Supplement of Atmos. Chem. Phys., 17, 6023–6040, 2017
http://www.atmos-chem-phys.net/17/6023/2017/
doi:10.5194/acp-17-6023-2017-supplement

Atmospheric Chemistry and Physics
Open Access
EGU

Supplement of

Downward particle fluxes of biogenic matter and Saharan dust across the equatorial North Atlantic

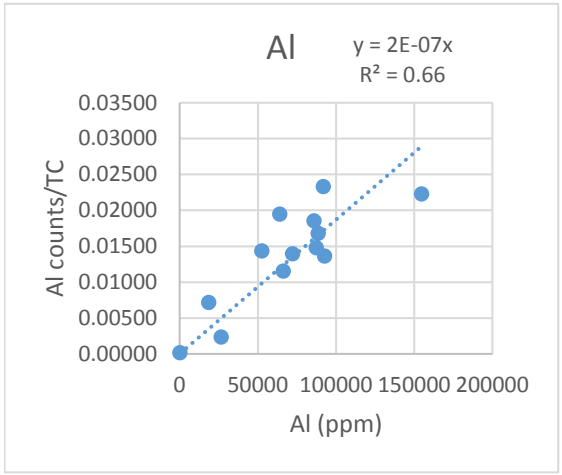
Laura F. Korte et al.

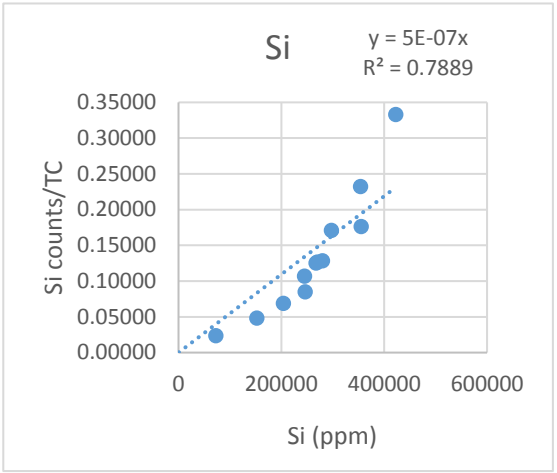
Correspondence to: Laura F. Korte (laura.korte@nioz.nl)

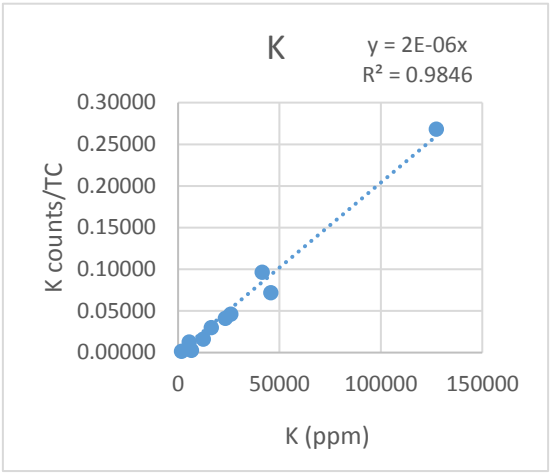
Table S1. Chemical composition and concentration of various standards, including MESS-3 and PACS-2 (grey) used as quality control.

