

Petra DÄŸll

List of Publications by Year in descending order

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Version: 2024-02-01

115
papers

22,578
citations

28274

55
h-index

29157

104
g-index

177
all docs

177
docs citations

177
times ranked

20329
citing authors

#	ARTICLE	IF	CITATIONS
1	Development and validation of a global database of lakes, reservoirs and wetlands. Journal of Hydrology, 2004, 296, 1-22.	5.4	1,867
2	High-resolution mapping of the world's reservoirs and dams for sustainable river-flow management. Frontiers in Ecology and the Environment, 2011, 9, 494-502.	4.0	1,540
3	Ground water and climate change. Nature Climate Change, 2013, 3, 322-329.	18.8	1,513
4	Groundwater use for irrigation – a global inventory. Hydrology and Earth System Sciences, 2010, 14, 1863-1880.	4.9	1,267
5	MIRCA2000 – Global monthly irrigated and rainfed crop areas around the year 2000: A new high-resolution data set for agricultural and hydrological modeling. Global Biogeochemical Cycles, 2010, 24, .	4.9	1,032
6	A global hydrological model for deriving water availability indicators: model tuning and validation. Journal of Hydrology, 2003, 270, 105-134.	5.4	911
7	Estimating the Impact of Global Change on Flood and Drought Risks in Europe: A Continental, Integrated Analysis. Climatic Change, 2006, 75, 273-299.	3.6	670
8	The implications of projected climate change for freshwater resources and their management. Hydrological Sciences Journal, 2008, 53, 3-10.	2.6	668
9	Development and testing of the WaterGAP 2 global model of water use and availability. Hydrological Sciences Journal, 2003, 48, 317-337.	2.6	663
10	Hyperresolution global land surface modeling: Meeting a grand challenge for monitoring Earth's terrestrial water. Water Resources Research, 2011, 47, .	4.2	634
11	Quantifying blue and green virtual water contents in global crop production as well as potential production losses without irrigation. Journal of Hydrology, 2010, 384, 198-217.	5.4	570
12	Global modeling of irrigation water requirements. Water Resources Research, 2002, 38, 8-1-8-10.	4.2	564
13	Global-scale assessment of groundwater depletion and related groundwater abstractions: Combining hydrological modeling with information from well observations and GRACE satellites. Water Resources Research, 2014, 50, 5698-5720.	4.2	531
14	Impact of water withdrawals from groundwater and surface water on continental water storage variations. Journal of Geodynamics, 2012, 59-60, 143-156.	1.6	477
15	Development and validation of the global map of irrigation areas. Hydrology and Earth System Sciences, 2005, 9, 535-547.	4.9	462
16	Impact of Climate Change and Variability on Irrigation Requirements: A Global Perspective. Climatic Change, 2002, 54, 269-293.	3.6	450
17	Global sea-level budget 1993 – present. Earth System Science Data, 2018, 10, 1551-1590.	9.9	409
18	Global-scale analysis of river flow alterations due to water withdrawals and reservoirs. Hydrology and Earth System Sciences, 2009, 13, 2413-2432.	4.9	398

