Simone Fatichi

List of Publications by Year
in descending order

103	6,904	53794 45	64796 79
papers	citations	h-index	g-index

110	110	110	8660
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Magnitude of urban heat islands largely explained by climate and population. Nature, 2019, 573, 55-60.	27.8	546
2	Moving beyond photosynthesis: from carbon source to sinkâ€driven vegetation modeling. New Phytologist, 2014, 201, 1086-1095.	7.3	421
3	An overview of current applications, challenges, and future trends in distributed process-based models in hydrology. Journal of Hydrology, 2016, 537, 45-60.	5.4	349
4	A meta-analysis of 1,119 manipulative experiments on terrestrial carbon-cycling responses to global change. Nature Ecology and Evolution, 2019, 3, 1309-1320.	7.8	304
5	Integrating the evidence for a terrestrial carbon sink caused by increasing atmospheric CO₂. New Phytologist, 2021, 229, 2413-2445.	7.3	286
6	Simulation of future climate scenarios with a weather generator. Advances in Water Resources, 2011, 34, 448-467.	3.8	214
7	Modeling plantâ€“water interactions: an ecohydrological overview from the cell to the global scale. Wiley Interdisciplinary Reviews: Water, 2016, 3, 327-368.	6.5	163
8	Modelling carbon sources and sinks in terrestrial vegetation. New Phytologist, 2019, 221, 652-668.	7.3	163
9	Storm type effects on super Clausiusâ€“Clapeyron scaling of intense rainstorm properties with air temperature. Hydrology and Earth System Sciences, 2015, 19, 1753-1766.	4.9	147
10	Hysteresis of soil moisture spatial heterogeneity and the â€œhomogenizingâ€• effect of vegetation. Water Resources Research, 2010, 46, .	4.2	139
11	Soil structureÂis an important omission in Earth System Models. Nature Communications, 2020, 11, 522.	12.8	138
12	More green and less blue water in the Alps during warmer summers. Nature Climate Change, 2020, 10, 155-161.	18.8	134
13	On the effects of small scale spaceâ€“time variability of rainfall on basin flood response. Journal of Hydrology, 2014, 514, 313-327.	5.4	120
14	A stochastic model for high-resolution space-time precipitation simulation. Water Resources Research, 2013, 49, 8400-8417.	4.2	114
15	Constrained variability of modeled T:ET ratio across biomes. Geophysical Research Letters, 2017, 44, 6795-6803.	4.0	105
16	Partitioning direct and indirect effects reveals the response of water-limited ecosystems to elevated CO ₂. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 12757-12762.	7.1	102
17	Sensitivity analysis of a processâ€based ecosystem model: Pinpointing parameterization and structural issues. Journal of Geophysical Research G: Biogeosciences, 2013, 118, 505-528.	3.0	101
18	An advanced stochastic weather generator for simulating 2â€D highâ€resolution climate variables. Journal of Advances in Modeling Earth Systems, 2017, 9, 1595-1627.	3.8	101