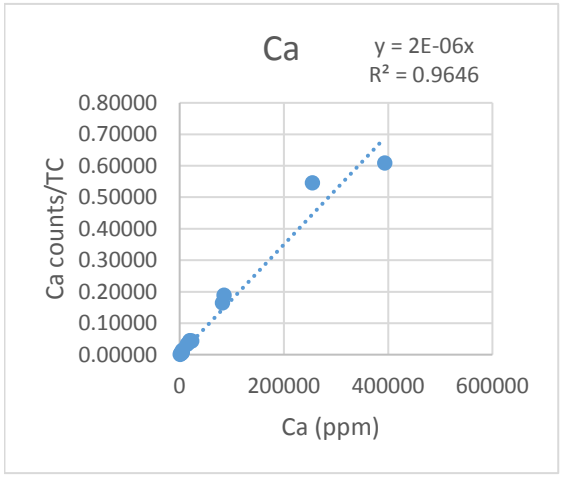
Standard	Description	Al (cnts/TC)	Al (StDev)	Al (ppm)	Si (cnts/TC)	Si (StDev)	Si (ppm)	K (cnts/TC)	K (StDev)	K (ppm)
GSR-4	Sandstone	0.00716	0.00022	18635	0.33305	0.00063	422276	0.01280	0.00012	5394
GSR-6	Carbonate rock	0.00236	0.00010	26471	0.02338	0.00014	72732	0.00278	0.00016	6555
GSS-7	Soil	0.02229	0.00009	154641	0.04826	0.00019	152429	0.00157	0.00003	1660
JGb-1	Gabbro	0.01366	0.00015	92594	0.06871	0.00020	204080	-0.00045	0.00008	1991
JLk-1	Lake sediment	0.01681	0.00012	88571	0.12502	0.00043	267183	0.04116	0.00024	23276
JLs-1	Limestone	0.00018	0.00004	110	-0.00052	0.00004	561	-0.00064	0.00005	25
JSd-3	Stream sediment	0.01433	0.00020	52454	0.17607	0.00078	355247	0.03010	0.00014	16355
MESS-3	Marine sediment	0.01854	0.00030	85900	0.12643	0.00029	270000	0.04626	0.00017	26000
PACS-2	Marine sediment	0.01153	0.00025	66200	0.12830	0.00011	280000	0.01617	0.00030	12400
SARM-1	Granite	0.01947	0.00020	63953	0.23204	0.00094	353845	0.09650	0.00048	41406
SARM-2	Syenite	0.02333	0.00030	91800	0.17068	0.00048	297426	0.26810	0.00037	127372
SARM-3	Lujavrite	0.01396	0.00030	72212	0.10678	0.00041	244933	0.07206	0.00013	45721
SARM-4	Norite	0.01482	0.00033	87353	0.08476	0.00018	246055	-0.00056	0.00014	2074

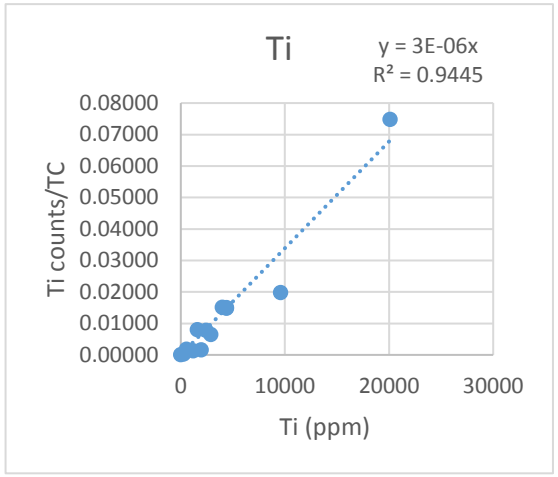
Standard	Description	Ca (cnts/TC)	Ca (StDev)	Ca (ppm)	Ti (cnts/TC)	Ti (StDev)	Ti (ppm)	Fe (cnts/TC)	Fe (StDev)	Fe (ppm)
GSR-4	Sandstone	0.00502	0.00012	2143	0.00798	0.00041	1590	0.11867	0.00032	22242
GSR-6	Carbonate rock	0.54608	0.00028	254929	0.00161	0.00015	1950	0.03038	0.00017	17416
GSS-7	Soil	0.00151	0.00011	1143	0.07487	0.00028	20100	0.41156	0.00027	131774
JGb-1	Gabbro	0.18885	0.00028	85000	0.01978	0.00026	9589	0.22578	0.00037	105335
JLk-1	Lake sediment	0.00965	0.00022	4900	0.01516	0.00019	4004	0.20102	0.00025	48464
JLs-1	Limestone	0.60965	0.00054	393500	0.00008	0.00006	10	0.00164	0.00016	124
JSd-3	Stream sediment	0.00574	0.00020	4000	0.00778	0.00010	2415	0.10576	0.00046	30551
MESS-3	Marine sediment	0.03356	0.00017	14700	0.01479	0.00033	4400	0.17640	0.00038	43400
PACS-2	Marine sediment	0.04499	0.00018	19600	0.01508	0.00023	4400	0.17280	0.00041	40900
SARM-1	Granite	0.01432	0.00014	5571	0.00183	0.00021	540	0.06600	0.00041	14269
SARM-2	Syenite	0.00759	0.00023	4857	0.00025	0.00026	265	0.03782	0.00018	10072
SARM-3	Lujavrite	0.04442	0.00023	23000	0.00645	0.00027	2877	0.18540	0.00057	70223
SARM-4	Norite	0.16505	0.00027	82190	0.00126	0.00023	1199	0.13679	0.00023	63649


