

Torben Obel Sonnenborg

List of Publications by Year in descending order

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Version: 2024-02-01

70
papers

2,703
citations

201674

27
h-index

197818

49
g-index

72
all docs

72
docs citations

72
times ranked

2821
citing authors

#	ARTICLE	IF	CITATIONS
1	Methodology for construction, calibration and validation of a national hydrological model for Denmark. <i>Journal of Hydrology</i> , 2003, 280, 52-71.	5.4	301
2	Review of strategies for handling geological uncertainty in groundwater flow and transport modeling. <i>Advances in Water Resources</i> , 2012, 36, 36-50.	3.8	206
3	Combined effects of climate models, hydrological model structures and land use scenarios on hydrological impacts of climate change. <i>Journal of Hydrology</i> , 2016, 535, 301-317.	5.4	156
4	Regional Differences in Climate Change Impacts on Groundwater and Stream Discharge in Denmark. <i>Vadose Zone Journal</i> , 2007, 6, 554-571.	2.2	115
5	Impact of climate and land use change on the hydrology of a large-scale agricultural catchment. <i>Water Resources Research</i> , 2009, 45, .	4.2	113
6	A framework for testing the ability of models to project climate change and its impacts. <i>Climatic Change</i> , 2014, 122, 271-282.	3.6	104
7	Assessing impacts of climate change, sea level rise, and drainage canals on saltwater intrusion to coastal aquifer. <i>Hydrology and Earth System Sciences</i> , 2013, 17, 421-443.	4.9	100
8	Transition probability-based stochastic geological modeling using airborne geophysical data and borehole data. <i>Water Resources Research</i> , 2014, 50, 3147-3169.	4.2	81
9	Salinity Distribution in Heterogeneous Coastal Aquifers Mapped by Airborne Electromagnetics. <i>Vadose Zone Journal</i> , 2011, 10, 125-135.	2.2	79
10	Transboundary geophysical mapping of geological elements and salinity distribution critical for the assessment of future sea water intrusion in response to sea level rise. <i>Hydrology and Earth System Sciences</i> , 2012, 16, 1845-1862.	4.9	75
11	Assessment of hydrological model predictive ability given multiple conceptual geological models. <i>Water Resources Research</i> , 2012, 48, .	4.2	65
12	Origin and Dynamics of Saltwater Intrusion in a Regional Aquifer: Combining 3D Saltwater Modeling With Geophysical and Geochemical Data. <i>Water Resources Research</i> , 2019, 55, 1792-1813.	4.2	62
13	Evaluation of Climate Input Biases and Water Balance Issues Using a Coupled Surface-Subsurface Model. <i>Vadose Zone Journal</i> , 2011, 10, 37-53.	2.2	60
14	Transient modeling of regional groundwater flow using parameter estimates from steady-state automatic calibration. <i>Journal of Hydrology</i> , 2003, 273, 188-204.	5.4	56
15	Modelling of the shallow water table at high spatial resolution using random forests. <i>Hydrology and Earth System Sciences</i> , 2019, 23, 4603-4619.	4.9	53
16	Assessment of robustness and significance of climate change signals for an ensemble of distribution-based scaled climate projections. <i>Journal of Hydrology</i> , 2013, 486, 479-493.	5.4	52
17	Effects of changes in land use and climate on aquatic ecosystems: Coupling of models and decomposition of uncertainties. <i>Science of the Total Environment</i> , 2019, 657, 627-633.	8.0	48
18	Use of alternative conceptual models to assess the impact of a buried valley on groundwater vulnerability. <i>Hydrogeology Journal</i> , 2008, 16, 659-674.	2.1	47

