

**Research Articles**

- 622** *Edoardo Borgomeo, Mohammad Mortazavi-Naeini, Jim W. Hall, Michael J. O'Sullivan, and Tim Watson*  
Trading-off tolerable risk with climate change adaptation costs in water supply systems  
(doi 10.1002/2015WR018164)
- 644** *Mariam M. Allam, Anjali Jain Figueroa, Dennis B. McLaughlin, and Elfatih A. B. Eltahir*  
Estimation of evaporation over the upper Blue Nile basin by combining observations from satellites and river flow gauges (doi 10.1002/2015WR017251)
- 660** *Thomas W. Giambelluca, Ryan G. Mudd, Wen Liu, Alan D. Ziegler, Nakako Kobayashi, Tomo'omi Kumagai, Yoshiyuki Miyazawa, Tiva Khan Lim, Maoyi Huang, Jefferson Fox, Song Yin, Sophea Veasna Mak, and Poonpipope Kasemsap*  
Evapotranspiration of rubber (*Hevea brasiliensis*) cultivated at two plantation sites in Southeast Asia  
(doi 10.1002/2015WR017755)
- 680** *Daniel Käser and Daniel Hunkeler*  
Contribution of alluvial groundwater to the outflow of mountainous catchments (doi 10.1002/2014WR016730)
- 698** *Krishna P. Paudel, Mahesh Pandit, and Roger Hinson*  
Irrigation water sources and irrigation application methods used by U.S. plant nursery producers  
(doi 10.1002/2015WR017619)
- 713** *Cody A. Prather, Joshua M. Bray, Joseph D. Seymour, and Sarah L. Codd*  
NMR study comparing capillary trapping in Berea sandstone of air, carbon dioxide, and supercritical carbon dioxide after imbibition of water (doi 10.1002/2015WR017547)
- 725** *Barret L. Kurylyk and Dylan J. Irvine*  
Analytical solution and computer program (FAST) to estimate fluid fluxes from subsurface temperature profiles  
(doi 10.1002/2015WR017990)
- 734** *Peigui Liu, Ahmed S. Elshall, Ming Ye, Peter Beerli, Xiankui Zeng, Dan Lu, and Yuezan Tao*  
Evaluating marginal likelihood with thermodynamic integration method and comparison with several other numerical methods (doi 10.1002/2014WR016718)
- 759** *Robert T. Hensley and Matthew J. Cohen*  
On the emergence of diel solute signals in flowing waters (doi 10.1002/2015WR017895)
- 773** *Baudouin Géraud, Siân A. Jones, Isabelle Cantat, Benjamin Dollet, and Yves Méheust*  
The flow of a foam in a two-dimensional porous medium (doi 10.1002/2015WR017936)
- 791** *George Shu Heng Pau, Chaopeng Shen, William J. Riley, and Yaning Liu*  
Accurate and efficient prediction of fine-resolution hydrologic and carbon dynamic simulations from coarse-resolution models (doi 10.1002/2015WR017782)
- 813** *Dylan J. Irvine, Ian Cartwright, Vincent E.A. Post, Craig T. Simmons, and Eddie W. Banks*  
Uncertainties in vertical groundwater fluxes from 1-D steady state heat transport analyses caused by heterogeneity, multidimensional flow, and climate change (doi 10.1002/2015WR017702)
- 827** *M. O. Cuthbert, R. I. Acworth, M. S. Andersen, J. R. Larsen, A. M. McCallum, G. C. Rau, and J. H. Tellam*  
Understanding and quantifying focused, indirect groundwater recharge from ephemeral streams using water table fluctuations (doi 10.1002/2015WR017503)
- 841** *Joseph Cook, Peter Kimuyu, and Dale Whittington*  
The costs of coping with poor water supply in rural Kenya (doi 10.1002/2015WR017468)
- 860** *Craig Hill, Jessica Kozarek, Fotis Sotiropoulos, and Michele Guala*  
Hydrodynamics and sediment transport in a meandering channel with a model axial-flow hydrokinetic turbine  
(doi 10.1002/2015WR017949)
- 880** *Chaopeng Shen, William J. Riley, Kurt R. Smithgall, John M. Melack, and Kuai Fang*  
The fan of influence of streams and channel feedbacks to simulated land surface water and carbon dynamics  
(doi 10.1002/2015WR018086)
- 903** *Peter K. Kang, Yingcai Zheng, Xinding Fang, Rafal Wojcik, Dennis McLaughlin, Stephen Brown, Michael C. Fehler, Daniel R. Burns, and Ruben Juanes*  
Sequential approach to joint flow-seismic inversion for improved characterization of fractured media  
(doi 10.1002/2015WR017412)
- 920** *András Bárdossy and Geoffrey G. S. Pegram*  
Space-time conditional disaggregation of precipitation at high resolution via simulation  
(doi 10.1002/2015WR018037)
- 938** *Alexis Shakas, Niklas Linde, Ludovic Baron, Olivier Bochet, Olivier Bour, and Tanguy Le Borgne*  
Hydrogeophysical characterization of transport processes in fractured rock by combining push-pull and single-hole ground penetrating radar experiments (doi 10.1002/2015WR017837)
- 954** *Fabrizio Fenicia, Dmitri Kavetski, Hubert H. G. Savenije, and Laurent Pfister*  
From spatially variable streamflow to distributed hydrological models: Analysis of key modeling decisions  
(doi 10.1002/2015WR017398)
- 990** *Ying Zhang, Ling Li, Dirk V. Erler, Isaac Santos, and David Lockington*  
Effects of alongshore morphology on groundwater flow and solute transport in a nearshore aquifer  
(doi 10.1002/2015WR017420)