Al
y = 2E-07x
R² = 0.66
Al counts/TC
0.03500
0.03000
0.02500
0.02000
0.01500
0.01000
0.00500
0.00000
0
50000
100000
150000
200000
Al (ppm)


Si
y = 5E-07x
R² = 0.7889
Si counts/TC
0.35000
0.30000
0.25000
0.20000
0.15000
0.10000
0.05000
0.00000
0
200000
400000
600000
Si (ppm)


K
y = 2E-06x
R² = 0.9846
K counts/TC
0.30000
0.25000
0.20000
0.15000
0.10000
0.05000
0.00000
0
50000
100000
150000
K (ppm)


Ca
y = 2E-06x
R² = 0.9646
Ca counts/TC
0.80000
0.70000
0.60000
0.50000
0.40000
0.30000
0.20000
0.10000
0.00000
0
200000
400000
600000
Ca (ppm)


Ti
y = 3E-06x
R² = 0.9445
Ti counts/TC
0.08000
0.07000
0.06000
0.05000
0.04000
0.03000
0.02000
0.01000
0.00000
0
10000
20000
30000
Ti (ppm)

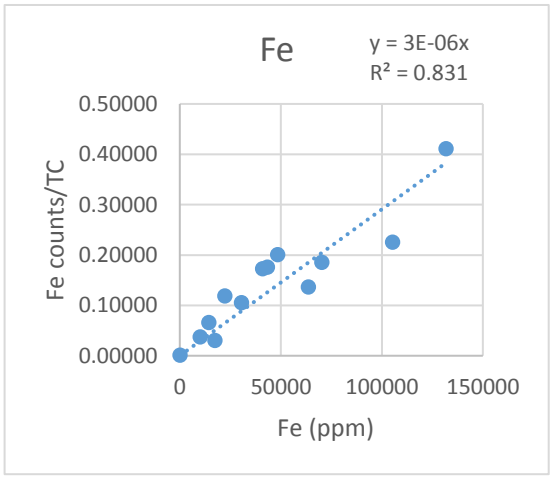

Fe
y = 3E-06x
R² = 0.831
Fe counts/TC
0.50000
0.40000
0.30000
0.20000
0.10000
0.00000
0
50000
100000
150000
Fe (ppm)

Table S2. **Pearson correlation coefficients, r, of measured parameters of all sediment traps and MWAC sampler.**
Left (lower) side of the tables represent *r* values, and right (upper) side of the tables represent *p* values.
Green marked values show *p* values < 0.01 and yellow marked values represent *p* values < 0.05 for *p* and r values, respectively.

M1U	TM	CaCO3	BSiO2	OM	Rest	Al	Si	K	Ti	Fe
TM		0.860	0.282	0.660	0.648	0.505	0.355	0.924	0.761	0.961
CaCO3	-0.04		0.091	0.855	0.000	0.000	0.000	0.000	0.000	0.000
BSiO2	-0.25	0.38		0.001	0.001	0.014	0.048	0.002	0.004	0.003
OM	-0.10	-0.04	0.66		0.153	0.161	0.398	0.143	0.226	0.154
Rest	0.11	-0.92	-0.67	-0.32		0.000	0.000	0.000	0.000	0.000
Al	-0.15	-0.75	-0.53	-0.32	0.83		0.000	0.000	0.000	0.000
Si	-0.21	-0.79	-0.44	-0.19	0.81	0.84		0.000	0.000	0.000
K	0.02	-0.78	-0.63	-0.33	0.87	0.95	0.86		0.000	0.000
Ti	-0.07	-0.88	-0.60	-0.28	0.94	0.91	0.93	0.95		0.000
Fe	-0.01	-0.74	-0.62	-0.32	0.83	0.95	0.86	0.98	0.92	

