Wouter Buytaert

List of Publications by Year
in descending order

122 papers	8,380 citations	50170 46 h-index	49773 87 g-index
164 all docs	164 docs citations	164 times ranked	9199 citing authors

#	Article	IF	Citations
1	Climate change and mountain water resources: overview and recommendations for research, management and policy. Hydrology and Earth System Sciences, 2011, 15, 471-504.	1.9	476
2	Twenty-three unsolved problems in hydrology (UPH) â€“ a community perspective. Hydrological Sciences Journal, 2019, 64, 1141-1158.	1.2	474
3	Human impact on the hydrology of the Andean pÃ¡ramos. Earth-Science Reviews, 2006, 79, 53-72.	4.0	423
4	Spatial and temporal rainfall variability in mountainous areas: A case study from the south Ecuadorian Andes. Journal of Hydrology, 2006, 329, 413-421.	2.3	346
5	Potential impacts of climate change on the environmental services of humid tropical alpine regions. Global Ecology and Biogeography, 2011, 20, 19-33.	2.7	331
6	Citizen science in hydrology and water resources: opportunities for knowledge generation, ecosystem service management, and sustainable development. Frontiers in Earth Science, 2014, 2, .	0.8	329
7	Toward mountains without permanent snow and ice. Earth's Future, 2017, 5, 418-435.	2.4	324
8	Rapid decline of snow and ice in the tropical Andes â€“ Impacts, uncertainties and challenges ahead. Earth-Science Reviews, 2018, 176, 195-213.	4.0	203
9	Web technologies for environmental Big Data. Environmental Modelling and Software, 2015, 63, 185-198.	1.9	184
10	Uncertainties in climate change projections and regional downscaling in the tropical Andes: implications for water resources management. Hydrology and Earth System Sciences, 2010, 14, 1247-1258.	1.9	176
11	The effects of afforestation and cultivation on water yield in the Andean pÃ¡ramo. Forest Ecology and Management, 2007, 251, 22-30.	1.4	171
12	Water for cities: The impact of climate change and demographic growth in the tropical Andes. Water Resources Research, 2012, 48, .	1.7	160
13	Socio-hydrological modelling: a review asking "why,ÂwhatÂandÂhow?". Hydrology and Earth System Sciences, 2016, 20, 443-478.	1.9	151
14	A Comparative Performance Analysis of TRMM 3B42 (TMPA) Versions 6 and 7 for Hydrological Applications over Andeanâ€“Amazon River Basins. Journal of Hydrometeorology, 2014, 15, 581-592.	0.7	149
15	Repeated glacial-lake outburst floods in Patagonia: an increasing hazard?. Natural Hazards, 2010, 54, 469-481.	1.6	146
16	A comparative analysis of ecosystem services valuation approaches for application at the local scale and in data scarce regions. Ecosystem Services, 2016, 22, 250-259.	2.3	141
17	Evaluation of precipitation products over complex mountainous terrain: A water resources perspective. Advances in Water Resources, 2011, 34, 1222-1231.	1.7	140
18	Spaceâ€“time rainfall variability in the Paute basin, Ecuadorian Andes. Hydrological Processes, 2007, 21, 3316-3327.	1.1	132

