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EDUCATION

Ph.D., 2012	**Water Resources Engineering**, State University of New York, College of Environmental Science and Forestry (SUNY-ESF) in Association with Syracuse University, Syracuse, NY
M.S., 2007	**Quaternary Geology**, Lanzhou University, China
B.S., 2004	**Geological Science**, Lanzhou University, China

APPOINTMENT

Dec. 2021 – present	**Team Leader**, Land System Modeling Team, ACES, PNNL
Oct. 2017 – present	**Scientist**, Atmospheric, Climate, & Earth Sciences (ACES) Division, Pacific Northwest National Laboratory, Richland, WA
Oct. 2015 – Sep. 2017	**Research Associate**, Atmospheric Sciences & Global Change Division, Pacific Northwest National Laboratory, Richland, WA
Oct. 2012 – Oct. 2015	**Research Associate**, Dept. of Civil and Environmental Engineering, University of Washington, Seattle, WA
Aug. 2010 - Aug. 2012	**Research Analyst**, USDA Forest Service Northern Research Station, Syracuse, NY
Aug. 2007 - Aug. 2010	**Research Assistant**, Dept. of Environmental Resources Engineering, SUNY ESF, Syracuse, NY

REFEREED PUBLICATIONS (Citations: 3513, H-index: 31 as of Apr. 2026 by Google Scholar)

61) Golaz J., W. Lin, X. Zheng, S. Xie, A.F. Roberts, L. Van Roekel, and P.E. Thornton, et al. (**2026**) The Energy Exascale Earth System Model version 3. 2 Part II: Overview of the coupled system. ***Journal of Advances in Modeling Earth Systems*** https://doi.org/10.1029/2025MS005302

60) Yao Y., W. Thiery, A. Ducharne, B. Cook, A. Ding, S. De Hertog, and P. Siebar, K. S. Aas, P. F. Arboleda-Obando, J. Colin, M. Costantini, B. Decharme, D. Lawrence, P. Lawrence, L. R. Leung, M-H Lo, N. Devaraju, R.Wu, T. Zhou, J. Jägermeyr, S. McDermid, Y. Pokhrel, Y. Satoh, T. Yokohata, L. Gudmundsson and S. Seneviratne (**2025**) Irrigation-induced land water depletion aggravated by climate change. ***Nature Water*** https://doi.org/10.1038/s44221-025-00529-1

59) Feng D., Z. Tan, D. Engwirda, J. Wolfe, D. Xu, C. Liao, G. Bisht, J. Benedict, **T. Zhou**, M. Deb, H-Y Li, and L.R. Leung (**2025**) Disentangling Atmospheric, Hydrological, and Coupling Uncertainties in Compound Flood Modeling within a Coupled Earth System Model. *Natural Hazards and Earth System Sciences* https://doi.org/10.5194/nhess-25-3619-2025

58) Tran, Hoang; **T. Zhou**, Z. Tan, Y. Fang, L. Leung (**2025**) Improving the prediction of daily reservoir releases over the CONUS using conditioned LSTM. ***Journal of Hydrology*** https://doi.org/10.1016/j.jhydrol.2025.133750

57) Liao, C; D. Xu; M. G. Cooper; **T. Zhou**; D. Engwirda; Z. Tan; G. Bisht; H-Y Li; L. Li; D. Feng; L. Leung (**2025**) Evaluation of flow routing on the unstructured Voronoi meshes in earth system modeling ***Journal of Advances in Modeling Earth Systems*** https://doi.org/10.1029/2024MS004737

56) Solander, K; **T. Zhou**; K. E. Bennett; J. Schwenk (**2025**) Evaluation of CMIP6 streamflow in the Arctic. ***Journal of Hydrometeorology*** https://doi.org/10.1175/JHM-D-24-0124.1