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19	Uncertainty partition challenges the predictability of vital details of climate change. Earth's Future, 2016, 4, 240-251.	6.3	98
20	Tree effects on urban microclimate: Diurnal, seasonal, and climatic temperature differences explained by separating radiation, evapotranspiration, and roughness effects. Urban Forestry and Urban Greening, 2021, 58, 126970.	5.3	90
21	Assessment of a stochastic downscaling methodology in generating an ensemble of hourly future climate time series. Climate Dynamics, 2013, 40, 1841-1861.	3.8	87
22	Tree level hydrodynamic approach for resolving aboveground water storage and stomatal conductance and modeling the effects of tree hydraulic strategy. Journal of Geophysical Research G: Biogeosciences, 2016, 121, 1792-1813.	3.0	84
23	Spatial variability of extreme rainfall at radar subpixel scale. Journal of Hydrology, 2018, 556, 922-933.	5.4	81
24	Experiments to confront the environmental extremes of climate change. Frontiers in Ecology and the Environment, 2015, 13, 219-225.	4.0	79
25	An urban ecohydrological model to quantify the effect of vegetation on urban climate and hydrology (UT&C v1.0). Geoscientific Model Development, 2020, 13, 335-362.	3.6	79
26	Investigating Interannual Variability of Precipitation at the Global Scale: Is There a Connection with Seasonality?. Journal of Climate, 2012, 25, 5512-5523.	3.2	78
27	Modeling terrestrial carbon and water dynamics across climatic gradients: does plant trait diversity matter?. New Phytologist, 2016, 209, 137-151.	7.3	75
28	Deterministic versus stochastic trends: Detection and challenges. Journal of Geophysical Research, 2009, 114, .	3.3	71
29	Interannual variability of evapotranspiration and vegetation productivity. Water Resources Research, 2014, 50, 3275-3294.	4.2	71
30	Intensification of Convective Rain Cells at Warmer Temperatures Observed from High-Resolution Weather Radar Data. Journal of Hydrometeorology, 2018, 19, 715-726.	1.9	70
31	An advanced process-based distributed model for the investigation of rainfall-induced landslides: The effect of process representation and boundary conditions. Water Resources Research, 2015, 51, 7501-7523.	4.2	66
32	High-resolution distributed analysis of climate and anthropogenic changes on the hydrology of an Alpine catchment. Journal of Hydrology, 2015, 525, 362-382.	5.4	66
33	Seasonal hysteresis of surface urban heat islands. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 7082-7089.	7.1	66
34	Does internal climate variability overwhelm climate change signals in streamflow? The upper Po and Rhone basin case studies. Science of the Total Environment, 2014, 493, 1171-1182.	8.0	61
35	Shortâ€term favorable weather conditions are an important control of interannual variability in carbon and water fluxes. Journal of Geophysical Research G: Biogeosciences, 2016, 121, 2186-2198.	3.0	60
36	Partitioning the impacts of spatial and climatological rainfall variability in urban drainage modeling. Hydrology and Earth System Sciences, 2017, 21, 1559-1572.	4.9	60

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37	Water Flux Tracking With a Distributed Hydrological Model to Quantify Controls on the Spatioâ€temporal Variability of Transit Time Distributions. Water Resources Research, 2018, 54, 3081-3099.	4.2	59
38	A mechanistic ecohydrological model to investigate complex interactions in cold and warm waterâ€controlled environments: 1. Theoretical framework and plotâ€scale analysis. Journal of Advances in Modeling Earth Systems, 2012, 4, .	3.8	58
39	Abiotic and biotic controls of soil moisture spatiotemporal variability and the occurrence of hysteresis. Water Resources Research, 2015, 51, 3505-3524.	4.2	56
40	Asymmetric responses of primary productivity to altered precipitation simulated by ecosystem models across three long-term grassland sites. Biogeosciences, 2018, 15, 3421-3437.	3.3	55
41	Linking plant functional trait plasticity and the large increase in forest water use efficiency. Journal of Geophysical Research G: Biogeosciences, 2017, 122, 2393-2408.	3.0	54
42	A comprehensive analysis of changes in precipitation regime in Tuscany. International Journal of Climatology, 2009, 29, 1883-1893.	3.5	51
43	Globally consistent influences of seasonal precipitation limit grassland biomass response to elevated CO2. Nature Plants, 2019, 5, 167-173.	9.3	51
44	Rainfall manipulation experiments as simulated by terrestrial biosphere models: Where do we stand?. Global Change Biology, 2020, 26, 3336-3355.	9.5	50
45	Urban Forests as Main Regulator of the Evaporative Cooling Effect in Cities. AGU Advances, 2021, 2, e2020AV000303.	5.4	50
46	On temporal stochastic modeling of precipitation, nesting models across scales. Advances in Water Resources, 2014, 63, 152-166.	3.8	48
47	Climate change and uncertainty assessment over a hydroclimatic transect of Michigan. Stochastic Environmental Research and Risk Assessment, 2016, 30, 923-944.	4.0	47
48	A Mechanistic Model of Microbially Mediated Soil Biogeochemical Processes: A Reality Check. Global Biogeochemical Cycles, 2019, 33, 620-648.	4.9	46
49	Vegetation cover and plant-trait effects on outdoor thermal comfort in a tropical city. Building and Environment, 2021, 195, 107733.	6.9	46
50	Covariation of vegetation and climate constrains present and future T/ET variability. Environmental Research Letters, 2018, 13, 104012.	5.2	42
51	On the variability of the ecosystem response to elevated atmospheric CO2 across spatial and temporal scales at the Duke Forest FACE experiment. Agricultural and Forest Meteorology, 2017, 232, 367-383.	4.8	41
52	Governing and managing water resources under changing hydro-climatic contexts: The case of the upper Rhone basin. Environmental Science and Policy, 2014, 43, 56-67.	4.9	39
53	Toward a better integration of biological data from precipitation manipulation experiments into Earth system models. Reviews of Geophysics, 2014, 52, 412-434.	23.0	39
54	The role of localâ€scale heterogeneities in terrestrial ecosystem modeling. Journal of Geophysical Research G: Biogeosciences, 2015, 120, 341-360.	3.0	39

