

Simone Fatichi

List of Publications by Year in descending order

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103
papers

6,904
citations

53751

45
h-index

64755

79
g-index

110
all docs

110
docs citations

110
times ranked

8660
citing authors

#	ARTICLE	IF	CITATIONS
1	Magnitude of urban heat islands largely explained by climate and population. <i>Nature</i> , 2019, 573, 55-60.	13.7	546
2	Moving beyond photosynthesis: from carbon source to sink-driven vegetation modeling. <i>New Phytologist</i> , 2014, 201, 1086-1095.	3.5	421
3	An overview of current applications, challenges, and future trends in distributed process-based models in hydrology. <i>Journal of Hydrology</i> , 2016, 537, 45-60.	2.3	349
4	A meta-analysis of 1,119 manipulative experiments on terrestrial carbon-cycling responses to global change. <i>Nature Ecology and Evolution</i> , 2019, 3, 1309-1320.	3.4	304
5	Integrating the evidence for a terrestrial carbon sink caused by increasing atmospheric CO ₂ . <i>New Phytologist</i> , 2021, 229, 2413-2445.	3.5	286
6	Simulation of future climate scenarios with a weather generator. <i>Advances in Water Resources</i> , 2011, 34, 448-467.	1.7	214
7	Modeling plant-water interactions: an ecohydrological overview from the cell to the global scale. <i>Wiley Interdisciplinary Reviews: Water</i> , 2016, 3, 327-368.	2.8	163
8	Modelling carbon sources and sinks in terrestrial vegetation. <i>New Phytologist</i> , 2019, 221, 652-668.	3.5	163
9	Storm type effects on super Clausius-Clapeyron scaling of intense rainstorm properties with air temperature. <i>Hydrology and Earth System Sciences</i> , 2015, 19, 1753-1766.	1.9	147
10	Hysteresis of soil moisture spatial heterogeneity and the "homogenizing" effect of vegetation. <i>Water Resources Research</i> , 2010, 46, .	1.7	139
11	Soil structure is an important omission in Earth System Models. <i>Nature Communications</i> , 2020, 11, 522.	5.8	138
12	More green and less blue water in the Alps during warmer summers. <i>Nature Climate Change</i> , 2020, 10, 155-161.	8.1	134
13	On the effects of small scale space-time variability of rainfall on basin flood response. <i>Journal of Hydrology</i> , 2014, 514, 313-327.	2.3	120
14	A stochastic model for high-resolution space-time precipitation simulation. <i>Water Resources Research</i> , 2013, 49, 8400-8417.	1.7	114
15	Constrained variability of modeled $\frac{T}{ET}$ ratio across biomes. <i>Geophysical Research Letters</i> , 2017, 44, 6795-6803.	1.5	105
16	Partitioning direct and indirect effects reveals the response of water-limited ecosystems to elevated CO ₂ . <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016, 113, 12757-12762.	3.3	102
17	Sensitivity analysis of a process-based ecosystem model: Pinpointing parameterization and structural issues. <i>Journal of Geophysical Research G: Biogeosciences</i> , 2013, 118, 505-528.	1.3	101
18	An advanced stochastic weather generator for simulating 2-d high-resolution climate variables. <i>Journal of Advances in Modeling Earth Systems</i> , 2017, 9, 1595-1627.	1.3	101