#	Article	IF	Citations
19	A data assimilation approach to discharge estimation from space. Hydrological Processes, 2009, 23, 3641-3649.	1.1	132
20	Diverging Responses of Tropical Andean Biomes under Future Climate Conditions. PLoS ONE, 2013, 8, e63634.	1.1	126
21	Multiregional Satellite Precipitation Products Evaluation over Complex Terrain. Journal of Hydrometeorology, 2016, 17, 1817-1836.	0.7	123
22	The effect of land-use changes on the hydrological behaviour of Histic Andosols in south Ecuador. Hydrological Processes, 2005, 19, 3985-3997.	1.1	115
23	Predicting climate change impacts on water resources in the tropical Andes: Effects of GCM uncertainty. Geophysical Research Letters, 2009, 36, .	1.5	113
24	Temporal dynamics of model parameter sensitivity for computationally expensive models with the Fourier amplitude sensitivity test. Water Resources Research, 2011, 47, .	1.7	111
25	Impacts of land use on the hydrological response of tropical Andean catchments. Hydrological Processes, 2016, 30, 4074-4089.	1.1	111
26	Citizen science for hydrological risk reduction and resilience building. Wiley Interdisciplinary Reviews: Water, 2018, 5, e1262.	2.8	104
27	Models as multiple working hypotheses: hydrological simulation of tropical alpine wetlands. Hydrological Processes, 2011, 25, 1784-1799.	1.1	99
28	Comparative predictions of discharge from an artificial catchment (Chicken Creek) using sparse data. Hydrology and Earth System Sciences, 2009, 13, 2069-2094.	1.9	97
29	Agro-climatic suitability mapping for crop production in the Bolivian Altiplano: A case study for quinoa. Agricultural and Forest Meteorology, 2006, 139, 399-412.	1.9	92
30	Identifying controls of the rainfallâ€"runoff response of small catchments in the tropical Andes (Ecuador). Journal of Hydrology, 2011, 407, 164-174.	2.3	90
31	Environmental data visualisation for non-scientific contexts: Literature review and design framework. Environmental Modelling and Software, 2016, 85, 299-318.	1.9	85
32	Glacial melt content of water use in the tropical Andes. Environmental Research Letters, 2017, 12, 114014.	2.2	77
33	Highâ€resolution satelliteâ€gauge merged precipitation climatologies of the Tropical Andes. Journal of Geophysical Research D: Atmospheres, 2016, 121, 1190-1207.	1.2	75
34	Evaluation of GPM-era Global Satellite Precipitation Products over Multiple Complex Terrain Regions. Remote Sensing, 2019, 11, 2936.	1.8	74
35	Citizen Science for Water Resources Management: Toward Polycentric Monitoring and Governance?. Journal of Water Resources Planning and Management - ASCE, 2016, 142, .	1.3	72
36	The use of the linear reservoir concept to quantify the impact of changes in land use on the hydrology of catchments in the Andes. Hydrology and Earth System Sciences, 2004, 8, 108-114.	1.9	69

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37	Description and classification of nonallophanic Andosols in south Ecuadorian alpine grasslands (pÃ¡ramo). Geomorphology, 2006, 73, 207-221.	1.1	69
38	Population growth, land use and land cover transformations, and water quality nexus in the Upper Ganga River basin. Hydrology and Earth System Sciences, 2018, 22, 4745-4770.	1.9	67
39	User-driven design of decision support systems for polycentric environmental resources management. Environmental Modelling and Software, 2017, 88, 58-73.	1.9	65
40	Thermal niche traits of high alpine plant species and communities across the tropical Andes and their vulnerability to global warming. Journal of Biogeography, 2020, 47, 408-420.	1.4	61
41	A Comparative Analysis of TRMMâ€“Rain Gauge Data Merging Techniques at the Daily Time Scale for Distributed Rainfallâ€“Runoff Modeling Applications. Journal of Hydrometeorology, 2015, 16, 2153-2168.	0.7	60
42	Environmental Virtual Observatories (EVOs): prospects for knowledge co-creation and resilience in the Information Age. Current Opinion in Environmental Sustainability, 2016, 18, 40-48.	3.1	60
43	Comparative Ground Validation of IMERG and TMPA at Variable Spatiotemporal Scales in the Tropical Andes. Journal of Hydrometeorology, 2017, 18, 2469-2489.	0.7	60
44	Potential contributions of pre-Inca infiltration infrastructure to Andean water security. Nature Sustainability, 2019, 2, 584-593.	11.5	59
45	Regionalization as a learning process. Water Resources Research, 2009, 45, .	1.7	55
46	An open and extensible framework for spatially explicit land use change modelling: the lulcc R package. Geoscientific Model Development, 2015, 8, 3215-3229.	1.3	51
47	The use of semi-structured interviews for the characterisation of farmer irrigation practices. Hydrology and Earth System Sciences, 2016, 20, 1911-1924.	1.9	51
48	Regional variability of volcanic ash soils in south Ecuador: The relation with parent material, climate and land use. Catena, 2007, 70, 143-154.	2.2	50
49	Clay mineralogy of the soils in the south Ecuadorian pÃ¡ramo region. Geoderma, 2005, 127, 114-129.	2.3	47
50	Impact of land use changes on the hydrological properties of volcanic ash soils in South Ecuador. Soil Use and Management, 2002, 18, 94-100.	2.6	46
51	HESS Opinions: A conceptual framework for assessing socio-hydrological resilience under change. Hydrology and Earth System Sciences, 2017, 21, 3655-3670.	1.9	46
52	Modelling the hydrological impacts of rural land use change. Hydrology Research, 2014, 45, 737-754.	1.1	44
53	Projected increases in the annual flood pulse of the Western Amazon. Environmental Research Letters, 2016, 11, 014013.	2.2	42
54	Research Priorities for the Conservation and Sustainable Governance of Andean Forest Landscapes. Mountain Research and Development, 2017, 37, 323.	0.4	41

