A systematic review of the current state of numerical ground-water modeling in American countries: Challenges and Future research

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Criteria (I) = Study Topic: The research article should focus on a case study, such as a basin, aquifer, or river-aquifer interaction.
Criteria (II) = Application of groundwater flow modeling software: the article should use software to assess and manage groundwater resources (e.g. MODFLOW, FEFLOW).
Criteria (III) = Model calibration and validation: numerical model fitting should be performed with performance metrics (e.g., R^2, RMSE, MAE, NSE).
Criteria (IV) = Scenario evaluation and forecasting: simulation of future scenarios for a period of time (e.g., climate change, pumping rate, recharge-discharge, population growth, water demand, pollution).

Supplementary S1. Full-text eligibility checklist

No.	Authors	Title	Journal	Volumen	Issue	DOI	Year	URL	Criteria			
									I	II	III	IV
1	Coulon, C.; White, J.T.; Pryet, A.; Gatel, L.; Lemieux, J.M.	An ensemble-based approach for pumping optimization in an island aquifer considering parameter, observation and climate uncertainty	Hydrology and Earth System Sciences	28	1	10.5194/hess-28-303-2024	2024	https://hess.copernicus.org/articles/28/303/2024/	✓	✓	✓	✓
2	Eyster, T. D.; Johnson, M. S.; Yarnell, S. M.; Lowry, C. S.	Analyzing the Subsurface Consequences of Dam Removal on Groundwater Storage and Hydrologic Niches in a Mountain Meadow Ecosystem	Water Resources Management	38	2	10.1007/s11269-023-03695-7	2024	https://link.springer.com/article/10.1007/s11269-023-03695-7	✓	✓	✓	×
3	Balakrishnan, J. V.; Bailey, R. T.; Jeong, J.; Park, S.; Abitew, T.	Quantifying climate change impacts on future water resources and salinity transport in a high semi-arid watershed	Journal of Contaminant Hydrology	261		10.1016/j.jconhyd.2023.104289	2024	https://doi.org/10.1016/j.jconhyd.2023.104289	✓	✓	✓	✓
4	Felfelani, F.; Hughes, J.; Chen, F.; Dugger, A.; Schneider, T.; Gochis, D.; Traylor, J.; Essaid, H.	Simulation of groundwater-flow dynamics in the U.S. Northern High Plains driven by multi-model estimates of surficial aquifer recharge	Journal of Hydrology	630		10.1016/j.jhydrol.2024.130703	2024	https://doi.org/10.1016/j.jhydrol.2024.130703	✓	✓	✓	×

5	Navarro-Farfán, M. D. M.; García-Romero, L.; Martínez-Cinco, M. A.; Hernández-Hernández, M. A.; Sánchez-Quispe, S. T.	Comparison between MODFLOW Groundwater Modeling with Traditional and Distributed Recharge	Hydrology	11	1	10.3390/hydrology11010009	2024	https://www.mdpi.com/2306-5338/11/1/9	✓	✓	✓	×
6	Guevara-Ochoa C.; Sierra A.M.; Vives L.; Barrios M.	Impact of rainfed agriculture on spatio-temporal patterns of water balance and the interaction between groundwater and surface water in sub-humid plains	Science of the Total Environment	912		10.1016/j.scitotenv.2023.169247	2024	https://doi.org/10.1016/j.scitotenv.2023.169247	✓	✓	✓	✓
7	Pereira, S.; Galvão, P.; Miotlinski, K.; Schuch, C.	Numerical modeling applications for the evaluation of the past and future scenarios of groundwater use in an urbanized complex karst aquifer in the city of Sete Lagoas, State of Minas Gerais, Brazil	Groundwater for Sustainable Development	25		10.1016/j.gsd.2024.101089	2024	https://doi.org/10.1016/j.gsd.2024.101089	✓	✓	✓	✓
8	Lévesque, Y.; Chesnaux, R.; Walter, J.	Using geophysical data to assess groundwater levels and the accuracy of a regional numerical flow model	Hydrogeology Journal	31	2	10.1007/s10040-023-02591-z	2023	https://link.springer.com/article/10.1007/s10040-023-02591-z	✓	✓	✓	×
9	Miled, C.; Chesnaux, R.; Walter, J.; Boumaiza, L.; Paré, M. C.	Multi-technique approach for estimating groundwater transit time through the saturated zone of an unconfined granular aquifer in Quebec, Canada	Hydrogeology Journal	31	7	10.1007/s10040-023-02663-0	2023	https://link.springer.com/article/10.1007/s10040-023-02663-0	✓	✓	✓	×
10	Hamdi, M.; Goïta, K.	Analysis of Groundwater Depletion in the Saskatchewan River Basin in Canada from Coupled SWAT-MODFLOW and Satellite Gravimetry	Hydrology	10	9	10.3390/hydrology10090188	2023	https://www.mdpi.com/2306-5338/10/9/188	✓	✓	✓	×
11	Bailey, R. T.; Hosseini, P.	Comprehensive simulation of salinity transport in irrigated watersheds using an updated version of SWAT-MODFLOW	Environmental Modelling and Software	159		10.1016/j.envsoft.2022.105566	2023	https://doi.org/10.1016/j.envsoft.2022.105566	✓	✓	✓	×
12	Borchardt, S.; Choi, W.	Effects of climate change and high-capacity wells pumping on streamflow and groundwater elevation in Northeastern Wisconsin	Environmental Earth Sciences	82	6	10.1007/s12665-023-10818-1	2023	https://link.springer.com/article/10.1007/s12665-023-10818-1	✓	✓	×	✓
13	Giglou, A. N.; Nazari, R. R.; Jazaei, F.; Karimi, M.	Numerical analysis of surface hydrogeological water budget to estimate unconfined aquifers recharge	Journal of Environmental Management	346		10.1016/j.jenvman.2023.118892	2023	https://doi.org/10.1016/j.jenvman.2023.118892	✓	✓	✓	✓
14	Ponprasit, C.; Zhang, Y.; Gu,	Assessing Vulnerability of Regional-Scale Aquifer-Aquitard Systems in East Gulf Coastal Plain of Alabama	Water (Switzerland)	15	10	10.3390/w15101937	2023	https://www.mdpi.com/2073-4441/15/10/1937	✓	✓	✓	✓

	X.; Goodliffe, A. M.; Sun, H.	by Developing Groundwater Flow and Transport Models										
15	Chen, Y.-H.; Vahdat-Aboueshagh, H.; Tsai, F. T.-C.; Dausman, A.; Runge, M. C.	Unstructured-grid approach to develop high-fidelity groundwater model to understand groundwater flow and storage responses to excessive groundwater withdrawals in the Southern Hills aquifer system in southeastern Louisiana (USA)	Journal of Hydrology: Regional Studies	46		10.1016/j.ejrh.2023.101342	2023	https://doi.org/10.1016/j.ejrh.2023.101342	✓	✓	✓	×
16	Daniel, T. J.; Richendrfer, J.; Falta, R.; Murdoch, L.; Lin, H.; Darnault, C. J. G.	Numerical modeling of groundwater flow and nitrate transport in karst and wastewater irrigated agricultural and forest landscapes, PA, USA	Agrosystems, Geosciences and Environment	6	4	10.1002/agg2.20427	2023	https://acsess.onlinelibrary.wiley.com/doi/10.1002/agg2.20427	✓	✓	✓	✓
17	Kavousi, A.; Reimann, T.; Wöhling, T.; Birk, S.; Luhmann, A. J.; Kordilla, J.; Noffz, T.; Sauter, M.; Liedl, R.	Joint inversion of groundwater flow, heat, and solute state variables: a multipurpose approach for characterization and forecast of karst systems	Hydrogeology Journal	31	4	10.1007/s10040-023-02631-8	2023	https://link.springer.com/article/10.1007/s10040-023-02631-8	✓	✓	✓	×
18	Karki, R.; Srivastava, P.; Kalin, L.	Evaluating climate change impacts in a heavily irrigated karst watershed using a coupled surface and groundwater model	Journal of Hydrology: Regional Studies	50		10.1016/j.ejrh.2023.101565	2023	https://doi.org/10.1016/j.ejrh.2023.101565	✓	✓	✓	✓
19	Giglou, A. N.; Nazari, R.; Jazaei, F.; Karimi, M.	Assessing the effects of increased impervious surface on the aquifer recharge through river flow network, case study of Jackson, Tennessee, USA	Science of the Total Environment	872		10.1016/j.scitotenv.2023.162203	2023	https://doi.org/10.1016/j.scitotenv.2023.162203	✓	✓	✓	×
20	Zeyrek, C.; Mittelstet, A. R.; Gilmore, T. E.; Zlotnik, V.; Solomon, D. Kip; Genereux, D. P.; Humphrey, C. E.; Shrestha, N.	Modeling groundwater transit time distributions and means across a Nebraska watershed: Effects of heterogeneity in the aquifer, riverbed, and recharge parameters	Journal of Hydrology	617		10.1016/j.jhydrol.2022.128891	2023	https://doi.org/10.1016/j.jhydrol.2022.128891	✓	✓	×	✓
21	Bailey, R. T.; Abbas, S.; Arnold, J.; White, M.; Gao, J.; Čerkasova, N.	Augmenting the National agroecosystem model with physically based spatially distributed groundwater modeling	Environmental Modelling and Software	160		10.1016/j.envsoft.2022.105589	2023	https://doi.org/10.1016/j.envsoft.2022.105589	✓	✓	✓	×
22	Correa-González, A.; Hernández-Bedolla, J.;	Assessment of Nitrate in Groundwater from Diffuse Sources Considering Spatiotemporal Patterns of	Hydrology	10	11	10.3390/hydrology10110209	2023	https://www.mdpi.com/2306-5338/10/11/209	✓	✓	✓	×