<0,01
<0,05

M2U	TM	CaCO3	BSiO2	OM	Rest	Al	Si	K	Ti	Fe
TM		0.220	0.693	0.233	0.255	0.903	0.644	0.676	0.651	0.859
CaCO3	0.26		0.812	0.000	0.000	0.005	0.003	0.001	0.000	0.034
BSiO2	0.09	0.05		0.420	0.133	0.134	0.613	0.020	0.064	0.109
OM	-0.25	-0.74	0.17		0.009	0.484	0.095	0.167	0.136	0.617
Rest	-0.24	-0.94	-0.32	0.52		0.000	0.006	0.000	0.000	0.007
Al	0.03	-0.56	-0.31	0.15	0.66		0.000	0.000	0.000	0.000
Si	0.10	-0.58	0.11	0.35	0.55	0.88		0.000	0.000	0.000
K	-0.09	-0.62	-0.47	0.29	0.72	0.93	0.77		0.000	0.000
Ti	-0.10	-0.68	-0.38	0.31	0.77	0.95	0.82	0.96		0.000
Fe	0.04	-0.43	-0.34	0.11	0.54	0.93	0.84	0.90	0.87	

<0,01
<0,05

M2L	TM	CaCO3	BSiO2	OM	Rest	Al	Si	K	Ti	Fe
TM		0.000	0.102	0.003	0.001	0.008	0.002	0.017	0.009	0.011
CaCO3	0.66		0.272	0.000	0.000	0.000	0.000	0.001	0.000	0.008
BSiO2	-0.34	-0.23		0.097	0.818	0.240	0.942	0.238	0.587	0.152
OM	-0.58	-0.92	0.35		0.000	0.008	0.004	0.013	0.003	0.084
Rest	-0.62	-0.98	0.05	0.85		0.000	0.000	0.000	0.000	0.002
Al	-0.53	-0.67	-0.25	0.53	0.73		0.000	0.000	0.000	0.000
Si	-0.61	-0.67	0.02	0.57	0.69	0.93		0.000	0.000	0.000
K	-0.48	-0.64	-0.25	0.50	0.70	0.96	0.93		0.000	0.000
Ti	-0.52	-0.74	-0.12	0.57	0.79	0.96	0.93	0.96		0.000
Fe	-0.51	-0.53	-0.30	0.36	0.61	0.88	0.89	0.92	0.88	

<0,01
<0,05

M3L	TM	CaCO3	BSiO2	OM	Rest	Al	Si	K	Ti	Fe
TM		0.01	0.02	0.13	0.01	0.01	0.02	0.01	0.01	0.24
CaCO3	0.54		0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BSiO2	-0.46	-0.52		0.00	0.13	0.70	0.06	0.62	0.43	0.79
OM	-0.32	-0.85	0.57		0.00	0.01	0.00	0.01	0.00	0.01
Rest	-0.50	-0.97	0.32	0.75		0.00	0.00	0.00	0.00	0.00
Al	-0.50	-0.80	0.08	0.53	0.88		0.00	0.00	0.00	0.00
Si	-0.48	-0.86	0.39	0.66	0.86	0.92		0.00	0.00	0.00
K	-0.49	-0.79	0.11	0.54	0.86	0.98	0.92		0.00	0.00
Ti	-0.49	-0.85	0.17	0.63	0.91	0.98	0.92	0.98		0.00
Fe	-0.25	-0.66	0.06	0.51	0.72	0.88	0.89	0.91	0.87	

<0,01
<0,05

M4U	TM	CaCO3	BSiO2	OM	Rest	Al	Si	K	Ti	Fe
TM		0.04	0.51	0.59	0.01	0.22	0.87	0.04	0.06	0.27
CaCO3	0.44		0.63	0.01	0.00	0.01	0.23	0.01	0.01	0.09
BSiO2	0.15	-0.11		0.45	0.14	0.47	0.00	0.04	0.01	0.01
OM	-0.12	-0.56	-0.17		0.07	0.48	0.09	0.88	0.55	0.87
Rest	-0.51	-0.87	-0.33	0.39		0.00	0.92	0.00	0.00	0.00
Al	-0.27	-0.55	-0.16	-0.16	0.73		0.08	0.00	0.00	0.00
Si	0.04	-0.27	0.77	-0.37	0.02	0.38		0.56	0.94	0.98
K	-0.45	-0.54	-0.43	0.03	0.79	0.90	0.13		0.00	0.00
Ti	-0.41	-0.57	-0.51	0.13	0.84	0.85	0.02	0.93		0.00
Fe	-0.25	-0.37	-0.56	0.04	0.67	0.83	0.01	0.91	0.93	