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19	A Pilot Global Assessment of Environmental Water Requirements and Scarcity. <i>Water International</i> , 2004, 29, 307-317.	1.0	376
20	Global models underestimate large decadal declining and rising water storage trends relative to GRACE satellite data. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018, 115, E1080-E1089.	7.1	376
21	Vulnerability to the impact of climate change on renewable groundwater resources: a global-scale assessment. <i>Environmental Research Letters</i> , 2009, 4, 035006.	5.2	373
22	Global estimates of water withdrawals and availability under current and future "business-as-usual" conditions. <i>Hydrological Sciences Journal</i> , 2003, 48, 339-348.	2.6	353
23	Global-scale modeling of groundwater recharge. <i>Hydrology and Earth System Sciences</i> , 2008, 12, 863-885.	4.9	334
24	A global data set of the extent of irrigated land from 1900 to 2005. <i>Hydrology and Earth System Sciences</i> , 2015, 19, 1521-1545.	4.9	301
25	Water scarcity hotspots travel downstream due to human interventions in the 20th and 21st century. <i>Nature Communications</i> , 2017, 8, 15697.	12.8	287
26	Sensitivity of simulated global-scale freshwater fluxes and storages to input data, hydrological model structure, human water use and calibration. <i>Hydrology and Earth System Sciences</i> , 2014, 18, 3511-3538.	4.9	285
27	Hyper-resolution global hydrological modelling: what is next?. <i>Hydrological Processes</i> , 2015, 29, 310-320.	2.6	280
28	How is the impact of climate change on river flow regimes related to the impact on mean annual runoff? A global-scale analysis. <i>Environmental Research Letters</i> , 2012, 7, 014037.	5.2	261
29	Will groundwater ease freshwater stress under climate change?. <i>Hydrological Sciences Journal</i> , 2009, 54, 665-675.	2.6	235
30	Impact of climate change on freshwater ecosystems: a global-scale analysis of ecologically relevant river flow alterations. <i>Hydrology and Earth System Sciences</i> , 2010, 14, 783-799.	4.9	226
31	Validation of a new global 30-min drainage direction map. <i>Journal of Hydrology</i> , 2002, 258, 214-231.	5.4	223
32	GRACE observations of changes in continental water storage. <i>Global and Planetary Change</i> , 2006, 50, 112-126.	3.5	204
33	A global analysis of temporal and spatial variations in continental water storage. <i>Water Resources Research</i> , 2007, 43, .	4.2	158
34	Understanding the LCA and ISO water footprint: A response to Hoekstra (2016) "A critique on the water-scarcity weighted water footprint in LCA". <i>Ecological Indicators</i> , 2017, 72, 352-359.	6.3	158
35	Variations of global and continental water balance components as impacted by climate forcing uncertainty and human water use. <i>Hydrology and Earth System Sciences</i> , 2016, 20, 2877-2898.	4.9	151
36	The global water resources and use model WaterGAP v2.2d: model description and evaluation. <i>Geoscientific Model Development</i> , 2021, 14, 1037-1079.	3.6	139

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37	Calibration/Data Assimilation Approach for Integrating GRACE Data into the WaterGAP Global Hydrology Model (WGHM) Using an Ensemble Kalman Filter: First Results. <i>Surveys in Geophysics</i> , 2014, 35, 1285-1309.	4.6	136
38	Global-scale drought risk assessment for agricultural systems. <i>Natural Hazards and Earth System Sciences</i> , 2020, 20, 695-712.	3.6	136
39	Value of river discharge data for global-scale hydrological modeling. <i>Hydrology and Earth System Sciences</i> , 2008, 12, 841-861.	4.9	124
40	Integrating risks of climate change into water management. <i>Hydrological Sciences Journal</i> , 2015, 60, 4-13.	2.6	119
41	Global Patterns of Cropland Use Intensity. <i>Remote Sensing</i> , 2010, 2, 1625-1643.	4.0	117
42	Assessing river flood risk and adaptation in Europe – review of projections for the future. <i>Mitigation and Adaptation Strategies for Global Change</i> , 2010, 15, 641-656.	2.1	110
43	Reconstruction of global gridded monthly sectoral water withdrawals for 1971–2010 and analysis of their spatiotemporal patterns. <i>Hydrology and Earth System Sciences</i> , 2018, 22, 2117-2133.	4.9	106
44	Modelling Freshwater Resources at the Global Scale: Challenges and Prospects. <i>Surveys in Geophysics</i> , 2016, 37, 195-221.	4.6	100
45	Global-scale gridded estimates of thermoelectric power and manufacturing water use. <i>Water Resources Research</i> , 2005, 41, .	4.2	96
46	Improving drought simulations within the Murray-Darling Basin by combined calibration/assimilation of GRACE data into the WaterGAP Global Hydrology Model. <i>Remote Sensing of Environment</i> , 2018, 204, 212-228.	11.0	88
47	Consensus building on the development of a stress-based indicator for LCA-based impact assessment of water consumption: outcome of the expert workshops. <i>International Journal of Life Cycle Assessment</i> , 2015, 20, 577-583.	4.7	84
48	Tracking Seasonal Fluctuations in Land Water Storage Using Global Models and GRACE Satellites. <i>Geophysical Research Letters</i> , 2019, 46, 5254-5264.	4.0	84
49	Impact of climate change on renewable groundwater resources: assessing the benefits of avoided greenhouse gas emissions using selected CMIP5 climate projections. <i>Environmental Research Letters</i> , 2013, 8, 024023.	5.2	81
50	Seasonal Water Storage Variations as Impacted by Water Abstractions: Comparing the Output of a Global Hydrological Model with GRACE and GPS Observations. <i>Surveys in Geophysics</i> , 2014, 35, 1311-1331.	4.6	81
51	Global-scale modeling of glacier mass balances for water resources assessments: Glacier mass changes between 1948 and 2006. <i>Journal of Hydrology</i> , 2010, 390, 245-256.	5.4	70
52	Water footprints of cities – indicators for sustainable consumption and production. <i>Hydrology and Earth System Sciences</i> , 2014, 18, 213-226.	4.9	69
53	Risks for the global freshwater system at 1.5°C and 2°C global warming. <i>Environmental Research Letters</i> , 2018, 13, 044038.	5.2	66
54	Uncertainty of simulated groundwater recharge at different global warming levels: a global-scale multi-model ensemble study. <i>Hydrology and Earth System Sciences</i> , 2021, 25, 787-810.	4.9	65