	Martínez-Cinco, M. A.; Sánchez-Quispe, S. T.; Hernández-Hernández, M. A.	Hydrological Systems Using a Coupled SWAT/MODFLOW/MT3DMS Model										
23	Rubio-Arellano, A. B.; Ramos-Leal, J. A.; Vázquez-Báez, V. M.; Rodriguez Mora, J. I.	Modeling the Groundwater Dynamics of the Celaya Valley Aquifer	Water (Switzerland)	15	1	10.3390/w15010001	2023	https://www.mdpi.com/2073-4441/15/1/1	✓	✓	✓	✓
24	Leão, B. R. C.; Silva Junior, G. C.; Eger, G. Z. S.; Marques, E. A. G.	Numerical modeling as a support tool for groundwater permits in the state of Bahia, Brazil	Groundwater for Sustainable Development	23		10.1016/j.gsd.2023.100986	2023	https://doi.org/10.1016/j.gsd.2023.100986	✓	✓	✓	✓
25	Uyeno, M. T.; Bairros, L.G.D.S.; Lukiantchuki, J. A.; Okawa, C. M. P.; Lautenschlager, S. R.	Introducing an Innovative Design Approach for Drainage Systems: Facilitating Shallow Aquifer Recharge and Mitigating Flooding	Sustainability (Switzerland)	15	18	10.3390/su151813584	2023	https://www.mdpi.com/2071-1050/15/18/13584	✓	✓	✓	×
26	Bofill, L. M.; Suhogusoff, A. V.; Ferrari, L.; Roisenberg, A.	Analysis and comparison of wellhead protection areas delimitation methods applying a stochastic MODFLOW model as a reference	Environmental Monitoring and Assessment	195	6	10.1007/s10661-023-11291-w	2023	https://link.springer.com/article/10.1007/s10661-023-11291-w	✓	✓	✓	✓
27	Zaremehrjardy, M.; Victor, J.; Park, S.; Smerdon, B.; Alessi, D. S.; Faramarzi, M.	Assessment of snowmelt and groundwater-surface water dynamics in mountains, foothills, and plains regions in northern latitudes	Journal of Hydrology	606		10.1016/j.jhydrol.2022.127449	2022	https://doi.org/10.1016/j.jhydrol.2022.127449	✓	✓	✓	✓
28	Dangol, S.; Zhang, X.; Liang, X.-Z.; Miralles-Wilhelm, F.	Agricultural Irrigation Effects on Hydrological Processes in the United States Northern High Plains Aquifer Simulated by the Coupled SWAT-MODFLOW System	Water (Switzerland)	14	12	10.3390/w14121938	2022	https://www.mdpi.com/2073-4441/14/12/1938	✓	✓	✓	✓
29	Bailey, R. T.; Jeong, J.; Park, S.; Green, C. H. M.	Simulating salinity transport in High-Desert landscapes using APEX-MODFLOW-Salt	Journal of Hydrology	610		10.1016/j.jhydrol.2022.127873	2022	https://doi.org/10.1016/j.jhidrol.2022.127873	✓	✓	✓	×
30	Gao, Y.; Xu, Z.; Li, S.; Yu, W.	Modeling Monthly Nitrate Concentration in a Karst Spring with and without Discrete Conduit Flow	Water (Switzerland)	14	10	10.3390/w14101622	2022	https://www.mdpi.com/2073-4441/14/10/1622	✓	✓	✓	×
31	Bailey, R. T.; Bieger, K.; Flores, L.; Tomer, M.	Evaluating the contribution of subsurface drainage to watershed water yield using SWAT+ with groundwater modeling	Science of the Total Environment	802		10.1016/j.scitotenv.2021.149962	2022	https://doi.org/10.1016/j.scitotenv.2021.149962	✓	✓	✓	×

32	Deng, C.; Bailey, R. T.	Assessing the Impact of Artificial Recharge Ponds on Hydrological Fluxes in an Irrigated Stream–Aquifer System	Hydrology	9	5	10.3390/hydrology9050091	2022	https://www.mdpi.com/2306-5338/9/5/91	✓	✓	✓	✓
33	Momm, H. G.; Bingner, R. L.; Moore, K.; Herring, G.	Integrated surface and groundwater modeling to enhance water resource sustainability in agricultural watersheds	Agricultural Water Management	269		10.1016/j.agwat.2022.107692	2022	https://doi.org/10.1016/j.agwat.2022.107692	✓	✓	✓	✓
34	Peña, F.; Nardi, F.; Melesse, A.; Obeysekera, J.; Castelli, F.; Price, R. M.; Crowl, T.; Gonzalez-Ramirez, N.	Compound flood modeling framework for surface-subsurface water interactions	Natural Hazards and Earth System Sciences	22	3	10.5194/nhess-22-775-2022	2022	https://nhess.copernicus.org/articles/22/775/2022/	✓	✓	×	×
35	Arnaud, L.; Gutierrez, A.; Zegoulli, I.; Gonomy, N.	Modelling groundwater flow in the Plaine du Nord–Massacre shallow aquifer, Haiti	Hydrogeology Journal	30	5	10.1007/s10040-022-02469-6	2022	https://link.springer.com/article/10.1007/s10040-022-02469-6	✓	✓	✓	✓
36	Blin N.; Hausner M.; Leray S.; Lowry C.; Suárez F.	Potential impacts of climate change on an aquifer in the arid Altiplano, northern Chile: The case of the protected wetlands of the Salar del Huasco basin	Journal of Hydrology: Regional Studies	39		10.1016/j.ejrh.2022.100996	2022	https://doi.org/10.1016/j.ejrh.2022.100996	✓	✓	✓	✓
37	Narvaez-Montoya, C.; Torres-Martínez, J. A.; Pino-Vargas, E.; Cabrera-Olivera, F.; Loge, F. J.; Mahlknecht, J.	Predicting adverse scenarios for a transboundary coastal aquifer system in the Atacama Desert (Peru/Chile)	Science of the Total Environment	806		10.1016/j.scitotenv.2021.150386	2022	https://doi.org/10.1016/j.scitotenv.2021.150386	✓	✓	✓	✓
38	Duque J.C.; Betancur T.; García-Aristizabal E.	Multi-scale modelling for the understanding of flow systems in a layered aquifer, Urabá-Colombia	Boletin de Geologia	44	3	10.18273/revbol.v44n3-2022008	2022	https://doi.org/10.18273/revbol.v44n3-2022008	✓	✓	✓	×
39	Pereira, B. H. F.; Dereczynski, C.; da Silva Junior, G. C.; Marques, E. A. G.	Projected climate change impacts on groundwater recharge in the Urucuia aquifer system, Brazil	International Journal of Climatology	42	16	10.1002/joc.7773	2022	https://doi.org/10.1002/joc.7773	✓	✓	×	✓
40	Deng, C.; Zhang, Y.; Bailey, R. T.	Evaluating crop-soil-water dynamics in waterlogged areas using a coupled groundwater-agronomic model	Environmental Modelling and Software	143		10.1016/j.envsoft.2021.105130	2021	https://doi.org/10.1016/j.envsoft.2021.105130	✓	✓	✓	×
41	Yin, J.; Tsai, F. T.-C.; Kao, S.-C.	Accounting for uncertainty in complex alluvial aquifer modeling by Bayesian multi-model approach	Journal of Hydrology	601		10.1016/j.jhydrol.2021.126682	2021	https://doi.org/10.1016/j.jhidrol.2021.126682	✓	✓	✓	×

42	Villalpando-Vizcaino, R.; Waldron, B.; Larsen, D.; Schoefernacker, S.	Development of a numerical multi-layered groundwater model to simulate inter-aquifer water exchange in shelby county, Tennessee	Water (Switzerland)	13	18	10.3390/w13182583	2021	https://www.mdpi.com/2073-4441/13/18/2583	✓	✓	✓	×
43	Aliyari, F.; Bailey, R. T.; Arabi, M.	Appraising climate change impacts on future water resources and agricultural productivity in agro-urban river basins	Science of the Total Environment	788		10.1016/j.scitotenv.2021.147717	2021	https://doi.org/10.1016/j.scitotenv.2021.147717	✓	✓	✓	✓
44	Vahdat-Aboueshagh, H.; Tsai, F. T. C.; Bhatta, D.; Paudel, K. P.	Irrigation-Intensive Groundwater Modeling of Complex Aquifer Systems Through Integration of Big Geological Data	Frontiers in Water	3		10.3389/frwa.2021.623476	2021	https://www.frontiersin.org/journals/water/articles/10.3389/frwa.2021.623476/full	✓	✓	✓	×
45	Lage Almeida M. S.; Costa Gonçalve J. A.	Application of visual modflow to the analysis of boundary conditions for a phreatic porous aquifer using limited available information: A case study	Anuário do Instituto de Geociências	44		10.11137/1982-3908_2021_44_39646	2021	https://doi.org/10.11137/1982-3908_2021_44_39646	✓	✓	✓	×
46	Karki R.; Srivastava P.; Kalin L.; Mitra S.; Singh S.	Assessment of impact in groundwater levels and stream-aquifer interaction due to increased groundwater withdrawal in the lower Apalachicola-Chattahoochee-Flint (ACF) River Basin using MODFLOW	Journal of Hydrology: Regional Studies	34		10.1016/j.ejrh.2021.100802	2021	https://doi.org/10.1016/j.ejrh.2021.100802	✓	✓	✓	✓
47	Bailey R. T.; Tasdighi A.; Park S.; Tavakoli-Kivi S.; Abitew T.; Jeong J.; Green C. H. M.; Worqlul A. W.	APEX-MODFLOW: A New integrated model to simulate hydrological processes in watershed systems	Environmental Modelling & Software	143		10.1016/j.envsoft.2021.105093	2021	https://doi.org/10.1016/j.envsoft.2021.105093	✓	✓	✓	×
48	Bizhanimanzar, M.; Leconte, R.; Nuth, M.	Catchment-scale integrated surface water-groundwater hydrologic modelling using conceptual and physically based models: A model comparison study	Water (Switzerland)	12	2	10.3390/w12020363	2020	https://www.mdpi.com/2073-4441/12/2/363	✓	✓	✓	×
49	Deng, C.; Bailey, R. T.	Assessing causes and identifying solutions for high groundwater levels in a highly managed irrigated region	Agricultural Water Management	240		10.1016/j.agwat.2020.106329	2020	https://doi.org/10.1016/j.agwat.2020.106329	✓	✓	✓	✓
50	Bailey, R. T.; Park, S.; Bieger, K.; Arnold, J. G.; Allen, P. M.	Enhancing SWAT+ simulation of groundwater flow and groundwater-surface water interactions using MODFLOW routines	Environmental Modelling and Software	126		10.1016/j.envsoft.2020.104660	2020	https://doi.org/10.1016/j.envsoft.2020.104660	✓	✓	✓	×
51	Rodriguez, L.; Sanchez, R.;	The Transboundary Nature of the Allende–Piedras Negras Aquifer Using a Numerical Model Approach	Journal of the American Water	56	3	10.1111/1752-1688.12843	2020	https://onlinelibrary.wiley.com/doi/10.1111/1752-1688.12843	✓	✓	✓	×