55) Yao, Y.; A. Ducharne, B. I. Cook, S. J. De Hertog, K. S. Aas, P. F. Arboleda-Obando, J. Buzan, J. Colin, M. Costantini, B. Decharme, D. M. Lawrence, P. Lawrence, L. Leung, M-H Lo, D. Narayanappa, W. Wieder, R-J Wu, **T. Zhou**, J. Jagermeyr, S. McDermid, Y. Pokhrel, M. Elling, N. Hanasaki, P. Munoz, L. Nazarenko, K. Otta, Y. Satoh, T. Yokohata, L. Jin, X. Wang, V. Mishra, S. Ghosh, W. Thiery (**2025**) Impacts of Irrigation Expansion on Moist-heat Stress: First Results from IRRMIP ***Nature Communications*** https://doi.org/10.1038/s41467-025-56356-1

54) Thurber T. B., D. Broman, **T. Zhou**, and N. Voisin. (**2024**) wmpy-power: A Python package for process-based regional hydropower simulation. ***The Journal of Open Source Software*** https://doi.org/10.21105/joss.07225

53) Feng D., Z. Tan, D. Engwirda, J.D. Wolfe, D. Xu, C. Liao, and G. Bisht, J. Benedict, **T. Zhou**, H-Y, Li, and L. Leung. (**2024**) Simulation of Compound Flooding using River-Ocean Two-way Coupled E3SM Ensemble on Variable-resolution Meshes. ***Journal of Advances in Modeling Earth Systems*** https://doi.org/10.1029/2023MS004054

52) Xu D., G. Bisht, Z. Tan, E. Sinha, A.V. Di Vittorio, **T. Zhou**, and V. Ivanov, et al. (**2024**). Climate change will reduce wetland areas and disrupt their seasonal regimes in North America ***Nature Communications*** https://doi.org/10.1038/s41467-024-45286-z

51) Tran H.V., Y. Fang, Z. Tan, **T. Zhou**, and L. Leung. (**2024**). Quantifying the impacts of land cover change on the hydrologic response to Hurricane Ida in the Lower Mississippi River Basin. ***Journal of Hydrometeorology*** https://doi.org/10.1175/JHM-D-23-0094.1

50) Xu D., G. Bisht, Z. Tan, C. Liao, **T. Zhou**, H. Li, and L. Leung. (**2024**). Disentangling the Hydrological and Hydraulic Controls on Streamflow Variability in E3SM V2 – A Case Study in the Pantanal Region. ***Geoscientific Model Development*** https://doi.org/10.5194/gmd-17-1197-2024

49) Harrop, B; K. Balaguru, C. Golaz, L. R. Leung, S. Mahajan, A. Rhoades, P. Ullrich, C. Zhang, X. Zheng, **T. Zhou**, D. Bader, P. Caldwell, N. Keen, and A. Mametjanov (**2023**). Evaluating the Water Cycle Over CONUS at the Watershed Scale for the Energy Exascale Earth System Model Version 1 (E3SMv1) Across Resolutions. ***Journal of Advances in Modeling Earth Systems*** https://doi.org/10.1029/2022MS003490

48) Liao, C.; **T. Zhou**, D. Xu, Z. Tan, G. Bisht, M. Cooper, D. Engwirda, H. Y. Li, R. Leung, (**2023**). Topological Relationship-based Flow Direction Modeling: Stream Burning and Depression Filling. ***Journal of Advances in Modeling Earth Systems*** https://doi.org/10.1029/2022MS003487

47) Cooper M.G., and **T. Zhou**. (**2023**). baseflow: a MATLAB and GNU Octave package for baseflow recession analysis. ***Journal of Open Source Software*** https://doi.org/10.21105/joss.05492

46) Pachev B.A., L. Leung, **T. Zhou**, and C. Dawson. (**2023**) One-way coupling of E3SM with ADCIRC demonstrated on Hurricane Harvey. ***Nat. Hazards*** https://doi.org/10.1007/s11069-023-06192-7

45) Tang, Q.; J-C. Golaz, L. P. Van Roekel, M. A. Taylor, W. Lin, B. R. Hillman, P. A. Ullrich, A. M. Bradley, O. Guba, J. D. Wolfe, **T. Zhou**, …30 coauthors…; and D. C. Bader (**2023**). The Fully Coupled Regionally Refined Model of E3SM Version 2: Overview of the Atmosphere, Land, and River. ***Geoscientific Model Development*** https://doi.org/10.5194/gmd-16-3953-2023

