

Kristof Van Oost

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/4759951/publications.pdf>

Version: 2024-02-01

135
papers

12,571
citations

34016

52
h-index

25716

108
g-index

147
all docs

147
docs citations

147
times ranked

10811
citing authors

#	ARTICLE	IF	CITATIONS
1	An assessment of the global impact of 21st century land use change on soil erosion. <i>Nature Communications</i> , 2017, 8, 2013.	5.8	1,398
2	The Impact of Agricultural Soil Erosion on the Global Carbon Cycle. <i>Science</i> , 2007, 318, 626-629.	6.0	802
3	The impact of agricultural soil erosion on biogeochemical cycling. <i>Nature Geoscience</i> , 2010, 3, 311-314.	5.4	686
4	Modeling response of soil erosion and runoff to changes in precipitation and cover. <i>Catena</i> , 2005, 61, 131-154.	2.2	581
5	Rates and spatial variations of soil erosion in Europe: A study based on erosion plot data. <i>Geomorphology</i> , 2010, 122, 167-177.	1.1	561
6	Soil carbon storage controlled by interactions between geochemistry and climate. <i>Nature Geoscience</i> , 2015, 8, 780-783.	5.4	509
7	The interdisciplinary nature of <i>SOIL</i>. <i>Soil</i> , 2015, 1, 117-129.	2.2	494
8	Evaluating the effects of changes in landscape structure on soil erosion by water and tillage. <i>Landscape Ecology</i> , 2000, 15, 577-589.	1.9	432
9	Global rainfall erosivity assessment based on high-temporal resolution rainfall records. <i>Scientific Reports</i> , 2017, 7, 4175.	1.6	348
10	Modelling mean annual sediment yield using a distributed approach. <i>Earth Surface Processes and Landforms</i> , 2001, 26, 1221-1236.	1.2	338
11	Reproducibility of UAV-based earth topography reconstructions based on Structure-from-Motion algorithms. <i>Geomorphology</i> , 2016, 260, 4-15.	1.1	221
12	Rill erosion: Exploring the relationship between experiments, modelling and field observations. <i>Earth-Science Reviews</i> , 2007, 84, 87-102.	4.0	218
13	Soil erosion as a driver of land-use change. <i>Agriculture, Ecosystems and Environment</i> , 2005, 105, 467-481.	2.5	209
14	Carbon cycling in eroding landscapes: geomorphic controls on soil organic C pool composition and C stabilization. <i>Global Change Biology</i> , 2012, 18, 2218-2232.	4.2	187
15	The European carbon balance. Part 2: croplands. <i>Global Change Biology</i> , 2010, 16, 1409-1428.	4.2	185
16	Scale effect on runoff from experimental plots to catchments in agricultural areas in Normandy. <i>Journal of Hydrology</i> , 2004, 299, 4-14.	2.3	184
17	Tillage erosion: a review of controlling factors and implications for soil quality. <i>Progress in Physical Geography</i> , 2006, 30, 443-466.	1.4	174
18	Natural vs anthropogenic streams in Europe: History, ecology and implications for restoration, river-rewilding and riverine ecosystem services. <i>Earth-Science Reviews</i> , 2018, 180, 185-205.	4.0	172

