



Hydrogeology Journal – Editors' Choice Articles

The International Association of Hydrogeologists (IAH) is a scientific and educational charitable organisation for scientists, engineers, water managers and other professionals working in the fields of groundwater resource planning, management and protection. *Hydrogeology Journal* is the official journal of IAH.

“Editors' Choice” articles are selected for special attention by the *Hydrogeology Journal* editorial team, for any of several good reasons including: outstanding science, innovative approach, potentially important conclusions, interesting field area or phenomenon, unusual topic, political/social/historical/philosophical interest, etc. At the conclusion of each publishing year, the Editors select several articles from among the year's crop of about 150 peer-reviewed published articles. All articles selected since the start of the scheme (2010) are listed here.

Author(s)	Title	Vol(No): pages DOI/link
2024		
John Chilton, Stephen Foster	Long datasets for improved understanding, management and protection of groundwater	32(2): 347–352 https://doi.org/10.1007/s10040-023-02759-7
Sanneke van Asselen, Gilles Erkens, Molly E. Keogh, Roelof Stuurman	Shallow-subsidence vulnerability in the city of New Orleans, southern USA	32(3): 867–889 https://doi.org/10.1007/s10040-023-02762-y
Jens T. Birkholzer, Alexander E. Bond, Chin-Fu Tsang	The DECOVALEX international collaboration on modeling of coupled subsurface processes and its contribution to confidence building in radioactive waste disposal	32(5): 1295–1305 https://doi.org/10.1007/s10040-024-02799-7
Julian Xanke, Zoran Stevanović, Tanja Liesch, Alexander Kaltenbrunn, Nataša Ravbar, Hervé Jourde, Bartolomé Andreo, Juan Antonio Barberá, Nico Goldscheider	Flooding and flood water storage in karst systems of the Mediterranean region	32(6): 1587–1605 https://doi.org/10.1007/s10040-024-02811-0
Catherine Christenson, Michael Cardiff	Where has hydrogeologic science been, and where is it going? Research trends in hydrogeology publishing over the past 60 years	32(7): 1787–1800 https://doi.org/10.1007/s10040-024-02829-4
2023		
Stephen R. H. Worthington	Examining the assumptions of the single-porosity archetype for transport in bedrock aquifers	31(1): 87–96 https://doi.org/10.1007/s10040-022-02576-4
Elizabeth Quiroga, Claudia Bertoni, Fridtjov Ruden	Deep low-salinity groundwater in sedimentary basins: petrophysical methods from a case study in Somalia	31(3): 685–705 https://doi.org/10.1007/s10040-022-02589-z
Sofía Vargas-Payera, Matías Taucare, Claudio Pareja, Jessica Vejar	Improving school children's understanding of water scarcity with a co-produced book on groundwater in Central Chile	31(5): 1165–1179

