Gilles Billen

List of Publications by Year in descending order

128 papers	11,096 citations	25034 57 h-index	31849 101 g-index
131 all docs	131 docs citations	131 times ranked	9742 citing authors

#	Article	IF	Citations
1	50 year trends in nitrogen use efficiency of world cropping systems: the relationship between yield and nitrogen input to cropland. Environmental Research Letters, 2014, 9, 105011.	5.2	764
2	Coupled biogeochemical cycles: eutrophication and hypoxia in temperate estuaries and coastal marine ecosystems. Frontiers in Ecology and the Environment, 2011, 9, 18-26.	4.0	656
3	Title is missing!. Biogeochemistry, 2002, 57, 171-197.	3.5	396
4	Impacts of European livestock production: nitrogen, sulphur, phosphorus and greenhouse gas emissions, land-use, water eutrophication and biodiversity. Environmental Research Letters, 2015, 10, 115004.	5.2	332
5	Nitrous oxide emissions from secondary activated sludge in nitrifying conditions of urban wastewater treatment plants: Effect of oxygenation level. Water Research, 2006, 40, 2972-2980.	11.3	290
6	Seasonal succession of diatoms and Chlorophyceae in the drainage network of the Seine River: Observation and modeling. Limnology and Oceanography, 1995, 40, 750-765.	3.1	285
7	Nitrogen fluxes from the landscape are controlled by net anthropogenic nitrogen inputs and by climate. Frontiers in Ecology and the Environment, 2012, 10, 37-43.	4.0	281
8	Food and feed trade as a driver in the global nitrogen cycle: 50-year trends. Biogeochemistry, 2014, 118, 225-241.	3.5	240
9	Nitrogen use in the global food system: past trends and future trajectories of agronomic performance, pollution, trade, and dietary demand. Environmental Research Letters, 2016, 11, 095007.	5.2	227
10	Natural isotopic composition of nitrogen as a tracer of origin for suspended organic matter in the Scheldt estuary. Geochimica Et Cosmochimica Acta, 1984, 48, 549-555.	3.9	215
11	Modelling phytoplankton development in whole drainage networks: the RIVERSTRAHLER Model applied to the Seine river system. Hydrobiologia, 1994, 289, 119-137.	2.0	206
12	River basin nutrient delivery to the coastal sea: Assessing its potential to sustain new production of non-siliceous algae. Marine Chemistry, 2007, 106, 148-160.	2.3	203
13	A budget of nitrogen recycling in North Sea sediments off the Belgian coast. Estuarine and Coastal Marine Science, 1978, 7, 127-146.	0.9	195
14	Title is missing!. Biogeochemistry, 2003, 63, 35-51.	3.5	189
15	The nitrogen cascade from agricultural soils to the sea: modelling nitrogen transfers at regional watershed and global scales. Philosophical Transactions of the Royal Society B: Biological Sciences, 2013, 368, 20130123.	4.0	184
16	Direct nitrous oxide emissions in Mediterranean climate cropping systems: Emission factors based on a meta-analysis of available measurement data. Agriculture, Ecosystems and Environment, 2017, 238, 25-35.	5.3	178
17	Nitrous oxide emissions from denitrifying activated sludge of urban wastewater treatment plants, under anoxia and low oxygenation. Bioresource Technology, 2008, 99, 2200-2209.	9.6	168
18	Modeling the Response of Water Quality in the Seine River Estuary to Human Activity in Its Watershed over the Last 50 Years. Estuaries and Coasts, 2001, 24, 977.	1.7	162

