

Stefan Kollet

List of Publications by Year in descending order

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Version: 2024-02-01

82
papers

6,522
citations

136950

32
h-index

66911

78
g-index

94
all docs

94
docs citations

94
times ranked

7118
citing authors

#	ARTICLE	IF	CITATIONS
1	Thank You to Our 2021 Reviewers. <i>Water Resources Research</i> , 2022, 58, .	4.2	0
2	Groundwater Model Impacts Multiannual Simulations of Heat Waves. <i>Geophysical Research Letters</i> , 2022, 49, .	4.0	6
3	An Interannual Probabilistic Assessment of Subsurface Water Storage Over Europe Using a Fully Coupled Terrestrial Model. <i>Water Resources Research</i> , 2021, 57, e2020WR027828.	4.2	11
4	Boundary condition and oceanic impacts on the atmospheric water balance in limited area climate model ensembles. <i>Scientific Reports</i> , 2021, 11, 6228.	3.3	7
5	Thank You to Our 2020 Reviewers. <i>Water Resources Research</i> , 2021, 57, e2021WR029938.	4.2	0
6	Leveraging HPC accelerator architectures with modern techniques “ hydrologic modeling on GPUs with ParFlow. <i>Computational Geosciences</i> , 2021, 25, 1579-1590.	2.4	10
7	Using Long Short-Term Memory networks to connect water table depth anomalies to precipitation anomalies over Europe. <i>Hydrology and Earth System Sciences</i> , 2021, 25, 3555-3575.	4.9	15
8	Presentation and discussion of the high-resolution atmosphere “land-surface” subsurface simulation dataset of the simulated Neckar catchment for the period 2007 “2015. <i>Earth System Science Data</i> , 2021, 13, 4437-4464.	9.9	4
9	Variant Approach for Identifying Spurious Relations That Deep Learning Models Learn. <i>Frontiers in Water</i> , 2021, 3, .	2.3	2
10	An Indirect Approach Based on Long Short-Term Memory Networks to Estimate Groundwater Table Depth Anomalies Across Europe With an Application for Drought Analysis. <i>Frontiers in Water</i> , 2021, 3, .	2.3	2
11	Global Groundwater Modeling and Monitoring: Opportunities and Challenges. <i>Water Resources Research</i> , 2021, 57, .	4.2	62
12	Developing food, water and energy nexus workflows. <i>International Journal of Digital Earth</i> , 2020, 13, 299-308.	3.9	21
13	Performance of a PDE-Based Hydrologic Model in a Flash Flood Modeling Framework in Sparsely-Gauged Catchments. <i>Water (Switzerland)</i> , 2020, 12, 2157.	2.7	7
14	Thank You to Our 2019 Reviewers. <i>Water Resources Research</i> , 2020, 56, e2020WR027684.	4.2	0
15	A 3 km spatially and temporally consistent European daily soil moisture reanalysis from 2000 to 2015. <i>Scientific Data</i> , 2020, 7, 111.	5.3	33
16	Simulating coupled surface “subsurface flows with ParFlow v3.5.0: capabilities, applications, and ongoing development of an open-source, massively parallel, integrated hydrologic model. <i>Geoscientific Model Development</i> , 2020, 13, 1373-1397.	3.6	61
17	The topographic control on land surface energy fluxes: A statistical approach to bias correction. <i>Journal of Hydrology</i> , 2020, 584, 124669.	5.4	3
18	Towards the representation of groundwater in the Joint UK Land Environment Simulator. <i>Hydrological Processes</i> , 2020, 34, 2843-2863.	2.6	6