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55	A 59-year (1948-2006) global near-surface meteorological data set for land surface models. Part I: Development of daily forcing and assessment of precipitation intensity. <i>Hydrological Research Letters</i> , 2008, 2, 36-40.	0.5	62
56	Simulating river flow velocity on global scale. <i>Advances in Geosciences</i> , 0, 5, 133-136.	12.0	61
57	Global Assessment of Current and Future Groundwater Stress With a Focus on Transboundary Aquifers. <i>Water Resources Research</i> , 2019, 55, 4760-4784.	4.2	49
58	A systematic impact assessment of GRACE error correlation on data assimilation in hydrological models. <i>Journal of Geodesy</i> , 2016, 90, 537-559.	3.6	48
59	Desiccation of Mineral Liners Below Landfills with Heat Generation. <i>Journal of Geotechnical and Geoenvironmental Engineering - ASCE</i> , 1997, 123, 1001-1009.	3.0	45
60	How to embrace uncertainty in participatory climate change risk management – A roadmap. <i>Earth's Future</i> , 2017, 5, 18-36.	6.3	44
61	Global-scale validation of model-based load deformation of the Earth's crust from continental watermass and atmospheric pressure variations using GPS. <i>Journal of Geodynamics</i> , 2012, 59-60, 133-142.	1.6	43
62	Challenges in developing a global gradient-based groundwater model (G<sup>3</sup;M v1.0) for the integration into a global hydrological model. <i>Geoscientific Model Development</i> , 2019, 12, 2401-2418.	3.6	42
63	Understanding each other's models: an introduction and a standard representation of 16 global water models to support intercomparison, improvement, and communication. <i>Geoscientific Model Development</i> , 2021, 14, 3843-3878.	3.6	41
64	Quantifying the impacts of human water use and climate variations on recent drying of Lake Urmia basin: the value of different sets of spaceborne and in situ data for calibrating a global hydrological model. <i>Hydrology and Earth System Sciences</i> , 2020, 24, 1939-1956.	4.9	40
65	A framework for the cross-sectoral integration of multi-model impact projections: land use decisions under climate impacts uncertainties. <i>Earth System Dynamics</i> , 2015, 6, 447-460.	7.1	38
66	GMD perspective: The quest to improve the evaluation of groundwater representation in continental-to global-scale models. <i>Geoscientific Model Development</i> , 2021, 14, 7545-7571.	3.6	38
67	Water Scarcity Under Scenarios for Global Climate Change and Regional Development in Semiarid Northeastern Brazil. <i>Water International</i> , 2004, 29, 209-220.	1.0	37
68	Transdisciplinary research in support of land and water management in China and Southeast Asia: evaluation of four research projects. <i>Sustainability Science</i> , 2016, 11, 813-829.	4.9	35
69	Assessing the ecosystem service flood protection of a riparian forest by applying a cascade approach. <i>Ecosystem Services</i> , 2016, 21, 39-52.	5.4	32
70	Observational Requirements for Long-Term Monitoring of the Global Mean Sea Level and Its Components Over the Altimetry Era. <i>Frontiers in Marine Science</i> , 2019, 6, .	2.5	31
71	Global sea-level budget and ocean-mass budget, with a focus on advanced data products and uncertainty characterisation. <i>Earth System Science Data</i> , 2022, 14, 411-447.	9.9	30
72	Spatially distributed sensitivity of simulated global groundwater heads and flows to hydraulic conductivity, groundwater recharge, and surface water body parameterization. <i>Hydrology and Earth System Sciences</i> , 2019, 23, 4561-4582.	4.9	29