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55	Web-Based Environmental Simulation: Bridging the Gap between Scientific Modeling and Decision-Making. Environmental Science & Technology, 2012, 46, 1971-1976.	4.6	38
56	The role of rating curve uncertainty in realâ€time flood forecasting. Water Resources Research, 2017, 53, 4197-4213.	1.7	36
57	High-resolution hydrometeorological data from a network of headwater catchments in the tropical Andes. Scientific Data, 2018, 5, 180080.	2.4	36
58	A critical assessment of the JULES land surface model hydrology for humid tropical environments. Hydrology and Earth System Sciences, 2013, 17, 1113-1132.	1.9	35
59	On virtual observatories and modelled realities (or why discharge must be treated as a virtual) Tj ETQq1 1 0.784314 rgBT /Overlock 10 T	1.1	34
60	Land use can offset climate change induced increases in erosion in Mediterranean watersheds. Catena, 2016, 143, 244-255.	2.2	34
61	Regionalization of landâ€use impacts on streamflow using a network of paired catchments. Water Resources Research, 2016, 52, 6710-6729.	1.7	34
62	The power to define resilience in socialâ€"hydrological systems: Toward a powerâ€sensitive resilience framework. Wiley Interdisciplinary Reviews: Water, 2019, 6, e1377.	2.8	34
63	A Technical Evaluation of Lidarâ€Based Measurement of River Water Levels. Water Resources Research, 2020, 56, e2019WR026810.	1.7	34
64	Why can't we do better than Topmodel?. Hydrological Processes, 2008, 22, 4175-4179.	1.1	33
65	Citizens AND HYdrology (CANDHY): conceptualizing a transdisciplinary framework for citizen science addressing hydrological challenges. Hydrological Sciences Journal, 2022, 67, 2534-2551.	1.2	33
66	Hydrological regime of remote catchments with extreme gradients under accelerated change: the Baker basin in Patagonia. Hydrological Sciences Journal, 2012, 57, 1530-1542.	1.2	32
67	A concerted research effort to advance the hydrological understanding of tropical pÃ¡ramos. Hydrological Processes, 2020, 34, 4609-4627.	1.1	32
68	Including Farmer Irrigation Behavior in a Sociohydrological Modeling Framework With Application in North India. Water Resources Research, 2018, 54, 4849-4866.	1.7	31
69	Historical and future land-cover changes in the Upper Ganges basin of India. International Journal of Remote Sensing, 2014, 35, 3150-3176.	1.3	28
70	Assessment and Management of Water Resources in Developing, Semi-arid and Arid Regions. Water Resources Management, 2012, 26, 841-844.	1.9	26
71	Impact of modellers' decisions on hydrological a priori predictions. Hydrology and Earth System Sciences, 2014, 18, 2065-2085.	1.9	25
72	Coupling a land-surface model with a crop growth model to improve ET flux estimations in the Upper Ganges basin, India. Hydrology and Earth System Sciences, 2014, 18, 4223-4238.	1.9	23