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19	Relationships for estimating N₂ fixation in legumes: incidence for N balance of legumeâ€based cropping systems in Europe. Ecosphere, 2015, 6, 1-24.	2.2	155
20	A method for determining exoproteolytic activity in natural waters. Limnology and Oceanography, 1983, 28, 190-193.	3.1	151
21	Assessing Nitrification and Denitrification in the Seine River and Estuary Using Chemical and Isotopic Techniques. Ecosystems, 2006, 9, 564-577.	3.4	145
22	Fecal bacteria in the rivers of the Seine drainage network (France): Sources, fate and modelling. Science of the Total Environment, 2007, 375, 152-167.	8.0	142
23	N:P:Si nutrient export ratios and ecological consequences in coastal seas evaluated by the ICEP approach. Global Biogeochemical Cycles, 2010, 24, .	4.9	138
24	Vertical distribution of nitrate concentration in interstitial water of marine sediments with nitrification and denitrification. Limnology and Oceanography, 1975, 20, 953-961.	3.1	133
25	Activity of heterotrophic bacteria and its coupling to primary production during the spring phytoplankton bloom in the southern bight of the North Sea. Limnology and Oceanography, 1984, 29, 721-730.	3.1	132
26	Large-scale patterns of river inputs in southwestern Europe: seasonal and interannual variations and potential eutrophication effects at the coastal zone. Biogeochemistry, 2013, 113, 481-505.	3.5	126
27	Rate of Bacterial Mortality in Aquatic Environments. Applied and Environmental Microbiology, 1985, 49, 1448-1454.	3.1	126
28	The contribution of food waste to global and European nitrogen pollution. Environmental Science and Policy, 2013, 33, 186-195.	4.9	120
29	Nutrient dynamics and control of eutrophication in the Marne River system: modelling the role of exchangeable phosphorus. Journal of Hydrology, 2005, 304, 397-412.	5.4	107
30	Testing an integrated riverâ€“ocean mathematical tool for linking marine eutrophication to land use: The Phaeocystis-dominated Belgian coastal zone (Southern North Sea) over the past 50Âyears. Journal of Marine Systems, 2007, 64, 216-228.	2.1	107
31	Mortality rates of autochthonous and fecal bacteria in natural aquatic ecosystems. Water Research, 2003, 37, 4151-4158.	11.3	102
32	Nutrient fluxes and water quality in the drainage network of the Scheldt basin over the last 50Âyears. Hydrobiologia, 2005, 540, 47-67.	2.0	99
33	Concentration and microbiological utilization of small organic molecules in the Scheldt estuary, the Belgian coastal zone of the North Sea and the English Channel. Estuarine and Coastal Marine Science, 1980, 11, 279-294.	0.9	98
34	Nitrogen Behaviour and Nitrous Oxide Emission in the Tidal Seine River Estuary (France) as Influenced by Human Activities in the Upstream Watershed. Biogeochemistry, 2006, 77, 305-326.	3.5	98
35	A biogeochemical view of the global agro-food system: Nitrogen flows associated with protein production, consumption and trade. Global Food Security, 2014, 3, 209-219.	8.1	97
36	How the structure of agro-food systems shapes nitrogen, phosphorus, and carbon fluxes: The generalized representation of agro-food system applied at the regional scale in France. Science of the Total Environment, 2017, 586, 42-55.	8.0	97

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37	Nitrification in the Scheldt estuary (Belgium and the Netherlands). Estuarine and Coastal Marine Science, 1975, 3, 79-89.	0.9	95
38	The food-print of Paris: long-term reconstruction of the nitrogen flows imported into the city from its rural hinterland. Regional Environmental Change, 2009, 9, 13-24.	2.9	94
39	Long-term water quality in the lower Seine: Lessons learned over 4 decades of monitoring. Environmental Science and Policy, 2016, 58, 141-154.	4.9	92
40	Lower Seine River and Estuary (France) Carbon and Oxygen Budgets during Low Flow. Estuaries and Coasts, 2001, 24, 964.	1.7	87
41	Reshaping the European agro-food system and closing its nitrogen cycle: The potential of combining dietary change, agroecology, and circularity. One Earth, 2021, 4, 839-850.	6.8	85
42	Diffuse and Point Sources of Silica in the Seine River Watershed. Environmental Science & Technology, 2006, 40, 6630-6635.	10.0	84
43	Nitrous oxide (N2O) in the Seine river and basin: Observations and budgets. Agriculture, Ecosystems and Environment, 2009, 133, 223-233.	5.3	83
44	Supply of organic matter and bacteria to aquatic ecosystems through waste water effluents. Water Research, 1999, 33, 3521-3531.	11.3	82
45	Nitrogen as a threat to European water quality. , 2011, , 379-404.		80
46	Hydrological regime and water budget of the Red River Delta (Northern Vietnam). Journal of Asian Earth Sciences, 2010, 37, 219-228.	2.3	79
47	A vast range of opportunities for feeding the world in 2050: trade-off between diet, N contamination and international trade. Environmental Research Letters, 2015, 10, 025001.	5.2	79
48	How changes in diet and trade patterns have shaped the N cycle at the national scale: Spain (1961â€“2009). Regional Environmental Change, 2014, 14, 785-797.	2.9	78
49	Nutrient transfer in three contrasting NW European watersheds: The Seine, Somme, and Scheldt Rivers. A comparative application of the Seneque/Riverstrahler model. Water Research, 2009, 43, 1740-1754.	11.3	77
50	Distribution of Nitrifying Activity in the Seine River (France) from Paris to the Estuary. Estuaries and Coasts, 2000, 23, 669.	1.7	76
51	Title is missing!. Hydrobiologia, 1999, 410, 151-166.	2.0	72
52	Reconnecting crop and cattle farming to reduce nitrogen losses to river water of an intensive agricultural catchment (Seine basin, France): past, present and future. Environmental Science and Policy, 2016, 63, 76-90.	4.9	72
53	Long-term changes in greenhouse gas emissions from French agriculture and livestock (1852â€“2014): From traditional agriculture to conventional intensive systems. Science of the Total Environment, 2019, 660, 1486-1501.	8.0	72
54	Modelling carbon cycling through phytoplankton and microbes in the Scotiaâ€”Weddell Sea area during sea ice retreat. Marine Chemistry, 1991, 35, 305-324.	2.3	69