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55	Climate Change Impacts on Sediment Yield and Debrisâ€Flow Activity in an Alpine Catchment. Journal of Geophysical Research F: Earth Surface, 2021, 126, .	2.8	39
56	Crossâ€scale impact of climate temporal variability on ecosystem water and carbon fluxes. Journal of Geophysical Research G: Biogeosciences, 2015, 120, 1716-1740.	3.0	38
57	Depth of Solute Generation Is a Dominant Control on Concentrationâ€Discharge Relations. Water Resources Research, 2020, 56, e2019WR026695.	4.2	38
58	Ecohydrological changes after tropical forest conversion to oil palm. Environmental Research Letters, 2018, 13, 064035.	5.2	37
59	Dryâ€Season Greening and Water Stress in Amazonia: The Role of Modeling Leaf Phenology. Journal of Geophysical Research G: Biogeosciences, 2018, 123, 1909-1926.	3.0	37
60	Modification of landâ€atmosphere interactions by CO₂ effects: Implications for summer dryness and heat wave amplitude. Geophysical Research Letters, 2016, 43, 10,240.	4.0	36
61	Exploring stochastic climate uncertainty in space and time using a gridded hourly weather generator. Journal of Hydrology, 2019, 571, 627-641.	5.4	36
62	A mechanistic ecohydrological model to investigate complex interactions in cold and warm waterâ€controlled environments: 2. Spatiotemporal analyses. Journal of Advances in Modeling Earth Systems, 2012, 4, .	3.8	35
63	Ecohydrological effects of management on subalpine grasslands: From local to catchment scale. Water Resources Research, 2014, 50, 148-164.	4.2	35
64	Reconciling observations with modeling: The fate of water and carbon allocation in a mature deciduous forest exposed to elevated CO2. Agricultural and Forest Meteorology, 2013, 174-175, 144-157.	4.8	33
65	Aboveground tree growth is a minor and decoupled fraction of boreal forest carbon input. Agricultural and Forest Meteorology, 2020, 290, 108030.	4.8	33
66	Climate change and Ecotone boundaries: Insights from a cellular automata ecohydrology model in a Mediterranean catchment with topography controlled vegetation patterns. Advances in Water Resources, 2014, 73, 159-175.	3.8	32
67	A review of studies on observed precipitation trends in Italy. International Journal of Climatology, 2021, 41, E1.	3.5	31
68	Temperature effects on the spatial structure of heavy rainfall modify catchment hydro-morphological response. Earth Surface Dynamics, 2020, 8, 17-36.	2.4	28
69	Stochastic assessment of climate impacts on hydrology and geomorphology of semiarid headwater basins using a physically based model. Journal of Geophysical Research F: Earth Surface, 2015, 120, 507-533.	2.8	26
70	Environmental stochasticity controls soil erosion variability. Scientific Reports, 2016, 6, 22065.	3.3	26
71	Groundwater Buffers Drought Effects and Climate Variability in Urban Reserves. Water Resources Research, 2020, 56, e2019WR026192.	4.2	26
72	Soil erosion assessmentâ€"Mind the gap. Geophysical Research Letters, 2016, 43, 12,446.	4.0	24

