

## Rapid Communication

- 647 *Brian D. Lutz, Aurana N. Lewis, and Martin W. Doyle*  
Generation, transport, and disposal of wastewater associated with Marcellus Shale gas development (10.1002/wrcr.20096)

## Regular Articles

- 657 *David Russo, Asher Laufer, Roi H. Shapira, and Daniel Kurtzman*  
Assessment of solute fluxes beneath an orchard irrigated with treated sewage water: A numerical study (10.1002/wrcr.20085)
- 675 *Alberto Viglione, Ralf Merz, José Luis Salinas, and Günter Blöschl*  
Flood frequency hydrology: 3. A Bayesian analysis (10.1029/2011WR010782)
- 693 *Zhixuan Feng, Ad Reniers, Brian K. Haus, and Helena M. Solo-Gabriele*  
Modeling sediment-related enterococci loading, transport, and inactivation at an embayed nonpoint source beach (10.1029/2012WR012432)
- 713 *Deqiang Mao, Tian-Chyi J. Yeh, Li Wan, Cheng-Haw Lee, Kuo-Chin Hsu, Jet-Chau Wen, and Wenxi Lu*  
Cross-correlation analysis and information content of observed heads during pumping in unconfined aquifers (10.1002/wrcr.20066)
- 732 *Laura A. Smith, Garth van der Kamp, and M. Jim Hendry*  
A new technique for obtaining high-resolution pore pressure records in thick claystone aquitards and its use to determine in situ compressibility (10.1002/wrcr.20084)
- 744 *A. Revil and H. Mahardika*  
Coupled hydromechanical and electromagnetic disturbances in unsaturated porous materials (10.1002/wrcr.20092)
- 767 *Chao Li, Vijay P. Singh, and Ashok K. Mishra*  
A bivariate mixed distribution with a heavy-tailed component and its application to single-site daily rainfall simulation (10.1002/wrcr.20063)
- 790 *J. K. Koestel, T. Norgaard, N. M. Luong, A. L. Vendelboe, P. Moldrup, N. J. Jarvis, M. Lamandé, B. V. Iversen, and L. Wollesen de Jonge*  
Links between soil properties and steady-state solute transport through cultivated topsoil at the field scale (10.1002/wrcr.20079)
- 808 *Pulin K. Mondal and Brent E. Sleep*  
Virus and virus-sized microsphere transport in a dolomite rock fracture (10.1002/wrcr.20086)
- 825 *B. Renard, K. Kochanek, M. Lang, F. Garavaglia, E. Paquet, L. Neppel, K. Najib, J. Carreau, P. Arnaud, Y. Aubert, F. Borchi, J.-M. Soubeyroux, S. Jourdain, J.-M. Veysseire, E. Sauquet, T. Cipriani, and A. Auffray*  
Data-based comparison of frequency analysis methods: A general framework (10.1002/wrcr.20087)
- 844 *C. A. Woodhouse, D. M. Meko, D. Griffin, and C. L. Castro*  
Tree rings and multiseason drought variability in the lower Rio Grande Basin, USA (10.1002/wrcr.20098)
- 851 *G. A. Siemens, S. B. Peters, and W. A. Take*  
Comparison of confined and unconfined infiltration in transparent porous media (10.1002/wrcr.20101)
- 864 *A. Zarlenga and A. Fiori*  
Steady plumes in heterogeneous porous formations: A stochastic Lagrangian approach (10.1002/wrcr.20106)
- 874 *Michael F. Fanizza, Hongkyu Yoon, Changyong Zhang, Martinus Oostrom, Thomas W. Wietsma, Nancy J. Hess, Mark E. Bowden, Timothy J. Strathmann, Kevin T. Finneran, and Charles J. Werth*  
Pore-scale evaluation of uranyl phosphate precipitation in a model groundwater system (10.1002/wrcr.20088)