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19	Soil structure is an important omission in Earth System Models. <i>Nature Communications</i> , 2020, 11, 522.	12.8	138
20	Infiltration from the Pedon to Global Grid Scales: An Overview and Outlook for Land Surface Modeling. <i>Vadose Zone Journal</i> , 2019, 18, 1-53.	2.2	56
21	Response of Convective Boundary Layer and Shallow Cumulus to Soil Moisture Heterogeneity: A Large-Eddy Simulation Study. <i>Journal of Advances in Modeling Earth Systems</i> , 2019, 11, 4305-4322.	3.8	6
22	Assimilation of High-Resolution Soil Moisture Data Into an Integrated Terrestrial Model for a Small-Scale Headwater Catchment. <i>Water Resources Research</i> , 2019, 55, 10358-10385.	4.2	10
23	Evidence of daily hydrological loading in GPS time series over Europe. <i>Journal of Geodesy</i> , 2019, 93, 2145-2153.	3.6	21
24	Improving soil moisture and runoff simulations at 30km over Europe using land surface data assimilation. <i>Hydrology and Earth System Sciences</i> , 2019, 23, 277-301.	4.9	22
25	Large-Eddy simulation of catchment-scale circulation. <i>Quarterly Journal of the Royal Meteorological Society</i> , 2019, 145, 1218-1233.	2.7	4
26	Potential Added Value of Incorporating Human Water Use on the Simulation of Evapotranspiration and Precipitation in a Continental-Scale Bedrock-to-Atmosphere Modeling System: A Validation Study Considering Observational Uncertainty. <i>Journal of Advances in Modeling Earth Systems</i> , 2019, 11, 1959-1980.	3.8	3
27	Improvement of surface runoff in the hydrological model ParFlow by a scale-consistent river parameterization. <i>Hydrological Processes</i> , 2019, 33, 2006-2019.	2.6	7
28	Land use change impacts on European heat and drought: remote land-atmosphere feedbacks mitigated locally by shallow groundwater. <i>Environmental Research Letters</i> , 2019, 14, 044012.	5.2	24
29	Pan-European groundwater to atmosphere terrestrial systems climatology from a physically consistent simulation. <i>Scientific Data</i> , 2019, 6, 320.	5.3	27
30	Towards a computationally efficient free-surface groundwater flow boundary condition for large-scale hydrological modelling. <i>Advances in Water Resources</i> , 2019, 123, 225-233.	3.8	13
31	Effects of horizontal grid resolution on evapotranspiration partitioning using TerrSysMP. <i>Journal of Hydrology</i> , 2018, 557, 910-915.	5.4	20
32	Enhancing speed and scalability of the ParFlow simulation code. <i>Computational Geosciences</i> , 2018, 22, 347-361.	2.4	16
33	Comparison of different assimilation methodologies of groundwater levels to improve predictions of root zone soil moisture with an integrated terrestrial system model. <i>Advances in Water Resources</i> , 2018, 111, 224-238.	3.8	23
34	Quantifying the Impact of Subsurface Land Surface Physical Processes on the Predictive Skill of Subseasonal Mesoscale Atmospheric Simulations. <i>Journal of Geophysical Research D: Atmospheres</i> , 2018, 123, 9131-9151.	3.3	18
35	A run control framework to streamline profiling, porting, and tuning simulation runs and provenance tracking of geoscientific applications. <i>Geoscientific Model Development</i> , 2018, 11, 2875-2895.	3.6	3
36	Introduction of an Experimental Terrestrial Forecasting/Monitoring System at Regional to Continental Scales Based on the Terrestrial Systems Modeling Platform (v1.1.0). <i>Water (Switzerland)</i> , 2018, 10, 1697.	2.7	17