- 1009** *J. Koch and W. Nowak*  
Identification of contaminant source architectures—A statistical inversion that emulates multiphase physics in a computationally practicable manner (doi 10.1002/2015WR017894)
- 1026** *A. Alfonso, M. M. Mukolwe, and G. Di Baldassarre*  
Probabilistic Flood Maps to support decision-making: Mapping the Value of Information (doi 10.1002/2015WR017378)
- 1044** *Ying Shi, Beihan Jiang, and Heidi M. Nepf*  
Influence of particle size and density, and channel velocity on the deposition patterns around a circular patch of model emergent vegetation (doi 10.1002/2015WR018278)
- 1056** *T. Tiwari, J. Lundström, L. Kuglerová, H. Laudon, K. Öhman, and A. M. Ågren*  
Cost of riparian buffer zones: A comparison of hydrologically adapted site-specific riparian buffers with traditional fixed widths (doi 10.1002/2015WR018014)
- 1070** *F. Bärenbold, B. Crozuy, and P. Perona*  
Stability analysis of ecomorphodynamic equations (doi 10.1002/2015WR017492)
- 1089** *P. Hazenberg, P. Broxton, D. Gochis, G.-Y. Niu, L. A. Pangle, J. D. Pelletier, P. A. Troch, and X. Zeng*  
Testing the hybrid-3-D hillslope hydrological model in a controlled environment (doi 10.1002/2015WR018106)
- 1108** *Matilde Welber, Jérôme Le Coz, Jonathan B. Laronne, Guido Zolezzi, Daniel Zamler, Guillaume Dramais, Alexandre Hauet, and Martino Salvaro*  
Field assessment of noncontact stream gauging using portable surface velocity radars (SVR) (doi 10.1002/2015WR017906)
- 1127** *Huixin Zhang, Hongbo Zeng, Ania C. Ulrich, and Yang Liu*  
Comparison of the transport and deposition of *Pseudomonas aeruginosa* under aerobic and anaerobic conditions (doi 10.1002/2015WR017821)
- 1140** *M. J. Tourian, A. Tarpanelli, O. Elmi, T. Qin, L. Brocca, T. Moramarco, and N. Sneeuw*  
Spatiotemporal densification of river water level time series by multimission satellite altimetry (doi 10.1002/2015WR017654)
- 1160** *Sha Zhou, Bofu Yu, Yao Zhang, Yuefei Huang, and Guangqian Wang*  
Partitioning evapotranspiration based on the concept of underlying water use efficiency (doi 10.1002/2015WR017766)
- 1176** *Sara Bangen, James Hensleigh, Peter McHugh, and Joseph Wheaton*  
Error modeling of DEMs from topographic surveys of rivers using fuzzy inference systems (doi 10.1002/2015WR018299)
- 1194** *Nian-Sheng Cheng, Xingnian Liu, Xingwei Chen, and Changkai Qiao*  
Deviation of permeable coarse-grained boundary resistance from Nikuradse's observations (doi 10.1002/2015WR017666)
- 1208** *D. Moeser, G. Mazzotti, N. Helbig, and T. Jonas*  
Representing spatial variability of forest snow: Implementation of a new interception model (doi 10.1002/2015WR017961)
- 1227** *Xi Chen, Dingbao Wang, Fuqiang Tian, and Murugesu Sivapalan*  
From channelization to restoration: Sociohydrologic modeling with changing community preferences in the Kissimmee River Basin, Florida (doi 10.1002/2015WR018194)
- 1245** *Hai V. Pham and Frank T.-C. Tsai*  
Optimal observation network design for conceptual model discrimination and uncertainty reduction (doi 10.1002/2015WR017474)
- 1265** *Kehua You, David DiCarlo, and Peter B. Flemings*  
Impact of gravity on hydrate saturation in gas-rich environments (doi 10.1002/2015WR017975)
- 1286** *Barret L. Kurylyk, Masaki Hayashi, William L. Quinton, Jeffrey M. McKenzie, and Clifford I. Voss*  
Influence of vertical and lateral heat transfer on permafrost thaw, peatland landscape transition, and groundwater flow (doi 10.1002/2015WR018057)
- 1306** *Soheil Ghareh Aghaji Zare, Stephanie A. Moore, Colin D. Rennie, Ousmane Seidou, Habib Ahmari, and Jarrod Malenchak*  
Estimation of composite hydraulic resistance in ice-covered alluvial streams (doi 10.1002/2015WR018096)
- 1328** *Erick R. Burns, Steven E. Ingebritsen, Michael Manga, and Colin F. Williams*  
Evaluating geothermal and hydrogeologic controls on regional groundwater temperature distribution (doi 10.1002/2015WR018204)
- 1345** *David A. Newburn and Anna Alberini*  
Household response to environmental incentives for rain garden adoption (doi 10.1002/2015WR018063)
- 1358** *V. Cody Hale and Jeffrey J. McDonnell*  
Effect of bedrock permeability on stream base flow mean transit time scaling relations: 1. A multiscale catchment intercomparison\* (doi 10.1002/2014WR016124)
- \*Companion to Hale et al. [2016], doi:10.1002/2015WR017660
- 1375** *V. Cody Hale, Jeffrey J. McDonnell, Michael K. Stewart, D. Kip Solomon, Jim Doolittle, George G. Ice, and Robert T. Pack*  
Effect of bedrock permeability on stream base flow mean transit time scaling relationships: 2. Process study of storage and release\* (doi 10.1002/2015WR017660)
- \*Companion to Hale and McDonnell [2016], doi:10.1002/2014WR016124
- 1398** *Tore I. Bjørnarå, Jan M. Nordbotten, and Joonsang Park*  
Vertically integrated models for coupled two-phase flow and geomechanics in porous media (doi 10.1002/2015WR017290)