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19	Capture zone, travel time, and solute-transport predictions using inverse modeling and different geological models. <i>Hydrogeology Journal</i> , 2003, 11, 536-548.	2.1	46
20	Comparison of Hydrological Simulations of Climate Change Using Perturbation of Observations and Distribution-Based Scaling. <i>Vadose Zone Journal</i> , 2011, 10, 136-150.	2.2	42
21	Moving beyond runoff calibration—Multivariable optimization of a surface–subsurface–atmosphere model. <i>Hydrological Processes</i> , 2018, 32, 2654-2668.	2.6	42
22	Removal of NAPLs from the unsaturated zone using steam: prevention of downward migration by injecting mixtures of steam and air. <i>Journal of Contaminant Hydrology</i> , 2002, 55, 233-260.	3.3	41
23	Impact of Precipitation Spatial Resolution on the Hydrological Response of an Integrated Distributed Water Resources Model. <i>Vadose Zone Journal</i> , 2011, 10, 25-36.	2.2	41
24	Modelação hidroestratigráfica 3D à escala regional baseada em métodos de sequência estratigráfica: um caso de estudo da sucessão no Miocénico na Dinamarca. <i>Hydrogeology Journal</i> , 2009, 17, 1913-1933.	2.1	31
25	Climate change impacts on groundwater hydrology – where are the main uncertainties and can they be reduced?. <i>Hydrological Sciences Journal</i> , 2016, 61, 2312-2324.	2.6	31
26	Nitrate vulnerability assessment of aquifers. <i>Environmental Earth Sciences</i> , 2016, 75, 1.	2.7	28
27	Deep saltwater in Chalk of North-West Europe: origin, interface characteristics and development over geological time. <i>Hydrogeology Journal</i> , 2009, 17, 1643-1663.	2.1	27
28	Monitoring CO ₂ gas-phase migration in a shallow sand aquifer using cross-borehole ground penetrating radar. <i>International Journal of Greenhouse Gas Control</i> , 2015, 37, 287-298.	4.6	27
29	Threshold values and management options for nutrients in a catchment of a temperate estuary with poor ecological status. <i>Hydrology and Earth System Sciences</i> , 2012, 16, 2663-2683.	4.9	26
30	Historical trends in precipitation and stream discharge at the Skjern River catchment, Denmark. <i>Hydrology and Earth System Sciences</i> , 2014, 18, 595-610.	4.9	26
31	Numerical modeling of salinity distribution and submarine groundwater discharge to a coastal lagoon in Denmark based on airborne electromagnetic data. <i>Hydrogeology Journal</i> , 2015, 23, 217-233.	2.1	26
32	Climate change effects on irrigation demands and minimum stream discharge: impact of bias-correction method. <i>Hydrology and Earth System Sciences</i> , 2012, 16, 4675-4691.	4.9	25
33	Contaminant Transport at a Waste Residue Deposit: 1. Inverse Flow and Nonreactive Transport Modeling. <i>Water Resources Research</i> , 1996, 32, 925-938.	4.2	24
34	Statistical analysis of the impact of radar rainfall uncertainties on water resources modeling. <i>Water Resources Research</i> , 2011, 47, .	4.2	24
35	Observational and predictive uncertainties for multiple variables in a spatially distributed hydrological model. <i>Hydrological Processes</i> , 2019, 33, 833-848.	2.6	24
36	Evaluation of the value of radar QPE data and rain gauge data for hydrological modeling. <i>Water Resources Research</i> , 2013, 49, 5989-6005.	4.2	23