44) Silva S.J., S.M. Burrows, K.V. Calvin, P.J. Cameron-Smith, X. Shi, and **T. Zhou**. (**2023**) Contrasting the biophysical and radiative effects of rising CO2 concentrations on ozone dry deposition fluxes. ***Journal of Geophysical Research: Atmospheres*** https://doi.org/10.1029/2022JD037668

43) **Zhou, T**; S-C. Kao; W. Xu; S. Gangrade; and N. Voisin (**2023**). Impacts of climate change on subannual hydropower generation: a multi-model assessment of the United States federal hydropower plant. ***Environmental Research Letters*** https://doi.org/10.1088/1748-9326/acb58d

42) Liao, C.; **T. Zhou**, D. Xu, M. Cooper, D. Engwirda, H. Y. Li, R. Leung (**2023**). Topological relationships-based flow direction modeling: Mesh-independent river networks representation. ***Journal of Advances in Modeling Earth Systems*** https://doi.org/10.1029/2022MS003089

41) Cooper, M., **T. Zhou**, B. Katrina, W. Bolton, E. Coon, S. Fleming, J. Rowland, J. Schwenk (**2023**). Detecting Permafrost Active Layer Thickness Change from Nonlinear Baseflow Recession**.** ***Water Resources Research*** https://doi.org/10.1029/2022WR033154

40) Feng, D., Z. Tan, D. Engwirda, C. Liao, D. Xu, G. Bisht, **T. Zhou**, H-Y. Li, R. Leung (**2022**). Investigating coastal backwater effects and flooding in the coastal zone using a global river transport model on an unstructured mesh. ***Hydrology and Earth System Sciences*** https://doi.org/10.5194/hess-26-5473-2022

39) Zhang, C., J. Golaz, R. Forsyth, T. Vo, S. Xie, Z. Shaheen, G. Potter, X. S. Asay-Davis, C. S. Zender, W. Lin, C. Chen, C. R. Terai, S. Mahajan, **T. Zhou**, K. Balaguru, Q. Tang, C. Tao, Y. Zhang, T. Emmenegger, and P. Ullrich (**2022**). The E3SM Diagnostics Package (E3SM Diags v2.7): A Python-based Diagnostics Package for Earth System Models Evaluation. ***Geoscientific Model Development*** https://doi.org/10.5194/gmd-15-9031-2022

38) Golaz, C; L. P. Van Roekel; X. Zheng; A. Roberts; J. D. Wolfe; W. Lin; A. Bradley; Q. Tang; M. Maltrud; R. Forsyth; C. Zhang; **T. Zhou**; …57 coauthors…; D. C. Bader **(2022)**. The DOE E3SM Model Version 2: Overview of the physical model. ***Journal of Advances in Modeling Earth Systems*** https://doi.org/10.1029/2022MS003156(Voisin et al., 2018)

37) Kao, Shih-Chieh, Ashfaq, Moetasim, Rastogi, Deeksha, Gangrade, Sudershan, Uria Martinez, Rocio, Fernandez, Alisha, Konapala, Goutam, Voisin, Nathalie, **Zhou, Tian**, Xu, Wenwei, Gao, Huilin, Zhao, Bingjie, and Zhao, Gang. (**2022)** ***The Third Assessment of the Effects of Climate Change on Federal Hydropower***., https://doi.org/10.2172/1887712

36) Xu, D.; G. Bisht, **T. Zhou**, L. R. Leung, and M. Pan (**2022**). Development of Land-River Two-Way Coupling in the Energy Exascale Earth System Model. ***Journal of Advances in Modeling Earth Systems*** https://doi.org/10.1029/2021MS002772

35) Eldardiry H.; **T. Zhou**, M. Huang, O. Chegwidden (**2022**). The Role of Groundwater Withdrawals on River Regulation: Example from the Columbia River Basin. ***Water Resources Research*** https://doi.org/10.1029/2020WR028955

