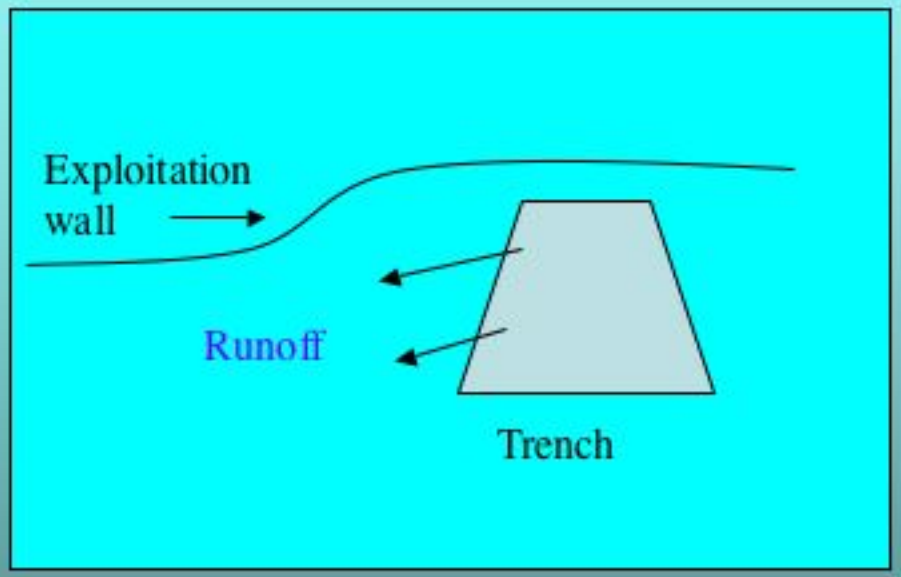


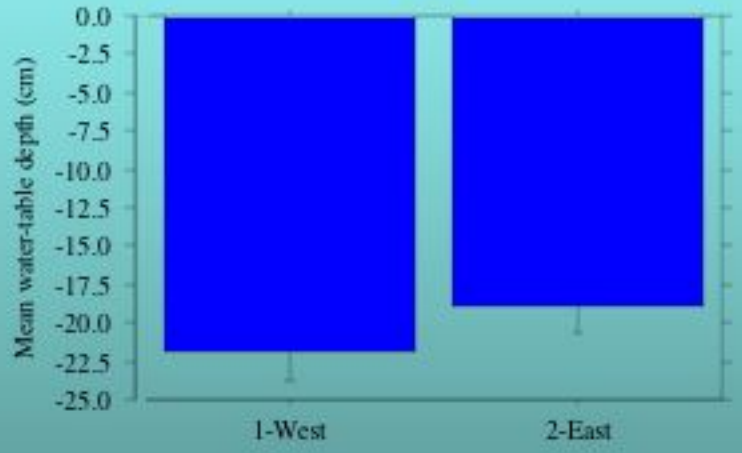


Fluctuations of 16-22 cm

	Median (cm)	Mean (cm)	Std error	Target (cm)	IQR
Low WT	-35.0	-30.1	1.7	-36.3	16.5
Middle WT	-21.5	-19.3	2.0	-27.5	21.0
High WT	-12.5	-11.8	1.9	-7.5	16.5
Overall	-23.0	-20.4	1.3	-27.5	22.0

Side drainage of trenches?

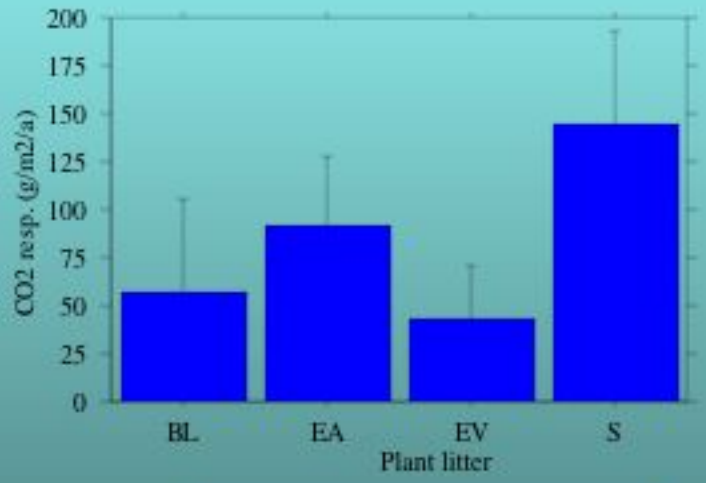


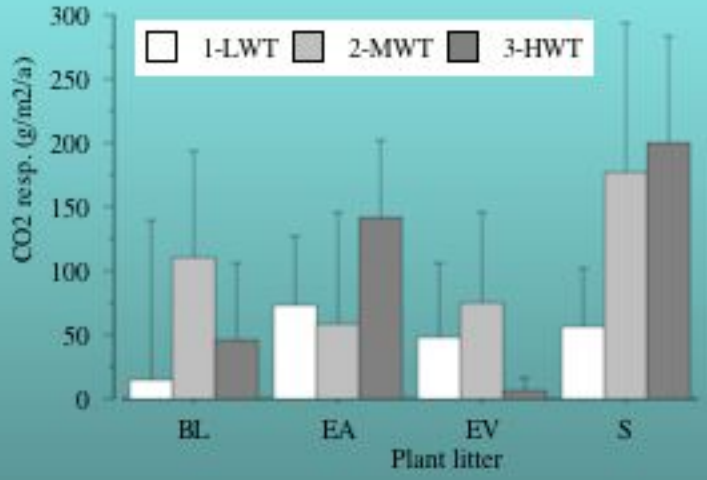


No significant side drainage effects!

Respiration chambers WPIII

In-situ litter respiration WPIII





Labelled litter

S. fallax: 10 g
E. vaginatum: 5 g
E. Angustifolium: 1.8 g