

F. Tamooch et al. (2012) Distribution and origin of suspended sediments and organic carbon pools in the Tana River Basin, Kenya.

Supplementary Table 1: Overview of TSM, POC, %POC, $\delta^{13}\text{C}$ -POC, POC/Chlorophyll *a* ratios, DOC and $\delta^{13}\text{C}$ -DOC for the different sampling sites during the wet season and end-of-wet season sampling campaigns. Note that full data for the dry season can be found in Bouillon et al. (2009)

Sampling site	Date	Latitude (decimal degrees)	Longitude (decimal degrees)	Altitude (m)	TSM (mg L ⁻¹)	POC (mg L ⁻¹)	%POC (% of TSM)	$\delta^{13}\text{C}$ -POC (‰)	POC/Chl <i>a</i> (-)	DOC (mg L ⁻¹)	$\delta^{13}\text{C}$ -DOC (‰)
Wet season											
Aberdares Region											
Chania river-Aberdares N.P	02/09/2009	-0.4572	36.7026	3003	2	0.23	12.9	-23.7	530	1.1	-23.3
Gikururu river-Aberdares N.P	03/09/2009	-0.4704	36.7123	2970	6	0.82	13.3	-24.2	875	1.9	-23.3
Magura river-Aberdares N.P	03/09/2009	-0.4866	36.7076	2989	7	1.11	16.6	-23.6	2244	1.7	-23.1
Karuru river-Aberdares N.P	03/09/2009	-0.5299	36.7166	2949	2	0.39	16.3	-22.9	826	1.8	-24.6
Kinaini river-Aberdares N.P	09/09/2009	-0.3873	36.8168	2274	31	2.39	7.7	-26.5	4010		
Honi River-Aberdares N. P	15/09/2009	-0.3613	36.6737	3219	3	0.42	13.8	-24.6	830	1.4	-24.7
Muringato River-Aberdares N. P	15/09/2009	-0.3746	36.8837	1991	69	4.07	5.9	-24.5	1641	3.5	-25.9
Chania River-Nyeri Town	16/10/2009	-0.4151	36.9436	1763	224	10.61	4.7	-26.2	2882	5.4	-26.0
Gura River-Othaya	16/10/2009	-0.4990	36.9363	1769	37	3.21	8.7	-22.6	3790	4.9	-26.0
Satima springs											
Satima springs-stream 1 A	14/09/2009	-0.3381	36.6476	3600	3	0.51	17.0	-30.3		0.2	-25.0
Satima springs-Stream 2 A	14/09/2009	-0.3381	36.6476	3600						0.5	-21.4
Satima springs-Point B	14/09/2009	-0.3385	36.6465	3553						0.7	-25.1
Satima springs-Point C	14/09/2009	-0.3382	36.6450	3503						1.0	-23.8
Satima springs-Point D	14/09/2009	-0.3388	36.6423	3455						0.6	-25.7
Kamburu Dam											
Kamburu dam-Tana entrance	17/09/2009	-0.8341	37.6731	1010	82	2.99	3.7	-25.4	251	1.6	-23.6
Kamburu dam- exit point	17/09/2009	-0.8138	37.6840	1010	82	3.29	4.0	-25.9	160	1.7	-24.3
Kamburu dam-exit point-10 m depth	17/09/2009	-0.8138	37.6840	1010	99	1.64	1.7	-21.9	2526	1.6	-23.5
Kamburu dam-exit point-19 m depth	17/09/2009	-0.8138	37.6840	1010	103	1.82	1.8	-22.1	3886	1.6	-23.4
Mt Kenya Region											
Thiba river-Kerogoya kutus	30/09/2009	-0.5671	37.3226	1293	6	0.49	8.2	-27.5	588	1.1	-24.8
Nyamidi River-Kerogoya	01/10/2009	-0.5474	37.3886	1353	3	0.51	16.9	-28.9	1760	2.3	-26.3
Rupingazi River-Embu Town	02/10/2009	-0.5450	37.4490	1302	5	0.55	11.0	-25.8	704	1.4	-24.0
Thambana river-Manyatta embu	02/10/2009	-0.3995	37.4717	1768	7	0.74	10.0	-26.4	1014	1.5	-24.4
Nyanjara river-Embu manyatta	03/10/2009	-0.3843	37.4588	1756	13	2.51	19.3	-27.7	2461	0.8	-25.3
Rupingazi River (B)-Embu manyatta	03/10/2009	-0.3811	37.4531	1753	3	0.39	14.9	-29.1	1005	1.5	-25.9
Karute River-Mt. Kenya forest	04/10/2009	-0.3659	37.3106	2130	3	0.83	27.8	-28.5	2756	1.2	-26.8
