

# Steven Bouillon

## List of Publications by Year in descending order

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120  
papers

11,816  
citations

53751

45  
h-index

28275

105  
g-index

138  
all docs

138  
docs citations

138  
times ranked

10758  
citing authors

#	ARTICLE	IF	CITATIONS
1	A blueprint for blue carbon: toward an improved understanding of the role of vegetated coastal habitats in sequestering CO <sub>2</sub> . <i>Frontiers in Ecology and the Environment</i> , 2011, 9, 552-560.	1.9	2,354
2	The habitat function of mangroves for terrestrial and marine fauna: A review. <i>Aquatic Botany</i> , 2008, 89, 155-185.	0.8	1,037
3	Organic carbon dynamics in mangrove ecosystems: A review. <i>Aquatic Botany</i> , 2008, 89, 201-219.	0.8	966
4	Mangrove production and carbon sinks: A revision of global budget estimates. <i>Global Biogeochemical Cycles</i> , 2008, 22, .	1.9	812
5	Globally significant greenhouse-gas emissions from African inland waters. <i>Nature Geoscience</i> , 2015, 8, 637-642.	5.4	348
6	Organic matter exchange and cycling in mangrove ecosystems: Recent insights from stable isotope studies. <i>Journal of Sea Research</i> , 2008, 59, 44-58.	0.6	343
7	Technical Note: Large overestimation of $\text{CO}_2$ calculated from pH and alkalinity in acidic, organic-rich freshwaters. <i>Biogeosciences</i> , 2015, 12, 67-78.	1.3	244
8	Primary producers sustaining macro-invertebrate communities in intertidal mangrove forests. <i>Oecologia</i> , 2002, 130, 441-448.	0.9	233
9	Sources of organic carbon in mangrove sediments: variability and possible ecological implications. <i>Hydrobiologia</i> , 2003, 495, 33-39.	1.0	228
10	Hydrocarbons and oxidized organic compounds in hydrothermal fluids from Rainbow and Lost City ultramafic-hosted vents. <i>Chemical Geology</i> , 2009, 258, 299-314.	1.4	194
11	The age of river-transported carbon: A global perspective. <i>Global Biogeochemical Cycles</i> , 2015, 29, 122-137.	1.9	163
12	Stable carbon isotopic composition of <i>Mytilus edulis</i> shells: relation to metabolism, salinity, $\delta^{13}\text{C}_{\text{DIC}}$ and phytoplankton. <i>Organic Geochemistry</i> , 2006, 37, 1371-1382.	0.9	161
13	Importance of intertidal sediment processes and porewater exchange on the water column biogeochemistry in a pristine mangrove creek (Ras Dege, Tanzania). <i>Biogeosciences</i> , 2007, 4, 311-322.	1.3	151
14	Inorganic and organic carbon biogeochemistry in the Gautami Godavari estuary (Andhra Pradesh). <i>Global Biogeochemical Cycles</i> , 2003, 17, n/a-n/a.	1.9	144
15	Effects of agricultural land use on fluvial carbon dioxide, methane and nitrous oxide concentrations in a large European river, the Meuse (Belgium). <i>Science of the Total Environment</i> , 2018, 610-611, 342-355.	3.9	138
16	Effects of human land use on the terrestrial and aquatic sources of fluvial organic matter in a temperate river basin (The Meuse River, Belgium). <i>Biogeochemistry</i> , 2017, 136, 191-211.	1.7	130
17	Nitrogen and carbon isotope values of individual amino acids: a tool to study foraging ecology of penguins in the Southern Ocean. <i>Marine Ecology - Progress Series</i> , 2009, 391, 293-306.	0.9	126
18	Dynamics of greenhouse gases (CO <sub>2</sub> , CH <sub>4</sub> ) in the Zambezi River and major tributaries, and their importance in the riverine carbon budget. <i>Biogeosciences</i> , 2015, 12, 2431-2453.	1.3	122