- 1418 *Victor M. Peredo-Alvarez, Allen S. Bellas, Whitney J. Trainor-Guitton, and Ian Lange*  
Mandate a Man to Fish?: Technological advance in cooling systems at U.S. thermal electric plants  
(doi 10.1002/2015WR017676)
- 1427 *Khaled Ghannam, Taro Nakai, Athanasios Paschalis, Christopher A. Oishi, Ayumi Kotani, Yasunori Igarashi, Tomo'omi Kumagai, and Gabriel G. Katul*  
Persistence and memory timescales in root-zone soil moisture dynamics (doi 10.1002/2015WR017983)
- 1446 *M. Bondoni, R. Mel, L. Solarì, S. Lanzoni, S. Francalanci, and H. Oumeraci*  
Insights into lateral marsh retreat mechanism through localized field measurements  
(doi 10.1002/2015WR017966)
- 1465 *Ryan R. Bart*  
A regional estimate of postfire streamflow change in California (doi 10.1002/2014WR016553)
- 1479 *Adam S. Ward, Noah M. Schmadel, Steven M. Wondzell, Ciaran Harman, Michael N. Gooseff, and Kamini Singha*  
Hydrogeomorphic controls on hyporheic and riparian transport in two headwater mountain streams during base flow recession (doi 10.1002/2015WR018225)

### **Commentary**

- 1498 *Scott Steinschneider and Upmanu Lall*  
El Niño and the U.S. precipitation and floods: What was expected for the January–March 2016 winter hydroclimate that is now unfolding? (doi 10.1002/2015WR018470)

### **Technical Reports: Methods**

- 1502 *O. D. L. Strack*  
Salt water interface in a layered coastal aquifer: The only published analytic solution is in error  
(doi 10.1002/2015WR018127)
- 1507 *David N. Dralle and Sally E. Thompson*  
A minimal probabilistic model for soil moisture in seasonally dry climates (doi 10.1002/2015WR017813)
- 1518 *Diogo Bolster, Amir Paster, and David A. Benson*  
A particle number conserving Lagrangian method for mixing-driven reactive transport  
(doi 10.1002/2015WR018310)
- 1528 *Yijun Yao, Iason Verginelli, and Eric M. Suuberg*  
A two-dimensional analytical model of petroleum vapor intrusion (doi 10.1002/2015WR018320)