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19	Uncertainty partition challenges the predictability of vital details of climate change. <i>Earth's Future</i> , 2016, 4, 240-251.	2.4	98
20	Tree effects on urban microclimate: Diurnal, seasonal, and climatic temperature differences explained by separating radiation, evapotranspiration, and roughness effects. <i>Urban Forestry and Urban Greening</i> , 2021, 58, 126970.	2.3	90
21	Assessment of a stochastic downscaling methodology in generating an ensemble of hourly future climate time series. <i>Climate Dynamics</i> , 2013, 40, 1841-1861.	1.7	87
22	Tree level hydrodynamic approach for resolving aboveground water storage and stomatal conductance and modeling the effects of tree hydraulic strategy. <i>Journal of Geophysical Research G: Biogeosciences</i> , 2016, 121, 1792-1813.	1.3	84
23	Spatial variability of extreme rainfall at radar subpixel scale. <i>Journal of Hydrology</i> , 2018, 556, 922-933.	2.3	81
24	Experiments to confront the environmental extremes of climate change. <i>Frontiers in Ecology and the Environment</i> , 2015, 13, 219-225.	1.9	79
25	An urban ecohydrological model to quantify the effect of vegetation on urban climate and hydrology (UT&C v1.0). <i>Geoscientific Model Development</i> , 2020, 13, 335-362.	1.3	79
26	Investigating Interannual Variability of Precipitation at the Global Scale: Is There a Connection with Seasonality?. <i>Journal of Climate</i> , 2012, 25, 5512-5523.	1.2	78
27	Modeling terrestrial carbon and water dynamics across climatic gradients: does plant trait diversity matter?. <i>New Phytologist</i> , 2016, 209, 137-151.	3.5	75
28	Deterministic versus stochastic trends: Detection and challenges. <i>Journal of Geophysical Research</i> , 2009, 114, .	3.3	71
29	Interannual variability of evapotranspiration and vegetation productivity. <i>Water Resources Research</i> , 2014, 50, 3275-3294.	1.7	71
30	Intensification of Convective Rain Cells at Warmer Temperatures Observed from High-Resolution Weather Radar Data. <i>Journal of Hydrometeorology</i> , 2018, 19, 715-726.	0.7	70
31	An advanced process-based distributed model for the investigation of rainfall-induced landslides: The effect of process representation and boundary conditions. <i>Water Resources Research</i> , 2015, 51, 7501-7523.	1.7	66
32	High-resolution distributed analysis of climate and anthropogenic changes on the hydrology of an Alpine catchment. <i>Journal of Hydrology</i> , 2015, 525, 362-382.	2.3	66
33	Seasonal hysteresis of surface urban heat islands. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020, 117, 7082-7089.	3.3	66
34	Does internal climate variability overwhelm climate change signals in streamflow? The upper Po and Rhone basin case studies. <i>Science of the Total Environment</i> , 2014, 493, 1171-1182.	3.9	61
35	Short-term favorable weather conditions are an important control of interannual variability in carbon and water fluxes. <i>Journal of Geophysical Research G: Biogeosciences</i> , 2016, 121, 2186-2198.	1.3	60
36	Partitioning the impacts of spatial and climatological rainfall variability in urban drainage modeling. <i>Hydrology and Earth System Sciences</i> , 2017, 21, 1559-1572.	1.9	60

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37	Water Flux Tracking With a Distributed Hydrological Model to Quantify Controls on the Spatio-temporal Variability of Transit Time Distributions. <i>Water Resources Research</i> , 2018, 54, 3081-3099.	1.7	59
38	A mechanistic ecohydrological model to investigate complex interactions in cold and warm water-controlled environments: 1. Theoretical framework and plot-scale analysis. <i>Journal of Advances in Modeling Earth Systems</i> , 2012, 4, .	1.3	58
39	Abiotic and biotic controls of soil moisture spatiotemporal variability and the occurrence of hysteresis. <i>Water Resources Research</i> , 2015, 51, 3505-3524.	1.7	56
40	Asymmetric responses of primary productivity to altered precipitation simulated by ecosystem models across three long-term grassland sites. <i>Biogeosciences</i> , 2018, 15, 3421-3437.	1.3	55
41	Linking plant functional trait plasticity and the large increase in forest water use efficiency. <i>Journal of Geophysical Research G: Biogeosciences</i> , 2017, 122, 2393-2408.	1.3	54
42	A comprehensive analysis of changes in precipitation regime in Tuscany. <i>International Journal of Climatology</i> , 2009, 29, 1883-1893.	1.5	51
43	Globally consistent influences of seasonal precipitation limit grassland biomass response to elevated CO ₂ . <i>Nature Plants</i> , 2019, 5, 167-173.	4.7	51
44	Rainfall manipulation experiments as simulated by terrestrial biosphere models: Where do we stand?. <i>Global Change Biology</i> , 2020, 26, 3336-3355.	4.2	50
45	Urban Forests as Main Regulator of the Evaporative Cooling Effect in Cities. <i>AGU Advances</i> , 2021, 2, e2020AV000303.	2.3	50
46	On temporal stochastic modeling of precipitation, nesting models across scales. <i>Advances in Water Resources</i> , 2014, 63, 152-166.	1.7	48
47	Climate change and uncertainty assessment over a hydroclimatic transect of Michigan. <i>Stochastic Environmental Research and Risk Assessment</i> , 2016, 30, 923-944.	1.9	47
48	A Mechanistic Model of Microbially Mediated Soil Biogeochemical Processes: A Reality Check. <i>Global Biogeochemical Cycles</i> , 2019, 33, 620-648.	1.9	46
49	Vegetation cover and plant-trait effects on outdoor thermal comfort in a tropical city. <i>Building and Environment</i> , 2021, 195, 107733.	3.0	46
50	Covariation of vegetation and climate constrains present and future T/ET variability. <i>Environmental Research Letters</i> , 2018, 13, 104012.	2.2	42
51	On the variability of the ecosystem response to elevated atmospheric CO ₂ across spatial and temporal scales at the Duke Forest FACE experiment. <i>Agricultural and Forest Meteorology</i> , 2017, 232, 367-383.	1.9	41
52	Governing and managing water resources under changing hydro-climatic contexts: The case of the upper Rhone basin. <i>Environmental Science and Policy</i> , 2014, 43, 56-67.	2.4	39
53	Toward a better integration of biological data from precipitation manipulation experiments into Earth system models. <i>Reviews of Geophysics</i> , 2014, 52, 412-434.	9.0	39
54	The role of local-scale heterogeneities in terrestrial ecosystem modeling. <i>Journal of Geophysical Research G: Biogeosciences</i> , 2015, 120, 341-360.	1.3	39