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19	Bacterial carbon sources in coastal sediments: a cross-system analysis based on stable isotope data of biomarkers. <i>Biogeosciences</i> , 2006, 3, 175-185.	1.3	121
20	Dynamics of organic and inorganic carbon across contiguous mangrove and seagrass systems (Gazi Tj ETQq0 0 0 rgBT /Overlock 10 Tf 113	0.9	113
21	Emission of CO <sub>2</sub> and CH <sub>4</sub> to the atmosphere by sediments and open waters in two Tanzanian mangrove forests. <i>Marine Ecology - Progress Series</i> , 2008, 370, 53-67.	0.9	109
22	Carbon and Nitrogen Stable Isotope Ratios of Subtidal Benthic Invertebrates in an Estuarine Mangrove Ecosystem (Andhra Pradesh, India). <i>Estuarine, Coastal and Shelf Science</i> , 2002, 54, 901-913.	0.9	107
23	Stable isotope-based community metrics as a tool to identify patterns in food web structure in east African estuaries. <i>Functional Ecology</i> , 2014, 28, 270-282.	1.7	107
24	The renaissance of Odum's outwelling hypothesis in 'Blue Carbon' science. <i>Estuarine, Coastal and Shelf Science</i> , 2021, 255, 107361.	0.9	107
25	Dual stable isotope abundances unravel trophic position of estuarine nematodes. <i>Journal of the Marine Biological Association of the United Kingdom</i> , 2005, 85, 1401-1407.	0.4	98
26	Variations in dissolved greenhouse gases (CO <sub>2</sub> and CH <sub>4</sub> ) in the Congo River network. <i>Biogeosciences</i> , 2019, 16, 3801-3834.	1.3	93
27	River network overwhelmingly driven by fluvial-wetland connectivity. <i>Biogeosciences</i> , 2019, 16, 3801-3834.	1.3	93
27	Biogeochemistry of the Tana estuary and delta (northern Kenya). <i>Limnology and Oceanography</i> , 2007, 52, 46-59.	1.6	90
28	Organic matter sources, fluxes and greenhouse gas exchange in the Oubangui River (Congo River) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50	1.3	88
29	Divergent biophysical controls of aquatic CO <sub>2</sub> and CH <sub>4</sub> in the World's two largest rivers. <i>Scientific Reports</i> , 2015, 5, 15614.	1.6	85
30	Shift in the chemical composition of dissolved organic matter in the Congo River network. <i>Biogeosciences</i> , 2016, 13, 5405-5420.	1.3	85
31	Distribution, origin and cycling of carbon in the Tana River (Kenya): a dry season basin-scale survey from headwaters to the delta. <i>Biogeosciences</i> , 2009, 6, 2475-2493.	1.3	80
32	Pelagic photoferrotrophy and iron cycling in a modern ferruginous basin. <i>Scientific Reports</i> , 2015, 5, 13803.	1.6	80
33	Use of Stable Isotopes to Understand Food Webs and Ecosystem Functioning in Estuaries. , 2011, , 143-173.		79
34	Rapid Losses of Surface Elevation following Tree Girdling and Cutting in Tropical Mangroves. <i>PLoS ONE</i> , 2014, 9, e107868.	1.1	78
35	Baseline levels and trophic transfer of persistent organic pollutants in sediments and biota from the Congo River Basin (DR Congo). <i>Environment International</i> , 2013, 59, 290-302.	4.8	74
36	Determination of $\delta^{18}\text{O}$ of water and $\delta^{13}\text{C}$ of dissolved inorganic carbon using a simple modification of an elemental analyser-isotope ratio mass spectrometer: an evaluation. <i>Rapid Communications in Mass Spectrometry</i> , 2007, 21, 1475-1478.	0.7	70

