Chaopeng Shen

List of Publications by Year
in descending order

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55 papers	4,335 citations	147566 31 h-index	174990 52 g-index
65 all docs	65 docs citations	65 times ranked	4318 citing authors

#	Article	IF	Citations
1	Integration of Multisource Data to Estimate Downward Longwave Radiation Based on Deep Neural Networks. IEEE Transactions on Geoscience and Remote Sensing, 2022, 60, 1-15.	2.7	4
2	A Multiscale Deep Learning Model for Soil Moisture Integrating Satellite and In Situ Data. Geophysical Research Letters, 2022, 49, .	1.5	20
3	The Data Synergy Effects of Timeâ€Series Deep Learning Models in Hydrology. Water Resources Research, 2022, 58, .	1.7	28
4	Physics-Guided Long Short-Term Memory Network for Streamflow and Flood Simulations in the Lancangâ€“Mekong River Basin. Water (Switzerland), 2022, 14, 1429.	1.2	10
5	Constructing a Large-Scale Landslide Database Across Heterogeneous Environments Using Task-Specific Model Updates. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2022, 15, 4349-4370.	2.3	5
6	A robust statistical analysis of the role of hydropower on the system electricity price and price volatility. Environmental Research Communications, 2022, 4, 075003.	0.9	1
7	From Hydrometeorology to River Water Quality: Can a Deep Learning Model Predict Dissolved Oxygen at the Continental Scale?. Environmental Science & Technology, 2021, 55, 2357-2368.	4.6	116
8	Transferring Hydrologic Data Across Continents â€“ Leveraging Dataâ€Rich Regions to Improve Hydrologic Prediction in Dataâ€Sparse Regions. Water Resources Research, 2021, 57, e2020WR028600.	1.7	56
9	Editorial: Broadening the Use of Machine Learning in Hydrology. Frontiers in Water, 2021, 3, .	1.0	44
10	Mitigating Prediction Error of Deep Learning Streamflow Models in Large Dataâ€Sparse Regions With Ensemble Modeling and Soft Data. Geophysical Research Letters, 2021, 48, e2021GL092999.	1.5	32
11	Critical Risk Indicators (CRIs) for the electric power grid: a survey and discussion of interconnected effects. Environment Systems and Decisions, 2021, 41, 594-615.	1.9	9
12	Continental-scale streamflow modeling of basins with reservoirs: Towards a coherent deep-learning-based strategy. Journal of Hydrology, 2021, 599, 126455.	2.3	29
13	Deep learning approaches for improving prediction of daily stream temperature in dataâ€scarce, unmonitored, and dammed basins. Hydrological Processes, 2021, 35, e14400.	1.1	27
14	From calibration to parameter learning: Harnessing the scaling effects of big data in geoscientific modeling. Nature Communications, 2021, 12, 5988.	5.8	68
15	Physics-guided deep learning for rainfall-runoff modeling by considering extreme events and monotonic relationships. Journal of Hydrology, 2021, 603, 127043.	2.3	49
16	Near-Real-Time Forecast of Satellite-Based Soil Moisture Using Long Short-Term Memory with an Adaptive Data Integration Kernel. Journal of Hydrometeorology, 2020, 21, 399-413.	0.7	70
17	Revealing Causal Controls of Storage-Streamflow Relationships With a Data-Centric Bayesian Framework Combining Machine Learning and Process-Based Modeling. Frontiers in Water, 2020, 2, .	1.0	6
18	Evaluating the Potential and Challenges of an Uncertainty Quantification Method for Long Shortâ€Term Memory Models for Soil Moisture Predictions. Water Resources Research, 2020, 56, e2020WR028095.	1.7	49