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55	Modelling the N cascade in regional watersheds: The case study of the Seine, Somme and Scheldt rivers. Agriculture, Ecosystems and Environment, 2009, 133, 234-246.	5.3	68
56	SENEQUE: A multi-scaling GIS interface to the Riverstrahler model of the biogeochemical functioning of river systems. Science of the Total Environment, 2007, 375, 257-273.	8.0	67
57	Grain, meat and vegetables to feed Paris: where did and do they come from? Localising Paris food supply areas from the eighteenth to the twenty-first century. Regional Environmental Change, 2012, 12, 325-335.	2.9	67
58	The Seine system: Introduction to a multidisciplinary approach of the functioning of a regional river system. Science of the Total Environment, 2007, 375, 1-12.	8.0	64
59	Nutrient (N, P) budgets for the Red River basin (Vietnam and China). Global Biogeochemical Cycles, 2005, 19, n/a-n/a.	4.9	62
60	Role of bacteria in the North Sea ecosystem. Journal of Sea Research, 1990, 26, 265-293.	1.0	59
61	Two contrasted future scenarios for the French agro-food system. Science of the Total Environment, 2018, 637-638, 695-705.	8.0	59
62	The role of water nitrogen retention in integrated nutrient management: assessment in a large basin using different modelling approaches. Environmental Research Letters, 2015, 10, 065008.	5.2	58
63	Wastewater as a source of nitrifying bacteria in river systems: the case of the River Seine downstream from Paris. Water Research, 2000, 34, 3213-3221.	11.3	56
64	Declining spatial efficiency of global cropland nitrogen allocation. Global Biogeochemical Cycles, 2017, 31, 245-257.	4.9	55
65	Nitrogen flows from European regional watersheds to coastal marine waters. , 0, , 271-297.		54
66	Cost assessment and ecological effectiveness of nutrient reduction options for mitigating Phaeocystis colony blooms in the Southern North Sea: An integrated modeling approach. Science of the Total Environment, 2011, 409, 2179-2191.	8.0	54
67	Phosphorus budget in the waterâ€agroâ€food system at nested scales in two contrasted regions of the world (ASEANâ€8 and EUâ€27). Global Biogeochemical Cycles, 2015, 29, 1348-1368.	4.9	54
68	Anthropogenic nitrogen autotrophy and heterotrophy of the world's watersheds: Past, present, and future trends. Global Biogeochemical Cycles, 2010, 24, .	4.9	51
69	History of the urban environmental imprint: introduction to a multidisciplinary approach to the long-term relationships between Western cities and their hinterland. Regional Environmental Change, 2012, 12, 249-253.	2.9	50
70	Nitrate leaching from organic and conventional arable crop farms in the Seine Basin (France). Nutrient Cycling in Agroecosystems, 2014, 100, 285-299.	2.2	49
71	New tools for modelling water quality of hydrosystems: An application in the Seine River basin in the frame of the Water Framework Directive. Science of the Total Environment, 2007, 375, 274-291.	8.0	48
72	Modelling nitrogen transformations in the lower Seine river and estuary (France): impact of wastewater release on oxygenation and N2O emission. Hydrobiologia, 2007, 588, 291-302.	2.0	46