Gathiba River-Mt. Kenya Forest	04/10/2009	-0.3587	37.3133	2142	4	1.00	25.0	-28.7	2864	0.6	-25.2
Thiba river (B)-Mt. Kenya Forest	05/10/2009	-0.3988	37.3086	1939	2	0.71	32.1	-29.3	2443	0.9	-26.5
Kiringa river-Kirinyaga close to Mt kenya	05/10/2009	-0.5043	37.3211	1461	33	3.46	10.4	-26.6	1101	4.1	-26.9
Nithi tributary-Mt Kenya N.P	06/10/2009	-0.1543	37.4385	2964	4	0.54	14.2	-29.5	1399	1.3	-24.1
Giinchi River-chogoria close to Mt. Kenya	07/10/2009	-0.2514	37.6000	1634	6	0.33	5.3	-31.8	1591	1.0	-25.8
Maara river-chogoria close to Mt. Kenya	07/10/2009	-0.2401	37.5985	1664	10	1.49	15.2	-28.4	2490	1.0	-25.6
Chania-Thika river-Thika	14/10/2009	-1.0261	37.2447	1421	6	0.39	7.0	-24.0	328	6.4	-22.1
Mathioya river-Muran'ga	15/10/2009	-0.7141	37.1806	1157	1886	58.69	3.1	-24.9			
Thuchi River-Ishara	17/10/2009	-0.4461	37.7894	824	333	12.40	3.7	-27.2	4780	4.7	-26.6
Mutonga river-Tharaka	19/10/2009	-0.3089	37.8735	713	1460	32.21	2.2	-23.8	23612	3.6	-25.1
Maara river down-Tharaka	19/10/2009	-0.3440	37.8708	682	5904	85.53	1.4	-22.1	38148	3.7	-26.5
Kazita River-Tharaka	22/10/2009	-0.1508	37.9721	572	481	8.75	1.8	-23.2	12051	3.2	-23.4
Nyambene Hills Region											
Thanandu River-Tharaka	20/10/2009	-0.1000	38.0088	587	3688	50.62	1.4	-22.2		3.0	-23.8
murera river-meru N.Park	23/10/2009	0.2687	38.1321	736	6	0.78	14.0	-28.4	3137	1.0	-24.2
Rojewero river-Meru N.P	24/10/2009	-0.0693	38.4187	333	95	3.92	4.1	-24.2	465	4.2	-23.6
Ura river-Meru N.P	26/10/2009	0.0231	38.0662	689	33	1.39	4.2	-23.9	2457	1.9	-23.4
Mutundu River-Meru N.P	27/10/2009	0.2151	38.1292	709	17	1.27	7.5	-23.4	1089	1.7	-21.6
Main Tana River											
Tana river-masinga bridge	18/09/2009	-0.8739	37.5913	1013	144	2.46	1.7	-23.7	2534	1.8	-23.6
Sagana River-Makutano	15/10/2009	-0.7879	37.2685	1054	40	1.55	3.9	-19.9	281	3.4	-24.7
Tana river-Ikira bridge-Ishara	18/10/2009	-0.4742	37.9132	543	4486	108.55	2.4	-23.1	20708	4.1	-24.8
Tana river-usueni bridge	21/10/2009	-0.1516	38.1968	389	1740	25.49	1.5	-23.9	18366	5.1	-23.4
Tana River-Kora bridge	24/10/2009	-0.0766	38.4146	324	603	12.78	2.1	-22.8	14365	3.1	-22.9
Tana river-Ura river junction	26/10/2009	-0.0546	38.3108	355	88	2.66	3.0	-23.8	2046	2.1	-23.8
Tana river-Saka	01/11/2009	-0.1453	39.3256	175	6778	90.61	1.3	-21.7	16913	2.8	-24.4
Tana River -Garissa bridge	02/11/2009	-0.4636	39.6366	153	7058	118.63	1.7	-21.1	22308	2.7	-23.7
Tana River-Sankuri	03/11/2009	-0.3025	39.5506	152	5112	115.49	2.3	-21.3	25953	2.4	-24.3
Tana River-Balambala	04/11/2009	-0.0939	39.1050	196	6075	119.83	2.0	-21.4	28382	2.7	-23.8
Tana River-Jara	06/11/2009	-0.7073	39.8057	120	4870	44.18	0.9	-21.6	18209	2.5	-24.2
Tana River-Bura Bridge	06/11/2009	-1.0996	39.9379	87	5640	103.78	1.8	-21.9	34662	3.1	-23.7
Tana River-Garsen bridge	07/11/2009	-2.2887	40.1266	20	5098	88.81	1.7	-21.6		3.0	-24.0
Tana River-Tana Primate	08/11/2009	-1.8511	40.1153	31	5212	102.93	2.0	-21.3	40781	2.8	-23.6
Tana River-Hola	09/11/2009	-1.4945	40.0393	53	5230	112.50	2.2	-22.3	22465		