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73	Integrated modelling of water availability and water use in the semi-arid Northeast of Brazil. <i>Physics and Chemistry of the Earth</i> , 2000, 25, 227-232.	0.3	28
74	Supporting large-scale hydrogeological monitoring and modelling by time-variable gravity data. <i>Hydrogeology Journal</i> , 2007, 15, 167-170.	2.1	28
75	Analyzing the Impact of Streamflow Drought on Hydroelectricity Production: A Global Scale Study. <i>Water Resources Research</i> , 2021, 57, e2020WR028087.	4.2	28
76	Reply to comment by Keith J. Beven and Hannah L. Cloke on "Hyperresolution global land surface modeling: Meeting a grand challenge for monitoring Earth's terrestrial water". <i>Water Resources Research</i> , 2012, 48, .	4.2	26
77	Importance of Spatial Resolution in Global Groundwater Modeling. <i>Ground Water</i> , 2020, 58, 363-376.	1.3	23
78	Transdisciplinary research for supporting the integration of ecosystem services into land and water management in the Tarim River Basin, Xinjiang, China. <i>Journal of Arid Land</i> , 2012, 4, 196-210.	2.3	23
79	Actor modelling and its contribution to the development of integrative strategies for management of pharmaceuticals in drinking water. <i>Social Science and Medicine</i> , 2009, 68, 672-681.	3.8	22
80	Global modelling of continental water storage changes " sensitivity to different climate data sets. <i>Advances in Geosciences</i> , 0, 11, 63-68.	12.0	22
81	Advances and visions in large-scale hydrological modelling: findings from the 11th Workshop on Large-Scale Hydrological Modelling. <i>Advances in Geosciences</i> , 0, 18, 51-61.	12.0	22
82	A 59-year (1948-2006) global meteorological forcing data set for land surface models. Part II: Global snowfall estimation. <i>Hydrological Research Letters</i> , 2008, 2, 65-69.	0.5	21
83	Assessing global water mass transfers from continents to oceans over the period 1948"2016. <i>Hydrology and Earth System Sciences</i> , 2020, 24, 4831-4851.	4.9	21
84	Model-based Regional Assessment of Water Use An Example for Semi-arid Northeastern Brazil. <i>Water International</i> , 2002, 27, 310-320.	1.0	19
85	Municipal water reuse for urban agriculture in Namibia: Modeling nutrient and salt flows as impacted by sanitation user behavior. <i>Journal of Environmental Management</i> , 2016, 169, 272-284.	7.8	19
86	Using streamflow observations to estimate the impact of hydrological regimes and anthropogenic water use on European stream macroinvertebrate occurrences. <i>Ecohydrology</i> , 2017, 10, e1895.	2.4	19
87	A discrete kernel method of characteristics model of solute transport in water table aquifers. <i>Water Resources Research</i> , 1989, 25, 857-867.	4.2	18
88	Water and climate projections. <i>Hydrological Sciences Journal</i> , 2009, 54, 406-415.	2.6	16
89	Integrated Scenarios of Regional Development in Two Semi-Arid States of North-Eastern Brazil. <i>Integrated Assessment: an International Journal</i> , 2002, 3, 308-320.	0.8	16
90	Model-based scenarios of water use in two semi-arid Brazilian states. <i>Regional Environmental Change</i> , 2002, 2, 150-162.	2.9	14

