

### Commentary

- 2510** *S. Massuel, J. Riaux, F. Molle, M. Kuper, A. Ogilvie, A-L. Collard, C. Leduc, and O. Barreteau*  
Inspiring a Broader Socio-Hydrological Negotiation Approach With Interdisciplinary Field-Based Experience\*  
(<https://doi.org/10.1002/2017WR021691>)

\*This article is part of a Special Section—Socio-hydrology: Spatial and Temporal Dynamics of Coupled Human-Water Systems

### Research Articles

- 2523** *Mohammad-Reza Khaninezhad, Azarang Golmohammadi, and Behnam Jafarpour*  
Discrete Regularization for Calibration of Geologic Facies Against Dynamic Flow Data  
(<https://doi.org/10.1002/2017WR022284>)
- 2544** *N. Panigrahi and B. S. Das*  
Canopy Spectral Reflectance as a Predictor of Soil Water Potential in Rice\*  
(<https://doi.org/10.1002/2017WR021494>)
- \*This article is part of a Special Section—Hydrology Delivers Earth System Sciences to Society (HESS4): Improving and Integrating Knowledge across Disciplines on Global Energy, Water and Carbon Cycles
- 2561** *Rachel Baum, Gregory W. Characklis, and Marc L. Serre*  
Effects of Geographic Diversification on Risk Pooling to Mitigate Drought-Related Financial Losses for Water Utilities (<https://doi.org/10.1002/2017WR021468>)
- 2580** *L. Kuil, T. Evans, P. F. McCord, J.L. Salinas, and G. Blöschl*  
Exploring the Influence of Smallholders' Perceptions Regarding Water Availability on Crop Choice and Water Allocation Through Socio-Hydrological Modeling\* (<https://doi.org/10.1002/2017WR021420>)
- \*This article is part of a Special Section—Socio-hydrology: Spatial and Temporal Dynamics of Coupled Human-Water Systems
- 2605** *John C. Hammond, Freddy A. Saavedra, and Stephanie K. Kampf*  
How Does Snow Persistence Relate to Annual Streamflow in Mountain Watersheds of the Western U.S. With Wet Maritime and Dry Continental Climates? (<https://doi.org/10.1002/2017WR021899>)
- 2624** *P. C. D. Milly, J. Kam, and Krista A. Dunne*  
On the Sensitivity of Annual Streamflow to Air Temperature (<https://doi.org/10.1002/2017WR021970>)
- 2642** *D. W. Vasco*  
An Extended Trajectory Mechanics Approach for Calculating the Path of a Pressure Transient: Derivation and Illustration (<https://doi.org/10.1002/2017WR021360>)
- 2661** *Kyungmin Sung, Hanseok Jeong, Nikhil Sangwan, and David J. Yu*  
Effects of Flood Control Strategies on Flood Resilience Under Sociohydrological Disturbances\*  
(<https://doi.org/10.1002/2017WR021440>)
- \*This article is part of a Special Section—Socio-hydrology: Spatial and Temporal Dynamics of Coupled Human-Water Systems
- 2681** *Zhiyong Liu, Linyin Cheng, Zengchao Hao, Jingjing Li, Andrea Thorstensen, and Hongkai Gao*  
A Framework for Exploring Joint Effects of Conditional Factors on Compound Floods  
(<https://doi.org/10.1002/2017WR021662>)
- 2697** *T. Gunda, B. L. Turner, and V. C. Tidwell*  
The Influential Role of Sociocultural Feedbacks on Community-Managed Irrigation System Behaviors During Times of Water Stress\* (<https://doi.org/10.1002/2017WR021223>)
- \*This article is part of a Special Section—Socio-hydrology: Spatial and Temporal Dynamics of Coupled Human-Water Systems
- 2715** *Tian Zhou, Jie Bao, Maoyi Huang, Zhangshuan Hou, Evan Arntzen, Xuehang Song, Samuel F. Harding, P. Scott Titzler, Huiying Ren, Christopher J. Murray, William A. Perkins, Xingyuan Chen, James C. Stegen, Glenn E. Hammond, Paul D. Thorne, and John M. Zachara*  
Riverbed Hydrologic Exchange Dynamics in a Large Regulated River Reach  
(<https://doi.org/10.1002/2017WR020508>)