34) Zheng, X.; Q. Li, **T. Zhou**, Q. Tang, L. Van Roekel, and C. Golaz (**2022**). Description of historical and future projection simulations by the global coupled E3SMv1.0 model as used in ScenarioMIP and DAMIP of CMIP6. ***Geoscientific Model Development*** https://doi.org/10.5194/gmd-15-3941-2022

33) Sun, N.; H. Yan, M. Wigmosta, J. Lundquist, S. Dickerson-Lange, and **T. Zhou** (**2022**). Variability of Forest Canopy Effects on Snowpack Dynamics across the Climate Gradients of the Western United States Mountain Ranges. ***Water Resources Research*** https://doi.org/10.1029/2020WR029194

32) Liao, C.; **T. Zhou**, D. Xu, R. Barnes, G. Bisht, H. Y. Li, Z. Tan, T. Tesfa, Z. Duan, D. Engwirda, and R. Leung (**2022**). Advances in modeling flow direction on a hexagon mesh grid. ***Advances in Water Resources*** https://doi.org/10.1016/j.advwatres.2021.104099

31) Li, H-Y, Z. Tan, H. Ma, Z. Zhu, G. Abeshu, S. Zhu, S. Cohen, **T. Zhou**, D. Xu, and L. R. Leung (**2022**). A new large-scale suspended sediment model and its application over the United States. ***Hydrology and Earth System Sciences*** https://doi.org/10.5194/hess-26-665-2022

30) Cheng, Y; M. Huang, B. Zhu, **T. Zhou**, Y. Liu, and X. He (**2021**). Validation of the Version 5 of the Community Land Model over the Contiguous United States (CONUS) using in-situ and remote sensing datasets. ***Journal of Geophysical Research: Atmosphere*** https://doi.org/10.1029/2020JD033539

29) Burrows, S. M.; … 13 coauthors… **T. Zhou**; … 15 coauthors; and L. R. Leung (**2020**). The DOE E3SM coupled model v1.1 biogeochemistry configuration: overview and evaluation of coupled carbon-climate experiments. ***Journal of Advances in Modeling Earth Systems*** https://doi.org/10.1029/2019MS001766

28) **Zhou, T**; L. R. Leung; G. Leng; N. Voisin; H. Li; A. P. Craig; T. Tesfa; and Y. Mao (**2020**). Global irrigation characteristics and effects simulated by fully coupled land surface, river, and water management models in E3SM. ***Journal of Advances in Modeling Earth Systems*** https://doi.org/10.1029/2020MS002069

27) Voisin, N; A. Dyreson; T. Fu; M. O'Connell; S. Turner; **T. Zhou**; and J. Macknick (**2020**). Impact of climate change on water availability and its propagation through the Western US power grid. ***Applied Energy*** https://doi.org/10.1016/j.apenergy.2020.115467

26) **Zhou, T**; T. Endreny (**2020**). The Straightening of a River Meander Leads to Extensive Losses in Flow Complexity and Ecosystem Services. ***Water*** https://doi.org/10.3390/w12061680

25) Shah, H; **T. Zhou**; N. Sun; M. Huang, and V. Mishra (**2019**). Roles of irrigation and reservoir operations in modulating terrestrial water budgets in the Indian sub-continental river basins. ***Journal of Geophysical Research: Atmosphere*** https://doi.org/10.1029/2019JD031059

24) Caldwell, P. M.; … 31 coauthors…; **T. Zhou** (**2019**). The DOE E3SM coupled model version 1: Description and results at high resolution. ***Journal of Advances in Modeling Earth Systems*** https://doi.org/10.1029/2019MS001870

23) Mao, Y; **T. Zhou**, L. R. Leung, T. Tesfa, H.-Y. Li, K. Wang, Z. Tan, A. Getirana (**2019**). Flood Inundation Generation Mechanisms and Their Changes in 1953-2004 in Global Major River Basins**. *Journal of Geophysics Research: Atmospheres*** https://doi.org/10.1029/2019JD031381

22) Golaz, C; …80 coauthors…; **T. Zhou**; Q. Zhu **(2019)**. The DOE E3SM coupled model version 1: Overview and evaluation at standard resolution**. *Journal of Advances in Modeling Earth Systems*** https://doi.org/10.1029/2018MS001603