Supplementary Table 1 (continued): Overview of TSM, POC, %POC, $\delta^{13}\text{C}$ -POC, POC/Chlorophyll *a* ratios, DOC and $\delta^{13}\text{C}$ -DOC for the different sampling sites during the wet season and end-of-wet season sampling campaigns. Note that full data for the dry season can be found in Bouillon et al. (2009)

Sampling site	Date	Latitude (decimal degrees)	Longitude (decimal degrees)	Altitude (m)	TSM (mg L ⁻¹)	POC (mg L ⁻¹)	%POC (% of TSM)	$\delta^{13}\text{C}$ -POC (‰)	POC/Chl <i>a</i> (-)	DOC (mg L ⁻¹)	$\delta^{13}\text{C}$ -DOC (‰)
End of wet season											
Aberdares Region											
Chania river-Aberdares N.P	09/06/2010	-0.4572	36.7026	3003	3	1.25	37.9	-25.0	4306	3.9	-24.2
Gikururu river-Aberdares N.P	09/06/2010	-0.4704	36.7123	2970	16	2.62	16.7	-24.6	6467	6.7	-23.3
Magura river-Aberdares N.P	10/06/2010	-0.4866	36.7076	2989	13	3.57	28.2	-24.8	20332	6.9	-22.6
Karuru river-Aberdares N.P	10/06/2010	-0.5299	36.7166	2949	6	0.77	12.3	-25.3	3286	3.8	-23.6
Kinaini river-Aberdares N.P	08/06/2010	-0.3873	36.8168	2274	23	1.88	8.1	-26.2	8392	2.9	-23.9
Honi River-Aberdares N. P	07/06/2010	-0.3613	36.6737	3219	3	0.51	20.4	-25.8	2619	6.3	-25.0
Muringato River-Aberdares N. P	11/06/2010	-0.3746	36.8837	1991	158	12.61	8.0	-25.2	5738	3.6	-25.0
Chania River-Nyeri Town	05/06/2010	-0.4151	36.9436	1763	25	1.52	6.1	-25.1	534	3.3	-24.0
Gura River-Othaya	06/06/2010	-0.4990	36.9363	1769	7	0.72	10.6	-24.6	75	3.0	-23.1
Kamburu Dam											
Kamburu dam-Tana entrance	30/06/2010	-0.8341	37.6731	1010	66	1.63	2.5	-24.3	471	3.2	-23.1
Mt Kenya Region											
Thiba river-Kerogoya kutus	14/06/2010	-0.5671	37.3226	1293	38	3.91	10.3	-23.5	4406	2.1	-23.1
Nyamidi River-Kerogoya	15/06/2010	-0.5474	37.3886	1353	9	0.74	8.1	-26.2	868	2.6	-24.1
Rupingazi River-Embu Town	15/06/2010	-0.5450	37.4490	1302	27	1.22	4.6	-25.1	1080	2.3	-24.2
Thambana river-Manyatta embu	19/06/2010	-0.3995	37.4717	1768	44	4.42	10.0	-24.8	5425	2.7	-23.5
Nyanjara river-Embu manyatta	19/06/2010	-0.3843	37.4588	1756	17	2.39	14.3	-25.9	3378	2.3	-23.5
Rupingazi River (B)-Embu manyatta	16/06/2010	-0.3811	37.4531	1753	5	0.60	13.3	-26.5	1111	2.9	-23.9
Karute River-Mt. Kenya forest	14/06/2010	-0.3659	37.3106	2130	3	0.82	24.0	-26.8	2725	2.4	-23.8
Thiba River-Mwea	01/07/2010	-2.4027	40.3515	1019	43	1.74	4.1	-23.6	2811	3.4	-24.0
Thiba river (B)-Mt. Kenya Forest	13/06/2010	-0.3988	37.3086	1939	10	1.31	13.3	-27.0	2271	2.2	-23.7
Kiringa river-Kirinyaga close to Mt Kenya	13/06/2010	-0.5043	37.3211	1461	14	0.97	7.0	-26.1	1363	2.3	-23.6
Niithi tributary-Mt Kenya N.P	22/06/2010	-0.1543	37.4385	2964	1	0.73	77.3	-25.7	2001	2.2	-22.9
Giinchi River-chogoria close to Mt.Kenya	21/06/2010	-0.2514	37.6000	1634	16	1.81	11.3	-27.1	2570	2.1	-24.4
Maara river-chogoria close to Mt. Kenya	22/06/2010	-0.2401	37.5985	1664	12	1.37	11.6	-27.1	1759	2.3	-24.0
Chania-Thika river-Thika	03/06/2010	-1.0261	37.2447	1421	114					3.7	-23.7
Mathioya river-Muran'ga	12/06/2010	-0.7141	37.1806	1157	40	1.54	3.8	-24.3	1913	2.2	-22.9
Thuchi River-Ishiara	24/06/2010	-0.4461	37.7894	824	34					2.8	-24.2
Mutonga river-Tharaka	23/06/2010	-0.3089	37.8735	713	18	0.73	4.0	-25.0	716	2.4	-22.8
Maara river down-Tharaka	23/06/2010	-0.3440	37.8708	682	21	1.27	6.1	-25.3	1293	2.8	-24.7
Kazita River-Tharaka	02/07/2010	-0.1508	37.9721	572	18	0.62	3.5	-23.8	348	3.0	-24.6
Nyamene Hills Region											
Thanandu River-Tharaka	02/07/2010	-0.1000	38.0088	587	15	0.64	4.3	-23.4	217	2.4	-26.3
murera river-meru N.Park	04/07/2010	0.2687	38.1321	736	17	0.84	5.1	-26.1	796	2.8	-25.8
Rojewero river-Meru N.P	06/07/2010	-0.0693	38.4187	333	105	3.17	3.0	-23.7	1334	5.5	-26.9
Ura river-Meru N.P	05/07/2010	0.0231	38.0662	689	9	0.44	5.0	-23.4	696	2.4	-25.8
Mutundu River-Meru N.P	04/07/2010	0.2151	38.1292	709	18	1.17	6.5	-21.4	1457	3.0	-24.6
Main Tana River											
Sagana River-Makutano	12/06/2010	-0.7879	37.2685	1054	89	7.30	8.2	-23.3	9494	3.2	-20.9
Tana river-masinga bridge	01/07/2010	-0.8739	37.5913	1013	82	1.90	2.3	-21.8		3.1	-23.2
Tana river-Iriira bridge-Ishiara	24/06/2010	-0.4742	37.9132	543	75	5.09	6.8	-25.2	10012	3.5	-22.7
Tana river-usueni bridge	03/07/2010	-0.1516	38.1968	389	62	1.04	1.7	-22.5	1340	3.6	-25.4
Tana River-Kora bridge	06/07/2010	-0.0766	38.4146	324	79	2.23	2.8	-23.9	2303	3.6	-24.1
Tana river-Ura river junction	05/07/2010	-0.0546	38.3108	355	60	1.68	2.8	-23.0	1849	3.1	-24.8
Tana river-Saka	17/07/2010	-0.1453	39.3256	175	116	2.58	2.2	-23.0	991	2.9	-24.1
Tana River -Garissa bridge	16/07/2010	-0.4636	39.6366	153	192	3.25	1.7	-22.9	598	3.0	-24.1
Tana River-Sankuri	17/07/2010	-0.3025	39.5506	152	144	2.67	1.9	-22.8	708	3.8	-22.1
Tana River-Balambala	15/06/2010	-0.0939	39.1050	196	100	3.69	3.7	-23.2	1770	3.3	-23.5
Tana River-Jara	18/07/2010	-0.7073	39.8057	120	180	3.90	2.2	-22.9	644	3.1	-23.9
Tana River-Bura Bridge	19/07/2010	-1.0996	39.9379	87	273	3.30	1.2	-22.2	440		
Tana River-Garsen bridge	22/07/2010	-2.2887	40.1266	20	398	5.23	1.3	-22.5	582	2.8	-24.5
Tana River-Tana Primate	21/07/2010	-1.8511	40.1153	31	303	3.89	1.3	-23.0	471	3.7	-25.9
Tana River-Hola	21/07/2010	-1.4945	40.0393	53	314	5.56	1.8	-21.7	674	3.8	-23.9
Tana River-Chalaluma	21/07/2010	-2.4098	40.3518	8	471	6.40	1.4	-21.7	714	4.0	-23.1

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Supplementary Table 2: An overview for organic carbon content (%OC), nitrogen content (%N), OC:N and carbon isotopic composition for surface soil samples and riverine sediments, during 3 different sampling campaigns. Sampling dates and site coordinates can be found in Supplementary Table 1, and in Bouillon et al. (2009).