		https://doi.org/10.1007/s10040-023-02641-6
L Stoeckl, G Houben	How to conduct variable-density sand tank experiments: practical hints and tips	31(5): 1353–1370 https://doi.org/10.1007/s10040-023-02635-4
Nafyad Serre Kawo, Jesse Korus, Mats Lundh Gulbrandsen	Multiple-point statistical modeling of three-dimensional glacial aquifer heterogeneity for improved groundwater management	31(5): 1525–1546 https://doi.org/10.1007/s10040-023-02658-x
2022		
Georg J. Houben, Sarah Collins, Mark Bakker, Thomas Daffner, Falk Triller, Anvar Kacimov	Review: Horizontal, directionally drilled and radial collector wells	30(2): 329–357 https://doi.org/10.1007/s10040-021-02425-w
Julian Xanke, Tanja Liesch	Quantification and possible causes of declining groundwater resources in the Euro-Mediterranean region from 2003 to 2020	30(2): 379–400 https://doi.org/10.1007/s10040-021-02448-3
Roslynn B. King, Wesley R. Danskin, Steven Constable, Jillian M. Maloney	Identification of fresh submarine groundwater off the coast of San Diego, USA, using electromagnetic methods	30(3): 965–973 https://doi.org/10.1007/s10040-022-02463-y
Stephen Foster, John Chilton	Improving the valuation of groundwater	30(4): 1031–1034 https://doi.org/10.1007/s10040-022-02484-7
Kunchao Lei, Fengshan Ma, Beibei Chen, Yong Luo, Wenjun Cui, Yi Zhou, Fang Tian, Te Sha	Characteristics of land-subsidence evolution and soil deformation before and after the Water Diversion Project in Beijing, China	30(4): 1111–1134 https://doi.org/10.1007/s10040-022-02489-2
Francesco La Vigna	Review: Urban groundwater issues and resource management, and their roles in the resilience of cities	30(6): 1657–1683 https://doi.org/10.1007/s10040-022-02517-1
B. P. Marchant, D. Cuba, B. Brauns, J. P. Bloomfield	Temporal interpolation of groundwater level hydrographs for regional drought analysis using mixed models	30(6): 1801–1817 https://doi.org/10.1007/s10040-022-02528-y
Lilik E. Widodo, Simon H. Prassetyo, Ganda M. Simangunsong, Irwan Iskandar	Role of the confined aquifer in the mechanism of soil liquefaction due to the 7.5 Mw earthquake in Palu (Indonesia) on 28 September 2018	30(6): 1877–1898 https://doi.org/10.1007/s10040-022-02516-2
Louisa M. Rochford, Carlos M. Ordens, Nevenka Bulovic, Neil McIntyre	Voluntary metering of rural groundwater extractions: understanding and resolving the challenges	30(8): 2251–2266 https://doi.org/10.1007/s10040-022-02548-8

Mehmet Çelik, Süleyman Selim Çallı, Zehra Semra Karakaş	The role of mineralogical studies in delineating the recharge area and groundwater circulation of Susuz springs, Central Taurus Belt, Turkey	30(8): 2399–2415 https://doi.org/10.1007/s10040-022-02561-x
2021		
Fatemeh Rahimi-Feyzabad, Masoud Yazdanpanah, Saeed Gholamrezai, Mostafa Ahmadvand	Institutional constraints to groundwater resource management in arid and semi-arid regions: a Straussian grounded theory study	29(3): 925–947 https://doi.org/10.1007/s10040-020-02283-y
Susanne Charlotta Åberg, Annika Katarina Åberg, Kirsti Korkka-Niemi	Three-dimensional hydrostratigraphy and groundwater flow models in complex Quaternary deposits and weathered/fractured bedrock: evaluating increasing model complexity	29(3): 1043–1074 https://doi.org/10.1007/s10040-020-02299-4
Tesfay Kiros Mebrahtu, Andre Banning, Ermias Hagos Girmay, Stefan Wohnlich	The effect of hydrogeological and hydrochemical dynamics on landslide triggering in the central highlands of Ethiopia	29(3): 1239–1260 https://doi.org/10.1007/s10040-020-02288-7
Francesca Lotti, Iacopo Borsi, Enrico Guastaldi, Alessio Barbagli, Paolo Basile, Lorenzo Favaro, Adrian Mallia, Rachel Xuereb, Michael Schembri, Julian Alexander Mamo, Manuel Sapiano	Numerically enhanced conceptual modelling (NECoM) applied to the Malta Mean Sea Level Aquifer	29(4): 1517–1537 https://doi.org/10.1007/s10040-021-02330-2
Leah L. Bremer, Ahmed S. Elshall, Christopher A. Wada, Laura Brewington, Jade M.S. Delevaux, Aly I. El-Kadi, Clifford I. Voss, Kimberly M. Burnett	Effects of land-cover and watershed protection futures on sustainable groundwater management in a heavily utilized aquifer in Hawai'i (USA)	29(5): 1749–1765 https://doi.org/10.1007/s10040-021-02310-6
José D. Henao Casas, Fritz Kalwa, Marc Walther, Randolph Rausch	Stormwater harvesting in ephemeral streams: how to bypass clogging and unsaturated layers	29(5): 1813–1830 https://doi.org/10.1007/s10040-021-02345-9
Hans-Olaf Pfannkuch, Howard D. Mooers, Donald I. Siegel, John J. Quinn, Donald O. Rosenberry, Scott C. Alexander	Review: “Jacob’s Zoo”—how using Jacob’s method for aquifer testing leads to more intuitive understanding of aquifer characteristics	29(6): 2001–2015 https://doi.org/10.1007/s10040-021-02363-7
Cyrille Scherrer, Ryan Schweitzer, Marc-André Bünzli, Ellen Milnes	Rapid groundwater potential mapping in humanitarian contexts: improving borehole implementation in basement environments	29(6): 2033–2051 https://doi.org/10.1007/s10040-021-02352-w
Paul Whincup	Darwin’s deep well at Down House, England (UK)	29(7): 2305–2311 https://doi.org/10.1007/s10040-021-02378-0
Ryan G. Smith, Hossein Hashemi, Jingyi Chen, Rosemary Knight	Apportioning deformation among depth intervals in an aquifer system using InSAR and head data	29(7): 2475–2486 https://doi.org/10.1007/s10040-021-02386-0
2020		