21) Shah, H; **T. Zhou**, M. Huang, M. Vimal **(2019).** Strong influence of irrigation on water budget and land surface temperature in Indian sub-continental river basins. ***Journal of Geophysical Research: Atmospheres*** https://doi.org/10.1029/2018JD029132

20) Bao, J; **T. Zhou**; M. Huang; Z. Hou, W. Perkins, S. Harding, G. Hammond, H. Ren, P. Thorne, S. Suffield, and J. Zachara **(2018)** Modulating factors of hydrologic exchanges in a large-scale river reach: insights from three-dimensional computational fluid dynamics simulations. ***Hydrological Processes*** https://doi.org/10.1002/hyp.13266

19) **Zhou, T**; N. Voisin, T. Fu **(2018)** Non-stationary hydropower generation projections constrained by environmental and electricity grid operations over the western United States. ***Environmental Research Letters*** https://doi.org/10.1088/1748-9326/aad19f

18) Wartenburger, R; …37 coauthors… **T. Zhou (2018)**. Evapotranspiration simulations in ISIMIP2a - Evaluation of spatio-temporal characteristics with a comprehensive ensemble of independent datasets. ***Environmental Research Letters*** https://doi.org/10.1088/1748-9326/aac4bb

17) Sun, N; M. Wigmosta, **T. Zhou**, J. Lundquist, S. Dickerson-Lange, N. Cristea **(2018)**. Evaluating the functionality and streamflow impacts of explicitly modeling forest-snow interactions and canopy gaps in a distributed hydrologic model. ***Hydrological Processes*** https://doi.org/10.1002/hyp.13150

16) **Zhou, T**; J. Bao, M. Huang, Z. Hou, E. Arntzen, R. Mackley, S. Harding, Y. Xu, X. Song, X. Chen, J. Stegen, G. Hammond, P. Thorne, and J. Zachara **(2018)** Riverbed hydrologic exchange dynamics in a large regulated river reach. ***Water Resources Research*** https://doi.org/10.1002/2017WR020508

15) **Zhou, T;** N. Voisin; G. Leng; and M. Huang **(2018)**. Sensitivity of regulated flow regime to climate change in the Western United States. ***Journal of Hydrometeorology*** https://doi.org/10.1175/JHM-D-17-0095.1

14) Zhang, Y; M. Pan; J. Sheffield; A. Siemann; C. Fisher; M. Liang; H. Beck; N. Wanders; R. MacCracken; P. R. Houser; **T. Zhou**; D. P. Lettenmaier; Y. Ma; R. T. Pinker; J. Bytheway; C. D. Kummerow; and E. F. Wood. **(2018)**. A Climate Data Record (CDR) for the global terrestrial water budget: 1984–2010. ***Hydrology and Earth System Sciences***. https://doi.org/10.5194/hess-22-241-2018

13) Bisht, G; M. Huang; **T. Zhou**; X. Chen; H. Dai; G. Hammond; W. Riley; J. Downs; Y. Liu; and J. Zachara. **(2017).** Coupling a three-dimensional subsurface flow and transport model with a land surface model to simulate stream-aquifer-land interactions (CP v1.0). ***Geoscientific Model Development*** https://doi.org/10.5194/gmd-10-4539-2017

12) Yuan, X; M. Zhang; L. Wang; and **T. Zhou**. **(2017).** Understanding and seasonal forecasting of hydrological drought in the Anthropocene. ***Hydrology and Earth System Sciences*** https://doi.org/10.5194/hess-21-5477-2017

11) Voisin, N; M. Kintner-Meyer; D. Wu, R. Skaggs; T. Fu; **T. Zhou**; T. Nguyen; and I. Kraucunas. **(2017).** Opportunities for joint water-energy management: sensitivity of the 2010 Western U.S. electricity grid operations to climate oscillations. ***Bulletin of the American Meteorological Society***. https://doi.org/10.1175/BAMS-D-16-0253.1

10) **Zhou, T;** M. Huang; J. Bao; Z. Hou; E. Arntzen; R. Mackley; A. Crump; A. E. Goldman; X. Song; Y. Xu; and J. Zachara. **(2017)** A New Approach to Quantify Shallow Water Hydrologic Exchanges in a Large Regulated River Reach. ***Water***. https://doi.org/10.3390/w9090703