Sampling site	Altitude (m)	soil %OC (% DW)	soil %N (% DW)	soil TOC/TN (-)	soil $\delta^{13}\text{C-OC}$ (‰)	sediment %OC (% DW)	sediment %N (% DW)	sediment TOC/TN (-)	sediment $\delta^{13}\text{C-OC}$ (‰)
Wet season									
Aberdares Region									
Chania river-Aberdares N.P	3003	20.19	0.80	25.1	-23.7	1.51	0.10	15.3	-22.1
Gikururu river-Aberdares N.P	2970	1.90	0.15	12.8	-21.7	4.51	0.28	16.2	-21.9
Magura river-Aberdares N.P	2989	4.82	0.29	16.9	-21.9	1.85	0.10	17.7	-21.2
Karuru river-Aberdares N.P	2949	13.63	0.93	14.7	-17.0	4.34	0.28	15.3	-23.3
Kinaini river-Aberdares N.P	2274	9.51	0.75	12.7	-19.9	18.97	1.03	18.5	-27.1
Honi River-Aberdares N. P	3219	8.17	0.55	14.8	-24.7	1.37	0.09	15.9	-24.3
Muringato River-Aberdares N. P	1991	3.89	0.40	9.7	-14.5	6.29	0.54	11.6	-25.5
Chania River-Nyeri Town	1763	3.73	0.28	13.5	-22.8				
Gura River-Othaya	1769	2.83	0.26	10.7	-19.2	0.66	0.06	10.6	-23.6
Satima springs									
Satima springs-stream 1 A	3600	26.81	1.46	18.3	-24.7				
Kamburu Dam									
Kamburu dam-exit point-19 m depth	1010					1.84	0.20	9.0	-20.7
Mt Kenya Region									
Thiba river-Kerogoya kutus	1293	3.43	0.34	10.2	-24.1	1.13	0.11	10.1	-22.7
Nyamidi River-Kerogoya	1353	2.16	0.09	24.2	-17.9	0.38	0.03	10.9	-23.7
Rupingazi River-Embu Town	1302	2.72	0.20	13.7	-23.0	0.33	0.03	11.2	-21.9
Thambana river-Manyatta embu	1768	6.73	0.58	11.5	-22.5	1.44	0.12	11.8	-23.4
Nyanjara river-Embu manyatta	1756	2.94	0.23	12.6	-22.5	5.79	0.50	11.5	-24.9
Rupingazi River (B)-Embu manyatta	1753	3.26	0.24	13.3	-25.1	0.61	0.04	14.6	-25.2
Karute River-Mt. Kenya forest	2130	7.63	0.59	12.9	-27.2	1.37	0.09	15.9	-25.4
Gathiba River-Mt. Kenya Forest	2142	4.61	0.41	11.2	-22.5	0.82	0.06	13.4	-25.6
Thiba river (B)-Mt. Kenya Forest	1939	12.35	1.09	11.4	-26.9	0.69	0.05	14.0	-23.6
Kiringa river-Kirinyaga close to Mt kenya	1461	3.26	0.12	27.1	-24.8	0.46	0.04	10.2	-23.1
Nithi tributary-Mt Kenya N.P	2964	4.22	0.35	12.2	-25.6	0.71	0.05	14.8	-24.8
Giinchi River-chogoria close to Mt.Kenya	1634	7.08	0.49	14.5	-26.7	1.85	0.15	12.0	-23.8
Maara river-chogoria close to Mt. Kenya	1664	2.63	0.20	13.2	-22.0	0.72	0.06	11.8	-25.0
Chania-Thika river-Thika	1421	6.04	0.35	17.3	-23.9	1.55	0.15	10.2	-23.2
Mathioya river-Muran'ga	1157	2.27	0.16	14.3	-25.1	0.56	0.06	9.6	-21.5
Thuchi River-Ishiar	824	2.22	0.23	9.7	-25.8	0.39	0.04	9.8	-22.3
Mutonga river-Tharaka	713	3.93	0.23	16.9	-25.9	0.23	0.01	17.6	-24.9
Maara river down-Tharaka	682	2.56	0.25	10.1	-25.6	0.28	0.03	10.8	-23.3
Kazita River-Tharaka	572	1.98	0.17	11.7	-25.7	0.06	0.00	14.1	-25.4
Nyambene Hills Region									
Thanandu River-Tharaka	587	1.53	0.12	13.1	-23.9	0.06	0.00	12.3	-23.3
murera river-meru N.Park	736	2.39	0.22	10.7	-24.5	0.15	0.02	9.4	-24.5
Rojewero river-Meru N.P	333	0.44	0.03	13.2	-25.3	0.54	0.05	10.5	-24.9
Ura river-Meru N.P	689	2.03	0.18	11.5	-22.2	0.18	0.02	9.0	-25.2
Mutundu River-Meru N.P	709	3.70	0.30	12.3	-22.0	16.78	0.62	27.0	-20.3
Main Tana River									
Tana river-masinga bridge	1013	2.39	0.22	10.9	-27.0	0.08	0.01	11.5	-27.8
Sagana River-Makutano	1054	2.09	0.17	12.6	-21.5	0.40	0.03	13.0	-20.7
Tana river-Irira bridge-Ishiara	543	0.64	0.04	15.3	-25.7	0.11	0.01	15.8	-25.1
Tana river-usueni bridge	389	0.76	0.07	10.2	-26.2	0.05	0.01	8.1	-23.5
Tana River-Kora bridge	324	0.10	0.01	10.6	-23.1	0.05	0.004	12.4	-25.9
Tana river-Ura river junction	355	1.09	0.10	11.1	-25.8	0.61	0.05	12.6	-24.8
Tana river-Saka	175	0.99	0.09	10.8	-24.4	0.14	0.01	14.4	-25.6
Tana River -Garissa bridge	153	1.24	0.10	12.3	-21.7				
Tana River-Sankuri	152	1.00	0.09	10.9	-23.3	0.80	0.08	10.2	-23.6
Tana River-Balambala	196	0.71	0.07	10.0	-24.8	0.07	0.01	12.8	-25.2
Tana River-Jara	120	4.83	0.30	16.2	-26.3	0.91	0.07	12.6	-24.5
Tana River-Bura Bridge	87	1.06	0.09	12.2	-22.3	0.07	0.00	15.8	-25.0
Tana River-Garsen bridge	20	0.86	0.08	11.5	-24.9	0.08	0.00	31.2	-24.3
Tana River-Tana Primate	31	4.35	0.38	11.5	-21.1	0.08	0.00	17.5	-25.0
Tana River-Hola	53	3.84	0.26	14.6	-26.0	0.09	0.01	14.6	-22.6

Supplementary Table 2 (continued): An overview for organic carbon content (%OC), nitrogen content (%N), OC:N and carbon isotopic composition for surface soil samples and riverine sediments, during 3 different sampling campaigns. Sampling dates and site coordinates can be found in Supplementary Table 1, and in Bouillon et al. (2009).