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55	Climate Change Impacts on Sediment Yield and Debris-Flow Activity in an Alpine Catchment. <i>Journal of Geophysical Research F: Earth Surface</i> , 2021, 126, .	1.0	39
56	Cross-scale impact of climate temporal variability on ecosystem water and carbon fluxes. <i>Journal of Geophysical Research G: Biogeosciences</i> , 2015, 120, 1716-1740.	1.3	38
57	Depth of Solute Generation Is a Dominant Control on Concentration-Discharge Relations. <i>Water Resources Research</i> , 2020, 56, e2019WR026695.	1.7	38
58	Ecohydrological changes after tropical forest conversion to oil palm. <i>Environmental Research Letters</i> , 2018, 13, 064035.	2.2	37
59	Dry-Season Greening and Water Stress in Amazonia: The Role of Modeling Leaf Phenology. <i>Journal of Geophysical Research G: Biogeosciences</i> , 2018, 123, 1909-1926.	1.3	37
60	Modification of land-atmosphere interactions by CO ₂ effects: Implications for summer dryness and heat wave amplitude. <i>Geophysical Research Letters</i> , 2016, 43, 10,240.	1.5	36
61	Exploring stochastic climate uncertainty in space and time using a gridded hourly weather generator. <i>Journal of Hydrology</i> , 2019, 571, 627-641.	2.3	36
62	A mechanistic ecohydrological model to investigate complex interactions in cold and warm water-controlled environments: 2. Spatiotemporal analyses. <i>Journal of Advances in Modeling Earth Systems</i> , 2012, 4, .	1.3	35
63	Ecohydrological effects of management on subalpine grasslands: From local to catchment scale. <i>Water Resources Research</i> , 2014, 50, 148-164.	1.7	35
64	Reconciling observations with modeling: The fate of water and carbon allocation in a mature deciduous forest exposed to elevated CO ₂ . <i>Agricultural and Forest Meteorology</i> , 2013, 174-175, 144-157.	1.9	33
65	Aboveground tree growth is a minor and decoupled fraction of boreal forest carbon input. <i>Agricultural and Forest Meteorology</i> , 2020, 290, 108030.	1.9	33
66	Climate change and Ecotone boundaries: Insights from a cellular automata ecohydrology model in a Mediterranean catchment with topography controlled vegetation patterns. <i>Advances in Water Resources</i> , 2014, 73, 159-175.	1.7	32
67	A review of studies on observed precipitation trends in Italy. <i>International Journal of Climatology</i> , 2021, 41, E1.	1.5	31
68	Temperature effects on the spatial structure of heavy rainfall modify catchment hydro-morphological response. <i>Earth Surface Dynamics</i> , 2020, 8, 17-36.	1.0	28
69	Stochastic assessment of climate impacts on hydrology and geomorphology of semiarid headwater basins using a physically based model. <i>Journal of Geophysical Research F: Earth Surface</i> , 2015, 120, 507-533.	1.0	26
70	Environmental stochasticity controls soil erosion variability. <i>Scientific Reports</i> , 2016, 6, 22065.	1.6	26
71	Groundwater Buffers Drought Effects and Climate Variability in Urban Reserves. <i>Water Resources Research</i> , 2020, 56, e2019WR026192.	1.7	26
72	Soil erosion assessment-“Mind the gap. <i>Geophysical Research Letters</i> , 2016, 43, 12,446.	1.5	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. <i>Advances in Water Resources</i> , 2016, 92, 73-89.	1.7	21
74	Breaking Down the Computational Barriers to Real-time Urban Flood Forecasting. <i>Geophysical Research Letters</i> , 2021, 48, e2021GL093585.	1.5	21
75	Diurnal and seasonal changes in near-surface humidity in a complex orography. <i>Journal of Geophysical Research D: Atmospheres</i> , 2015, 120, 2358-2374.	1.2	20
76	Intensification of sub-daily rainfall extremes in a low-rise urban area. <i>Urban Climate</i> , 2022, 42, 101124.	2.4	20
77	Anthropogenic and catchment characteristic signatures in the water quality of Swiss rivers: a quantitative assessment. <i>Hydrology and Earth System Sciences</i> , 2019, 23, 1885-1904.	1.9	19
78	Matching ecohydrological processes and scales of banded vegetation patterns in semiarid catchments. <i>Water Resources Research</i> , 2016, 52, 2259-2278.	1.7	18
79	Assessing the Vulnerability of Aquatic Macroinvertebrates to Climate Warming in a Mountainous Watershed: Supplementing Presence-Only Data with Species Traits. <i>Water (Switzerland)</i> , 2019, 11, 636.	1.2	18
80	Variability of transit time distributions with climate and topography: A modelling approach. <i>Journal of Hydrology</i> , 2019, 569, 37-50.	2.3	18
81	The "island effect"™ in terrestrial global change experiments: a problem with no solution?. <i>AoB PLANTS</i> , 2015, 7, plv092.	1.2	17
82	Understanding monsoon controls on the energy and mass balance of glaciers in the Central and Eastern Himalaya. <i>Cryosphere</i> , 2022, 16, 1631-1652.	1.5	17
83	Global variation in contributions to human well-being from urban vegetation ecosystem services. <i>One Earth</i> , 2022, 5, 522-533.	3.6	17
84	An ecohydrological journey of 4500 years reveals a stable but threatened precipitation-groundwater recharge relation around Jerusalem. <i>Science Advances</i> , 2021, 7, eabe6303.	4.7	15
85	Diurnal and seasonal patterns of global urban dry islands. <i>Environmental Research Letters</i> , 2022, 17, 054044.	2.2	15
86	On the use of observations in assessment of multi-model climate ensemble. <i>Stochastic Environmental Research and Risk Assessment</i> , 2019, 33, 1923-1937.	1.9	14
87	Revealing the impacts of climate change on mountainous catchments through high-resolution modelling. <i>Journal of Hydrology</i> , 2021, 603, 126806.	2.3	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. <i>Biogeosciences</i> , 2021, 18, 1917-1939.	1.3	13
89	Assessing vegetation response to irrigation strategies and soil properties in an urban reserve in southeast Australia. <i>Landscape and Urban Planning</i> , 2021, 215, 104198.	3.4	13
90	The role of vadose zone physics in the ecohydrological response of a Tibetan meadow to freeze-thaw cycles. <i>Cryosphere</i> , 2020, 14, 4653-4673.	1.5	13