9) **Zhou, T**; B. Nijssen; H. Gao; and D.P. Lettenmaier. **(2016)**. The contribution of reservoirs to global land surface water storage variations. ***Journal of Hydrometeorology***. https://doi.org/10.1175/JHM-D-15-0002.1

8) **Zhou, T;** I. Haddeland; B. Nijssen; and D. P. Lettenmaier. **(2016)**. Human induced changes in the global water cycle. ***Terrestrial Water Cycle and Climate Change: Natural and Human-Induced Impacts; Geophysical Monograph*** *221; 57.* https://doi.org/10.1002/9781118971772.ch4

7) **Zhou, T**; B. Nijssen; G. J. Huffman; and D. P. Lettenmaier. **(2014)**. Evaluation of real-time satellite precipitation data for global drought monitoring. ***Journal of Hydrometeorology***. https://doi.org/10.1175/JHM-D-13-0128.1

6) Nijssen, B; S. Shukla; C. Lin; H. Gao; **T. Zhou**; J. Sheffield; E. F. Wood; and D. P. Lettenmaier. **(2014)**. A prototype global drought information system based on multiple land surface models. ***Journal of Hydrometeorology***. https://doi.org/10.1175/JHM-D-13-090.1

5) **Zhou, T**; and T. A. Endreny. **(2013)**. Reshaping of the hyporheic zone beneath river restoration structures: flume and hydrodynamic experiments. ***Water Resources Research***. https://doi.org/10.1002/WRCR.20384

4) **Zhou, T**; and T. A. Endreny. **(2012)**. Meander hydrodynamics initiated by river restoration deflectors. ***Hydrological Processes***. https://doi.org/10.1002/hyp.8352

3) **Zhou, T**; B. Pan; X. Liu; H. Su; and Z. Hu. **(2008)**. The discovery of ice-wedge casts in Ordos Plateau; China and permafrost boundary establishment (in Chinese with English abstract). ***Journal of Glaciology and Geocryology*** http://bcdt.westgis.ac.cn/CN/abstract/abstract415.shtml

2) Pan, B; H. Su; X. Liu; X. Hu, **T. Zhou**; C. Hu; and J. Li; **(2007)**. River terraces of the Yellow River and their genesis in eastern Lanzhou Basin during last 1.2 Ma (in Chinese with English abstract). ***Quaternary Sciences***. http://www.dsjyj.com.cn/CN/abstract/abstract9193.shtml

1) Pan, B; H. Su; C. Hu; X. Hu; **T. Zhou**; and J. Li. **(2007)**. Discovery of a 1.0 Ma Yellow River terrace and re-dating of the fourth Yellow River terrace in Lanzhou area. ***Progress in Natural Science***. https://doi.org/10.1080/10020070612331343246

PUBLICATIONS IN REVIEW/REVISION/PRESS

Tan, Z.; D. Xu; **T. Zhou**; D. Feng; L. Li; M. Cooper; C. Liao; G. Bisht; G. Abeshu; H-Y. Li; A. Kassam; L. Leung (**in review**) The past and future changes of river sediment in the U.S. Mid-Atlantic. ***Earth's Future***

Xu D., Z. Tan, E. Fluet-Chouinard, G. Bisht, D. Hao, D. Feng, and **T. Zhou**, et al. (**in review**) Muted Global Changes Despite Large Regional Responses: The Contrasting Future Trajectories of Inundated and Saturated Wetlands. ***Nature Climate Change***

Liao C., D. Engwirda, D. Xu, **T. Zhou**, Z. Tan, and L. Leung. (**accepted**) An unstructured Voronoi mesh framework for large scale hydrologic and land surface models. ***Journal of Advances in Modeling Earth Systems***

Zhou, T., Y. Qian, and L. R. Leung (**in review**) Can We Trust LLMs for Complex Earth System Model Analysis? Silent Failure and Evidence from Module-Grounded Benchmarking. ***Geoscientific Model Development*** https://doi.org/10.5194/egusphere-2026-2237