Sampling site	Altitude (m)	soil %OC (% DW)	soil %N (% DW)	soil TOC/TN (-)	soil $\delta^{13}\text{C-OC}$ (‰)	sediment %OC (% DW)	sediment %N (% DW)	sediment TOC/TN (-)	sediment $\delta^{13}\text{C-OC}$ (‰)
Dry season									
Aberdares Region									
Muringato river (Aberdares)	2010	2.06	0.30	6.9	-19.6	4.54	0.44	10.4	-24.5
Chania river (Aberdares)	3020	6.19	0.54	11.4	-20.9	4.82	0.29	16.8	-22.9
Maguru river (Aberdares)	3010	6.84	0.54	12.7	-19.5	2.83	0.18	15.9	-21.4
Karuru, upstream of falls (Aberdares)	2940	17.23	1.35	12.8	-13.2	4.57	0.29	15.7	-22.0
Nyambene Hills Region									
Mutundu river, Meru NP	620	1.44	0.13	11.2	-14.3				
Rojewero river, Meru NP	610	0.99	0.09	10.5	-17.4	0.74	0.07	11.3	-22.9
Mt Kenya Region									
Thingithu river, Mt Kenya slope	1500	2.01	0.17	11.8	-24.0	0.75	0.07	11.1	-23.1
Mara river, Mt Kenya slope	1350	1.39	0.17	8.4	-18.4	0.49	0.05	10.8	-22.3
Nithi river, Mt Kenya slope	1400	1.30	0.13	9.9	-22.8	0.67	0.06	10.5	-23.0
Ruguti river, Mt Kenya slope	1590	3.27	0.34	9.7	-22.4	5.67	0.35	16.3	-26.6
Thuchi river, Mt Kenya slope	1440	3.03	0.29	10.6	-26.5	2.43	0.22	11.0	-24.6
Main Tana River									
Sagana river, 5km before Masinga dam	1110	1.80	0.17	10.5	-20.9	1.39	0.13	11.0	-21.9
Tana river near Katse	550	0.23	0.04	6.3	-20.0	0.17	0.02	9.3	-23.0
Tana river, 500 m below Adamsons Falls	350	0.51	0.07	6.8	-24.6	0.01	0.00	8.3	-20.5
Tana river @ Nanigi	110	0.77	0.06	13.4	-20.6				
Tana river @ Masalani	50	1.53	0.16	9.7	-19.0	0.03	0.00	8.0	-20.8
Tana river @ TR primate reserve	36	1.79	0.16	10.9	-28.5	0.05	0.00	11.4	-16.2
Tana river @ Garsen (road to Lamu)	18	0.80	0.09	9.1	-20.7				
Tana river (Matombe branch) @ Chalaluma	8	2.92	0.27	10.8	-15.0	1.05	0.08	13.5	-22.3

Supplementary Table 2 (continued): An overview for organic carbon content (%OC), nitrogen content (%N), OC:N and carbon isotopic composition for surface soil samples and riverine sediments, during 3 different sampling campaigns. Sampling dates and site coordinates can be found in Supplementary Table 1, and in Bouillon et al. (2009).