#	ARTICLE	IF	CITATIONS
19	Human-induced erosion has offset one-third of carbon emissions from land cover change. <i>Nature Climate Change</i> , 2017, 7, 345-349.	8.1	149
20	Landscape-scale modeling of carbon cycling under the impact of soil redistribution: The role of tillage erosion. <i>Global Biogeochemical Cycles</i> , 2005, 19, n/a-n/a.	1.9	144
21	Assessing the performance of GIS-based machine learning models with different accuracy measures for determining susceptibility to gully erosion. <i>Science of the Total Environment</i> , 2019, 664, 1117-1132.	3.9	137
22	Legacy of human-induced C erosion and burial on soil-atmosphere C exchange. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012, 109, 19492-19497.	3.3	126
23	Lateral transport of soil carbon and land-atmosphere CO ₂ flux induced by water erosion in China. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016, 113, 6617-6622.	3.3	117
24	A step towards a holistic assessment of soil degradation in Europe: Coupling on-site erosion with sediment transfer and carbon fluxes. <i>Environmental Research</i> , 2018, 161, 291-298.	3.7	116
25	Links among warming, carbon and microbial dynamics mediated by soil mineral weathering. <i>Nature Geoscience</i> , 2018, 11, 589-593.	5.4	116
26	Towards constraining the magnitude of global agricultural sediment and soil organic carbon fluxes. <i>Earth Surface Processes and Landforms</i> , 2012, 37, 642-655.	1.2	114
27	Comparison of differences in resolution and sources of controlling factors for gully erosion susceptibility mapping. <i>Geoderma</i> , 2018, 330, 65-78.	2.3	111
28	Spatio-temporal patterns in land use and management affecting surface runoff response of agricultural catchments—a review. <i>Earth-Science Reviews</i> , 2011, 106, 92-104.	4.0	108
29	Catchment-scale carbon redistribution and delivery by water erosion in an intensively cultivated area. <i>Geomorphology</i> , 2010, 124, 65-74.	1.1	106
30	Evaluating an integrated approach to catchment management to reduce soil loss and sediment pollution through modelling. <i>Soil Use and Management</i> , 2002, 18, 386-394.	2.6	98
31	Mobilization of aged and biolabile soil carbon by tropical deforestation. <i>Nature Geoscience</i> , 2019, 12, 541-546.	5.4	97
32	Evaluating the potential of post-processing kinematic (PPK) georeferencing for UAV-based structure-from-motion (SfM) photogrammetry and surface change detection. <i>Earth Surface Dynamics</i> , 2019, 7, 807-827.	1.0	89
33	Improving the global applicability of the RUSLE model—adjustment of the topographical and rainfall erosivity factors. <i>Geoscientific Model Development</i> , 2015, 8, 2893-2913.	1.3	87
34	From water to tillage erosion dominated landform evolution. <i>Geomorphology</i> , 2005, 72, 193-203.	1.1	83
35	Evaluating the impact of soil redistribution on the <i>in situ</i> mineralization of soil organic carbon. <i>Earth Surface Processes and Landforms</i> , 2011, 36, 427-438.	1.2	80
36	Quantifying carbon sequestration as a result of soil erosion and deposition: retrospective assessment using caesium-137 and carbon inventories. <i>Global Change Biology</i> , 2007, 13, 2610-2625.	4.2	79

#	ARTICLE	IF	CITATIONS
37	Accelerated sediment fluxes by water and tillage erosion on European agricultural land. <i>Earth Surface Processes and Landforms</i> , 2009, 34, 1625-1634.	1.2	77
38	Driving forces of soil organic carbon evolution at the landscape and regional scale using data from a stratified soil monitoring. <i>Global Change Biology</i> , 2009, 15, 2981-3000.	4.2	77
39	Phosphorus in agricultural soils: drivers of its distribution at the global scale. <i>Global Change Biology</i> , 2017, 23, 3418-3432.	4.2	75
40	Tillage erosion and its effect on soil properties and crop yield in Denmark. <i>Journal of Environmental Quality</i> , 2005, 34, 312-24.	1.0	73
41	Soil conservation in the 21st century: why we need smart agricultural intensification. <i>Soil</i> , 2017, 3, 45-59.	2.2	70
42	Global soil organic carbon removal by water erosion under climate change and land use change during AD 1850–2005. <i>Biogeosciences</i> , 2018, 15, 4459-4480.	1.3	68
43	A process-based conversion model for caesium-137 derived erosion rates on agricultural land: an integrated spatial approach. <i>Earth Surface Processes and Landforms</i> , 2003, 28, 187-207.	1.2	67
44	Responses of a semi-arid landscape to human disturbance: A simulation study of the interaction between rock fragment cover, soil erosion and land use change. <i>Geoderma</i> , 2006, 133, 19-31.	2.3	67
45	Characteristics and controlling factors of old gullies under forest in a temperate humid climate: a case study from the Meerdaal Forest (Central Belgium). <i>Geomorphology</i> , 2003, 56, 15-29.	1.1	65
46	Combined effect of geomorphic and pedogenic processes on the distribution of soil organic carbon quality along an eroding hillslope on loess soil. <i>Geoderma</i> , 2014, 216, 36-47.	2.3	65
47	UAS-based soil carbon mapping using VIS-NIR (480–1000 nm) multi-spectral imaging: Potential and limitations. <i>Geoderma</i> , 2016, 275, 55-66.	2.3	65
48	Modelling the impact of agricultural management on soil carbon stocks at the regional scale: the role of lateral fluxes. <i>Global Change Biology</i> , 2015, 21, 3181-3192.	4.2	63
49	Identification of important factors in the process of tillage erosion: the case of mouldboard tillage. <i>Soil and Tillage Research</i> , 2002, 65, 77-93.	2.6	62
50	The effect of soil redistribution on soil organic carbon: an experimental study. <i>Biogeosciences</i> , 2010, 7, 3971-3986.	1.3	61
51	Spatial evaluation of a multi-class sediment transport and deposition model. <i>Earth Surface Processes and Landforms</i> , 2004, 29, 1027-1044.	1.2	58
52	Model based analysis of lateral and vertical soil carbon fluxes induced by soil redistribution processes in a small agricultural catchment. <i>Earth Surface Processes and Landforms</i> , 2012, 37, 193-208.	1.2	58
53	Spatially distributed data for erosion model calibration and validation: The Ganspoel and Kinderveld datasets. <i>Catena</i> , 2005, 61, 105-121.	2.2	52
54	The fate of buried organic carbon in colluvial soils: a long-term perspective. <i>Biogeosciences</i> , 2014, 11, 873-883.	1.3	52