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19	Enhancing Streamflow Forecast and Extracting Insights Using Longâ€Short Term Memory Networks With Data Integration at Continental Scales. Water Resources Research, 2020, 56, e2019WR026793.	1.7	172
20	Toward a Priori Evaluation of Relative Worth of Head and Conductivity Data as Functions of Data Densities in Inverse Groundwater Modeling. Water (Switzerland), 2019, 11, 1202.	1.2	0
21	Combining a land surface model with groundwater model calibration to assess the impacts of groundwater pumping in a mountainous desert basin. Advances in Water Resources, 2019, 130, 12-28.	1.7	9
22	Seasonal and Interannual Patterns and Controls of Hydrological Fluxes in an Amazon Floodplain Lake With a Surfaceâ€Subsurface Process Model. Water Resources Research, 2019, 55, 3056-3075.	1.7	30
23	Hillslope Hydrology in Global Change Research and Earth System Modeling. Water Resources Research, 2019, 55, 1737-1772.	1.7	281
24	The Value of SMAP for Long-Term Soil Moisture Estimation With the Help of Deep Learning. IEEE Transactions on Geoscience and Remote Sensing, 2019, 57, 2221-2233.	2.7	79
25	The introspective may achieve more: Enhancing existing Geoscientific models with native-language emulated structural reflection. Computers and Geosciences, 2018, 110, 32-40.	2.0	5
26	HESS Opinions: Incubating deep-learning-powered hydrologic science advances as a community. Hydrology and Earth System Sciences, 2018, 22, 5639-5656.	1.9	169
27	A Transdisciplinary Review of Deep Learning Research and Its Relevance for Water Resources Scientists. Water Resources Research, 2018, 54, 8558-8593.	1.7	560
28	Cross-Basin Decadal Climate Regime Connecting the Colorado River with the Great Salt Lake. Journal of Hydrometeorology, 2018, 19, 659-665.	0.7	4
29	Fullâ€flowâ€regime storageâ€streamflow correlation patterns provide insights into hydrologic functioning over the continental <scp>U</scp>S. Water Resources Research, 2017, 53, 8064-8083.	1.7	37
30	Interannual Variation in Hydrologic Budgets in an Amazonian Watershed with a Coupled Subsurfaceâ€“Land Surface Process Model. Journal of Hydrometeorology, 2017, 18, 2597-2617.	0.7	17
31	Prolongation of SMAP to Spatiotemporally Seamless Coverage of Continental U.S. Using a Deep Learning Neural Network. Geophysical Research Letters, 2017, 44, 11,030.	1.5	173
32	Coupled Two-Dimensional Surface Flow and Three-Dimensional Subsurface Flow Modeling for Drainage of Permeable Road Pavement. Journal of Hydrologic Engineering - ASCE, 2016, 21, .	0.8	11
33	Geomorphological significance of atâ€manyâ€stations hydraulic geometry. Geophysical Research Letters, 2016, 43, 3762-3770.	1.5	37
34	Improving Budyko curveâ€based estimates of longâ€term water partitioning using hydrologic signatures from GRACE. Water Resources Research, 2016, 52, 5537-5554.	1.7	27
35	Accurate and efficient prediction of fineâ€resolution hydrologic and carbon dynamic simulations from coarseâ€resolution models. Water Resources Research, 2016, 52, 791-812.	1.7	21
36	The fan of influence of streams and channel feedbacks to simulated land surface water and carbon dynamics. Water Resources Research, 2016, 52, 880-902.	1.7	34

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37	An overview of current applications, challenges, and future trends in distributed process-based models in hydrology. Journal of Hydrology, 2016, 537, 45-60.	2.3	349
38	Improving the representation of hydrologic processes in Earth System Models. Water Resources Research, 2015, 51, 5929-5956.	1.7	366
39	Temporal evolution of soil moisture statistical fractal and controls by soil texture and regional groundwater flow. Advances in Water Resources, 2015, 86, 155-169.	1.7	22
40	Characterizing coarse-resolution watershed soil moisture heterogeneity using fine-scale simulations. Hydrology and Earth System Sciences, 2014, 18, 2463-2483.	1.9	40
41	High-Resolution Simulation of Pore-Scale Reactive Transport Processes Associated with Carbon Sequestration. Computing in Science and Engineering, 2014, 16, 22-31.	1.2	51
42	Pore-Scale Controls on Calcite Dissolution Rates from Flow-through Laboratory and Numerical Experiments. Environmental Science & Technology, 2014, 48, 7453-7460.	4.6	154
43	Quantifying the effects of data integration algorithms on the outcomes of a subsurfaceâ€“land surface processes model. Environmental Modelling and Software, 2014, 59, 146-161.	1.9	30
44	Quantifying storage changes in regional Great Lakes watersheds using a coupled subsurfaceâ€land surface process model and <scp>GRACE</scp>, <scp>MODIS</scp> products. Water Resources Research, 2014, 50, 7359-7377.	1.7	51
45	Surfaceâ€subsurface model intercomparison: A first set of benchmark results to diagnose integrated hydrology and feedbacks. Water Resources Research, 2014, 50, 1531-1549.	1.7	222
46	Evaluating controls on coupled hydrologic and vegetation dynamics in a humid continental climate watershed using a subsurfaceâ€land surface processes model. Water Resources Research, 2013, 49, 2552-2572.	1.7	97
47	An investigation of the effect of pore scale flow on average geochemical reaction rates using direct numerical simulation. Water Resources Research, 2012, 48, .	1.7	238
48	Adaptive mesh refinement based on high order finite difference WENO scheme for multi-scale simulations. Journal of Computational Physics, 2011, 230, 3780-3802.	1.9	48
49	Estimating longitudinal dispersion in rivers using Acoustic Doppler Current Profilers. Advances in Water Resources, 2010, 33, 615-623.	1.7	54
50	A process-based, distributed hydrologic model based on a large-scale method for surfaceâ€“subsurface coupling. Advances in Water Resources, 2010, 33, 1524-1541.	1.7	156
51	Evaluating the Impacts of Land Use Changes on Hydrologic Responses in the Agricultural Regions of Michigan and Wisconsin. , 2010, , .		0
52	An efficient space-fractional dispersion approximation for stream solute transport modeling. Advances in Water Resources, 2009, 32, 1482-1494.	1.7	34
53	Evaluating Bacteriophage P22 as a Tracer in a Complex Surface Water System: The Grand River, Michigan. Environmental Science & Technology, 2008, 42, 2426-2431.	4.6	35
54	Separating surface storage from hyporheic retention in natural streams using wavelet decomposition of acoustic Doppler current profiles. Water Resources Research, 2007, 43, .	1.7	31

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55	Exploring the exceptional performance of a deep learning stream temperature model and the value of streamflow data. Environmental Research Letters, 0, , .	2.2	36