Sarah K. Marshall, Peter G. Cook, Leonard F. Konikow, Craig T. Simmons, Shawan Dogramaci	Conjoint use of hydraulic head and groundwater age data to detect hydrogeologic barriers	28(3): 1003–1019 https://doi.org/10.1007/s10040-019-02095-9
Jude Cobbing	Groundwater and the discourse of shortage in Sub-Saharan Africa	28(4): 1143–1154 https://doi.org/10.1007/s10040-020-02147-5
David Milo Ferris, Greg Potter, Grant Ferguson	Characterization of the hydraulic conductivity of glacial till aquitards	28(5): 1827–1839 https://doi.org/10.1007/s10040-020-02161-7
Giovanna De Filippis, Stefania Stevenazzi, Corrado Camera, Daniele Pedretti, Marco Masetti	An agile and parsimonious approach to data management in groundwater science using open-source resources	28(6): 1993–2008 https://doi.org/10.1007/s10040-020-02176-0
Lamine Boumaiza, Romain Chesnaux, Julien Walter, Christine Stumpp	Assessing groundwater recharge and transpiration in a humid northern region dominated by snowmelt using vadose-zone depth profiles	28(7): 2315–2329 https://doi.org/10.1007/s10040-020-02204-z
Fernando M. D’Affonseca, Michael Finkel, Olaf A. Cirpka	Combining implicit geological modeling, field surveys, and hydrogeological modeling to describe groundwater flow in a karst aquifer	28(8): 2779–2802 https://doi.org/10.1007/s10040-020-02220-z
2019		
Georg J. Houben	Teaching about groundwater in primary schools: experience from Paraguay	27(2):513–518 https://doi.org/10.1007/s10040-018-1876-1
Tanya Brosnan, Matthew W. Becker, Carl P. Lipo	Coastal groundwater discharge and the ancient inhabitants of Rapa Nui (Easter Island), Chile	27(2):519–534 https://doi.org/10.1007/s10040-018-1870-7
G. Thomas LaVanchy, Michael W. Kerwin, James K. Adamson	Beyond ‘Day Zero’: insights and lessons from Cape Town (South Africa)	27(5):1537–1540 https://doi.org/10.1007/s10040-019-01979-0
Warren W. Wood	Geogenic groundwater solutes: the myth	27(8):2729–2738 https://doi.org/10.1007/s10040-019-02057-1
Quoc Quan Tran, Patrick Willems, Marijke Huysmans	Coupling catchment runoff models to groundwater flow models in a multi-model ensemble approach for improved prediction of groundwater recharge, hydraulic heads and river discharge	27(8):3043–3061 https://doi.org/10.1007/s10040-019-02018-8
2018		
Michael O. Schwartz	The new Wallula CO ₂ project may revive the old Columbia River Basalt (western USA) nuclear-waste repository project	26/1, 3-6 https://doi.org/10.1007/s10040-017-1632-y