DATA

Zhou, T; S-C, Kao; W. Xu; S. Gangrade; N. Voisin (**2022**) Multi-model Hydropower Projections for the United States Federal Power Marketing Areas under CMIP5 Climate Change Conditions. https://doi.org/10.5281/zenodo.6506088

Voisin, N; A. Dyreson; T. Fu; M. O'Connell; S. Turner; **T. Zhou**; and J. Macknick (**2020**). Impact of climate change on water availability and its propagation through the Western US power grid: PLEXOS Inputs and outputs. https://doi.org/10.25584/data.2020-06.1318/1635205 and https://doi.org/10.25584/data.2020-06.1319/1635208

Gosling, S; H. Müller Schmied; R. Betts; J. Chang; P. Ciais; R. Dankers; P. Döll; S. Eisner; M. Flörke; D. Gerten; M. Grillakis; N. Hanasaki; S. Hagemann; M. Huang; Z. Huang; S. Jerez; H. Kim; A. Koutroulis; G. Leng; X. Liu; Y. Masaki; P. Montavez; C. Morfopoulos; T. Oki; L. Papadimitriou; Y. Pokhrel; F. Portmann; R. Orth; S. Ostberg; Y. Satoh; S. Seneviratne; P. Sommer; T. Stacke; Q. Tang; I. Tsanis; Y. Wada; **T. Zhou**; M. Büchner; J. Schewe; F. Zhao **(2017)**: ISIMIP2a Simulation Data from Water (global) Sector. GFZ Data Services. https://doi.org/10.5880/PIK.2017.010

NON-REFEREED PUBLICATIONS

Nowak, David J.; R. E. Hoehn III; A. R. Bodine; E. J. Greenfield; A. Ellis; T. A. Endreny; Y. Yang; **T. Zhou**; R. Henry **(2013)**: Assessing urban forest effects and values: Toronto's urban forest. *Resour. Bull. NRS-79.*; U.S. Department of Agriculture, Forest Service, Northern Research Station. 59 p. https://doi.org/10.2737/NRS-RB-79.

PRESENTATIONS (Selected)

Zhou T. and C. Liao**. 2025.** River Delta Processes in Earth System Models – A New Bifurcation Scheme *American Geophysical Union Fall Meeting, New Orleans, LA*

Zhou T. 2024. (invited lecture) River Modeling in E3SM. 2024 E3SM Tutorial Workshop, *National Energy Research Scientific Computing Center, Berkeley, CA*

Zhou T., M. Cooper, C. Liao, D. Xu, D. Engwirda, N. Sun, Z. Tan, H-Y. Li, D. Feng, G. Bisht, L. Leung. **2023**. Modeling Inter-Basin Water Transfer in E3SM: A Delaware River Basin Case Study. *American Geophysical Union Fall Meeting, San Francisco, CA*

Liao C., **T. Zhou,** D. Engwirda, D. Xu, M.G. Cooper, Z. Tan, G. Bisht, H-Y Li, L. Leung. **2023**. Evaluation of river routing on an unstructured mesh in E3SM. *American Geophysical Union Fall Meeting, San Francisco, CA*

Zhou T. 2023. (invited lecture) Hydroelectricity Modeling. *Global Climate: Physical Modeling (GCEE6320), University of Houston, Houston, Texas.*

Zhou T. 2023. (invited talk) Irrigation modeling in Energy Exascale Earth System Model (E3SM). *Aspen Global Change Institute (AGCI) Workshop: Irrigation in the Earth System: Priorities for Data, Modeling, and Cross-disciplinary Research, Aspen, Colorado.*

Zhou T., L. Leung, and D. Xu. **2020**. Changes in flood characteristics in the future. *American Geophysical Union Fall Meeting*

Eldardiry H.A., **T. Zhou**, and M. Huang, **2020**. The Role of Groundwater Withdrawals on River Regulation: Example from the Columbia River Basin *American Meteorological Society Meeting, Boston, Massachusetts.*