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37	Human Water Use Impacts on the Strength of the Continental Sink for Atmospheric Water. <i>Geophysical Research Letters</i> , 2018, 45, 4068-4076.	4.0	36
38	Connection Between Root Zone Soil Moisture and Surface Energy Flux Partitioning Using Modeling, Observations, and Data Assimilation for a Temperate Grassland Site in Germany. <i>Journal of Geophysical Research G: Biogeosciences</i> , 2018, 123, 2839-2862.	3.0	20
39	High resolution modelling of soil moisture patterns with TerrSysMP: A comparison with sensor network data. <i>Journal of Hydrology</i> , 2017, 547, 309-331.	5.4	17
40	Catchment tomography - An approach for spatial parameter estimation. <i>Advances in Water Resources</i> , 2017, 107, 147-159.	3.8	7
41	Novel basin modelling concept for simulating deformation from mechanical compaction using level sets. <i>Computational Geosciences</i> , 2017, 21, 835-848.	2.4	2
42	The integrated hydrologic model intercomparison project, <sc>IH&MIP2</sc>: A second set of benchmark results to diagnose integrated hydrology and feedbacks. <i>Water Resources Research</i> , 2017, 53, 867-890.	4.2	113
43	TerrSysMP&PDAF (version 1.0): a modular high-performance data assimilation framework for an integrated land surface&subsurface model. <i>Geoscientific Model Development</i> , 2016, 9, 1341-1360.	3.6	54
44	Studying the influence of groundwater representations on land surface&atmosphere feedbacks during the European heat wave in 2003. <i>Journal of Geophysical Research D: Atmospheres</i> , 2016, 121, 13,301.	3.3	74
45	Modeling Soil Processes: Review, Key Challenges, and New Perspectives. <i>Vadose Zone Journal</i> , 2016, 15, 1-57.	2.2	445
46	Scale dependent parameterization of soil hydraulic conductivity in 3D simulation of hydrological processes in a forested headwater catchment. <i>Journal of Hydrology</i> , 2016, 536, 365-375.	5.4	20
47	Evaluating the dual&boundary forcing concept in subsurface&land surface interactions of the hydrological cycle. <i>Hydrological Processes</i> , 2016, 30, 1563-1573.	2.6	12
48	The imprint of climate and geology on the residence times of groundwater. <i>Geophysical Research Letters</i> , 2016, 43, 701-708.	4.0	93
49	Inter-comparison of three distributed hydrological models with respect to seasonal variability of soil moisture patterns at a small forested catchment. <i>Journal of Hydrology</i> , 2016, 533, 234-249.	5.4	73
50	Technical note: Inference in hydrology from entropy balance considerations. <i>Hydrology and Earth System Sciences</i> , 2016, 20, 2801-2809.	4.9	1
51	Monitoring and Modeling the Terrestrial System from Pores to Catchments: The Transregional Collaborative Research Center on Patterns in the Soil&Vegetation&Atmosphere System. <i>Bulletin of the American Meteorological Society</i> , 2015, 96, 1765-1787.	3.3	80
52	Hyper-resolution global hydrological modelling: what is next?. <i>Hydrological Processes</i> , 2015, 29, 310-320.	2.6	280
53	Impacts of grid resolution on surface energy fluxes simulated with an integrated surface-groundwater flow model. <i>Hydrology and Earth System Sciences</i> , 2015, 19, 4317-4326.	4.9	35
54	A high-resolution simulation of groundwater and surface water over most of the continental US with the integrated hydrologic model ParFlow v3. <i>Geoscientific Model Development</i> , 2015, 8, 923-937.	3.6	215