Giacomo Medici, L. J. West, N. P. Mountney	Characterization of a fluvial aquifer at a range of depths and scales: the Triassic St Bees Sandstone Formation, Cumbria, UK	26/2, 565-591 https://doi.org/10.1007/s10040-017-1676-z
Konstantin Scheihing, Uwe Tröger	Local climate change induced by groundwater overexploitation in a high Andean arid watershed, Laguna Lagunillas basin, northern Chile	26/3, 705-719 https://doi.org/10.1007/s10040-017-1647-4
Yanxin Wang, Chunmiao Zheng, Rui Ma	Review: Safe and sustainable groundwater supply in China	26/5, 1301-1324 https://doi.org/10.1007/s10040-018-1795-1
U. Kafri, Y. Yechieli, S. Wollman, E. Shalev	A possible brine supply from the Afar continental endorheic hyper saline lakes to the Red Sea bottom brine pools	26/8, 2867-2874 https://doi.org/10.1007/s10040-018-1828-9
2017		
Yousef Beiraghdar Aghbelagh, Jianwen Yang	Role of hydrodynamic factors in controlling the formation and location of unconformity-related uranium deposits: insights from reactive-flow modelling	25/2, 465–486 https://doi.org/10.1007/s10040-016-1485-9
Christine Doughty, Chin-Fu Tsang, Jan-Erik Rosberg, Christopher Juhlin, Patrick F. Dobson, Jens T. Birkholzer	Flowing fluid electrical conductivity logging of a deep borehole during and following drilling: estimation of transmissivity, water salinity and hydraulic head of conductive zones	25/2, 501-517 https://doi.org/10.1007/s10040-016-1497-5
Zhao Chen, Augusto S. Auler, Michel Bakalowicz, David Drew, Franziska Griger, Jens Hartmann, Guanghui Jiang, Nils Moosdorf, Andrea Richts, Zoran Stevanovic, George Veni, Nico Goldscheider	The World Karst Aquifer Mapping project: concept, mapping procedure and map of Europe	25/3, 771-785 https://doi.org/10.1007/s10040-016-1519-3
Caroline Lejars, Ali Daoudi, Hichem Amichi	The key role of supply chain actors in groundwater irrigation development in North Africa	25/6, 1593-1606 https://doi.org/10.1007/s10040-017-1571-7
Garth van der Kamp, Randy Schmidt	Review: Moisture loading—the hidden information in groundwater observation well records	25/8, 2225-2233 https://doi.org/10.1007/s10040-017-1631-z
2016		
Guillaume Attard, Thierry Winiarski, Yvan Rossier, Laurent Eisenlohr	Review: Impact of underground structures on the flow of urban groundwater	24/1, 5–19 https://doi.org/10.1007/s10040-015-1317-3
Owen Powell, Rod Fensham	The history and fate of the Nubian Sandstone Aquifer springs in the oasis depressions of the Western Desert, Egypt	24/2, 395–406 https://doi.org/10.1007/s10040-015-1335-1
Laurence R. Bentley, Masaki Hayashi, Elena P. Zimmerman, Chris Holmden, Lynn I. Kelley	Geologically controlled bi-directional exchange of groundwater with a hypersaline lake in the Canadian prairies	24/4, 877–892 https://doi.org/10.1007/s10040-016-1368-0

