Dmitri Kavetski

List of Publications by Year
in descending order

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78 papers	6,970 citations	71102 41 h-index	71685 76 g-index
93 all docs	93 docs citations	93 times ranked	5070 citing authors

#	Article	IF	Citations
1	An Exploration of Bayesian Identification of Dominant Hydrological Mechanisms in Ungauged Catchments. Water Resources Research, 2022, 58, .	4.2	5
2	Predicting wildfire induced changes to runoff: A review and synthesis of modeling approaches. Wiley Interdisciplinary Reviews: Water, 2022, 9, .	6.5	5
3	Behind every robust result is a robust method: Perspectives from a case study and publication process in hydrological modelling. Hydrological Processes, 2021, 35, e14266.	2.6	6
4	Identification of Dominant Hydrological Mechanisms Using Bayesian Inference, Multiple Statistical Hypothesis Testing, and Flexible Models. Water Resources Research, 2021, 57, e2020WR028338.	4.2	7
5	Improving the Reliability of Subâ€Seasonal Forecasts of High and Low Flows by Using a Flowâ€Dependent Nonparametric Model. Water Resources Research, 2021, 57, e2020WR029317.	4.2	7
6	Achieving high-quality probabilistic predictions from hydrological models calibrated with a wide range of objective functions. Journal of Hydrology, 2021, 603, 126578.	5.4	9
7	SuperflexPy 1.3.0: an open-source Python framework for building, testing, and improving conceptual hydrological models. Geoscientific Model Development, 2021, 14, 7047-7072.	3.6	6
8	Multiâ€temporal Hydrological Residual Error Modeling for Seamless Subseasonal Streamflow Forecasting. Water Resources Research, 2020, 56, e2019WR026979.	4.2	21
9	A robust approach for calibrating a daily rainfall-runoff model to monthly streamflow data. Journal of Hydrology, 2020, 591, 125129.	5.4	12
10	Benefits of Explicit Treatment of Zero Flows in Probabilistic Hydrological Modeling of Ephemeral Catchments. Water Resources Research, 2019, 55, 11035-11060.	4.2	13
11	Parameter Estimation and Predictive Uncertainty Quantification in Hydrological Modelling. , 2019, , 481-522.		4
12	Flow Prediction in Ungauged Catchments Using Probabilistic Random Forests Regionalization and New Statistical Adequacy Tests. Water Resources Research, 2019, 55, 4364-4392.	4.2	57
13	Signatureâ€Domain Calibration of Hydrological Models Using Approximate Bayesian Computation: Theory and Comparison to Existing Applications. Water Resources Research, 2018, 54, 4059-4083.	4.2	32
14	Signatureâ€Domain Calibration of Hydrological Models Using Approximate Bayesian Computation: Empirical Analysis of Fundamental Properties. Water Resources Research, 2018, 54, 3958-3987.	4.2	32
15	Spatiotemporal patterns of precipitation inferred from streamflow observations across the Sierra Nevada mountain range. Journal of Hydrology, 2018, 556, 993-1012.	5.4	34
16	Evaluating post-processing approaches for monthly and seasonal streamflow forecasts. Hydrology and Earth System Sciences, 2018, 22, 6257-6278.	4.9	34
17	Nearâ€Realâ€Time Assimilation of SARâ€Derived Flood Maps for Improving Flood Forecasts. Water Resources Research, 2018, 54, 5516-5535.	4.2	84
18	The Importance of Spatiotemporal Variability in Irrigation Inputs for Hydrological Modeling of Irrigated Catchments. Water Resources Research, 2018, 54, 6792-6821.	4.2	21

