Hannes MÃ¼ller Schmied

List of Publications by Year
in descending order

53 papers	5,405 citations	126858 33 h-index	175177 52 g-index
95 all docs	95 docs citations	95 times ranked	5756 citing authors

#	Article	IF	Citations
1	Globalâ€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.	1.7	531
2	Assessing the impacts of 1.5â€¯Â°C global warming â€" simulation protocol of the Inter-Sectoral Impact Model Intercomparison Project (ISIMIP2b). Geoscientific Model Development, 2017, 10, 4321-4345.	1.3	410
3	Global models underestimate large decadal declining and rising water storage trends relative to GRACE satellite data. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E1080-E1089.	3.3	376
4	Global terrestrial water storage and drought severity under climate change. Nature Climate Change, 2021, 11, 226-233.	8.1	345
5	Sensitivity of simulated global-scale freshwater fluxes and storages to input data, hydrological model structure, human water use and calibration. Hydrology and Earth System Sciences, 2014, 18, 3511-3538.	1.9	285
6	Recent global decline in endorheic basin water storages. Nature Geoscience, 2018, 11, 926-932.	5.4	282
7	How is the impact of climate change on river flow regimes related to the impact on mean annual runoff? A global-scale analysis. Environmental Research Letters, 2012, 7, 014037.	2.2	261
8	Globally observed trends in mean and extreme river flow attributed to climate change. Science, 2021, 371, 1159-1162.	6.0	213
9	WFDE5: bias-adjusted ERA5 reanalysis data for impact studies. Earth System Science Data, 2020, 12, 2097-2120.	3.7	179
10	Humanâ€"water interface in hydrological modelling: current status and future directions. Hydrology and Earth System Sciences, 2017, 21, 4169-4193.	1.9	171
11	State-of-the-art global models underestimate impacts from climate extremes. Nature Communications, 2019, 10, 1005.	5.8	168
12	Variations of global and continental water balance components as impacted by climate forcing uncertainty and human water use. Hydrology and Earth System Sciences, 2016, 20, 2877-2898.	1.9	151
13	The global water resources and use model WaterGAP v2.2d: model description and evaluation. Geoscientific Model Development, 2021, 14, 1037-1079.	1.3	139
14	Calibration/Data Assimilation Approach for Integrating GRACE Data into the WaterGAP Global Hydrology Model (WGHM) Using an Ensemble Kalman Filter: First Results. Surveys in Geophysics, 2014, 35, 1285-1309.	2.1	136
15	The critical role of the routing scheme in simulating peak river discharge in global hydrological models. Environmental Research Letters, 2017, 12, 075003.	2.2	105
16	Modelling Freshwater Resources at the Global Scale: Challenges and Prospects. Surveys in Geophysics, 2016, 37, 195-221.	2.1	100
17	Human impact parameterizations in global hydrological models improve estimates of monthly discharges and hydrological extremes: a multi-model validation study. Environmental Research Letters, 2018, 13, 055008.	2.2	91
18	Improving drought simulations within the Murray-Darling Basin by combined calibration/assimilation of GRACE data into the WaterGAP Global Hydrology Model. Remote Sensing of Environment, 2018, 204, 212-228.	4.6	88