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73	On the non-uniqueness of the hydro-geomorphic responses in a zero-order catchment with respect to soil moisture. Advances in Water Resources, 2016, 92, 73-89.	3.8	21
74	Breaking Down the Computational Barriers to Realâ€Time Urban Flood Forecasting. Geophysical Research Letters, 2021, 48, e2021GL093585.	4.0	21
75	Diurnal and seasonal changes in nearâ€surface humidity in a complex orography. Journal of Geophysical Research D: Atmospheres, 2015, 120, 2358-2374.	3.3	20
76	Intensification of sub-daily rainfall extremes in a low-rise urban area. Urban Climate, 2022, 42, 101124.	5.7	20
77	Anthropogenic and catchment characteristic signatures in the water quality of Swiss rivers: a quantitative assessment. Hydrology and Earth System Sciences, 2019, 23, 1885-1904.	4.9	19
78	Matching ecohydrological processes and scales of banded vegetation patterns in semiarid catchments. Water Resources Research, 2016, 52, 2259-2278.	4.2	18
79	Assessing the Vulnerability of Aquatic Macroinvertebrates to Climate Warming in a Mountainous Watershed: Supplementing Presence-Only Data with Species Traits. Water (Switzerland), 2019, 11, 636.	2.7	18
80	Variability of transit time distributions with climate and topography: A modelling approach. Journal of Hydrology, 2019, 569, 37-50.	5.4	18
81	The â€˜island effectâ€™ in terrestrial global change experiments: a problem with no solution?. AoB PLANTS, 2015, 7, plv092.	2.3	17
82	Understanding monsoon controls on the energy and mass balance of glaciers in the Central and Eastern Himalaya. Cryosphere, 2022, 16, 1631-1652.	3.9	17
83	Global variation in contributions to human well-being from urban vegetation ecosystem services. One Earth, 2022, 5, 522-533.	6.8	17
84	An ecohydrological journey of 4500 years reveals a stable but threatened precipitationâ€“groundwater recharge relation around Jerusalem. Science Advances, 2021, 7, eabe6303.	10.3	15
85	Diurnal and seasonal patterns of global urban dry islands. Environmental Research Letters, 2022, 17, 054044.	5.2	15
86	On the use of observations in assessment of multi-model climate ensemble. Stochastic Environmental Research and Risk Assessment, 2019, 33, 1923-1937.	4.0	14
87	Revealing the impacts of climate change on mountainous catchments through high-resolution modelling. Journal of Hydrology, 2021, 603, 126806.	5.4	14
88	Impacts of fertilization on grassland productivity and water quality across the European Alps under current and warming climate: insights from a mechanistic model. Biogeosciences, 2021, 18, 1917-1939.	3.3	13
89	Assessing vegetation response to irrigation strategies and soil properties in an urban reserve in southeast Australia. Landscape and Urban Planning, 2021, 215, 104198.	7.5	13
90	The role of vadose zone physics in the ecohydrological response of a Tibetan meadow to freezeâ€“thaw cycles. Cryosphere, 2020, 14, 4653-4673.	3.9	13

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91	A mechanistic assessment of urban heat island intensities and drivers across climates. Urban Climate, 2022, 44, 101215.	5.7	13
92	Ecohydrological dynamics in the Alps: Insights from a modelling analysis of the spatial variability. Ecohydrology, 2019, 12, e2054.	2.4	12
93	Detailed investigation of vegetation effects on microclimate by means of computational fluid dynamics (CFD) in a tropical urban environment. Urban Climate, 2021, 39, 100939.	5.7	12
94	Modeling distributed metal pollution transport in a mine impacted catchment: Short and long-term effects. Science of the Total Environment, 2022, 812, 151473.	8.0	11
95	The Energy and Mass Balance of Peruvian Glaciers. Journal of Geophysical Research D: Atmospheres, 2021, 126, e2021JD034911.	3.3	11
96	Gross primary productivity and water use efficiency are increasing in a high rainfall tropical savanna. Global Change Biology, 2022, 28, 2360-2380.	9.5	11
97	Downscaling climate projections over large and data sparse regions: Methodological application in the Zambezi River Basin. International Journal of Climatology, 2020, 40, 6242-6264.	3.5	9
98	Persistent decay of fresh xylem hydraulic conductivity varies with pressure gradient and marks plant responses to injury. Plant, Cell and Environment, 2021, 44, 371-386.	5.7	9
99	Simulating water flow in variably saturated soils: a comparison of a 3D model with approximation-based formulations. Hydrology Research, 2016, 47, 274-290.	2.7	7
100	Insensitivity of Ecosystem Productivity to Predicted Changes in Fineâ€Scale Rainfall Variability. Journal of Geophysical Research G: Biogeosciences, 2022, 127, .	3.0	6
101	Field evidence of riparian vegetation response to groundwater levels in a gravelâ€bed river. Ecohydrology, 2021, 14, e2264.	2.4	3
102	Advancing Process Representation in Hydrological Models: Integrating New Concepts, Knowledge, and Data. Water Resources Research, 2021, 57, e2021WR030661.	4.2	3
103	Can we replace observed forcing with weather generator in land surface modeling? Insights from long-term simulations at two contrasting boreal sites. Theoretical and Applied Climatology, 2021, 145, 215-244.	2.8	2