	Zhan, H.; Knappett, P. S. K.		Resources Association									
52	Triana, J. S. A.; Chu, M. L.; Guzman, J. A.; Moriasi, D. N.; Steiner, J. L.	Evaluating the risks of groundwater extraction in an agricultural landscape under different climate projections	Water (Switzerland)	12	2	10.3390/w12020400	2020	https://www.mdpi.com/2073-4441/12/2/400	✓	✓	✓	✓
53	Ni, X.; Parajuli, P. B.; Ouyang, Y.	Assessing Agriculture Conservation Practice Impacts on Groundwater Levels at Watershed Scale	Water Resources Management	34	4	10.1007/s11269-020-02526-3	2020	https://link.springer.com/article/10.1007/s11269-020-02526-3	✓	✓	✓	✓
54	Alattar, M. H.; Troy, T. J.; Russo, T. A.; Boyce, S. E.	Modeling the surface water and groundwater budgets of the US using MODFLOW-OWHM	Advances in Water Resources	143		10.1016/j.advwatres.2020.103682	2020	https://doi.org/10.1016/j.advwatres.2020.103682	✓	✓	✓	×
55	Mautner, M. R. L.; Foglia, L.; Herrera, G. S.; Galán, R.; Herman, J. D.	Urban growth and groundwater sustainability: Evaluating spatially distributed recharge alternatives in the Mexico City Metropolitan Area	Journal of Hydrology	586		10.1016/j.jhydrol.2020.124909	2020	https://doi.org/10.1016/j.jhydrol.2020.124909	✓	✓	✓	×
56	Guevara-Ochoa C.; Medina-Sierra A.; Vives L.	Spatio-temporal effect of climate change on water balance and interactions between groundwater and surface water in plains	Science of the Total Environment	722		10.1016/j.scitotenv.2020.137886	2020	https://doi.org/10.1016/j.scitotenv.2020.137886	✓	✓	✓	✓
57	Samuel A.; Blin N.; Muñoz J.F.; Suárez F.	An unsaturated/saturated coupled hydrogeological model for the llamara salt flat, Chile, to investigate prosopis tamarugo survival	Geosciences (Switzerland)	10	1	10.3390/geosciences10010001	2020	https://www.mdpi.com/2076-3263/10/1/1	✓	✓	✓	✓
58	Arenas M.C.; Pescador J.P.; Garzón L.D.D.; Saavedra E.Y.; Obando P.F.A.	Hydrogeological modeling in tropical regions via feflow	Earth Sciences Research Journal	24	3	10.15446/esrj.v24n3.80116	2020	https://revistas.unal.edu.co/index.php/esrj/article/view/80116	✓	✓	✓	×
59	Murcia Fandiño, J. S.; Nagalli, A.; Moro Filho, R. C.	Modeling of the dispersion of pollutants in porous media: Case of a landfill in Brazil	Journal of Environmental Chemical Engineering	8	6	10.1016/j.jece.2020.104400	2020	https://doi.org/10.1016/j.jece.2020.104400	✓	✓	✓	✓
60	Rama, F.; Miotliński, K.	Multiple-step numerical modeling to assist aquifer characterization: a case study from the south of Brazil	Hydrogeology Journal	28	8	10.1007/s10040-020-02232-9	2020	https://link.springer.com/article/10.1007/s10040-020-02232-9	✓	✓	✓	×
61	Hirata, R.; Cagnon, F.; Bernice, A.; Maldaner, C.H.; Galvão, P.; Marques, C.; Terada, R.;	Nitrate contamination in brazilian urban aquifers: A tenacious problem	Water (Switzerland)	12	10	10.3390/w12102709	2020	https://www.mdpi.com/2073-4441/12/10/2709	✓	✓	✓	✓

	Varnier, C.; Ryan, M.C.; Bertolo, R.											
62	Gonçalves, R. D.; Teramoto, E. H.; Chang, H. K.	Regional groundwater modeling of the guarani aquifer system	Water (Switzerland)	12	9	10.3390/W12092323	2020	https://www.mdpi.com/2073-4441/12/9/2323	✓	✓	✓	×
63	Gonçalves, R. D.; Teramoto, E. H.; Engelbrecht, B. Z.; Alfaro Soto, M. A.; Chang, H. K.; van Genuchten, M. T.	Quasi-Saturated Layer: Implications for Estimating Recharge and Groundwater Modeling	Groundwater	58	3	10.1111/gwat.12916	2020	https://ngwa.onlinelibrary.wiley.com/doi/10.1111/gwat.12916	✓	✓	✓	×
64	Neto, G. C. R.; Queiroz, E. D.; Barbosa, J. M. C.; de Castro, M. A. H.; Cavazzana, G. H.	Meshless method using fundamental solution applied to computational simulation of groundwater flow of real aquifers: study case (Guariroba's APA and Juazeiro do Norte)	RBRH-REVISTA BRASILEIRA DE RECURSOS HIDRICOS	25		10.1590/2318-0331.252020190178	2020	https://scholar.google.com/scholar?hl=es&as_sdt=0%2C5&q=Meshless+method+using+fundamental+solution+applied+to+computational+simulation+of+groundwater+flow+of+real+aquifers%3A+study+case+%28Guariroba%E2%80%99s+APA+and+Juazeiro+do+Norte%29&btnG=	✓	✓	✓	×
65	Morgan, S. E.; Allen, D. M.; Kirste, D.; Salas, C. J.	Investigating the hydraulic role of a large buried valley network on regional groundwater flow	Hydrogeology Journal	27	7	10.1007/s10040-019-01995-0	2019	https://link.springer.com/article/10.1007/s10040-019-01995-0	✓	✓	✓	×
66	Chunn, D.; Faramarzi, M.; Smerdon, B.; Alessi, D. S.	Application of an integrated SWAT-MODFLOW model to evaluate potential impacts of climate change and water withdrawals on groundwater-surface water interactions in west-central Alberta	Water (Switzerland)	11	1	10.3390/w11010110	2019	https://www.mdpi.com/2073-4441/11/1/110	✓	✓	✓	✓
67	Aliyari, F.; Bailey, R. T.; Tasdighi, A.; Dozier, A.; Arabi, M.; Zeiler, K.	Coupled SWAT-MODFLOW model for large-scale mixed agro-urban river basins	Environmental Modelling and Software	115		10.1016/j.envsoft.2019.02.014	2019	https://doi.org/10.1016/j.envsoft.2019.02.014	✓	✓	✓	✓
68	Wei, X.; Bailey, R. T.	Assessment of system responses in intensively irrigated stream-aquifer systems using SWAT-MODFLOW	Water (Switzerland)	11	8	10.3390/w11081576	2019	https://www.mdpi.com/2073-4441/11/8/1576	✓	✓	✓	✓
69	Norman, L. M.; Callegary, J. B.; Lacher, L.; Wilson, N. R.; Fandel, C.;	Modeling riparian restoration impacts on the hydrologic cycle at the Babacomari Ranch, SE Arizona, USA	Water (Switzerland)	11	2	10.3390/w11020381	2019	https://www.mdpi.com/2073-4441/11/2/381	✓	✓	✓	✓

