Biogeosciences Discuss., 4, S2018–S2023, 2007
www.biogeosciences-discuss.net/4/S2018/2007/

Biogeosciences Discussions

Interactive comment on "Phosphate availability and the ultimate control of new nitrogen input by nitrogen fixation in the tropical Pacific Ocean" *by* T. Moutin et al.

T. Moutin et al.

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Tables and figures:

Interactive comment on Biogeosciences Discuss., 4, 2407, 2007.

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Interactive Comment

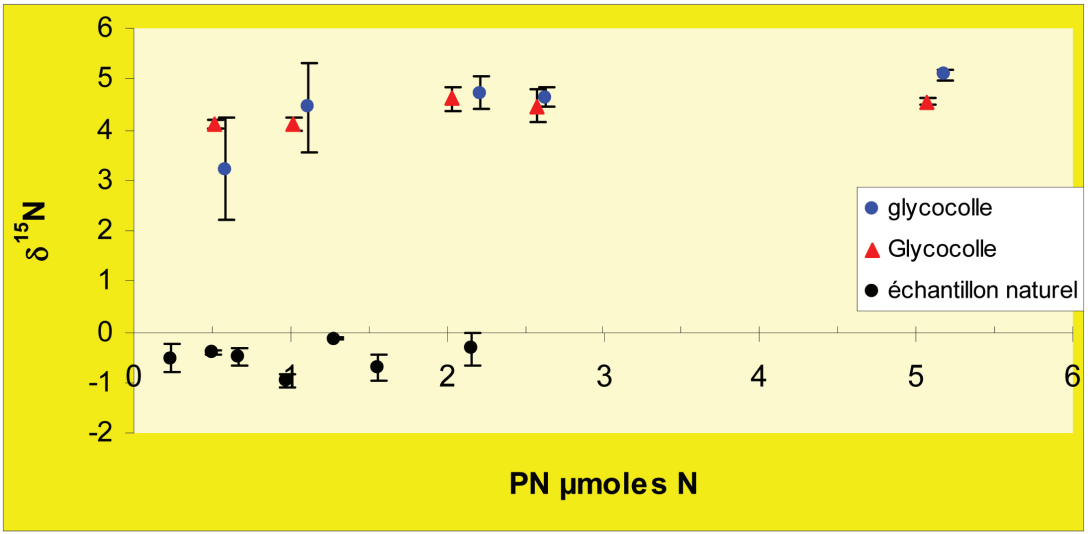

Figure 1: Variation of δ^{15}N in function of amount of particulate nitrogen analysed.

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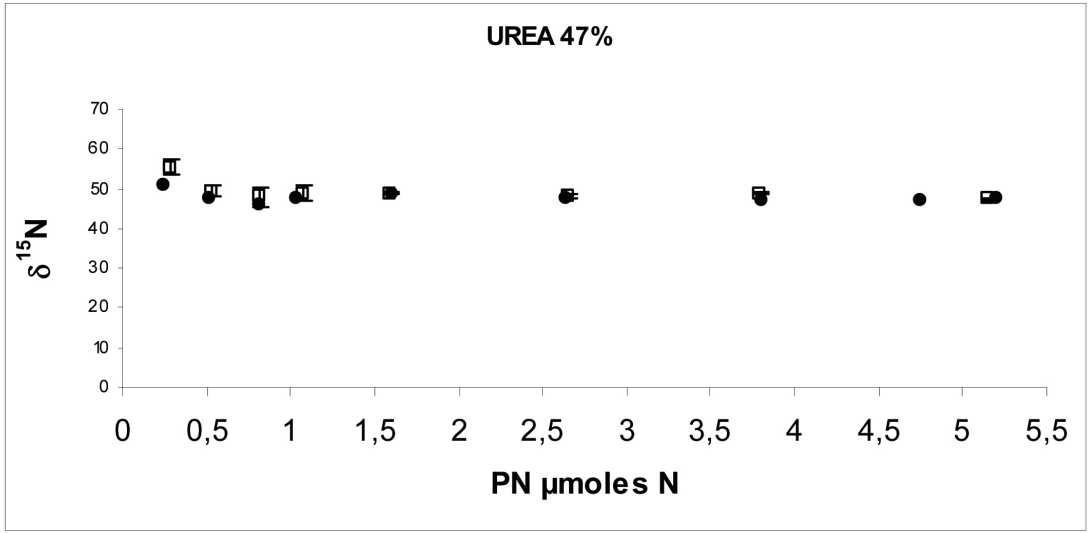

Figure 2: Variation of δ^{15}N in function of amount of particulate nitrogen analysed (high δ ^{15}N).