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37	Along-stream transport and transformation of dissolved organic matter in a large tropical river. <i>Biogeosciences</i> , 2016, 13, 2727-2741.	1.3	66
38	Evaluation of sequential extractions on dry and wet sediments. <i>Analytical and Bioanalytical Chemistry</i> , 2003, 376, 890-901.	1.9	63
39	Storage beneath mangroves. <i>Nature Geoscience</i> , 2011, 4, 282-283.	5.4	62
40	Distribution and origin of suspended matter and organic carbon pools in the Tana River Basin, Kenya. <i>Biogeosciences</i> , 2012, 9, 2905-2920.	1.3	61
41	Variability in the origin of carbon substrates for bacterial communities in mangrove sediments. <i>FEMS Microbiology Ecology</i> , 2004, 49, 171-179.	1.3	57
42	Carbon biogeochemistry of the Betsiboka estuary (north-western Madagascar). <i>Organic Geochemistry</i> , 2008, 39, 1649-1658.	0.9	57
43	Landscape Control on the Spatial and Temporal Variability of Chromophoric Dissolved Organic Matter and Dissolved Organic Carbon in Large African Rivers. <i>Ecosystems</i> , 2015, 18, 1224-1239.	1.6	57
44	Comparison between $\delta^{13}C$ of $\alpha$ -cellulose and bulk wood in the mangrove tree <i>Rhizophora mucronata</i> : Implications for dendrochemistry. <i>Chemical Geology</i> , 2005, 219, 275-282.	1.4	56
45	Importance of terrestrial subsidies for estuarine food webs in contrasting East African catchments. <i>Ecosphere</i> , 2013, 4, 1-33.	1.0	55
46	Carbon dynamics and $CO_2$ and $CH_4$ outgassing in the Mekong delta. <i>Biogeosciences</i> , 2018, 15, 1093-1114.	1.3	53
47	Influence of $CH_4$ and $H_2S$ availability on symbiont distribution, carbon assimilation and transfer in the dual symbiotic vent mussel <i>Bathymodiolus azoricus</i> . <i>Biogeosciences</i> , 2008, 5, 1681-1691.	1.3	51
48	Phytoplankton dynamics in the Congo River. <i>Freshwater Biology</i> , 2017, 62, 87-101.	1.2	49
49	Carbon sources supporting a diverse fish community in a tropical coastal ecosystem (Gazi Bay, Kenya). <i>Estuarine, Coastal and Shelf Science</i> , 2009, 83, 333-341.	0.9	48
50	Contrasting biogeochemical characteristics of the Oubangui River and tributaries (Congo River). <i>Journal of Great Lakes Research</i> , 2010, 36, 10-22.	1.6	46
51	Carbon sources supporting benthic mineralization in mangrove and adjacent seagrass sediments (Gazi Bay, Kenya). <i>Estuarine, Coastal and Shelf Science</i> , 2010, 85, 1-11.	1.3	45
52	Mixotrophy in the deep sea: a dual endosymbiotic hydrothermal mytilid assimilates dissolved and particulate organic matter. <i>Marine Ecology - Progress Series</i> , 2010, 405, 187-201.	0.9	43
53	East Siberian Arctic inland waters emit mostly contemporary carbon. <i>Nature Communications</i> , 2020, 11, 1627.	5.8	43
54	Selectivity of subtidal benthic invertebrate communities for local microalgal production in an estuarine mangrove ecosystem during the post-monsoon period. <i>Journal of Sea Research</i> , 2004, 51, 133-144.	0.6	42