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19	State updating and calibration period selection to improve dynamic monthly streamflow forecasts for an environmental flow management application. Hydrology and Earth System Sciences, 2018, 22, 871-887.	4.9	30
20	A simplified approach to produce probabilistic hydrological model predictions. Environmental Modelling and Software, 2018, 109, 306-314.	4.5	25
21	The Fast and the Robust: Tradeâ€Offs Between Optimization Robustness and Cost in the Calibration of Environmental Models. Water Resources Research, 2018, 54, 9432-9455.	4.2	15
22	A Robust Gaussâ€Newton Algorithm for the Optimization of Hydrological Models: From Standard Gaussâ€Newton to Robust Gaussâ€Newton. Water Resources Research, 2018, 54, 9655-9683.	4.2	24
23	A Robust Gaussâ€Newton Algorithm for the Optimization of Hydrological Models: Benchmarking Against Industryâ€Standard Algorithms. Water Resources Research, 2018, 54, 9637-9654.	4.2	26
24	Parameter Estimation and Predictive Uncertainty Quantification in Hydrological Modelling. , 2018, , 1-42.		9
25	Improving probabilistic prediction of daily streamflow by identifying <scp>P</scp>areto optimal approaches for modeling heteroscedastic residual errors. Water Resources Research, 2017, 53, 2199-2239.	4.2	101
26	Bayesian spectral likelihood for hydrological parameter inference. Water Resources Research, 2017, 53, 6857-6884.	4.2	8
27	From spatially variable streamflow to distributed hydrological models: Analysis of key modeling decisions. Water Resources Research, 2016, 52, 954-989.	4.2	78
28	Practical Use of Computationally Frugal Model Analysis Methods. Ground Water, 2016, 54, 159-170.	1.3	47
29	Comparison of Newton-type and SCE optimisation algorithms for the calibration of conceptual hydrological models. Australian Journal of Water Resources, 2016, 20, 169-176.	2.7	7
30	Probabilistic Flood Mapping Using Synthetic Aperture Radar Data. IEEE Transactions on Geoscience and Remote Sensing, 2016, 54, 6958-6969.	6.3	104
31	Combining snow, streamflow, and precipitation gauge observations to infer basinâ€mean precipitation. Water Resources Research, 2016, 52, 8700-8723.	4.2	26
32	Estimating mountain basinâ€mean precipitation from streamflow using <scp>B</scp>ayesian inference. Water Resources Research, 2015, 51, 8012-8033.	4.2	44
33	Towards more systematic perceptual model development: a case study using 3 Luxembourgish catchments. Hydrological Processes, 2015, 29, 2731-2750.	2.6	75
34	A unified approach for processâ€based hydrologic modeling: 2. Model implementation and case studies. Water Resources Research, 2015, 51, 2515-2542.	4.2	173
35	A unified approach for processâ€based hydrologic modeling: 1. Modeling concept. Water Resources Research, 2015, 51, 2498-2514.	4.2	354
36	A new stochastic model for simulating daily solar radiation from sunshine hours. International Journal of Climatology, 2015, 35, 1090-1106.	3.5	11

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37	A strategy for diagnosing and interpreting hydrological model nonstationarity. Water Resources Research, 2014, 50, 5090-5113.	4.2	134
38	Challenges of Operational River Forecasting. Journal of Hydrometeorology, 2014, 15, 1692-1707.	1.9	127
39	Comparison of joint versus postprocessor approaches for hydrological uncertainty estimation accounting for error autocorrelation and heteroscedasticity. Water Resources Research, 2014, 50, 2350-2375.	4.2	130
40	Catchment properties, function, and conceptual model representation: is there a correspondence?. Hydrological Processes, 2014, 28, 2451-2467.	2.6	135
41	Knowledge, transparency, and refutability in groundwater models, an example from the Death Valley regional groundwater flow system. Physics and Chemistry of the Earth, 2013, 64, 105-116.	2.9	10
42	On the role of soil moisture in daytime evolution of temperatures. Hydrological Processes, 2013, 27, 3896-3904.	2.6	10
43	Pitfalls and improvements in the joint inference of heteroscedasticity and autocorrelation in hydrological model calibration. Water Resources Research, 2013, 49, 4518-4524.	4.2	96
44	A Bayesian analysis of sensible heat flux estimation: Quantifying uncertainty in meteorological forcing to improve model prediction. Water Resources Research, 2013, 49, 2343-2358.	4.2	16
45	Reply to comment by K. Beven et al. on â€œPursuing the method of multiple working hypotheses for hydrological modelingâ€• Water Resources Research, 2012, 48, .	4.2	29
46	Impact of temporal data resolution on parameter inference and model identification in conceptual hydrological modeling: Insights from an experimental catchment. Water Resources Research, 2011, 47, .	4.2	84
47	Pursuing the method of multiple working hypotheses for hydrological modeling. Water Resources Research, 2011, 47, .	4.2	414
48	Elements of a flexible approach for conceptual hydrological modeling: 1. Motivation and theoretical development. Water Resources Research, 2011, 47, .	4.2	269
49	Toward a reliable decomposition of predictive uncertainty in hydrological modeling: Characterizing rainfall errors using conditional simulation. Water Resources Research, 2011, 47, .	4.2	172
50	Representing spatial variability of snow water equivalent in hydrologic and landâ€surface models: A review. Water Resources Research, 2011, 47, .	4.2	275
51	Elements of a flexible approach for conceptual hydrological modeling: 2. Application and experimental insights. Water Resources Research, 2011, 47, .	4.2	97
52	Rainfall uncertainty in hydrological modelling: An evaluation of multiplicative error models. Journal of Hydrology, 2011, 400, 83-94.	5.4	195
53	Numerical troubles in conceptual hydrology: Approximations, absurdities and impact on hypothesis testing. Hydrological Processes, 2011, 25, 661-670.	2.6	59
54	Hydrological field data from a modeller's perspective: Part 2: processâ€based evaluation of model hypotheses. Hydrological Processes, 2011, 25, 523-543.	2.6	103