	Forbes, B. T.; Swetnam, T.											
70	Rossman, N. R.; Zlotnik, V. A.; Rowe, C. M.	Simulating lake and wetland areal coverage under future groundwater recharge projections: The Nebraska Sand Hills system	Journal of Hydrology	576		10.1016/j.jhydrol.2019.06.046	2019	https://doi.org/10.1016/j.jhidrol.2019.06.046	✓	✓	✓	✓
71	Gao, F.; Feng, G.; Han, M.; Dash, P.; Jenkins, J.; Liu, C.	Assessment of surface water resources in the big sunflower river watershed using coupled SWAT-MODFLOW model	Water (Switzerland)	11	3	10.3390/w11030528	2019	https://www.mdpi.com/2073-4441/11/3/528	✓	✓	✓	×
72	Trasviña-Carrillo, J. A.; Wurl, J.; Imaz-Lamadrid, M. A.	Groundwater flow model and statistical comparisons used in sustainability of aquifers in arid regions	Resources	8	3	10.3390/resources8030134	2019	https://www.mdpi.com/2079-9276/8/3/134	✓	✓	✓	✓
73	López-Alvis, J.; Carrera-Hernández, J. J.; Levresse, G.; Nieto-Samaniego, Á. F.	Assessment of groundwater depletion caused by excessive extraction through groundwater flow modeling: the Celaya aquifer in central Mexico	Environmental Earth Sciences	78	15	10.1007/s12665-019-8497-4	2019	https://link.springer.com/article/10.1007/s12665-019-8497-4	✓	✓	×	✓
74	Imaz-Lamadrid, M. A.; Wurl, J.; Ramos-Velázquez, E.	Future of coastal lagoons in arid zones under climate change and anthropogenic pressure. A case study from San Jose Lagoon, Mexico	Resources	8	1	10.3390/resources8010057	2019	https://www.mdpi.com/2079-9276/8/1/57	✓	✓	✓	✓
75	Lesser L. E.; Mahlknecht J.; López-Pérez M.	Long-term hydrodynamic effects of the All-American Canal lining in an arid transboundary multilayer aquifer: Mexicali Valley in north-western Mexico	Environmental Earth Sciences	78	504	10.1007/s12665-019-8487-6	2019	https://link.springer.com/article/10.1007/s12665-019-8487-6	✓	✓	✓	✓
76	Mohammed Bushira K.; Ramírez Hernandez J.	MODFLOW-Farm Process Modeling for Determining Effects of Agricultural Activities on Groundwater Levels and Groundwater Recharge	Soil and groundwater environment	24	5	10.7857/JSGE.2019.24.5.017	2019	https://koreascience.kr/article/JAKO201932365650216.page	✓	✓	✓	×
77	Perez M.; Paris M.; D'Elía M.; Brandt L.	Replacing the groundwater supply by a surface source: effects on the aquifer in Santo Tomé city (Argentina)	Sustainable Water Resources Management	5	1	10.1007/s40899-018-0280-2	2019	https://link.springer.com/article/10.1007/s40899-018-0280-2	✓	✓	✓	✓
78	Marazuela M. A.; Vázquez-Suñé E.; Ayora C.; García-Gil A.; Palma T.	The effect of brine pumping on the natural hydrodynamics of the Salar de Atacama: The damping capacity of salt flats	Journal of Hydrology: Regional Studies	654		10.1016/j.scitotenv.2018.11.196	2019	https://doi.org/10.1016/j.scitotenv.2018.11.196	✓	✓	×	×
79	Marazuela M. A.; Vázquez-Suñé E.; Ayora C.; García-Gil A.; Palma T.	Hydrodynamics of salt flat basins: The Salar de Atacama example	Science of The Total Environment	651	1	10.1016/j.scitotenv.2018.09.190	2019	https://doi.org/10.1016/j.scitotenv.2018.09.190	✓	✓	✓	×

80	Rocha, S. F.; Marques, E. A. G.	Three-dimensional modeling of steady-state flow in lake bank filtration – Brazil	Water Science and Technology: Water Supply	19	1	10.2166/ws.2018.052	2019	https://doi.org/10.2166/ws.2018.052	✓	✓	✓	✓
81	Gagné, S.; Larocque, M.; Pinti, D. L.; Saby, M.; Meyzonnat, G.; Méjean, P.	Benefits and limitations of using isotope-derived groundwater travel times and major ion chemistry to validate a regional groundwater flow model: example from the Centre-du-Québec region, Canada	Canadian Water Resources Journal	43	2	10.1080/07011784.2017.1394801	2018	https://www.tandfonline.com/doi/full/10.1080/07011784.2017.1394801	✓	✓	✓	×
82	Janos, D.; Molson, J.; Lefebvre, R.	Regional groundwater flow dynamics and residence times in Chaudière-Appalaches, Québec, Canada: Insights from numerical simulations	Canadian Water Resources Journal	43	2	10.1080/07011784.2018.1437370	2018	https://www.tandfonline.com/doi/full/10.1080/07011784.2018.1437370	✓	✓	✓	×
83	Jazaei, F.; Waldron, B.; Schoefernacker, S.; Larsen, D.	Application of numerical tools to investigate a leaky aquitard beneath urban well fields	Water (Switzerland)	11	1	10.3390/w11010005	2018	https://www.mdpi.com/2073-4441/11/1/5	✓	✓	✓	×
84	Wurl, J.; Gámez, A. E.; Ivanova, A.; Imaz Lamadrid, M. A.; Hernández-Morales, P.	Socio-hydrological resilience of an arid aquifer system, subject to changing climate and inadequate agricultural management: A case study from the Valley of Santo Domingo, Mexico	Journal of Hydrology	559		10.1016/j.jhydrol.2018.02.050	2018	https://doi.org/10.1016/j.jhydrol.2018.02.050	✓	✓	✓	✓
85	Figueroa-Núñez, A.; Campos-Gaytán, J. R.	Numerical simulation of the groundwater in the Guadalupe aquifer, Ensenada, Baja California, Mexico: Case study in steady- and transient-state conditions	Investigación y Ciencia de la Universidad Autónoma de Aguascalientes	26	75		2018	https://www.redalyc.org/journal/674/67457300006/	✓	✓	✓	×
86	Ninanya, H.; Guiguer, N.; Vargas, E. A.; Nascimento, G.; Araujo, E.; Cazarin, C. L.	Analysis of water control in an underground mine under strong karst media influence (Vazante mine, Brazil)	Hydrogeology Journal	26	7	10.1007/s10040-018-1785-3	2018	https://link.springer.com/article/10.1007/s10040-018-1785-3	✓	✓	✓	✓
87	Bittner, L.; England, S.; Murray, C.; Mirecki, J.; Richardson, E.; Brown, C.; Kaiman, B.	Development of a new model tool for evaluating groundwater resources within the Floridan Aquifer System in Southern Florida, USA	Environmental Earth Sciences	76	20	10.1007/s12665-017-7053-3	2017	https://link.springer.com/article/10.1007/s12665-017-7053-3	✓	✓	✓	×
88	Galindo-Castillo, E.; Marín-Celestino, A. E.; Otazo-Sánchez, E. M.; Gordillo-	Modeling the groundwater response to megacity expansion demand and climate change. Case study: the Cuautitlán–Pachuca aquifer, in the Northeast of Mexico City	Environmental Earth Sciences	76	15	10.1007/s12665-017-6808-1	2017	https://link.springer.com/article/10.1007/s12665-017-6808-1	✓	✓	✓	✓

	Martínez, A. J.; González-Ramírez, C. A.; Cabrera-Cruz, R. B.											
89	Bushira, K. M.; Hernandez, J R.; Sheng, Z.	Surface and groundwater flow modeling for calibrating steady state using MODFLOW in Colorado River Delta, Baja California, Mexico	Modeling Earth Systems and Environment	3	2	10.1007/s40808-017-0337-5	2017	https://link.springer.com/article/10.1007/s40808-017-0337-5	✓	✓	✓	×
90	Coelho, C. D.; Faria, A. C. S.; Marques, E. A. G.	Comparative analysis of different boundary conditions and their influence on numerical hydrogeological modeling of Palmital watershed, southeast Brazil	Journal of Hydrology: Regional Studies	12		10.1016/j.ejrh.2017.05.006	2017	https://doi.org/10.1016/j.ejrh.2017.05.006	✓	✓	✓	×
91	Paradis, D.; Vigneault, H.; Lefebvre, R.; Savard, M.M.; Ballard, J.M.; Qian, B.	Groundwater nitrate concentration evolution under climate change and agricultural adaptation scenarios: Prince Edward Island, Canada	Earth System Dynamics	7	1	10.5194/esd-7-183-2016	2016	https://esd.copernicus.org/articles/7/183/2016/	✓	✓	✓	✓
92	Levison, J.; Larocque, M.; Ouellet, M.A.; Ferland, O.; Poirier, C.	Long-term trends in groundwater recharge and discharge in a fractured bedrock aquifer–past and future conditions	Canadian Water Resources Journal	41	4	10.1080/07011784.2015.1037795	2016	https://www.tandfonline.com/doi/full/10.1080/07011784.2015.1037795	✓	✓	×	✓
93	Hu, B. X.; Xu, Z. X.	Numerical Simulation of Groundwater Flow and Solute Transport in a Karst Aquifer with Conduits	Groundwater				2016	https://www.intechopen.com/chapters/50933	✓	✓	✓	×
94	Dogrul, E. C.; Brush, C. F.; Kadir, T. N.	Groundwater modeling in support ofwater resources management and planning under complex climate, regulatory, and economic stresses	Water (Switzerland)	8	12	10.3390/w8120592	2016	https://www.mdpi.com/2073-4441/8/12/592	✓	✓	×	✓
95	Bailey R. T.; Wible T. C.; Arabi M.; Records R. M.; Ditty J.	Assessing regional-scale spatio-temporal patterns of groundwater–surface water interactions using a coupled SWAT-MODFLOW model	Hydrological Processes	30		10.1002/hyp.10933	2016	https://onlinelibrary.wiley.com/doi/pdf/10.1002/hyp.10933?casa_token=h8DFbz-PPf0AAAAA:nfrmNCMKwrID1jpM-XoPWcE0l580ICgyQp4d6udoSQlAeTuv8nHvQTxfTMMbwyMs_9OJZacW09_3NMFC2w	✓	✓	×	×
96	Carrera-Hernández, J. J.; Carreón-Freyre, D.; Cerca-Martínez, M.; Levresse, G.	Groundwater flow in a transboundary fault-dominated aquifer and the importance of regional modeling: the case of the city of Querétaro, Mexico	Hydrogeology Journal	24	2	10.1007/s10040-015-1363-x	2016	https://link.springer.com/article/10.1007/s10040-015-1363-x	✓	✓	✓	✓