Vijay Bhusari, Y. B. Katpatal, Pradeep Kundal	An innovative artificial recharge system to enhance groundwater storage in basaltic terrain: example from Maharashtra, India	24/5, 1273–1286 https://doi.org/10.1007/s10040-016-1387-x
Bruno Figueiredo, Chin-FuTsang, Auli Niemi, Georg Lindgren	Review: The state-of-art of sparse channel models and their applicability to performance assessment of radioactive waste repositories in fractured crystalline formations	24/7, 1607–1622 https://doi.org/10.1007/s10040-016-1415-x
2015		
J. F. Devlin	HydrogeoSieveXL: an Excel-based tool to estimate hydraulic conductivity from grain-size analysis	23/4, 837-844 https://doi.org/10.1007/s10040-015-1255-0
Brian D. Smerdon, Chris Turnadge	Considering the potential effect of faulting on regional-scale groundwater flow: an illustrative example from Australia's Great Artesian Basin	23/5, 949-960 https://doi.org/10.1007/s10040-015-1248-z
Zahra Jamshidzadeh, Frank T. -C. Tsai, Hasan Ghasemzadeh, Seyed Ahmad Mirbagheri, Majid Tavangari Barzi, Jeffrey S. Hanor	Dispersive thermohaline convection near salt domes: a case at Napoleonville Dome, southeast Louisiana, USA	23/5, 983-998 https://doi.org/10.1007/s10040-015-1251-4
Josué Medellín-Azuara, Duncan MacEwan, Richard E. Howitt, George Koruakos, Emin C. Dogrul, Charles F. Brush, Tariq N. Kadir, Thomas Harter, Forrest Melton, Jay R. Lund	Hydro-economic analysis of groundwater pumping for irrigated agriculture in California's Central Valley, USA	23/6, 1205-1216 https://doi.org/10.1007/s10040-015-1283-9
Heather A. Sheldon, Peter M. Schaub, Praveen K. Rachakonda, Michael G. Trefry, Lynn B. Reid, Daniel R. Lester, Guy Metcalfe, Thomas Poulet, Klaus Regenauer-Lieb	Groundwater cooling of a supercomputer in Perth, Western Australia: hydrogeological simulations and thermal sustainability	23/8, 1831-1849 https://doi.org/10.1007/s10040-015-1280-z
2014		
Alan L. Mayo, Scott A. Himes, David G. Tingey	Self-organizing thermal fluid flow in fractured crystalline rock: a geochemical and theoretical approach to evaluating fluid flow in the southern Idaho batholith, USA	22/1, 25-45 https://doi.org/10.1007/s10040-013-1071-3
A. Vandenhede, E. Vandevyvere	Potable water for a city: a historic perspective from Bruges, Belgium	22/7, 1669-1680 https://doi.org/10.1007/s10040-014-1154-9
Jean-Christophe Comte, Jean-Lambert Join, Olivier Banton, Eric Nicolini	Modelling the response of fresh groundwater to climate and vegetation changes in coral islands	22/8, 1905-1920 https://doi.org/10.1007/s10040-014-1160-y
Thomas M. Missimer, Christiane Hoppe-Jones, Khan Z. Jadoon, Dong Li, Samir K. Al-Mashharawi	Hydrogeology, water quality, and microbial assessment of a coastal alluvial aquifer in western Saudi Arabia: potential use of coastal wadi aquifers for desalination water supplies	22/8, 1921-1934 https://doi.org/10.1007/s10040-014-1168-3