- 2731** *Yufang Ni, Zhixian Cao, Alistair Borthwick, and Qingquan Liu*  
Approximate Solutions for Ideal Dam-Break Sediment-Laden Flows on Uniform Slopes  
(<https://doi.org/10.1002/2017WR021340>)
- 2749** *Victoria Trglavcnik, Dean Morrow, Kela P. Weber, Ling Li, and Clare E. Robinson*  
Analysis of Tide and Offshore Storm-Induced Water Table Fluctuations for Structural Characterization of a Coastal Island Aquifer (<https://doi.org/10.1002/2017WR020975>)
- 2768** *A. H. Alizadeh, M. Akbarabadi, E. Barsotti, M. Piri, N. Fishman, and N. Nagarajan*  
Salt Precipitation in Ultratight Porous Media and Its Impact on Pore Connectivity and Hydraulic Conductivity  
(<https://doi.org/10.1002/2017WR021194>)
- 2781** *Saverio Perri, Dara Entekhabi, and Annalisa Molini*  
Plant Osmoregulation as an Emergent Water-Saving Adaptation (<https://doi.org/10.1002/2017WR022319>)
- 2799** *Joey J. Voermans, Marco Ghisalberti, and Gregory N. Ivey*  
A Model for Mass Transport Across the Sediment-Water Interface (<https://doi.org/10.1002/2017WR022418>)
- 2813** *Nathan Sankary and Avi Ostfeld*  
Stochastic Scenario Evaluation in Evolutionary Algorithms Used for Robust Scenario-Based Optimization  
(<https://doi.org/10.1002/2017WR022068>)
- 2834** *Jian Wang, Chuntian Cheng, Jianjian Shen, Rui Cao, and William W.-G. Yeh*  
Optimization of Large-Scale Daily Hydrothermal System Operations With Multiple Objectives  
(<https://doi.org/10.1002/2017WR021291>)
- 2851** *G. Fiandaca, P. K. Maurya, N. Balbarini, A. Hördt, A. V. Christiansen, N. Foged, P. L. Bjerg, and E. Auken*  
Permeability Estimation Directly From Logging-While-Drilling Induced Polarization Data  
(<https://doi.org/10.1002/2017WR022411>)
- 2871** *S. V. Korneev, X. Yang, J. M. Zachara, T. D. Scheibe, and I. Battiato*  
Downscaling-Based Segmentation for Unresolved Images of Highly Heterogeneous Granular Porous Samples  
(<https://doi.org/10.1002/2018WR022886>)
- 2891** *Anna A. Sörensson and Romina C. Ruscica*  
Intercomparison and Uncertainty Assessment of Nine Evapotranspiration Estimates Over South America  
(<https://doi.org/10.1002/2017WR021682>)
- 2909** *Yi Liu, Jiu Jimmy Jiao, Wenzhao Liang, and Xin Luo*  
Using Tidal Fluctuation-Induced Dynamics of Radium Isotopes ( $^{224}\text{Ra}$ ,  $^{223}\text{Ra}$ , and  $^{228}\text{Ra}$ ) to Trace the Hydrodynamics and Geochemical Reactions in a Coastal Groundwater Mixing Zone  
(<https://doi.org/10.1002/2017WR022456>)
- 2931** *Thomas Hermans, Frédéric Nguyen, Maria Klepikova, Alain Dassargues, and Jef Caers*  
Uncertainty Quantification of Medium-Term Heat Storage From Short-Term Geophysical Experiments Using Bayesian Evidential Learning (<https://doi.org/10.1002/2017WR022135>)
- 2949** *Adam S. Wymore, Jody Potter, Bianca Rodríguez-Cardona, and William H. McDowell*  
Using In-Situ Optical Sensors to Understand the Biogeochemistry of Dissolved Organic Matter Across a Stream Network (<https://doi.org/10.1002/2017WR022168>)
- 2959** *Amy K. Rice, John E. McCray, and Kamini Singha*  
Methane Leakage From Hydrocarbon Wellbores into Overlying Groundwater: Numerical Investigation of the Multiphase Flow Processes Governing Migration (<https://doi.org/10.1002/2017WR021365>)
- 2976** *Matthias Zink, Juliane Mai, Matthias Cuntz, and Luis Samaniego*  
Conditioning a Hydrologic Model Using Patterns of Remotely Sensed Land Surface Temperature  
(<https://doi.org/10.1002/2017WR021346>)
- 2999** *Tingting Xu, Hang Zheng, Jianshi Zhao, Yicheng Liu, Pingzhong Tang, Y. C. Ethan Yang, and Zhongjing Wang*  
A Two-Phase Model for Trade Matching and Price Setting in Double Auction Water Markets  
(<https://doi.org/10.1002/2017WR021231>)
- 3018** *Jarl M. Kind, Jorn H. Baayen, and W. J. Wouter Botzen*  
Benefits and Limitations of Real Options Analysis for the Practice of River Flood Risk Management  
(<https://doi.org/10.1002/2017WR022402>)
- 3037** *Brent T. Aulenbach and Norman E. Peters*  
Quantifying Climate-Related Interactions in Shallow and Deep Storage and Evapotranspiration in a Forested, Seasonally Water-Limited Watershed in the Southeastern United States (<https://doi.org/10.1002/2017WR020964>)
- 3062** *Betsy Breyer, Samuel C. Zipper, and Jiangxiao Qiu*  
Sociohydrological Impacts of Water Conservation Under Anthropogenic Drought in Austin, TX (USA)\*  
(<https://doi.org/10.1002/2017WR021155>)