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37	Effects of geologic heterogeneity on migration of gaseous CO ₂ using laboratory and modeling investigations. <i>International Journal of Greenhouse Gas Control</i> , 2015, 43, 213-224.	4.6	22
38	Analyzing the hydrological impact of afforestation and tree species in two catchments with contrasting soil properties using the spatially distributed model MIKE SHE SWET. <i>Agricultural and Forest Meteorology</i> , 2017, 239, 118-133.	4.8	22
39	An Operational Weather Radar-Based Quantitative Precipitation Estimation and its Application in Catchment Water Resources Modeling. <i>Vadose Zone Journal</i> , 2011, 10, 8-24.	2.2	21
40	Regional flow in a complex coastal aquifer system: Combining voxel geological modelling with regularized calibration. <i>Journal of Hydrology</i> , 2018, 562, 544-563.	5.4	21
41	Estimation of Regional Groundwater Recharge Using Data from a Distributed Soil Moisture Network. <i>Vadose Zone Journal</i> , 2013, 12, 1-18.	2.2	19
42	Effect of a high-end CO ₂ -emission scenario on hydrology. <i>Climate Research</i> , 2015, 64, 39-54.	1.1	19
43	Remediation of NAPL below the water table by steam-induced heat conduction. <i>Journal of Contaminant Hydrology</i> , 2004, 72, 207-225.	3.3	18
44	The effect of training image and secondary data integration with multiple-point geostatistics in groundwater modelling. <i>Hydrology and Earth System Sciences</i> , 2014, 18, 2943-2954.	4.9	17
45	A conceptual model for groundwater discharge to a coastal brackish lagoon based on seepage measurements (Roskilde Fjord, Denmark). <i>Hydrological Processes</i> , 2018, 32, 3352-3364.	2.6	17
46	Comparison of evapotranspiration estimates using the water balance and the eddy covariance methods. <i>Vadose Zone Journal</i> , 2020, 19, e20032.	2.2	16
47	Aqueous flow and transport in analog systems of fractures embedded in permeable matrix. <i>Water Resources Research</i> , 1999, 35, 719-729.	4.2	15
48	Climate change impacts and uncertainty on spatiotemporal variations of drought indices for an irrigated catchment. <i>Journal of Hydrology</i> , 2021, 601, 126814.	5.4	15
49	Impacts of land use, climate change and hydrological model structure on nitrate fluxes: Magnitudes and uncertainties. <i>Science of the Total Environment</i> , 2022, 830, 154671.	8.0	15
50	Experimental investigation of pneumatic soil vapor extraction. <i>Journal of Contaminant Hydrology</i> , 2007, 89, 29-47.	3.3	14
51	Assessment of climate change impacts on the quantity and quality of a coastal catchment using a coupled groundwater-surface water model. <i>Climatic Change</i> , 2012, 113, 1025-1048.	3.6	14
52	Spatial uncertainty in bias corrected climate change projections and hydrogeological impacts. <i>Hydrological Processes</i> , 2015, 29, 4514-4532.	2.6	13
53	Estimation of effective porosity in large-scale groundwater models by combining particle tracking, auto-calibration and ¹⁴ C dating. <i>Hydrology and Earth System Sciences</i> , 2018, 22, 4843-4865.	4.9	12
54	Climate model uncertainty versus conceptual geological uncertainty in hydrological modeling. <i>Hydrology and Earth System Sciences</i> , 2015, 19, 3891-3901.	4.9	12

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55	Aquifer Vulnerability Assessment Based on Sequence Stratigraphic and ³⁹Ar</sup> Transport Modeling. Ground Water, 2016, 54, 214-230.	1.3	11
56	Laboratory and Numerical Investigations of Air Sparging Using MTBE as a Tracer. Ground Water Monitoring and Remediation, 2000, 20, 87-95.	0.8	8
57	Model analysis of mechanisms controlling pneumatic soil vapor extraction. Journal of Contaminant Hydrology, 2009, 103, 82-98.	3.3	8
58	Modelling a real-world buried valley system with vertical non-stationarity using multiple-point statistics. Hydrogeology Journal, 2017, 25, 359-370.	2.1	8
59	On spurious water flow during numerical simulation of steam injection into water-saturated soil. Journal of Contaminant Hydrology, 2004, 75, 297-318.	3.3	7
60	Are maps of nitrate reduction in groundwater altered by climate and land use changes?. Hydrology and Earth System Sciences, 2022, 26, 955-973.	4.9	6
61	Three-Dimensional Numerical Modeling of Steam Override Observed at a Full-Scale Remediation of an Unconfined Aquifer. Ground Water Monitoring and Remediation, 2005, 25, 116-127.	0.8	4
62	Projected Changeâ€”Hydrology. Regional Climate Studies, 2015, , 235-241.	1.2	4
63	Quantification of climate change sensitivity of shallow and deep groundwater in Denmark. Journal of Hydrology: Regional Studies, 2022, 41, 101100.	2.4	4
64	Quantifying the effects of future climate change on groundwater and stream discharge in Denmark. IOP Conference Series: Earth and Environmental Science, 2009, 6, 292007.	0.3	3
65	Chapter 9.3. Evaluation of the Quantitative Status of Groundwaterâ€”Surface Water Interaction at a National Scale. , 2007, , 584-607.		3
66	The effect of weighting hydrological projections based on the robustness of hydrological models under a changing climate. Journal of Hydrology: Regional Studies, 2022, 41, 101113.	2.4	3
67	The influence of layer and voxel geological modelling strategy on groundwater modelling results. Hydrogeology Journal, 2022, 30, 617-635.	2.1	2
68	Simulation of Density and Flow Dynamics in a Lagoon Aquifer Environment and Implications for Nutrient Delivery From Land to Sea. Frontiers in Water, 2021, 3, .	2.3	1
69	Cosmic-ray neutron intensity measurements of soil moisture â€” A case study in the Skjern catchment, Denmark. , 2014, , .		0
70	KlimaÃ¸ndringer - pÃ¸virkning af grundvand og vandlÃ¸b. GeologiskNyt, 2007, 17, .	0.0	0