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73	Moving beyond the Technology: A Socio-technical Roadmap for Low-Cost Water Sensor Network Applications. Environmental Science & Technology, 2020, 54, 9145-9158.	4.6	23
74	Comment on â€œModelling the effect of soil and water conservation practices in Tigray, Ethiopiaâ€• [Agric. Ecosyst. Environ. 105 (2005) 29â€"40]. Agriculture, Ecosystems and Environment, 2006, 114, 407-411.	2.5	22
75	Contribution of occult precipitation to the water balance of pÃ¡ramo ecosystems in the Colombian Andes. Hydrological Processes, 2017, 31, 4440-4449.	1.1	22
76	Knowledge gaps in our perceptual model of Great Britain's hydrology. Hydrological Processes, 2021, 35, e14288.	1.1	22
77	Mitigating flood risk using lowâ€cost sensors and citizen science: A proofâ€ofâ€concept study from western Nepal. Journal of Flood Risk Management, 2021, 14, e12675.	1.6	20
78	A spatio-temporal land use and land cover reconstruction for India from 1960â€"2010. Scientific Data, 2018, 5, 180159.	2.4	19
79	Modeling the Impacts of Urban Flood Risk Management on Social Inequality. Water Resources Research, 2021, 57, e2020WR029024.	1.7	19
80	Addressing sources of uncertainty in runoff projections for a data scarce catchment in the Ecuadorian Andes. Climatic Change, 2014, 125, 221-235.	1.7	18
81	Land-use change may exacerbate climate change impacts on water resources in the Ganges basin. Hydrology and Earth System Sciences, 2018, 22, 1411-1435.	1.9	18
82	Predicting Shallow Groundwater Tables for Sloping Highland Aquifers. Water Resources Research, 2019, 55, 11088-11100.	1.7	18
83	Influence of land use on hydro-physical soil properties of Andean pÃ¡ramos and its effect on streamflow buffering. Catena, 2021, 202, 105227.	2.2	18
84	Accounting for dependencies in regionalized signatures for predictions in ungauged catchments. Hydrology and Earth System Sciences, 2016, 20, 887-901.	1.9	17
85	Technical note: Hydrology modelling R packages â€" a unified analysis of models and practicalities from a user perspective. Hydrology and Earth System Sciences, 2021, 25, 3937-3973.	1.9	17
86	Water quality: the missing dimension of water in the waterâ€"energyâ€"food nexus. Hydrological Sciences Journal, 2021, 66, 745-758.	1.2	15
87	From patches to richness: assessing the potential impact of landscape transformation on biodiversity. Ecosphere, 2017, 8, e02004.	1.0	13
88	Water sensor network applications: <scp>T</scp>ime to move beyond the technical?. Hydrological Processes, 2018, 32, 2612-2615.	1.1	13
89	Global to regional scale evaluation of adaptation measures to reduce the future water gap. Environmental Modelling and Software, 2020, 124, 104578.	1.9	13
90	Improving water resources management using participatory monitoring in a remote mountainous region of Nepal. Journal of Hydrology: Regional Studies, 2019, 23, 100604.	1.0	12