#	ARTICLE	IF	CITATIONS
55	Modeling Translocation and Dispersion of Soil Constituents by Tillage on Sloping Land. <i>Soil Science Society of America Journal</i> , 2000, 64, 1733-1739.	1.2	48
56	Simulation of the redistribution of soil by tillage on complex topographies. <i>European Journal of Soil Science</i> , 2003, 54, 63-76.	1.8	47
57	Soil organic carbon mobilization by interrill erosion: Insights from size fractions. <i>Journal of Geophysical Research F: Earth Surface</i> , 2013, 118, 348-360.	1.0	46
58	Spatially-explicit regional-scale prediction of soil organic carbon stocks in cropland using environmental variables and mixed model approaches. <i>Geoderma</i> , 2013, 204-205, 31-42.	2.3	44
59	Reconstructing ancient topography through erosion modelling. <i>Geomorphology</i> , 2006, 78, 250-264.	1.1	43
60	A simple method for estimating the influence of eroding soil profiles on atmospheric CO ₂ . <i>Global Biogeochemical Cycles</i> , 2010, 24, .	1.9	43
61	Short Communication: Humans and the missing C-sink: erosion and burial of soil carbon through time. <i>Earth Surface Dynamics</i> , 2013, 1, 45-52.	1.0	43
62	Multiplatform-SfM and TLS Data Fusion for Monitoring Agricultural Terraces in Complex Topographic and Landcover Conditions. <i>Remote Sensing</i> , 2020, 12, 1946.	1.8	42
63	Erosion-induced carbon redistribution, burial and mineralisation – Is the episodic nature of erosion processes important?. <i>Catena</i> , 2015, 133, 282-292.	2.2	41
64	Integrating science, policy and farmers to reduce soil loss and sediment delivery in Flanders, Belgium. <i>Environmental Science and Policy</i> , 2003, 6, 95-103.	2.4	40
65	Evaluation of a dynamic multi-class sediment transport model in a catchment under soil conservation agriculture. <i>Earth Surface Processes and Landforms</i> , 2008, 33, 1639-1660.	1.2	40
66	Quantifying and modelling the impact of land consolidation and field borders on soil redistribution in agricultural landscapes (1954–2009). <i>Catena</i> , 2013, 110, 184-195.	2.2	40
67	Sustained high magnitude erosional forcing generates an organic carbon sink: Test and implications in the Loess Plateau, China. <i>Earth and Planetary Science Letters</i> , 2015, 411, 281-289.	1.8	40
68	Spatial variability and change in soil organic carbon stocks in response to recovery following land abandonment and erosion in mountainous drylands. <i>Soil Use and Management</i> , 2013, 29, 65-76.	2.6	39
69	Vis-NIR spectroscopic assessment of soil aggregate stability and aggregate size distribution in the Belgian Loam Belt. <i>Geoderma</i> , 2020, 357, 113958.	2.3	38
70	Soil translocation resulting from multiple passes of tillage under normal field operating conditions. <i>Soil and Tillage Research</i> , 2006, 87, 218-230.	2.6	36
71	Soil redistribution and weathering controlling the fate of geochemical and physical carbon stabilization mechanisms in soils of an eroding landscape. <i>Biogeosciences</i> , 2015, 12, 1357-1371.	1.3	36
72	High resolution characterization of the soil organic carbon depth profile in a soil landscape affected by erosion. <i>Soil and Tillage Research</i> , 2016, 156, 185-193.	2.6	34