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55	The subsurfaceâ€“land surfaceâ€“atmosphere connection under convective conditions. <i>Advances in Water Resources</i> , 2015, 83, 240-249.	3.8	32
56	A review on regional convectionâ€“permitting climate modeling: Demonstrations, prospects, and challenges. <i>Reviews of Geophysics</i> , 2015, 53, 323-361.	23.0	907
57	Soil hydrology: Recent methodological advances, challenges, and perspectives. <i>Water Resources Research</i> , 2015, 51, 2616-2633.	4.2	149
58	Evaluating the Influence of Plant-Specific Physiological Parameterizations on the Partitioning of Land Surface Energy Fluxes. <i>Journal of Hydrometeorology</i> , 2015, 16, 517-533.	1.9	24
59	Spatio-temporal validation of long-term 3D hydrological simulations of a forested catchment using empirical orthogonal functions and wavelet coherence analysis. <i>Journal of Hydrology</i> , 2015, 529, 1754-1767.	5.4	49
60	Implementation and scaling of the fully coupled Terrestrial Systems Modeling Platform (TerrSysMP) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 5 <i>Geoscientific Model Development</i> , 2014, 7, 2531-2543.	3.6	54
61	A Scale-Consistent Terrestrial Systems Modeling Platform Based on COSMO, CLM, and ParFlow. <i>Monthly Weather Review</i> , 2014, 142, 3466-3483.	1.4	140
62	The concept of dualâ€“boundary forcing in land surfaceâ€“subsurface interactions of the terrestrial hydrologic and energy cycles. <i>Water Resources Research</i> , 2014, 50, 8531-8548.	4.2	22
63	Surfaceâ€“subsurface model intercomparison: A first set of benchmark results to diagnose integrated hydrology and feedbacks. <i>Water Resources Research</i> , 2014, 50, 1531-1549.	4.2	222
64	Reply to comment by Keith J. Beven and Hannah L. Cloke on â€œHyperresolution global land surface modeling: Meeting a grand challenge for monitoring Earth's terrestrial waterâ€“. <i>Water Resources Research</i> , 2012, 48, .	4.2	26
65	Introduction of a web service for cloud computing with the integrated hydrologic simulation platform ParFlow. <i>Computers and Geosciences</i> , 2012, 48, 334-336.	4.2	28
66	Hyperresolution global land surface modeling: Meeting a grand challenge for monitoring Earth's terrestrial water. <i>Water Resources Research</i> , 2011, 47, .	4.2	634
67	Boundedness of Turbulent Temperature Probability Distributions, and their Relation to the Vertical Profile in the Convective Boundary Layer. <i>Boundary-Layer Meteorology</i> , 2010, 134, 459-486.	2.3	25
68	A comparison of two physics-based numerical models for simulating surface waterâ€“groundwater interactions. <i>Advances in Water Resources</i> , 2010, 33, 456-467.	3.8	108
69	Sensitivity of Latent Heat Fluxes to Initial Values and Parameters of a Landâ€“Surface Model. <i>Vadose Zone Journal</i> , 2010, 9, 984-1001.	2.2	18
70	Patterns in Soilâ€“Vegetationâ€“Atmosphere Systems: Monitoring, Modeling, and Data Assimilation. <i>Vadose Zone Journal</i> , 2010, 9, 821-827.	2.2	47
71	Changing structure of European precipitation: Longer wet periods leading to more abundant rainfalls. <i>Geophysical Research Letters</i> , 2010, 37, .	4.0	198
72	The Influence of Rain Sensible Heat and Subsurface Energy Transport on the Energy Balance at the Land Surface. <i>Vadose Zone Journal</i> , 2009, 8, 846-857.	2.2	57

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73	A serendipitous, long-term infiltration experiment: Water and tritium circulation beneath the CAMBRIC trench at the Nevada Test Site. <i>Journal of Contaminant Hydrology</i> , 2009, 108, 12-28.	3.3	11
74	Patterns and dynamics of river-aquifer exchange with variably-saturated flow using a fully-coupled model. <i>Journal of Hydrology</i> , 2009, 375, 383-393.	5.4	97
75	Quantifying the effects of three-dimensional subsurface heterogeneity on Hortonian runoff processes using a coupled numerical, stochastic approach. <i>Advances in Water Resources</i> , 2008, 31, 807-817.	3.8	80
76	Interdependence of groundwater dynamics and land-energy feedbacks under climate change. <i>Nature Geoscience</i> , 2008, 1, 665-669.	12.9	320
77	The groundwater-land-surface-atmosphere connection: Soil moisture effects on the atmospheric boundary layer in fully-coupled simulations. <i>Advances in Water Resources</i> , 2007, 30, 2447-2466.	3.8	226
78	Integrated surface-groundwater flow modeling: A free-surface overland flow boundary condition in a parallel groundwater flow model. <i>Advances in Water Resources</i> , 2006, 29, 945-958.	3.8	660
79	Influence of aquifer heterogeneity and return flow on pumping test data interpretation. <i>Journal of Hydrology</i> , 2005, 300, 267-285.	5.4	23
80	Comment on "Sensitivity Analysis and Determination of Streambed Leakance and Aquifer Hydraulic Properties" by Xunhong Chen and Xi Chen, <i>Journal of Hydrology</i> , 2003, vol. 284, 270-284. <i>Journal of Hydrology</i> , 2005, 303, 328-330.	5.4	2
81	Stream depletion predictions using pumping test data from a heterogeneous stream-aquifer system (a) $T_j ETQq_{1,1} 0.784314 rgBT$	5.4	83
82	"A Stream Depletion Field Experiment," by Bruce Hunt, Julian Weir, and Bente Clausen, March-April 2001 issue, v. 39, no. 2: 283-289.. <i>Ground Water</i> , 2002, 40, 448-449.	1.3	6