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IAEA 310A Urée $\delta^{15}N = 47‰$	47.3 ± 0.27 ‰
IAEA 310B Urée $\delta^{15}N = 244‰$	243 ± 0.46 ‰
IAEA 309A Glucose $\delta^{13}C = 93.9‰$	94.3 ± 0.66 ‰
IAEA 309B Glucose $\delta^{13}C = 535‰$	532 ± 2.0 ‰

Figure 3: = Table 1. Reference from the International Atomic Energy Agency (AIEA, Analytical Quality Control Services) and results obtained with our mass spectrometer.

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CTD	Btl	Depth (m)	lon(°W)	lat(°S)	Abs880X	Abs880Y	Abs880Z	Abs Glu-6P	Abs880X Mean	Abs880X SD	Abs880Y Mean	Abs880Y SD	Abs880Z	Abs Glu-6P	Labile DOP (nM)
61	19	15	-129,93	-15,53	0,048	0,040	0,006	0,245	0,047	0,001	0,042	0,002	0,006	0,245	-2,1
					0,047	0,042									
					0,047	0,043									
65	19	20	-127,97	-17,23	0,043	0,036	0,005	0,233	0,043	0,001	0,037	0,001	0,005	0,233	5,9
					0,042	0,037									
					0,044	0,037									
69	19	20	-127,97	-17,23	0,044	0,041	0,006	0,245	0,044	0,001	0,040	0,001	0,006	0,245	-13,3
					0,043	0,041									
					0,044	0,039									
72	19	25	-122,89	-20,45	0,034	0,028	0,006	0,216	0,034	0,001	0,029	0,001	0,006	0,216	-5,3
					0,033	0,029									
					0,035	0,030									
76	19	20	-120,38	-22,05	0,034	0,026	0,004	0,231	0,037	0,003	0,030	0,004	0,004	0,231	12,3
					0,040	0,031									
					0,037	0,034									
80	19	30	-117,89	-23,55	0,043	0,029	0,005	0,224	0,041	0,003	0,031	0,002	0,005	0,224	26,8
					0,038	0,030									
					0,043	0,033									
88	19	30	-114,01	-25,97	0,032	0,032	0,003	0,214	0,032	0,001	0,031	0,002	0,003	0,214	-10,1
					0,031	0,029									
					0,032	0,031									
104	21	5	-114,03	-26,06		0,025	0,005	0,205	0,035	0,001	0,025		0,005	0,205	23,1
					0,035										
					0,034				Mean		0,039		0,033	0,005	0,227	4,7
Labile DOP = (abs880X-abs880Y-abs880Z-abs880B)/Coef									SD		0,006		0,006	0,001	0,015	15,0
abs880X: seawater sample, Tris and enzyme									Mean		187,8		158,6	24,0	1089,5	
abs880Y: seawater sample									SD		26,7		28,6	5,1	70,0	
abs880Z: milliQ water, 1 ml Tris (pH8) and 1 ml of Enzyme solution									Coef=		0,00021		Mean abs880B =	0,0001		
abs880B: Reagent blank									*1,04 to take into account dilution by Tris and enzyme (Strickland et Parsons, 1972)							

Figure 4: = Table 2. Labile DOP concentrations following Strickland and Parsons (1972) procedure.

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Experiment 1 Sample	PN	δ^{15}N ‰
T0	9,458	37,4
C	8,536	26,2
fer	16,16	13,4
NPSi	17,74	22,1
NPSi +fer	23,68	4,0
Experiment 2	PN	
T0	2,768	56,0
T0	2,701	57,2
C	6,601	33,2
fer	2,664	61,6
dust	4,021	-4,3
N	5,425	13,0
N+fer	6,341	7,9
Experiment 3 Sample	PN	
T0	8,396	16,2
T0	6,539	26,9
T0	7,289	20,6
C 24h	7,586	15,5
fer	7,061	32,8
dust	7,734	21,7
N	8,961	7,6
N+fer	9,75	7,2
all	9,994	8,2
C 48h	7,762	18,1
fer	8,433	16,2
dust	7,467	33,5
N	8,806	9,1
N+fer	10,92	13,1
all	11,2	6,6

Figure 5: = Table 3. ^{15}N enrichment (δ^{15}N) obtained during Bonnet et al. 2007 experiments.

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