#	ARTICLE	IF	CITATIONS
73	Changes in soil organic carbon pools along a chronosequence of land abandonment in southern Spain. <i>Geoderma</i> , 2016, 268, 14-21.	2.3	33
74	The relationship between landform and the distribution of soil C, N and P under conventional and minimum tillage. <i>Geoderma</i> , 2008, 144, 180-188.	2.3	32
75	Moderate topsoil erosion rates constrain the magnitude of the erosion-induced carbon sink and agricultural productivity losses on the Chinese Loess Plateau. <i>Biogeosciences</i> , 2016, 13, 4735-4750.	1.3	32
76	Towards mapping soil carbon landscapes: Issues of sampling scale and transferability. <i>Soil and Tillage Research</i> , 2016, 156, 194-208.	2.6	32
77	Assessing the Performance of UAS-Compatible Multispectral and Hyperspectral Sensors for Soil Organic Carbon Prediction. <i>Sustainability</i> , 2019, 11, 1889.	1.6	32
78	Plutonium aided reconstruction of caesium atmospheric fallout in European topsoils. <i>Scientific Reports</i> , 2020, 10, 11858.	1.6	31
79	Importance of land use patterns for erosion-induced carbon fluxes in a Mediterranean catchment. <i>Agriculture, Ecosystems and Environment</i> , 2014, 189, 181-189.	2.5	29
80	Uncertainties in assessing tillage erosion – How appropriate are our measuring techniques?. <i>Geomorphology</i> , 2018, 304, 214-225.	1.1	29
81	Modelling the Effect of Land Management Changes on Soil Organic Carbon Stocks in a Mediterranean Cultivated Field. <i>Land Degradation and Development</i> , 2017, 28, 515-523.	1.8	27
82	Unravelling earth flow dynamics with 3-D time series derived from UAV-SfM models. <i>Earth Surface Dynamics</i> , 2017, 5, 791-806.	1.0	27
83	Predicting the long-term fate of buried organic carbon in colluvial soils. <i>Global Biogeochemical Cycles</i> , 2015, 29, 65-79.	1.9	26
84	Soil erosion, sedimentation and the carbon cycle. <i>Catena</i> , 2012, 94, 1-2.	2.2	25
85	Scratching the Critical Zone: The Global Footprint of Agricultural Soil Erosion. <i>Procedia Earth and Planetary Science</i> , 2014, 10, 313-318.	0.6	25
86	Factors controlling soil organic carbon persistence along an eroding hillslope on the loess belt. <i>Soil Biology and Biochemistry</i> , 2014, 77, 187-196.	4.2	24
87	Carbon associated with clay and fine silt as an indicator for SOC decadal evolution under different residue management practices. <i>Agriculture, Ecosystems and Environment</i> , 2014, 196, 1-9.	2.5	24
88	Ending the Cinderella status of terraces and lynchets in Europe: The geomorphology of agricultural terraces and implications for ecosystem services and climate adaptation. <i>Geomorphology</i> , 2021, 379, 107579.	1.1	24
89	The compatibility of erosion data at different temporal scales. <i>Earth and Planetary Science Letters</i> , 2008, 265, 138-152.	1.8	23
90	Soil Organic Carbon Assessment at High Vertical Resolution using Closed-Cell Tube Sampling and Vis-NIR Spectroscopy. <i>Soil Science Society of America Journal</i> , 2013, 77, 1430-1435.	1.2	22