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91	A mechanistic assessment of urban heat island intensities and drivers across climates. <i>Urban Climate</i> , 2022, 44, 101215.	2.4	13
92	Ecohydrological dynamics in the Alps: Insights from a modelling analysis of the spatial variability. <i>Ecohydrology</i> , 2019, 12, e2054.	1.1	12
93	Detailed investigation of vegetation effects on microclimate by means of computational fluid dynamics (CFD) in a tropical urban environment. <i>Urban Climate</i> , 2021, 39, 100939.	2.4	12
94	Modeling distributed metal pollution transport in a mine impacted catchment: Short and long-term effects. <i>Science of the Total Environment</i> , 2022, 812, 151473.	3.9	11
95	The Energy and Mass Balance of Peruvian Glaciers. <i>Journal of Geophysical Research D: Atmospheres</i> , 2021, 126, e2021JD034911.	1.2	11
96	Gross primary productivity and water use efficiency are increasing in a high rainfall tropical savanna. <i>Global Change Biology</i> , 2022, 28, 2360-2380.	4.2	11
97	Downscaling climate projections over large and data sparse regions: Methodological application in the Zambezi River Basin. <i>International Journal of Climatology</i> , 2020, 40, 6242-6264.	1.5	9
98	Persistent decay of fresh xylem hydraulic conductivity varies with pressure gradient and marks plant responses to injury. <i>Plant, Cell and Environment</i> , 2021, 44, 371-386.	2.8	9
99	Simulating water flow in variably saturated soils: a comparison of a 3D model with approximation-based formulations. <i>Hydrology Research</i> , 2016, 47, 274-290.	1.1	7
100	Insensitivity of Ecosystem Productivity to Predicted Changes in Fine-scale Rainfall Variability. <i>Journal of Geophysical Research G: Biogeosciences</i> , 2022, 127, .	1.3	6
101	Field evidence of riparian vegetation response to groundwater levels in a gravel-bed river. <i>Ecohydrology</i> , 2021, 14, e2264.	1.1	3
102	Advancing Process Representation in Hydrological Models: Integrating New Concepts, Knowledge, and Data. <i>Water Resources Research</i> , 2021, 57, e2021WR030661.	1.7	3
103	Can we replace observed forcing with weather generator in land surface modeling? Insights from long-term simulations at two contrasting boreal sites. <i>Theoretical and Applied Climatology</i> , 2021, 145, 215-244.	1.3	2