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73	Nitrogen processes in aquatic ecosystems. , 2011, , 126-146.		46
74	Ecological functioning of the Marne reservoir (upper Seine basin, France). River Research and Applications, 2000, 16, 51-71.	0.8	45
75	Modelling nutrient fluxes from sub-arctic basins: Comparison of pristine vs. dammed rivers. Journal of Marine Systems, 2008, 73, 236-249.	2.1	45
76	Restoration of ponds in rural landscapes: Modelling the effect on nitrate contamination of surface water (the Seine River Basin, France). Science of the Total Environment, 2012, 430, 280-290.	8.0	44
77	Modelling nutrient exchange at the sedimentâ€“water interface of river systems. Journal of Hydrology, 2007, 341, 55-78.	5.4	43
78	Production vs. Respiration in river systems: An indicator of an â€œecological statusâ€• Science of the Total Environment, 2007, 375, 110-124.	8.0	43
79	Water management practices exacerbate nitrogen retention in Mediterranean catchments. Science of the Total Environment, 2016, 573, 420-432.	8.0	43
80	N, P, Si budgets for the Red River Delta (northern Vietnam): how the delta affects river nutrient delivery to the sea. Biogeochemistry, 2012, 107, 241-259.	3.5	42
81	Nitrous oxide emissions and nitrate leaching in an organic and a conventional cropping system (Seine) Tj ETQq1 1 0.784314 rgBT /Ov	5.3	41
82	Temperature dependence of nitrous oxide production of a luvisolic soil in batch experiments. Process Biochemistry, 2015, 50, 79-85.	3.7	40
83	Long-term biogeochemical functioning of the Red River (Vietnam): past and present situations. Regional Environmental Change, 2015, 15, 329-339.	2.9	40
84	Nitrogen cycling in a hypothetical scenario of generalised organic agriculture in the Seine, Somme and Scheldt watersheds. Regional Environmental Change, 2011, 11, 359-370.	2.9	39
85	Assessing the effect of nutrient mitigation measures in the watersheds of the Southern Bight of the North Sea. Science of the Total Environment, 2010, 408, 1245-1255.	8.0	37
86	The biogeochemical imprint of human metabolism in Paris Megacity: A regionalized analysis of a water-agro-food system. Journal of Hydrology, 2019, 573, 1028-1045.	5.4	37
87	Field and modelling studies of Escherichia coli loads in tropical streams of montane agro-ecosystems. Journal of Hydro-Environment Research, 2015, 9, 496-507.	2.2	36
88	Nutrient inputs and hydrology together determine biogeochemical status of the Loire River (France): Current situation and possible future scenarios. Science of the Total Environment, 2018, 637-638, 609-624.	8.0	35
89	Potential for recoupling production and consumption in peri-urban territories: The case-study of the Saclay plateau near Paris, France. Food Policy, 2017, 69, 35-45.	6.0	33
90	Nitrate retention at the riverâ€“watershed interface: a new conceptual modeling approach. Biogeochemistry, 2018, 139, 31-51.	3.5	28

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91	Nitrogen in current European policies. , 2011, , 62-81.		27
92	The response of river nitrification to changes in wastewater treatment (The case of the lower Seine) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 5	0.6	26
93	Phosphorus management in cropping systems of the Paris Basin: From farm to regional scale. Journal of Environmental Management, 2018, 205, 18-28.	7.8	26
94	Crop production and nitrogen use in European cropland and grassland 1961â€“2019. Scientific Data, 2021, 8, 288.	5.3	26
95	Organic matter dynamics and budgets in the turbidity maximum zone of the Seine Estuary (France). Estuarine, Coastal and Shelf Science, 2008, 77, 150-162.	2.1	25
96	Nitrogen dynamics in cropping systems under Mediterranean climate: a systemic analysis. Environmental Research Letters, 2021, 16, 073002.	5.2	25
97	La place du transport de denrÃ©es agricoles dans le cycle biogÃ©ochimique de lâ€™azote en FranceÂ: un aspect de la spÃ©cialisation des territoires. Cahiers Agricultures, 2016, 25, 15004.	0.9	25
98	Modelling phytoplankton development in whole drainage networks: the RIVERSTRAHLER Model applied to the Seine river system. , 1994, , 119-137.		24
99	Total organic carbon fluxes of the Red River system (Vietnam). Earth Surface Processes and Landforms, 2017, 42, 1329-1341.	2.5	23
100	Drivers of long-term carbon dynamics in cropland: A bio-political history (France, 1852â€“2014). Environmental Science and Policy, 2019, 93, 53-65.	4.9	23
101	A N, P, C, and water flows metabolism study in a peri-urban territory in France: The case-study of the Saclay plateau. Resources, Conservation and Recycling, 2018, 137, 200-213.	10.8	22
102	Long trend reduction of phosphorus wastewater loading in the Seine: determination of phosphorus speciation and sorption for modeling algal growth. Environmental Science and Pollution Research, 2018, 25, 23515-23528.	5.3	21
103	Nitrogen flows in farming systems across Europe. , 0, , 211-228.		20
104	A participative network of organic and conventional crop farms in the Seine Basin (France) for evaluating nitrate leaching and yield performance. Agricultural Systems, 2016, 148, 105-113.	6.1	20
105	The phosphorus legacy offers opportunities for agro-ecological transition (France 1850â€“2075). Environmental Research Letters, 2020, 15, 064022.	5.2	20
106	Hydromorphology of coastal zone and structure of watershed agro-food system are main determinants of coastal eutrophication. Environmental Research Letters, 2021, 16, 023005.	5.2	20
107	Managing the Agri-Food System of Watersheds to Combat Coastal Eutrophication: A Land-to-Sea Modelling Approach to the French Coastal English Channel. Geosciences (Switzerland), 2019, 9, 441.	2.2	19
108	How can water quality be improved when the urban waste water directive has been fulfilled? A case study of the Lot river (France). Environmental Science and Pollution Research, 2018, 25, 11924-11939.	5.3	18