Sampling site	Altitude (m)	soil %OC (% DW)	soil %N (% DW)	soil TOC/TN (-)	soil $\delta^{13}\text{C-OC}$ (‰)	sediment %OC (% DW)	sediment %N (% DW)	sediment TOC/TN (-)	sediment $\delta^{13}\text{C-OC}$ (‰)
End of wet season									
Aberdares Region									
Chania river-Aberdares N.P	3003	8.22	0.79	10.5	-18.1	1.10	0.07	15.0	-21.2
Gikururu river-Aberdares N.P	2970	9.02	0.65	13.8	-20.0	2.10	0.13	16.5	-22.3
Magura river-Aberdares N.P	2989	6.38	0.42	15.3	-18.3	2.42	0.14	17.4	-21.4
Karuru river-Aberdares N.P	2949	5.34	0.43	12.3	-21.7	0.91	0.05	18.0	-22.7
Kinaini river-Aberdares N.P	2274	4.21	0.39	10.8	-19.9	0.40	0.03	13.2	-24.2
Honi River-Aberdares N. P	3219	7.93	0.76	10.4	-21.3	1.38	0.08	17.2	-24.5
Muringato River-Aberdares N. P	1991	7.32	0.45	16.2	-17.3	0.33	0.03	12.5	-24.7
Chania River-Nyeri Town	1763	3.15	0.25	12.5	-23.8	1.22	0.11	11.1	-22.7
Gura River-Othaya	1769	1.39	0.13	10.9	-19.4	0.71	0.06	11.0	-22.8
Mt Kenya Region									
Thiba river-Kerogoya kutus	1293	4.57	0.43	10.7	-25.0	1.31	0.14	9.7	-21.7
Nyamidi River-Kerogoya	1353	3.15	0.28	11.2	-22.2	0.60	0.05	12.1	-23.3
Rupingazi River-Embu Town	1302	0.00	0.00	13.3	-23.0	1.62	0.15	10.8	-23.2
Thambana river-Manyatta embu	1768	4.57	0.40	11.4	-21.7	1.53	0.13	11.9	-23.2
Nyanjara river-Embu manyatta	1756	3.41	0.27	12.7	-23.8	1.68	0.14	11.8	-23.1
Rupingazi River (B)-Embu manyatta	1753	3.19	0.28	11.4	-24.2	0.19	0.01	13.5	-24.2
Karute River-Mt. Kenya forest	2130	2.88	0.23	12.4	-24.1	0.95	0.06	14.8	-24.6
Thiba River-Mwea	1019	0.58	0.04	13.0	-17.9				
Thiba river (B)-Mt. Kenya Forest	1939	6.00	0.52	11.5	-26.0	2.48	0.20	12.2	-25.1
Kiringa river-Kirinyaga close to Mt kenya	1461	1.30	0.13	10.2	-19.4	0.33	0.03	11.7	-23.2
Nithi tributary-Mt Kenya N.P	2964	4.29	0.38	11.3	-22.8	0.24	0.02	15.7	-24.5
Giinchi River-chogoria close to Mt.Kenya	1634	2.45	0.16	14.9	-24.7	1.91	0.14	14.0	-24.7
Maara river-chogoria close to Mt. Kenya	1664	3.94	0.38	10.5	-20.1	0.41	0.03	13.1	-24.2
Chania-Thika river-Thika	1421	3.58	0.25	14.2	-21.7	2.23	0.14	15.4	-24.1
Mathioya river-Muran'ga	1157	1.38	0.13	10.8	-20.9	0.68	0.07	10.4	-20.8
Thuchi River-Ishiara	824	1.56	0.17	9.3	-25.4	0.30	0.03	12.0	-23.0
Mutonga river-Tharaka	713	1.31	0.11	11.7	-25.1	0.22	0.02	11.9	-22.9
Maara river down-Tharaka	682	0.91	0.08	11.0	-21.6	0.19	0.02	10.7	-22.1
Kazita River-Tharaka	572	1.59	0.15	10.6	-23.7	0.23	0.02	11.1	-19.6
Nyambene Hills Region									
Thanandu River-Tharaka	587	0.97	0.08	12.4	-24.4	0.07	0.01	9.8	-20.8
murera river-meru N.Park	736	5.04	0.44	11.4	-23.6	0.40	0.04	10.8	-21.2
Rojewero river-Meru N.P	333	0.77	0.07	11.0	-26.1	0.10	0.01	9.9	-23.5
Ura river-Meru N.P	689	1.48	0.12	12.2	-22.0	0.15	0.02	10.0	-22.1
Mutundu River-Meru N.P	709	2.90	0.22	13.3	-21.0	1.50	0.07	20.6	-17.7
Main Tana River									
Sagana River-Makutano	1054	1.82	0.16	11.4	-21.9	1.30	0.12	10.9	-22.0
Tana river-masinga bridge	1013	2.24	0.20	11.1	-24.6	0.04	0.00	8.0	-21.5
Tana river-Irira bridge-Ishiara	543	1.80	0.15	12.2	-25.5	0.07	0.01	10.5	-22.6
Tana river-usueni bridge	389	0.36	0.05	7.7	-22.7	0.03	0.00	10.5	-22.3
Tana River-Kora bridge	324	1.29	0.11	12.3	-25.0	0.03	0.00	8.2	-23.5
Tana river-Ura river junction	355	1.22	0.09	13.2	-26.3				
Tana river-Saka	175	0.45	0.05	8.3	-21.1	0.08	0.01	8.4	-22.4
Tana River -Garissa bridge	153	0.46	0.05	8.8	-22.7	0.02	0.00	5.9	-22.0
Tana River-Sankuri	152	0.03	0.00	14.8	-23.2	0.02	0.00	6.2	-23.0
Tana River-Balambala	196	1.30	0.13	9.7	-26.7	0.03	0.01	5.8	-23.2
Tana River-Jara	120	1.30	0.11	12.1	-24.4	0.20	0.02	11.1	-24.0
Tana River-Bura Bridge	87	0.08	0.01	9.5	-21.5	0.04	0.00	8.7	-22.6
Tana River-Garsen bridge	20	0.45	0.04	10.6	-20.1	0.11	0.01	11.3	-20.7
Tana River-Tana Primate	31	0.21	0.01	14.8	-22.9	0.03	0.00	7.7	-22.1
Tana River-Hola	53	2.39	0.21	11.2	-25.8	0.02	0.00	7.8	-22.8
Tana River- Chalaluma	8	4.52	0.39	11.4	-19.2	0.66	0.06	10.5	-21.0

F. Tamooh et al. (2012) Distribution and origin of suspended sediments and organic carbon pools in the Tana River Basin, Kenya.

Supplementary Table 3: Overview for organic carbon content (%OC), nitrogen content (N%), TOC:TN ratios, $\delta^{13}\text{C}$ values of organic C, surface area (SA) and OC:SA ratios for sediment cores from Masinga Reservoir, collected in September/October 2009.

Sampling site	Core depth (cm)	%OC (%)	%N (%)	TOC/TN (-)	$\delta^{13}\text{C}$ -OC	SA ($\text{m}^2 \text{g}^{-1}$)	OC:SA (mg OC m^{-2})
Masinga core A	0	1.78	0.19	9.3	-19.5	79.3	0.22
Masinga core A	3	1.68	0.17	10.0	-18.6	83.5	0.20
Masinga core A	6	1.62	0.16	10.1	-17.9	78.3	0.21
Masinga core A	7.5	1.58	0.15	10.3	-17.3	93.8	0.17
Masinga core A	9	1.41	0.15	9.7	-18.1	85.2	0.17
Masinga core A	10.5	1.58	0.17	9.5	-18.3	81.4	0.19
Masinga core A	12	1.58	0.16	9.6	-18.2	75.6	0.21
Masinga core A	13.5	1.48	0.16	9.6	-18.0	78.6	0.19
Masinga core A	15	1.46	0.15	9.7	-17.6	79.5	0.18
Masinga core A	16.5	1.47	0.15	9.8	-17.4	82.2	0.18
Masinga core A	18	1.90	0.19	10.1	-17.3	76.0	0.25
Masinga core A	30	1.27	0.13	10.1	-17.4		
Masinga core B	0	1.30	0.11	11.3	-17.5	61.9	0.21
Masinga core B	2	1.19	0.10	11.4	-17.3	62.3	0.19
Masinga core B	5	1.09	0.09	11.7	-17.4	59.8	0.18
Masinga core B	10	1.35	0.12	11.7	-17.1	78.6	0.17
Masinga core C	0	1.69	0.16	10.7	-19.6	66.2	0.25
Masinga core C	2	1.49	0.14	10.5	-18.8	74.3	0.20
Masinga core C	5	1.45	0.14	10.5	-18.8	71.4	0.20
Masinga core C	10	1.41	0.11	12.8	-15.7	87.2	0.16

Supplementary Table 4: Overview of data on surface areas (SA) and OC:SA ratios for soils, riverine sediments and total suspended matter (TSM) in the Tana River basin, during wet and dry season sampling. For site coordinates, see Supplementary Table 1 and Bouillon et al. (2009).