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55	Carbon Exchange Among Tropical Coastal Ecosystems. , 2009, , 45-70.		42
56	The effects of weathering variability and anthropogenic pressures upon silicon cycling in an intertropical watershed (Tana River, Kenya). <i>Chemical Geology</i> , 2012, 308-309, 18-25.	1.4	42
57	Production of dissolved organic matter by phytoplankton and its uptake by heterotrophic prokaryotes in large tropical lakes. <i>Limnology and Oceanography</i> , 2014, 59, 1364-1375.	1.6	42
58	A new automated setup for stable isotope analysis of dissolved organic carbon. <i>Limnology and Oceanography: Methods</i> , 2006, 4, 216-226.	1.0	40
59	Carbon Cycling of Lake Kivu (East Africa): Net Autotrophy in the Epilimnion and Emission of CO <sub>2</sub> to the Atmosphere Sustained by Geogenic Inputs. <i>PLoS ONE</i> , 2014, 9, e109500.	1.1	38
60	Methanotrophy within the water column of a large meromictic tropical lake (Lake Kivu, East Africa). <i>Biogeosciences</i> , 2015, 12, 2077-2088.	1.3	38
61	Patterns of carbon processing at the seafloor: the role of faunal and microbial communities in moderating carbon flows. <i>Biogeosciences</i> , 2016, 13, 4343-4357.	1.3	38
62	High-resolution nitrogen stable isotope sclerochronology of bivalve shell carbonate-bound organics. <i>Geochimica Et Cosmochimica Acta</i> , 2017, 200, 55-66.	1.6	38
63	Dynamics of dissolved inorganic carbon and aquatic metabolism in the Tana River basin, Kenya. <i>Biogeosciences</i> , 2013, 10, 6911-6928.	1.3	35
64	Dynamic seasonal nitrogen cycling in response to anthropogenic N loading in a tropical catchment, Athi-Galana-Sabaki River, Kenya. <i>Biogeosciences</i> , 2014, 11, 443-460.	1.3	35
65	River geochemistry, chemical weathering, and atmospheric C <sub>2</sub> O consumption rates in the Virunga volcanic province (East Africa). <i>Journal of Geophysical Research</i> , 2014, 119, 10743-10757.	1.0	35
66	Are Large Herbivores Vectors of Terrestrial Subsidies for Riverine Food Webs?. <i>Ecosystems</i> , 2015, 18, 686-706.	1.6	35
67	Trophic interactions in an ant nest microcosm: a combined experimental and stable isotope ( <sup>13</sup> C/ <sup>15</sup> N) approach. <i>Oikos</i> , 2016, 125, 1182-1192.	1.2	34
68	Emission and oxidation of methane in a meromictic, eutrophic and temperate lake (Dendre, Belgium). <i>Chemosphere</i> , 2017, 168, 756-764.	4.2	34
69	Calibration of hydroclimate proxies in freshwater bivalve shells from Central and West Africa. <i>Geochimica Et Cosmochimica Acta</i> , 2017, 208, 41-62.	1.6	32
70	Sediment and carbon fluxes along a longitudinal gradient in the lower Tana River (Kenya). <i>Journal of Geophysical Research G: Biogeosciences</i> , 2014, 119, 1340-1353.	1.3	31
71	Trophic structure of an African savanna river and organic matter inputs by large terrestrial herbivores: A stable isotope approach. <i>Freshwater Biology</i> , 2018, 63, 1365-1380.	1.2	30
72	The role of biogenic structures on the biogeochemical functioning of mangrove constructed wetlands sediments – A mesocosm approach. <i>Marine Pollution Bulletin</i> , 2010, 60, 560-572.	2.3	29

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73	Performance evaluation of nitrogen isotope ratio determination in marine and lacustrine sediments: An inter-laboratory comparison. <i>Organic Geochemistry</i> , 2010, 41, 3-12.	0.9	28
74	Kleptoplasts mediate nitrogen acquisition in the sea slug <i>Elysia viridis</i> . <i>Aquatic Biology</i> , 2008, 4, 15-21.	0.5	28
75	Disproportionate Contribution of Riparian Inputs to Organic Carbon Pools in Freshwater Systems. <i>Ecosystems</i> , 2014, 17, 974-989.	1.6	27
76	Chemoautotrophy and anoxygenic photosynthesis within the water column of a large meromictic tropical lake (Lake Kivu, East Africa). <i>Limnology and Oceanography</i> , 2016, 61, 1424-1437.	1.6	26