#	ARTICLE	IF	CITATIONS
91	Modelling long-term soil organic carbon dynamics under the impact of land cover change and soil redistribution. <i>Catena</i> , 2017, 151, 63-73.	2.2	22
92	Dynamics of soil fragment size distribution under successive rainfalls and its implication to size-selective sediment transport and deposition. <i>Geoderma</i> , 2017, 308, 104-111.	2.3	20
93	Insights into the future of soil erosion. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020, 117, 23205-23207.	3.3	20
94	Estimating surface mass balance patterns from unoccupied aerial vehicle measurements in the ablation area of the Morteratschâ€“Pers glacier complex (Switzerland). <i>Cryosphere</i> , 2021, 15, 4445-4464.	1.5	20
95	Large-Scale, High-Resolution Mapping of Soil Aggregate Stability in Croplands Using APEX Hyperspectral Imagery. <i>Remote Sensing</i> , 2020, 12, 666.	1.8	19
96	Vertical partitioning and controlling factors of gradient-based soil carbon dioxide fluxes in two contrasted soil profiles along a loamy hillslope. <i>Biogeosciences</i> , 2015, 12, 4637-4649.	1.3	18
97	Spatio-temporal dynamics of sediment transfer systems in landslide-prone Alpine catchments. <i>Solid Earth</i> , 2019, 10, 1489-1503.	1.2	18
98	Evaluating an integrated approach to catchment management to reduce soil loss and sediment pollution through modelling. <i>Soil Use and Management</i> , 2002, 18, 386-394.	2.6	18
99	Process-oriented modelling to identify main drivers of erosion-induced carbon fluxes. <i>Soil</i> , 2017, 3, 83-94.	2.2	17
100	Low N ₂ O and variable CH ₄ fluxes from tropical forest soils of the Congo Basin. <i>Nature Communications</i> , 2022, 13, 330.	5.8	17
101	Constraining a coupled erosion and soil organic carbon model using hillslopeâ€“scale patterns of carbon stocks and pool composition. <i>Journal of Geophysical Research G: Biogeosciences</i> , 2015, 120, 452-465.	1.3	15
102	Modeling long-term, large-scale sediment storage using a simple sediment budget approach. <i>Earth Surface Dynamics</i> , 2016, 4, 407-423.	1.0	15
103	Assessing soil redistribution of forest and cropland sites in wet tropical Africa using ²³⁹⁺²⁴⁰ Pu fallout radionuclides. <i>Soil</i> , 2021, 7, 399-414.	2.2	15
104	The central African soil spectral library: a new soil infrared repository and a geographical prediction analysis. <i>Soil</i> , 2021, 7, 693-715.	2.2	15
105	Modelling a century of soil redistribution processes and carbon delivery from small watersheds using a multi-class sediment transport model. <i>Earth Surface Dynamics</i> , 2017, 5, 113-124.	1.0	14
106	Organic matter cycling along geochemical, geomorphic, and disturbance gradients in forest and cropland of the African Tropics â€“ project TropSOC database version 1.0. <i>Earth System Science Data</i> , 2021, 13, 4133-4153.	3.7	13
107	Distributed water erosion modelling at fine spatial resolution across Denmark. <i>Geomorphology</i> , 2019, 342, 150-162.	1.1	12
108	Evaluating the effects of soil erosion and productivity decline on soil carbon dynamics using a model-based approach. <i>Soil</i> , 2019, 5, 367-382.	2.2	12