Sampling site	soil SA (m ² g ⁻¹)	soil OC:SA (mg OC m ⁻²)	sediment SA (m ² g ⁻¹)	sediment OC:SA (mg OC m ⁻²)	TSM SA (m ² g ⁻¹)	TSM OC:SA (mg OC m ⁻²)
Wet season						
Aberdares Region						
Chania river-Aberdares N.P	29.3	6.89	93.6	0.16		
Gikururu river-Aberdares N.P	86.8	0.22	66.3	0.68		
Magura river-Aberdares N.P	95.9	0.50	105.0	0.18		
Karuru river-Aberdares N.P	22.7	6.00	66.1	0.66		
Kinaini river-Aberdares N.P	40.3	2.36	26.7	7.12		
Honi River-Aberdares N. P	42.1	1.94	53.8	0.26		
Muringato River-Aberdares N. P	41.9	0.93	40.0	1.57		
Chania River-Nyeri Town	38.3					
Gura River-Othaya	45.8	0.62	45.7	0.14		
Satima springs						
Satima springs-stream 1 A	19.6					
Kamburu Dam						
Kamburu dam- exit point			84.9	0.22		
Mt Kenya Region						
Thiba river-Kerogoya kutus	55.7	0.62	49.8	0.23		
Nyamidi River-Kerogoya	54.4	0.40	37.8	0.10		
Rupingazi River-Embu Town	57.9	0.47	38.9	0.09		
Thambana river-Manyatta embu	45.8	1.47	41.6	0.35		
Nyanjara river-Embu manyatta	41.7	0.71	47.2	1.23		
Rupingazi River (B)-Embu manyatta	61.4	0.53	56.5	0.11		
Karute River-Mt. Kenya forest	51.7	1.47	58.8	0.23		
Gathiba River-Mt.Kenya Forest	45.9	1.00	41.7	0.20		
Thiba river (B)-Mt. Kenya Forest	53.1	2.33	58.2	0.12		
Kiringa river-Kirinyaga close to Mt kenya	21.9	1.49	50.6	0.09		
Nithi tributary-Mt Kenya N.P	55.7	0.76	36.1	0.20		
Giinchi River-chogoria close to Mt.Kenya	15.0	4.71	56.6	0.33		
Maara river-chogoria close to Mt. Kenya	39.7	0.66	43.6	0.16		
Chania-Thika river-Thika	68.1	0.89	48.3	0.32		
Mathioya river-Muran'ga	47.7	0.48	52.7	0.11		
Thuchi River-Ishara	70.3	0.32	24.9	0.16		
Mutonga river-Tharaka	6.2	6.33	8.8	0.26		
Maara river down-Tharaka	5.8	4.39	22.5	0.12		
Kazita River-Tharaka	35.2	0.56	0.9	0.60		
Nyambene Hills Region						
Thanandu River-Tharaka	31.5	0.49	4.4	0.14		
murera river-meru N.Park	2.4	9.96	15.6	0.10		
Rojewero river-Meru N.P	24.7	0.18	7.4	0.72		
Ura river-Meru N.P	3.6	5.65	20.8	0.09		
Mutundu River-Meru N.P	43.9	0.84	32.1	5.22		
Main Tana River						
Tana river-masinga bridge	17.2	1.38	2.4	0.34		
Sagana River-Makutano	47.4	0.44	13.9	0.29		
Tana river-Irira bridge-Ishara	35.1	0.18	2.6	0.41		
Tana river-usueni bridge	35.8	0.21	3.9	0.14	63.6	0.23
Tana River-Kora bridge	13.0	0.08	2.9	0.17	39.9	0.53
Tana river-Ura river junction	7.3	1.50	5.5	1.12		
Tana river-Saka	9.9	1.01	3.6	0.40	69.3	0.19
Tana River -Garissa bridge	13.2	0.94			75.6	0.22
Tana River-Sankuri	18.2	0.55	22.5	0.36		
Tana River-Balambala	9.7	0.74	1.9	0.36		
Tana River-Jara	9.4	5.12	25.5	0.36		
Tana River-Bura Bridge	30.6	0.34	3.7	0.18	67.0	0.27
Tana River-Garsen bridge	22.6	0.38			79.7	0.22
Tana River-Tana Primate	8.6	5.06	5.6	0.14		
Tana River-Hola	18.8	2.04	4.4	0.20	74.2	0.29
Dry season (February 2008)						
Muringato river (Aberdares)	98.2	0.21				
Chania river (Aberdares)	58.1	1.07				
Maguru river (Aberdares)	56.9	1.20				
Karuru, upstream of falls (Aberdares)	35.7	4.82				
Mutundu river, Meru NP	49.1	0.29				
Rojewero river, Meru NP	62.8	0.16				
Thingithu river, Mt Kenya slope	50.1	0.40				
Mara river, Mt Kenya slope	72.8	0.19				
Nithi river, Mt Kenya slope	62.8	0.21				
Ruguti river, Mt Kenya slope	62.3	0.52				
Thuchi river, Mt Kenya slope	62.1	0.49				
Sagana river, 5km before Masinga dam	56.3	0.32				
Tana river just below Masinga dam						
Tana river, close to Katse	41.6	0.06				
Tana river, 500 m below Adamsons Falls	33.5	0.15				
Tana river @ Sankuri					71.9	0.22
Tana river @ Nanigi	43.7	0.18			82.1	0.17
Tana river @ Masalani	61.4	0.25			82.3	0.17
Tana river @ TR primate reserve	47.4	0.38			77.4	0.17
Tana river @ Garsen (road to Lamu)	76.3	0.10			77.5	0.14
Tana river (Matombe branch) @ Chalaluma	44.2	0.66				

Supplementary Table 5: An overview for organic carbon content (%OC), nitrogen content (N%), C:N and carbon isotopic composition for river bank depth profile soils, collected in September 2011.