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91	The response of phytoplankton and zooplankton to river damming in three cascading reservoirs of the Tana River, Kenya. <i>Lakes and Reservoirs: Research and Management</i> , 2016, 21, 114-132.	0.6	14
92	Terrestrial contributions to Afrotropical aquatic food webs: The Congo River case. <i>Ecology and Evolution</i> , 2019, 9, 10746-10757.	0.8	14
93	Water column distribution and carbon isotopic signal of cholesterol, brassicasterol and particulate organic carbon in the Atlantic sector of the Southern Ocean. <i>Biogeosciences</i> , 2013, 10, 2787-2801.	1.3	13
94	Current Methods to Evaluate Net Primary Production and Carbon Budgets in Mangrove Forests. <i>Soil Science Society of America Book Series</i> , 0, , 243-288.	0.3	13
95	Dissolved organic carbon lability and stable isotope shifts during microbial decomposition in a tropical river system. <i>Biogeosciences</i> , 2016, 13, 517-525.	1.3	13
96	Variation of the isotopic composition of dissolved organic carbon during the runoff cycle in the Amazon River and the floodplains. <i>Comptes Rendus - Geoscience</i> , 2018, 350, 65-75.	0.4	12
97	Diversity and ecology of phytoplankton in Lake Edward (East Africa): Present status and long-term changes. <i>Journal of Great Lakes Research</i> , 2020, 46, 741-751.	0.8	12
98	Mangrove sediment organic carbon storage and sources in relation to forest age and position along a deltaic salinity gradient. <i>Biogeosciences</i> , 2022, 19, 1571-1585.	1.3	12
99	Intra- and interspecific niche variation as reconstructed from stable isotopes in two ecologically different Ethiopian Rift Valley lakes. <i>Functional Ecology</i> , 2017, 31, 1482-1492.	1.7	11
100	Assessing $\delta^{15}\text{N}$ values in the carbonate-bound organic matrix and periostracum of bivalve shells as environmental archives. <i>Palaeogeography, Palaeoclimatology, Palaeoecology</i> , 2021, 564, 110108.	1.0	11
101	Dissolved organic matter composition and reactivity in Lake Victoria, the world's largest tropical lake. <i>Biogeochemistry</i> , 2020, 150, 61-83.	1.7	10
102	Understanding the linkage between regional climatology and cave geochemical parameters to calibrate speleothem proxies in Madagascar. <i>Science of the Total Environment</i> , 2021, 784, 147181.	3.9	10
103	Nitrate-dependent anaerobic methane oxidation and chemolithotrophic denitrification in a temperate eutrophic lake. <i>FEMS Microbiology Ecology</i> , 2021, 97, .	1.3	9
104	Title is missing!. <i>Organic Geochemistry</i> , 2006, 37, 1197-1199.	0.9	8
105	Variability of Carbon Dioxide and Methane in the Epilimnion of Lake Kivu. , 2012, , 47-66.		8
106	Tracing carbon assimilation in endosymbiotic deep-sea hydrothermal vent Mytilid fatty acids by $\delta^{13}\text{C}$ -fingerprinting. <i>Biogeosciences</i> , 2010, 7, 2591-2600.	1.3	8
107	Diffusive emissions of methane and nitrous oxide from a cascade of tropical hydropower reservoirs in Kenya. <i>Lakes and Reservoirs: Research and Management</i> , 2019, 24, 127-135.	0.6	7
108	Carbon dynamics and $\text{CO}_2$ and $\text{CH}_4$ exchange in the mangrove dominated Guayas river delta, Ecuador. <i>Estuarine, Coastal and Shelf Science</i> , 2022, 267, 107766.	0.9	7

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109	Seasonal and inter-annual variations in carbon fluxes in a tropical river system (Tana River, Kenya). <i>Aquatic Sciences</i> , 2018, 80, 1.	0.6	6
110	Benthic carbon fixation and cycling in diffuse hydrothermal and background sediments in the Bransfield Strait, Antarctica. <i>Biogeosciences</i> , 2020, 17, 1-12.	1.3	6
111	Impact of selective degradation on molecular isotope compositions in oxic and anoxic marine sediments. <i>Organic Geochemistry</i> , 2021, 153, 104192.	0.9	6
112	Limnological changes in Lake Victoria since the mid-20 <sup>th</sup> century. <i>Freshwater Biology</i> , 2021, 66, 1630-1647.	1.2	6
113	Role of a cascade of reservoirs in regulating downstream transport of sediment, carbon and nutrients: Case study of tropical arid climate Tana River Basin. <i>Lakes and Reservoirs: Research and Management</i> , 2018, 23, 43-55.	0.6	4
114	Editorial: Structure, Functioning and Conservation of Coastal Vegetated Wetlands. <i>Frontiers in Ecology and Evolution</i> , 2020, 8, .	1.1	3
115	Rapid soil organic carbon decomposition in river systems: effects of the aquatic microbial community and hydrodynamical disturbance. <i>Biogeosciences</i> , 2021, 18, 1511-1523.	1.3	3
116	Preface to the special issue on "Stable Isotopes in Biogeosciences II". <i>Organic Geochemistry</i> , 2008, 39, 1647-1648.	0.9	2
117	A comprehensive biogeochemical record and annual flux estimates for the Sabaki River (Kenya). <i>Biogeosciences</i> , 2018, 15, 1683-1700.	1.3	2
118	Freshwater bivalve shells as hydrologic archives in the Congo Basin. <i>Geochimica Et Cosmochimica Acta</i> , 2021, 308, 101-117.	1.6	2
119	Preface to the Special Issue on "Stable Isotopes in Biogeosciences III". <i>Organic Geochemistry</i> , 2010, 41, 1-2.	0.9	0
120	Carbon processing by the benthic ecosystem and benthic C fixation in methane-rich sediments on the South Georgia margin. <i>Antarctic Science</i> , 2019, 31, 59-68.	0.5	0