97	Lemieux, J.M.; Hassaoui, J.; Molson, J.; Therrien, R.; Therrien, P.; Chouteau, M.; Ouellet, M.	Simulating the impact of climate change on the groundwater resources of the Magdalen Islands, Québec, Canada	Journal of Hydrology	3		10.1080/13504500009470039	2015	https://doi.org/10.1016/j.ejrh.2015.02.011	✓	✓	×	✓
98	Guzman, J. A.; Moriasi, D. N.; Gowda, P. H.; Steiner, J. L.; Starks, P. J.; Arnold, J. G.; Srinivasan, R.	A model integration framework for linking SWAT and MODFLOW	Environmental Modelling and Software	73		10.1016/j.envsoft.2015.08.011	2015	https://doi.org/10.1016/j.envsoft.2015.08.011	✓	✓	✓	×
99	Hernández, J. E.; Gowda, P. H.; Marek, T. H.; Howell, T. A.; Ha, W.	Implications of 3 alternative management policies on groundwater levels in the Texas High Plains	Texas Water Journal	6	1	10.21423/twj.v6i1.7005	2015	https://twj-ojs-tdl.tdl.org/twj/article/view/7005/pdf_7	✓	✓	×	✓
100	Ochoa-González, G. H.; Carreón-Freyre, D.; Cerca, M.; López-Martínez, M.	Assessment of groundwater flow in volcanic faulted areas. A study case in Queretaro, Mexico	Geofisica Internacional	54	3	10.1016/j.gi.2015.04.016	2015	http://revistagi.geofisica.unam.mx/index.php/RGI/article/view/448	✓	✓	×	×
101	Martínez Morales M.; Salcedo Sánchez E. R.; Garrido Hoyos S. E.; Vicenta Esteller Ma.	Simulation of different management alternatives for water resources of the Puebla-Atoyac aquifer	Ingeniería	19	1		2015	https://www.redalyc.org/articulo.oa?id=46750924006	✓	✓	✓	✓
102	Lima M.L.; Romanelli A.; Massone H.E.	Assessing groundwater pollution hazard changes under different socio-economic and environmental scenarios in an agricultural watershed	Science of the Total Environment	530-531		10.1016/j.scitotenv.2015.05.026	2015	https://doi.org/10.1016/j.scitotenv.2015.05.026	✓	✓	✓	✓
103	Levison, J.; Larocque, M.; Fournier, V.; Gagné, S.; Pellerin, S.; Ouellet, M.A.	Dynamics of a headwater system and peatland under current conditions and with climate change	Hydrological Processes	28	17	10.1002/hyp.9978	2014	https://search.library.wisc.edu/article/cdi_proquest_journals_1673829199	✓	✓	✓	✓
104	Green, N.R.; MacQuarrie, K.T.B.	An evaluation of the relative importance of the effects of climate change and groundwater extraction on seawater intrusion in coastal aquifers in Atlantic Canada	Hydrogeology Journal	22	3	10.1007/s10040-013-1092-y	2014	https://link.springer.com/article/10.1007/s10040-013-1092-y	✓	✓	×	✓

105	Hanson, R. T.; Lockwood, B.; Schmid, W.	Analysis of projected water availability with current basin management plan, Pajaro Valley, California	Journal of Hydrology	519	PA	10.1016/j.jhydrol.2014.07.005	2014	https://doi.org/10.1016/j.jhydrol.2014.07.005	✓	✓	×	✓
106	Chinnasamy, P.; Hubbart, J. A.	Potential of MODFLOW to model hydrological interactions in a semikarst floodplain of the Ozark border forest in the central United States	Earth Interactions	18	20	10.1175/EI-D-14-0015.1	2014	https://journals.ametsoc.org/view/journals/eint/18/20/ei-d-14-0015.1.xml?tab_body=pdf	✓	✓	✓	×
107	Mulligan, K. B.; Brown, C.; Yang, Y.-C. E.; Ahlfeld, D. P.	Assessing groundwater policy with coupled economic-groundwater hydrologic modeling	Water Resources Research	50	3	10.1002/2013WR013666	2014	https://agupubs.onlinelibrary.wiley.com/doi/10.1002/2013WR013666	✓	✓	×	×
108	López-Álvarez B.; Ramos-Leal J. A.; Carbajal N.; Hernandez-García G.; Moran-Ramírez J.; Santacruz-De León G.	Modeling of Groundwater Flow and Water Use for San Luis Potosí Valley Aquifer System	Journal of Geography and Geology	6	3	10.5539/jgg.v6n3p147	2014	https://repositorio.ipicyt.edu.mx/bitstream/handle/11627/3570/JGeographyGeology6%282014%29147.pdf?sequence=1&isAllowed=y	✓	✓	✓	×
109	Campos-Gaytán, J. R.; Kretzschmar, T.; Herrera-Oliva, C. S.	Future groundwater extraction scenarios for an aquifer in a semiarid environment: case study of Guadalupe Valley Aquifer, Baja California, Northwest Mexico	Environmental Monitoring and Assessment	186	11	10.1007/s10661-014-3980-6	2014	https://link.springer.com/article/10.1007/s10661-014-3980-6#citeas	✓	✓	✓	✓
110	Molina Pérez D.; Cabrera Estupiñán E.; Ramos Arzola L. C.	MODFLOW and AQÜIMPE: two approximations to reality	Ingeniería Hidráulica y ambiental	XXXV	2		2014	http://scielo.sld.cu/pdf/riha/v35n2/riha08214.pdf	✓	✓	✓	×
111	Hernández, J. E.; Gowda, P. H.; Marek, T. H.; Howell, T. A.; Ha, W.	Groundwater Levels in Northern Texas High Plains: Baseline for Existing Agricultural Management Practices	Texas Water Journal	4	1	10.21423/twj.v4i1.5356	2013	https://twj-ojs-tdl.tdl.org/twj/article/view/5356	✓	✓	✓	×
112	Aigler, B. V.; Ge, S.	Evaluation of groundwater withdrawal from a mountain watershed, Colorado, USA	Environmental Earth Sciences	69	6	10.1007/s12665-012-2022-3	2013	https://link.springer.com/article/10.1007/s12665-012-2022-3	✓	✓	✓	✓
113	Salcedo-Sánchez, E. R.; Esteller, M. V.; Garrido Hoyos, S. E.; Martínez-Morales, M.	Groundwater optimization model for sustainable management of the Valley of Puebla aquifer, Mexico	Environmental Earth Sciences	70	1	10.1007/s12665-012-2131-z	2013	https://link.springer.com/article/10.1007/s12665-012-2131-z	✓	✓	✓	✓
114	Rodríguez L.; Vives L.; Gomez A.	Conceptual and numerical modeling approach of the Guarani Aquifer System	Hydrology and Earth System Sciences	17	1	10.5194/hess-17-295-2013	2013	https://hess.copernicus.org/articles/17/295/2013/hess-17-295-2013.pdf	✓	✓	✓	✓

115	Gonçalves, T. D.; Fischer, T.; Gräbe, A.; Kolditz, O.; Weiss, H.	Groundwater flow model of the Pipiripau watershed, Federal District of Brazil	Environmental Earth Sciences	69	2	10.1007/s12665-013-2400-5	2013	https://link.springer.com/article/10.1007/s12665-013-2400-5	✓	✓	✓	×
116	Santos-Gregoraschuk, J. D. L.; Hernández-García, G.	Numerical modeling of an aquifer using two representative schemes: Raigón, Uruguay	Tegnología y Ciencias del agua	4	4		2013	https://scholar.google.com/scholar?hl=es&as_sdt=0%2C5&q=Modelaci%C3%B3n+num%C3%A9rica+de+un+acu%C3%ADfero+mediante+dos+esquemas+representativos%3A+Raig%C3%B3n%2C+Uruguay&btnG=	✓	✓	✓	×
117	Morway E. D.; Gates T. K.; Niswonger R. G.	Appraising options to reduce shallow groundwater tables and enhance flow conditions over regional scales in an irrigated alluvial aquifer system	Journal of Hydrology	495		10.1016/j.jhydrol.2013.04.047	2013	https://doi.org/10.1016/j.jhydrol.2013.04.047	✓	✓	✓	✓
118	Jaramillo-Nieves, L. G.; Ge, S.	Groundwater modeling of the Silver Bell Mountains, Arizona, USA	Environmental Earth Sciences	66	7	10.1007/s12665-011-1418-9	2012	https://link.springer.com/article/10.1007/s12665-011-1418-9	✓	✓	×	×
119	Manghi, F.; Williams, D.; Safely, J.; Hamdi, M. R.	Groundwater Flow Modeling of the Arlington Basin to Evaluate Management Strategies for Expansion of the Arlington Desalter Water Production	Water Resources Management	26	1	10.1007/s11269-011-9899-6	2012	https://link.springer.com/article/10.1007/s11269-011-9899-6	✓	✓	×	✓
120	Chen, X.; Huang, Y.; Ling, M.; Hu, Q.; Liu, B.	Numerical modeling groundwater recharge and its implication in water cycles of two interdunal valleys in the Sand Hills of Nebraska	Physics and Chemistry of the Earth	53-54		10.1016/j.pce.2011.08.022	2012	https://doi.org/10.1016/j.pce.2011.08.022	✓	✓	×	×
121	Hernández J. E.; Gowda P. H.; Howell T. A.; Steiner J. L.; Mojarro F.; Núñez E. P.; Avila J. R.	Modeling Groundwater Levels on the Calera Aquifer Region in Central Mexico Using ModFlow	Journal of Agricultural Science and Technology	B	2		2012	https://scholarworks.boisestate.edu/cgi/viewcontent.cgi?article=1036&context=civileng_facpubs	✓	✓	✓	×
122	Alvarez M.d.P.; Trovatto M.M.; Hernández M.A.; González N.	Groundwater flow model, recharge estimation and sustainability in an arid region of Patagonia, Argentina	Environmental Earth Sciences	66	7	10.1007/s12665-011-1435-8	2012	https://link.springer.com/article/10.1007/s12665-011-1435-8	✓	✓	✓	✓
123	Faunt, C. C.; Provost, A. M.; Hill, M. C.; Belcher, W. R.	An unconfined groundwater model of the Death Valley Regional Flow System and a comparison to its confined predecessor	Journal of Hydrology	397	3—4	10.1016/j.jhydrol.2010.11.038	2011	https://doi.org/10.1016/j.jhidrol.2009.05.006	✓	✓	✓	×
124	Zume, J. T.; Tarhule, A. A.	Modelling the response of an alluvial aquifer to anthropogenic and recharge	Journal of Earth System Science	120	4	10.1007/s12040-011-0088-z	2011	https://link.springer.com/article/10.1007/s12040-011-0088-z	✓	✓	×	✓