<0,01
<0,05

M4L	TM	CaCO3	BSiO2	OM	Rest	Al	Si	K	Ti	Fe
TM		0.588	0.003	0.007	0.015	0.022	0.030	0.043	0.160	0.038
CaCO3	-0.12		0.000	0.003	0.002	0.054	0.000	0.065	0.001	0.174
BSiO2	0.58	-0.67		0.000	0.495	0.330	0.000	0.219	0.791	0.142
OM	0.53	-0.59	0.75		0.431	0.056	0.008	0.080	0.801	0.031
Rest	-0.49	-0.61	-0.15	-0.17		0.000	0.373	0.000	0.000	0.000
Al	-0.47	-0.40	-0.21	-0.40	0.85		0.322	0.000	0.000	0.000
Si	0.44	-0.80	0.89	0.53	0.19	0.21		0.446	0.041	0.546
K	-0.42	-0.38	-0.26	-0.36	0.86	0.97	0.16		0.000	0.000
Ti	-0.30	-0.63	0.06	-0.05	0.83	0.91	0.42	0.91		0.000
Fe	-0.42	-0.29	-0.31	-0.44	0.80	0.94	0.13	0.96	0.84	

<0,01
<0,05

M5L	TM	CaCO3	BSiO2	OM	Rest	Al	Si	K	Ti	Fe
TM		0.067	0.440	0.916	0.001	0.000	0.929	0.000	0.001	0.222
CaCO3	-0.38		0.007	0.006	0.004	0.002	0.002	0.031	0.002	0.367
BSiO2	-0.17	-0.53		0.715	0.061	0.543	0.000	0.170	0.752	0.864
OM	-0.02	-0.54	0.08		0.063	0.714	0.600	0.910	0.958	0.917
Rest	0.63	-0.56	-0.39	0.39		0.000	0.224	0.000	0.001	0.208
Al	0.78	-0.60	-0.13	0.08	0.84		0.765	0.000	0.000	0.007
Si	-0.02	-0.61	0.96	0.11	-0.26	0.06		0.715	0.225	0.409
K	0.73	-0.44	-0.29	0.02	0.82	0.97	-0.08		0.000	0.001
Ti	0.63	-0.60	0.07	0.01	0.65	0.90	0.26	0.89		0.001
Fe	0.26	-0.19	-0.04	0.02	0.27	0.53	0.18	0.62	0.63	

Iwik	Al	Si	K	Ti	Fe
Al		0.000	0.000	0.000	0.000
Si	0.89		0.000	0.002	0.002
K	0.98	0.90		0.000	0.000
Ti	0.94	0.81	0.96		0.000
Fe	0.96	0.81	0.95	0.95	

<0,01

<0,05

Table S3. Linear regressions and correlation coefficients for Ti versus Al for Iwik and all sediment traps

Site	Regression equation	R^2
Iwik	y = 0.8391x + 0.04	0.81
M1U	y = 0.8824x + 0.03	0.83
M2U	y = 0.757 x - 0.00	0.89
M2L	y = 0.8062x - 0.01	0.92
M3L	y = 0.8235x - 0.02	0.96
M4U	y = 0.6037x + 0.01	0.72
M4L	y = 0.5439x - 0.01	0.82
M5L	y = 0.4358x + 0.02	0.81

Table S4. **Pearson correlation coefficients, r, of the residual mass fraction in % for the seven sediment traps M1 to M5.**
Left (lower) side of the tables represent *r* values, and right (upper) side of the tables represent *p* values.
Green marked values show *p* values < 0.01 and yellow marked values represent *p* values < 0.05 for *p* and r values, respectively.

	M1U	M2U	M2L	M3L	M4U	M4L	M5L
M1U		0.005	0.031	0.026	0.034	0.208	0.003
M2U	0.56		0.000	0.000	0.000	0.000	0.078
M2L	0.44	0.72		0.000	0.011	0.000	0.158
M3L	0.45	0.86	0.73		0.000	0.000	0.159
M4U	0.43	0.73	0.51	0.83		0.000	0.093
M4L	0.27	0.71	0.74	0.75	0.64		0.056
M5L	-0.59	-0.38	-0.3	-0.35	-0.4	-0.69	

<0,01
<0,05