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91	Semi-quantitative actor-based modelling as a tool to assess the drivers of change and physical variables in participatory integrated assessments. <i>Environmental Modelling and Software</i> , 2013, 46, 21-32.	4.5	14
92	Covariance Analysis and Sensitivity Studies for GRACE Assimilation into WGHM. <i>International Association of Geodesy Symposia</i> , 2015, , 241-247.	0.4	13
93	Rainwater Harvesting for Small-Holder Horticulture in Namibia: Design of Garden Variants and Assessment of Climate Change Impacts and Adaptation. <i>Water (Switzerland)</i> , 2015, 7, 1402-1421.	2.7	12
94	Limiting global warming to 1.5 Å°C will lower increases in inequalities of four hazard indicators of climate change. <i>Environmental Research Letters</i> , 2019, 14, 124022.	5.2	12
95	Global-scale analysis of satellite-derived time series of naturally inundated areas as a basis for floodplain modeling. <i>Advances in Geosciences</i> , 0, 27, 45-50.	12.0	12
96	Causal networks and scenarios: participatory strategy development for promoting renewable electricity generation. <i>Journal of Cleaner Production</i> , 2016, 121, 218-230.	9.3	11
97	Impact of climate forcing uncertainty and human water use on global and continental water balance components. <i>Proceedings of the International Association of Hydrological Sciences</i> , 0, 374, 53-62.	1.0	11
98	Making waves: Pulling the plugâ€”Climate change effects will turn gaining into losing streams with detrimental effects on groundwater quality. <i>Water Research</i> , 2022, 220, 118649.	11.3	11
99	A globalâ€”scale analysis of water storage dynamics of inland wetlands: Quantifying the impacts of human water use and manâ€”made reservoirs as well as the unavoidable and avoidable impacts of climate change. <i>Ecohydrology</i> , 2020, 13, e2175.	2.4	10
100	Lab and Field Measurements of the Hydraulic Conductivity of Clayey Silts. <i>Ground Water</i> , 1995, 33, 884-891.	1.3	8
101	Assessment of ecologically relevant hydrological change in China due to water use and reservoirs. <i>Advances in Geosciences</i> , 0, 18, 25-30.	12.0	8
102	Small-scale water reuse for urban agriculture in Namibia: Modeling water flows and productivity. <i>Urban Water Journal</i> , 2015, 12, 414-429.	2.1	7
103	Global-scale vs. regional-scale scenario assumptions: implications for estimating future water withdrawals in the Elbe River basin. <i>Regional Environmental Change</i> , 2004, 4, 169-181.	2.9	6
104	How to set up a transdisciplinary research project in Central Asia: description and evaluation. <i>Sustainability Science</i> , 2019, 14, 697-711.	4.9	6
105	Cartograms Facilitate Communication of Climate Change Risks and Responsibilities. <i>Earth's Future</i> , 2017, 5, 1182-1195.	6.3	5
106	Modelling Freshwater Resources at the Global Scale: Challenges and Prospects. <i>Space Sciences Series of ISSI</i> , 2016, , 5-31.	0.0	4
107	Securing Biodiversity, Functional Integrity, and Ecosystem Services in Drying River Networks (DRYvER). <i>Research Ideas and Outcomes</i> , 0, 7, .	1.0	4
108	Chapter Seven Scale Issues in Environmental Scenario Development. <i>Developments in Integrated Environmental Assessment</i> , 2008, , 151-168.	0.0	2

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109	Soil moisture and streamflow deficit anomaly index: an approach to quantify drought hazards by combining deficit and anomaly. Natural Hazards and Earth System Sciences, 2021, 21, 1337-1354.	3.6	2
110	Monthly and Daily Variations of Continental Water Storage and Flows. Advanced Technologies in Earth Sciences, 2010, , 407-415.	0.9	1
111	Qualitative-quantitative scenarios as a means to support sustainability-oriented regional planning. , 2004, , 47-60.		1
112	Wasserhaushalt mineralischer Deponiebasisabdichtungen unter dem Einfluß von Temperaturgradienten. Zeitschrift Fur Pflanzenernahrung Und Bodenkunde = Journal of Plant Nutrition and Plant Science, 1995, 158, 23-30.	0.4	0
113	Modeling Water Availability: Scaling Issues. , 2001, , 245-253.		0
114	Modeling of Present and Future Water Use in PiauÃ-and CearÃ; as a Basis for Water Resources Planning. , 2003, , 239-251.		0
115	Inter- und transdisziplinÃre Integration von Wissen Ã¼ber sozial-Ãkologische Systeme als Grundlage fÃ¼r eine nachhaltige Entwicklung: das interdisziplinÃre Seminar â€œStÃdte und Wasserâ€. Theorie Und Praxis Der Nachhaltigkeit, 2018, , 23-35.	0.2	0