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91	The effect of natural infrastructure on water erosion mitigation in the Andes. Soil, 2022, 8, 133-147.	2.2	12
92	Ecohydrology and ecosystem services of a natural and an artificial bofedal wetland in the central Andes. Science of the Total Environment, 2022, 838, 155968.	3.9	12
93	Citizen Science and Low-Cost Sensors for Integrated Water Resources Management. Advances in Chemical Pollution, Environmental Management and Protection, 2018, 3, 1-33.	0.3	11
94	rnrfa: An R package to Retrieve, Filter and Visualize Data from the UK National River Flow Archive. R Journal, 2016, 8, 102.	0.7	11
95	Glaciers in Patagonia: Controversy and prospects. Eos, 2012, 93, 212-212.	0.1	10
96	Effects of winter and summer-time irrigation over Gangetic Plain on the mean and intra-seasonal variability of Indian summer monsoon. Climate Dynamics, 2019, 53, 3147-3166.	1.7	10
97	Tailoring Infographics on Water Resources Through Iterative, Userâ€Centered Design: A Case Study in the Peruvian Andes. Water Resources Research, 2020, 56, e2019WR026694.	1.7	9
98	Exploring a water data, evidence, and governance theory. Water Security, 2018, 4-5, 19-25.	1.2	8
99	From present to future development pathways in fragile mountain landscapes. Environmental Science and Policy, 2020, 114, 606-613.	2.4	8
100	Applying Citizen Science for Sustainable Development: Rainfall Monitoring in Western Nepal. Frontiers in Water, 2020, 2, .	1.0	8
101	fuse: An R package for ensemble Hydrological Modelling. Journal of Open Source Software, 2016, 1, 52.	2.0	8
102	Predicting flow in ungauged catchments using correlated information sources. , 0, , .		8
103	A user-centred design framework for disaster risk visualisation. International Journal of Disaster Risk Reduction, 2022, 77, 103067.	1.8	8
104	Improving parameter priors for data-scarce estimation problems. Water Resources Research, 2013, 49, 6090-6095.	1.7	7
105	The development and intersection of highland-coastal scale frames: a case study of water governance in central Peru. Journal of Environmental Policy and Planning, 2019, 21, 373-390.	1.5	7
106	Assessment of the Impacts of Climate Change on Mountain Hydrology: Development of a Methodology Through a Case Study in the Andes of Peru. Mountain Research and Development, 2012, 32, 385.	0.4	5
107	Sensitivity analysis of the parameterâ€efficient distributed (PED) model for discharge and sediment concentration estimation in degraded humid landscapes. Land Degradation and Development, 2019, 30, 151-165.	1.8	5
108	A framework for understanding water-related multi-hazards in a sustainable development context. Progress in Physical Geography, 2020, 44, 267-284.	1.4	5

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109	Sachet water in Ghana: A spatiotemporal analysis of the recent upward trend in consumption and its relationship with changing household characteristics, 2010â€“2017. PLoS ONE, 2022, 17, e0265167.	1.1	5
110	Comment on â€œHuman impacts on headwater fluvial systems in the northern and central Andesâ€•(Carol) Tj ETQq0 0 0 rgBT /Overloc	1.1	4
111	An Open Data and Citizen Science Approach to Building Resilience to Natural Hazards in a Data-Scarce Remote Mountainous Part of Nepal. Sustainability, 2020, 12, 9448.	1.6	3
112	Designing citizen science for water and ecosystem services management in data-poor regions: Challenges and opportunities. Current Research in Environmental Sustainability, 2021, 3, 100059.	1.7	3
113	Project Narratives: Investigating Participatory Conservation in the Peruvian Andes. Development and Change, 2020, 51, 1067-1097.	2.0	2
114	A methodology to downscale water demand data with application to the Andean region (Ecuador,) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50	1.2	1
115	Addressing water security through nature-based solutions. , 2021, , 37-62.		1
116	A regional assessment of climate change impact on water resources in the tropical Andes. , 0, , .		1
117	Land-use change may exacerbate climate change impacts on water resources in the Ganges basin. Hydrology and Earth System Sciences Discussions, 0, , 1-33.	0.0	1
118	Climate Change Adaptation Strategiesâ€”An Upstream-Downstream Perspective. Mountain Research and Development, 2017, 37, 240.	0.4	0
119	The LOTUS: A Journey to Value-Based, Patient-Centered Care. Creative Nursing, 2019, 25, 17-24.	0.2	0
120	Modelado hidrolÃ³gico de un pÃ¡ramo andino venezolano con afloramientos rocosos usando TOPMODEL. Maskana, 2019, 10, 54-63.	0.5	0
121	The advantages of the use of open source software in geosciences. Communications in Agricultural and Applied Biological Sciences, 2003, 68, 35-8.	0.0	0
122	Ensuring consideration of water quality in nexus approaches in the scienceâ€“practice continuum: reply to discussion of â€œWater quality: the missing dimension of water in the waterâ€“energyâ€“food nexus?â€• Hydrological Sciences Journal, 2022, 67, 1291-1293.	1.2	0