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55	The open source RFortran library for accessing R from Fortran, with applications in environmental modelling. Environmental Modelling and Software, 2011, 26, 219-234.	4.5	14
56	Assessing the impact of mixing assumptions on the estimation of streamwater mean residence time. Hydrological Processes, 2010, 24, 1730-1741.	2.6	83
57	There are no hydrological monsters, just models and observations with large uncertainties!. Hydrological Sciences Journal, 2010, 55, 980-991.	2.6	68
58	Understanding predictive uncertainty in hydrologic modeling: The challenge of identifying input and structural errors. Water Resources Research, 2010, 46, .	4.2	589
59	Ancient numerical daemons of conceptual hydrological modeling: 1. Fidelity and efficiency of time stepping schemes. Water Resources Research, 2010, 46, .	4.2	121
60	Ancient numerical daemons of conceptual hydrological modeling: 2. Impact of time stepping schemes on model analysis and prediction. Water Resources Research, 2010, 46, .	4.2	128
61	A limitedâ€memory acceleration strategy for MCMC sampling in hierarchical Bayesian calibration of hydrological models. Water Resources Research, 2010, 46, .	4.2	32
62	Reply to the comment of Cai et al. on the paper â€œOn the recent warming in the Murrayâ€Darling Basin: Land surface interactions misunderstoodâ€•by Lockart et al.. Geophysical Research Letters, 2010, 37, .	4.0	2
63	Model for CO₂ Leakage Including Multiple Geological Layers and Multiple Leaky Wells. Environmental Science & Technology, 2009, 43, 743-749.	10.0	188
64	On the recent warming in the Murrayâ€Darling Basin: Land surface interactions misunderstood. Geophysical Research Letters, 2009, 36, .	4.0	29
65	Critical evaluation of parameter consistency and predictive uncertainty in hydrological modeling: A case study using Bayesian total error analysis. Water Resources Research, 2009, 45, .	4.2	293
66	Comment on â€œAn integrated hydrologic Bayesian multimodel combination framework: Confronting input, parameter, and model structural uncertainty in hydrologic predictionâ€•by Newsha K. Ajami et al.. Water Resources Research, 2009, 45, .	4.2	17
67	Development of a Hybrid Process and System Model for the Assessment of Wellbore Leakage at a Geologic CO₂ Sequestration Site. Environmental Science & Technology, 2008, 42, 7280-7286.	10.0	137
68	Model smoothing strategies to remove microscale discontinuities and spurious secondary optima in objective functions in hydrological calibration. Water Resources Research, 2007, 43, .	4.2	86
69	Bayesian analysis of input uncertainty in hydrological modeling: 1. Theory. Water Resources Research, 2006, 42, .	4.2	318
70	Bayesian analysis of input uncertainty in hydrological modeling: 2. Application. Water Resources Research, 2006, 42, .	4.2	193
71	Calibration of conceptual hydrological models revisited: 1. Overcoming numerical artefacts. Journal of Hydrology, 2006, 320, 173-186.	5.4	101
72	Calibration of conceptual hydrological models revisited: 2. Improving optimisation and analysis. Journal of Hydrology, 2006, 320, 187-201.	5.4	55

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73	Towards a Bayesian total error analysis of conceptual rainfall-runoff models: Characterising model error using storm-dependent parameters. Journal of Hydrology, 2006, 331, 161-177.	5.4	283
74	Truncation error and stability analysis of iterative and non-iterative Thomasâ€“Gladwell methods for first-order non-linear differential equations. International Journal for Numerical Methods in Engineering, 2004, 60, 2031-2043.	2.8	14
75	Semidistributed hydrological modeling: A â€œsaturation pathâ€•perspective on TOPMODEL and VIC. Water Resources Research, 2003, 39, .	4.2	53
76	Confronting input uncertainty in environmental modelling. Water Science and Application, 2003, , 49-68.	0.3	126
77	Noniterative time stepping schemes with adaptive truncation error control for the solution of Richards equation. Water Resources Research, 2002, 38, 29-1-29-10.	4.2	54
78	Adaptive backward Euler time stepping with truncation error control for numerical modelling of unsaturated fluid flow. International Journal for Numerical Methods in Engineering, 2002, 53, 1301-1322.	2.8	79