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109	Ecological interactions in a shallow sand-pit lake (Lake CrÃ©teil, Parisian Basin, France): a modelling approach. Hydrobiologia, 1994, 275-276, 97-114.	2.0	15
110	A simplified algorithm for calculating benthic nutrient fluxes in river systems. Annales De Limnologie, 2015, 51, 37-47.	0.6	15
111	Modeling the biogeochemical functioning of the Seine estuary and its coastal zone: Export, retention, and transformations. Limnology and Oceanography, 2019, 64, 895-912.	3.1	15
112	Modeling indirect N2O emissions along the N cascade from cropland soils to rivers. Biogeochemistry, 2020, 148, 207-221.	3.5	14
113	Nitrogen flows and fate in urban landscapes. , 2011, , 249-270.		13
114	Nitrogen flows and fate in rural landscapes. , 0, , 229-248.		10
115	Nutrient transport and transformation in macrotidal estuaries of the French Atlantic coast: a modeling approach using the Carbon-Generic Estuarine Model. Biogeosciences, 2022, 19, 931-955.	3.3	10
116	The Seine Watershed Water-Agro-Food System: Long-Term Trajectories of C, N and P Metabolism. Handbook of Environmental Chemistry, 2020, , 91-115.	0.4	8
117	Carbon Dioxide Emission and Soil Sequestration for the French Agro-Food System: Present and Prospective Scenarios. Frontiers in Sustainable Food Systems, 2019, 3, .	3.9	7
118	Leakage of nitrous oxide emissions within the Spanish agro-food system in 1961â€“2009. Mitigation and Adaptation Strategies for Global Change, 2014, 21, 975.	2.1	6
119	Organic carbon transfers in the subtropical Red River system (Viet Nam): insights on CO2 sources and sinks. Biogeochemistry, 2018, 138, 277-295.	3.5	6
120	Nitrogen biogeochemistry of water-agro-food systems: the example of the Seine land-to-sea continuum. Biogeochemistry, 2021, 154, 307-321.	3.5	6
121	Opening to Distant Markets or Local Reconnection of Agro-Food Systems? Environmental Consequences at Regional and Global Scales. , 2019, , 391-413.		5
122	Conversion of a Conventional to an Organic Mixed Dairy Farming System: Consequences in Terms of N Fluxes. Agroecology and Sustainable Food Systems, 2015, 39, 978-1002.	1.9	4
123	Global Nitrogen and Phosphorus Pollution. , 2020, , 421-431.		4
124	Riverine carbon flux from the Red River system (Viet Nam and China): a modelling approach. APN Science Bulletin, 2017, 7, .	0.7	2
125	Long Term Trends in Agronomical and Environmental Performances of World Cropping Systems: The Relationship Between Yield and Nitrogen Input to Cropland at the Country and Regional Scales. , 2020, , 29-45.		2
126	Agricultural performance over the border line. Nature Food, 2020, 1, 667-668.	14.0	1

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127	Continental Atlantic Rivers: The Meuse, Loire and Adour-Garonne Basins. , 2022, , 225-228.		1
128	The relative productivity of organic agriculture must be considered in the full food-system context. A comment on Connor (2022). Agricultural Systems, 2022, 199, 103413.	6.1	1