		stresses in the United States southern great plains										
125	Mittelstet, A. R.; Smolen, M. D.; Fox, G. A.; Adams, D. C.	Comparison of Aquifer Sustainability Under Groundwater Administrations in Oklahoma and Texas	Journal of the American Water Resources Association	47	2	10.1111/j.1752-1688.2011.00524.x	2011	https://digitalcommons.unl.edu/biosysengfacpub/387	✓	✓	×	✓
126	Orozco E.; Herrera I.; Mujica Cervantes A.	Flow mathematical model of the alluvial valley aquifer system of ancient Guatemala, Sacatepéquez, Guatemala	Ciencias Técnicas Agropecuarias	20	2		2011	http://scielo.sld.cu/pdf/rcta/v20n2/rcta15211.pdf	✓	✓	✓	×
127	Flores-Márquez, E. L.; Kohn Ledesma, I.; Arango-Galván, C.	Sustainable geohydrological model of San Luis Potosí aquifer, Mexico	Geofísica internacional	50	4		2011	https://scholar.google.com/scholar?hl=es&as_sdt=0%2C5&q=Sustainable+geohydrological+model+of+San+Luis+Potos%C3%AD+aquifer%2C+Mexico&btnG=	✓	✓	✓	✓
128	Lavigne M. A.; Nastev M.; Lefebvre R.	Numerical Simulation of Groundwater Flow in the Chateauguay River Aquifers	Canadian Water Resources Journal	35	4	10.4296/cwrj3504469	2010	https://www.tandfonline.com/doi/pdf/10.4296/cwrj3504469	✓	✓	✓	×
129	Cho, J.; Mostaghimi, S.; Kang, M. S.	Development and application of a modeling approach for surface water and groundwater interaction	Agricultural Water Management	97	1	10.1016/j.agwat.2009.08.018	2010	https://doi.org/10.1016/j.agwat.2009.08.018	✓	✓	✓	×
130	Gomez, A. A.; Rodríguez, L.; Vives, L.	The Guarani Aquifer System: estimation of recharge along the Uruguay–Brazil border	Hydrogeology Journal	18		10.1007/s10040-010-0630-0	2010	https://link.springer.com/article/10.1007/s10040-010-0630-0	✓	✓	✓	×
131	Carroll, R. W. H.; Pohll, G. M.; Hershey, R. L.	An unconfined groundwater model of the Death Valley Regional Flow System and a comparison to its confined predecessor	Journal of Hydrology	373	3—4	10.1016/j.jhydrol.2009.05.006	2009	https://doi.org/10.1016/j.jhydrol.2009.05.006	✓	✓	✓	×
132	Lin, J.; Snodsmith, J. B.; Zheng, C.; Wu, J.	A modeling study of seawater intrusion in Alabama Gulf Coast, USA	Environmental Geology	57	1	10.1007/s00254-008-1288-y	2009	https://link.springer.com/article/10.1007/s00254-008-1288-y	✓	✓	✓	✓
133	Myers, T.	Groundwater management and coal bed methane development in the Powder River Basin of Montana	Journal of Hydrology	368	1—4	10.1016/j.jhydrol.2009.02.001	2009	https://doi.org/10.1016/j.jhydrol.2009.02.001	✓	✓	×	✓
134	Barry, F.; Ophori, D.; Hoffman, J.; Canace, R.	Groundwater flow and capture zone analysis of the Central Passaic River Basin, New Jersey	Environmental Geology	56	8	10.1007/s00254-008-1257-5	2009	https://link.springer.com/article/10.1007/s00254-008-1257-5	✓	✓	✓	×
135	Betancur, T.; Palacio, C.	Exploration and Hydrogeological Conceptual Models Through Numerical Modeling (Study case: Bajo Cauca Antioqueño)	DYNA	76	160		2009	https://scholar.google.com/scholar?hl=es&as_sdt=0%2C5&q=EXPLORATION+AND+HYDROGEOLOGICAL+CONCEPTUAL+MODELS+THROUGH+NUMERICAL+MODELING+	✓	✓	✓	×

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136	Zume, J.; Tarhule, A.	Simulating the impacts of groundwater pumping on stream - Aquifer dynamics in semiarid northwestern Oklahoma, USA	Hydrogeology Journal	16	4	10.1007/s10040-007-0268-8	2008	https://link.springer.com/article/10.1007/s10040-007-0268-8	✓	✓	×	✓
137	Flores-Márquez E. L.; Martínez-Serrano R. G.; Chávez R. E.; Crusillo Y.; Jiménez G.; Campos-Enriquez O.	Numerical modeling of Etla Valley aquifer, Oax., Mexico: Evolution and remediation scenarios	Geofísica Internacional	47	1		2008	http://revistagi.geofisica.unam.mx/index.php/RGI/article/view/253/242	✓	✓	✓	✓
138	Gárfias J.; Expósito J.L.; Llanos H.	Delineation of wellhead protection zones using analitical models and groundwater modelling, Margarita aquifer, Cuba	Boletín Geológico y Minero	119	1		2008	https://www.igme.es/Boletin/2008/119_1_2008/ARTICULO%201.pdf	✓	✓	×	✓
139	Acosta O.; Custodio E.	Environmental impacts of groundwater extractions in the Salar del Huasco (northern Chile)	Boletín Geológico y Minero	119	1		2008	https://bibliotecadigital.ciren.cl/server/api/core/bitstreams/d5fb057d-13c1-4af1-99c3-266f45b277e7/content	✓	✓	✓	✓
140	Schilling, K. E.; Tomer, M. D.; Zhang, Y.-K.; Weisbrod, T.; Jacobson, P.; Cambardella, C. A.	Hydrogeologic controls on nitrate transport in a small agricultural catchment, Iowa	Journal of Geophysical Research: Biogeosciences	112	3	10.1029/2007JG000405	2007	https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2007JG000405	✓	✓	✓	✓
141	Uddameri, V.; Kuchanur, M.	Simulation-optimization approach to assess groundwater availability in Refugio County, TX	Environmental Geology	51	6	10.1007/s00254-006-0455-2	2007	https://link.springer.com/article/10.1007/s00254-006-0455-2	✓	✓	✓	×
142	Calderón Palma, H.; Bentley, L. R.	A regional-scale groundwater flow model for the Leon-Chinandega aquifer, Nicaragua	Hydrogeology Journal	15	8	10.1007/s10040-007-0197-6	2007	https://link.springer.com/article/10.1007/s10040-007-0197-6	✓	✓	✓	✓
143	Nobre, R. C. M.; Rotunno Filho, O. C.; Mansur, W. J.; Nobre, M. M. M.; Cosenza, C. A. N.	Groundwater vulnerability and risk mapping using GIS, modeling and a fuzzy logic tool	Journal of Contaminant Hydrology	94	3—4	10.1016/j.jconhyd.2007.07.008	2007	https://doi.org/10.1016/j.jconhyd.2007.07.008	✓	✓	✓	×
144	MacHado, C. J. F.; Santiago, M. M. F.; Mendonça, L. A. R.;	Hydrogeochemical and flow modeling of aquitard percolation in the Cariri Valley-Northeast Brazil	Aquatic Geochemistry	13	2	10.1007/s10498-007-9015-y	2007	https://link.springer.com/article/10.1007/s10498-007-9015-y	✓	✓	✓	×