#	ARTICLE	IF	CITATIONS
109	Regional-scale characterization of the geomorphic control of the spatial distribution of soil organic carbon in cropland. <i>European Journal of Soil Science</i> , 2014, 65, 539-552.	1.8	11
110	Mapping Canopy Heights in Dense Tropical Forests Using Low-Cost UAV-Derived Photogrammetric Point Clouds and Machine Learning Approaches. <i>Remote Sensing</i> , 2021, 13, 3777.	1.8	11
111	Volume estimation of soil stored in agricultural terrace systems: A geomorphometric approach. <i>Catena</i> , 2021, 207, 105687.	2.2	11
112	Simulating Erosion-Induced Soil and Carbon Delivery From Uplands to Rivers in a Global Land Surface Model. <i>Journal of Advances in Modeling Earth Systems</i> , 2020, 12, e2020MS002121.	1.3	10
113	Fire-derived phosphorus fertilization of African tropical forests. <i>Nature Communications</i> , 2021, 12, 5129.	5.8	10
114	High-resolution soil organic carbon mapping at the field scale in Southern Belgium (Wallonia). <i>Geoderma</i> , 2022, 422, 115929.	2.3	10
115	Lignin signature as a function of land abandonment and erosion in dry luvisols of SE Spain. <i>Catena</i> , 2012, 93, 78-86.	2.2	9
116	Stable isotope signatures of soil nitrogen on an environmental geomorphic gradient within the Congo Basin. <i>Soil</i> , 2021, 7, 83-94.	2.2	9
117	Reply to "Erosion and climate". <i>Nature Geoscience</i> , 2010, 3, 738-738.	5.4	8
118	Monitoring soil surface roughness under growing winter wheat with low-altitude UAV sensing: Potential and limitations. <i>Earth Surface Processes and Landforms</i> , 2020, 45, 3747-3759.	1.2	8
119	Reproducing CO ₂ exchange rates of a crop rotation at contrasting terrain positions using two different modelling approaches. <i>Soil and Tillage Research</i> , 2016, 156, 219-229.	2.6	7
120	Evaluating the capability of a UAV-borne spectrometer for soil organic carbon mapping in bare croplands. <i>Land Degradation and Development</i> , 2021, 32, 4375-4389.	1.8	7
121	Soil organic carbon stabilization mechanisms and temperature sensitivity in old terraced soils. <i>Biogeosciences</i> , 2021, 18, 6301-6312.	1.3	7
122	UAV Remote Sensing for Detecting within-Field Spatial Variation of Winter Wheat Growth and Links to Soil Properties and Historical Management Practices. A Case Study on Belgian Loamy Soil. <i>Remote Sensing</i> , 2022, 14, 2806.	1.8	7
123	Tillage Erosion. , 2006, , 599-608.		6
124	Seasonality, drivers, and isotopic composition of soil CO ₂ fluxes from tropical forests of the Congo Basin. <i>Biogeosciences</i> , 2020, 17, 6207-6218.	1.3	6
125	Fluvial sediment export from pristine forested headwater catchments in the Congo Basin. <i>Geomorphology</i> , 2022, 398, 108046.	1.1	6
126	Erosion of soil organic carbon: Implications for carbon sequestration. <i>Geophysical Monograph Series</i> , 2009, , 189-202.	0.1	4

#	ARTICLE	IF	CITATIONS
127	Short Communication: Humans and the missing C-sink: erosion and burial of soil carbon through time. , 0, , .		4
128	Modeling global anthropogenic erosion in the Holocene. Holocene, 2019, 29, 367-379.	0.9	3
129	Towards Mapping of Soil Crust Using Multispectral Imaging. Sensors, 2021, 21, 1850.	2.1	3
130	Model-Based Biospheric Greenhouse Gas Balance of Hungary. , 2011, , 295-330.		3
131	A Semi-Empirical Anisotropy Correction Model for UAS-Based Multispectral Images of Bare Soil. Remote Sensing, 2022, 14, 537.	1.8	2
132	Estimating temporal and spatial changes in soil organic carbon stocks and its controlling factors in moraine landscapes in Denmark. Catena, 2021, 206, 105502.	2.2	1
133	Calibraci3n y aplicaci3n de un modelo de erosi3n y din3mica del carbono (SPEROS-C) a doce pequeas cuencas del sureste espaol. Cuadernos De Investigacion Geografica, 2013, 39, 225.	0.6	1
134	A multi-isotope model for simulating soil organic carbon cycling in eroding landscapes (WATEM_C) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50	1.3	1
135	Substantial Organic and Particulate Nitrogen and Phosphorus Export from Geomorphologically Stable African Tropical Forest Landscapes. Ecosystems, 0, , .	1.6	0