Teppo Arola, Kirsti Korkka-Niemi	The effect of urban heat islands on geothermal potential: examples from Quaternary aquifers in Finland	22/8, 1953-1967 https://doi.org/10.1007/s10040-014-1174-5
2013		
Guodong Cheng, Huijun Jin	Permafrost and groundwater on the Qinghai-Tibet Plateau and in northeast China	21/1, 5-23 https://doi.org/10.1007/s10040-012-0927-2
Suzanne A. Pierce, John M. Sharp, Jr., Joseph H. A. Guillaume, Robert E. Mace, David J. Eaton	Aquifer-yield continuum as a guide and typology for science-based groundwater management	21/2, 331-340 https://doi.org/10.1007/s10040-012-0910-y
Jean-François Cornu, David Eme, Florian Malard	The distribution of groundwater habitats in Europe	21/5, 949-960 https://doi.org/10.1007/s10040-013-0984-1
Richard M. Yager, L. Niel Plummer, Leon J. Kauffman, Daniel H. Doctor, David L. Nelms, Peter Schlosser	Comparison of age distributions estimated from environmental tracers by using binary-dilution and numerical models of fractured and folded karst: Shenandoah Valley of Virginia and West Virginia, USA	21/6, 1193-1217 https://doi.org/10.1007/s10040-013-0997-9
Stephen Foster, Ricardo Hirata, Bartolomeo Andreo	The aquifer pollution vulnerability concept: aid or impediment in promoting groundwater protection?	21/7, 1389-1392 https://doi.org/10.1007/s10040-013-1019-7
2012		
I.P. Holman, D.M. Allen, M.O. Cuthbert, P. Goderniaux	Towards best practice for assessing the impacts of climate change on groundwater	20/1, 1-4 https://doi.org/10.1007/s10040-011-0805-3
A. Izady, K. Davary, A. Alizadeh, B. Ghahraman, M. Sadeghi, A. Moghaddamnia	Application of "panel-data" modeling to predict groundwater levels in the Neishaboor Plain, Iran	20/3, 435-447 https://doi.org/10.1007/s10040-011-0814-2
A. Revil, M. Karaoulis, T. Johnson, A. Kemna	Review: Some low-frequency electrical methods for subsurface characterization and monitoring in hydrogeology	20/4, 617-658 https://doi.org/10.1007/s10040-011-0819-x
J. Gillespie, S.T. Nelson, A.L. Mayo, D.G. Tingey	Why conceptual groundwater flow models matter: a trans-boundary example from the arid Great Basin, western USA	20/6, 1133-1147 https://doi.org/10.1007/s10040-012-0848-0
François Henri Cornet	The relationship between seismic and aseismic motions induced by forced fluid injections	20/8, 1463-1466 https://doi.org/10.1007/s10040-012-0901-z
2011		
Martin O. Saar	Review: Geothermal heat as a tracer of large-scale groundwater flow and as a means to determine permeability fields	19/1, 31-52 https://doi.org/10.1007/s10040-010-0657-2
Jean-Michel Lemieux	Review: The potential impact of underground geological storage of carbon dioxide in deep saline aquifers on shallow groundwater resources	19/4, 757-778 https://doi.org/10.1007/s10040-011-0715-4
P. B. McMahon, L. N. Plummer, J. K. Böhlke, S. D. Shapiro, S. R. Hinkle	A comparison of recharge rates in aquifers of the United States based on groundwater-age data	19/4, 779-800 https://doi.org/10.1007/s10040-011-0722-5

Yu Zhou, François Zwahlen, Yanxin Wang	The ancient Chinese notes on hydrogeology	19/5, 1103-1114 https://doi.org/10.1007/s10040-010-0682-1
Jerome Perrin, Shakeel Ahmed, Daniel Hunkeler	The effects of geological heterogeneities and piezometric fluctuations on groundwater flow and chemistry in a hard-rock aquifer, southern India	19/6, 1189-1201 https://doi.org/10.1007/s10040-011-0745-y
2010		
Rory D. Henderson, Frederick D. Day-Lewis, Elena Abarca, Charles F. Harvey, Hanan N. Karam, Lanbo Liu, John W. Lane, Jr.	Marine electrical resistivity imaging of submarine groundwater discharge: sensitivity analysis and application in Waquoit Bay, Massachusetts, USA	18/1, 173-185 https://doi.org/10.1007/s10040-009-0498-z
Lawrence D. Lemke, Joseph A. Cypher	Postaudit evaluation of conceptual model uncertainty for a glacial aquifer groundwater flow and contaminant transport model	18/4, 945-958 https://doi.org/10.1007/s10040-009-0554-8
Nico Goldscheider, Judit Mádl-Szőnyi, Anita Erőss, Eva Schill	Review: Thermal water resources in carbonate rock aquifers	18/6, 1303-1318 https://doi.org/10.1007/s10040-010-0611-3
Erick R. Burns, Larry R. Bentley, Rene Therrien, Clayton V. Deutsch	Upscaling facies models to preserve connectivity of designated facies	18/6, 1357-1373 https://doi.org/10.1007/s10040-010-0607-z
Elizabeth J. Sreaton	Recent advances in subseafloor hydrogeology: focus on basement–sediment interactions, subduction zones, and continental slopes	18/7, 1547-1570 https://doi.org/10.1007/s10040-010-0636-7

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