	Frischkorn, H.; Mendes Filho, J.											
145	Scibek, J., Allen, D. M., Cannon, A. J., Whitfield, P. H.	Groundwater-surface water interaction under scenarios of climate change using a high-resolution transient groundwater model	Journal of Hydrology	333	2,4	10.1016/j.jhydrol.2006.08.005	2007	https://doi.org/10.1016/j.jhydrol.2006.08.005	✓	✓	✓	✓
146	Scibek, J.; Allen, D. M.	Comparing modelled responses of two high-permeability, unconfined aquifers to predicted climate change	Global and Planetary Change	50	1—2	10.1016/j.gloplacha.2005.10.002	2006	https://scholar.google.com/scholar?hl=es&as_sdt=0%2C5&q=Comparing+modelled+responses+of+two+high-permeability%2C+unconfined+aquifers+to+predicted+climate+change&btnG=	✓	✓	✓	✓
147	Scibek, J.; Allen, D. M.	Modeled impacts of predicted climate change on recharge and groundwater levels	Water Resources Research	42	11	10.1029/2005WR004742	2006	https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2005WR004742	✓	✓	✓	✓
148	Flores-Márquez, E. L.; Jiménez-Suárez, G.; Martínez-Serrano, R. G.; Chávez, R. E.; Pérez, D. S.	Study of geothermal water intrusion due to groundwater exploitation in the Puebla Valley aquifer system, Mexico	Hydrogeology Journal	14	7	10.1007/s10040-006-0029-0	2006	https://link.springer.com/article/10.1007/s10040-006-0029-0	✓	✓	✓	×
149	Rodríguez L.B.; Cello P.A.; Vionnet C.A.	Modeling stream-aquifer interactions in a shallow aquifer, Choele Choel Island, Patagonia, Argentina	Hydrogeology Journal	14	4	10.1007/s10040-005-0472-3	2006	https://link.springer.com/article/10.1007/s10040-005-0472-3	✓	✓	✓	×
150	Martinez, S. E.; Carrillo-Rivera, J. J.	Socio-economic constraints of groundwater in Capital La Rioja, Argentina	Environmental Geology	49	6	10.1007/s00254-006-0183-7	2006	https://link.springer.com/article/10.1007/s00254-006-0183-7	✓	✓	×	×
151	Navarro De León, I.	Exploitation and renewability of groundwater in a semi-arid basin of the Mexican Altiplano	Ciencia UANL	9	4		2006	http://eprints.uanl.mx/1743/1/ALTIPLANOMEXICANO.pdf	✓	✓	×	×
152	Domínguez-Acevedo, A.; Oropeza-Mota, J. L.; Palacios-Vélez, E.; Garfias-Solís, J.	Study of simulated hydrodynamic response in the Acambay Valley aquifer	AGROCIENCIA	39	3		2005	https://www.redalyc.org/articulo.oa?id=30239301	✓	✓	✓	✓
153	Mendonça, L. A. R.; Frischkorn, H.; Santiago, M. F.; Filho, J. M.	Isotope measurements and ground water flow modeling using MODFLOW for understanding environmental changes caused by a well field in semiarid Brazil	Environmental Geology	47	8	10.1007/s00254-005-1237-y	2005	https://link.springer.com/article/10.1007/s00254-005-1237-y	✓	✓	×	✓
154	Nastev M.; Rivera A.; Lefebvre R.; Martel R.; Savard M.	Numerical simulation of groundwater flow in regional rock aquifers, southwestern Quebec, Canada	Hydrogeology Journal	13		10.1007/s10040-005-0445-6	2005	https://link.springer.com/article/10.1007/s10040-005-0445-6	✓	✓	✓	×

155	Allen D.M.; Mackie D.C.; Wei M.	Groundwater and climate change: a sensitivity analysis for the Grand Forks aquifer, southern British Columbia, Canada	Hydrogeology Journal	12		10.1007/s10040-003-0261-9	2004	https://link.springer.com/article/10.1007/s10040-003-0261-9	✓	✓	✓	✓
156	Sanford, W. E.; Plummer, L. N.; McAda, D. P.; Bexfield, L. M.; Anderholm, S. K.	Hydrochemical tracers in the middle Rio Grande Basin, USA: 2. Calibration of a groundwater-flow model	Hydrogeology Journal	12	4	10.1007/s10040-004-0326-4	2004	https://link.springer.com/article/10.1007/s10040-004-0326-4	✓	✓	×	×
157	Carvalho, C.; Holanda de Castro, M.A.	Groundwater modelling in the northeastern region of Brazil using simulation models	Información Tecnológica	15	6	10.4067/S0718-07642004000600006	2004	http://dx.doi.org/10.4067/S0718-07642004000600006	✓	✓	×	×
158	Gutiérrez Enríquez, M. M.; Márquez Molina, J. J.; Materón Muñoz, H.; Rojas Palacios, H.	Aquifer modeling for the sustainable use of groundwater	Ingeniería de Recursos Naturales y del Ambiente	1	1		2004	https://scholar.google.com/scholar?hl=es&as_sdt=0%2C5&q=MODELACI%C3%93N+DE+ACU%C3%8DFEROS+PARA+EL+APROVECHAMIENTO+SOSTENIBLE+DEL+AGUA+SUBTERR%C3%81NEA&btnG=	✓	✓	✓	✓
159	Storey, R. G.; Howard, K. W. F.; Williams, D. D.	Factors controlling riffle-scale hyporheic exchange flows and their seasonal changes in a gaining stream: A three-dimensional groundwater flow model	Water Resources Research	39	2	10.1029/2002WR001367	2003	https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2002WR001367	✓	✓	×	×
160	Meriano, M.; Eyles, N.	Groundwater flow through Pleistocene glacial deposits in the rapidly urbanizing Rouge River-Highland Creek watershed, City of Scarborough, southern Ontario, Canada	Hydrogeology Journal	11	2	10.1007/s10040-002-0226-4	2003	https://link.springer.com/article/10.1007/s10040-002-0226-4	✓	✓	✓	×
161	Menking, K. M.; Syed, K. H.; Anderson, R. Y.; Shafike, N. G.; Arnold, J. G.	Model estimates of runoff in the closed, semiarid Estancia basin, central New Mexico, USA	Hydrological Sciences Journal	48	6	10.1623/hysj.48.6.953.51424	2003	https://www.tandfonline.com/doi/abs/10.1623/hysj.48.6.953.51424	✓	✓	×	×
162	Huizar-Alvarez R.; Hernández G.; Carrillo-Martinez M.; Carrillo-Rivera J.J.; Hergt T.; Ángeles G.	Geologic structure and groundwater flow in the Pachuca–Zumpango sub-basin, central Mexico	Environmental Geology	43		10.1007/s00254-002-0654-4	2003	https://link.springer.com/article/10.1007/s00254-002-0654-4	✓	✓	×	✓
163	Robinson, M. A.; Reay, W. G.	Ground water flow analysis of a mid-atlantic outer Coastal Plain watershed, Virginia, U.S.A.	Ground Water	40	2	10.1111/j.1745-6584.2002.tb02497.x	2002	https://www.academia.edu/67066506/Ground_Water_Flow_Analysis_of_a_Mid_Atlantic_Outer_Coastal_Pl	✓	✓	✓	×

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164	Gutiérrez-Carrillo N.; Palacios-Vélez E.; Peña-Díaz S.; Palacios-Vélez O. L.	Stages for sustainable uses of the queretaro valley aquifer	AGROCIENCIA	36	1		2002	https://www.redalyc.org/articulo.oa?id=30236101	✓	✓	×	✓
165	Rayne, T. W.; Bradbury, K. R.; Muldoon, M. A.	Delineation of capture zones for municipal wells in fractured dolomite, Sturgeon Bay, Wisconsin, USA	Hydrogeology Journal	9	5	10.1007/s100400100154	2001	https://link.springer.com/article/10.1007/s100400100154	✓	✓	✓	×
166	Vives, L.; Campos, H.; Candela, L.; Guarracino, L.	Guaraní Aquifer Modeling	Boletín Geológico y Minero	112			2001	https://isarm-americas.org/files/Bibliografia%20Guarani/Bibliografia%20Guarani/Catalogados/Modelacion_del_acuifero_Guarani.pdf	✓	✓	×	×

Supplementary S2. Full list of the articles included in the review

1. Coulon, C.; White, J. T.; Pryet, A.; Gatel, L.; Lemieux, J.-M. An Ensemble-Based Approach for Pumping Optimization in an Island Aquifer Considering Parameter, Observation and Climate Uncertainty. *Hydrol. Earth Syst. Sci.* **2024**, *28* (1), 303–319. https://doi.org/10.5194/hess-28-303-2024.
2. Eyster, T. D., Johnson, M. S., Yarnell, S. M., Lowry, C. S. Analyzing the Subsurface Consequences of Dam Removal on Groundwater Storage and Hydrologic Niches in a Mountain Meadow Ecosystem. *Water Resour Manage* **2024**, 38, 717–731. https://doi.org/10.1007/s11269-023-03695-7
3. Balakrishnan, J. V., Bailey, R. T., Jeong, J., Park, S., Abitew, T. Quantifying climate change impacts on future water resources and salinity transport in a high semi-arid watershed. *Journal of Contaminant Hydrology* **2024**, 261, 104289. https://doi.org/10.1016/j.jconhyd.2023.104289
4. Felfelani, F., Hughes, J., Chen, F., Dugger, A., Schneider, T., Gochis, D., Traylor, J., Essaid, H. Simulation of groundwater-flow dynamics in the US Northern High Plains driven by multi-model estimates of surficial aquifer recharge. *J. Hydrol.* **2024**, 630, 130703. https://doi.org/10.1016/j.jhydrol.2024.130703
5. Navarro-Farfán, M.d.M.; García-Romero, L.; Martínez-Cinco, M.A.; Hernández-Hernández, M.A.; Sánchez-Quispe, S.T. Comparison between MODFLOW Groundwater Modeling with Traditional and Distributed Recharge. *Hydrology* **2024**, 11, 9. https://doi.org/10.3390/hydrology11010009
6. Guevara-Ochoa, C., Medina-Sierra, A., Vives, L., Barrios, M. Impact of rainfed agriculture on spatio-temporal patterns of water balance and the interaction between groundwater and surface water in sub-humid plains. *Science of The Total Environment* **2024**, 912, 169247. https://doi.org/10.1016/j.scitotenv.2023.169247