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- 3081** *Federica Remondi, James W. Kirchner, Paolo Burlando, and Simone Fatichi*  
Water Flux Tracking With a Distributed Hydrological Model to Quantify Controls on the Spatiotemporal Variability of Transit Time Distributions (<https://doi.org/10.1002/2017WR021689>)
- 3100** *Ching Leong*  
The Role of Narratives in Sociohydrological Models of Flood Behaviors\* (<https://doi.org/10.1002/2017WR022036>)  
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- 3122** *Wendy A. Timms, R. Ian Acworth, Richard A. Crane, Christoph H. Arns, Ji-Youn Arns, Dayna E. McGeeney, Gabriel C. Rau, and Mark O. Cuthbert*  
The Influence of Syndepositional Macropores on the Hydraulic Integrity of Thick Alluvial Clay Aquitards (<https://doi.org/10.1029/2017WR021681>)
- 3139** *Samuel J. Jackson, Simeon Agada, Catriona A. Reynolds, and Samuel Krevor*  
Characterizing Drainage Multiphase Flow in Heterogeneous Sandstones (<https://doi.org/10.1029/2017WR022282>)
- 3162** *E. Mason, M. Giuliani, A. Castelletti, and F. Amigoni*  
Identifying and Modeling Dynamic Preference Evolution in Multipurpose Water Resources Systems\* (<https://doi.org/10.1002/2017WR021431>)  
\*This article is part of a Special Section—Socio-hydrology: Spatial and Temporal Dynamics of Coupled Human-Water Systems
- 3176** *Massimo Rolle, Riccardo Sprocati, Matteo Masi, Biao Jin, and Muhammad Muniruzzaman*  
Nernst-Planck-based Description of Transport, Coulombic Interactions, and Geochemical Reactions in Porous Media: Modeling Approach and Benchmark Experiments (<https://doi.org/10.1002/2017WR022344>)

#### **Technical Reports: Data**

- 3196** *Ryan W. J. Edwards and Michael A. Celia*  
Shale Gas Well, Hydraulic Fracturing, and Formation Data to Support Modeling of Gas and Water Flow in Shale Formations (<https://doi.org/10.1002/2017WR022130>)

#### **Technical Reports: Methods**

- 3207** *Lei Wang, Cheng Dai, and Liang Xue*  
A Semianalytical Model for Pumping Tests in Finite Heterogeneous Confined Aquifers With Arbitrarily Shaped Boundary (<https://doi.org/10.1002/2017WR022217>)

#### **Comment**

- 3217** *Clément Roques, David E. Rupp, Elizabeth Jachens, and John S. Selker*  
Comment on "Base Flow Recession from Unsaturated-Saturated Porous Media considering Lateral Unsaturated Discharge and Aquifer Compressibility" by Liang, X., H. Zhan, Y.-K. Zhang, and K. Schilling (2017) (<https://doi.org/10.1002/2017WR022085>)

#### **Reply**

- 3220** *Xiuyu Liang, Hongbin Zhan, You-Kuan Zhang and Keith Schilling*  
Reply to Comment by Roques et al. on "Base Flow Recession from Unsaturated-Saturated Porous Media considering Lateral Unsaturated Discharge and Aquifer Compressibility" (<https://doi.org/10.1002/2017WR022378>)