Sampling site	Latitude (decimal degrees)	Longitude (decimal degrees)	Depth (cm)	%OC (% DW)	%N (% DW)	POC/PN (-)	$\delta^{13}\text{C-OC}$ (‰)
Tana-Garsen	-2.27431	40.13144	5	1.33	0.14	9.2	-19.5
Tana-Garsen	-2.27431	40.13144	10	1.27	0.13	10.0	-19.5
Tana-Garsen	-2.27431	40.13144	50				
Tana-Garsen	-2.27431	40.13144	100	0.37	0.04	9.9	-15.9
Tana-Garsen	-2.27431	40.13144	150	0.12	0.01	8.4	-15.9
Tana-Garsen	-2.27431	40.13144	200	0.05			-15.5
Tana-Garsen	-2.27431	40.13144	5	0.92	0.09	10.5	-18.3
Tana-Garsen	-2.27431	40.13144	10	0.06	0.01	11.2	-17.7
Tana-Garsen	-2.27431	40.13144	50	0.23	0.02	10.6	-16.5
Tana-Garsen	-2.27431	40.13144	100	0.09	0.01	8.6	-15.9
Tana-Garsen	-2.27431	40.13144	150	0.06			-16.0
Tana-Garsen	-2.27431	40.13144	200	0.08			-16.7
Tana River Primate Reserve	-1.85756	40.11211	5	0.97	0.10	9.6	-18.3
Tana River Primate Reserve	-1.85756	40.11211	30	0.20	0.02	10.0	-18.1
Tana River Primate Reserve	-1.85756	40.11211	50	0.14	0.02	8.0	-17.4
Tana River Primate Reserve	-1.85756	40.11211	100	0.08	0.01	7.3	-16.9
Tana River Primate Reserve	-1.85756	40.11211	150	0.07	0.01	7.2	-15.0
Tana River Primate Reserve	-1.85756	40.11211	200	0.20	0.02	9.1	-18.9
Tana River Primate Reserve	-1.85756	40.11211	300	0.09	0.01	9.9	-12.0
Tana River Primate Reserve	-1.85756	40.11211	5	0.69	0.08	8.6	-15.8
Tana River Primate Reserve	-1.85756	40.11211	30	0.27	0.03	8.7	-17.0
Tana River Primate Reserve	-1.85756	40.11211	50	0.17	0.02	7.1	-16.8
Tana River Primate Reserve	-1.85756	40.11211	100	0.08	0.01	5.6	-15.7
Tana River Primate Reserve	-1.85756	40.11211	150	0.09	0.01	8.1	-15.8
Tana River Primate Reserve	-1.85756	40.11211	200	0.09	0.01	8.8	-15.4
Tana River Primate Reserve	-1.85756	40.11211	300	0.13	0.01	11.3	-11.9
Tana-Hola	-1.49464	40.03928	5	0.38	0.04	9.8	-17.7
Tana-Hola	-1.49464	40.03928	30	0.74	0.07	10.8	-19.5
Tana-Hola	-1.49464	40.03928	50	0.10	0.01	9.1	-17.3
Tana-Hola	-1.49464	40.03928	100	0.06	0.01	9.4	-14.9
Tana-Hola	-1.49464	40.03928	130	0.38	0.03	12.2	-20.6
Tana-Hola	-1.49464	40.03928	5	1.43	0.14	10.4	-18.7
Tana-Hola	-1.49464	40.03928	30	0.52	0.05	10.5	-19.4
Tana-Hola	-1.49464	40.03928	50	0.72	0.05	13.4	-21.7
Tana-Hola	-1.49464	40.03928	100	0.24	0.02	11.1	-20.6
Tana-Hola	-1.49464	40.03928	150	0.27	0.02	13.3	-20.7
Tana-Garissa	-0.39697	39.61275	5	1.73	0.17	10.1	-26.1
Tana-Garissa	-0.39697	39.61275	30	0.28	0.03	10.2	-19.9
Tana-Garissa	-0.39697	39.61275	50	0.56	0.05	11.2	-21.1
Tana-Garissa	-0.39697	39.61275	100	0.08	0.01	7.0	-19.9
Tana-Garissa	-0.39697	39.61275	150	0.09	0.01	8.2	-17.8
Tana-Garissa	-0.39697	39.61275	200	0.12	0.01	13.0	-19.5
Tana-Garissa	-0.39697	39.61275	250	0.23	0.02	13.9	-20.0
Tana-Garissa	-0.39697	39.61275	350	0.62	0.05	13.1	-22.1

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Supplementary Table 6: Overview of ^7Be activity, $^7\text{Be}/^{210}\text{Pb}_{\text{xs}}$ ratios and calculated suspended particulate matter age for selected sampling sites.

Sampling site	Date	Altitude (m)	^7Be (mBq g ⁻¹)	$^7\text{Be}/^{210}\text{Pb}_{\text{xs}}$	Suspended sediment age (days)
Wet season					
Tana-Ura	26/10/2009	355	45 ± 12	0.69	220
Tana-Kora	24/10/2009	324	22 ± 5	0.43	256
Tana-Saka	01/11/2009	175	23 ± 3	0.77	212
Tana-Garissa	03/11/2009	153	32 ± 2	0.92	197
Tana-Bura	06/11/2009	87	21 ± 2	1.33	170
Tana-Hola	09/11/2009	53	36 ± 4	0.86	203
Tana-Garsen	08/11/2009	20	20 ± 2	1.93	141
End of wet season					
Kamburu Exit	30/06/2010	1010	32 ± 14	2.12	134
Tana-Usueni	02/07/2010	389	35 ± 8	0.98	192
Ura river	05/07/2010	689	53 ± 9	4.51	75
Balambala	15/07/2010	196	22 ± 7	1.73	149
Sankuri	17/07/2010	152	1 ± 6	0.02	478
Jara	18/07/2010	120	24 ± 6	1.32	170
Tana-Ura	05/07/2010	355	30 ± 10	2.53	120
Tana-Kora	06/07/2010	324	20 ± 4	1.73	149
Tana-Hola	21/07/2010	53	20 ± 5	0.99	192
Tana-Garsen	22/07/2010	20	20 ± 3	1.76	148