7. Pereira, S., Galvão, P., Miotlinski, K., Schuch, C. Numerical modeling applications for the evaluation of the past and future scenarios of groundwater use in an urbanized complex karst aquifer in the city of Sete Lagoas, State of Minas Gerais, Brazil. *Groundwater for Sustainable Development* **2024**, 25, 101089. https://doi.org/10.1016/j.gsd.2024.101089
8. Lévesque, Y.; Chesnaux, R.; Walter, J. Using Geophysical Data to Assess Groundwater Levels and the Accuracy of a Regional Numerical Flow Model. *Hydrogeol. J.* **2023**, *31* (2), 351–370. https://doi.org/10.1007/s10040-023-02591-z
9. Miled, C., Chesnaux, R., Walter, J., Boumaiza, L., Paré, M. C. Multi-technique approach for estimating groundwater transit time through the saturated zone of an unconfined granular aquifer in Quebec, Canada. *Hydrogeol. J.* **2023**, 31(7), 1847-1861. https://doi.org/10.1007/s10040-023-02663-0
10. Hamdi, M.; Goïta, K. Analysis of Groundwater Depletion in the Saskatchewan River Basin in Canada from Coupled SWAT-MODFLOW and Satellite Gravimetry. *Hydrology* **2023**, *10* (9), 188. https://doi.org/10.3390/hydrology10090188.
11. Bailey, R. T., Hosseini, P. Comprehensive simulation of salinity transport in irrigated watersheds using an updated version of SWAT-MODFLOW. *Environmental Modelling & Software* **2023**, 159, 105566. https://doi.org/10.1016/j.envsoft.2022.105566
12. Borchardt, S., Choi, W. Effects of climate change and high-capacity wells pumping on streamflow and groundwater elevation in Northeastern Wisconsin. *Environ. Earth Sci.* **2023**, 82(6), 148. https://doi.org/10.1007/s12665-023-10818-1
13. Giglou, A. N., Nazari, R., Jazaei, F., Karimi, M. Assessing the effects of increased impervious surface on the aquifer recharge through river flow network, case study of Jackson, Tennessee, USA. *Science of The Total Environment* **2023**, 872, 162203. https://doi.org/10.1016/j.scitotenv.2023.162203
14. Ponprasit, C.; Zhang, Y.; Gu, X.; Goodliffe, A.M.; Sun, H. Assessing Vulnerability of Regional-Scale Aquifer-Aquitard Systems in East Gulf Coastal Plain of Alabama by Developing Groundwater Flow and Transport Models. *Water* **2023**, 15, 1937. https://doi.org/10.3390/w15101937
15. Chen, Y. H., Vahdat-Aboueshagh, H., Tsai, F. T. C., Dausman, A., Runge, M. C., 2023. Unstructured-grid approach to develop high-fidelity groundwater model to understand groundwater flow and storage responses to excessive groundwater withdrawals in the Southern Hills aquifer system in southeastern Louisiana (USA). *J. Hydrology: Regional Studies* **2023**, 46, 101342. https://doi.org/10.1016/j.ejrh.2023.101342
16. Daniel, T. J., Richendrfer, J., Falta, R., Murdoch, L., Lin, H., Darnault, C. J. Numerical modeling of groundwater flow and nitrate transport in karst and wastewater irrigated agricultural and forest landscapes, PA, USA. *Agrosystems, Geosciences & Environment* **2023**, 6(4), e20427. https://doi.org/10.1002/agg2.20427
17. Kavousi, A., Reimann, T., Wöhling, T., Birk, S., Luhmann, A. J., Kordilla, J., Noffz, T., Sauter, M., Liedl, R. Joint inversion of groundwater flow, heat, and solute state variables: a multipurpose approach for characterization and forecast of karst systems. *Hydrogeol. J.* **2023**, 31(4), 1005-1030. https://doi.org/10.1007/s10040-023-02631-8

18. Karki, R., Srivastava, P., Kalin, L. Evaluating climate change impacts in a heavily irrigated karst watershed using a coupled surface and groundwater model. *J. Hydrology: Regional Studies* **2023**, 50, 101565. https://doi.org/10.1016/j.ejrh.2023.101565
19. Giglou, A. N., Nazari, R., Jazaei, F., Karimi, M. Assessing the effects of increased impervious surface on the aquifer recharge through river flow network, case study of Jackson, Tennessee, USA. *Science of The Total Environment* **2023**, 872, 162203. https://doi.org/10.1016/j.scitotenv.2023.162203
20. Zeyrek, C., Mittelstet, A. R., Gilmore, T. E., Zlotnik, V., Solomon, D. K., Genereux, D. P., Humphrey, C. E., Shrestha, N. Modeling groundwater transit time distributions and means across a Nebraska watershed: Effects of heterogeneity in the aquifer, riverbed, and recharge parameters. *J. Hydrol.* **2023**, 617, 128891. https://doi.org/10.1016/j.jhydrol.2022.128891
21. Bailey, R. T., Abbas, S., Arnold, J., White, M., Gao, J., Čerkasova, N. Augmenting the National agroecosystem model with physically based spatially distributed groundwater modeling. *Environmental Modelling & Software* **2023**, 160, 105589. https://doi.org/10.1016/j.envsoft.2022.105589
22. Correa-González, A.; Hernández-Bedolla, J.; Martínez-Cinco, M.A.; Sánchez-Quispe, S.T.; Hernández-Hernández, M.A. Assessment of Nitrate in Groundwater from Diffuse Sources Considering Spatiotemporal Patterns of Hydrological Systems Using a Coupled SWAT/MODFLOW/MT3DMS Model. *Hydrology* **2023**, 10, 209. https://doi.org/10.3390/hydrology10110209
23. Rubio-Arellano, A.B.; Ramos-Leal, J.A.; Vázquez-Báez, V.M.; Rodriguez Mora, J.I. Modeling the Groundwater Dynamics of the Celaya Valley Aquifer. *Water* **2023**, 15, 1. https://doi.org/10.3390/w15010001
24. Leão, B. R., Junior, G. C. S., Eger, G. Z., Marques, E. A. Numerical modeling as a support tool for groundwater permits in the state of Bahia, Brazil. *Groundwater for Sustainable Development* **2023**, 23, 100986. https://doi.org/10.1016/j.gsd.2023.100986
25. Uyeno, M.T., Bairros, L.G.d.S., Lukiantchuki, J.A., Okawa, C.M.P., Lautenschlager, S.R. Introducing an Innovative Design Approach for Drainage Systems: Facilitating Shallow Aquifer Recharge and Mitigating Flooding. *Sustainability* **2023**, 15, 13584. https://doi.org/10.3390/su151813584
26. Bofill, L. M., Suhogusoff, A. V., Ferrari, L., Roisenberg, A. Analysis and comparison of wellhead protection areas delimitation methods applying a stochastic MODFLOW model as a reference. *Environmental Monitoring and Assessment* **2023**, 195(6), 704. https://doi.org/10.1007/s10661-023-11291-w
27. Zaremehrjardy, M., Victor, J., Park, S., Smerdon, B., Alessi, D. S., Faramarzi, M., 2022. Assessment of snowmelt and groundwater-surface water dynamics in mountains, foothills, and plains regions in northern latitudes. *J. Hydrol*. **2022**, 606, 127449. https://doi.org/10.1016/j.jhydrol.2022.127449
28. Dangol, S., Zhang, X., Liang, X.-Z., Miralles-Wilhelm, F. Agricultural Irrigation Effects on Hydrological Processes in the United States Northern High Plains Aquifer Simulated by the Coupled SWAT-MODFLOW System. *Water* **2022**, 14, 1938. https://doi.org/10.3390/w14121938

29. Bailey, R. T., Jeong, J., Park, S., Green, C. H. Simulating salinity transport in High-Desert landscapes using APEX-MODFLOW-Salt. *J. Hydrol.* **2022**, 610, 127873. https://doi.org/10.1016/j.jhydrol.2022.127873
30. Gao, Y.; Xu, Z.; Li, S.; Yu, W. Modeling Monthly Nitrate Concentration in a Karst Spring with and without Discrete Conduit Flow. *Water* **2022**, *14*, 1622. https://doi.org/10.3390/w14101622
31. Bailey, R. T., Bieger, K., Flores, L., Tomer, M. Evaluating the contribution of subsurface drainage to watershed water yield using SWAT+ with groundwater modeling. *Science of The Total Environment* **2022**, 802, 149962. https://doi.org/10.1016/j.scitotenv.2021.149962
32. Deng, C., Bailey, R.T. Assessing the Impact of Artificial Recharge Ponds on Hydrological Fluxes in an Irrigated Stream–Aquifer System. *Hydrology* **2022**, 9, 91. https://doi.org/10.3390/hydrology9050091
33. Momm, H. G., Bingner, R. L., Moore, K., Herring, G. Integrated surface and groundwater modeling to enhance water resource sustainability in agricultural watersheds. *Agricultural Water Management* **2022**, 269, 107692. https://doi.org/10.1016/j.agwat.2022.107692
34. Peña, F., Nardi, F., Melesse, A., Obeysekera, J., Castelli, F., Price, R. M., Crowl, T., Gonzalez-Ramirez, N. Compound flood modeling framework for surface–subsurface water interactions. *Natural Hazards and Earth System Sciences* **2022**, 22(3), 775-793. https://doi.org/10.5194/nhess-22-775-2022
35. Arnaud, L., Gutierrez, A., Zegoulli, I., Gonomy, N. Modelling groundwater flow in the Plaine du Nord–Massacre shallow aquifer, Haiti. *Hydrogeol. J.* **2022**, 30(5), 1399-1415. https://doi.org/10.1007/s10040-022-02469-6
36. Blin, N., Hausner, M., Leray, S., Lowry, C., Suárez, F. Potential impacts of climate change on an aquifer in the arid Altiplano, northern Chile: The case of the protected wetlands of the Salar del Huasco basin. *J. Hydrology: Regional Studies* **2022**, 39, 100996. https://doi.org/10.1016/j.ejrh.2022.100996
37. Narvaez-Montoya, C., Torres-Martínez, J. A., Pino-Vargas, E., Cabrera-Olivera, F., Loge, F. J., Mahlknecht, J. Predicting adverse scenarios for a transboundary coastal aquifer system in the Atacama Desert (Peru/Chile). *Science of The Total Environment* **2022**, 806, 150386. https://doi.org/10.1016/j.scitotenv.2021.150386
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