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19	Worldwide evaluation of mean and extreme runoff from six global-scale hydrological models that account for human impacts. Environmental Research Letters, 2018, 13, 065015.	2.2	85
20	Tracking Seasonal Fluctuations in Land Water Storage Using Global Models and GRACE Satellites. Geophysical Research Letters, 2019, 46, 5254-5264.	1.5	84
21	Seasonal Water Storage Variations as Impacted by Water Abstractions: Comparing the Output of a Global Hydrological Model with GRACE and GPS Observations. Surveys in Geophysics, 2014, 35, 1311-1331.	2.1	81
22	Toward seamless hydrologic predictions across spatial scales. Hydrology and Earth System Sciences, 2017, 21, 4323-4346.	1.9	81
23	The timing of unprecedented hydrological drought under climate change. Nature Communications, 2022, 13, .	5.8	77
24	Comparison of Groundwater Storage Changes From GRACE Satellites With Monitoring and Modeling of Major U.S. Aquifers. Water Resources Research, 2020, 56, e2020WR027556.	1.7	73
25	Projecting Exposure to Extreme Climate Impact Events Across Six Event Categories and Three Spatial Scales. Earth's Future, 2020, 8, e2020EF001616.	2.4	69
26	Exploring the influence of precipitation extremes and human water use on total water storage (TWS) changes in the <scp>G</scp>angesâ€<scp>B</scp>rahmaputraâ€<scp>M</scp>eghna River Basin. Water Resources Research, 2016, 52, 2240-2258.	1.7	67
27	Risks for the global freshwater system at 1.5â€‰Â°C and 2â€‰Â°C global warming. Environmental Research Letters, 2018, 13, 044038.	2.2	66
28	Uncertainty of simulated groundwater recharge at different global warming levels: a global-scale multi-model ensemble study. Hydrology and Earth System Sciences, 2021, 25, 787-810.	1.9	65
29	Intercomparison of global river discharge simulations focusing on dam operationâ€"multiple models analysis in two case-study river basins, Missouriâ€"Mississippi and Greenâ€"Colorado. Environmental Research Letters, 2017, 12, 055002.	2.2	49
30	Evaluation of Groundwater Storage Variations Estimated from GRACE Data Assimilation and State-of-the-Art Land Surface Models in Australia and the North China Plain. Remote Sensing, 2018, 10, 483.	1.8	45
31	Understanding each other's models: an introduction and a standard representation of 16 global water models to support intercomparison, improvement, and communication. Geoscientific Model Development, 2021, 14, 3843-3878.	1.3	41
32	Historical and future changes in global flood magnitude â€" evidence from a modelâ€"observation investigation. Hydrology and Earth System Sciences, 2020, 24, 1543-1564.	1.9	40
33	Evapotranspiration simulations in ISIMIP2aâ€"Evaluation of spatio-temporal characteristics with a comprehensive ensemble of independent datasets. Environmental Research Letters, 2018, 13, 075001.	2.2	38
34	Exploring the value of machine learning for weighted multi-model combination of an ensemble of global hydrological models. Environmental Modelling and Software, 2019, 114, 112-128.	1.9	36
35	Multimodel assessments of human and climate impacts on mean annual streamflow in China. Hydrology and Earth System Sciences, 2019, 23, 1245-1261.	1.9	34
36	Global Heat Uptake by Inland Waters. Geophysical Research Letters, 2020, 47, e2020GL087867.	1.5	31

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37	Global sea-level budget and ocean-mass budget, with a focus on advanced data products and uncertainty characterisation. Earth System Science Data, 2022, 14, 411-447.	3.7	30
38	How evaluation of global hydrological models can help to improve credibility of river discharge projections under climate change. Climatic Change, 2020, 163, 1353-1377.	1.7	25
39	Divergent Causes of Terrestrial Water Storage Decline Between Drylands and Humid Regions Globally. Geophysical Research Letters, 2021, 48, .	1.5	23
40	Assessing global water mass transfers from continents to oceans over the period 1948â€“2016. Hydrology and Earth System Sciences, 2020, 24, 4831-4851.	1.9	21
41	Performance evaluation of global hydrological models in six large Pan-Arctic watersheds. Climatic Change, 2020, 163, 1329-1351.	1.7	19
42	A quantitative evaluation of the issue of drought definition: a source of disagreement in future drought assessments. Environmental Research Letters, 2021, 16, 104001.	2.2	18
43	Evaluation of Radiation Components in a Global Freshwater Model with Station-Based Observations. Water (Switzerland), 2016, 8, 450.	1.2	16
44	Covariance Analysis and Sensitivity Studies for GRACE Assimilation into WGHM. International Association of Geodesy Symposia, 2015, , 241-247.	0.2	13
45	Limiting global warming to 1.5 Â°C will lower increases in inequalities of four hazard indicators of climate change. Environmental Research Letters, 2019, 14, 124022.	2.2	12
46	Climate change impact on water availability of main river basins in Ukraine. Journal of Hydrology: Regional Studies, 2020, 32, 100761.	1.0	12
47	Impact of climate forcing uncertainty and human water use on global and continental water balance components. Proceedings of the International Association of Hydrological Sciences, 0, 374, 53-62.	1.0	11
48	Globally widespread and increasing violations of environmental flow envelopes. Hydrology and Earth System Sciences, 2022, 26, 3315-3336.	1.9	11
49	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. Ecohydrology, 2020, 13, e2175.	1.1	10
50	Multi-model evaluation of catchment- and global-scale hydrological model simulations of drought characteristics across eight large river catchments. Advances in Water Resources, 2022, 165, 104212.	1.7	5
51	Modelling Freshwater Resources at the Global Scale: Challenges and Prospects. Space Sciences Series of ISSI, 2016, , 5-31.	0.0	4
52	Validity of estimating flood and drought characteristics under equilibrium climates from transient simulations. Environmental Research Letters, 2021, 16, 104028.	2.2	4
53	Securing Biodiversity, Functional Integrity, and Ecosystem Services in Drying River Networks (DRYvER). Research Ideas and Outcomes, 0, 7, .	1.0	4