- 891 *Stephen C. Welch, Branko Kerkez, Roger C. Bales, Steven D. Glaser, Karl Rittger, and Robert R. Rice*  
Sensor placement strategies for snow water equivalent (SWE) estimation in the American River basin  
(10.1002/wrcr.20100)
- 904 *Katalyn A. Voss, James S. Famiglietti, MinHui Lo, Caroline de Linage, Matthew Rodell, and Sean C. Swenson*  
Groundwater depletion in the Middle East from GRACE with implications for transboundary water management in the Tigris-Euphrates-Western Iran region (10.1002/wrcr.20078)
- 915 *Peter C. Young*  
Hypothetico-inductive data-based mechanistic modeling of hydrological systems (10.1002/wrcr.20068)
- 936 *C. R. Ellis, J. W. Pomeroy, and T. E. Link*  
Modeling increases in snowmelt yield and desynchronization resulting from forest gap-thinning treatments in a northern mountain headwater basin (10.1002/wrcr.20089)
- 950 *S. M. Bateni, D. Entekhabi, and F. Castelli*  
Mapping evaporation and estimation of surface control of evaporation using remotely sensed land surface temperature from a constellation of satellites (10.1002/wrcr.20071)
- 969 *Dan Li, Ming Pan, Zhentao Cong, Lu Zhang, and Eric Wood*  
Vegetation control on water and energy balance within the Budyko framework (10.1002/wrcr.20107)
- 977 *Polydefkis (Pol) Bouratsis, Panayiotis Diplas, Clinton L. Dancy, and Nikolaos Apsilidis*  
High-resolution 3-D monitoring of evolving sediment beds (10.1002/wrcr.20110)
- 993 *Zhibing Yang, Auli Niemi, Fritjof Fagerlund, and Tissa Illangasekare*  
Two-phase flow in rough-walled fractures: Comparison of continuum and invasion-percolation models  
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- 1003 *John Petrie, Panayiotis Diplas, Marte Gutierrez, and Soonkie Nam*  
Data evaluation for acoustic Doppler current profiler measurements obtained at fixed locations in a natural river  
(10.1002/wrcr.20112)
- 1017 *Stephen E. Lewis, Zoë T. Bainbridge, Petra M. Kuhnert, Bradford S. Sherman, Brent Henderson, Cameron Dougall, Michelle Cooper, and Jon E. Brodie*  
Calculating sediment trapping efficiencies for reservoirs in tropical settings: A case study from the Burdekin Falls Dam, NE Australia (10.1002/wrcr.20117)
- 1030 *Brady Johnson, Bwalya Malama, Warren Barrash, and Alejandro N. Flores*  
Recognizing and modeling variable drawdown due to evapotranspiration in a semiarid riparian zone considering local differences in vegetation and distance from a river source (10.1002/wrcr.20122)
- 1040 *Albert I. J. M. van Dijk, Hylke E. Beck, Russell S. Crosbie, Richard A. M. de Jeu, Yi Y. Liu, Geoff M. Podger, Bertrand Timbal, and Neil R. Viney*  
The Millennium Drought in southeast Australia (2001–2009): Natural and human causes and implications for water resources, ecosystems, economy, and society (10.1002/wrcr.20123)
- 1058 *E. Cordano and R. Rigon*  
A mass-conservative method for the integration of the two-dimensional groundwater (Boussinesq) equation  
(10.1002/wrcr.20072)
- 1079 *J. Gaume, N. Eckert, G. Chambon, M. Naaim, and L. Bel*  
Mapping extreme snowfalls in the French Alps using max-stable processes\* (10.1002/wrcr.20083)
- \*This article is part of a Special Section—Advancing Computational Methods in Hydrology**
- 1099 *Jordi Grifoll*  
Contribution of mechanical dispersion of vapor to soil evaporation (10.1002/wrcr.20105)
- 1107 *Vinod Mahat, David G. Tarboton, and Noah P. Molotch*  
Testing above- and below-canopy representations of turbulent fluxes in an energy balance snowmelt model  
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1123 *Nicola Montaldo, Roberto Corona, and John D. Albertson*  
On the separate effects of soil and land cover on Mediterranean ecohydrology: Two contrasting case studies in Sardinia, Italy (10.1029/2012WR012171)

1137 *Sarah E. Null and Joshua H. Viers*  
In bad waters: Water year classification in nonstationary climates\* (10.1002/wrcr.20097)

**\*This article is part of a Special Section—Climatic, Hydrological, and Land Use Impacts on Large Rivers**

1149 *Kuldeep Chaudhary, M. Bayani Cardenas, Wen Deng, and Philip C. Bennett*  
Pore geometry effects on intrapore viscous to inertial flows and on effective hydraulic parameters (10.1002/wrcr.20099)

1163 *Deborah L. Stoliker, Chongxuan Liu, Douglas B. Kent, and John M. Zachara*  
Characterizing particle-scale equilibrium adsorption and kinetics of uranium(VI) desorption from U-contaminated sediments (10.1002/wrcr.20104)

### **Technical Notes**

1178 *Igor Jankovic, Aldo Fiori, and Gedeon Dagan*  
Effective conductivity of isotropic highly heterogeneous formations: Numerical and theoretical issues (10.1029/2012WR012441)

1184 *Adam N. Wlostowski, Michael N. Gooseff, and Thorsten Wagener*  
Influence of constant rate versus slug injection experiment type on parameter identifiability in a 1-D transient storage model for stream solute transport (10.1002/wrcr.20103)

### **Commentaries**

1189 *D. R. Lester, M. G. Trefry, G. Metcalfe, A. Ord, and K. Regenauer-Lieb*  
Comment on “Plume spreading in groundwater by stretching and folding” by D. C. Mays and R. M. Neupauer (10.1002/wrcr.20082)

1192 *David C. Mays and Roseanna M. Neupauer*  
Reply to comment by D. R. Lester et al. on “Plume spreading in groundwater by stretching and folding” (10.1002/wrcr.20081)

1195 *T. R. Ginn*  
Comment on “Comparison of Fickian and temporally nonlocal transport theories over many scales in an exhaustively sampled sandstone slab” by E. D. Major et al. (10.1002/wrcr.20091)

1196 *David A. Benson, Reed M. Maxwell, Eileen Poeter, Hamed Ibrahim, Arianne Dean, Jordan Revielle, Mine Dogan, and Elizabeth Major*  
Reply to comment by T. R. Ginn on “Comparison of Fickian and temporally nonlocal transport theories over many scales in an exhaustively sampled sandstone slab” (10.1002/wrcr.20090)

### **Withdrawn Article**

1197 *Michael L. Coleman and Jeffrey D. Niemann*  
Withdrawn: Controls on topographic dependence and temporal instability in catchment-scale soil moisture patterns (10.1002/wrcr.20065)