Zhou, T, R. Leung, N. Voisin, H. Li, G. Leng, T. Tesfa, **2018.** Global irrigation water withdrawal simulated by fully coupled land surface, river, and water management models. *American Geophysical Union Fall Meeting, Washington, DC*

Zhou, T, N. Voisin, T. Fu, **2017**. Non-stationary hydropower generation projection over the western United States. *American Geophysical Union Fall Meeting, New Orleans, LA*

Zhou, T, J. Bao, M. Huang, Z. Hou, E. Arntzen and R. Mackley, **2016.** Quantifying hyporheic exchange dynamics in a highly regulated large river reach. *American Geophysical Union Fall Meeting, San Francisco, CA*

Zhou, T., B. Nijssen, I. Haddeland, H. Gao, and D. P. Lettenmaier. **2014**. Reservoir in Global Water Cycle: Macro Scale Hydrologic Modeling for Water Management. *American Geophysical Union Fall Meeting, San Francisco, CA*

Zhou, T., B. Nijssen, I. Haddeland, and D. P. Lettenmaier. **2013**. Macro Scale Hydrologic Modeling for Water Management: Re-construction of Large Reservoir Storage Time Series in the Continental U.S. *American Geophysical Union Fall Meeting, San Francisco, CA*

Lettenmaier, D. P., **T. Zhou,** G. J. Huffman, and B. Nijssen. **2013**. Evaluation of TMPA v7 Real-Time Precipitation for Global Hydrologic Prediction. *The 3rd International Workshop on Global Flood Monitoring & Modelling, College Park, MD, USA*

Zhou, T., A. S. Ward, B. L. O'Connor, and T. A. Endreny. **2012**. Floodplain Hyporheic Response under Dam Release Hydrographs. *American Geophysical Union Fall Meeting, San Francisco, CA*

Zhou, T., and T. A. Endreny. **2011**. Hydrodynamic impacts of disrupting point bar steering with river restoration structures. *American Geophysical Union Fall Meeting, San Francisco, CA*

Zhou, T., and T. A. Endreny. **2011**. Changes of hydraulic patterns with in-channel restoration structures at a point bar. *11th Annual Meeting of the American Ecological Engineering Society, Ashville, NC*

Zhou, T., and T. A. Endreny. **2010**. Flume analysis of in-channel restoration structures and impacts to secondary circulation flows. *World Congress of the International Commission of Agricultural and Biosystems Engineering, Quebec City, Canada*

Zhou, T., and T. A. Endreny. **2010**. Hyporheic exchange flow around in-channel restoration structures: simulation and flume experiments. *Association of American Geographers Annual Meeting, Washington, DC*

Zhou, T., and T. A. Endreny. **2009**. (invited talk) Hydraulic impacts of in-channel restoration structures in a meander band: simulation with CFD. *Workshop of Techniques for Evaluating Water Resources in the Finger Lakes, sponsored by United States Geological Survey, Finger Lakes - Lake Ontario Watershed Protection Alliance, and the Finger Lakes Institute, Geneva, NY*

SERVICES

- Referee for: *Water Resources Research*; *Journal of Hydrometeorology; Journal of Hydrology; Journal of Geophysical Research: Atmospheres; Hydrology and Earth System Sciences*; *Hydrological Processes; Hydrogeology Journal; AGU Books; Earth System Dynamics; Water Science and Technology; International Journal of Climatology; Remote Sensing; Estuarine, Coastal and Shelf Science; WIREs Water, etc.*
- Served as review panelist for 2014 US EPA National Priorities Grant and 2022 NOAA's NWS Office of Science and Technology Integration: Unified Forecast System Grant
- Editorial board member of *Advances in Climate Change Research* (2018 – present)
- Editorial board member of *JAWRA* (2024 – present)
- AGU 2020 session organizer

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HONORS AND AWARDS

2018	PNNL Exceptional Contribution Program (ECP) Award
2017	EBSD Best Award, Pacific Northwest National Laboratory
2011	AEES Conference Travel Grant
2007-2010	Tuition Scholarship Award, SUNY ESF, NY
2004	First Place in the 5th "Challenge Cup" of the College Student Research Competition of Gansu Province, China
2002	Tuition Scholarship Award, Lanzhou University, China

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